

**Current status of the research, development,
innovation and technology transfer related to
climate change in the Republic of North Macedonia**

- Rapid Assessment Report -

Authors: Prof. Valentina Gecevska, PhD

Skopje, February 2020



*Empowered lives.
Resilient nations.*

This document is prepared within the project “Macedonia’s Fourth National Communication and Third Biennial Update Report on Climate Change under the UNFCCC” implemented with financial and technical support from the Global Environmental Facility and the United Nations Development Programme.

Acknowledgements

This Report is part of the project “Macedonia’s Fourth National Communication and Third Biennial Update Report on Climate Change under the UNFCCC (4th NC/ 3rd BUR)”, implemented by UNDP and the Ministry of Environment and Physical Planning. The Report was prepared under supervision of the Project Manager of the UNDP Office for Climate Change, Ms. Pavlina Zdraveva.

The author would like to thank all entities and individuals who contributed to the preparation and realization of the assessment for this Report to analyse research, development, innovation and technology transfer capacities related to the climate change in the country, as well as possibilities for utilization of the UNFCCC TT: Clear mechanism. Although relatively small country with relatively small share of GHG emissions at the global level, this assessment will contribute to the country efforts to dedicate and constantly striving not only to meet obligations but also to ensure the best possible national contribution to climate actions.

In addition, the author would like to express special gratitude to the international and bilateral donors’ representatives in the Republic of North Macedonia, representatives from the Delegation of the European Union to the Republic of North Macedonia and representatives from the Secretariat of the Foreign Affairs for the cooperation and information provided, as well as support extended during the preparation of this Report.

Also, the author would like to thank Ivana Stankovska PhD and Mila Velkovska, for the support provided for data collection and analysis during preparation of this Report.

Contents

List of Figures	6
List of Tables	7
List of Abbreviations	8
CHAPTER 1: Introduction	9
1.1 Climate change – globally and nationally	10
1.2 Objectives and structure of the report.....	10
CHAPTER 2: Summary about the UNFCCC Technology Transfer Mechanism.....	12
2.1 UNFCCC Technology Mechanism and its web platform.....	13
2.1.1 Technology Transfer Framework.....	15
2.2 Financial support through the financial mechanism.....	16
2.2.1 GEF (Global Environment Facility).....	16
2.2.1.1 GEF in North Macedonia.....	18
2.2.2 GCF (Green Climate Fund).....	18
2.2.2.1 Green Climate Fund in North Macedonia.....	20
CHAPTER 3: Other mechanisms related to climate change and possibilities for funding.....	21
3.1 EU mechanisms	22
3.1.1 Horizon 2020 the Framework Programme	22
3.1.1.1 Horizon 2020 Financing in North Macedonia	25
3.1.2 Forthcoming Horizon Europe.....	26
3.1.3 Competitiveness of Enterprises and Small and Medium-sized Enterprises (COSME).....	27
3.1.3.1 COSME Projects in North Macedonia.....	29
3.1.4 ERASMUS + Programme	30
3.1.4.1 Erasmus+ Programme in North Macedonia.....	30
3.1.5 Connecting Europe Facility (CEF) Programme	31
3.1.5.1 CEF Programme in North Macedonia.....	31
3.1.6 LIFE Programme.....	32
3.1.6.1 LIFE Programme in North Macedonia	33
3.1.7 IPA – Instrument for Pre-accession Assistance (IPA)	33
3.1.7.1 IPA Programmes in Republic of North Macedonia	34
Instrument IPA I	34

Analysis of allocation of IPA I sources for realization of research, development, innovation and technology transfer projects related to climate change	35
Instrument IPA II	37
Allocation of IPA II sources for realization of research, development, innovation and technology transfer projects related to climate change	38
3.1.8 INTERREG	39
3.1.8.1 Participation of the Republic of North Macedonia in the Interreg programmes.....	41
Interreg IPA CBC Bulgaria – The Republic of North Macedonia.....	41
Interreg IPA CBC Greece – Republic of North Macedonia.....	42
Interreg IPA CBC Republic of North Macedonia – Albania	43
Interreg IPA II CBC Serbia – Republic of North Macedonia.....	44
Interreg IPA CBC North Macedonia – Kosovo	45
3.1.8.2 The summary results for INTERREG Cross Border Cooperation.....	46
3.1.8.3 Interreg Balkan – Mediterranean Programme.....	46
3.2 JRC	47
3.3 Other EU funding schemes related to CC.....	48
3.3.1 European Green Deal's Investment Plan	48
3.3.2 EU Developed countries multilateral and bilateral funding schemes.....	49
3.3.2.1 Bilateral mechanisms from German Financial and Technical Cooperation.....	50
GIZ Programme financial support in North Macedonia	50
3.3.2.2 Norwegian Programmes for development cooperation.....	53
Norwegian Programmes financial support in North Macedonia.....	53
3.3.2.3 Swedish Programmes for development and cooperation	54
3.3.2.4 Swiss Programmes for development and cooperation	54
Swiss programmes financial support to North Macedonia	55
3.4 USAID Donor support in North Macedonia.....	57
3.5 World Bank financial support.....	58
3.5.1 World Bank support in North Macedonia	58
3.6 UNDP	60
3.7 National authorities contribution	65
3.7.1 Funds for research and development of the Ministry of Education and Science	65
3.7.2 Domestic Universities own research funds	66
3.7.3 Fund of Innovation and Technology Development.....	66
3.8 PONT (Prespa Ohrid Nature Trust).....	68
CHAPTER 4: Summary of the support received in North Macedonia for research, development, innovation and technology transfer related to climate projects	70

CHAPTER 5: Legal framework, institutional set-up and relevant capacities in the country	73
5.1 Legal framework.....	74
5.1.1 Laws, polices, strategic documents and measures	74
5.1.2 Legal framework of R&D Sector	74
5.1.2.1 Governmental Bodies for R&D Sector	75
5.1.3 Legal framework of Innovation and Technology Transfer Sector	76
5.1.3.1 Governmental Bodies and Legal Entities for Innovation and Technology Transfer	78
5.2 Public sector	79
5.2.1 Educational curricula related to Climate Change Research, Development, Innovation and Technology Transfer	83
5.3 NGO/CSO sector.....	87
5.3.1 National good practices (NGOs for supporting TT).....	88
5.4 Private sector	90
5.5 Brief analysis of the potential for nomination for NDE	90
5.5.1 Common evaluation criteria for both sectors	91
CHAPTER 6: Conclusion and recommendations	94
6.1 Conclusion.....	95
6.2 Current state of development of R&D, innovation and technology transfer for climate change	96
6.3 Summary of the legal and institutional set-up and capacities appropriate for NDE.....	97
6.4 Recommendations and incentives.....	99
Literature.....	104
Annexes	108

List of Figures

Fig. 2.1 Structure of the UNFCCC Technology Mechanism [2]	13
Fig. 2.2 Distribution of the GEF projects by focal areas, period 2014-2020	18
Fig. 3.1 Types of organisations from the country based on net EU budget contribution.....	25
Fig. 3.2 Number of R&DITT projects related to climate change with allocated funds by action of H2020.....	26
Fig. 3.3 Preliminary Structure of Horizon Europe [15]	27
Fig. 3.4 Number of projects funded by COSME (based on the coordinator's country)	29
Fig. 3.5 Budget allocated per country	29
Fig. 3.6 Budget per topic per country	29
Fig. 3.7 Funding per country in CEF Transport for five years period (2014-2019) [22].....	32
Fig.3.8 IPA I Programme contracted R&DITT to CC projects with total allocated budgets for three Components (for period of realization 2014-2020)	37
Fig 3.9 European Union priorities of INTERREG V Programme	40
Fig.3.10 Numbers of approved projects related to DITT to CC with total EU contribution for all CBC Programmes (period 2014-2020)	46
Fig. 3.11 Financing by focus areas of GIZ Programme	52
Fig. 3.12 Financing by sector in GIZ focus areas ESICC and ED.....	52
Fig. 3.13 Allocation of Swiss SDC and SECO financing by sector.....	56
Fig. 3.14 Allocation of grants by sector.....	56
Fig. 3.15 Distribution of USAID grants by sectors in area 1-Advansing enterprise-driven grown.....	57
Fig. 3.16 Multi-sectorial dimension of teen financed projects under World Bank.....	59
Fig. 3.17 Multi-policy dimension of teen financed projects with classification based on number of projects by policy.....	60
Fig. 3.18 Projects funded in 2020 by different donors, implemented under UNDP	61
Fig. 3.19 Projects funded in 2019 by different donors, implemented under UNDP	62
Fig. 3.20 Projects funded in 2018 by different donors, implemented under UNDP	62
Fig. 3.21 Projects funded in 2017 by different donors, implemented under UNDP	63
Fig. 3.22 Projects funded in 2016 by different donors, implemented under UNDP	63
Fig. 3.23 Projects funded in 2015 by different donors, implemented under UNDP	63
Fig. 3.24 Projects funded in 2014 by different donors, implemented under UNDP	64
Fig. 3.25 UNDP implemented projects related to CC in North Macedonia (2014-2020).....	65
Fig. 3.26 FITD Investment in Innovation and Technology Transfer projects related to CC	67
Fig. 3.27 Distribution of FITD and private companies' contribution in INS1, INS2 and INS3 by regions in the country for R&DITT to CC projects	68

List of Tables

Tab. 3.1 IPA I allocated funds for North Macedonia [26]	34
Tab. 3.2 IPA I-Component 3 budget composition for North Macedonia [28].....	35
Tab. 3.3 IPA II allocated funds for North Macedonia [28][31]	37
Tab. 3.4 Allocated funds per sectors for IPA II in NM [28][32][33].....	38
Tab. 3.5 Allocated budgets under UNDP (2014-2020).....	64
Tab. 4.1 Summarized overview of support from international sources received in North Macedonia.	71
Tab. 5.1 "Ss. Cyril and Methodius" University in Skopje, Faculty of Mechanical Engineering – Skopje	83
Tab. 5.2 "Ss. Cyril and Methodius" University-Skopje, Faculty of Electrical Engineering and Information Technologies.....	84
Tab. 5.3 "Ss. Cyril and Methodius" University in Skopje, Faculty of Technology and Metallurgy	84
Tab. 5.4 "Ss. Cyril and Methodius" University in Skopje, Faculty of Agricultural Sciences and Food	84
Tab. 5.5 "Ss. Cyril and Methodius" University in Skopje, Faculty of Natural and Mathematical Sciences	85
Tab. 5.6 "St. Kliment Ohridski" University of Bitola, Faculty of Technical Sciences.....	85
Tab. 5.7 University "Goce Delcev" of Stip, Faculty of Natural and Technical Sciences.....	85
Tab. 5.8 University "Goce Delcev" of Stip, Faculty of Electrical Engineering	86
Tab. 5.9 State University of Tetovo, Faculty of Natural Sciences and Mathematics	86
Tab. 5.10 International Slavic University, Faculty of Safety Engineering	86
Tab. 5.11 Assessment of the most appropriate organisations for NDE	92
Tab. 5.12 The top 10 most appropriate organisations for NDE	93

List of Abbreviations

BUR	Biennial Update Report
CTCN	Climate Technology Centre and Network
DTU	Danish Technical University
EGTT	Expert Group on Technology Transfer
FTA	Fast Technical Assistance
GCF	Green Climate Fund
GEF	Global Environment Facility
LPAA	Lima-Paris Action Agenda
NAMA	Nationally Appropriate Mitigation Plan
NAP	National Adaptation Plan
NAZCA	Non-state Actor Zone for Climate Action
NC	National Communication
NDE	National Designated Entity
NGO	Non-Governmental Organisation
TA	Technical Assistance
TAP	Technology Action Plan
TEC	Technology Executive Committee
TT	Technology Transfer
UK	United Kingdom
UN	United Nations
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
R&DITT to CC	Research & Development, Innovation and Technology Transfer for Climate Change

CHAPTER 1:

Introduction

1.1 Climate change – globally and nationally

Climate change is one of the most pressing issues of the global community for the 21st century. The primary cause of climate change is increased concentrations of greenhouse gas (GHG) emissions due to human activities, such as combustion of fossil fuels, deforestation and increased methane emissions.

The United Nations Framework Convention on Climate Change (UNFCCC) is an international environmental treaty adopted on 9 May 1992 and opened for signature at the Earth Summit in Rio de Janeiro from 3 to 14 June 1992, as a response to the emerging impacts of the climate change. It then entered into force on 21 March 1994, after a sufficient number of countries had ratified it. The UNFCCC objective is to "stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system" [1]. In this context, the term "climate technologies" is frequently used and refers to the technologies that we use to address climate change. Climate technologies that help us reduce greenhouse gas emissions include renewable energies such as wind energy, solar power and hydropower. To adapt to the adverse effects of climate change, we use climate technologies such as drought-resistant crops, early warning systems and sea walls. There are also 'soft' climate technologies, such as energy-efficient practices or training for using equipment.

Acknowledging the significance of the climate change problem and the necessity to take effective actions for its mitigation, Republic of North Macedonia ratified the UN Framework Convention on Climate Change (UNFCCC) on December 4, 1997 (Official Gazette of RM – 61/97), and became a party to the Convention on April 28, 1998. The Ministry of Environment and Physical Planning (MoEPP) has been designated as the National Focal Point to the UNFCCC, the key governmental body responsible for policy making with regard to the provisions of the UNFCCC ("Official Gazette of RM" No 61/97). Moreover, Republic of North Macedonia with an assistance of UNDP has developed and adopted dedicated National Strategy for Clean Development Mechanism for the first commitment period of the Kyoto Protocol, 2008-2012.

1.2 Objectives and structure of the report

This report is part of the project 00110592 "Macedonia's Fourth National Communication and Third Biennial Update Report on Climate Change under the UNFCCC", implemented by the Ministry of Environment and Physical Planning, with technical and financial support from the United Nations

Development Programme (UNDP) and the Global Environmental Facility (GEF). The immediate objective of the project is to assist the country in the preparation and submission of its Fourth National Communication and Third Biennial Update Report on Climate Change to the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) for the fulfilment of its obligations to the Convention.

In 2010 the Technology Mechanism TT: Clear, as an instrument for transfer of technology and technological and institutional development between the member states of the UNFCCC was established to facilitate the implementation of enhanced action on technology development and transfer to support action on mitigation and adaptation in order to achieve the full implementation of the Convention. **Macedonian government has not nominated a National Designated Entity under this UNFCCC mechanism for climate technology yet.**

This report presents the rapid assessment that was conducted for determining the current status of the research, development, innovation and technology transfer related to climate change in Republic of North Macedonia, summarizes the main principles of the UNFCCC TT: Clear Mechanism and possibilities for its utilization in the country, and **proposes the most appropriate institutions for the National Designated Entity for this mechanism**, providing initial recommendations and guides for the process of its utilization.

The report is structured in six chapters. The first chapter is introductory and provides brief overview of the climate change and objectives and structure of the report. The second chapter analyses the possibilities, benefits and requirements for using the TT Clear Mechanism. In the third chapter, the other mechanisms related to climate change are explored and analysed. The greatest share of this chapter is dedicated to the on-going and forthcoming programs of the European Union. In addition to this, all relevant national, regional and international funding programmes, such as national governmental initiatives, organisations for support of innovations and technology development, bilateral donor programmes and nature trusts for protecting the environment. The fourth chapter analyses the implemented and on-going projects, actions or initiatives and selects those which refer to research, development, innovation and technology transfer related to climate change. The analysis brings to light evidence-based conclusions on the national strengths, weaknesses and main gaps in respect to this field. In the fifth chapter, the legal setting in Republic of North Macedonia in respect to the environment and climate change is discussed. In addition, the relevant institutions from all three societal sectors (public, private and NGO/CSO) are considered and assessed, and **the top most appropriate institutions for NDE for the TT Clear Mechanism are proposed**. And finally, the last chapter of this report concludes the current state of development of R&D, innovation and technology transfer for climate change, summarizes the legal and institutional setup and capacities appropriate for NDE, and provides recommendations for the process of utilization of the TT Clear Mechanism in the country. The selected projects funded from all researched funding sources and donors are provided in the list of annexes.

This report will assist UNDP and the Ministry of Environment and Physical Planning (MoEPP) in the preparation of Macedonia's Fourth National Communication (NC) and Third Biennial Update Report (BUR) on Climate Change under the UNFCCC. Moreover, the analyses of the implemented, on-going and planned initiatives related to climate change that were conducted in greater depth could be significant source for inputs that will assist the policymakers and the donors in the process of planning and projecting the future programmes, measures and strategic steps.

CHAPTER 2:
Summary about the UNFCCC
Technology Transfer Mechanism

2.1 UNFCCC Technology Mechanism and its web platform

The UN's climate and technology website, TT:CLEAR, which was established in 2001, has a long history in facilitating the development and transfer of climate technologies. Today it serves as a web platform for climate technologies and provides information on the Technology Mechanism, the Technology Executive Committee and Technology Needs Assessments, as well as technology projects from around the world, connections to the community and virtual participation to various climate-related events via the CTCN (Climate Technology Center and Network). CTCN is established for fulfilling the connectivity needs and linking the technology climate solutions. The CTCN, together with the Technology Executive Committee is part of the Technology Mechanism, which was promoted in 2010 as a practice for enhancing technology development and transfer to developing countries and is under the guidance of and accountable to the Conference of the Parties (Fig. 2.1).

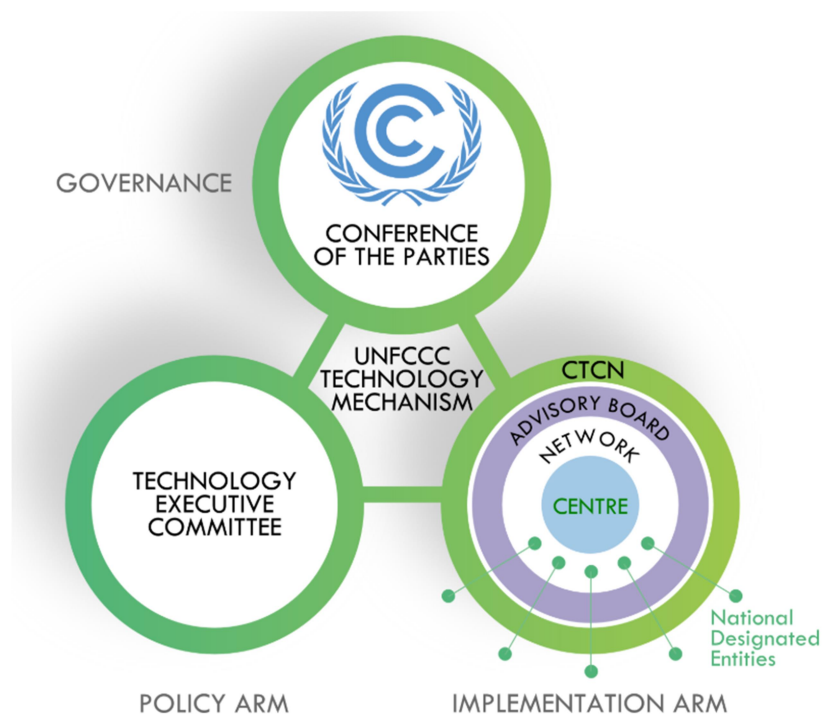


Fig. 2.1 Structure of the UNFCCC Technology Mechanism [2]

The Technology Executive Committee and the Climate Technology Centre and Network work together to enhance climate technology activities. Their functions are complementary and support developing country efforts to address both policy and implementation aspects of climate technology development and transfer. The Conference of the Parties (COP) invited Parties to nominate their national designated entities (NDEs) for the development and transfer of technologies, pursuant to in order to facilitate the operationalization of the CTCN. The NDEs serve as national bodies in charged

for the development and transfer of technologies and as focal points for interacting with the Climate Technology Centre regarding requests from developing country Parties about their technology needs.

The **Technology Executive Committee** is the Technology Mechanism's policy body. It analyses issues and provides policy recommendations that support country efforts to enhance climate technology development and transfer. The committee consists of 20 technology experts representing both developed and developing countries. It meets several times a year and holds climate technology events that support efforts to address key technology policy issues. Since its inception in 2010, the TEC has undertaken work on key areas of climate technology development and transfer. These include: climate technology financing; enabling environments and barriers; national systems of innovation; research, development and demonstration of technology; technologies for adaptation; technologies for mitigation; technology needs assessments; technology road maps; and strategic and emerging issues. The functions of the TEC are:

- Provide an overview of countries' climate technology needs;
- Analyse policy and technical issues related to climate technology development and transfer;
- Recommend actions to promote climate technology development and transfer;
- Recommend guidance on climate technology policies and programmes;
- Promote and facilitate collaboration between climate technology stakeholders;
- Recommend actions to address barriers to climate technology development and transfer;
- Seek cooperation with stakeholders and promote coherence across technology activities;
- Catalyse the development and use of climate technology road maps and action plans.

The **Climate Technology Centre and Network** is the implementation body of the Technology Mechanism. The centre is hosted by the UN Environment in collaboration with the United Nations Industrial Development Organization, and is supported by 11 partner institutions. It also has a network of national, regional, sectorial and international organizations which support it to undertake its services. The CTCN is accountable to and guided by the Conference of the Parties through an advisory board. Developing countries may send a request to the centre through their national focal point, called a national designated entity. It accelerates the development and transfer of technologies through three services:

- Providing technical assistance at the request of developing countries on technology issues
- Creating access to information and knowledge on climate technologies
- Fostering collaboration among climate technology stakeholders via its network of regional and sectorial experts.

The CTCN delivers five main types of technical support on climate technologies:

- Technical assessments, including technical expertise and recommendations related to specific technology needs, identification of technologies, technology barriers, technology efficiency, as well as piloting and deployment of technologies;
- Technical support for policy and planning documents, include strategies and policies, roadmaps and action plans, regulations and legal measures;
- Trainings;
- Tools and methodologies; and
- Implementation plans.

The CTCN's online knowledge portal, at <www.ctc-n.org>, serves as a gateway to the CTCN's technical assistance and capacity-building services. It also serves as a library of climate technology information and tools, organized by geographical region and technology sector, which is made available through an open-source database. In addition, the CTCN provides training and support to strengthen developing country capacity to identify technology options, make technology choices and operate, maintain and adapt technologies.

Although the CTCN provides technical assistance rather than direct funding to countries, in some cases the CTCN can help to play a matchmaking role with funding sources.

It should be underlined that climate or clean technologies has now grown into third largest venture capital investment sector behind information technologies and biotechnologies. Clean technologies (clean energy, efficiency, energy storage, transportation, clean industry, air and environment, water and agriculture) represent different products, services and processes, all intended to reducing or eliminating negative environmental impact and to improving responsible use of natural resources.

2.1.1 Technology Transfer Framework

In 2001 countries created the technology transfer framework, known officially as the framework for actions to enhance the implementation of Article 4, paragraph 5, of the Convention. The technology transfer framework covers five key technology themes:

- **Technology needs and needs assessments.** This theme refers to a set of country-driven activities that identify and determine the mitigation and adaptation technology priorities of certain developing country;
- **Technology information.** This theme serves to establish an efficient information system in support of technology transfer and to improve the generation and flow of, access to, and quality of technical, economic, environmental and regulatory information;
- **Enabling environments for technology transfer.** This theme focuses on government actions, such as fair trade policies, removal of technical, legal and administrative barriers to technology transfer, sound economic policy, regulatory frameworks and transparency, in order to create effective environment for private and public sector technology transfer;
- **Capacity-building for technology transfer.** This theme aims to strengthen the capability of institutions and actors, as well as to improve existing scientific and technical skills for transfer of technologies in the developing countries; and
- **Mechanisms for technology transfer,** for facilitation the support of financial, institutional and methodological activities, with the following 4 sub-themes:
 - innovative financing;
 - international cooperation;
 - endogenous development of technologies; and
 - collaborative research and development.

2.2 Financial support through the financial mechanism

The financial mechanism under the UNFCCC Convention provides financial resources (grants and lending instruments) to assist developing countries in transition to meet the objectives of the international environmental conventions and agreements. There are two operating entities of the financial mechanism:

- Global Environment Facility (GEF);
- Green Climate Fund (GCF).

2.2.1 GEF (Global Environment Facility)

The **Global Environment Facility** (GEF) was established in 1991 as the financial mechanism of the main multilateral environmental agreements. GEF is the largest funder worldwide of projects aiming to generate global environmental benefits, while supporting national sustainable development initiatives. Since the first session of the UNFCCC Conference of Parties (COP), in Germany, 1995, the GEF has served as an operating entity of the financial mechanism of the Convention.

The GEF has 183 member countries. GEF funds are contributed by donor countries, available to developing countries. The financial contributions are replenished every four years by donor countries and up to 2022, from GEF1 to GEF7, there are allocated US\$24.5 billion, up-to-date allocated US\$18.3 billion, supplemented by more than US\$115 billion in co-financing for over 4,890 projects.

According to the Instrument for the Establishing the **Restructured GEF**, from March 2015 [3], the GEF Trust Fund is established with replacement and terminating of the previous existing Global Environment Trust Fund (GET).

Restructured GEF has 18 partner Agencies where implementing Agencies are UNDP, UNEP, UNIDO, EBRD and World Bank. The World Bank serves as the **GEF Trustee**, administering the GEF Trust Fund, contributions by donors. The Trustee helps mobilize GEF resources, disburses funds to GEF Agencies and prepares reporting and monitoring helping in lending investment focusing on institution building, infrastructure development and policy reform across all the focal areas of the GEF. The GEF Council approved a new GEF Policy on Gender Equality (GEF, 2017) in November 2017. The Policy marks GEF's increased ambition to ensure gender equality and promote women's empowerment across its operations.

GEF supports **technology transfer** to help developing countries address global environmental challenges. It is leading funding source for the transfer of **environmentally sound technologies** (ESTs) to address climate change, having supported technology transfer activities in 168 developing countries.

Based on **Poznan Strategic Programme on Technology Transfer**, under UNFCCC COP14 (2008), the GEF supports technology transfer through three funding windows designed to: (i) Conduct technology needs assessments; (ii) Support pilot priority technology projects linked to technology needs assessments; and (iii) Disseminate GEF experience and successfully demonstrated ESTs.

The objective of the Poznan Strategic Programme is to scale up investment in technology transfer to help developing countries address their needs for ESTs. According to these objectives, under UNFCCC COP16 (2010), UNFCCC establishes a **Technology Mechanism**, consisting of:

- Technology Executive Committee and
- **Climate Technology Centres and Network (CTCN).**

During the UNFCCC COP18 (2012), **UNEP** is selected as a host of CTCN, an important part of the Technology Mechanism. Until now, GEF is supporting four regional projects and Climate Technology Centers and Network through one global project, with investment over \$40 million and leveraged over \$300 million for promoting accelerated transfer and scaled-up deployment of climate change technologies. Two CTCN are established Pilot Asia-Pacific and Pilot African CTCN.

Under GEF operated other trust funds, where the one of them supports technology transfer activities:

- **Special Climate Change Fund (SCCF)**

Through the GEF with guidance from UNFCCC, the Special Climate Change Fund (SCCF) targets two key sectors for adaptation and **technology transfer** in all development country parties to the UNFCCC. SCCF supports both long-term and short-term adaptation activities in water resources management, land management, agriculture, health, infrastructure development, ecosystems and coastal zone management.

The technology transfer window (SCCF-W) of the SCCF

Through this SCCF-B window, the GEF supports the **transfer** of climate-resilient technology for both mitigation and adaptation. This goes together with support to help countries put the technology to use and apply research, as well as to implement demonstration and deployment projects.

The GEF has the following roles in the **long-term** implementation of the **Strategic Programme on Technology Transfer**:

- Support for Climate Technology Centers and Climate Technology Network;
- Piloting priority technology projects to foster innovation and investments;
- Private-Public partnership for technology transfer;
- Technology Needs Assessment;
- GEF as a catalytic supporting institution for technology transfer.

2.2.1.1 GEF in the Republic of North Macedonia

North Macedonia is a member of a constituency of GEF till 1994. Since then, North Macedonia has received grants of US\$ 154.227.107,00 with leveraging in co-financing of US\$ 799.305.350, 00 for 23 national projects, 14 regional and 4 global projects.

For the reported period 2014-2020, GEF dataset [4] of the projects consists: 5 national, 3 regional and 1 global projects approved under the GEF-6 (2014-2018), managed under implementing agencies UNDP, UNEP and EBRD and 1 regional project under the GEF-7 (2018-2022) as concept approved, under implementing agency EBRD.

The list of approved and under realization GEF projects includes 4 projects in climate change, 2 in biodiversity, 2 in land degradation, 1 in chemical and waste and 1 in multi-focal areas. Distribution of the projects by focal areas is presented on the Fig. 2.2. The full list for GEF projects is provided in *Annex 1*.

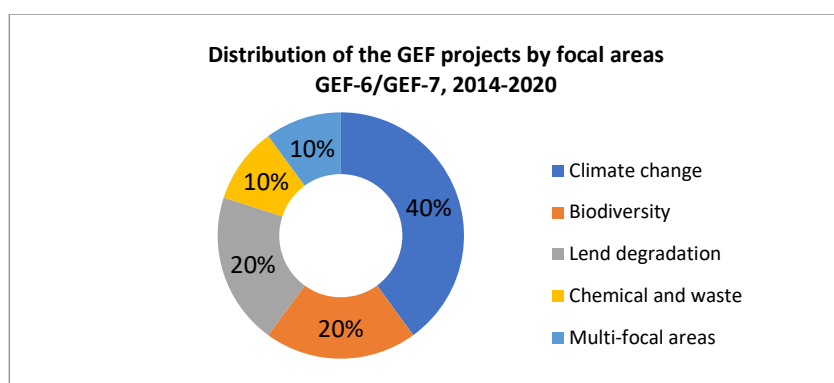


Fig. 2.2 Distribution of the GEF projects by focal areas, period 2014-2020

During the current replenishment period, GEF-6 and GEF-7, the country has received an indicative allocation of US\$ 6.110.487,00 to execute projects, distributed on focal areas: US\$ 1.500.000, 00 in biodiversity, US\$ 2.000.000, 00 in climate change and US\$ 2.610.487, 00 US\$ in land degradation. Total programmed funding of GEF projects, according to dataset [2] and date in *Annex 1*, consists grants amount of US\$ 39.511.943,00 and leveraging in co-financing US\$ 322.459.795,00.

The GEF Small Grants Programme is active in North Macedonia by providing financial and technical support with small grants that conserve and restore the environment in sustainable development areas.

2.2.2 GCF (Green Climate Fund)

The Green Climate Fund is operating entity of the financial mechanism of the UNFCCC and of the Paris Agreement [5]. It was established in 2010 by the 194 countries party to the United Nation Framework Convention on Climate Change as an operating entity of the Financial Mechanism of the Convention. Paragraph 2 of the GCF's Governing Instrument states its mandate as follows: In the context of sustainable development, the Fund will promote the paradigm shift towards low-emission

and climate resilient development pathways by providing support to developing countries to limit or reduce their greenhouse gas emissions and to adapt to the impacts of climate change, taking into account the needs of those developing countries particularly vulnerable to the adverse effects of climate change. GCF's investments are aimed at achieving maximum impact in the developing world, supporting paradigm shifts in both mitigation and adaptation. The Fund aims for a 50:50 balance between mitigation and adaptation investments over time. It also aims for a floor of 50 percent of the adaptation allocation for particularly vulnerable countries, including Least Developed Countries (LDCs), Small Island Developing States (SIDS), and African States [6].

GCF is the world's largest multilateral climate fund, having disbursed \$911m to 105 developing countries. The total number of approved projects is 124, for which the total \$5.62b funding is allocated by GCF. The total value of the approved projects including the co-financing is \$20.62b. Thematically, 25% of the approved projects fall in the category "adaptation", 41% for the category "mitigation", while the rest 34% cover the "cross-cutting" actions [7].

In respect to the geographic distribution of the GCF projects, the greatest share of the value of approved projects belongs to the priority area: Africa (39.2%), then Least Developed Countries (25%) and Small Island Developing States (18.8%).

GCF makes investments within 8 strategic result areas, in line with the country priorities:

- Energy generation and access;
- Transport;
- Building, cities, industries and appliances;
- Forests and land use;
- Health, food and water security;
- Livelihoods of people and communities;
- Ecosystems and ecosystem services; and
- Infrastructure and the built environment.

GCF funds both, private and public sector. There are 25 projects funded in the private sector (38% with total amount of \$2.1b), while the remaining 99 projects that are funded, belong to the public sector (62% with total amount of \$3.5b). The 5 financial instruments that are available are used in the disbursed funding: Guarantees with 1%; Equity with 9%; Results-based payment with 4%; Loans with 41%; and Grants with 45%.

GCF effectively manages environmental and social risks and impacts in financed activities, ensuring as well equal participation of women, youth, indigenous populations and other minority and highly vulnerable groups. Equality and ensuring accessibility to the resources without discrimination and prejudice are part of the basic guiding principles of the Environmental and Social Policy. From other hand, Environmental and Social Management System aims to reduce conflict, ensure equal benefit and avoid harm to people and ecosystems. The GCF gender policy ensures contribution of the GCF projects to gender equality, to take into account gender aspects where mainstreaming of gender and social factors make climate events more effective, sustainable and efficient. Gender policy is applied to all GCF activities, regardless of whether they are implemented by international, regional, national or subnational, state or private organizations.

GCF invests in adaptation and mitigation activities in developing countries managing the projects implemented by the partner organizations, known as accredited entities. GCF ensures developing

country ownership of climate change funding, based on country-driven approach. It works with appointed National Designated Authority (NDA) in developing countries, as interface between their governments and GCF in order to approve all GCF project activities within the country according to national priorities.

The Cabinet of the Deputy Prime Minister in Charge of Economic Affairs and Coordination of Economic Sectors is **appointed NDA in North Macedonia** for the GCF.

2.2.2.1 GCF in the Republic of North Macedonia

GCF participates into North Macedonia through one **(1) multiple countries cross-cutting project**, Green Cities Facility with nine beneficiary countries. The project main goal is to enable the transition of the cities, urban areas with about 70% of the global energy consumption and about 75% of emission, to low-carbon, climate-resilient urban development with minimized environmental impact and maximized support to natural environment through including energy efficiency in building, transport, waste reduction, water management and green planning. Project realization framework is October 2018-September 2034. Total value of this worldwide project is \$585M under EBRD, as accredited entity for technical assistance, with total GCF financing of \$95.9M, out of \$24.3M grant and \$71.6 loan.

For effective investments in climate change adaptation and mitigation, the Green Climate Fund (GCF) has offered **two national GCF readiness and preparatory support projects** for investments in North Macedonia, implemented by FAO under the leadership of the Cabinet of the Deputy President of the Government in charge of economic affairs, in its role as NDA to the GCF. The engagement with the Green Climate Fund through the readiness support facilitates the country to consolidate its efforts to have national and global impact and streamline a sustainable and green aspect to its economic development and also, to be able to create a Country Work Programme (CWP) for the GCF.

Within the country's **first project** under this GCF readiness and preparatory support programme [8], FAO supported the Government to set up the national mechanism, institutional framework, and procedures needed to effectively access and deploy resources from the Fund. Aligned with national priorities, it should call for bold climate action to stimulate concrete solutions that lower emissions and to help build resilience in priority sectors.

As first **result** of first readiness project at the end of 2019, it should be underlined the beginning of the CWP for the GCF with an open call for project ideas through website (greendevopment.mk) as a key communication tool for knowledge and information sharing on the GCF activities in North Macedonia. All interested stakeholders, including academic institutions, national/local authorities, public and private companies, civil society organization, and other legal entities are invited to submit project ideas that propose climate change adaptation or mitigation actions in at least one of the priority sectors, including energy, transport, water resources, agriculture, waste, biodiversity, health, forestry, and cultural heritage.

CHAPTER 3:
**Other mechanisms related to climate
change and possibilities for funding**

3.1 EU mechanisms

In March 2010, the European Commission (EC) adopted its **Europe 2020 Strategy** [9] for smart, sustainable and inclusive growth, designed to deliver EU agenda for growing in the current decade. It emphasizes three reinforcing priorities of smart, sustainable and inclusive growth, designed to improve Europe's competitiveness, productivity and sustainable social market economy. The EU has adopted five strategic targets to be reached by 2020, related to: Employment, Research & Development, Climate change& energy (CC), Education and Social exclusion. According to strategy, the targets are measurable by indicators and to be reached by 2020. The **CC target, which is** in the focus of this report, is measurable with follow indicators: reducing greenhouse gas emissions by at least 20% compared to the 1990 level, increasing the share of renewable energy in final energy consumption to 20%, moving towards a 20% increase in energy efficiency.

Nowadays, it is clear that Europe 2020 Strategy has provided an important contribution to the EU's socio-economic development since its launch in 2010 [10]: record high employment, the greenhouse gas emissions objective has been met, the renewable energy and energy efficiency targets are on track. However, EU enforces progress according to targets of 2020 Strategy with stimulating research, innovation and investment in projects through different **EU financial mechanisms**.

In order to achieve these targets of Europe 2020 Strategy, a wide range of funding opportunities are available through **Competitive Programmes** of the EU for the period 2014-2020. EU Competitive Programmes (EU funding mechanisms) are programmes financed directly from the EU's budget in the form of grants and cover priorities, as defined by the EU and aimed at contributing to the implementation of EU policies. They are managed centrally by the European Commission. Participants are from Programme Countries (28 Member States and EFTA/EEA Countries) and Partner Countries (third countries and pre-accessing EU candidate and potential candidate countries).

The large list of EU Competitive Programmes (2014-2020) enforces progress through financing the projects in different thematic categories. In this report are presented Programmes as EU mechanisms for funding the projects, selected by thematic categories in line with focus of research, development, innovation and technology transfer related to climate change: Horizon 2020, COSME, CEF, LIFE, Erasmus+, IPA.

Follow sections of the Report will give overview of EU financial mechanisms and key funding opportunities to support research, development, innovation and technology transfer projects related to climate change, available for the countries in the pre-accession phase as North Macedonia.

3.1.1 Horizon 2020 the Framework Programme

From 2014, according to EU Regulation [11], all the European Union mechanism, programmes and funding opportunities for the science, innovation, technology and society, are under **Horizon 2020 the Framework Programme** for research and innovation, for period 2014-2020, with total projected investment of 75€ billion. Horizon 2020 is implemented via **multiannual work programmes** that integrate EU policy objectives in the priority setting, prepared by the EC and advisory consultative

groups from industry, research and society. **The first** Multiannual work programmes (2014-15) providing an investment of around €13 billion; **the second** (2016-2017) with around €27 billion and on-going **third** work programme (2018-2020) that will provide further investments of around €35 billion in research and innovation.

Horizon 2020 is complemented by the separate work programmes that cover projects funding in following topics, where each topic consist packages of actions. List of **topics in Horizon 2020** consists: Excellent science, Industrial leadership, Society challenges, Science with and for society, Spreading excellence and widening participation, European Innovation Council (EIC), European Institute of Innovation and Technology (EIT), Euratom and Focus areas. Across the topics in Horizon 2020, gender dimension is a cross-cutting issue and is mainstreamed in each of the different parts of the Programme, in order to ensure fostering gender balance in research teams and in decision-making.

From 2014, Horizon 2020 has offered several key funding opportunities, through **packages of actions** in above mentioned topics, to support research, innovation and technology transfer projects related to CC for countries in the pre-accession phase, as North Macedonia:

- **Excellent science** through packages of actions: Future and emerging technologies and Research infrastructure;
- **Industrial leadership** through packages of actions: Leadership in enabling and industrial technologies and Innovation in SMEs;
- **Societal challenges** through packages of actions: Secure, clean and efficient energy, Smart, green and integrated transport, Climate action, environment, resource efficiency and raw materials and Food security, sustainable agriculture and forestry;
- **Science with and for society** through package of actions: Responsible research and innovation;
- **EIC** through packages of actions: EIC Accelerator, Fast track to innovation, Future and emerging technologies;
- **EIT**, an independent EU body and integral part of Horizon 2020 with focus to strength Europe's ability to innovate and to support creating sustainable economic growth, through his 'knowledge triangle' based cross-border partnerships called Innovation Communities (IC):
 - EIT Climate IC - addressing climate change adaptation and mitigation challenges,
 - EIT Inno Energy IC - achieving sustainable energy;
 - EIT Raw materials IC - ensuring the accessibility, availability and sustainable use of raw materials for the economy and citizens;
 - EIT Food IC - creating leaders of a global revolution in food innovation and production.

New **Work Programme 2018-2020** is the last for Horizon 2020 [12] based on EU policy priorities with goal to provide funding opportunities and projects support that will enlarge EU competitiveness, technology development, innovation for society and businesses, building market share and employment generating. This Work Programme has been fully updated with new objectives in the light of emerging priorities and connecting with the forthcoming **Horizon Europe** programme, the next research and innovation framework programme.

This Work Programme identifies **few key novelties**, that directly correlating with research, innovation and technology transfer to CC and SD:

- Actions towards **three O's policies** of Open innovation, Open science and Open to the world;
- Actions with strong commitment to sustainable development and quality of life in EU, as well as the EU's position in the world, towards implementation of **Sustainable Development Goals** (SDG);
- Actions defined through **four** mutually reinforcing **Focus Areas** that are aligned to EU's major policy priorities and three of them directly tackled CC:
 1. Building a low-carbon, climate resilient future (LC),
 2. Connecting economic and environmental gains – the Circular Economy (CE),
 3. Digitising and transforming European industry and services (DT), and
 4. Boosting the effectiveness of the Security Union (SU).

Within **first Focus Area LC** (total budget €3706 million): The EU confirmed in 2016 its commitment to the Paris Agreement by adopting the “Clean Energy for all Europeans” legislative package [13], which includes a EC Communication on Accelerating Clean Energy Innovation. Its proposed twenty actions in four key areas that have potential to fast track the research, innovation, technology transfer and market-introduction to technologies based of LC: decarbonising Europe's building stock, strengthening the EU's leadership in renewable energy, developing integrated and affordable energy storage solutions and electro-mobility.

Within **second Focus Area CE LC** (total budget €1019 million): It is planned to support transition to a circular economy and to consolidate relevant research& development and innovative initiatives to make strong contribution to sustainable development goals (budget of €1 billion), to climate action and to industrial competitiveness, by enabling industrial symbiosis and developing new business models and sustainable businesses, in order to minimise waste and pollution, to use resources efficiently by digitalization and high-technology readiness level.

Within **third Focus Area DT LC** (total budget €1796 million): Advances related to digitisation, underpinned by key enabling technologies (KETs), will transform industry and services (budget of €1,8 billion) and provide technology transfer solutions to several major societal challenges, such as tackling climate change through reducing energy and resources consumption as well as waste, increasing the efficiency of transport systems, improving the production in agriculture and food systems.

This work programme 2018-2020, last in Horizon 2020 Framework Programme, has consisted increased investment in sustainable development and climate related R&I. In the light of the Paris Agreement, marking a new era in the fight against climate change, the Horizon 2020 will invest at least 35% of its total budget for climate actions where more than 60% programme's objectives contributing to sustainable development, including in areas like health, food, energy, transport and resource efficiency.

Levels of EU co-financing rate for this Programme are different by actions:

- Coordination and Support actions 100%
- Research and Innovation actions 100%
- Innovation actions 70% (except for non-profit legal entities - 100%)
- Pre-commercial procurement (PCP) Co-fund 70%

Beneficiary partners are: private sector, public sector, non-profit organization, academic institutions and research centers.

3.1.1.1 Horizon 2020 in the Republic of North Macedonia

All opportunities in frame of Horizon 2020 the Framework Programme are open for beneficiary partners from North Macedonia. The Ministry of Education and Science (MES) is the national designated entity responsible for **H2020 Framework Programme** and Work Programme 2018-2020 in North Macedonia.

According to EU statistics [14] for the period 2014-2020, full list of the approved H2020 projects with participation of the partners from North Macedonia contains **63** projects with total received funding of €8.87 million. Number of organizations from NM, involved as partners in H2020 projects, is 85 where 79 organizations are from Skopje's planning region, 2 from Pelagonia's region, 2 from South-West region, by 1 from Polog's region and East region.

Figure 3.1 provides information about the diversification of the H2020 funding received, by type of organization with net part from total EU budget contribution. Evident is that the largest beneficiary is private sector with 20 participation and net EU contribution of €2.64M (share 30%), then higher education with 25 participation and €2.36M (26%), research organizations with 19 participation and €1.83M (21%), public bodies with 8 participation and €1.14M (13%) and other with 13 participation and €0.89M (10%).

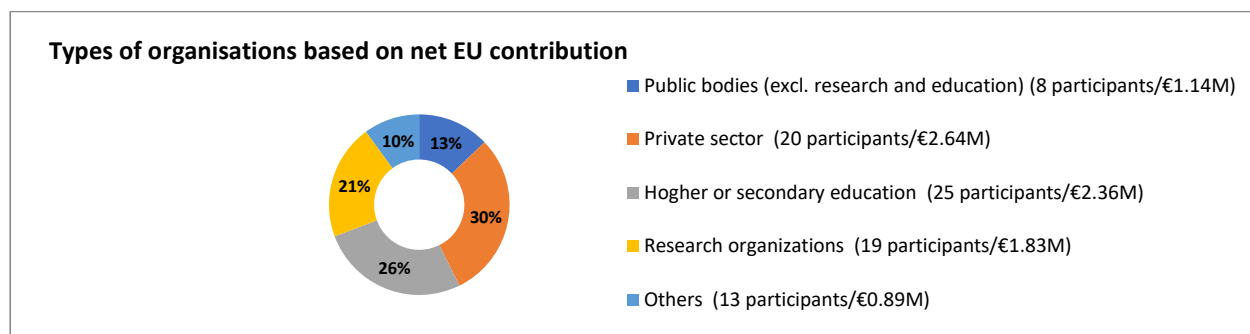


Fig. 3.1 Types of organisations from the country based on net EU budget contribution

The complete list of R&D, innovation and technology development projects consists **52** projects with total allocated amount of **€5.681.192,00** (EU financing and co-financing for all members of consortia) presented in **Annex 2** of this Report, as funded by the H2020 for period 2014-2020.

Selecting that list of projects by criteria to be directly/or indirectly related to the climate change (R&DITT to CC), there are listed 38 projects. That means that total share of the climate related from all funded projects with Macedonian participation is about 60%.

Analysis of the funded projects by instruments of H2020 (Fig. 3.2) presents highest numbers of projects under Research Innovation Action and Coordination and Support Action, within 15 projects per action. The highest financed amount with €2.442.290,00 is under Innovation Action.

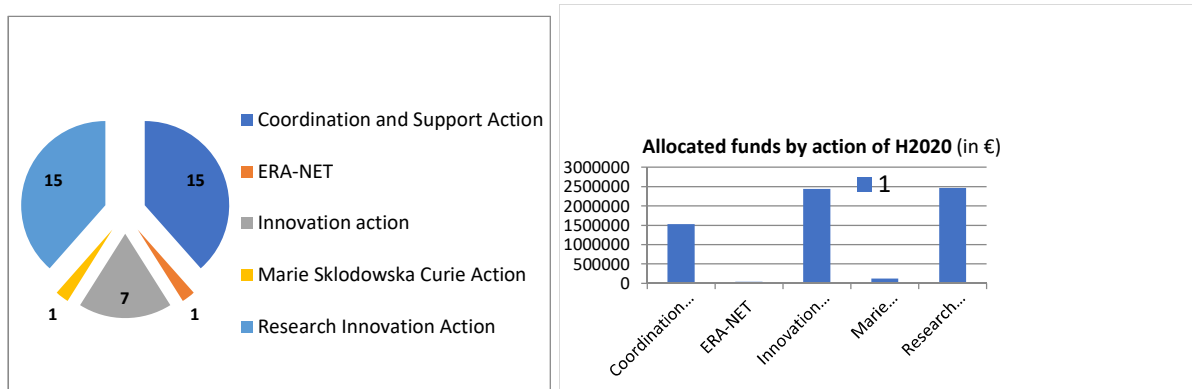


Fig. 3.2 Number of R&D/IT projects related to climate change with allocated funds by action of H2020

It should be underlined that through this allocated H2020 budgets, the country has strengthened research potentials and innovation capacity for development of the technologies and their transfer with direct or indirect impact on the climate change mitigation. The objectives and main expected results of the listed projects in Annex 2 are classified into policies connected to climate, as: secure, clean and efficient energy, low-cost low-carbon energy supply, climate action, environment, resource efficiency and raw materials, smart, green and integrated transport, increasing production efficiency coping with climate change and ensuring sustainability.

3.1.2 Forthcoming Horizon Europe

The part of the Horizon 2020 work Programme 2018-20 with calls and topics for 2020 has been fully updated, with all the content in order to revitalise and reset the programme in the light of emerging priorities and connecting with the forthcoming Horizon Europe programme, the next research and innovation framework programme.

New content extended to address new policy priorities of Horizon Europe are included in Programme 2018-20 within the calls for 2020 in focus areas, through the follow topics, more of them connected to CC: a) Next generation of batteries, b) Secure, clean & efficient energy, c) Plastics, d) Competitive, low-carbon and circular Industries, e) Climate action, environment, resource efficiency & raw materials, f) Health, demographic change, g) Secure societies and h) Artificial Intelligence.

In April 2019, agreement for European Union Framework Programme for research and innovation (2021-2027) Horizon Europe has been reached by the European Parliament and the Council of the Union [15] with budget of €100 billion. According to this agreement, Horizon Europe will be structured in three Pillars with ensuring cross-cutting promotion of gender equality, supported by activities aimed at widening participation and strengthening the European Research Area (Fig. 3.3).

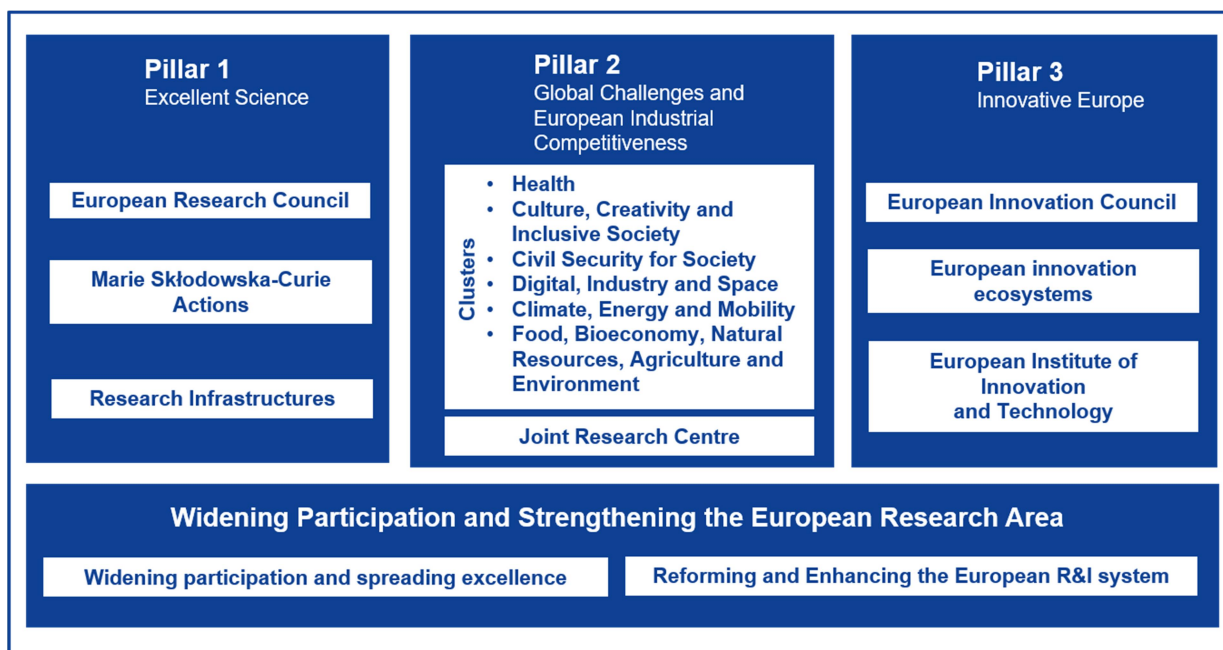


Fig. 3.3 Preliminary Structure of Horizon Europe [15]

The Strategic Planning process will focus in particular on Pillar II, “Global Challenges and European Industrial Competitiveness” and will prepare the Strategic Plan for Horizon Europe for 2021-2024, by setting out key strategic orientations for the support to research and innovation.

The Strategic Plan will describe major policy drivers, strategic policy priorities, and the targeted impacts to be supported through Horizon Europe from 2021 to 2024.

3.1.3 Competitiveness of Enterprises and Small and Medium-sized Enterprises (COSME)

The work programme of the European Commission for **Competitiveness of Enterprises and Small and Medium-sized Enterprises (COSME)**, managed by the Executive Agency for Small and Medium-Sized Enterprise’s (EASME), provides better access to markets and to finance, improves conditions for businesses, supports innovation activities and encourages entrepreneurship. The COSME runs from 2014 to 2020, established by the Regulation No.1287/2013 of European Parliament from December 2013 [16], with a planned budget of € 2.3 billion. Financial instruments under access to finance are managed by the European Investment Fund (EIF).

Small and Medium-sized Enterprises (SMEs) are the backbone of Europe’s economy, providing 85% of all new jobs. The EC aims to recognise the central role of SMEs in the EU economy and to promote entrepreneurship and improve the business environment, to allow them to realise their full potential in global economy.

COSME supports Small and Medium-sized Enterprises (SMEs) in the following **four main areas**:

- Facilitating access to finance;
- Supporting internationalisation and access to markets;
- Creating an environment favourable to competitiveness;
- Encouraging an entrepreneurial culture.

COSME addresses to above mentioned four main programme's objectives through:

- **Access to finance:** Increasing the sustainable competitiveness of EU companies and facilitating access to finance for SMEs in different phases of their lifecycle: creation, expansion or business transfer. In order to achieve this objective, the EU has mobilised loans (**Loan Guarantee Facility**) for SMEs by providing guarantees to financial institutions and equity investments (**Equity Facility Growth**) for SMEs by providing risk capital to equity funds investing in SMEs, mainly in the expansion and growth-stage phases.
- **Access to markets:** Helping SMEs access and benefit from new markets, within and outside the EU, and boosting Intellectual Property protection for innovative SMEs. COSME funds the **Enterprise Europe Network (EEN)** consisting of over 600 offices in 50 countries helping SMEs find business and technology transfer partners, understand EU legislation and access EU financing. Providing **digital tools** designed for SMEs development: Europe Business Portal and SME Internationalisation Portal.
- **Creating better framework conditions for competitiveness:** Supporting by business-friendly environment favourable for business creation, innovation and growth, by reducing unnecessary administrative and regulatory burdens, developing smart regulation and reinforcing the use of "Think Small First" principle for policy-making at national and regional level. Supporting competitive industries with market potential, by helping SMEs to take-up new business models and integrate into new value chains. Promoting world class clusters with internationalisation and cross-sectorial cooperation, B2B matchmaking, fostering creative partnership and accelerating the digitalisation, online resources and digital skills for businesses.
- **Encouraging an entrepreneurial culture in Europe:** Promoting **Entrepreneurship 2020 Action Plan** through a wide range of activities: mobility exchanges, best practices diffusion, entrepreneurship education, mentoring new and potential entrepreneurs, including young and women, fostering cross-border transfer of experience between entrepreneurs. Focus on **digital entrepreneurship** to help European businesses in digital transformation and benefit from digital era, crucial for competitiveness and growth.

During period from 2014, COSME has become tool for easier access to finance for entrepreneurs with cross-border activities, resulting in additional lending or investment for EU companies, with more than €3.5billion.

Level of EU co-financing rate for this Programme is 40% to 60% of the eligible costs.

Beneficiaries are: private sector, public sector.

Main office of the Enterprise Europe Network, responsible for **COSME Programme in North Macedonia**, is located at the Ss. Cyril and Methodius University in Skopje.

3.1.3.1 COSME in the Republic of North Macedonia

From 2014, beneficiary partners from North Macedonia have realized in total 5 projects (Fig. 3.4) with total budget of €586.514,00 (Fig. 3.5), where office of EEN in North Macedonia, for promoting COSME objectives and support SMEs in the country, has realized projects with total budget of €443.272,00, as is shown at Figure 3.6.

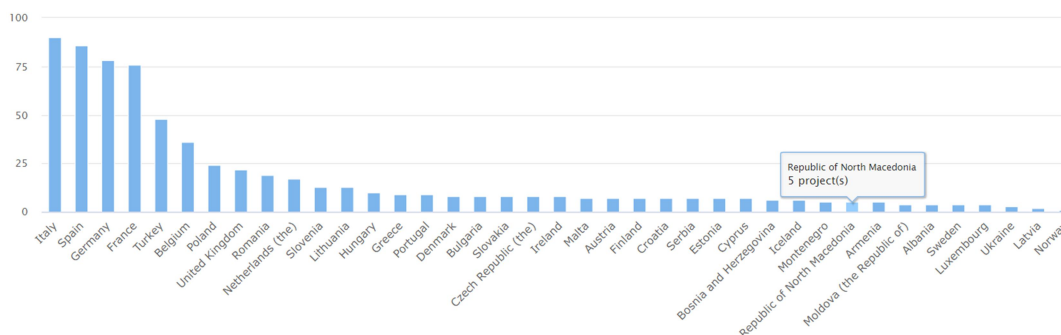


Fig. 3.4 Number of projects funded by COSME (based on the coordinator's country) (Source: COSME Data Hub, <https://cosme.easme-web.eu/#>)

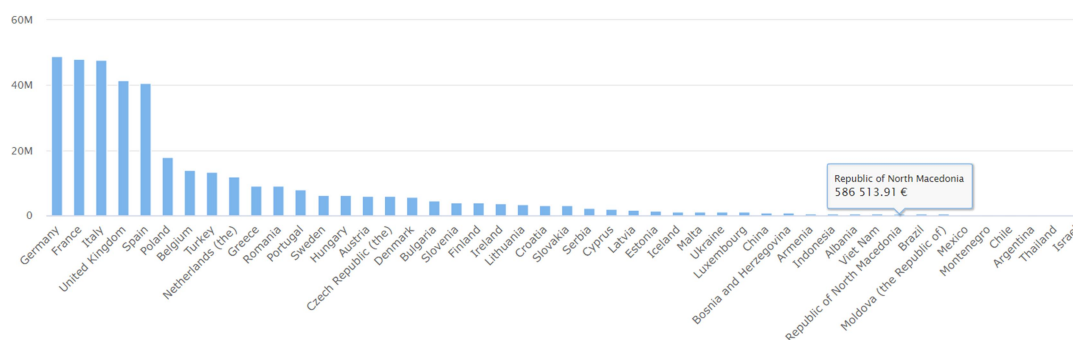


Fig. 3.5 Budget allocated per country (Source: COSME Data Hub, <https://cosme.easme-web.eu/#>)

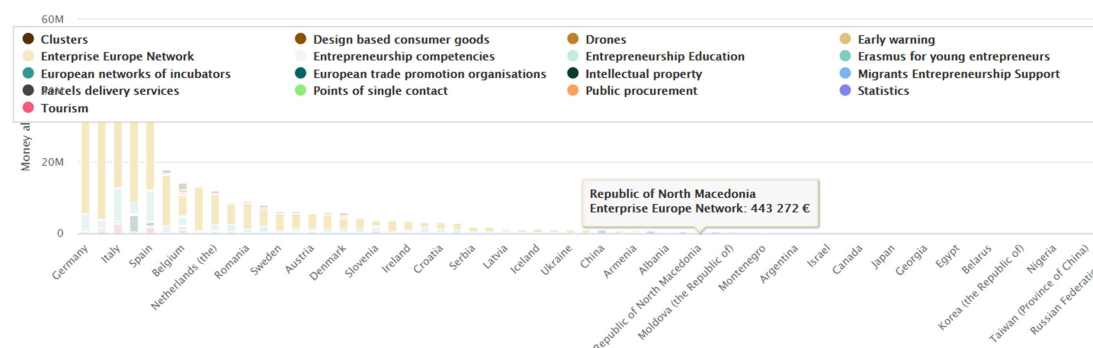


Fig. 3.6 Budget per topic per country (Source: COSME Data Hub, <https://cosme.easme-web.eu/#>)

3.1.4 ERASMUS+ Programme

Erasmus+ is the EU Programme, implemented by the European Commission, established according to the EU Regulation No.1288/2013 of the European Parliament and the Council from December 2013 [17], in the fields of education, training, youth and sport for the period 2014-2020. Those fields make a major contribution to help tackle socio-economic changes and to support the implementation of the European policy agenda for growth, jobs, equity and social inclusion. Erasmus+ is the result of the **integration** of the six European programmes in the fields of education, training and youth, implemented by the Commission during the period 2007-2013: Lifelong Learning, Youth in Action, Erasmus Mundus, Tempus, Alfa and Edulink.

The Programme supports actions, cooperation and tools consistent with the objectives of the Europe 2020 Strategy [18] and its initiatives for growth, jobs, social equity and inclusion. The aim of Erasmus+ is to contribute to the achievement of the objectives of the strategic framework for **European cooperation in education and training** (ET2020) [19] through investment in knowledge, skills and competences that will benefit individuals, institutions and society by contributing to growth and prosperity in Europe and beyond. Also, Erasmus+ aims to promote and to achieve the sustainable development by providing opportunities for education, knowledge and skills and contributing to the EUs commitment to the 2030 Agenda and its **Sustainable Development Goals** (SDGs) [20].

In order to achieve its objectives, the Erasmus+ Programme implements the following Actions: Key Action 1-Learning mobility of individuals, Key Action 2-Cooperation for innovation and exchange of good practices, Key Action 3-Support for policy reform, Jean Monnet Action and Sport Action.

Erasmus funds projects with partners from European ‘Programme Countries’ and ‘Partner Countries’, where programme countries comprise the 28 Member States plus five other European countries, including North Macedonia.

Level of EU co-financing rate for this Programme is defined with different percentage of the eligible costs per key actions.

Beneficiaries are: private sector, public sector, non-profit organization, academic institutions and research centers.

The **National Agency for European educational programmes** and mobility is public institution responsible for implementation of Erasmus+ in North Macedonia.

3.1.4.1 Erasmus+ Programme in the Republic of North Macedonia

According to the Erasmus Projects Results Platform [21], the list of the projects funded by the EC under Erasmus+ and its programmes in the fields of education, training, youth and sports, institutions in the RNM are granted in total through 5330 projects, for period from 2014 to 2019 year. Under KA2, Cooperation for innovation, closer to the analysed area for this report, North Macedonia’s institutions are granted in total with 758 projects. In general, by implementation of those projects in the country, there is provided strong contribution to development of knowledge based society within

sustainable development, better jobs and social cohesion with providing environmental protection and increasing academia-industry-society cooperation related to environmental sustainability aspects.

Filtering of provided data set of 758 projects (with NM's partners) was made by the topics given at EU project platform related to CC, as selecting criteria. Data set of 42 projects is listed by selecting the following topics: Green skills, Environment and climate change, Transport and mobility, Climate action, environment and nature protection, Rural development and urbanisation, Energy and resources. Those 42 projects are granted in total with €7.106.660,00, for Macedonian participants in projects' consortia and listed in *Annex 3*.

3.1.5 Connecting Europe Facility (CEF) Programme

Connecting Europe Facility (CEF) is new funding mechanism for infrastructure projects of common interest for trans-European transport, energy and telecommunications networks. CEF supports the development of high performing, sustainable and efficiently interconnected trans-European networks (TEN) in the fields of transport, energy and digital services. CEF enables implementation of projects of common interest within TEN policy for construction of new or upgrading of existing infrastructure for ensure sustainable and efficient transport, enhance energy supply security, foster the energy from renewable sources and develop carbon dioxide networks and accelerate ultrafast broadband networks.

CEF offers financial support to projects through grants and innovative financial instruments such as guarantees and project bonds. From 2016, key priorities of CEF is enabling and strengthening the synergies between the three sectors and synergy with Horizon 2020.

Level of EU co-financing rate for this Programme is 50% to 75% of the eligible costs.

Beneficiaries are public sector, non-profit organization, academic institutions and research centers.

Since January 2014, in CEF programme has been realized budget **in total €28.7 billion** out of €30.4 billion (€23.6 billion for Transport, €4.6 billion for Energy, and €0.5 billion for Telecom).

3.1.5.1 CEF Programme in the Republic of North Macedonia

From 2014, beneficiary partners from North Macedonia have realized 1 project with total budget of €100.000,00 only through the CEF sector transport in CEF Programme [22], presented at the Fig.3.7.

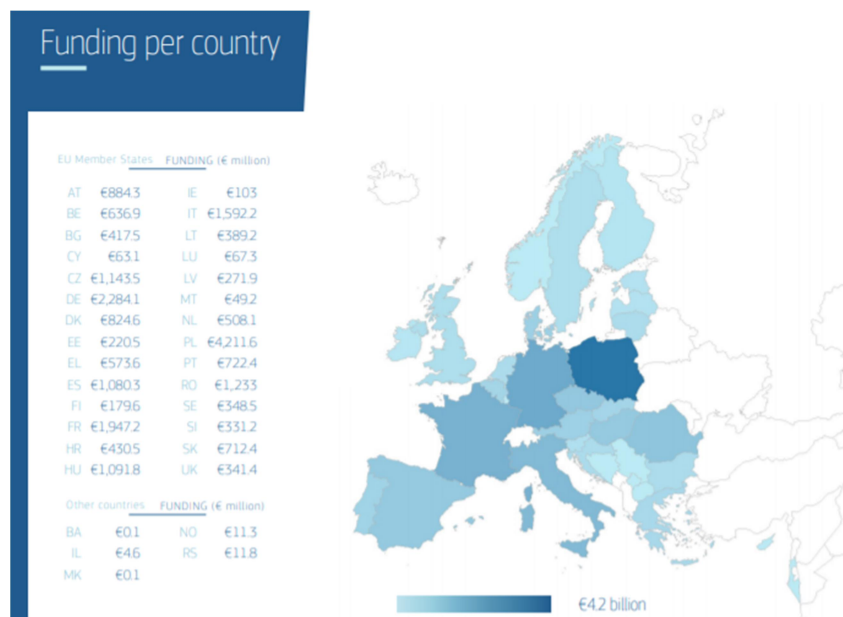


Fig. 3.7 Funding per country in CEF Transport for five years period (2014-2019) [22]

3.1.6 LIFE Programme

The **LIFE programme** is the EU's funding instrument for the environment and climate action created in 1992. The current funding period 2014-2020 is aiming to:

- contribute to the shift towards a resource efficient, low-carbon and climate resilient economy, to the protection and improvement of the quality of the environment and to halting and reversing biodiversity loss;
- improve the development, implementation and enforcement of Union environmental and climate policy and legislation, and to catalyse and promote integration and mainstreaming of environmental and climate objectives into other Union policies and public and private sector practice, including by increasing their capacity;
- support better environmental and climate governance at all levels.

LIFE Programme is organized in two sub-programmes divided by supported actions.

Sub-programme Environment with supported actions:

Environment and Resource Efficiency – with goal to support of resource efficiency-related policy and legislation, including the Roadmap to a Resource Efficient Europe; development, testing and demonstration of integrated approaches in the areas of water, waste and air; and for the assessment and monitoring of the factors, pressures and responses that impact on the environment.

Nature and Biodiversity - with goal to contribute to the implementation of Union policy and legislation in the area of biodiversity including the Union Biodiversity Strategy to 2020 and to support Natura 2000 network.

Environmental Governance and Information – with goal to promote awareness raising on environmental matters, education for sustainable development and dissemination of information in the field of environment.

Sub-programme Climate Action with supported actions:

Climate Change Mitigation – with goal to contribute to the implementation and development of Union policy and legislation on mitigation; to improve the knowledge base for the development, assessment, monitoring of mitigation actions and integrated approaches; to contribute to the development and demonstration of innovative mitigation technologies, systems and methods.

Climate Change Adaptation – with goal to contribute to the development and implementation of Union policy and legislation on adaptation, including mainstreaming across policy areas; to improve the knowledge base for the development, assessment, monitoring and implementation of effective adaptation action; to contribute to the development and demonstration of innovative adaptation technologies.

Climate Governance and Information – with goal stakeholders support to Union policymaking in the field of climate, and to promote education for sustainable development; to support dissemination of information in the field of climate for more effective compliance with and enforcement of Union climate legislation

Level of EU co-financing rate for this Programme is 50% to 75% of the eligible costs.

Beneficiaries are public sector, non-profit organization, academic institutions and research centers.

Since January 2014, for LIFE programme is located total budget of **€3,45 billion, where:**

- the budget allocation for environment is €2,59 billion and
- the budget allocation for climate action is €864 million.

3.1.6.1 LIFE Programme in the Republic of North Macedonia

According to the data from LIFE projects database [23], starting from 2014, there are realized 891 projects. **None** projects realized with participation of partner institution from North Macedonia.

3.1.7 IPA – Instrument for Pre-accession Assistance (IPA)

From January 2007 onwards, the Instrument for Pre-Accession Assistance (IPA), established by Council Regulation (EC) 1085/2006 of 17 July 2006 [24], replaces a series of EU programmes and financial instruments for candidate and potential candidate countries (pre-accessing countries), namely PHARE, CBC, CARD, SAPARD.

IPA 2007-2013 (IPA I) had a budget of € 11.5 billion. Its successor, IPA 2014-2020 (IPA II) builds on the results already achieved by dedicating € 11.7 billion.

Implementation of IPA I is still underway with realization of projects with signed agreements up to the end of 2013. For IPA II [25], signing of the agreements for financial assistance is ongoing process up to the end of 2020. IPA I and IPA 2 are designed to provide financial assistance through **five components**:

- Component 1: Transition assistance and institution building;
- Component 2: Cross-border cooperation (CBC) with EU and pre-accessing countries;
- Component 3: Regional development (transport, environment, regional and economic development);
- Component 4: Human resource development and
- Component 5: Rural development.

IPA funds support reforms in the pre-accessing countries throughout the accession process with technical and financial investment in pre-defined sectors: public administration reform, rule of law, sustainable economy, people and agriculture. Novelty of IPA II is its strategic focus according to pre-accessing country's strategic documents for own reforms and development in line to European strategic priorities.

EU pre-accession funds are a sound investment into the future and help the beneficiaries make political and economic reforms, preparing them for the rights and obligations that come with EU membership. Also, IPA helps the EU reach its own objectives regarding a sustainable economic recovery, energy supply, transport, environment and climate change etc. IPA components (3, 4, 5) allows beneficiary countries to prepare themselves for successful participation in EU cohesion policy after accession and to help them to absorb EU cohesion funding more effectively once it becomes available.

Several public institutions are **national designated entities** responsible for implementation of IPA Instruments in North Macedonia divided by the components: Ministry of labour and social policy, Ministry of agriculture, forestry and water economy, Ministry of education and science.

Central Financing and Contracting Department in the Ministry of Finance is **controlling body** for financial monitoring of IPA instruments realization under supervision of EU Delegation in the NM.

3.1.7.1 IPA Programmes in the Republic of North Macedonia

Instrument IPA I

According Council Regulation [26], planned indicative allocations of IPA I 2007-2013 funds in North Macedonia, separately by year, are presented in Table 3.1.

Tab. 3.1 IPA I allocated funds for North Macedonia [26]

	2007	2008	2009	2010	2011	2012	2013	Total
IPA I (2007-2013) Allocated funds for NM (in €Million)	58.5	70.2	81.8	91.6	98.0	101.8	113.2	607.1

Realization of the funded projects, with signed agreements under five components in frame of IPA I, has to be finalized up to seven years after ending of IPA I programme, or after 2013. From that reason, this Report covers analysis of donors' projects in NM related to CC for the period 2014-2019 and for IPA programmes, include dataset of IPA I ongoing and closed funded projects.

Assistance under **IPA I - Component 1** have focused on implementing the main priorities of the European partnership and involved investment aiming at institution building and transition measures. It is delivered through annual national programmes and project fiches [27].

Assistance under **IPA I - Component 2** have supported cross-border cooperation activities between North Macedonia with neighboring EU countries and potential candidate country (Albania and Serbia), as well as participation in the European Cooperation Transnational programme 'South-East Europe-SEE' [28].

Support under **IPA I - Component 3** has focused on the improvement of transport and environment infrastructure with a total allocation for the period 2007-2013, as presented below in Table 3.2:

- In the **transport sector**, the IPA I assistance focuses on the continuation of the development of the South East Europe Core Regional Transport Network (corridors VIII and X).
- In the **environmental sector**, investments focus on waste water treatment and solid waste management where the impact to the population and sustainable development is the highest.

Tab. 3.2 IPA I-Component 3 budget composition for North Macedonia [28]

IPA I – Component 3 (2007-2013) Budget composition for NM (in €Million)	IPA contribution (Co-financing rate max 85%)	National co-financing (to be defined per project min 15%):	Total IPA funding with min 15% national co-financing:
	€192.157.615,00	€33.910.184,00	€226.067.799,00

Assistance under **IPA I – Component 4** has been focused to foster the development of human resources, in particular by improving the quantity and quality of human capital, leading to more and better jobs, higher growth and increased national competitiveness at international level [29].

Support under **IPA I – Component 5** in North Macedonia [30] is concerning the common agricultural policy and related policies for competitive and sustainable agriculture; strong, sustainable rural communities and diverse and sustainable rural environment.

Allocation of IPA I sources for realization of research, development, innovation and technology transfer projects related to climate change

This section consist data set completed according to the statistics provided from Secretariat of European Affairs of the Government to the Republic of North Macedonia, based to the data base of CFCD (Central Financing and Contracting Department) of Ministry of Finance of the Republic of North Macedonia and to direct communication of responsible authorities in order to represent updated results.

During the period 2014-2020, the country has received contribution from Instrument IPA I through all five components. Here are discussed all components with exception of the Component 2, presented under INTERREG Programme.

- **IPA I Component 1 – Transitional Assistance and Institutional Building (TAIB)**

In section bellow, there are listed information about contracted projects according to the annual national programmes of the Republic of North Macedonia (2009 to 2013) with signed agreements and presented contracting Authority's contribution (IPA + national co-financing). Following numbers of approved projects per year are given according to indicated sources from CFCD:

IPA I Component 1-TAIB, National Programme 2009, contacted projects in total 76 with frame of realization 2011-2015

[<https://cfcd.finance.gov.mk/wp-content/uploads/2013/11/IPA-Programme-TAIB-2009.pdf>];

IPA I Component 1-TAIB, National Programme 2010, contacted projects in total 21 with frame of realization 2012-2016

[<https://cfcd.finance.gov.mk/wp-content/uploads/2013/11/IPA-Programme-TAIB-2010.pdf>];

IPA I Component 1-TAIB, National Programme 2011, contacted projects in total 41 with frame of realization 2014-2017

[<https://cfcd.finance.gov.mk/wp-content/uploads/2013/11/IPA-TAIB-2011.pdf>];

IPA I Component 1-TAIB, National Programme 2012, contacted projects in total 46 with frame of realization 2016-2018

[<https://cfcd.finance.gov.mk/wp-content/uploads/2013/11/IPA-Programme-TAIB-2012.pdf>];

IPA I Component 1-TAIB, National Programme 2013, contacted projects in total 52 with frame of realization 2017-2018

[<https://cfcd.finance.gov.mk/wp-content/uploads/2013/11/IPA-Programme-TAIB-2013.pdf>].

Extracted **IPA I Component 1** (TAIB) projects related to focus of this assessment, research, development, innovation or technology transfer in line to climate change, are listed in **Annex 4** with total number of **21** projects with total amount of **€283.730.393,00** where indicative amount of EU contribution and national co-financing is different per project.

- **IPA1 Component 3 – Regional Development, Transport and Environment (RDTE)**

According to sources approved from CFCD, the list of contracted projects with signed agreements and presented contracting Authority's contribution (IPA I contribution + national co-financing) consist in total **73** projects with the overall time frame for realization 2010-2019.

Related to the priority areas of the Component 3, large number of projects is connected to the **focus** of assessment R&DITT directly or indirectly connected to the climate change. Analysis of the data set provides **52 projects** from **IPA I Component 3** (RDTE) (**Annex 5**).

[<https://cfcd.finance.gov.mk/wp-content/uploads/2013/11/IPA-Programme-RD.pdf>].

Those selected projects, relevant for this assessment, are listed in *Annex 5* and consist a **total budget** of **€309.502.995,00** where indicative amount of EU contribution and national co-financing is different per project.

On the follow Figure 3.8, there are presented total number of contracted projects related to R&DITT to CC with total allocated budgets for three components into IPA I Programme, according to data provided above for Components 1 and 3, as well as data for Component 2 provided in next section.

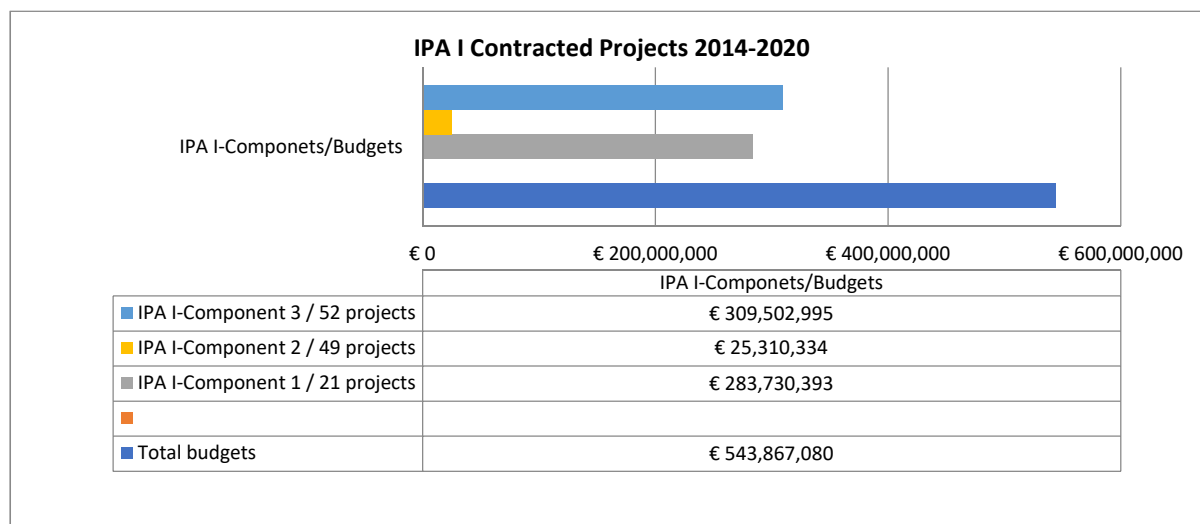


Fig.3.8 IPA I Programme contracted R&DITT to CC projects with total allocated budgets for three Components (for period of realization 2014-2020)

Instrument IPA II

In **IPA II**, for North Macedonia indicative funding allocation is with **budget** of €608.7 million. Indicative allocations by year are given in Tab. 3.3.

Tab. 3.3 IPA II allocated funds for North Macedonia [28][31]

	2014	2015	2016	2017	2018-2020	Total
IPA II (2014-2020) Allocated funds for NM (in €Million)	81.7	67.2	64.6	82.2	313.1	608.7

According to strategic focus [28], **priority sectors** for funding financial assistance under IPA II in the **period 2014-2020** are:

- Democracy and governance;
- Rule of law and fundamental rights;
- Environment, climate action and energy [8];
- Transport;
- Competitiveness and innovation;
- Agriculture and rural development;
- Social development;

- Regional and territorial cooperation.

IPA II 2014-2020 National Programmes documents defines conditions for funding assistance with end period for signing agreements (up to 2020), as well as end implementation period (after seven years), for all above mentioned priority sectors, except last one.

Priority sector for regional cooperation is defined by IPA II 2014-2020 Cross-border Cooperation Programmes, separate for neighboring countries, new in the pre-accessing group (Serbia and Kosovo) [28].

Allocated **funds per priority sectors** for IPA II assistance period of 2014-2020, given in the Table 3.4, are adopted according to EC Decision for Annual Action Programme of Republic of North Macedonia [32].

Tab. 3.4 Allocated funds per sectors for IPA II in NM [28][32][33]

North Macedonia	Total 2014-2020 (in €Million)	Total 2018-2020 (in €Million)	CC relevant (%)
Democracy and rule of law	187.8	83.3	
Democracy and governance	130.9	130.9	
Rule of law and fundamental rights	56.9	56.9	
Competitiveness and grown	421.0	229.8	
Environment, climate action and energy	123.3	62.2	100%
Transport	115.2	67.1	60%
Competitiveness, innovation, agriculture and rural development	135.6	77.3	10%
Education, employment and social development	47.0	23.3	
Total	608.7	313.1	

According to deep analysis of eligible data from responsible institutions in MK, at the moment on-going process of negotiations, signing agreements or evaluations are ongoing. From that reason there aren't **ongoing funded projects under IPA II** and this report doesn't consisted listed signed funded projects by IPA II 2014-2020 programme components.

Allocation of IPA II sources for realization of research, development, innovation and technology transfer projects related to climate change

According to deep analysis of eligible data from responsible institutions in MK, at the moment of negotiations, signing agreements or evaluations are on-going. From that reason there aren't **ongoing funded projects under IPA II** and this report doesn't consisted listed signed funded projects by IPA II 2014-2020 programme components.

Analysis of the Monitoring Plan for programing the multi-annual country Action Programme for the Republic of North Macedonia for environment and climate action (2014-2020) - Direct and indirect management actions, CRIS Decision No. IPA II/2014/037702, provided by the authority of SEP, presents the programed investment line for environmental issues and climate action.

The legal provisions for this Action Programme are stipulated in the following document:

- Commission Implementing Decision of 17.12.2014 adopting a multi-annual Action Programme for the Former Yugoslav Republic of Macedonia on Environment and Climate Action and Transport for the years 2014-2016, Brussels, C(2014) 9850 [34].

The Action Programme consist **46 programed projects** for environment and climate action with indicted contribution (IPA II + national co-financing) and in contracts' signing process. Realization is planned in next seven years. The programed projects are grouped in three actions:

- Action 1 – Approximation of environmental and climate action legislation in priority areas and gradual move to sector based approach
- Action 2 – Investment in water and waste management
- Action 3 – Support of Sustainable Development.

Important for the national legislation, related to issues of the Report, is one programmed project under Action 1 in IPA II, titled: Preparation of Long-term Strategy and Law on Climate Action. For this project, there is signed service contract with projected IPA contribution of €977.500,00. This project is listed in multi-annual Country Action Programme, between 46 above mentioned projects [33][34].

3.1.8 INTERREG

European Territorial Cooperation (ETC), better known as Interreg, is one of the two goals of the EU Cohesion Policy and provides a framework for the implementation of joint actions and policy exchanges between national, regional and local actors from different Member States. The overarching objective of ETC is to promote a harmonious economic, social and territorial development of the Union as a whole.

Interreg is built around three strands of cooperation:

- Cross-border (Interreg A)
- Transnational (Interreg B)
- Interregional (Interreg C)

Five programming periods of Interreg have succeeded each other from 1990 onwards: INTERREG I (1990-1993); INTERREG II (1994-1999); INTERREG III (2000-2006); INTERREG IV (2007-2013); and INTERREG V (2014-2020).

The Interreg programmes are financed in the framework of the EU Regional Policy, also referred as Cohesion Policy due to its aim to dissolve regional disparities between Europe's regions. This investment policy consumes around one third of the EU's budget. It targets all regions and cities in the European Union in order to support job creation, business competitiveness, economic growth, sustainable development, and improve citizens' quality of life.

The fifth period of Interreg, which is of special interest in this analysis, is based on 11 investment priorities laid down in the ERDF Regulation contributing to the delivery of the Europe 2020 strategy for smart, sustainable and inclusive growth. At least, 80% of the budget for each cooperation

programme has to concentrate on a maximum of 4 thematic objectives among the eleven EU priorities presented on the Figure 3.9.

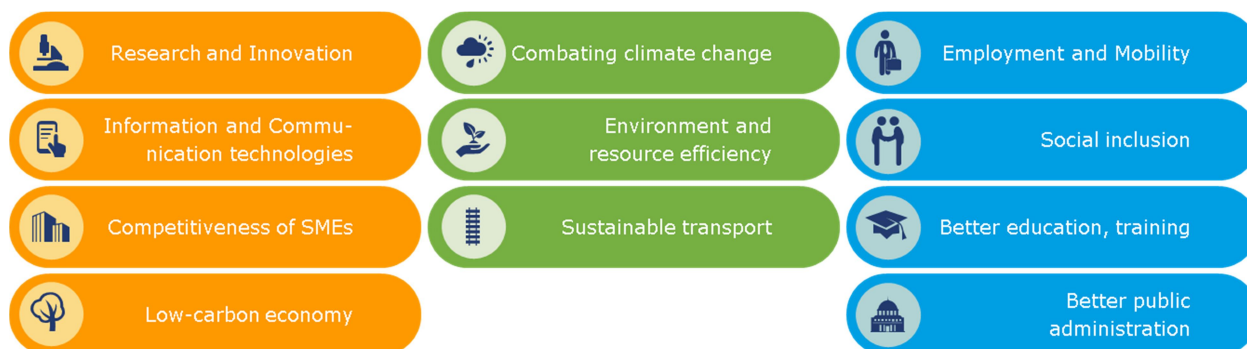


Fig 3.9 European Union priorities of INTERREG V Programme

The fifth programming period of Interreg has a budget of €10.1 billion invested in over 100 cooperation programmes between regions and territorial, social and economic partners. This budget also includes the ERDF allocation for Member States to participate in EU external border cooperation programmes supported by other instruments (Instrument for Pre-Accession and European Neighbourhood Instrument). It includes the following programmes and instruments:

- 60 Cross-border – Interreg V-A, along 38 internal EU borders. ERDF contribution: €6.6 billion.
 - 12 IPA Cross-border: Instrument for Pre-Accession and European Neighbourhood Instrument
 - 16 ENI Cross-border :International Cooperation and Development
- 15 Transnational – Interreg V-B, covering larger areas of co-operation such as the Baltic Sea, Alpine and Mediterranean regions, as well as some non-EU countries. ERDF contribution: €2.1 billion.
- The interregional co-operation programme, INTERREG Europe, and 3 networking programmes (Urbact III, Interact III and ESPON) covering all Member States of the EU, as well as Norway and Switzerland and in case of URBACT also Iceland and Lichtenstein. They provide a framework for exchanging experience between regional and local bodies in different countries. ERDF contribution: €500 million [35].

- Interreg A: Cross-border cooperation

European Cross-Border cooperation, known as Interreg A, supports cooperation between NUTS III regions from at least two different Member States lying directly on the borders or adjacent to them. It aims to tackle common challenges identified jointly in the border regions and to exploit the untapped growth potential in border areas, while enhancing the cooperation process for the purposes of the overall harmonious development of the Union.

- Interreg B: Transnational cooperation

Transnational cooperation, known as Interreg B, involves regions from several countries of the EU forming bigger areas. It aims to promote better cooperation and regional development within the Union by a joint approach to tackle common issues. Interreg B supports a wide range of project investment related to innovation, environment, accessibility, telecommunications, urban development etc. The transnational programmes add an important extra European dimension to regional development, developed from analysis at a European level, leading to agreed priorities and a coordinated strategic response.

This strand of cooperation foresees meaningful work between regions from several EU Member States on matters such as communication corridors, flood management, international business and research linkages, and the development of more viable and sustainable markets. Themes covered include:

- Innovation, especially networks of universities, research institutions, SMEs;
- Environment, especially water resources, rivers, lakes, sea;
- Accessibility, including telecommunications, and in particular the completion of networks;
- Sustainable urban development, especially polycentric development.

- Interreg C: Interregional cooperation

Interregional cooperation known as Interreg C, works at pan-European level, covering all EU Member States, and more. It builds networks to develop good practice and facilitate the exchange and transfer of experience by successful regions. It showcases what regions do well, to the benefit of those still investing.

3.1.8.1 Participation of the Republic of North Macedonia in the Interreg programmes

The Republic of North Macedonia participates in the Interreg A: Cross-border cooperation and Interreg B: Transnational cooperation programmes. The cross-border cooperation programmes between the Republic of North Macedonia and each of the five neighbouring countries are adopted and in the stage of implementation. Also, the country participates in one transnational cooperation programme: Interreg Balkan-Mediterranean Programme. In the following sections, each of these operational programmes is briefly described.

In North Macedonia, the responsible institution is the Ministry of Local Self-Government (MLS), responsible for the overall coordination of the programme and control function.

Interreg IPA CBC Bulgaria – The Republic of North Macedonia

The Interreg-IPA "Bulgaria – the Republic of North Macedonia" cross-border Programme is adopted on 5th August 2015 by the Commission with Decision № C (2015) 5653, as a second cycle of cooperation and focuses on measures aiming at mitigating the effects of climate change and at addressing issues related to the conservation of nature and biodiversity, the sustainable use of natural resources, environmental protection and risk management at cross-border level [36].

The Interreg IPA CBC programme covers 5 border regions, 2 in Bulgaria with 23 municipalities and 3 regions in North Macedonia with 29 municipalities. The total budget of the cooperation programme is €19,461,690, while the total EU contribution from the Instrument for Pre-accession Assistance (IPA) is €16,542,434 [37].

The programme focuses on the following three priorities:

- Environment;
- Sustainable tourism;
- Competitiveness.

So far, there have been announced two calls for project proposals under this programme.

Under the **1st call** for proposals, in total 52 projects was financed out of that **22** projects in PA1 related to DITT to CC (protection with green infrastructure; climate change mitigation and adaptation; sustainable development of society) with distributed amount of €4.570.574,00 where 85% of that amount is EU IPA contribution of **€3.884.988,00**.

Under the **2nd call**, 17 projects were approved, where **5** projects are DITT to CC climate oriented under all three Priority Axes with amount of €1.905.213,00 allocated for that focused projects with 85% EU contribution of **€1.619.431,00**.

That assessment shows results of **27 projects** approved for period 2014-2020 related to development, innovation and technology transfer to climate change actions, with total amount of **€5.504.419,00 EU contribution** into IPA CBC North Macedonia and Bulgaria cooperation programme. Those projects are full listed in *Annex 6*.

Interreg IPA CBC Greece – Republic of North Macedonia

The Interreg IPA CBC Programme "Greece - Republic of North Macedonia 2014-2020" was approved by the European Commission on August 6, 2015 by decision C (2015) 5655. The Programme supports regional cooperation between Greece and the Republic of North Macedonia. The Programme's overall objective is to enhance territorial cohesion by improving living standards and employment opportunities holding respect to the environment and by using the natural resources for upgrading of the tourism product [38].

The total budget allocated to the Programme is €45,470,066.00, out of which €38,649,552.00 (85%) is Union Support and the €6,820,514.00 (15%) the National Counterpart. The programme eligible area includes 5 border regions in Greece and 4 regions in the Republic of North Macedonia.

The Programme is built upon the following three Priority Axes;

- Priority Axis 1: **Development and Support of Local Economy**, which promotes employment and mobility of human resources as well as aims to improve health and social investments and services. It supports the protection of natural and cultural heritage in order to improve the attractiveness and encourage tourism in the cross-border area. The specific objectives under this priority axes are:
 - Create employment opportunities for educated graduates by exploiting comparative advantages with the use of innovative tools and practices
 - Improvement of preventive health care and social services in the rural cross-border areas
 - Improve the attractiveness and promote tourism by promoting natural and cultural assets
- Priority Axis 2: **Protection of Environment – Transportation** that focuses on the improvement of public infrastructure and reduction of isolation by improved access to transport, information and communication networks and services. It promotes sustainable management, treatment and recycling of waste as well as supports sustainable management of protected areas, ecosystems and biodiversity and addresses prevention, mitigation and management of natural disasters, risks and hazards. The specific objectives under this priority axes are:
 - Upgrade public infrastructure to improve road travel time, safe border crossing and promote energy efficiency towards green transport

- Sustainable management and recycling of bio-wastes
- Sustainable management of protected areas, ecosystems and biodiversity
- Prevention, mitigation and management of natural disasters, risks and hazards
- Priority Axis 3: **Technical support.**

Under this programme, the calls for project proposals can be divided in two periods: the old period, starting from 2010 until 2013, and the current period, which has started in 2015. Under the old period, there were 4 calls for proposals in total. The first three calls referred to all priority axes (amounted to €6,188,651.00, €14,010,347.00 and €7,514,217.00 respectively), while the last call was only for the Priority Axis 3 (amounted to €705,000.00 in total, or to €528,750.00 provided by ERDF).

During the current period 2014-2020, there have been 2 calls for project proposals so far.

The **1st call** applied to the first and the second priority axes. The total (Union and national) indicative budget available for the Call was €20,461,530.00, which fund was used for approving **40** project proposals for implementation.

The **2nd call**, which is currently still open, is targeted and restricted, which means it is dedicated only to the following specific objectives: Create employment opportunities for educated graduates by exploiting comparative advantages with the use of innovative tools and practices; and Improve the attractiveness and promote tourism, under the Priority Axis 1, and: Prevention, mitigation and management of natural disasters, risks and hazards, under the Priority Axis 2. The total (Union and national) indicative budget available for the Call is €6,000,000.00.

For this IPA CBC Programme regarding R&DITT with CC focus during the period 2014-2020, there are **15 projects** (fully provided in Annex 6) with total budget of €16.078.111,00 and amount of 85% or **€13.666.394,00 EU contribution.**

Interreg IPA CBC Republic of North Macedonia – Albania

The programme for Cross-border cooperation (CBC) between Republic of North Macedonia and Republic of Albania has been implemented under the framework of the Instrument IPA II with a view to promoting good neighbourly relations, fostering union integration and promoting socio-economic development [39].

The legal provisions for its implementation are stipulated in the following pieces of legislation:

- Regulation (EU) No 231/2014 of the European Parliament and of the Council of 11 March 2014 establishing an Instrument for Pre-accession Assistance (IPA II);
- Regulation (EU) No 236/2014 of the European Parliament and of the Council of 11 March 2014 laying down common rules and procedures for the implementation of the Union's instruments for financing external action and
- Commission Implementing Regulation EU no 447/2014 of 2 May 2014 on the specific rules for implementing the IPA II regulation.

This CBC Programme covers the period 2014-2020 and relates to the New Financial Perspective of the European Community. The eligible regions on the territory of Republic of Macedonia include 27 municipalities and there are 12 districts (with 17 municipalities) on the territory of Republic of Albania that fit in the Programme Area. The programme eligible area includes 27 municipalities in Republic of North Macedonia and 12 districts (with 17 municipalities) in Republic of Albania [40].

The Programme concentrates on three IPA II Regulation **Thematic Priorities** deriving from needs-opportunity analysis. These are, namely:

- TP 1: Encouraging tourism and cultural and natural heritage (opportunity-driven);
- TP 2: Enhancing competitiveness, business, trade and investment (needs and opportunity-driven) and
- TP 3: Protecting the environment, promoting climate change adaptation and mitigation, risk prevention and management (needs driven).

The CBC Programme includes also a **Technical Assistance** Priority as horizontal issue. The specific objective of the technical assistance is to ensure the efficient, effective, transparent and timely implementation of the CBC programme as well as to raise awareness of the programme amongst national, regional and local communities. The principle of smart, sustainable, inclusive growth and environmental sustainability is recognised as a **cross-cutting issue** and is applied to all Programme Thematic Priorities and their objectives.

The total allocated budget of the cooperation programme is €13.790.000,00 while the indication on the maximum amount of Union IPA II contribution in co-financing will be €11.900.000,00.

Under this programme, there have been two calls for project proposals so far. Under 1st call, September 2016, a total of **9** projects were financed with total amount of €3,370,096.00, where EU IPA II Contribution is €2.864.582,00 [41].

The 2nd call, February 2019, was opened for TP1 and TP3 with the allocated amount of €2,890,000.00, EU funding [42].

For this IPA CBC Programme regarding R&DITT with CC focus, there are **4 projects** fully provided in *Annex 6* with budget of €1.455.379,00 and 85% or amount of **€1.237.072,00 EU IPA contribution**.

Interreg IPA II CBC Serbia – Republic of North Macedonia

The Cross-border Cooperation (CBC) Programme Republic of Serbia – Republic of North Macedonia is implemented under the framework of the Instrument of Pre-accession Assistance (IPA II) to support CBC with a view to promoting good neighbourly relations, fostering EU integration and promoting socio-economic development. The legal provisions for its implementation are stipulated in the same pieces of legislation as indicated above for INTERREG IPA II North Macedonia – Albania, from 2014[43].

The Programme eligible areas are 2 Serbian districts and 3 Macedonian regions with following thematic priorities and specific objectives:

Thematic priority 1: Promoting employment, labor mobility and social and cultural inclusion

Specific objectives:

- 1.1: Skills improvement and creation of employment opportunities in perspective sectors
- 1.2: Development of an inclusive society

Thematic priority 2: Encouraging tourism and cultural and natural heritage

Specific objectives:

- 2.1: Mobilizing cultural and natural resources for joint development of sustainable tourism products and destinations

2.2: Fostering joint risk management systems of natural and cultural sites, as well as human settlements, including disaster or emergency preparedness

Thematic priority 3: Technical assistance

Specific objective:

3.1: Ensuring effective, efficient, transparent and timely implementation of the Programme and awareness raising

Within the Cross-border Cooperation Program Serbia-North Macedonia for the period 2016-2020, €4,055,883.00 has been allocated, out of which €3,500,000.00 is provided through IPA funds of the European Union, and the remaining amount is provided through national co-financing. On Macedonian side the co-financing is provided by the Ministry for local self-government, while on the Serbian side, currently the co-financing is applicant's own contribution.

The 1st call for proposals was opened in July 2019 and covered all specific objectives under the first two thematic priorities [44]. Although the selection and evaluation process has not been completed yet, it is expected significant actions for research, development, innovation and technology transfer related to climate projects to be financed.

Interreg IPA CBC Republic of North Macedonia – Kosovo

The 2014-2020 cross-border cooperation programme Kosovo-The Republic of North Macedonia is implemented under the framework of the instrument of IPA II and supports cross-border cooperation with a view to promoting good neighbourly relations, fostering European Union integration and promoting socio-economic development. The programme was adopted on 10.12.2014. The legal provisions for its implementation are stipulated in the same pieces of legislation as indicated above for INTERREG IPA II North Macedonia – Albania, from 2014 [45].

The European Union Office in Kosovo is in charge of all contract and payment (both countries) issues, acting as the Contracting Authority. The Programme eligible areas are 2 Kosovo's region and 3 Macedonian regions with four thematic priorities:

- TP1: Enhancing competitiveness, business and SME development, trade and investment;
- TP2: Encouraging tourism and cultural and natural heritage;
- TP3: Protecting the environment, promoting climate change adaptation and mitigation, risk prevention and management
- TP4: Technical Assistance

One of the four main programme objectives addresses the environmental pollution issues in the cross-border region. The total financial allocation of EU contribution for the period 2014-2020 is €8,400,000.00. The total amount, with co-financing from national beneficiaries, for this IPA II CBC Programme is allocated €9,734,118.00 distributed for four thematic priorities [45].

So far, under this programme, there have been three calls for project proposals launched.

The **1st call** was announced on June 2017 covering TP1 and TP2, where **9** projects were awarded with available amount of €2,040,000.00 [46].

During the **2st call** from August 2018, **2** projects were awarded with amount of €350,000.00 in TP2 [47].

The 3rd call from March 2019 covers the TP2 and TP3 thematic priorities with overall indicative amount available of €2,040,000.00 awarded 3 project grants. Two of these projects will implement activities within the third priority referring to environment protection and climate change adaptation and mitigation [8].

Respectively three calls, there are 3 projects fully provided in *Annex 6* connected to R&DITT with CC focus awarded with amount of 1.105.899,00 EU contribution as 85% from total planned budgets.

3.1.8.2 The summary results for INTERREG Cross Border Cooperation

According to data provide above for successful projects signed under all four CBC programmes, the Figure 3.10 presents the total numbers of approved DITT to CC projects for reported period, with total budget of €25.310.334,00, where EU contribution of 85% from the total budgets. The detailed list of projects is enclosed in *Annex 6*.

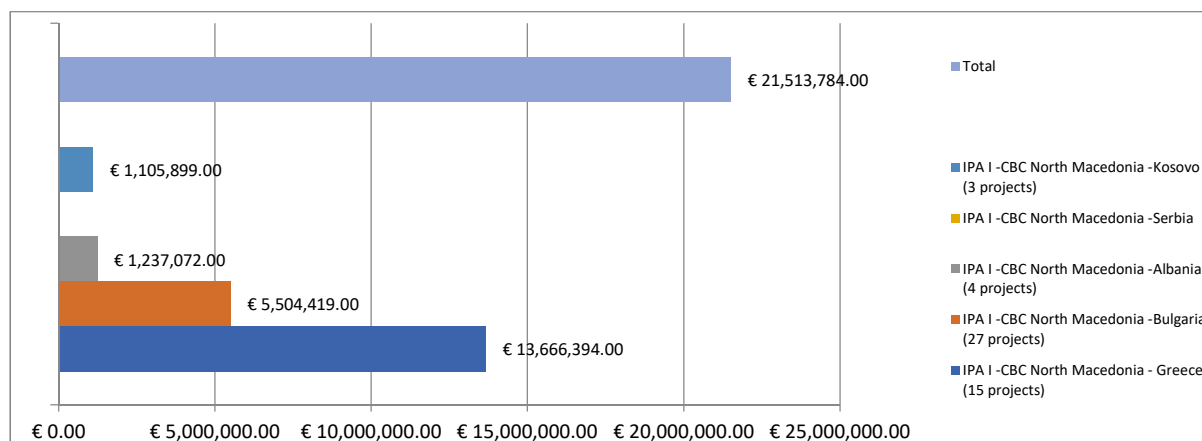


Fig.3.10 Numbers of approved projects related to DITT to CC with total EU contribution for all CBC Programmes (period 2014-2020)

3.1.8.3 Interreg Balkan – Mediterranean Programme

The INTERREG Balkan-Mediterranean 2014 – 2020 Programme is the first initiative of the European Commission that brings together the five countries from the Balkan and Eastern Mediterranean Sea: Bulgaria, Cyprus, Greece, Albania and North Macedonia [49].

The BalkanMed Programme is co-financed by the European Regional Development Fund (ERDF) with €28,330,108.00. The total support from the Instrument IPA II fund accounts for €5.126.138,00. Therefore, the total budget of the Programme, including national contribution, is €39,727,654.00.

BalkanMed is focused on addressing two key challenges: territorial competitiveness and environment. Accordingly, the Programme is built upon the following two Priority Axes:

- Priority Axis 1: “Entrepreneurship & Innovation”
- Priority Axis 2: “Environment”

This joint programme aims to contribute to the EU 2020 Strategy, for smart, sustainable and inclusive growth across maritime and terrestrial borders.

Under 1st call of this programme, announced on 16.12.2015, there are 20 projects granted under the Priority Axis 1, and North Macedonia has participated in **13** project consortia. Some of these projects also tackle environmental issues. On the other hand, under the Priority Axis 2, which is dedicated to the environmental actions, there are 23 projects granted in total, and North Macedonia has participated in **11** project consortia. Regarding R&DITT with CC focus, there are **8** projects fully provided in *Annex 7* with total allocated budget of €9.512.215,00 for all partner institutions in projects consortia where missed data per partner institution.

3.2 JRC

The Joint Research Centre (JRC) is the European Commission's (EC) science and knowledge service established to carry out research in order to provide independent scientific advice and support to EU policy. JRC, as reference center for science and technology provides scientific and technical support to the conception, development, implementation and monitoring of EU policies. Today, it becomes working as Science Hub of the EU.

JRC is funded by the EU's budget for Research and Innovation and creates knowledge, delivering the best scientific evidence and innovative tools for the EU policies that matter to citizens, businesses and governments, including digital technologies, supporting competitive economy, providing protected Union and working towards sustainable Europe.

The JRC creates most of the intellectual properties (IP) rights of the Commission and works of technology transfer of inventions to third parties in order to maximise their impact on society. The JRC runs the Commission's Central IP Service with an aim to further enhance the effective management of IPR and takes an active role in the Commission policy-making process for policies related to IP and Technology Transfer.

JRC contributes to the functioning of the European Research Area (ERA), makes partnership with industry in order technology development, and participates to EC research and innovation programme Horizon 2020 on collaboration with associated countries to help in research and technical field. JRC promotes close cooperation through a wide range of expert exchange possibilities, such as job opportunities, workshops, training courses and research projects.

The Ministry of Education and Science is the national designated entity responsible for collaboration with the JRC.

3.3 Other EU funding schemes related to CC

3.3.1 European Green Deal's Investment Plan

The European Union is committed to becoming the first climate-neutral bloc in the world by 2050. This requires significant investment from both, the EU and the national public sector, as well as the private sector. The **European Green Deal Investment Plan (EGDIP)**, as the Sustainable Europe Investment Plan, presented by the Communication document No. COM2020/21 at **14 January 2020** from the Commission to the European Parliament, the Council, the European Economic and Social Committee [50], will mobilise public investment and help to unlock private funds through EU financial instruments, notably **Invest EU**, which would lead to at least €1 trillion of investments.

EGDIP will mobilize EU funding and create an enabling framework to facilitate and stimulate the public and private investments needed for the transition to a climate-neutral, green, competitive and inclusive economy. Complementing other initiatives announced under the Green Deal, the Plan is based on **three dimensions**:

- **Financing:** mobilizing at least €1 trillion of sustainable investments over the next decade, with a key role by the European Investment Bank.
- **Enabling:** providing incentives to unlock and redirect public and private investment by facilitate sustainable investment.
- **Practical support:** in planning, designing and executing sustainable projects.

While all Member States, regions and sectors will need to contribute to the transition, the scale of the challenge is not the same. Some regions will be particularly affected and will undergo a profound economic and social transformation. The **Just Transition Mechanism (JTM)** is a key tool to ensure that the transition towards a climate-neutral economy happens in a fair way and will provide tailored financial and practical support to help workers and generate the necessary investments in those areas.

The **InvestEU Programme** was proposed in June 2018 as part of the future long-term EU plan and it is complementary to the European Green Deal Investment Plan. InvestEU dedicates at least 30% of mobilised investments to climate and environment related projects. Even Invest EU is oriented to the EU member states, it contributes to the JTM with a new InvestEU scheme to mobilise €45 billion of eco-sustainable investments in the regions most affected by the transition challenges. InvestEU Programme provides technical assistance and advisory support through the InvestEU Advisory Hub for identification, development and implementation of green investment projects.

Good practice from European Green Deal Investment Plan and InvestEU

From European Green Deal through InvestEU, the European Investment Bank (EIB) and National Promotional Institution from Lithuania (Lithuanian Public Investment Development Agency) have signed a €12.5 million, supporting the creation of the first national energy efficiency investment platform in Lithuania, focused on climate actions and generating cohesion benefits.

The financing is used to support the first dedicated national investment platform to promote and finance energy efficiency climate action oriented projects across Lithuania. The underlying investments are focus on the installation of solar panels on private homes, the renovation of multi-apartment buildings and energy efficiency investment in industrial companies. As such, the platform will serve many different beneficiaries throughout Lithuania, helping them to cut CO₂ emissions and lower their energy bills.

For the next period, **European Green Deal Investment Plan** with its mechanisms is identified as strong instruments extremely useful for the **NDE** and therefore will be **recommended as an important source** for providing technical assistance and financial support of the national designated entity under the UNFCCC clear mechanism for climate technologies.

3.3.2 EU Developed countries multilateral and bilateral funding schemes

Bilateral funding schemes or **donation support** provided by developed countries as **donor**, economic leaders in Europe and wider in the world, take activities to promote, facilitate and finance as appropriate, the transfer of, or access to, environmentally sound technologies and know-how to developing countries, to enable them to implement the economical grown and green development in developing countries.

According to the Organisation for Economic Cooperation and Development (OECD), Official Development Assistance (ODA) constitutes the total donation support as a technical cooperation and funds, provided by a government or public governmental agency intended for promotion of social-economic progress of the developing countries.

The majority of the activities relating to technology transfer targeted mitigation and involved technology transfer in the energy sector, in particular related to the deployment and diffusion of renewable energy and energy efficiency technologies. In the section bellow, briefly are described lines of bilateral funding or donor's programmes.

3.3.2.1 Bilateral mechanisms from German Financial and Technical Cooperation (GIZ)

The Federal Republic of Germany is one of the major bilateral development partners of the North Macedonia. The bilateral and multilateral development cooperation is within the competence of the Federal Ministry for Economic Cooperation and Development – BMZ where different organizations are commissioned for implementation (KfW, DEG, GIZ) with instruments for cooperation in place.

GIZ – German International Cooperation (Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) [51] has been actively engaged in the Republic of North Macedonia since 1992. Germany, through this bilateral development cooperation is second largest bilateral **donor**. Technology transfer cooperation with industry-academia granted projects and four TT centers development were in the focus for the period 1998-2006.

Since 2007, GIZ as main commissioning party of the BMZ supports projects focused on fostering EU integration within **transposition of legislation** and regional cooperation in three **focus areas**:

- environmental sustainable infrastructure and climate change (I Focus Area - GIZ-ESICC),
- economic development and employment (II Focus Area - GIZ-EDE),
- governance and democracy (III Focus Area - GIZ-GD).

GIZ's range of services covers a wide range of topics and management methods, developed in continuing exchange between industry and science. There are activities on:

- promoting regional and local economic development;
- supporting the implementation of EU compliant policies;
- working on the development of evidence-based policy recommendations for economic diversification, sustainable development with regard to water resources, environmentally sound economics and technologies, adaptation to climate change and rural development;
- the country is facing pollution issues, droughts and floods with impacts on agriculture, as consequences of climate change that require improvement by trans-boundary cooperation between North Macedonia and its neighbouring countries.

GIZ Programme financial support in the Republic of North Macedonia

GIZ programme for **environment sustainable infrastructure and climate change** (GIZ ESICC) offers three regional projects frames with participation of North Macedonia [51]:

- Climate Change adaptation in Western Balkans, overall period 2012-2021, for all Western Balkans (WBs). The objective of trans-boundary flood risk management and risk mapping is strengthening with regard to climate change; where results showed that the measures supported by the project are effective in mitigating flood damage.
- Open regional fund for South East Europe – Energy Efficiency, overall period 2006-2020, for countries of Western Balkans. The goal is to support energy and climate relevant society

actors and to implement EE and climate protection measures, through regional networks in South-Eastern Europe, in implementing required EU regulations where beneficiaries are private and public sectors and society.

- Open regional fund for South East Europe for the implementation of biodiversity agreements, overall period 2018-2021, for regional cooperation between countries of Western Balkans with regard to fulfilling international and EU-relevant obligations concerning the preservation of biodiversity.

GIZ programme for **economic development** (GIZ-ED) offers three regional projects frames for North Macedonia [52]:

- Regional and local economic development, overall term 2010-2015, for planning and implementing regional and local structure with measures for EU financing where are established eight economic planning regions (EPR) in NM; and second cycle 2015-2020 for GIZ funding development programmes for companies' competitiveness in eight EPR in NM GIZ carrying out by the National Council for Regional Development and the Ministry for Local Self Government (MoLSG).
- Open Regional Fund for South-East Europe – Foreign Trade Promotion, overall term 2006-2020 for all WBs, in order to improve framework conditions for trade in South-East Europe as part of the EU convergence process.
- Support to Economic Diversification of Rural Areas in Southeast Europe (SEDRA), overall term 2018-2021, for all WBs where is great disparities between the urban and rural areas, in order to strength institutional capacities of selected stakeholders in WBs, also in NM for supporting EU-compliant economic diversification in rural areas.

For the period 2014-2020, the **total budget** of the GIZ Programme in NM for two focus areas, GIZ-ESICC and GIZ-EDE (only economic development), is estimated on **14.302.000,00€**. This financial support covers seven (**7**) **projects** (two national and five regional), selected according to the donor's criteria of R&DITT related to CC projects, listed in the *Annex 8*.

The total amount (Fig. 3.11), with **61%** or 8.700.000,00 € is allocated to economic development (**ED**) projects and with **39%** or 5.602.000,00€ is allocated to **ESICC** projects. Diversification of this funding by sector is given on the Figure 3.12, where the largest support is indicated for economy and sustainable businesses and next for energy efficiency.

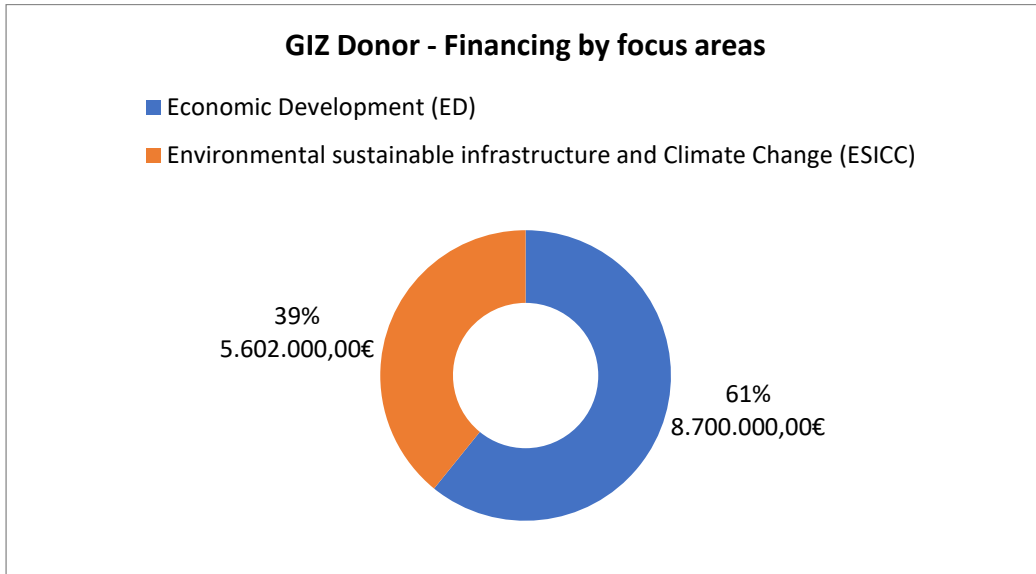


Fig. 3.11 Financing by focus areas of GIZ Programme

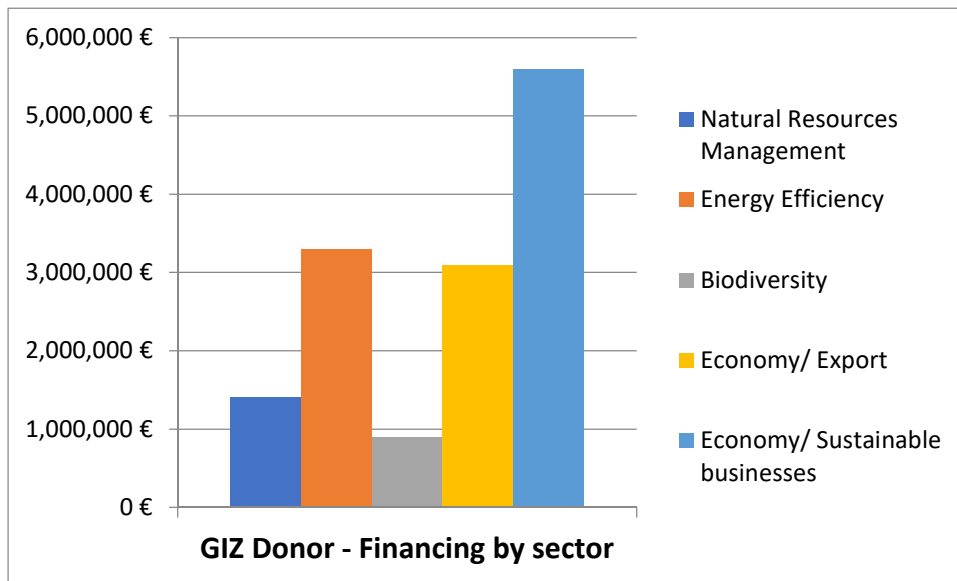


Fig. 3.12 Financing by sector in GIZ focus areas ESICC and ED

3.3.2.2 Norwegian Programmes for development cooperation

Norwegian assistance to North Macedonia is allocated by grant scheme that support projects under the bilateral cooperation programme and regional purposes for Western Balkan, with **priority sectors**, related to common European challenges: (i) Governance, (ii) Energy, environment and climate change mitigation, (iii) Society and (iv) Economic development for job creation.

Norway Grants scheme in frame of **Fond for Regional Cooperation** (FRC) supports projects tackling EU economic, environmental and social challenges through cross-border and transnational cooperation where North Macedonia is in group of beneficiary countries. FRC with budget of **€34.5 million** supports cooperation focuses on knowledge sharing, exchange of good practice and capacity building in R&D, innovation and technology transfer projects across the priority sectors of the EEA (for EU member states) and Norway Grants (for **pre-assessing countries**) 2014-2021 [53]. Big part of the FRC fund is related to priority sector of environment, energy, climate change and low carbon economy.

Norwegian Programmes financial support in Republic of North Macedonia

Norway Grants scheme (for pre-assessing countries), for the period 2014-2021, which is in the frame of Fond for Regional Cooperation (FRC) is in process of project proposals evaluation and selection for granting. From that reason, there still aren't data for granted projects in analysed period.

Key framework project for 2018-2020 funded by two donors, Norway Embassy and Sweden International Cooperation Agency (SIDA) is "Nordic support for progress of North Macedonia" [54] with budget of **€4 million**, supporting Secretariat for European Affairs with national and local institutions in prioritizing the technical assistance that is needed for EU accession:

- providing infrastructural grants in the less developed region in the country,
- providing employment with training opportunities and
- supporting administration in addressing long-lasting environmental issues by preparing clean-up of the waste water plants and the dislocation of the linden waste from the Ohis factory.

This project, selected according to the donor's criteria for supporting projects in R&D/IT related to CC, is listed in **Annex 9**.

Additionally, in Annex 9 there are listed three **(3) projects** financed by Ministry of Foreign Affairs of Norway as a technical assistance, in previous period before FRC (2012-2016). Two projects with allocation of **€10.7M** are related to energy policy by increasing institutional capacity (Regulatory Commission of North Macedonia) compatible to EU. Third project is related to environmental policy for capacity strengthening of the Ministry of Environment and Spatial Planning in the sector of integrated pollution prevention and control, with allocated budget of **€0.62M**.

3.3.2.3 Swedish Programmes for development and cooperation

According to **Sweden's Strategy** for reform cooperation with Eastern Europe and Western Balkan (WBs) for the period 2014-2020 [55], it governs use of funds allocated and managed by the Swedish International Development Cooperation Agency (**SIDA**) for WBs in totals about €360 millions. This strategy covers the same period with Instrument for Pre-accession Assistance (IPA II) for WBs and aims to assist the WBs countries to forge closer links with the EU. After 2014 for North Macedonia [1], direct development cooperation under SIDA programmes is closed. But SIDA is still present as a donor in the projects implemented through the implementing agencies.

The activities in the WBs are expected to result in the economic development with competitive SMEs, strengthened democracy and especially, in sustainable development with goal to build better environment with **reduced climate change** and expected following results:

- WBs countries increase compliance with EU regulations and international agreements on the environment, climate and energy.
- Enhanced environmental responsibility among the business sector and civil society.
- More sustainable public services in areas such as water and sewage, waste management, energy efficiency and renewable energy.

3.3.2.4 Swiss Programmes for development and cooperation

Swiss transition cooperation in North Macedonia is focused on three **priority domains** of interventions, all in line to SDGs:

- Domain I: Democratic Governance.
- Domain II: Employment and Economic Development.
Switzerland's involvement in this domain of the **economic area** aims to promote: (1) employment prospects through support of market-oriented vocational training and (2) sustainable economic growth based on supporting development and innovation of the competitive private sector and startups.
- Domain III: Infrastructure and Environment.
Cooperation in **environmental area** is committed to ensuring that the institutions of the country are able to better protect the environment and reduce the effects of climate change. By investing in infrastructure and strengthening the capacities of public

authorities in NM, Switzerland's bilateral funding programmes aims to improve the quality of services in the areas of water supply, wastewater treatment and waste disposal.

Swiss cooperation in NM is based on **Swiss Cooperation Strategy for North Macedonia 2017-2020** [56], implemented jointly by the Swiss Agency for Development and Cooperation (**SDC**) and the State Secretariat for Economic Affairs (**SECO**). The financial commitments for the period 2017 to 2020, is amount of **€76 million** with allocation of 28% for Domain II and 39% for Domain III. Funding scheme is programed with requirement of co-funding from NM authorities.

Swiss programmes financial support to the Republic of North Macedonia

List of funded projects by Swiss SDC and SECO, active or completed for period 2014-2020, in bilateral programme between Swiss and North Macedonia and multilateral programme for Western Balkans with including Macedonian beneficiary institutions; consist in total 104 projects [57]. Selected by the sector given at the portal of Swiss Federal Council for financed projects, there are finding following total numbers of funded projects for NM (2014-2020), closely connected to R&D, innovation and technology transfer related to climate change (R&DITT to CC):

- 6 projects under sector: Climate change and environment where 3 in multi-focal sectors with agriculture and education,
- 3 projects under sector: Agriculture, food and security, multi-focal with CC,
- 17 projects under sector: Employment and economic development, 2 of them related to environmental policy, environmental education and CC,
- 7 projects under sector: Water.

The full list of **15 national R&DITT to CC projects** supported by **Swiss SDC** and **SECO** for beneficiaries in North Macedonia is given in *Annex 10* of this Report.

During the current period (2014-2020), the total budget of the Swiss SDC and SECO Programme, allocated for R&DITT to CC projects according to donor's criteria, is estimated on **27.318.670,00€**.

Allocation of total amount by the sectors is shown on the Figure 3.13: €3.8M are allocated to economic development (ED) projects, €2.3M to water and 21.23 million to climate change (where €6.9M multi-focal domain with agriculture and €0.7M with education).

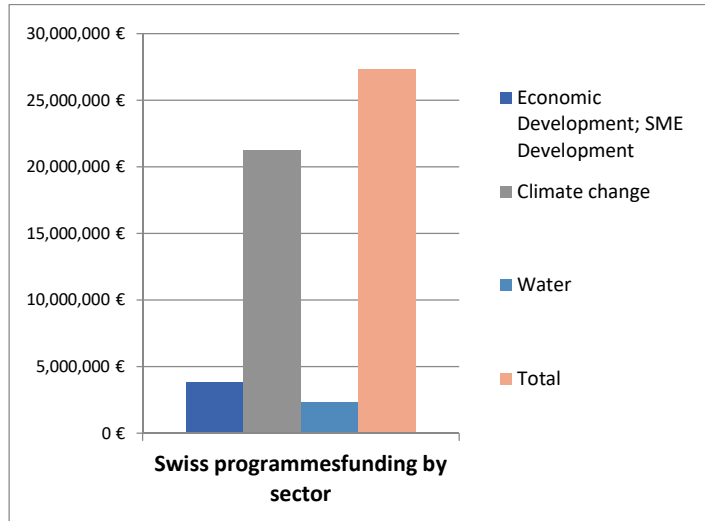


Fig. 3.13 Allocation of Swiss SDC and SECO financing by sector

Diversification of funding by sector in percentages is given on the Figure 3.14 where the largest support is indicated for economy and sustainable businesses and next for energy efficiency.

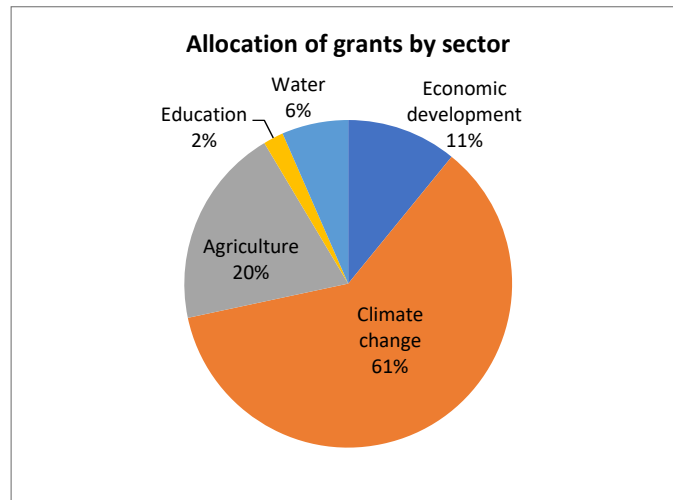


Fig. 3.14 Allocation of grants by sector

3.4 USAID Donor support in the Republic of North Macedonia

US Department of State (www.state.gov) and United States Agency for International Development (USAID) (www.usaid.gov) are two separate organisations under competence of the Secretary of State, whose cooperation is focused on both international short-term diplomatic issues and long-term institutional and capacity building efforts in North Macedonia. Since 1993, USAID has nurtured a deep partnership with the private sector, civil society and the government. USAID Mission in North Macedonia [58] is actively involved in three major areas:

- (1) advancing enterprise-driven growth and development;
- (2) supporting citizen-responsive governance; and
- (3) fostering social unity.

Through first area (1), USAID strengthens the competitiveness of SMEs in North Macedonia [59], with supporting services, as are: improving access to finance and promoting public-private partnership, as well as, with improving North Macedonia's energy system to align national legislation to EU and Energy Community requirements and to provide effective legal framework for improving energy efficiency and investment process for renewables.

For analysed period 2014-2020, North Macedonia has participated in **seven (7) national projects** financed by the USAID in the major area (1) with total financial resources of US\$10.260.515,00. These include 2 projects in environmental policy, 2 in energy policy, 1 in agricultural development and 2 in business development. Full list of granted projects is presented in *Annex 11*.

Distribution of grants by sectors is shown on the Figure 3.15 according to follow: US\$3.400.000,00 in business development (with 33%) , 3.335.074,00 in energy policy (with 33%), 2.448.815,00 in environmental policy (with 24%) and 1.076.626,00 in agriculture development (with 10%).

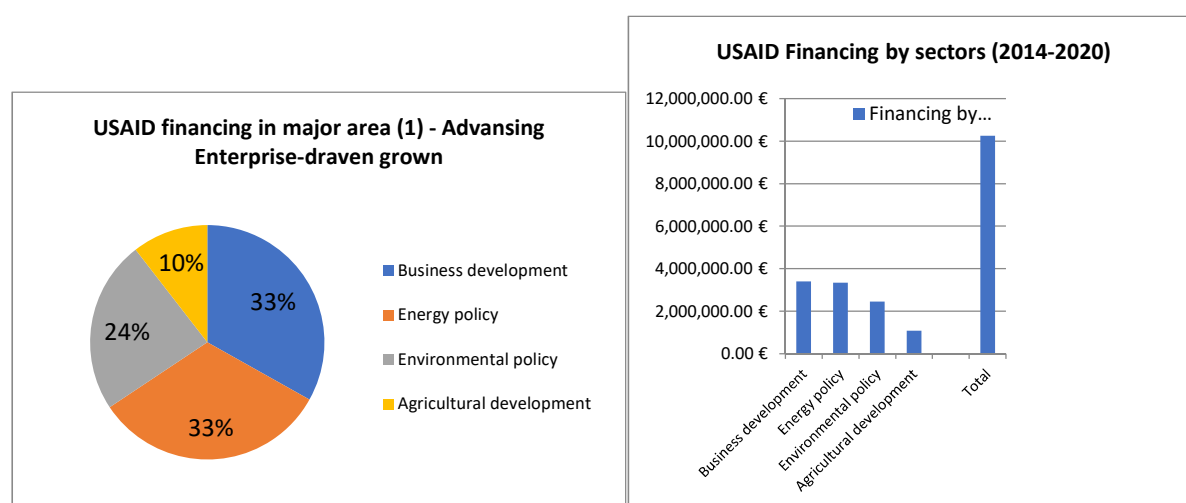


Fig. 3.15 Distribution of USAID grants by sectors in area 1-Advancing enterprise-driven growth

The full list of the national projects supported by USAID, given in Annex11, is shown that **three projects** are closely connected to innovation, technology transfer and R&D, directly or indirectly related to climate change (Business ecosystem project, Partnership for better business relationships and Development of regional energy market project). Those projects are mainly within the major area of economy grown according to the SDGs and connected to climate change, because of the concept to support business grown by the innovative technologies related to sustainable development.

3.5 World Bank financial support

World Bank (WB), as one of the specialised United Nations agencies, is one of the world leading institutions in the combat against poverty and improvement of living standards for people in developing countries [1]. WB focuses its efforts on implementation of the Millennium Development Goals, agreed by the UN members in 2000 and focused on sustainable reduction of the poverty [60]. The term ‘World Bank’ is particularly related to IBRD (International Bank of Reconstruction and Development) and IDA (International Development Agency).

WB operates by two types of lending instruments (investment long-term loans and development short-term policy loans) and limited number of grants for facilitation of the development projects, with different mechanisms through which the Bank allocates grants: Development market conditions, Development grant Facilitation, Grants for civil organisations, Global Environmental Fund (GEF), Japan Policy and Human Resources Development Fund Project (PHRD), Japan Social Sector Development Fund, Multilateral Fund for Implementation of the Montreal protocol, Small Grants Programme, Official Co-financing and Trust Funds.

3.5.1 World Bank support in the Republic of North Macedonia

WB in NM [61] works according to development Country Partnership Strategy (CPS), last prepared for period 2019-2023 [62]. WB develops and funds projects according to the focus areas in **Country Partnership Framework (CPF)**, in close collaboration and at the request of the government of the country concerned with negotiations procedures for the project feasibility and loan condition assessments. WB, according to the CPF for NM, 2019-2023, has defined **three focus areas** that will help North Macedonia for faster, inclusive and sustainable growth:

- improve the environment for a dynamic private sector to enhance (I) export-led growth,
- strengthen human capital for (II) inclusive growth and
- build (III) sustainable growth.

Focus Area I aims to create competitive private sector through activities that support trade connectivity and strengthen local companies' technological uptake, innovation, access to finance, and capacities. Focus Area III supports environmental sustainability by helping accelerate the transition to cleaner energy generation and improved energy efficiency.

During analysed period for this Report (2014-2020), key engagement of WB in North Macedonia is the **Public Finance and Competitiveness Development Policy Loan** that supports the Government in reforms to improve transparency, sustainable economic growth and reforms in energy sector [63]. This instrument is used to cover the financing of the Economic Plan of the Government with complementing lending and technical assistance activities aimed at supporting economic growth and competitiveness, where the main implementer is the Fund for Innovation and Technologic Development (FITR) of the North Macedonia.

In resent period 2014-2016, the **Green Growth and Climate Change Analytic and Advisory Support Program** in FYR Macedonia was launched, with funding support from the World Bank and the governments of Norway and Sweden [64]. It is the basis of the new CPF. **Green growth** is about advancing economic growth and development without further contributing to climate change, environmental degradation and unsustainable use of natural resources. Essentially, this means economic development accompanied by reduced greenhouse gas emissions, improved energy and resource efficiency and protected biodiversity.

For the reported period **2014-2020**, World Bank as donor through IBRD or implementer of projects funded by other donors as multilateral schemes, has managed **14 projects**, where **10** of them are connected to the main topics for this research, development, innovation, technology transfer related to climate change (R&DITT to CC), covered by **different financial mechanisms**, lending instruments and loans. The full list of the projects, **9 national** and **1 regional** of Western Balkans, supported by WB is given in the **Annex 12**. According to [65], commitment amount for all 10 projects is about US\$ **662M** offered by different lending instruments coordinated by IBRD, as main implementing agency.

From the listed projects [65], it can be seen that more of them are **multi-focal projects** with covering more than one sector and inter-sectoral policy. Those projects are infrastructural and technical connected to energy and transport, but mainly within the focal area of climate change, because of the CC mitigation concept supported by the innovative technologies and sustainable development.

The projects' **classification by sector** shows (Fig. 3.16): 3 projects connected to Transportation, 2 to Education, 2 to Urban and rural development, 1 Public sector, 6 to Environment, 2 to Energy and 4 to Industry and trade.

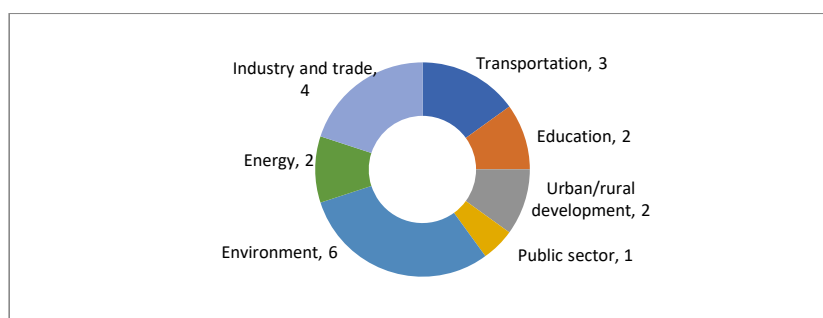


Fig. 3.16 Multi-sectorial dimension of teen financed projects under World Bank

The projects' **classification by policy of focal areas** gives the follow (Fig. 3.17): 3 projects connected to Private sector development, 3 to Rural and inter-urban roads, 4 Natural resources management, 2 to Energy efficiency, 6 to Climate change, 2 to Human development, 4 to Economic policy, 1 to Water Supply, 1 to Waste Management.

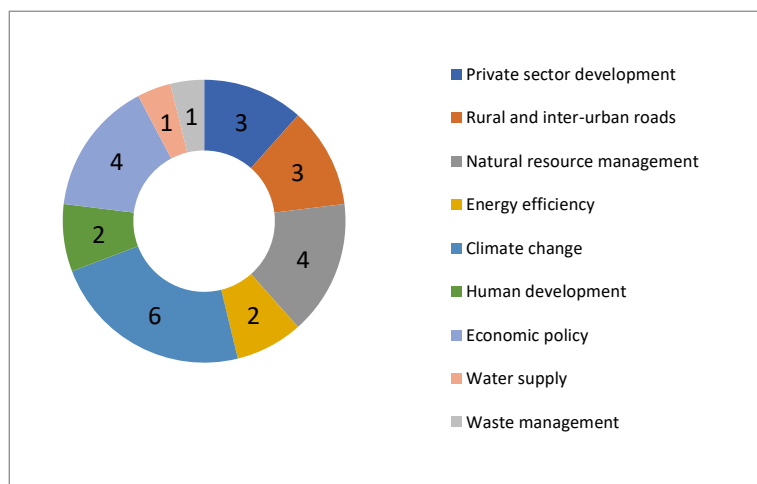


Fig. 3.17 Multi-policy dimension of teen financed projects with classification based on number of projects by policy

3.6 UNDP

UNDP is central to the United Nations Sustainable Development Group (UNSDG), as a network that spans 165 countries and unites the 40 UN funds, programmes, specialized agencies and other bodies working to advance the 2030 Agenda for Sustainable Development and support the implementation of the SDGs. The following UN units are relevant to support climate change mitigation activities for environmental sound technologies (ESTs) development and their technology transfer for sustainable development: UNEP (United Nation Environment Programmes), FAO (Food and Agriculture Organization of the UN), IFAD (International Fund for Agricultural Development), UNIDO (UN Industrial Development Organization).

UNDP receives its funding through various financing instruments:

- Financing by partners - funding from bilateral or multilateral contributions of specific programmes, Member States, multilateral partners, private and philanthropic sectors and International Financial Institutions (IFIs), as KfW, World Bank Group and other, in direct grants or in indirect contributions to support government leverage.
- Government financing - funding by country governments contribution (either from their own revenue or loans) for investments in their own countries.

- Vertical funds - intended for specific development areas and managed by different entities, GEF (Global Environment Facility), Global Fund, GCF (Green Climate Fund), Montreal Protocol, GAVI, Adaptation Fund and Forest Carbon Partnership Facility.
- Regular resources – offer flexible and rapid responses to development needs by supporting countries to leverage financing for SDGs for delivering the Strategic Plan and results.

As one of the world’s largest multilateral development agencies, UNDP works with country governments bodies, where is present, in order to help them access different forms of development finance for country-driven priorities and strategies, with a sustainable balancing of human and environmental priorities.

From the assessment of the UNDP transparency portal [66], it is evident that UNDP is present in North Macedonia during reporting period, 2014-2020. UNDP is mainly implementing agency focused on climate change capacity building projects, biodiversity requirement projects and resources saving projects. UNIDO is involved in implementing activities focused on technology transfer projects for capacity building, ESTs development and energy efficiency in industrial entities. UNEP national activities are focused on biodiversity, land degradation and natural resources. All those projects directly or indirectly are connected to climate change aspects and have R&D and TT components.

Follow section provides the dataset of projects under UNDP as an implementing agency realized in Republic of North Macedonia, for reported period 2014-2020, There are presented the overviews for the analysed period within: number of supported projects per year, overall budgets for all projects per year and list of top donors contributions.

For 2020, 18 projects are planned for realisation under UNDP with overall budget of \$17.69M (Fig. 3.18). Main donors, listed by highest contributions are: Switzerland, Government of NM, Sweden, GEF, EU, Norway, UNDP Regular Resources, Multi Partner Trust Funds.

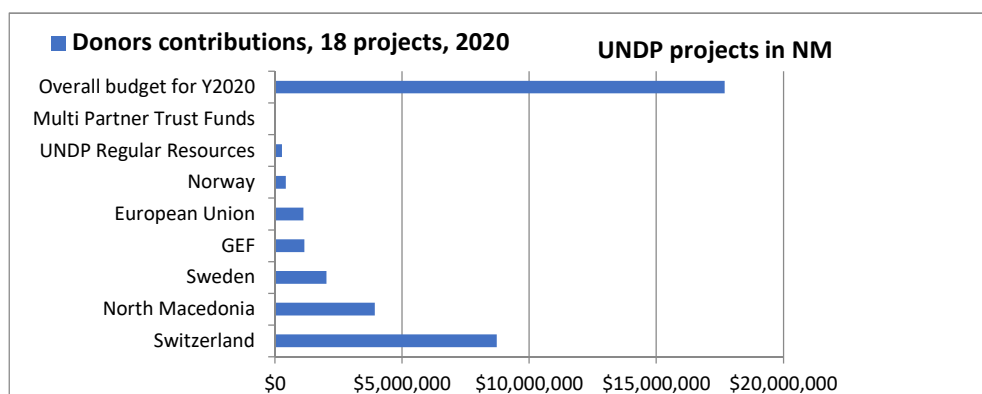


Fig. 3.18 Projects funded in 2020 by different donors, implemented under UNDP

For 2019, 22 projects have realised under UNDP with overall budget of \$17.88M, Fig. 3.19. Main donors, listed by highest contributions are: Government of NM, EU, Switzerland, UNDP Regular Resources, Norway, GEF, Sweden and MPTF.

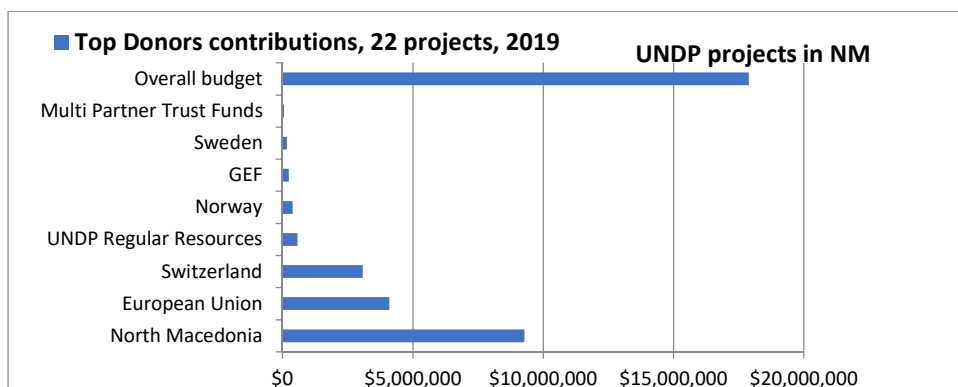


Fig. 3.19 Projects funded in 2019 by different donors, implemented under UNDP

For 2018, 27 projects have realised under UNDP with overall budget of \$17.85M, Fig. 3.20. Main donors, listed by highest contributions are: Government of NM, EU, Switzerland, Japan, Norway, UNDP Regular Resources, GEF and MPTF.

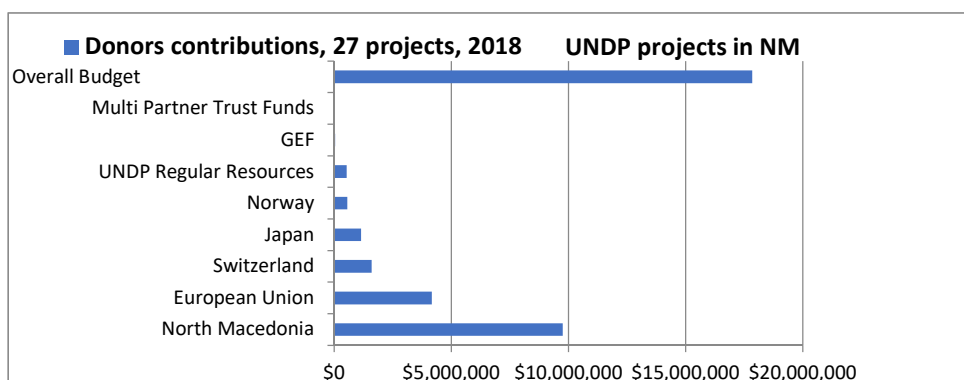


Fig. 3.20 Projects funded in 2018 by different donors, implemented under UNDP

For 2017, 18 projects have realised under UNDP with overall budget of \$17.69M, Fig. 3.21. Main donors, listed by highest contributions are: Government of NM, EU, Switzerland, Japan, Norway, UNDP Regular Resources, GEF and MPTF.

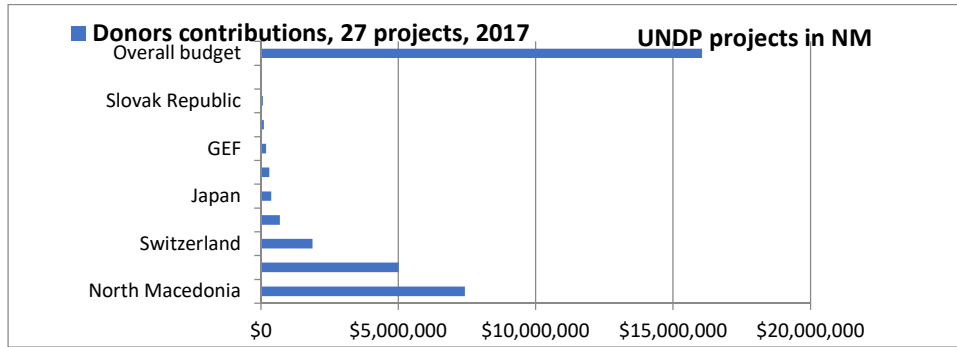


Fig. 3.21 Projects funded in 2017 by different donors, implemented under UNDP

For 2016, 29 projects have realised under UNDP with overall budget of \$12.8M, Fig. 3.22. Main donors, listed by highest contributions are: Government of NM, EU, Switzerland, UNDP Regular Resources, Japan, GEF, Netherlands and Norway.

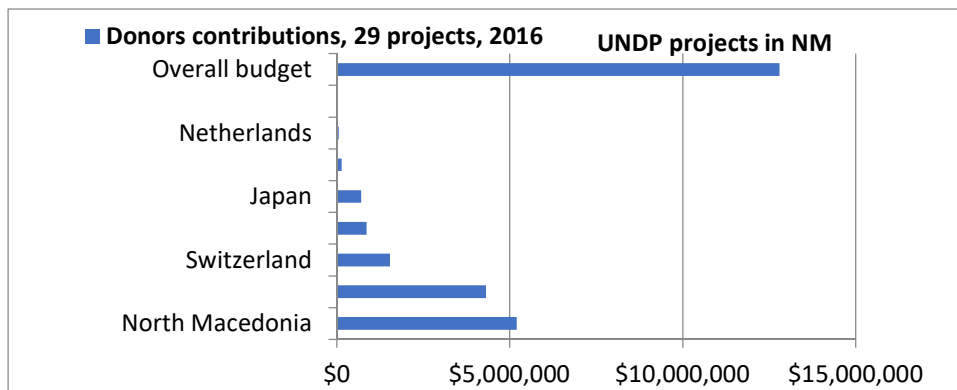


Fig. 3.22 Projects funded in 2016 by different donors, implemented under UNDP

For 2015, 18 projects have realised under UNDP with overall budget of \$7.08M, Fig. 3.23. Main donors, listed by highest contributions are: Government of NM, Switzerland, UNDP Regular Resources and GEF.

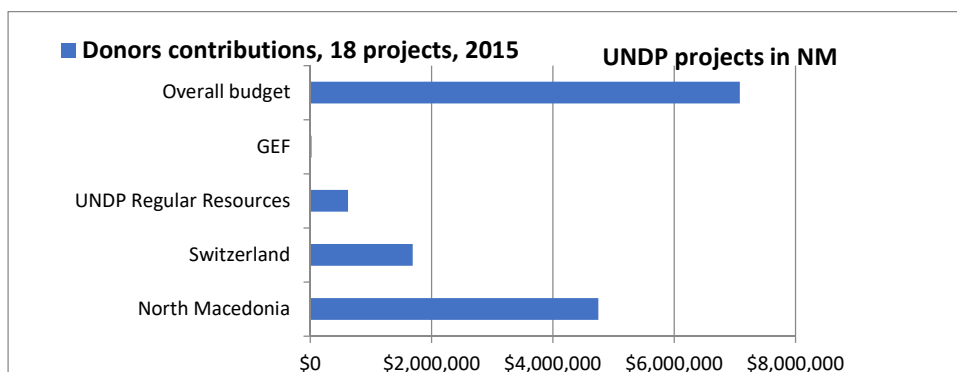


Fig. 3.23 Projects funded in 2015 by different donors, implemented under UNDP

For 2014, 17 projects have realised under UNDP with overall budget of \$8.05M, Fig. 3.24. Main donors, listed by highest contributions are: Government of NM, Switzerland, UNDP Regular Resources, GEF, Norway, Nederland and National Private Sector.

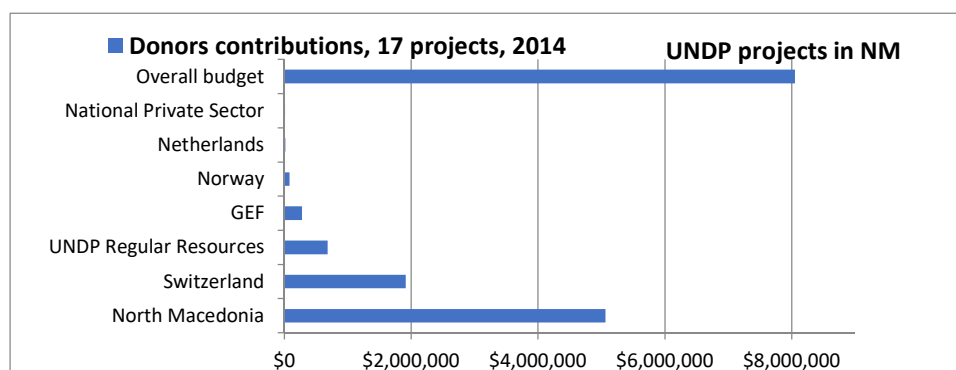


Fig. 3.24 Projects funded in 2014 by different donors, implemented under UNDP

Since 2014 to 2020, the country has received an indicative allocation of about \$100M, with national government contribution of about US\$40M, to realize projects under implementation activities done by UNDP (Tab. 3.5). The total number of projects for indicative period is 22, since data given above consists over looping of multi year's projects, 1 national and 4 regional projects.

Tab. 3.5 Allocated budgets under UNDP (2014-2020)

Budgets under UNDP implementing agency, period 2014-2020		
Year	Overall budget	Number of Projects
2020	\$17.69M	18
2019	\$17.88M	22
2018	\$17.85M	27
2017	\$17.69M	27
2016	\$12.8M	29
2015	\$7.08M	18
2014	\$8.05M	14
Total	\$99.04M	

Twelve **(12) projects**, implemented by UNDP during the 2014-2020, are closely connected to innovation, technology transfer and R&D, mainly within the focal area of climate change, because of the supporting climate change mitigation concept by the innovative technologies and sustainable development activities[67].

These 12 projects are covered different areas: 4 projects in Climate Change, 4 in international waters, 2 in resources saving and 2 in multi-focal areas (Fig. 3.25). Full list of those projects connected to R&DITT to CC implemented by UNDP is presented in *Annex 13*, where is indicative overall allocated budget of about US\$31.4M by all donors involved in funding. Co-funding of the Macedonian Government in this amount is US\$1.643.546,00, or funding of the different donors in the country with US\$29.731.078,00.

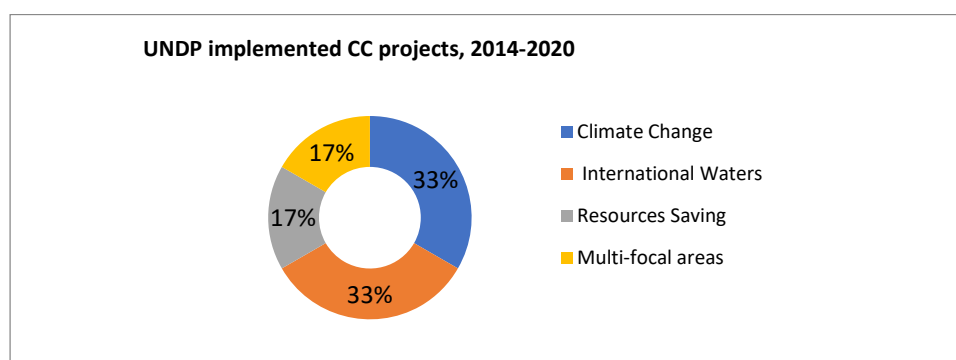


Fig. 3.25 UNDP implemented projects related to CC in North Macedonia (2014-2020)

3.7 National authorities contribution

3.7.1 Funds for research and development of the Ministry of Education and Science

The analysed period 2014-2020 is characterized by a lack of supporting activities in research where **Ministry of education and science** (MoES) haven't opened national calls for supporting the national science and development activities through R&D projects.

Despite several bilateral programmes for scientific cooperation, only biannual calls of two bilateral scientific and development cooperation programmes between North Macedonia-Austria and North Macedonia-China were opened. Analysis the priority areas of two bilateral programmes, almost all

covering climate change as one of the focal areas. The priorities are related to environment, energy efficiency, renewable energy resources, new technologies and materials where the research can be connected directly or indirectly to climate change. Analysis of dataset for supported projects has shown funding of 25 climate change projects in research, innovation and technology development, with biannual budget of €6.500,00 or with total funding of €162.500,00.

3.7.2 Domestic Universities own research funds

Starting from 2013, “**Ss. Cyril and Methodius**” University in Skopje has allocated financial resources in own fund for supporting research and development activities of the faculties members. At the annual basis, there are supported 25 research projects, each with duration of one year and funding of about €4.000,00.

For the period 2014-2020, there are financed in total **150** projects in all scientific fields with total allocated budget of €600.000,00. According to analysis of the dataset for the period 2014-2020, there are financed in total **22** research, development, innovation and technology development projects related to climate change in fields of technical and natural sciences with allocated budget of **€88.000**.

3.7.3 Fund of Innovation and Technology Development

Fund for Innovation and Technology Development (FITD), established in December 2013, supports innovation activities in micro, small and medium-size enterprises (MSMEs) in order to achieve technological development based on the knowledge transfer, technology transfer, research& development and innovation that contribute to economic grown and job creation, while developing competitive capabilities of the companies [68]. The Fund’s operations are based on financial support from the state budget and World Bank lending schemes.

Support **instruments** of FITD are co-financed grants with following funding opportunities [69]:

- **INS1** - commercialization of innovation in MSMEs for enlarging research& development activities in private sector, as well as cooperation with academia, in order development, transfer and implementation of new, innovative or improved technologies, processes and products (for micro and small-sized enterprises co-financing up to 70% of the project’s budget and for medium-sized up to 60% with maximum amount of €325.000),
- **INS2** - grown of start-ups and spinoffs based on technology development and innovative activities (co-financing up to 85% of the project’s budget, with maximum amount of €30.000),
- **INS3** -technology development and extension of SMEs with new technologies and processes (co-financing up to 30% of the project’s budget, with maximum amount of €150.000),

- **INS4** - development and investment in business-technology accelerators (co-financing up to 75% of the project's budget, with maximum amount of €500.000), and
- **INS5** - new planned instrument for technology transfer in first phase supporting the private companies within the knowledge transfer in academia-industry cooperation (co-financing up to 70% of the project's budget, with maximum amount of €20.000).

Starting from 2015, FITD has opened set of call in above mentioned instruments through co-financing schemes and supported 340 projects in MSMEs with allocated co-financing budget of about €55M.

According to analysis of data set for co-financed projects in regards to climate innovation & technology transfer projects, the FITD has financed **63** climate change related projects mainly under instruments of innovation with commercialization (INS1), technology development (INS3) and grown start-ups (INS2), with financial contribution and co-financing of **€7.554.747,00**. The companies have participated for those projects with own co-financing budget of €4.593.688,00 (Fig. 3.26). The full list of projects is enclosed in **Annex 14**, for FITD financial support.

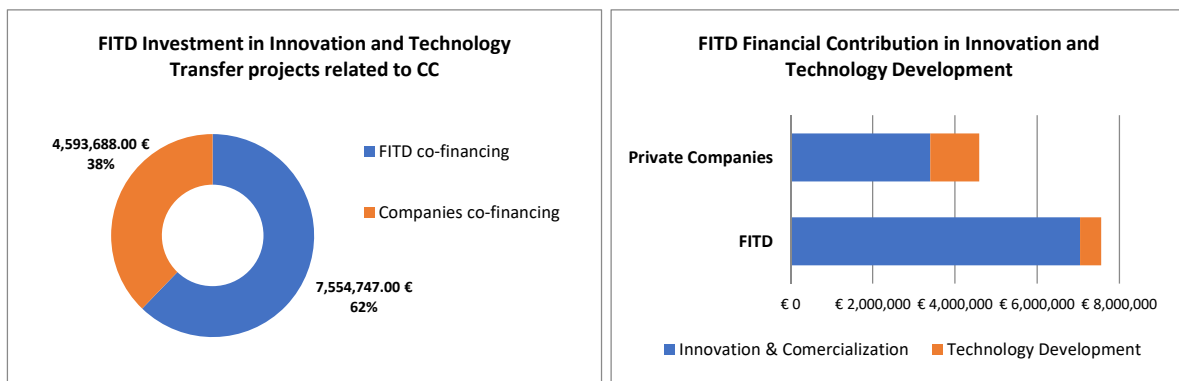


Fig. 3.26 FITD Investment in Innovation and Technology Transfer projects related to CC

The granted private companies with CC related innovation or technology development projects are sited in different regions of the country, as is evidently by chart for distribution of FITD contribution by regions, shown on the Figure 3.27. Even the more businesses are concentrated in the capital city of the country, Skopje, co-financed companies for their innovative and technology transfer activities are situated in different cities/regions around the country.

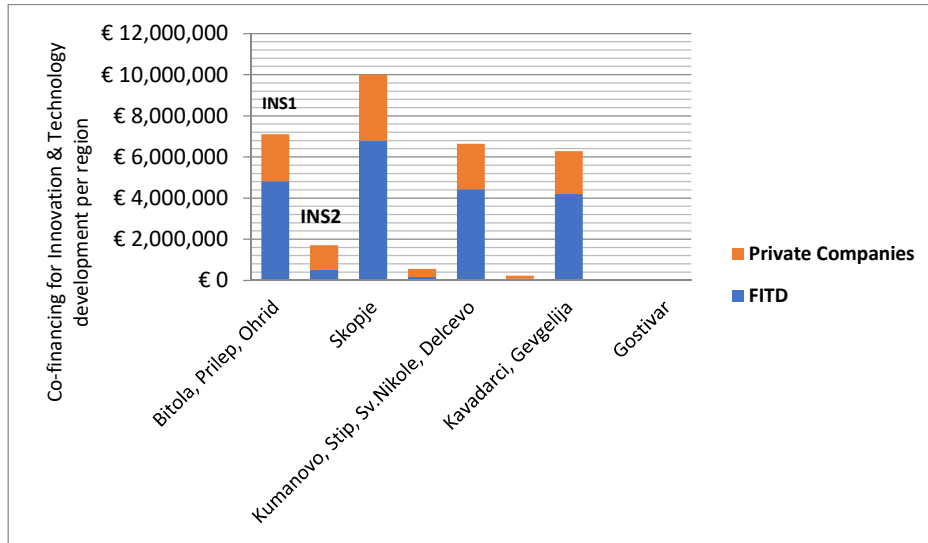


Fig. 3.27 Distribution of FITD and private companies' contribution in INS1, INS2 and INS3 by regions in the country for R&DITT to CC projects

Under the instrument for development and investment in business-technology accelerators (INS4), FITD has co-funded establishing of first three accelerators in the country: BAU-Business Accelerator UKIM, X Factor Accelerator and Seavus Accelerator. Under FITD financing, the accelerators are established at the beginning of 2019 and work on pre-feasibility and investment programmes in innovative business ideas in order to support sustainable grown and development of the economy.

3.8 PONT (Prespa Ohrid Nature Trust)

PONT is a transboundary conservation trust fund. As a trust fund, PONT's approach to conservation differs from the standard "project based" or "short-term" solutions. PONT's funding is long-term and designed to ensure the sustainable management of the Prespa-Ohrid ecoregion. This model emphasizes long-term commitment, transparency, accountability and collaboration.

PONT combines investment income from its endowment with other available capital and annual donations to generate grant-making resources for the protected areas and environmental actors, including civil society, municipalities and science/academic institutions addressing nature protection in the region.

PONT was established in 2015 with funding from MAVA Foundation and the German Ministry for Economic Cooperation and Development (BMZ), which is working through KfW Development Bank to support the increasing environmental needs of the Prespa-Ohrid region and respond to the lack of sufficient funding for conservation efforts [70].

As a conservation trust fund, PONT will be able to provide long-term sustainable financing to the region's national parks and local environmental actors. PONT provides grants to the national parks and civil society organizations working to conserve the Prespa Ohrid ecoregion.

Initially PONT focuses its funding on the Prespa lakes basin, including the six protected areas surrounding them. This area covers the most significant biodiversity features of the Prespa lakes and their surroundings. PONT aims to expand its work beyond the Prespa region to include the Ohrid lake basin, this step will be based on available resources and in line with PONT's mission and objectives [71].

From the annual report for the first full year in operation 2016, it could be noticed a solid funding base for the forthcoming few years' period. The funding committed between late 2015 -2016 from the KfW Development Bank (KfW)—mandated by the German Federal Ministry of Economic Cooperation and Development (BMZ) and the MAVA Foundation was total of €28.2 million. However, in order to provide long term annual support of €2 million to the full Prespa region, €80 million is required, extending to €95 million to also cover the Ohrid area. To achieve this programme goal, PONT actively seeks additional donors who can contribute per country, actor, region, with project based funding or capital donations to the fund [72].

The main funds are granted to the locally-based environmental actors with proven track record and capacity which are strategic partners to PONT, as framework agreements and phased approach (one year performance-based grants of pre-selected grantees). Occasionally they announce calls for other cooperation partners to fill-in the identified gaps. For instance, recently, joint call for proposals to environmental actors on Prespa funded by PONT and CEPF COOPERATION ON PRESAPA was announced. The overall budget available under this Call is €200,000.00 (€100,000.00 from PONT and €100,000.00 from CEPF – Critical Ecosystem Partnership Fund).

CHAPTER 4:
**Summary of the support received in
North Macedonia for research,
development, innovation and
technology transfer related to climate
projects**

According to results analysed above for the period 2014-2020, it can be concluded that North Macedonia receives significant financial, capacity building, technical and technological support by international donor organisations, developed countries and international financial institutions for research, development, innovation and technology transfer related to climate projects. The country, through its national and local institutional budgets, has funded number of R&DITT projects with direct or indirect impact on the climate change mitigation and application of the country.

Table 4.1 provides summarized information about the support received from international donors and financial institutions, containing brief overview of data about total amount allocated and total number of R&DITT to CC projects by donor.

Tab. 4.1 Summarized overview of support from international sources received in North Macedonia

Reporting period 2014-2020						
Dataset (in €)		Number of R&DITT to CC projects	Allocated amount for Macedonian beneficiaries	Total amount for selected projects (missing data per partner institution or missing data for national co-financing)	Lending instruments	
Donors						
EU Programmes multilateral donors						
1	EU H2020	52		€ 5,681,192.00		
2	EU COSME	5	€ 586,514.00			
3	ERASMUS+	42	€ 7,106,660.00			
4	CIF	1	€ 100,000.00			
5	LIFE	0				
6	IPA I	21		€ 283,730,393.00		
7	IPA III	52		€ 309,502,995.00		
8	IPA CBC	49		€ 21,513,784.00		
9	Balkan Med	8		€ 9,512,215.00		
EU Countries multilateral & bilateral donors						
10	German GIZ	7	€ 14,302,000.00			
11	Swiss SECO	15	€ 27,318,670.00			
12	Norway Grants	4	€ 15,320,000.00			
13	Swedish SIDA	*under implementing agencies				
US multilateral & bilateral donor						
14	USAID	7	€ 9,439,673.80			

International implementing organisations					
15	UNDP	12	€ 832,686.00		€ 29,731,078.00
16	WB IBRD	10			€ 609,040,000.00
Multilateral financial institutions					
17	GEF	10	€ 36,350,987.56		€ 296,663,011.40
18	GCF	1			
19	EU EBRD	*under implementing agencies			
20	POND	1			€ 95,000,000.00
National sources					
21	FITD	63	€ 7,554,747.00		
22	MoES	25	€ 162,500.00		
23	UKIM	22	€ 88,000.00		

CHAPTER 5:
**Legal framework, institutional set-up
and relevant capacities in the country**

5.1 Legal framework

5.1.1 Laws, policies, strategic documents and measures

The main directions provided by the **Programme of the Government** of Republic of North Macedonia, retrospectively for the periods 2012-2015 and 2017-2020, closely are connected to the focus of this assessment, as well as are dedicated to achievement, among other, of the overall goals for economic growth, sustainable growth and high quality education, by the following measures:

- To support economic growth by development of domestic enterprises with improving the business climate, linking domestic with foreign companies operating in technological and industrial zones;
- To support several measures for increasing efficiency and productivities by supporting industry-academia cooperation and technology development for new/improved products/services/processes based on innovation, development of new technologies, technology transfer and knowledge transfer activities;
- To support R&D, innovation and technology development by investment in science and research;
- To support infrastructure, environmental, energy and agricultural sectors, as well as ICT society to provide sustainable growth.

The realization of the priorities connected to the above mentioned overall goals and their research and development (R&D) policy goals, innovation policy goals, as well as technology transfer policy goals is supported by the legal framework expressed by the laws, the policies, the strategic documents and the measures.

5.1.2 Legal framework of R&D Sector

The more focused R&D policy goals are specified in the following legal acts:

- Law on the Scientific and Research Activities,
 - National Programme for Scientific R&D Activities (2012-2016),
- Law on Encouragement and Support of Technological Development,
 - National Programme for Encouragement and Support of Technological Development (2012-2015),
- Law on Higher Education,
 - National Strategy for Education (2018-2025),
- Law on the Macedonian Academy of Sciences and Arts,
- Law on Industrial and Intellectual Property Protection, and several regulations and instructions.

The **Law on the Scientific and Research Activities** is adopted in 2008 along with the changes of the law adopted in 2012, 2013, 2014, 2015 and last in Official Gazette 53/2016. The **Law on Encouragement and Support of Technological Development** is adopted in 2011 (Official Gazette 47/2011) and in 2015 was repealed with the adoption of the Law of Innovation activity. According to these two laws, the R&D policy goals and directions are the following:

- cooperation within the entities in scientific research and with the education;
- cooperation between institutions in charge of R&D and technology development;
- development of national and international cooperation into knowledge transfer, research, training and technology transfer;
- promotion the use of research results into development of new technologies, products and services;
- improving the institutional effectiveness and competitiveness of national entities involved in technology development;
- sustainable development and environmental protection;
- support for entrepreneurship;
- increasing the take-up of knowledge and creativity;
- participation in international research and technology development programmes.

New **Law on Higher Education** is adopted by the Government in May 2018 (Official Gazette 82/2018), developed by the Ministry of Education and Science. Between the goals of the HE, the Law underlines focus of the HE sector to develop the science, R&D and technology development in order to be applied for society development. The system of scientific activities involves scientific research, qualification and training of personnel for research work and research infrastructure.

National Programme for Scientific R&D Activities (2012-2016) is oriented to create knowledge based society with strengthening the coordination, implementation and financing scientific R&D activities, international cooperation and synergy with business sector. Focus thematic areas are in development of competitive economy based on: information society, low carbon society, sustainable development and national innovation system.

National Programme for Encouragement and Support of Technological Development (2012-2015) promotes smart, sustainable and inclusive development of the country, based on knowledge transfer, R&D and innovation.

National Strategy for Education (2018-2025), prepared by the Ministry of Education and Science through IPA technical assistance project, between other, consists strategic pillars for high education (HE) development oriented to follow priorities: improving the quality, efficiency and financing of the HE, as well as strong support to research and innovation for technologies development.

5.1.2.1 Governmental Bodies for R&D Sector

According to the Constitution, the state has an obligation to encourage and support the technological development of the country. The governmental body in charge of R&D policy in the Republic of North Macedonia is the **Ministry of Education and Science** which has the responsibility to organise, finance, develop and promote the HE, science, R&D, technological development, technical culture, informatics and information systems as well as the international cooperation related to these issues.

Within the governmental sector, it should be mention the activities of the other ministries responsible for activities related to the science, R&D and technological development in specific sectors. There are:

- Ministry of Agriculture, Forestry and Water Economy,
- Ministry of Environment and Physical Planning,
- Ministry of Economy,
- Ministry of Health and
- Secretariat for Foreign Affairs with coordination of the foreign aid dedicated to R&D.

5.1.3 Legal framework of Innovation and Technology Transfer Sector

Issues related to innovation and technology transfer (TT) are regulated by specific laws and legal acts:

- Law of Innovation Activity of the Republic of North Macedonia,
- Innovation Strategy of the Republic of North Macedonia,
- Industrial Policy of the Republic of North Macedonia,
- Policy of Small and Medium Enterprises of the Republic of North Macedonia,
- Regional Strategy for Innovation R&D of Western Balkans.

Law on Innovation Activity, adopted by the Government in May 2013 (Official Gazette 79/2013) along with the changes of the law adopted in 137/2013, 41/2014 и 44/2015, determines the innovation activity, as well as principles for commercialization of the results of the innovation activity, the scientific research activity, the technical and technological knowledge and of the inventions. The law envisions establishment of a public body entitled **Fund for Innovation and Technological Development (FITD)**, established in December 2013, which coordinates finance and logistically support the innovative projects in order to improve the competitiveness of Macedonian companies through development of new technologies, products or services based on innovation, knowledge transfer and technology transfer.

The Innovation Strategy of the R. Macedonia for 2012-2020 was adopted by the Government in October 2012 (Official Gazette /2013). The strategy was prepared by the Ministry of Education and Sciences and the Ministry of Economy with support from the Organization for Economic Co-operation and Development (OECD). One of the main strengths of the policy is the involvement of all relevant stakeholders from the country in its preparation. Strategy Europe 2020 for smart, sustainable and incisive grown. In the document, there are noted the four main weaknesses between the stakeholders in the national system for innovation: (1) Research and development in research institutions are limited by the substantial lack of finances, (2) Weak propensity of business sector to innovate, (3) Weak framework for knowledge transfer and (4) Structural challenges of the national system of policies making. From there reasons, document defines the **four strategic objectives** of the policy concerning to:

- Straitening of the propensity of business sector to innovate,
- Straitening of the human resources to innovate,
- Straitening of environment for innovation,

- Straitening of knowledge transfer between innovation stakeholders.

Under for objective for straitening of knowledge transfer between innovation stakeholders, the Action plan of the Innovation Strategy consists the action for establishing Centers for **Technology Transfer** at the lead universities in the country with coordination to the MOES and State office for industrial property rights in order to support industry – academia cooperation through knowledge transfer, technology transfer and straitening commercialization of R&D and innovation results.

The lending from World Bank has supported realization of the activities planned in this Strategy as are: financing the FITD, as well as establishing and financing Office for Technology Transfer in the FITD and starting the process for development of Scientific-Technology park.

The Industrial Policy of the Republic of North Macedonia 2009-2020, prepared by the Ministry of Economy, the Government and the World Bank (Official Gazette /2009), is national strategic document for enhancing the competitiveness of Macedonian industry and the economy in general, through coordination of the competitiveness policies. The Industrial Policy is focused on the five strategic objectives (areas of intervention), as drivers of the competitiveness:

- International Cooperation and Foreign Direct Investments enhancement;
- Research, Development and Innovations;
- Environmental Sound Technologies, Products and Services for Sustainable Development;
- SME Development and Entrepreneurship;
- Collaboration in Clusters and Networks.

Effects of this policy are on the long run, through strengthening the competitiveness of Macedonian industry based on knowledge transfer, innovation and technology transfer, better informed companies, increased internalization, and initially better utilization of the EU Funds for projects for enhancing and development of competitiveness.

There are two more national strategic documents. **Strategy of competitiveness 2016-2020** is a document for development of the framework as an “umbrella strategy” for efficient using of funds from EU contribution through IPA II Programme. **Strategy for SMEs 2018-2022** is a document for development of the dynamic ecosystem of entrepreneurship and innovation in order to encourage Macedonian competitiveness by increasing entrepreneurial and the innovative capacity of SMEs.

Industrial Strategy of the Republic of Macedonia 2018-2027 with Action Plan [73], prepared by the Ministry of Economy and the Government (Official Gazette /2018), based on the revision of the Industrial Policy, is the biggest national strategic document for enhancing the innovation framework conditions for Macedonian industry and SME development in order to attracting the region for new investment and new jobs creation.

The Industry Strategy enforces development of the new national Smart Specialization Strategy (3S) [74], according to the European Platform for 3S [75], in order to detect the key potential technologies of national industry sector as a focus to fostering the economic grown of the country and the region.

Within the Action plan of this Strategy and strategy goal No.2 to increase productivity, innovation and TT there are planned five measures. First one, relevant for this assessment, is the **measure** for straitening the institutional level for TT within support of production industry [73]. The **National Technology Transfer Office (NTTO)** will be established either as a separate institution or as part of the FITD (to be determined). NTTO will plays a key role in the conversion of science, R&D and

innovation results into competitive products and processes and will direct research to the needs of industry.

Related to the legislation connected to the innovation and technology transfer in the country, it is important to mention the **Western Balkans Regional R&D Strategy for Innovation** [76], the document for those issues provided as an umbrella for WBs region in October 2013, under technical assistance of the World Bank and the European Commission. The strategy has been aimed to strengthen the region's research capacity, enhance intraregional cooperation, promote technology transfer collaboration with business sectors and explore possibilities for financing R&D from EU funding schemes and other external sources. Starting from fact that the sustainable impact of R&D expenditures on economic development depends on how effectively the research results are commercialized, this document promotes the opening and availability of intermediary organizations dedicated to commercialization of research& industry collaboration. As such organization, there are promoted technology transfer offices and science& technology parks for improving collaboration and providing soft support for transfer of knowledge and technologies.

5.1.3.1 Governmental Bodies and Legal Entities for Innovation and Technology Transfer

According to the Constitution, the state has an obligation to encourage and support the technological development of the country. The governmental body in charge to following the development and commercialization of the innovation is the **Ministry of Education and Science (MOES)** with **Sector for Innovation, Competitiveness and Tracking** of development and commercialization of the innovation. **MOES with Sector** has the responsibility to prepare strategy for innovation, three yearly action plans, transposing the European legislation and EU programmes for innovation, encourage cooperation between HE and industry and support implementation of technology infrastructure.

The Strategy of Innovation defines the **legal infrastructure** for support of innovation activities with legal entities approved by the MOES, as are:

- Business-technology accelerator,
- Business-technology incubator,
- Science-technology park,
- Entity for encourage innovation, commercialization and protection of property rights, within the priority areas of science and technology, identified by the Strategy of innovation and periodical action plans, and
- Center for technology transfer (CTT) is legal entity established by HE or research institution, as well as other legal entity with cooperation of HE or research institution, for TT activities and innovation application. CTT covers the search for ideas and TT partners, evaluation the commercial transfer potential, incentives for the realization and commercialization of TT, intellectual property protection, provision of capital funds at an early stage of development and assistance to the subjects of innovation activity.

Fund for Innovation and Technological Development (FITD), established in December 2013 by the Government, is public legal entity for coordination of financing in innovation activity. The FITD provides technical assistance and consulting services for start-up and MSM enterprises in order to increase the investment in innovation, as well as financing and co-financing of research and innovative projects. The Fund is developed in two phases, the first funded solely by the Government,

and the second phase additionally financed by the World Bank and IPA funding scheme. The FITD supports innovation and technology development in the country through five financial instruments, explained herewith above with realized support actions for period of five years.

Within the governmental sector, it should be mention the other ministries responsible for activities related to the innovation in specific sectors. There are:

- Ministry of Agriculture, Forestry and Water Economy,
- Ministry of Environment and Physical Planning,
- Ministry of Economy,
- Ministry of Transport and Communication,
- Ministry of Finance,
- Ministry of Health,
- State Office of Industrial Property.

5.2 Public sector

Republic of North Macedonia has 16 Ministries and 43 Government bodies which are part of the Ministries. In addition, there are several public institutions that are of interest in this context to provide innovative and R&D support and to assist climate change issues in the country. The following units could be suitable for NDE and should be further assessed:

- **Ministry of Environment and Physical Planning (MoEPP).** This Ministry is the highest national authority for governing the environmental and physical planning sectors, which are of great relevance for the environmental and climate change issues researched in this report. The Ministry possesses proven long-term expertise in the field, but also rich and various experience with implementation of many national and international projects. In cooperation with UNDP, the Ministry has developed and adopted National Strategy for Clean Development Mechanism of Macedonia for the first commitment period of the Kyoto Protocol, 2008-2012. From Ministry organizational structure, two departments are in special interest with their responsibilities and duties for this assessment.

Department of Sustainable Development and Investment under the MoEPP is responsible for and implementation of policies for sustainable development, environment and climate change, as well as preparation and implementation of Environmental Investment Programme with capital investments in the area of environment and needs for investments especially in the spheres of wastewater management and waste management, as well as remediation of industrial hot-spots in accordance with the Law on Environment. The Department attributes particular importance to the preparation and implementation of projects financially supported by donor community and EU's pre-accession assistance;

Department for International Cooperation under the MoEPP plays the role of coordinator of activities for the protection and promotion of the environment related to accession to global and regional international agreements; accession to international and regional organizations; concluding bilateral agreements; and coordinating international assistance. It is consisted of divisions for bilateral and multilateral cooperation in order to monitor the international

environmental movements and the status of implementation of obligations under international environmental conventions.

- **Bureau of Metrology under the Ministry of Economy (BoM).** The BoM is a legal entity responsible for the implementation of Laws on metrology; control the goods on precious metals, compliance with international agreements on technical regulations and similar issues. This institution is member of international relevant bodies and possesses somewhat experience with international projects.
- **Ministry of Agriculture, Forestry and Water Economy.** This Ministry is the highest national authority for the sectors of agriculture, forestry and water economy. It is consisted of 19 sectors, specific for various areas, among which: sector for international cooperation and sector for EU. The Ministry has somewhat experience with international donors and projects (there are three active projects and one twining project listed, one of which is supported by the UN relevant body).
- **Ministry of Education and Science (MoES).** This Ministry is the highest body in-charge for the educational sector, science and research in the country. Ministry, with the Sector for Science has the responsibility to organise, finance, develop and promote the HE, science, R&D, technological development, technology transfer, technical culture, informatics and information systems as well as the international cooperation related to these issues. Authority for development and upgrading the education in the ethnicities' tongues and National Educational Inspectorate.
- **Fund for Innovation and Technology Development (FITD).** FITD aims to encourage and support innovation activities in micro, small and medium-size enterprises (MSMEs) in order to achieve more dynamic technological development based on knowledge transfer, development research and on innovation that contribute to job creation, to economic growth and development, while simultaneously improving the business environment for the development of competitive capabilities of companies. FITD provides improved access to financial support for innovation and technological development and promotes innovation activities in North Macedonia from all variety of areas, including environment and climate change. According to Work Programme of FITD 2018-2020 [77] connected to Low for Innovation and new Industrial Strategy of North Macedonia 2018-2027 [73], FITD should open National office for Technology Transfer (NOTT) for supporting academia-industry cooperation and promotion of results from R&D as innovative activities for technology transfer in industry.
- **Agency for Foreign Investments and Export Promotion of Republic of North Macedonia (INVEST Macedonia).** The Agency is the primary Government institution supporting foreign investment in the country with main goal to win new investment projects and to support the expansion of the existing base of overseas companies. Foreign investments in the country are supposed to bring new technologies and knowledge and to support the R&D and Innovation in environmental issues.
- **Agency for Financial Support in Agriculture and Rural Development (IPARD).** This Agency is established under responsibility of EC Council Regulation (EC) No 1085/2006, from July 2006, to support implementation of IPA for the period 2007-2013. It is a National body accountable for the utilization and monitoring of the IPA-Component 5 for Agriculture and Rural Development (IPARD). The IPARD programme is supporting the agricultural sector in terms of transfer of innovative agricultural techniques and practices, knowledge

transfer, direct financial support for modernization of the agricultural equipment, as well as implementation of agricultural techniques supported by the renewable energy production.

- **Energy Agency of the Republic of North Macedonia.** The Agency was established to support the implementation of the energy policy of the Government, through the preparation of the energy strategies, development plans and programs, with particular emphasis on energy efficiency (EE) and usage of renewable energy sources (RES). EARM has a mandate to lead, give initiatives, to coordinate the preparation of studies and implementation of international projects for EE and RES, as well as implementing policy for improving the RES usage at country level and lead and monitoring the EE programmes at public and municipality level.
- **Agency for Promotion of Entrepreneurship of Republic of North Macedonia (APERM).** The Agency was established in 2003 in order to support entrepreneurship and competitiveness of micro, small and medium-sized businesses in the country. It implements and coordinates state and international support for MSMEs, as well as for start-ups and promotes entrepreneurship through various forms of financial and non-financial support.
- **Research Centre for Energy and Sustainable Development, part of Macedonian Academy of Sciences and Arts.** The initial name of the centre was Research Center for Energy, Informatics and Materials (ICEIM) and was founded in 1986 by Prof. Dr Jordan Pop-Jordanov, with the aim to initiate, coordinate and perform fundamental and applied research in certain priority areas from its domain. The Center is a focal point for North Macedonia of the International Database of IAEA and the World Solar Process of UNESCO. Also ICEOR is the residence of the Macedonian National Committee of the World Energy Council and the National Committee for Climate Change as well as the Member of International Network of Centers for Sustainable Development.
- **Ss. Cyril and Methodius University in Skopje, Faculty of Mechanical Engineering – Skopje (FME).** The Faculty is the largest HE institution with academic and research activities in the fields of mechanical, production, industrial engineering, as well as their application and technology transfer into industry and business sector. It offers large number of academic study programmes at all HE levels. It is main contracts partner to companies in fields of energetics, vehicles, production through long term cooperation. Faculty has two inspection bodies and two accredited laboratories with applied activities to business sector. The Faculty has implemented over 100 scientific and research projects, out of which many offices and centres relevant in this respect are established: Center for New Business Development, Center for Product Lifecycle Management, Center for Cleaner Production, Center for Energy Efficiency, Center for Industrial Design, etc.;
- **CIRKO – Center for Research, Development and Continuing Education** – developed in 2002 as a model of technology transfer office at the Faculty of Mechanical Engineering supported by the GTZ project. As innovative and important model for academic society in the country, immediately has been established as a spin-off commercial entity by the Faculty in 2002 named CIRKO [78]. Until now, it conducts support of R&D and transfer of technologies to the industry and companies within all the fields of engineering covered by the Faculty with large number of realized projects, as well as coordinate professional trainings. It offers services of three inspection bodies and two accredited labs. From October 2010, CIRKO is registered as a Technology Transfer Center, included as a Technology Development Entity in the Register of Entities for Technology Development at the Ministry of Education and Science (MoES Decision No.13-416/1).

- **Ss. Cyril and Methodius University in Skopje, Faculty of Computer Science and Engineering (FINKI).** This faculty is the largest and most prestigious faculty in the field of computer science and technologies in the country. It maintains contact with the domestic business sectors in the field of information and communication technologies (signed contracts for collaboration with 68 different companies, and has participated in 48 applicative national projects). The Faculty has rich and valuable experience in implementation of numerous national and international projects.
Regional Hub for Social Innovation launched in 2013 at the Faculty of Computer Science and Engineering in coordination with UNDP. The Hub is established as pilot Center for technology transfer, in order to make the technologies to tackle social challenges and advance human development by encouraging development of innovative ICT solutions to social and economic problems. The Hub promotes new partnerships between the private sector, policy-makers, academia and other players interested in promoting social innovation. Projects aiming at environmental protection and mitigation of the climate change are among the priorities.
- **Ss. Cyril and Methodius University in Skopje, Faculty of Electrical Engineering and Information Technologies (FEIT).** Faculty is the largest HE institution with academic and research activities in the fields of electronics, automation, energetics and telecommunication engineering. It offers large number of academic study programmes at all HE levels. FEIT has one inspection body and two accredited laboratories with applied activities to industry and works on stimulating the efficient transfer of knowledge and expertise from academia to industry. More than 100 scientific and R&D projects are realized with results in new research equipment, new labs and centers, as well as transfer of knowledge and technology to the industry. One of those centers (INNOFEIT) is in focus for the assessment in this research.
Center for Technology Transfer and Innovations – INNOFEIT, established at the FEIT as unit of the University, during 2002 as a model of office for technology transfer supported by GTZ project. [79] It serves a hub for interaction among faculty's staff, students and industrial partners that will foster connections, match-making of highly skilled scientists with companies and transfer of technologies as well as novel innovative ideas that will aid the economic growth of the sector and the society in general. The Center has experienced in leading R&D and innovation projects with companies for knowledge transfer and new technology development where some of them are funded by the FITD instruments.
- **Centre for Applied Research and Permanent Education in Agriculture (CIPOZ), Faculty of Agriculture and Food Sciences, Skopje.** The Center CIPOZ was established within the Faculty of Agricultural Sciences and Food – Skopje in 2002 supported by GTZ project and have contributed for the informal education and training in agriculture [80]. CIPOZ has realized many projects and trainings in various agriculture, rural development and environmental protection. As part of its activities, it has realized significant activities in the areas of R&D, knowledge transfer and application of modern technology through training programs and seminars.

5.2.1 Educational curricula related to Climate Change Research, Development, Innovation and Technology Transfer

The assessment of the educational curricula about the education for climate change and sustainable development has showed that it is incorporated in the educational system at a different levels to a different extend, but still not adequately incorporated in the national educational system with systematic approach for wider climate change issues.

Concerning the state universities curricula there is four state universities with their faculties that have undergraduate, postgraduate and PhD levels programmes accredited and active now, connected to climate change and sustainable development issues. Furthermore the climate change accent of these programmes is not strictly emphasized in the programme naming as an educational focal point.

The tables below briefly present:

- the hosting university/faculties and the principal coverage of the programmes,
- the names of accredited HE study programmes (curricula) at different level of studies that are closely connected to climate change and sustainable development, or
- the names of subjects connected to climate change and sustainable development issues incorporated in different study programmes.

The assessment of the study programmes and subjects concerning CC issues at different faculties at “**Ss. Cyril and Methodius**” University in Skopje is presented from Table 5.1 to Table 5.5.

Tab. 5.1 "Ss. Cyril and Methodius" University in Skopje, Faculty of Mechanical Engineering – Skopje

Education level	Study programme	Subject in different study programmes
Undergraduate level	Energy and Ecology	Environmental Management Energy Efficiency Sustainable Development Eco-Products Risk Management for SD
Postgraduate level	Sustainable Energy and Environment	Sustainable Development
	Energy and Ecology	Energy Efficiency
	Management of Product Lifecycle Management	Circular Economy
	Engineering of Environment and Natural Resources	Cleaner Production Eco Sustainability Energy Management Intelligent Transport
PhD level	Different subjects at the study programmes: Mechanical Engineering Industrial Engineering and Management	Environmental Management Energy Efficiency Sustainable Development Product Lifecycle Management

Tab. 5.2 “Ss. Cyril and Methodius” University-Skopje, Faculty of Electrical Engineering and Information Technologies

Education level	Study programme	Subject in different study programmes
Undergraduate level	Power engineering, automation and renewable energy	Energy and Sustainable development Photovoltaic systems Renewable energy sources Wind Power Plants Smart grids Energy Efficiency and Environmental Management
Postgraduate level	Renewable Energy Sources	
	Energy Efficiency, Environment and Sustainable Development	
PhD level	Different subjects at the study programme: Electrical Engineering and Information Technologies	Eco-Legislation Energy Efficiency Environment Protection from Energy Systems Energy Sustainable Development

Tab. 5.3 “Ss. Cyril and Methodius” University in Skopje, Faculty of Technology and Metallurgy

Education level	Study programme	Subject in different study programmes
Undergraduate level	Inorganic Engineering and Environment Protection	Environmental Protection Impact of CC on the water and soil characteristics Pollutants Cleaner Production Chemistry of atmosphere Energy and Environment Industry Zero Emission
Postgraduate level	Environmental Engineering	
	Inorganic Engineering and Environment Protection	
PhD level	Different subjects at the study programmes: Technology Metallurgy	Energy and Environment, Environment Impact Assessment, Industry Ecology, Processes in Environment Engineering, Sustainable Development, Air Pollution and Prevention

Tab. 5.4 “Ss. Cyril and Methodius” University in Skopje, Faculty of Agricultural Sciences and Food

Education level	Study programme	Subject in different study programmes
Undergraduate level	Eco Agriculture	Ecology Agro Climatology

Postgraduate level	Management of Renewable Sources and Environment	
PhD level	Management of Renewable Sources and Environment Protection in Agriculture	Bio Climate Analysis Bio Technologies

Tab. 5.5 “Ss. Cyril and Methodius” University in Skopje, Faculty of Natural and Mathematical Sciences

Education level	Study programme	Subject in different study programmes
Undergraduate level	Ecology	Environmental Protection
	Biology	Climatology and Climate Changes
	Geography	Plant ecology
Postgraduate level	Ecology and bio-systems	
	Geographic Information Systems	
PhD level	Different subjects at the study programmes:	

Here below is provides the overview for the “**St. Kliment Ohridski**” University in Bitola. The assessment of the study programmes and subjects concerning CC issues at different faculties is presented from in Table 5.6.

Tab. 5.6 “St. Kliment Ohridski” University of Bitola, Faculty of Technical Sciences

Education level	Study programme	Subject in different study programmes
Undergraduate level	Engineering of Environment and Work Protection	Energy Efficiency Renewable Energy Sources
Postgraduate level	Engineering of Environment and Work Protection	Contemporary Energy Technologies Systems for Environmental Protection
PhD level		Sustainable Energetics Energy Systems and Environment Sustainable Infrastructure Sustainable Transport Systems

Here below is provides the overview for the University “**Goce Delcev**” in Stip. The assessment of the study programmes and subjects concerning CC issues at different faculties is presented from the Table 5.7 to the Table 5.8.

Tab. 5.7 University “Goce Delcev” of Stip, Faculty of Natural and Technical Sciences

Education level	Study programme	Subject in different study programmes
Undergraduate level	Environment Engineering	Geo Ecology Ecology and Eco Systems
Postgraduate level	Engineering of Environmental Protection	Environment Modelling Natural Resources Environmental Impact Assessment

Tab. 5.8 University “Goce Delcev” of Stip, Faculty of Electrical Engineering

Education level	Study programme	Subject in different study programmes
Undergraduate level	Energetics and Renewable Energy Sources	Sustainable Energy Development Environment Protection
Postgraduate level	Nonconventional Energy Sources and Technologies	Energy and Ecology Renewable Sources

Here below is provides the overview for the **State University in Tetovo**. The assessment shows one study programme concerning CC issues and one Institute, as an entity focused on the research fields, and it is presented in Table 5.9.

Tab. 5.9 State University of Tetovo, Faculty of Natural Sciences and Mathematics

Education level	Study programme	Subject in different study programmes
Undergraduate level	Ecology	
Research Level	Institute of Ecology and Technology	

Concerning the climate change related issues in the educational curricula on the private universities there is a subjects in frame of study programmes on the private **International Slavic University**. The details about this educational program are given below in the Table 5.10.

Tab. 5.10 International Slavic University, Faculty of Safety Engineering

Education level	Study programme	Subject in different study programmes
Undergraduate level	Work Safety	Industry ecology Management of Natural Sources Environmental Monitoring
Postgraduate level	Work Safety	

It line with the above conclusions based on the finding it is recommended that effective mechanisms and strategies are needed in order to incorporate the climate change and sustainable development concepts in the high education curricula, which is lately considered as an elementary concept of the natural and technical sciences. Additionally it is recommended to emphasize the attention on climate change in the existing and the forthcoming educational programmes, due to the increased national and international attention on the climate change topic and possibility for increased interest for this high educational curricula.

5.3 NGO/CSO sector

The sector of NGOs was quite complicated to be analysed, because many of the organisations operate in multiple thematic areas, and not all of them are relevant in this context. In essence, it is difficult to be determined the scope of the activities under the relevant thematic areas of operation. Moreover, the assessment of the financial long-term capability and sustainability of the organisations is also not an easy task to be performed.

Most of the actions for lowering the carbon footprints and greenhouse gas emissions are initiated by the ecologists. On the other hand, the actions for popularisation and raising awareness, as well as the ‘soft climate technologies’, such as gaining skill and competence for new environmental sound technologies development or technology transfer, are mainly initiated and implemented by NGOs operating in multiple thematic areas. The NGOs with significant potential for NDE from former and latter are listed below:

- **Regional Environmental Center in North Macedonia** – This multinational organisation is present in the country since 1993. Its development programmes have been designed to promote the key processes, such as: waste management planning, strategic environmental assessment, water resources planning, environmental protection etc. They have proven expertise in environmental education, financing and implementing actions and measures. Within this area of expertise, the REC supports the implementation of the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement. It contributes to regional, national and sub-national efforts to develop and implement low-emission development strategies and to build resilience to climate change. The REC provides good-quality data for decision makers; promotes dialogue and international cooperation among different stakeholder groups; disseminates low-carbon development knowledge; builds the capacities of national and sub-national stakeholders; and facilitates active public participation in policy making [81].
- **MACEF (Center for Energy Efficiency of North Macedonia)** – It is a scientific association established in 2002 that aims to increase the energy efficiency and environment protection through strengthening the capacities, promotion of measures and expertise on energy efficiency in collaboration with governmental and local institutions, donors and activists at national and regional level. MACEF is actively involved in energy policy making and resources planning. This center possesses experience in project implementation from the area of energy efficiency [82].
- **Macedonian Ecological Society** – This organisation is dedicated to ecology, education, nature conservation and environment protection for five decades. Their work is divided in several thematic programmes, among which the programme “Nature and environment protection polices” is the most relevant for this research. As part of this programme, they organise various workshops and awareness raising activities [83].
- **Eco-Svest** - Eco-Svest is a civil association founded in 2002, and in 2008 it changed its name to "Center for research and information environment eco-consciousness" in order to best reflects its activities, mission and vision. The main objective for the establishment of the association lies in the need to increase public awareness of the necessity of caring for the

environment in North Macedonia, through information, education and advocacy. Although they implement activities from the areas relevant for this research, they do not have extended experience with international projects [84].

- **Bidi Zelen** - Go-Green is a civil organization funded in 2010 dedicated to sustainable development by work and projects that promoting youth eco-activism for environment protection, increasing the education on climate change and working toward green economy and encouraging green jobs. This organization possesses experience in large number of initiatives and in working of the few projects [85].
- **Elektromobilnost MK** – This NGO is registered in 2013 oriented to campaigns for new technologies, green energies and transport, from zero CO2 emissions to support society in the field of sustainable development as well as transportation with electrical, hybrid, hydrogen and other types of vehicles. It organizes education panels, workshops and initiatives in order to increase awareness for electrification of the transport [86].
- **Centar za klimatski promeni** – NGO Center for Climate Change (CCC) is established in 2008 and aims to protect environment, raising public awareness and implement activities combating climate changes and improving the environment. The Center is directing its activities towards industrial energy efficiency, industrial pollution and prevention control, waste management, climate change mitigation and adaptation measures and energy and environmental management. This Center [87] possesses experience in international project implementation from the area of waste management, recycling and climate change actions.

5.3.1 National good practices (NGOs for supporting Technology Transfer)

The national and international NGOs structure has significant influence in the process of the establishment of the national innovation, TT and R&D infrastructure. The entities, NGOs, in this structure are mainly developed as results of successfully realized international projects and as instrument of its sustainability. This important stakeholder also presented extraordinary outcomes of the implementation of the innovation, TT and R&D activities in the country and presented the national best practice in many thematic areas including climate change and sustainable development. Several good practices in the country are outlined below:

- **Climate Change Communication e-Platform.** Nowadays digital revolution brings digital dimension of the society and digital platforms become stronger and faster in mobilizing the people than other types of organization. That is the reason to list National Climate Change Communication e-Platform in the best practices (klimatskipromeni.mk) [88]. Established by support from UNIDO and GEF, CCC e-Platform represent the initial point for sharing climate change and climate action information in our country, at the national but, also at the local level. Information shared between society presents climate change from a Macedonian perspective in order to show efforts to facilitate adaptation and to straighten public awareness for CC actions. Dealing with climate change assisted by international partners, this e-platform

coordinates climate actions at all level in the country, improving capacities to accomplish the global climate goal with involving all stakeholders: Government institutions, NGOs, business, science, media and national climate change leaders. CCC Platform provides updated national information related to the implemented climate actions, survey, projects, institutional and legal framework and national communications for climate change.

- **Innovation Lab in the City of Skopje.** It is UNDP funded project to create space with set of protocols that enable a coming together of citizens, the public administration, the private sector and civil society to brainstorm, develop and test ideas, experiment and learn from each other. Innovation Lab operates as a new model of Government – Citizen Collaboration in order to straitening public institution to deliver services efficiency and cost-effective and bring in additional resources and networks.
- **National Center for Development of Innovation and Entrepreneurial Learning (NCDIEL).** The Center was established in November 2009 with financial support from Austrian Development Cooperation Agency (ADA) [3]. Located at the Faculty of Mechanical Engineering, NCDIEL supports the realization of innovative, technology-based and profit orientated ideas through the provision of capital for start-ups, coaching of established enterprises in order to strengthen the capacity and growth of newly established enterprises. NCDIEL’s activities encompass providing start-up training, coaching and financial support to highly innovative business ideas and stimulating an innovative entrepreneurial culture [89].
- **European Information and Innovation Centre of Republic of North Macedonia (EIICM).** Established within the project funded by EU CIP Programme of Competitiveness Innovation. The EIICM, as a part of a large European Network (Enterprise Europe Network), provides services to the defined target groups (mainly SMEs, but also larger companies, universities and research centers) through dissemination of information on EU legislation, enabling business contacts with potential European partners, facilitating the technology and knowledge transfer as well as promoting the possibilities for participation in EU research programmes. EIICM is established with main office at the UKIM.
- **Foundation for Management and Industrial Research (MIR).** The Foundation contributes for supporting existing businesses and encouraging the growth of new businesses, for transfer of innovative technologies between all kinds of innovation players and provides advisory services for improving industrial performance and competitiveness to national business sector. Promoting sustainable environmental development and intelligent energy use is one of its goals. It supports green economy through eco-innovations and environmental services for generating business opportunities from environmental challenges, energy efficiency and green grown [90].
- **Gauss Institute – Bitola.** Foundation for New Technologies, Innovations and Knowledge Transfer, established in 2006. The role of the establishment of the foundation is through development and application of new technologies, innovations and knowledge transfer to contribute toward establishment of knowledge based society in the region. All activities Gauss Institute undertakes are solely directed to accomplishing the mission of creation of knowledge-based society, by using science and technology, that is eco-friendly and sustainable in the long-term.

5.4 Private sector

The private sector in the country is characterised with dominance of the small and medium enterprises (more than 99%). The companies operating in thematic areas that are relevant for the selection of the NDE are distributed across most of the industries. Although majority of these companies produce or sell eco-friendly materials, products or services, only tiny share of them conduct the research and development for the novel materials in-house. It is widely known that the SMEs in general, experience lack of capacities (both financial and human capacities) to carry out the research for the innovative products and services. The organisation that will be nominated for NDE should possess certain capacities for research and development, as well as appropriate availability of sufficient human resources. Therefore, it was decided that only the companies whose core area of operation is research and analyses of the ecological topics could be appropriate for nomination in this respect. To our knowledge, only the following two companies from the private sector are the companies that provide ecological consultations and analysis:

- **Pharmachem** – it is a private company for trade and consultancy established in October 1990 by Prof. Josif Tanevski, PhD and operates with its 40 employees. Pharmachem is the official representative and distributor of more than 20 world renowned companies. The main activities of the company are trade and environmental consultancy. They possess somewhat experience in implementing projects, experienced on the Swiss project “Nature Conservation Programme in North Macedonia” and have won several awards for sustainable development and corporate social responsibility [91].
- **EcoMosaic** - The environmental engineering and consultancy company EcoMosaic provides consultancy within environmental engineering science to the clients coming from different sectors. It offers integrated solutions, in line with the legal requirements, but also with the best EU and global practices, technical norms and standards in the area of: Environmental protection; Efficient use of resources (raw materials, water, energy) and use of renewable energy sources; Introduction and implementation of the cleaner production concept and analysis of the products’ life cycle; Sustainable production and eco design; Preventive pollution control of all environmental media; Preparation of investment documents in line with the national and EU requirements for project applications and project cycle. However, this company has limited experience in implementing international projects [92].

5.5 Brief analysis of the potential for nomination for NDE

In addition to the public sector, the sectors of non-governmental organisations (NGOs)/civil society organisations (CSOs) and private sector organisations play significant role in addressing the pressing issues on climate change, raising awareness and building appropriate human capacities for both, the

hard and the soft technology transfer of climate technologies. In general, the organisations from these sectors are more experienced in planning and implementing donor-financed projects and actions and they are more flexible in motivating the employees to engage themselves in the role of NDE with financial and other types of incentives. On the other hand, they possess limited experience and expertise in policy-making in respect to the public organisations, although some of the NGOs are making efforts for lobbying and influencing policies and measures.

The public and private sectors in the country are quite different and it is difficult the same procedure for evaluation the performance to be used in both cases.

However, in relation to the nomination of the NDE at a country level, it is of a greater importance the assessment of certain specific factors that will be common for both, the public and the private sectors, in order an overall rank list of organisations to be produced, rather than in-depth assessment of the public organisations' performance.

5.5.1 Common evaluation criteria for both sectors

The authors researched the evaluation criteria used in similar contexts for assessing the quality and suitability of public or private institutions. Throughout the literature, it was pointed that every assessment should be developed independently, taking into account all relevant circumstances. The characteristics of both sectors of interest, the public and the private/NGO sector are quite different.

Therefore, it was decided for the needs of this stage of the assessment, only the most important criteria that are applicable for both sectors to be selected. Further in the process, if there are needed more precise determination of the most suitable NDE on a national level, a qualitative methodology consisted of in-depth interviews and focus groups should be proposed. The examination in this report will result in development of independent cases for the highest-rated institutions within this stage, which could be proposed as an input to the experts group that will nominate the NDE for the Republic of North Macedonia.

The following criteria are proposed as primary factors that should be researched at this stage:

- Relevance of the main field/sector of operating with the technology sectors (both, hard and soft technology are included)
- Inter-sectorial collaboration
- National coverage
- Experience with policy-making
- Experience with implementing granting schemes
- Experience with working on international projects
- Availability of the personnel and possible motivation for becoming NDE.

The organisations selected from each of the three sectors: public, private and NGO/CSO are assessed by each of the selected criteria (Tab. 5.11). The criteria are graded with marks from 1 to 5, where 1 is the weakest/lowest mark and 5 is the highest mark. The received marks are summed up, which results

with an overall assessment mark for the examined organisation. The overall marks are ranked and the highest ranked organisations are promoted as organisations that possess significant potential for NDE. In the next phases if it is needed, further assessment with qualitative research methods (in-depth interviews and focus groups) of the promoted organisations in this first project phase should be conducted. This research will result with selection of the most suitable organisation for NDE that will represent the Republic of North Macedonia in the UNFCCC society and CTCN network and will serve as national focal point for the development and transfer of climate technologies.

Tab. 5.11 Assessment of the most appropriate organisations for NDE

Organisation	Relevance	Inter-sectoral collaboration	National coverage	Experience with policy-making	Experience with granting schemes	Experience with projects	Availability and motivation	Overall mark
Ministry of Environment and Physical Planning	5	5	5	5	4	4	1	29
Ministry of Agriculture, Forestry and Water Economy	3	4	5	5	4	2	1	24
Ministry of Education and Science	4	4	5	5	4	3	1	26
Fund for Innovation and Technology Development	4	5	5	4	5	5	5	33
CIRKO – Center for Research, Development and Continuing Education (Faculty of Mechanical Engineering (MFS), UKIM)	4	5	5	3	4	5	4	30
INNOFEIT – Center for Technology Transfer and Innovations, at the Faculty of Electrical Engineering and Information technology (FEIT), UKIM	4	4	4	3	5	5	5	30
Regional HUB for Social Innovation, at the Faculty of Computer Science and Engineering (FINKI), UKIM	3	4	4	3	4	5	4	27
RCESD – Research Centre for Energy and Sustainable Development, part of Macedonian Academy of Sciences and Arts (MANU)	5	4	5	3	4	5	4	30
Regional Environmental Center (REC)	5	4	5	3	4	5	3	28
MACEF	5	3	4	2	4	5	2	25
Macedonian Ecological Society	5	4	4	3	4	2	3	25
Eco-Svest	5	3	4	3	4	2	2	23
Center for Climate Change	5	3	4	3	4	5	4	27
Bidi Zelen	5	3	4	3	3	3	4	25

National Center for Development of Innovation and Entrepreneurial Learning (NCDIEL)	3	4	5	3	4	5	4	28
Foundation for Management and Industrial Research (MIR)	3	3	5	3	4	5	3	26
Pharmachem	5	2	3	2	3	4	5	24
EcoMosaic	5	4	4	3	4	2	3	25

The overall marks are ranked and the highest ranked organisations are promoted as organisations that possess significant potential for NDE. The top 10 organisations are listed in the table 5.11.

Tab. 5.12 The top 10 most appropriate organisations for NDE

Organisation	Overall mark
Fund for Innovation and Technology Development	33
RCESD – Research Centre for Energy and Sustainable Development, part of Macedonian Academy of Sciences and Arts (MANU)	30
CIRKO – Center for Research, Development and Continuing Education (Faculty of Mechanical Engineering (MFS), UKIM)	30
INNOFEIT – Center for Technology Transfer and Innovations, at the Faculty of Electrical Engineering and Information technology (FEIT), UKIM	30
Ministry of Environment and Physical Planning	29
Regional Environmental Center (REC)	28
National Center for Development of Innovation and Entrepreneurial Learning (NCDIEL)	28
Regional HUB for Social Innovation, at the Faculty of Computer Science and Engineering (FINKI), UKIM	27
Center for Climate Change (CCC)	27
Foundation for Management and Industrial Research (MIR)	26

CHAPTER 6:

Conclusion and recommendations

6.1 Conclusion

The purpose of this report, which is part of the project “Macedonia’s Fourth National Communication (NC) and Third Biennial Update Report (BUR) on Climate Change under the UNFCCC (4th NC/3rd BUR)” implemented by UNDP and the Ministry of Environment and Physical Planning, was analysing the UNFCCC TT: Clear Mechanism, especially the possibilities for its utilization in the country, outlining initial foresights about the sectors of the Macedonian society relevant for nomination of the NDE, as well as providing basic assessment and preliminary nomination of the top 10 most potential organisations.

In 2010, the Technology Mechanism TT: Clear, as an instrument for transfer of technology and technological and institutional development between the member states of the UNFCCC was established to facilitate the implementation of enhanced action on technology development and transfer to support action on mitigation and adaptation in order to achieve the full implementation of the Convention. Today, TT: CLEAR serves as the web platform for all things related to climate technology. It houses information on the Technology Mechanism, the Technology Executive Committee and Technology Needs Assessments. Also, various technology projects from around the world could be discovered, accompanied by opportunities and ways for support and connecting with the people behind them. In addition, ongoing and competed climate change technology negotiations could be followed, policy recommendations from the Technology Executive Committee could be researched and connections with climate solutions via the Climate Technology Center and Network (CTCN) and with climate-related technology events could be established.

Macedonian government has not nominated a National Designated Entity under this UNFCCC mechanism for climate technology yet. The initial investigation of the potential of numerous organisations in the public and private sector resulted with nominating the top 10 organisations: (1) Fund for Innovation and Technology Development (FITD); (2) RCESD – Research Centre for Energy and Sustainable Development, part of Macedonian Academy of Sciences and Arts (MANU); (3) CIRKO – Center for Research, Development and Continuing Education (Faculty of Mechanical Engineering (MFS), UKIM); (4) INNOFEIT – Center for Technology Transfer and Innovations, at the Faculty of Electrical Engineering and Information technology (FEIT), UKIM; (5) Ministry of Environment and Physical Planning; (6) National Center for Development of Innovation and Entrepreneurial Learning (NCDIEL); (7) Regional Environmental Center (REC); (8) Regional HUB for Social Innovation, at the Faculty of Computer Science and Engineering (FINKI), UKIM; (9) Center for Climate Change; and (10) Foundation for Management and Industrial Research (MIR). In case that there is need more deep analysis, these organisations should be examined in more details with an appropriate research methodology, in order the most suitable national institution that will act as a national focal point to be nominated and the county to be able to maximize its benefits from the utilization of the TT: Clear mechanism.

According to this ranking investigation, the **highest ranked** organisation should be promoted as organisation that possesses significant potential **to be nominated as NDE** in Republic of North Macedonia. Hence, this assessment Report has indicated that the Fund for Innovation and Technology Development (**FITD**) is the highest ranked institution according to above listed selection criteria.

From the other hand, the analysis of the national legislation provided in the Chapter 5 of this Report has indicated **two similar measures**:

- the Action plan of the Industrial Strategy 2018-2027 provides measure to establish NTTO (National Technology Transfer Office) as part of the FITD or either as a separate institution in order to straitening the institutional level for TT; and
- Work plan of FITR (2020) provides the measure to establish NTTO with the same goal.

That NTTO should play a key role in the conversion of science, R&D and innovation results into competitive products and processes in industry, as well as should tackle climate change actions, green and sustainable development issues.

At the **second place** of ranking within this assessment analysis are ranked two Technology Transfer Centers established in the technical campus of the UKIM. More precisely, CIRKO is technology transfer center established from the Faculty of Mechanical Engineering with rich experience and long term collaboration with industry and transfer of knowledge and technologies through academia-industry link. Among the few, **CIRKO** is registered as an official TT Entity in the Central State Register established and run by the MoES. **INNO FEIT** is technology transfer center in frame of the Faculty of Electrical Engineering and Information Technologies, projects oriented, with good experience of running the applied projects with industry. Also, **RCESD** – Research Center for Energy and Sustainable Development at the MANU is ranked at the second position according to the experience in coordinating fundamental and applied research in certain priority areas of CC and as a national focal point for several organizations related to energy and environment.

6.2 Current state of development of R&D, innovation and technology transfer for climate change

This Report was prepared with deep assessment analysis for the current state of research, development, innovation and technology transfer national conditions related to climate change activities. The analysis was made in close collaboration of the national R&D scientific institutions, policy makers, projects implementing agencies, as well as the donor programmes in the country. According to the assessment of the current state in the recent years, Republic of North Macedonia has made a significant movement to enable environment for **development of ecosystem** with innovative and R&D infrastructure, as an good basis for the continuous improvement of the national conditions, which is essential for the country international EU and worldwide aspirations and commitments.

During the reporting period for analysis of current country stage, this process of improvement the research, development, innovation and technology transfer infrastructure related to climate change has

realized with receiving of **strong support from donors**, as is evident from analysed projects by donor programmes and their significant financial granting and lending schemes, presented in this Report. As recommendation from this assessment, it will be noted that there is important to develop **central platform (portal)** with comprehensive dataset of the projects by donors and implementing agencies, with mechanism for updating and reporting. CCC Platform (klimatskipromeni.mk), as an initial point for providing updated national information related to climate change, can matching with recommended central platform.

Concerning the assessment of the educational system and climate change curricula it is concluded that effective mechanisms and strategies are needed in order to incorporate the climate change and sustainable development concepts in the educational curricula. Additionally, it is recommended to emphasize the **attention on climate change** in the existing and the forthcoming **educational programmes** connected to this subject, due to the increased national and international issues on the climate change and sustainable development concepts. Those concepts should be included in the educational programmes at all level of studies, not only at the higher education, as well as appropriate in primary and secondary educational processes. Also, important issue is to offer a pool of programmes or courses for continuing education and lifelong learning, updated with the newest issues concerning climate change actions and sustainable development activities.

Continuous improvement of that infrastructure with a special consideration to the climate change components, as well as an ultimate focus of EU and worldwide commitments, needs building of the appropriate legal, and institutional set-up in the country. The summary of current country status for those aspects, together with the recommendations, is provided in next section.

6.3 Summary of the legal and institutional set-up and capacities appropriate for NDE

As a summary of this Report, important dimensions for underpinning legal institutional set-up and capacities in the country as appropriate for UNFCCC Technology Mechanism implementation should be analyses in three levels: macro, mezzo and micro:

- ✓ Dimension of the macro (worldwide) level is given by the UNFCCC Technology Mechanism;
- ✓ Dimension of the mezzo level defines the institutional capacities in the country to provide continuous transfer of technology and information about sustainable financing for R&D and innovation activities related to the climate change actions; and
- ✓ Dimension of the micro level covers the stakeholders, their networking and partnerships in CC actions providing, as end users in the country.

Macro level

- ✓ Connection with **Climate Technology Center & Network (CTCN)** (macro level) of the UNFCCC Technology Mechanism, hosted by UNEP and UNIDO

The CTCN (www.ctc-n.org) provides technical assistance (transfer of environmentally sound technologies for low carbon and climate resilient development) in response to requests submitted by developing countries via their nationally-selected focal points or **National Designated Entities (NDEs)**. Upon receipt of such requests, the Centre quickly mobilizes its global Network of climate technology experts to design and deliver a customized solution tailored to local needs. The CTCN does not provide funding directly to countries, but instead supports the provision of technical assistance provided by experts on specific climate technology sectors. This is very important line for activities of NDE, when it will be established in the country.

Mezzo level

- ✓ Regarding legal set-up in the country (mezzo level), **NDA to the Green Climate Fund** nomination is very important.

In accordance with the requirements of the **Green Climate Fund (GCF)**, the Government of the Republic of North Macedonia has nominated a **National Designated Authority (NDA)** as an official point of contact for communication with the GCF. NDA to the GCF is the Cabinet of the Deputy President of the Government of North Macedonia in charge of economic affairs and coordination with economic sectors. The NDA is established as a competent authority with a high strategic function and is linked to the country's national budget, economic policies, development priorities and plans as well as sustainable development policies. NDA responsibilities include:

- Strategic oversight and ensuring that the GCF activities in North Macedonia are aligned with the national climate and sustainable development objectives and frameworks.
- Convening public, private and civil society stakeholders to identify priorities to be financed by the GCF.
- Engaging with public, private sector and non-governmental entities seeking GCF accreditation and nominating such entities for direct access accreditation.
- Ensuring consistency of funding proposals with national climate change plans and priorities.
- Leading deployment of the GCF readiness and preparatory support funding in the country.

The NDA has started with the activities in the country supported by the GCF project “Support for the management of an effective national coordinative mechanism regarding the Green Climate Fund” implemented by the FAO where the first open call for climate change mitigation/adaptation projects was done. It will aim to keep key national stakeholders (national institutions, government agencies, private sector, civil society, academia, international organizations) up-to-date with the latest GCF activities at country-level in alignment with national priorities and other on-going climate change initiatives. The NDA is the contact point for the national entities interested in accreditation with the GCF and also the focal point for approval of GCF post-accreditation support, i.e. Readiness support provided to build the capacities of Direct Access Entities that received **GCF accreditation**. It will facilitate the country to have national and global impact and streamline a sustainable and green aspect to its economic development and to be able to create a **Country Work Programme (CWP)** for the GCF.

- ✓ Regarding legal set-up in the country (mezzo level), nomination of the responsible institution for technology transfer at national level (National Designated Entity - **NDE**), serving as a point of reference for TT with the UNFCCC, is very important.

NDE at national level will help for: enhancing partnerships between R&D, academia, industry MSMEs and institutions at the national, as well as at the regional level, creating better partnerships for assessment of applicability of CC policies into the national policies and exploring possibilities for public-private partnerships related to CC actions. Establishing the NDE will serve as a national focal point with ultimate scope to provide continuous transfer of technology, information about sustainable financing for R&D and Innovation activities in the country related to the climate change actions.

Micro level

- ✓ Covering the stakeholders, as end users in the country, manage their networking and partnerships in climate change actions providing.

At the micro level it will be helpful if NDE finds mechanism to develop instrument for networking the stakeholders with activities in research, innovation and CC technologies development, as well as companies and start-ups. That instrument for networking will enhance partnerships between stakeholders, promote climate change actions and clean technologies between established businesses and support start-ups grow in those areas. Such instrument can be network of innovation hubs, CC hubs, CleanTech hubs or co-working spaces, as organizations that support businesses and start-ups development in clean technologies areas. This assessment Report's ranking has indicated FITD, as the highest ranked institution for nomination of NDE that means, FITD should develop such instrument for networking of stakeholders, as a network of CleanTech hubs around the country. Realization of this idea can be supported by donor programmes as well.

6.4 Recommendations and incentives

Based on the conducted analyses of the current country status of the research, development, innovation and technology transfer related to climate change on one hand, and the possibilities offered by the utilization of the UNFCCC technology mechanism on the other, it is more than evident that the country will benefit greatly from the utilization of this mechanism, which will significantly affect the development of the areas of environment and climate change in a very positive direction. Therefore, it is highly recommended the selection and nomination of the NDE as a focal point for this mechanism as soon as possible. The investigation also suggested that, as a main financial source for facilitating the NDE's functioning and operability, the **EU Green Deal's Investment Plan** should be considered. This investment plan foresees unlocking of at least €1 trillion of investments, through mobilising public and private sources.

For the establishing and reaching full operability of the NDE, it is necessary to be considered the following 5 main recommendations:

1. NDE should establish a **portal for** logging, tracking and reporting of all implemented and ongoing **environmental and climate change projects**. The system should be consisted of a database where the list of implemented/ongoing projects on a national level will be maintained and a user friendly interface which will facilitate the NDEs staff and/or implementing organisations to insert the required data for the projects. In addition to this, the portal should be equipped with certain number of functionalities that will enable manipulations with the records and generating different views and reports, such as filtering the projects per time period, theme/area, amount, region, type of action, programme etc., extracting the data of interest in various formats, such as word, excel, pdf, also providing certain analysis presented in charts and graphs, providing cumulative amounts of realised expenditures, and so on.

The purpose of this activity is threefold:

- It will enable the stakeholders, authorities and donors with an evidence-based reporting on the actual situation and the stage of development, that will further assist them in projecting and provisioning of new programmes and measures for enhancing the situation on a national level;
 - It will be valuable source for the implementing organisations for gaining information on available programmes, calls for projects, searching for appropriate partners for collaboration and boosting their inspiration and creativity in the development of new project proposals;
 - The portal will serve the media and the wider audience (citizenship) as well, in raising an awareness of the most pressing issues related to the climate change and pollution, promoting the implemented and ongoing projects and activities and motivating the citizens to take part in some of the ongoing initiatives or initiate new initiative that will be of a great benefit for the society.
2. NDE should **raise national funds for co-financing the donor financial opportunities**. Majority of the donor programmes for projects and grants require certain amount of co-financing, which in most of the cases refers to the implementer's own funds. In certain cases analysed in Chapter 3 of this report (INTERREG CBC Programmes, some of the IPA programmes), the national authorities in charge for the specific area (e.g. Ministry of Local Self-government in the former case, and Ministry of Labour and Social Policy for IPA IV in the latter case) provide national contribution that covers the co-financing part. In respect to the dominant domains in this field, our recommendation is establishing a collaboration between the NDE and the Ministry of Environment and Physical Planning and getting them on-board in the strives for ensuring the national co-financing funds. Ensuring the national co-financing is crucial for the following:
 - The co-financing from the recipient's country creates a strong bound between the donor and the national authority and synergizes the strives of both sides in achieving the projected objectives;
 - The initiative for co-financing the donor-initiated programme evidences the mutual understanding on the objectives addressed with the programme, which ensures that both, the donor and the recipient country are at the same level of understanding about the pressing issues that should be addressed by the programme objectives, as well as obliges both sides to put their all efforts for maximising the programme success and outcomes and benefits for the society;

- Providing a funding source for the co-financing part is significant stimuli, especially for the smaller organisations which are less financially capable, to engage themselves in the programme and develop and submit proposals for projects and actions. Increasing the number of proposals and various beneficiary organisations which are part of the project consortia, raises competition and with that the chances for receiving higher quality of the proposed actions, which is an ultimate goal of the donor programmes.
3. NDE should **maintain list with various funding opportunities** that are available and forthcoming calls for proposals, which are either dedicated to addressing environmental and climate change issues, or beside the call primary objectives, also encourage activities that might tackle the environmental and climate change issues. Furthermore, the NDE should promote the calls widely and ensure that various types of organisations from different parts of the country participate in the project proposals, as well as to assist the beneficiaries in networking and selecting the most appropriate partner organisations. Ensuring that the calls are promoted widely and high interest among the community is raised, similarly to the previous point, could be also a guarantee for the overall success of the programmes.
 4. One of the key activities of the NDE is having a role of a **gateway to different climate-specific advanced practices and technologies** from the modern societies. For achieving this, it is highly recommended in addition to the UN initiatives (UNFCCC and TT: Clear mechanism), the NDE to **establish and maintain intensive collaboration with all other relevant initiatives** from various parts of the world. As a result, the NDE should keep up with the novel technologies implemented for climate change and should be able to provide assistance and advice to the Macedonian organisations in adopting these technologies and adjusting them to the local conditions and particularities.
 5. Last but not the least, the NDE should be a **strategic partner of the Macedonian Government** in its strategic strives to enhance the development of the environment and address the pressing issues with climate change, environmental protection and pollution, as well as sustainable development goals. The NDE should act on a strategic manner by collaborating with the major stakeholders and national authorities, such as the Ministry for environment and physical planning on a daily basis. It should assist the Ministry in redefining the ongoing policies and measures, in creating and implementing the long term strategies and action plans for steering the development of the country in the right direction, as well as to keep up with the latest advancements in the field.

In addition to this recommendation, due to the interdisciplinary nature of the relevant area, the NDE should also **boost and promote the inter-sectoral collaboration** among various national, regional and local authorities, as well as among organisations from different societal spheres: citizenship, private, public and educational sectors. The NDE should assist the authorities in establishing a sustainable, long-term mechanism for motivating all of these sides to get on-board and synergize their efforts in achieving better environment and society.

In order to be more efficient in the process of utilization of the international financial support funds for the Climate Change related projects, actions, platforms and development capacities of R&D, innovation and technology transfer, it is very important to recognize **driving force** and to follow

recommendations and incentives from good practices. This assessment Report gives the overview of international and bilateral **donor programmes** where, their **successful utilisations** are driving forces behind development of capacities for R&D, innovative and technology transfer CC activities and awareness growing for environmental and sustainable development.

The multilateral or bilateral **donors** usually use different approach having precise strategy and action plans, resulting with foreseen goals, achievements and target groups, with often defined police, indicators and types of instruments, where climate and environmental awareness is on high level and are almost included in all donor policies.

The biggest obstacles for attracting business sector, **companies and industry**, in donor funded projects are: the long and administratively heavy procedures for project application, not seeing added value of participation in project consortia, the long period from project concept to implementation and complicated procedures that require lot of time.

Different types of **implementers** have different problems which are resulting with lack of donation absorption capacities. **Public institutions** have lack of skilled personal and even more lack of individual motivation for engaging in projects, especially in the project development phase. Business support organizations, especially the **chambers of commerce** have problem with the staff fluctuation and even more the narrow scope of activities and services. **NGOs** and foundations are very different in the way functioning and level of development, but in general those that are really independent and project funded, are successfully building their capacities in terms of knowledge and experience for further projects implementation. The **research institutions and academia** have the best results as implementers of donor projects with specific competitive advantage of knowledge, experience and networking for projects development and implementation. They include companies as a beneficiaries where the developed technologies or innovation are transferred, if the donor programmes' policies promote real influence in business environment.

Establishing the **NDE** will serve as a national focal point with goal to provide continuous information about financing through donor programmes for R&D and Innovation activities related to the climate change actions. Also, NDE will develop networking between implementers and beneficiaries (end users as are companies and industry) for technology transfer providing. In order to be more efficient in utilization of the international financing funds for the climate change issues related projects, established NDE should work on following **incentives**:

- To join Climate Technology Center & Network (CTCN) of the UNFCCC Technology Mechanism (at macro level), in order to receive technical assistance;
- To communicate with the National Designated Authority (NDA) (mezzo level), as an official point in the country for contact and communication with the Green Climate Fund;
- To establish cooperation, partnership and networking (micro level) between the potential stakeholders for CC actions providing, that are end users in the country;
- To apply and be active member in European Green Deal as a main future coming donor programme with contribution to the development of EU funded project related to climate change and sustainable development.

In order to improve the capacities and to create wider **network of partnership** between implementers, beneficiaries and donors, as well as to increase availability and eligibility of the

researchers involved in the R&D projects, innovation and technology transfer activities regarding the climate change issues to the end users, the following **incentives** should be provide:

- Dissemination of the project results through workshops, seminars and conferences at national, regional and international level;
- Participation at the climate change related conferences and other events all over the world;
- Membership in regional and European initiatives for climate actions, established as different CC capacity building network oriented to the research, development, innovations and technology transfer, with goals to disseminate results from realized projects and to shear information about CC initiatives.

Literature

1. The United Nations Framework Convention on Climate Change. Retrieved 23 May 2016, https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf
2. Technology mechanism: Enhancing Climate Technology development and Transfer, UNFCCC Secretariat Bonn, Germany, 2015.
3. https://www.thegef.org/sites/default/files/publications/GEF_Instrument-Interior-March23.2015_1.pdf
4. <https://www.thegef.org/country/north-macedonia>
5. GCF official website: <https://www.greenclimate.fund/>
6. GCF Handbook: <https://www.greenclimate.fund/sites/default/files/document/gcf-handbook.pdf>
7. GCF at a glance: https://www.greenclimate.fund/sites/default/files/document/gcf-glance_0.pdf
8. <http://www.fao.org/europe/news/detail-news/en/c/1242813/>
9. Europe 2020 Strategy for smart, sustainable and inclusive growth, EC, Brussels 3.3.2010, COM(2010) 2020. (See: <https://ec.europa.eu/eurostat/web/europe-2020-indicators>)
10. Smarter, greener, more inclusive? Indicators to support the Europe 2020 Strategy, Eurostat book, European Union, 2019, DOI: 10.2785/379691.
11. EU Regulation No.1291/2013 of EU Parliament of 11.12.2013, Establishing Horizon 2020 – the Framework Programme for Research and Innovation (2014-2020), Publ. Official Journal of the European Union, L.347/104, 20.12.2013, p.104 (see: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ%3AL%3A2013%3A347%3ATOC>, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1291&from=EN>)
12. Horizon 2020 – Work Programme 2018-2020, EC Decision C(2017), C(2019)2575, (See: https://ec.europa.eu/research/participants/data/ref/h2020/wp/2018-2020/main/h2020-wp1820-intro_en.pdf)
13. Clean Energy for all Europeans’ package, EC, Brussels 11.11.2016, COM(2016) 763, (See: https://ec.europa.eu/energy/sites/ener/files/documents/1_en_act_part1_v6_0.pdf).
14. https://ec.europa.eu/research/horizon2020/index.cfm?pg=country-profiles-detail&ctry=North_Macedonia
15. Orientations towards the first Strategic Plan for Horizon Europe, European Commission, April 2019, (see: https://ec.europa.eu/info/sites/info/files/research_and_innovation/strategy_on_research_and_innovation/documents/ec_rtd_orientations-he-strategic-plan_122019.pdf).
16. EU Regulation No.1287/2013 of EU Parliament of 11.12.2013, Establishing a Programme for Competitiveness of Enterprises and small and medium-sized enterprises (COSME) (2014-2020), Publ. Official Journal of the European Union, L.347/33, 20.12.2013, p.33 (see: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ%3AL%3A2013%3A347%3ATOC>)
17. Official Journal of the European Union, 347, 20.12.2013, p.50 (see: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ%3AL%3A2013%3A347%3ATOC>).
18. Europe 2020: A strategy for smart, sustainable and inclusive growth, European Commission, COM(2010), 2020, 3 March 2010.
19. “Council conclusions on a strategic framework for European cooperation in education and training (‘ET 2020’)”, Official Journal of the European Union, 119/2, 28.05.2009/C, p.22, (see: [https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52009XG0528\(01\)](https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52009XG0528(01))).
20. Amendment of the 2019 annual work programme for the implementation of “Erasmus+”: the Union Programme for Education, Training, Youth and Sport, European Commission, C(2019), 997, 15 February 2019.
21. See: ec.europa.eu/programmes/erasmus-plus/projects/
22. Investing in European Network: Connecting Europe Facility (CEF) – Five years supporting European infrastructure, EC – Innovation and Networks European Agency, Brussels, July 2019.
23. See: <https://ec.europa.eu/environment/life/project/Projects/>

24. Council Regulation (EC) No.1085/2006 for Establishing an Instrument for Pre-accession assistance (IPA), Official Journal of EU, L210/82, July 2006. (See: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32006R1085>)
25. EU Implementing Regulation No. 231/2014 of the European Parliament for Establishing an Instrument for Pre-accession assistance (IPA II), Official Journal of EU, 123/32, March 2014. (See: https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/pdf/financial_assistance/ipa/2014/20140502-commission-implementing-reg-on-ipa2_en.pdf)
26. Council Regulation (EC) No.1085/2006 for Establishing an Instrument for Pre-accession assistance (IPA), Official Journal of EU, L210/82, July 2006. (See: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32006R1085>)
27. Sector Fiche – IPA National programmes / Component 1, (https://ec.europa.eu/neighbourhood-enlargement/instruments/funding-by-country/north-macedonia_en)
28. https://ec.europa.eu/neighbourhood-enlargement/instruments/funding-by-country/north-macedonia_en
29. Multi-annual Operational Programme for Human Resource Development for FYR Macedonia, IPA I 2007-2013, (https://ec.europa.eu/neighbourhood-enlargement/instruments/funding-by-country/north-macedonia_en)
30. Operational Programme under the EU Instrument for Pre-Accessing for Rural Development (IPARD), National plan for FYR Macedonia 2007-2013, (https://ec.europa.eu/neighbourhood-enlargement/instruments/funding-by-country/north-macedonia_en)
31. EU Implementing Regulation No. 231/2014 of the European Parliament for Establishing an Instrument for Pre-accession assistance (IPA II), Official Journal of EU, 123/32, March 2014. (See: https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/pdf/financial_assistance/ipa/2014/20140502-commission-implementing-reg-on-ipa2_en.pdf)
32. EC Implementing Decision C(2018) 5068, for adopting an Annual Action Programme for FYR of Macedonia for the year 2018, August 2018.
33. Sector Operational Programme for Environment and Climate Action in FYR Macedonia under IPA II, 2014-2020, (https://ec.europa.eu/neighbourhood-enlargement/instruments/funding-by-country/north-macedonia_en)
34. https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/pdf/the_former_yugoslav_republic_of_macedonia/ipa/2016/ipa_2014_037702_the_former_yugoslav_republic_of_macedonia_multi-annual_action_programme.pdf
35. Interreg: European Territorial Co-operation, European Commission official website: https://ec.europa.eu/regional_policy/en/policy/cooperation/european-territorial/
36. Programme “Interreg IPA CBC Bulgaria – The Former Yugoslav Republic of Macedonia” official website: <http://www.ipa-cbc-007.eu/>
37. Programme “Interreg IPA CBC Bulgaria – The Former Yugoslav Republic of Macedonia” manual: http://mls.gov.mk/images/ipa/Interreg_IPA_CBC_CCI2014TC16I5CB006_mk.pdf
38. Programme "Greece - Republic of North Macedonia 2014-2020" official websites: <http://www.ipa-cbc-programme.eu/> and: <http://www.ipa-cbc-programme.eu/old/>
39. Programme “IPA CBC Macedonia – Albania” official websites: <http://ipacbc-mk-al.net/> and <http://07-13.ipacbc-mk-al.net/>
40. Programme brochure: ipacbc-mk-al.net/assets/files/Programme%20brochure%202014-2020_ENG_FINAL.pdf
41. IPA II Cross-border cooperation programme. First annual report on implementation report 2016 <http://ipacbc-mk-al.net/assets/files/Annual%20Implementation%20Report%202016.pdf>
42. Cross-border cooperation between IPA II beneficiaries: MK-AL. Annual implementation report: 2017: <http://ipacbc-mk-al.net/assets/files/Annual%20Implementation%20Report%202017.pdf>
43. IPA II Cross-border cooperation programme Serbia – North Macedonia official website: <https://eu.rs-mk.org>

44. Announcement of the First call for proposals under the programme:
<https://webgate.ec.europa.eu/europeaid/online-services/index.cfm?do=publi.welcome&nbPubliList=15&orderby=upd&orderbyad=Desc&searchtype=RS&aofr=165171>
45. CBC Programme "Kosovo – the former Yugoslav Republic of Macedonia" brochure:
https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/pdf/the_former_yugoslav_republic_of_macedonia/ipa/2015/2014_-_2020_ipa_cbc_kosovo-the_former_yugoslav_republic_of_macedonia.pdf
46. 1st call for proposals: <https://webgate.ec.europa.eu/europeaid/online-services/index.cfm?ADSSChck=1581409766217&do=publi.detPUB&searchtype=AS&Pgm=7573840&zgo=35484&aot=36537%2C36538&ccnt=7573876&debpub=&orderby=upd&orderbyad=Desc&nbPubliList=15&page=1&aoref=156446>
47. 2nd call for proposals: <https://webgate.ec.europa.eu/europeaid/online-services/index.cfm?ADSSChck=1581409668810&do=publi.detPUB&searchtype=AS&Pgm=7573840&zgo=35484&aot=36537%2C36538&ccnt=7573876&debpub=&orderby=upd&orderbyad=Desc&nbPubliList=15&page=1&aoref=160622>
48. 3rd call for proposals: <https://webgate.ec.europa.eu/europeaid/online-services/index.cfm?ADSSChck=1581383959091&do=publi.detPUB&searchtype=AS&Pgm=7573840&zgo=35484&aot=36537%2C36538&ccnt=7573876&debpub=&orderby=upd&orderbyad=Desc&nbPubliList=15&page=1&aoref=163284>
49. INTERREG Balkan-Mediterranean 2014-2020 Programme official website <http://www.interreg-balkanmed.eu/>
50. Communication document from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Sustainable Europe Investment Plan – European Green Deal Plan, No. COM2020/21, Brussels, 14 January 2020,
https://ec.europa.eu/commission/presscorner/detail/en/fs_20_48
51. <https://www.giz.de/en/worldwide/301.html>
52. https://www.giz.de/projektdateien/index.action?request_locale=en_EN#?region=4&countries=MK
53. <https://eeagrants.org/resources/eea-and-norway-grants-2014-2021-blue-book-overview-supported-programme-areas>
54. <https://www.nordiskapoddrska.org.mk/en/onama>
55. Results strategy for Sweden’s reform cooperation with Eastern Europe, the Western Balkans and Turkey 2014-2020, Ministry for Foreign Affairs Sweden, UD 14.013, Stockholm, 2014
56. https://www.eda.admin.ch/dam/countries/countries-content/north-macedonia/en/Cooperation-Strategy-Macedonia-2017-2020_en.pdf
57. <https://www.eda.admin.ch/countries/north-macedonia/en/home/international-cooperation/projects.filterResults.html?searchTerm=&filtersdctopic%253A=Selection&filtersdcsubtopic%253A=Selection&checkActive=Active&checkCompleted=Completed&fromDate=&toDate=>
58. <https://www.usaid.gov/north-macedonia>
59. <https://www.usaid.gov/north-macedonia/private-sector-growth>
60. World Bank official website: <https://www.worldbank.org/en/>
61. <https://www.worldbank.org/en/country/northmacedonia>
62. Country Partnership Framework for Republic of North Macedonia for period 2019-2023, Document of World Bank No. 135030-MK with IBRD, IFC and MIGA, March 2019, <http://pubdocs.worldbank.org/en/705311555590000225/North-Macedonia-CPF-2019.pdf>
63. An overview of the World Bank’s work in North Macedonia “Country Snapshot”, World Bank, October 2019, <http://pubdocs.worldbank.org/en/534531571341614509/North-Macedonia-Snapshot-Oct2019.pdf>
64. Green Growth and Climate Change Country Assessment for FYR Macedonia, The World Bank Group, No. ACS8179, March 2014, <http://documents.worldbank.org/curated/en/949621468090285546/pdf/ACS81790ESW0wh0h0Country0Assessment.pdf>
65. <https://projects.worldbank.org/en/projects-operations/projects-summary?searchTerm=north%20macedonia>

66. UNDP official website: <https://open.undp.org/>
67. <https://www.mk.undp.org/content/north-macedonia/en/home/projects.html>
68. FITD official website: www.fitr.mk
69. Rulebook on management of the support instruments of the Fund for innovations and technology development, FITR, 2019.
70. PONT official website: <https://www.pont.org/>
71. PONT Brochure: https://www.pont.org/wp-content/uploads/2018/05/2018_brochure_final_Online2.pdf
72. PONT Annual reports and financial statements for the period 2015-2018, available at: <https://www.pont.org/documents-grants-governing-reports/>
73. <http://economy.gov.mk/Upload/Documents/Finalna%20Industriska%20Strategija.pdf>
74. <https://s3platform.jrc.ec.europa.eu/north-macedonia>
75. <https://s3platform.jrc.ec.europa.eu/>
76. <https://www.worldbank.org/content/dam/Worldbank/document/eca/WBRIS%20Strategy10-21-13%20web.pdf>
77. http://www.fitr.mk/wp-content/uploads/2019/10/Srednorocna_programa_na_FITR_za_2018-2020_godina_konsolidiran_tekst.pdf
78. CIRKO official website: www.cirko.mk
79. INNO FEIT official website: inno.feit.ukim.edu.mk
80. CIPOZ official website: <http://www.cipoz.fzh.ukim.edu.mk/>
81. REC Regional Environmental Center official website: <http://mk.rec.org/index-eng.php>
82. MACEF (Center for Energy Efficiency of Macedonia) official website: <http://macef.org.mk/>
83. Macedonian Ecological Society official website: <https://mes.org.mk/en/>
84. Eco-Svest official website: <https://ekosvest.com.mk/>
85. Bidi Zelen official website: <https://www.bidizelen.org/>
86. Ekomobilnost official website: <http://elektromobilnost.mk/>
87. Center for Climate Change official website: <http://ckp.org.mk/>
88. Climate Change e-Platform in North Macedonia official website: <https://klimatskipromeni.mk/>
89. NCDIEL Center official website: <https://ncdiel.mk/mk/>
90. MIR Foundation official website: www.mir.org.mk/
91. Pharmachem official website: <https://www.farmahem.com.mk/?l=eng/>
92. EcoMosaic official website: <https://ekomozaike.com/>

Annexes

Annex 1 - Database of GEF Projects that meet the Selection Criteria (connected to Climate Change)

in US\$

ID	Title	Countries	Focal Areas	Agencies	Type	GEF Grant	Cofinancing	Status	Executing Agency	Start year
10042	Strengthening Institutional and Technical Macedonian Capacities to Enhance Transparency in the Framework of the Paris Agreement	North Macedonia	Climate Change	United Nations Development Programme	Medium-size Project	1,320,000	1,410,000	Project Approved	Ministry of Environment and Physical Planning of Macedonia (MoEPP)	2018
10024	Fourth National Communication and Third Biennial Update Report on Climate Change under the UNFCCC	North Macedonia	Climate Change	United Nations Development Programme	Enabling Activity	852,000	350,000	Project Approved	Ministry of Environment and Physical Planning of Macedonia (MoEPP)	2018
9980	GEF Support to UNCCD 2018 National Reporting Process – Umbrella II	Albania, Armenia, Botswana, Belarus, Georgia, Iraq, Kenya, Kyrgyz Republic, Kazakhstan, Sri Lanka, Moldova, North Macedonia, Myanmar, Maldives, Malawi, Philippines, Palau, Eswatini, Chad, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, Serbia, Zimbabwe	Land Degradation	United Nations Environment Programme	Enabling Activity	1,940,480	362,000	Project Approved	National Executing Agencies	2018
9822	Support to Eligible Parties to Produce the Sixth National Report to the CBD (Europe, CIS and Mongolia)	Albania, Armenia, Azerbaijan, Bosnia-Herzegovina, Belarus, Georgia, Moldova, Montenegro, North Macedonia, Mongolia, Serbia	Biodiversity	United Nations Environment Programme	Medium-size Project	1,270,500	250,000	Project Approved	Ministry of Environment and Physical Planning of Macedonia (MoEPP)	2018
9759	Promoting Sustainable Land Management (SLM) Through Strengthening Legal and Institutional Framework, Capacity Building and Restoration of Most Vulnerable Mountain Landscapes	North Macedonia	Land Degradation	United Nations Environment Programme	Full-size Project	3,662,545	21,858,895	Concept Approved	Ministry of Environment and Physical Planning of Macedonia (MoEPP)	2018
9394	Second Biennial Update Report on Climate Change	North Macedonia	Climate Change	United Nations Development Programme	Enabling Activity	352,000	73,900	Project Approved	Ministry of Environment and Physical Planning of Macedonia (MoEPP)	2016
9196	Development of a Minamata Initial Assessment	North Macedonia	Chemicals and Waste	United Nations Environment Programme	Enabling Activity	200,000	0	Project Approved	Ministry of Environment and Physical Planning of Macedonia (MoEPP)/ POPs Unit	2016
9119	Support to Preparation of the Third National Biosafety Reports to the Cartagena Protocol on Biosafety - GRULAC and CEE REGIONS	Antigua And Barbuda, Albania, Armenia, Azerbaijan, Bosnia-Herzegovina, Barbados, Bolivia, Brazil, Bahamas, Belarus, Belize, Colombia, Costa Rica, Dominica, Dominican Republic, Ecuador, Grenada, Guatemala, Guyana, Honduras, Jamaica, St. Kitts And Nevis, St. Lucia, Moldova, Montenegro, North Macedonia, Mexico, Nicaragua, Panama, Peru, Paraguay, Slovenia, Suriname, El Salvador, Trinidad and Tobago, Ukraine, Uruguay, St. Vincent and Grenadines, Venezuela, Serbia	Biodiversity	United Nations Environment Programme	Medium-size Project	1,152,950	1,025,000	Project Approved	National Executing Agencies	2015
9047	Green Logistics Program (non-grant)	Albania, Armenia, Azerbaijan, Bosnia-Herzegovina, Belarus, Egypt, Georgia, Jordan, Morocco, Moldova, Montenegro, North Macedonia, Tunisia, Turkey, Ukraine, Serbia	Climate Change	European Bank for Reconstruction and Development	Full-size Project	15,000,000	155,250,000	Project Approved		2016
10328	Circular Economy Regional Programme Initiative (Near Zero Waste)	Albania, Bosnia-Herzegovina, Montenegro, North Macedonia, Turkey, Serbia	Chemicals and Waste, Climate Change	European Bank for Reconstruction and Development	Full-size Project	13,761,468	141,880,000	Concept Approved	EBRD, Private Sector Companies	2020

CSV

39,511,943

322,459,795

Annex 2 - Database of H2020 Donor Projects that meet the Selection Criteria (connected to Climate Change)

No.	Project Title	General Information					Financial Information		Classification			
		Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name	Sector / Action / Funding Scheme	Policy/Programme/Description
1	Addressing the dual emerging threats of African Swine Fever and Lumpy Skin Disease in Europe (DEFEND)	The DEFEND consortium will target two viral diseases of livestock which are emerging into Europe – African swine fever (ASF) and lumpy skin disease (LSD). African swine fever virus (ASFV) is the causative agent of ASF, a highly contagious disease of domestic pigs which causes a haemorrhagic syndrome with up to 100% mortality. ASF is endemic in sub-Saharan Africa and on the Italian island of Sardinia. In 2007 the disease was reported in Georgia. Since then it has spread to Russia, Ukraine, Poland and neighbouring countries. In 2017 outbreaks were reported in the Czech Republic and Romania. Wild boar are susceptible to ASFV and facilitate the continuing spread of the disease in Europe with regular spill-over into in-contact domestic pigs. The capripoxvirus Lumpy Skin Disease virus (LSDV) causes a classic systemic poxvirus disease in cattle and spreads rapidly in warm humid conditions, most likely due to insect-borne transmission. LSDV entered Europe, the Balkans and Caucasus for the first time in 2015. The ongoing epidemic has caused the deaths of thousands of cattle through mortality and eradication campaigns. ASFV and LSDV represent an immediate and serious threat to the pig and cattle industries in Europe and eastern and central Asia. The aim of the consortium is to control the growing LSD and ASF epidemics in Europe and neighbouring countries by understanding the drivers of LSDV and ASFV emergence, and generating research outputs which underpin novel diagnostic tools and vaccines and authenticate appropriate and rapid responses by decision-makers. A multi-actor approach will be incorporated as a central tenant of the project, with collaborations between experts from academia, industry, and government bodies including EU and non EU partners from countries affected or threatened by ASF and LSD.	European Commission	6/1/2018	5/31/2023	Ongoing	10,625.00 €	Ss. Cyril and Methodius University in Skopje	Grant	International	RIA (Research Innovation Action)	H2020-EU.3.2.1.1. - Increasing production efficiency and coping with climate change, while ensuring sustainability and resilience
2	Increasing the value of Hydropower through increased Flexibility (HIDRO FLEX)	HydroFlex aims to increase the value of hydro power through increased Flexibility. The commitment to cut greenhouse gas emissions under the United Nations Framework Convention on Climate Change has been an important contributor to the increasing share of renewables in the European energy system. Variable renewable energy sources such as wind and solar, as well as increased end-user flexibility and a market-oriented operation of power plants, results in larger fluctuations in the power system. Hydro power, due to its quick response and storage capability represents an important asset for grid balancing. HydroFlex aims to make hydro power available in a time as short as possible by performing well-focused research and innovation actions on the key bottlenecks of hydro power plants that restricts their flexibility. The project will start off by identifying the operating conditions of hydro power plants in the future energy system. Research will be focused on the flexibility of Francis turbines, the most common turbine type in Europe, and the configuration of synchronous generators and frequency converters that allow for variable speed operation. Variable speed operation increases the operating range of the turbines, reduces the fatigue loads, and allow for higher ramping rates and start-stop-cycles reaching up to 30 times per day. HydroFlex also addresses methods to mitigate the negative effects on downstream water courses that may result from higher flexibility of hydro power plants, by developing and testing a technology for active underground storage of water. To promote the research results to the hydro power industry, the scientific community and the public, the results will be presented in workshops, conferences, scientific journals, newspapers and various social media.	European Commission	5/1/2018	4/30/2020	Ongoing	79,290.00 €	Ss. Cyril and Methodius University in Skopje	Grant	International	RIA (Research Innovation Action)	1. H2020-EU.3.3.2. (Low-cost, low-carbon energy supply)
3	TowaRd market-based skills for sustAINable Energy Efficient construction (TRAINE)	The overall objective is to increase the number of skilled building professionals according to recommendations from national qualification roadmap concerning two priorities, training of 4.500 building professionals and blue collar workers and overcoming barriers for implementation of EE measures in operation and maintenance. Specific objectives (SO) are -Upgrading two qualification schemes for technicians, building managers and engineers and development of large scale of training schemes for 5 blue collar qualifications and two RES occupations (designers and installers) by establishing the Knowledge Centre for support in development of sustainable EE market-based construction skills with annual capacity to replicate it to 10 training providers and 600 qualified construction workers (200 through training and 400 through recognition of previous learning): - Increasing awareness of building professionals for use of Building Information Modeling (BIM) tools, in order to achieve the desired multidisciplinary approach in construction that should result with reduction in the gap between designed and actual energy performance through improved quality of construction in specific projects and to achieve measurable energy savings and improved quality of indoor environment; -Improved market recognition of skills in the building sector and enhancing collaboration across different professional groups.	European Commission	5/1/2018	10/31/2020	Ongoing	167,225.00 €	Ss. Cyril and Methodius University in Skopje	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.3.3.7. (Market uptake of energy innovation - building on Intelligent Energy Europe) 2. H2020-EU.3.3.1. (Reducing energy consumption and carbon footprint by smart and sustainable use)
4	TowaRd market-based skills for sustAINable Energy Efficient construction (TRAINE)	The overall objective is to increase the number of skilled building professionals according to recommendations from national qualification roadmap concerning two priorities, training of 4.500 building professionals and blue collar workers and overcoming barriers for implementation of EE measures in operation and maintenance. Specific objectives (SO) are -Upgrading two qualification schemes for technicians, building managers and engineers and development of large scale of training schemes for 5 blue collar qualifications and two RES occupations (designers and installers) by establishing the Knowledge Centre for support in development of sustainable EE market-based construction skills with annual capacity to replicate it to 10 training providers and 600 qualified construction workers (200 through training and 400 through recognition of previous learning): - Increasing awareness of building professionals for use of Building Information Modeling (BIM) tools, in order to achieve the desired multidisciplinary approach in construction that should result with reduction in the gap between designed and actual energy performance through improved quality of construction in specific projects and to achieve measurable energy savings and improved quality of indoor environment; -Improved market recognition of skills in the building sector and enhancing collaboration across different professional groups.	European Commission	5/1/2018	10/31/2020	Ongoing	183,243.00 €	ECONOMIC CHAMBER OF MACEDONIA	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.3.3.7. (Market uptake of energy innovation - building on Intelligent Energy Europe) 2. H2020-EU.3.3.1. (Reducing energy consumption and carbon footprint by smart and sustainable use)

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name	Sector / Action / Funding Scheme	Policy/Programme/Description
5	TowaRd market-based skills for sustAINable Energy Efficient construction (TRAINE)	The overall objective is to increase the number of skilled building professionals according to recommendations from national qualification roadmap concerning two priorities, training of 4.500 building professionals and blue collar workers and overcoming barriers for implementation of EE measures in operation and maintenance. Specific objectives (SO) are -Upgrading two qualification schemes for technicians, building managers and engineers and development of large scale of training schemes for 5 blue collar qualifications and two RES occupations (designers and installers) by establishing the Knowledge Centre for support in development of sustainable EE market-based construction skills with annual capacity to replicate it to 10 training providers and 600 qualified construction workers (200 through training and 400 through recognition of previous learning): - Increasing awareness of building professionals for use of Building Information Modeling (BIM) tools, in order to achieve the desired multidisciplinary approach in construction that should result with reduction in the gap between designed and actual energy performance through improved quality of construction in specific projects and to achieve measurable energy savings and improved quality of indoor environment; -Improved market recognition of skills in the building sector and enhancing collaboration across different professional groups.	European Commission	5/1/2018	10/31/2020	Ongoing	193,450.00 €	ASSOCIATION OF ENGINEERING SOCIETIES ENGINEERING INSTITUTION OF MACEDONIA SKOPJE	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.3.3.7. (Market uptake of energy innovation - building on Intelligent Energy Europe) 2. H2020-EU.3.3.1. (Reducing energy consumption and carbon footprint by smart and sustainable use)
6	TowaRd market-based skills for sustAINable Energy Efficient construction (TRAINE)	The overall objective is to increase the number of skilled building professionals according to recommendations from national qualification roadmap concerning two priorities, training of 4.500 building professionals and blue collar workers and overcoming barriers for implementation of EE measures in operation and maintenance. Specific objectives (SO) are -Upgrading two qualification schemes for technicians, building managers and engineers and development of large scale of training schemes for 5 blue collar qualifications and two RES occupations (designers and installers) by establishing the Knowledge Centre for support in development of sustainable EE market-based construction skills with annual capacity to replicate it to 10 training providers and 600 qualified construction workers (200 through training and 400 through recognition of previous learning): - Increasing awareness of building professionals for use of Building Information Modeling (BIM) tools, in order to achieve the desired multidisciplinary approach in construction that should result with reduction in the gap between designed and actual energy performance through improved quality of construction in specific projects and to achieve measurable energy savings and improved quality of indoor environment; -Improved market recognition of skills in the building sector and enhancing collaboration across different professional groups.	European Commission	5/1/2018	10/31/2020	Ongoing	176,012.00 €	KREACIJA ASSOCIATION OF BUSINESS AND CONSULTANTS SKOPJE	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.3.3.7. (Market uptake of energy innovation - building on Intelligent Energy Europe) 2. H2020-EU.3.3.1. (Reducing energy consumption and carbon footprint by smart and sustainable use)
7	TowaRd market-based skills for sustAINable Energy Efficient construction (TRAINE)	The overall objective is to increase the number of skilled building professionals according to recommendations from national qualification roadmap concerning two priorities, training of 4.500 building professionals and blue collar workers and overcoming barriers for implementation of EE measures in operation and maintenance. Specific objectives (SO) are -Upgrading two qualification schemes for technicians, building managers and engineers and development of large scale of training schemes for 5 blue collar qualifications and two RES occupations (designers and installers) by establishing the Knowledge Centre for support in development of sustainable EE market-based construction skills with annual capacity to replicate it to 10 training providers and 600 qualified construction workers (200 through training and 400 through recognition of previous learning): - Increasing awareness of building professionals for use of Building Information Modeling (BIM) tools, in order to achieve the desired multidisciplinary approach in construction that should result with reduction in the gap between designed and actual energy performance through improved quality of construction in specific projects and to achieve measurable energy savings and improved quality of indoor environment; -Improved market recognition of skills in the building sector and enhancing collaboration across different professional groups.	European Commission	5/1/2018	10/31/2020	Ongoing	56,725.00 €	JAVNA USTANOVA CENTAR ZA OBRAZOVANIE NA VOZRASNITE SKOPJE	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.3.3.7. (Market uptake of energy innovation - building on Intelligent Energy Europe) 2. H2020-EU.3.3.1. (Reducing energy consumption and carbon footprint by smart and sustainable use)
8	CROSS BOrder management of variable renewable energies and storage units enabling a transnational Wholesale market (CROSSBOW)	CROSSBOW will propose the shared use of resources to foster cross-border management of variable renewable energies and storage units, enabling a higher penetration of clean energies whilst reducing network operational costs and improving economic benefits of RES and storage units. The objective is to demonstrate a number of different, though complementary, technologies, offering Transmission System Operators higher flexibility and robustness through: 1) A better control of exchange power at interconnection points; 2) new storage solutions – distributed and centralized-, offering ancillary services to operate Virtual Storage Plants (VSP); 3) better ICT and Communications -e.g. better network observability, enabling flexible generation and Demand Response schemas; 4) the definition of a transnational wholesale market, proposing fair and sustainable remuneration for clean energies through the definition of new business models supporting the participation of new players –i.e. aggregators - and the reduction of costs. The CROSSBOW results will be evaluated by 8 TSOs in Easter Europe, grouped to form clusters that will validate each of the projects outcomes in at least three different countries, demonstrating in all cases how CROSSBOW tackles the transnational challenges faced by these TSOs.	European Commission	11/1/2017	10/31/2021	Ongoing	523,312.00 €	Ss. Cyril and Methodius University in Skopje	Grant	International	Innovation actions (IA)	1. H2020-EU.3.3.4. (A single, smart European electricity grid)

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name	Sector / Action / Funding Scheme	Policy/Programme/Description
9	CROSS BOrder management of variable renewable energies and storage units enabling a transnational Wholesale market (CROSSBOW)	<p>CROSSBOW will propose the shared use of resources to foster cross-border management of variable renewable energies and storage units, enabling a higher penetration of clean energies whilst reducing network operational costs and improving economic benefits of RES and storage units . The objective is to demonstrate a number of different, though complementary, technologies, offering Transmission System Operators higher flexibility and robustness through: 1) A better control of exchange power at interconnection points; 2) new storage solutions – distributed and centralized-, offering ancillary services to operate Virtual Storage Plants (VSP); 3) better ICT and Communications -e.g. better network observability, enabling flexible generation and Demand Response schemas; 4) the definition of a transnational wholesale market, proposing fair and sustainable remuneration for clean energies through the definition of new business models supporting the participation of new players –i.e. aggregators - and the reduction of costs.</p> <p>The CROSSBOW results will be evaluated by 8 TSOs in Easter Europe, grouped to form clusters that will validate each of the projects outcomes in at least three different countries, demonstrating in all cases how CROSSBOW tackles the transnational challenges faced by these TSOs.</p>	European Commission	11/1/2017	10/31/2021	Ongoing	375,593.00 €	OPERATOR NA ELEKTROPRENOSNIOT SISTEM NA MAKEDONIJA AKCIONERSKO DRUSHTVO ZA PRENOS NA ELEKTRICHNA ENERGIJAI UPRAVUVANJE SO ELEKTROENERGETSKI	Grant	International	Innovation actions (IA)	1. H2020-EU.3.3.4. (A single, smart European electricity grid)
10	CROSS BOrder management of variable renewable energies and storage units enabling a transnational Wholesale market (CROSSBOW)	<p>CROSSBOW will propose the shared use of resources to foster cross-border management of variable renewable energies and storage units, enabling a higher penetration of clean energies whilst reducing network operational costs and improving economic benefits of RES and storage units . The objective is to demonstrate a number of different, though complementary, technologies, offering Transmission System Operators higher flexibility and robustness through: 1) A better control of exchange power at interconnection points; 2) new storage solutions – distributed and centralized-, offering ancillary services to operate Virtual Storage Plants (VSP); 3) better ICT and Communications -e.g. better network observability, enabling flexible generation and Demand Response schemas; 4) the definition of a transnational wholesale market, proposing fair and sustainable remuneration for clean energies through the definition of new business models supporting the participation of new players –i.e. aggregators - and the reduction of costs.</p> <p>The CROSSBOW results will be evaluated by 8 TSOs in Easter Europe, grouped to form clusters that will validate each of the projects outcomes in at least three different countries, demonstrating in all cases how CROSSBOW tackles the transnational challenges faced by these TSOs.</p>	European Commission	11/1/2017	10/31/2021	Ongoing	265,562.00 €	STATE OWNED JOINT STOCK COMPANY FOR PRODUCTION OF ELECTRICITY POWER PLANTS OF MACEDONIA SKOPJE	Grant	International	Innovation actions (IA)	1. H2020-EU.3.3.4. (A single, smart European electricity grid)
11	Regeneration and Optimisation of Cultural heritage in creative and Knowledge cities (ROCK)	<p>ROCK aims to develop an innovative, collaborative and circular systemic approach for regeneration and adaptive reuse of historic city centres. Implementing a repertoire of successful heritage-led regeneration initiatives, it will test the replicability of the spatial approach and of successful models addressing the specific needs of historic city centres. ROCK will transfer the Role Models blueprint to the Replicators, adopting a cross-disciplinary mentoring process and defining common protocols and implementation guidelines. ROCK will deliver new ways to access and experience Cultural Heritage [CH] ensuring environmental sound solutions, city branding, bottom-up participation via living labs, while increasing liveability and safety in the involved areas. ICT sensors and tools will support the concrete application of the ROCK principles and the interoperable platform will enable new ways to collect and exchange data to facilitate networking and synergies. The added value is the combination of sustainable models, integrated management plans and associated funding mechanisms based on successful financial schemes and promoting the creation of industry-driven stakeholders' ecosystems. A monitoring tool is set up from the beginning, running during two additional years after the project lifetime. Main expected impacts deal with the achievement of effective and shared policies able to: accelerate heritage led regeneration, improve accessibility and social cohesion, increase awareness and participation in local decision making process and wider civic engagement, foster businesses and new employment opportunities. Involving 10 cities, 7 Universities, 3 networks of enterprises, 2 networks of cities and several companies and development agencies, a foundation and a charity, ROCK is able to catalyse challenges and innovative pathways across EU and beyond, addressing CH as a production and competitiveness factor and a driver for sustainable growth.</p>	European Commission	5/1/2017	4/30/2020	Ongoing	164,840.00 €	Ss. Cyril and Methodius University in Skopje	Grant	International	Innovation actions (IA)	1. H2020-EU.3.5.6. (Cultural heritage)

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name	Sector / Action / Funding Scheme	Policy/Programme/Description
12	Regeneration and Optimisation of Cultural heritage in creative and Knowledge cities (ROCK)	ROCK aims to develop an innovative, collaborative and circular systemic approach for regeneration and adaptive reuse of historic city centres. Implementing a repertoire of successful heritage-led regeneration initiatives, it will test the replicability of the spatial approach and of successful models addressing the specific needs of historic city centres. ROCK will transfer the Role Models blueprint to the Replicators, adopting a cross-disciplinary mentoring process and defining common protocols and implementation guidelines. ROCK will deliver new ways to access and experience Cultural Heritage [CH] ensuring environmental sound solutions, city branding, bottom-up participation via living labs, while increasing liveability and safety in the involved areas. ICT sensors and tools will support the concrete application of the ROCK principles and the interoperable platform will enable new ways to collect and exchange data to facilitate networking and synergies. The added value is the combination of sustainable models, integrated management plans and associated funding mechanisms based on successful financial schemes and promoting the creation of industry-driven stakeholders' ecosystems. A monitoring tool is set up from the beginning, running during two additional years after the project lifetime. Main expected impacts deal with the achievement of effective and shared policies able to: accelerate heritage led regeneration, improve accessibility and social cohesion, increase awareness and participation in local decision making process and wider civic engagement, foster businesses and new employment opportunities. Involving 10 cities, 7 Universities, 3 networks of enterprises, 2 networks of cities and several companies and development agencies, a foundation and a charity, ROCK is able to catalyse challenges and innovative pathways across EU and beyond, addressing CH as a production and competitiveness factor and a driver for sustainable growth.	European Commission	5/1/2017	4/30/2020	Ongoing	783,382.00 €	CITY OF SKOPJE	Grant	International	Innovation actions (IA)	1. H2020-EU.3.5.6. (Cultural heritage)
13	Enhancing the innovation management capacity of SMEs through the Enterprise Europe Network in Macedonia (INNO EEN-M)	The general objective of the INNO EEN-M project is to increase the economic returns from innovation and enhanced innovation management capacities of the Macedonian SMEs through offering a standardised set of coaching and innovation management services. The project aims to deliver 26 (twenty-six) 7-day service packages: 20 package services will be provided to SMEs with significant innovation activities and high potential for internationalization and 6 packages for the SME instrument beneficiaries. As the national consortium is responsible for providing services at whole territory of the country, this project will also cover the same area. The services will be delivered by three innovation experts/Key Account Managers (KAM) from UKIM, member of EEN Macedonia. The INNO EEN-M project is highly related to the call for Enterprise Europe Network – Horizon 2020 (2017-2018) and will provide necessary tools, knowledge and experience to the EEN-M for implementation of the specific activities in the context of innovation support. The activities within the project are organized in two work packages: key account management (KAM) for the beneficiaries of the SME instrument and enhancing SME innovation management capacities for innovating SME independently from a specific project. The selection of SMEs will be done based on identified criteria whereas services will be delivered in line with the specific common format with the packages. The team will use the IMP ³ rove tool as an assessment tool. The KAM will undertake needs analysis/coachcom tool to support SMEs in selection of lead coach. The planned duration of both work packages is 24 months (2017-2018). The services, benefits and experiences from these activities will be part of internal evaluation. The beneficiaries of these activities will be also used for identification of potential needs for training in the future.	European Commission	1/1/2017	12/31/2018	Finished	12,885.00 €	Ss. Cyril and Methodius University in Skopje	Grant	Regional	/H2020-EEN-SGA	1. H2020-EU.2.3. (INDUSTRIAL LEADERSHIP - Innovation In SMEs)
	Enhancing the innovation management capacity of SMEs through the Enterprise Europe Network in Macedonia (INNO EEN-M)	The general objective of the INNO EEN-M project is to increase the economic returns from innovation and enhanced innovation management capacities of the Macedonian SMEs through offering a standardised set of coaching and innovation management services. The project aims to deliver 26 (twenty-six) 7-day service packages: 20 package services will be provided to SMEs with significant innovation activities and high potential for internationalization and 6 packages for the SME instrument beneficiaries. As the national consortium is responsible for providing services at whole territory of the country, this project will also cover the same area. The services will be delivered by three innovation experts/Key Account Managers (KAM) from UKIM, member of EEN Macedonia. The INNO EEN-M project is highly related to the call for Enterprise Europe Network – Horizon 2020 (2017-2018) and will provide necessary tools, knowledge and experience to the EEN-M for implementation of the specific activities in the context of innovation support. The activities within the project are organized in two work packages: key account management (KAM) for the beneficiaries of the SME instrument and enhancing SME innovation management capacities for innovating SME independently from a specific project. The selection of SMEs will be done based on identified criteria whereas services will be delivered in line with the specific common format with the packages. The team will use the IMP ³ rove tool as an assessment tool. The KAM will undertake needs analysis/coachcom tool to support SMEs in selection of lead coach. The planned duration of both work packages is 24 months (2017-2018). The services, benefits and experiences from these activities will be part of internal evaluation. The beneficiaries of these activities will be also used for identification of potential needs for training in the future.	European Commission	1/1/2017	12/31/2018	Finished	0.00 €	FOUNDATION FOR MANAGEMENT AND INDUSTRIAL RESEARCH FOUNDATION SKOPJE	Grant	Regional	H2020-EEN-SGA	1. H2020-EU.2.3. (INDUSTRIAL LEADERSHIP - Innovation In SMEs)

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name	Sector / Action / Funding Scheme	Policy/Programme/Description
	Enhancing the innovation management capacity of SMEs through the Enterprise Europe Network in Macedonia (INNO EEN-M)	The general objective of the INNO EEN-M project is to increase the economic returns from innovation and enhanced innovation management capacities of the Macedonian SMEs through offering a standardised set of coaching and innovation management services. The project aims to deliver 26 (twenty-six) 7-day service packages: 20 package services will be provided to SMEs with significant innovation activities and high potential for internationalization and 6 packages for the SME instrument beneficiaries. As the national consortium is responsible for providing services at whole territory of the country, this project will also cover the same area. The services will be delivered by three innovation experts/Key Account Managers (KAM) from UKIM, member of EEN Macedonia. The INNO EEN-M project is highly related to the call for Enterprise Europe Network – Horizon 2020 (2017-2018) and will provide necessary tools, knowledge and experience to the EEN-M for implementation of the specific activities in the context of innovation support. The activities within the project are organized in two work packages: key account management (KAM) for the beneficiaries of the SME instrument and enhancing SME innovation management capacities for innovating SME independently from a specific project. The selection of SMEs will be done based on identified criteria whereas services will be delivered in line with the specific common format with the packages. The team will use the IMP ³ rove tool as an assessment tool. The KAM will undertake needs analysis/coachcom tool to support SMEs in selection of lead coach. The planned duration of both work packages is 24 months (2017-2018). The services, benefits and experiences from these activities will be part of internal evaluation. The beneficiaries of these activities will be also used for identification of potential needs for training in the future.	European Commission	1/1/2017	12/31/2018	Finished	0.00 €	ECONOMIC CHAMBER OF MACEDONIA	Grant	Regional	H2020-EEN-SGA	1. H2020-EU.2.3. (INDUSTRIAL LEADERSHIP - Innovation in SMEs)
14	Coordinating and integrating state-of-the-art Earth Observation Activities in the regions of North Africa, Middle East, and Balkans and Developing Links with GEO related initiatives towards GEOSS (GEO-CRADLE)	GEO-CRADLE brings together key players representing the whole (Balkans, N. Africa and M. East) region and the complete EO value chain with the overarching objective of establishing a multi-regional coordination network that will (i) support the effective integration of existing EO capacities (space/air-borne/in-situ monitoring networks, modelling and data exploitation skills, and past project experience), (ii) provide the interface for the engagement of the complete ecosystem of EO stakeholders (scientists, service/data providers, end-users, governmental orgs, and decision makers), (iii) promote the concrete uptake of EO services and data in response to regional needs, relevant to the thematic priorities of the Call (adaptation to climate change, improved food security, access to raw materials and energy), and (iv) contribute to the improved implementation of and participation in GEO, GEOSS, and Copernicus in the region. In this context, GEO-CRADLE lays out an action plan that starts by inventorying the regional EO capacities and user needs, which in turn leads to a gap analysis, the definition of region specific (G)EO Maturity Indicators and common priority needs. Through showcasing pilots, it demonstrates how the priorities can be tackled by the GEO-CRADLE Network, and provides the roadmap for the future implementation of GEOSS and Copernicus in the region, building on the GEO-CRADLE Regional Data Hub, which abides by the GEOSS Data Sharing Principles. To maximise the impact of GEO-CRADLE activities, well-defined Communication, Dissemination and Stakeholder Engagement strategies are proposed. Key Performance Indicators (KPIs) will be used for the quantified assessment of the impact, identifying potential enabling or constraining factors, while pursuing realistic but also ambitious exploitation scenarios. For efficient project coordination, the project management is assisted by a regional coordination structure, and active liaison with EC, GEO and UN initiatives.	European Commission	2/1/2016	7/31/2017	Finished	46,606.00 €	Ss. Cyril and Methodius University in Skopje	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.3.5.5. (Developing comprehensive and sustained global environmental observation and information systems)
15	VRE for regional Interdisciplinary communities in Southeast Europe and the Eastern Mediterranean (VI-SEEM)	In the last decade, a number of initiatives were crucial for enabling high-quality research - by providing e-Infrastructure resources, application support and training - in both South East Europe (SEE) and Eastern Mediterranean (EM). They helped reduce the digital divide and brain drain in Europe, by ensuring access to regional e-Infrastructures to new member states, states on path to ascension, and states in European Neighborhood Policy area – in total 14 countries in SEE and 6 in EM. This VI-SEEM proposal brings together these e-Infrastructures to build capacity and better utilize synergies, for an improved service provision within a unified Virtual Research Environment (VRE) for the inter-disciplinary scientific user communities in the combined SEE and EM regions (SEEM). The overall objective is to provide user-friendly integrated e-Infrastructure platform for regional cross-border Scientific Communities in Climatology, Life Sciences, and Cultural Heritage for the SEEM region; by linking compute, data, and visualization resources, as well as services, models, software and tools. This VRE will provide the scientists and researchers with the support in full lifecycle of collaborative research: accessing and sharing relevant research data, using it with provided codes and tools to carry out new experiments and simulations on large-scale e-Infrastructures, and producing new knowledge and data - which can be stored and shared in the same VRE. Climatology and Life Science communities are directly relevant for Societal Challenges. The driving ambition of this proposal is to maintain leadership in enabling e-Infrastructure based research and innovation in the region for the 3 strategic regional user communities: supporting multidisciplinary solutions, advancing their research, and bridging the development gap with the rest of Europe. The VI-SEEM consortium brings together e-Infrastructure operators and Scientific Communities in a common endeavor.	European Commission	10/1/2015	9/30/2018	Finished	122,950.00 €	Ss. Cyril and Methodius University in Skopje	Grant	International	Research & Innovation Actions (RIA)	1. H2020-EU.1.4.1.3. (Development, deployment and operation of ICT-based e-infrastructures)

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name	Sector / Action / Funding Scheme	Policy/Programme/Description
16	Meeting of Energy Professional Skills (MEnS)	MENS is a project conceived in order to provide an enhance the NZEB skills of building managers such as engineers and architect through a series of accredited training activities developed by 9 universities and 3 market players. MENS aims: - To increase the knowledre and skills of at least 1800 building managers (engineers, architects) in NZEB design and construction, out of which 50% would be women or unemployed. - To create and implement a new education and training program for such professionals in 10 countries, under the European Qualifications Framework provisions and based on desired and common learning outcomes of Level 7. - To create and implement an innovative, interdisciplinary education and training program with an integrated approach, focusing on real case studies - To accredit courses using the formal procedure in each country and assign ECTS credits. - To enhance and support the development of a professional network in Europe specifically focused on retrofiting of housing stocks towards NZEB. A connection with over 250,000 stakeholders and market players. - To provide working opportunities to unemployed professionals, by bringing them closer to possible employers and improving their qualifications, at a percentage of 30% of those attending. - To continue the education and training courses for at least 5 years after the end of the project based on concrete sustainability plans agreed by University partners. - To result in energy savings and/or increased use of renewables of at least 28,96 GWh/year. MENS is developed through 3 sets of training activities: national accreditation professional courses; e-learning and webinars: and case studies experiences around Europe and it involves involves major universities and stakeholders either directly or as Associated Partners engaged with LOS. MENS finally benefits from a strong media promotional activity through a wide network of local TVs and RTBF.	European Commission	1/3/2015	8/31/2018	Finished	71,462.00 €	Ss. Cyril and Methodius University in Skopje	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.3.3.7. (Market uptake of energy innovation - building on Intelligent Energy Europe)
17	Efficient harvesting of the wind energy (AEOLUS4FUTURE)	As wind energy is considered one of the most promising renewable energy resources, energy production technologies relying on wind energy are currently flourishing under the EU ambitious plan for 2020. Market demands to prepare a generation of researchers within the EU that are able to face the challenge of fulfilling the EU ambitious plan, to sustain the production of wind energy and to innovate and promote wind energy systems (WES) for the future needs, are clearly met in AEOLUS4FUTURE. The primary research aim is to develop a sustainable WES for a variety of EU needs. There are a number of detailed scientific and technical issues that will be addressed by the project starting from identifying the wind energy potential (off-shore and on-shore, including the built environment) to the design of a sustainable and highly efficient WES. Also the new challenging load conditions imposed on wind farms located on places where existing type of wind turbine towers are not suitable require the development of new type of support structures for wind energy converters. This fosters new structural concepts taking advantage of high performance materials e.g. high strength steel and novel maintenance free fasteners. In addition, while most research efforts and practical applications of wind energy have focused on large-scale wind installations in remote offshore or onshore areas, much less attention has been given to wind energy installations near buildings. The project has a major training aim to create technical experts who will be able to lead the necessary industrial developments in the WES, and have a broad overview of a new and emerging multi-disciplinary field. The project will thus enable a number of young scientists and engineers to obtain high level training in various technical aspects of the problem, to gain an overall understanding of how this work fits into the wider EU Directives and plans for the future and in doing so to improve their career prospects.	European Commission	1/1/2015	31/12/2018	Finished	0.00 €	Ss. Cyril and Methodius University in Skopje	Grant	International	Marie Skłodowska-Curie actions (MSCA)	1. H2020-EU.1.3.1. (Fostering new skills by means of excellent initial training of researchers)
18	Enhancing the innovation management capacity of SMEs through the Enterprise Europe Network in Macedonia (INNO EEN-M)	The INNO EEN-M project aims to deliver 16 (sixteen) 7-day service packages: 12 package services will be provided to SMEs with significant innovation activities and high potential for internationalization and 4 packages for the SME instrument beneficiaries. As the national consortium is responsible for providing services at whole territory of the country, this project will also cover the same area. The services will be delivered by two innovation experts/Key Account Managers (KAM) from UKIM, member of EEN Macedonia. The INNO EEN-M project is highly related to the call for Enterprise Europe Network – Horizon 2020 (2015-2016) and will provide necessary tools, knowledge and experience to the EEN-M for implementation of the specific activities in the context of innovation support. The activities within the project are organized in two work packages: key account management (KAM) for the beneficiaries of the SME instrument and enhancing SME innovation management capacities for innovating SME independently from a specific project. The selection of SMEs will be done based on identified criteria whereas services will be delivered in line with the specific common format with the packages. The team will use the IMP ³ rove tool as an assessment tool. The KAM will undertake needs analysis/assessment tool to support SMEs in selection of lead coach. The planned duration of both work packages is 24 months (2015-2016). The services, benefits and experiences from these activities will be part of internal evaluation. The beneficiaries of these activities will be also used for identification of potential needs for training in the future.	European Commission	1/1/2015	12/31/2016	Finished	7,677.00 €	Ss. Cyril and Methodius University in Skopje	Grant	Regional	H2020-EEN-SGA	1. H2020-EU.2.3. (INDUSTRIAL LEADERSHIP - Innovation In SMEs)

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name	Sector / Action / Funding Scheme	Policy/Programme/Description
	Enhancing the innovation management capacity of SMEs through the Enterprise Europe Network in Macedonia (INNO EEN-M)	The INNO EEN-M project aims to deliver 16 (sixteen) 7-day service packages: 12 package services will be provided to SMEs with significant innovation activities and high potential for internationalization and 4 packages for the SME instrument beneficiaries. As the national consortium is responsible for providing services at whole territory of the country, this project will also cover the same area. The services will be delivered by two innovation experts/Key Account Managers (KAM) from UKIM, member of EEN Macedonia. The INNO EEN-M project is highly related to the call for Enterprise Europe Network – Horizon 2020 (2015-2016) and will provide necessary tools, knowledge and experience to the EEN-M for implementation of the specific activities in the context of innovation support. The activities within the project are organized in two work packages: key account management (KAM) for the beneficiaries of the SME instrument and enhancing SME innovation management capacities for innovating SME independently from a specific project. The selection of SMEs will be done based on identified criteria whereas services will be delivered in line with the specific common format with the packages. The team will use the IMP ³ rove tool as an assessment tool. The KAM will undertake needs analysis/assessment tool to support SMEs in selection of lead coach. The planned duration of both work packages is 24 months (2015-2016). The services, benefits and experiences from these activities will be part of internal evaluation. The beneficiaries of these activities will be also used for identification of potential needs for training in the future.	European Commission	1/1/2015	12/31/2016	Finished	0.00 €	ECONOMIC CHAMBER OF MACEDONIA	Grant	Regional	H2020-EEN-SGA	1. H2020-EU.2.3. (INDUSTRIAL LEADERSHIP - Innovation In SMEs)
	Enhancing the innovation management capacity of SMEs through the Enterprise Europe Network in Macedonia (INNO EEN-M)	The INNO EEN-M project aims to deliver 16 (sixteen) 7-day service packages: 12 package services will be provided to SMEs with significant innovation activities and high potential for internationalization and 4 packages for the SME instrument beneficiaries. As the national consortium is responsible for providing services at whole territory of the country, this project will also cover the same area. The services will be delivered by two innovation experts/Key Account Managers (KAM) from UKIM, member of EEN Macedonia. The INNO EEN-M project is highly related to the call for Enterprise Europe Network – Horizon 2020 (2015-2016) and will provide necessary tools, knowledge and experience to the EEN-M for implementation of the specific activities in the context of innovation support. The activities within the project are organized in two work packages: key account management (KAM) for the beneficiaries of the SME instrument and enhancing SME innovation management capacities for innovating SME independently from a specific project. The selection of SMEs will be done based on identified criteria whereas services will be delivered in line with the specific common format with the packages. The team will use the IMP ³ rove tool as an assessment tool. The KAM will undertake needs analysis/assessment tool to support SMEs in selection of lead coach. The planned duration of both work packages is 24 months (2015-2016). The services, benefits and experiences from these activities will be part of internal evaluation. The beneficiaries of these activities will be also used for identification of potential needs for training in the future.	European Commission	1/1/2015	12/31/2016	Finished	0.00 €	FOUNDATION FOR MANAGEMENT AND INDUSTRIAL RESEARCH FOUNDATION SKOPJE	Grant	Regional	H2020-EEN-SGA	1. H2020-EU.2.3. (INDUSTRIAL LEADERSHIP - Innovation In SMEs)
19	Enhancing the innovation management capacity of SMEs through the Enterprise Europe Network in Macedonia (INNO-EEN 2014)	Through INNO-EEN 2014 project six 7-days service package services will be provided to four SMEs with significant innovation activities and high potential for internationalization and two SME instrument beneficiaries. As the national consortium is responsible for providing services at whole territory of the country, this project will also cover the same area. The services are delivered by two project experts/Key Account Managers (KAM) from UKIM, member of EEN Macedonia. In this way the project will be linked to EEN Macedonia. The activities within the project are organized in two work packages: key account management (KAM) for the beneficiaries of the SME instrument and enhancing SME innovation management capacity for innovating SME independently from a specific project. The selection of SMEs will be done based on identified criteria whereas services will be delivered in line with the specified common format with the packages. The team will use the IMP ³ rove tool as an assessment tool. The KAM will undertake gap assessment and needs/identification activity and support the SMEs in selection of lead coach. It will then facilitate interactions between the SME, the lead coach and EC. The planned duration of the both work packages is six months (July – December 2014). The services, benefits and experiences from these activities will be part of the internal evaluation. The beneficiaries of these activities will be also used for identification of potential needs for trainings in the future.	European Commission	7/1/2014	12/31/2014	Finished	3,150.00 €	Ss. Cyril and Methodius University in Skopje	Grant	Regional	Coordination & support actions (CSA)	1. H2020-EU.2.3. (INDUSTRIAL LEADERSHIP - Innovation In SMEs)

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name	Sector / Action / Funding Scheme	Policy/Programme/Description
20	Maximizing the UPscaling and replication potential of high level urban transformation strategies (MATCHUP)	<p>MATCHUP project aims at strengthening the planning processes for urban transformation, consolidating the benefits of deploying large scale demonstration projects of innovative technologies in the energy, mobility and ICT sectors, by means of substantially improved models for replication and upscaling, based on impacts evaluation, and ensuring the bankability of the solutions by means of innovative business models, which lead to achieve real deployment further than the pilots carried out in the lighthouse cities. With this, it is sought a high penetration of the validated technologies in those cities less prepared to adopt very innovative solutions and formalize it in a standard commitment, accompanied by capacity building strategies, to guarantee at least medium term implementation.</p> <p>The expected results will be achieved working in parallel in demonstration and upscaling/replication levels, so the lighthouse cities (Valencia-Spain, Dresden-Germany and Antalya-Turkey) and followers (Ostend-Belgium, Herzliya-Israel, Skopje-FYROM and Kerava-Finland) will assume a huge commitment in this project in order to: - deploy innovative solutions in the energy, mobility and ICT sectors with a strong monitoring program to validate all of them, - develop very rigorous upscaling and replication plans that will be the basis to update at least the SEAPs/SECAPs, that are the major standard commitment at European level that a city can assume in terms of city transformation, and other existing city plans as Sustainable Mobility Plans or Digital Agendas.</p>	European Commission	10/1/2017	9/30/2022	Ongoing	71,750.00 €	CITY OF SKOPJE	Grant	International	Innovation actions (IA)	1. H2020-EU.3.3.1. (Reducing energy consumption and carbon footprint by smart and sustainable use)
21	Open social transport network for urban approach to carpooling (SocialCar)	<p>SocialCar is an Intelligent Transport System based on an innovative approach to transport demand management, and more specifically to carpooling in urban and peri-urban areas. SocialCar's main objective is developing a new communication network for intelligent mobility, sharing information of car-pooling integrated with existing transport and mobility systems. It will be achieved by means of powerful planning algorithms and integration in a liveable environment of big data related to public transport, carpooling and crowdsourcing in order to provide the final user with a simplified travel experience allowing comparison and choice between multiple options/services. SocialCar will take advantage Social Media to communicate, share information and provide the best just-in-time notifications to the travellers. SocialCar will take advantage of the ever growing connectivity of people and objects and the propagation of Internet services, the potential of Future Internet and the availability of GNSS based location and social media to create an integrated mobility service with the potential to sensibly reduce mobility problems of European citizens. SocialCar will capitalise on a strong pan European team with a solid background in social, psychological and economic sciences, the involvement of 10 European urban sites will prove the concepts' validity and business case.</p> <p>SocialCar General Objectives are to: • contribute to the EU2020 targets on energy efficiency and renewable energy sources reducing congestion by improving and maximising connectivity and information in real-time • overcoming the limitations of current carpooling practices moving from long trips to effective urban and peri-urban use • validate green driving support systems, active management based on European GNSS • identify a suitable big data management architecture for integrating mobility data • produce a city-based open integrated mobility repository of public transport and traffic city-based data</p>	European Commission	6/1/2015	5/31/2018	Finished	44,617.00 €	CITY OF SKOPJE	Grant	International	RIA (Research Innovation Action)	1. H2020-EU.3.4. (SOCIETAL CHALLENGES - Smart, Green And Integrated Transport)
22	Congestion Reduction in Europe : Advancing Transport Efficiency (CREATE)	<p>CREATE addresses the task Tackling Urban Road Congestion, taking a long-term view of how this can be achieved, especially in cities experiencing rapid growth in car ownership and use. It deals with most of the issues set out in the recent Urban Mobility Package. Objectives: • Rigorously and systematically develop practical definitions of urban road congestion and of network performance, and identify factors influencing conditions in different cities. • Work with Western European (WE) cities that have succeeded in decoupling traffic growth from economic growth, to analyse quantitatively the objective factors which have contributed to this, and the qualitative factors which have enabled a policy evolution from 'supporting traffic growth' to 'encouraging sustainable mobility'. • Develop concrete guidance and provide capacity building for cities in Central and Eastern Europe (CEE), and the EuroMed region, enabling them to move rapidly to develop a feasible, effective and deliverable Sustainable Urban Mobility Plan (SUMP). • Anticipating future pressures on city transport systems (congestion and overcrowding), to investigate how new transport technologies might increase transport efficiency, and how non-transport technologies and changes in business and social practices could reduce pressures on transport systems. These objectives will be achieved by: • Analysing congestion and network performance data provided by INRIX and WE cities. • Using detailed household travel data from repeat surveys in WE cities since the 1970s/1980s and complementary data on network, economic and demographic conditions; and documents setting out historical policy development. • Preparing detailed guidance and training for our CEE cities, which will then be delivered to a much larger set of cities. • Working with leading technology providers, businesses and futurists, to explore what options there might be to provide high quality mobility in cities facing increasing population and employment.</p>	European Commission	6/1/2015	5/31/2018	Finished	100,625.00 €	CITY OF SKOPJE	Grant	International	RIA (Research Innovation Action)	1. H2020-EU.3.4. (SOCIETAL CHALLENGES - Smart, Green And Integrated Transport)

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name	Sector / Action / Funding Scheme	Policy/Programme/Description
23	Turning unexploited food waste into biomethane supplied through local filling stations network (Bin2Grid)	The overall objective of Bin2Grid concept is to promote segregated collection of food waste as energy source, conversion to biogas, and its upgrading to biomethane and utilization in associated network of filling stations. To that end, accent will be given to defining strategies for establishing efficient network of food and beverage waste collection methods and practices. Also, whole range of food waste producers will be taken under consideration, i.e. manufacturing entities, catering/food services, retail stores. Since biological treatment (anaerobic digestion) is without an alternative for energy utilization of food waste and together with other raw materials creates a synergy for renewable energy production (biogas/biomethane). One of the biggest advantages of such a concept of energy production is having two issues covered at the same time: environmental protection with sustainable management of food waste and the production of renewable energy with its utilization as a biofuel. The existing technologies which are specific for this kind of raw materials will be explored. Having in mind that chemical energy of biogas is fully used when it has been upgraded to biomethane and used as a biofuel, particular attention will be given to advanced biogas to biomethane upgrading techniques for purification and technical requirements for its usage through local filling stations as a biofuel, in public transportation sector in particular (e.g. waste management trucks).	European Commission	1/1/2015	12/31/2017	Finished	34,625.00 €	CITY OF SKOPJE	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.3.3.2. (Low-cost, low-carbon energy supply) 2. H2020-EU.3.3.7. (Market uptake of energy innovation - building on Intelligent Energy Europe) 3. H2020-EU.3.3.3.1. (Make bio-energy more competitive and sustainable)
25	Turning unexploited food waste into biomethane supplied through local filling stations network (Bin2Grid)	The overall objective of Bin2Grid concept is to promote segregated collection of food waste as energy source, conversion to biogas, and its upgrading to biomethane and utilization in associated network of filling stations. To that end, accent will be given to defining strategies for establishing efficient network of food and beverage waste collection methods and practices. Also, whole range of food waste producers will be taken under consideration, i.e. manufacturing entities, catering/food services, retail stores. Since biological treatment (anaerobic digestion) is without an alternative for energy utilization of food waste and together with other raw materials creates a synergy for renewable energy production (biogas/biomethane). One of the biggest advantages of such a concept of energy production is having two issues covered at the same time: environmental protection with sustainable management of food waste and the production of renewable energy with its utilization as a biofuel. The existing technologies which are specific for this kind of raw materials will be explored. Having in mind that chemical energy of biogas is fully used when it has been upgraded to biomethane and used as a biofuel, particular attention will be given to advanced biogas to biomethane upgrading techniques for purification and technical requirements for its usage through local filling stations as a biofuel, in public transportation sector in particular (e.g. waste management trucks).	European Commission	1/1/2015	12/31/2017	Finished	15,687.00 €	JAVNO SOOBRAKJNO PRETPRIJATIE SKOPJE	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.3.3.2. (Low-cost, low-carbon energy supply) 2. H2020-EU.3.3.7. (Market uptake of energy innovation - building on Intelligent Energy Europe) 3. H2020-EU.3.3.3.1. (Make bio-energy more competitive and sustainable)
26	GN4-2 Research and Education Networking - GÉANT (GN4-2)	GN4-2 is the proposed project for the second Specific Grant Agreement under the 68-month Framework Partnership Agreement (FPA) established between the GÉANT Consortium and the European Commission in April 2015. This second phase of implementing the FPA will raise European research to the next level by promoting scientific excellence, access and re-use of research data. It will also drive European-wide cost efficiencies in scientific infrastructure by promoting interoperability with other e-infrastructures on an unprecedented scale. The FPA objective for the GÉANT Partnership is to contribute to effective European research by making Europe the best-connected region in the world. GÉANT must offer European researchers the network, communications facilities and application access that ensure the digital continuum necessary to conduct world-class research in collaboration with their peers, regardless of geographical location. GÉANT will maintain the operational excellence of the established GÉANT services, while achieving economies on the costs of the backbone network. The reliable, secure and state-of-the-art network services offered to researchers and other network users across Europe will remain exceptional. Massive data-transfer capacities required by extreme-scale instruments and by the penetration of big data in many areas of science will be prototyped with due consideration to the specific security and deployment challenges. Trust and identity is also prioritised with the introduction of a scalable operational model and with user requirements addressed in close concertation with the AARC and proposed AARC2 projects. GN4-2 developments are also guided by the vision of a future where a set of coherent and integrated European e-infrastructure services will offer convenient, seamless access for end-users through a common service catalogue, and facilitating the adoption of services offered by new e-infrastructure developments, such as the European Open Science Cloud	European Commission	5/1/2016	12/31/2018	Finished	252,388.00 €	MACEDONIAN ACADEMIC AND RESEARCH NETWORK SKOPJE	Grant	International	RIA (Research Innovation Action)	1. H2020-EU.1.4. (EXCELLENT SCIENCE - Research Infrastructures)
27	BELLA-S1 Building Europe Link with Latin America (BELLA-S1)	The BELLA-S1 proposal aims to provide for the long-term interconnectivity needs of the European and Latin American research and education networks, and answers the call for transatlantic connectivity to Latin America in the H2020 Work Programme 2014-15. The objective will be to strengthen connectivity to Latin America ensuring very high capacity, cost benefits and the shortest possible route, whilst stimulating diversity over the transatlantic segment. The objective will be met in two phases: phase one will procure an indefeasible right of use for a portion of the spectrum of a direct submarine telecommunications cable between Europe and Latin America; phase two will deploy one or more wavelengths, as required, on the spectrum procured to interconnect the GÉANT and RedCLARA networks, and provide for the intercontinental connectivity needs of the European and Latin American research and education communities.	European Commission	5/1/2016	4/30/2019	Finished	0.00 €	MACEDONIAN ACADEMIC AND RESEARCH NETWORK SKOPJE	Grant	International	RIA (Research Innovation Action)	1. H2020-EU.1.4. (EXCELLENT SCIENCE - Research Infrastructures)

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name	Sector / Action / Funding Scheme	Policy/Programme/Description
28	GN4-1 Research and Education Networking - GÉANT (GN4-1)	The overall objective is to provide a stable environment for the implementation of GÉANT as the European Communications Commons for the European Research Area, which will provide the best possible digital infrastructure to ensure that Europe remains in the forefront of research. GÉANT's extensive and long-standing contacts with large data disciplines such as biology, radioastronomy and high-energy physics help shape the evolution of the networking facilities required. This is complemented by partner contacts with research domains that are new users of high-performance networks and services, such as: digital preservation, real-time art and humanities. The vision is to position the GÉANT partnership optimally to achieve the strategic objectives of the FPA while ensuring the continuity and improvement of the services successfully offered under the GN3plus FP7 project. The extensive experience of the GÉANT partnership in providing high-quality and innovative services has been applied to the preparation phase of this proposal. The following GN4-1 work package objectives deserve to be highlighted: • Maintain and enhance the production service and achieve cost reductions without negative effects on network service levels. • Coordinate with the other European e-infrastructure efforts both individually and in the framework of the increased coordination effort. • Prepare a new round of Open Call projects to start immediately after the end of the GN4-1 project. • Expand the footprint and the depth of services offered to roaming users with enhanced trust and identity services through Federation as a Service and with group and attribute management added to eduGAIN. • Develop online real-time services to improve the ease and function of videoconferencing, open learning support and general multimedia use. • Review the existing service catalogue using the Product Lifecycle Management process to assess the cost/benefits of each carefully to define the future service strategy.	European Commission	5/1/2015	8/31/2016	Finished	43,005.00 €	MACEDONIAN ACADEMIC AND RESEARCH NETWORK SKOPJE	Grant	International	RIA (Research Innovation Action)	1. H2020-EU.1.4. (EXCELLENT SCIENCE - Research Infrastructures)
29	Open EURAXESS – To strengthen the effectiveness and optimize the services of all partners in an innovative and open EURAXESS network (EURAXESS TOP IV)	The EURAXESS TOP IV consortium includes partners from 40 countries (34 beneficiaries and 7 Linked Third Parties), covering the whole EURAXESS network and maximizing the impact for the long-lasting benefit of the research community. The project has been divided into 8 work packages, apart from the WP devoted to Project management. WP2 (EURAXESS Career Development), WP3 (Social Integration Initiatives) and WP4 (Engagement with industry) aim to address strategic issues related to the widening of the services from mainly mobility-related to services also for non-mobile researchers. In particular, WP2 and WP3 aim to expand the set-up and operation of Career Development and Dual Career services within the network; on the other side, WP4 promotes intersectoral mobility of researchers by promoting entrepreneur careers through collaboration with innovation facilitators and launching industry-academia mentoring programmes for researchers. WP7 (EURAXESS Open to the World) aims to attract third country researchers to Europe as well as European scientific Diasporas contributing thus, to brain circulation while WP5 (Capacity Building of the EURAXESS Network), WP6 (Network support and a comprehensive communication and cooperation strategy for EURAXESS) and WP8 (Open EURAXESS portals) aim at the deepening of existing services through trainings, networking and updating of national EURAXESS portals. Based on the results of the project and the future trends in the ERA, a strategy and a vision for EURAXESS towards 2030 will be delivered within WP9 (Future of the EURAXESS Network–New services). Finally, the impacts of the project are linked to increasing the visibility of EURAXESS Network and diversifying the services provided by the EURAXESS Service Centers at an increased quality to enhance the career development of researchers addressing the cross-national and international circulation of researchers in Europe for the benefit of Responsible Research and Innovation under HORIZON 2020.	European Commission	9/1/2018	8/31/2021	Ongoing	44,600.00 €	DRUSHTVO ZA EDUACIJA CENTAR ZA INOVACIJE TRANSFER NA ZNAENJE DOOEL SKOPJE	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.5.a. (Make scientific and technological careers attractive to young students, and foster sustainable interaction between schools, research institutions, industry and civil society organisations)
30	Making European research careers more attractive by developing new services and enhancing the current services of the EURAXESS network – EURAXESS TOP III (EURAXESS TOP III)	The EURAXESS TOP III consortium includes partners from almost all EURAXESS countries (either as beneficiaries or associated partners, from altogether 39 countries), in order to ensure the widest possible coverage as well as increased impact. The project has been divided into eight work packages. Two WPs are devoted to the development, testing and pilot introduction of new services on career development within the EURAXESS network. The remaining WPs will focus on the environment of researchers including the institutional context, the integration of third country researchers and reaching out to researchers beyond the EU; researchers within and outside academia, most notably industry; the consolidation of the ongoing services portfolio, be it personal or electronic; the further capacity building of the EURAXESS network members and meeting the challenge posed by staff turnover by trainings, twinning and study visits; networking and knowledge exchange with a wide range of other networks; implementation of a consistent quality assurance and monitoring system operating on several levels on the project, and working out a future vision for EURAXESS in light of the policy goals of the EC set for the period up to 2020. The project will significantly contribute to matching research talents with R&I needs and capacity on a European scale and it will help the circulation of researchers within Europe and among sectors. As a result of the project, members of the EURAXESS network will have better and broader knowledge and more integrated good practices regarding service provision for researchers. EURAXESS national portals throughout the EURAXESS member countries will offer tailor made information in line with Horizon 2020 objectives on making science careers attractive for researchers, especially young researchers.	European Commission	9/1/2015	8/31/2018	Finished	40,375.00 €	DRUSHTVO ZA EDUACIJA CENTAR ZA INOVACIJE TRANSFER NA ZNAENJE DOOEL SKOPJE	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.5.a. (Make scientific and technological careers attractive to young students, and foster sustainable interaction between schools, research institutions, industry and civil society organisations)

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name	Sector / Action / Funding Scheme	Policy/Programme/Description
31	Progressing towards the construction of METROFOOD-RI (PRO-METROFOOD)	The general objective of PRO-METROFOOD is to bring the emerging METROFOOD-RI ESFRI project to the level of maturity required for entering in the active project list, strengthening the Consortium and planning the future phases. The specific objectives have been set up in close relationship with the "ESFRI SWG & IG Recommendation". 4 specific objectives have been identified: OBJ1 – design strategies on the medium and long terms; OBJ2 – provide the organizational framework of METROFOOD-RI; OBJ3 – demonstrate the capability of METROFOOD-RI to supply scientific services and prepare the chart of services; OBJ4 – establish plans to coherently integrate METROFOOD-RI into the European landscape, realising coordination with EU and National initiatives and positioning at a global level. The strategic Plan will be tailored to the Pan European Infrastructure current and envisaged capabilities, market opportunities and business needs. It will be developed by involving funding agencies, relevant authorities supporting METROFOOD-RI and other stakeholders. A management conceptual model will be developed and the framework will be designed under operational, strategic and institutional aspects. Management procedures suitable for the different phases will set up, so to cover short and long-term goals. A Quality Documentation System (QDS) will be developed and a data management plan (DMP) will be defined. In order to demonstrate the capability of PRO-METROFOOD to supply services and to test its inter-operability, pilot services will be performed. In strict accordance with the METROFOOD-RI strategies, plans to coherently integrate METROFOOD-RI into the European landscape will be developed. A Communication plan and education and training programmes will be developed for the different phases of METROFOOD-RI realization (earl, preparatory, implementation and operational phases). For each phase the main coordinator, the target group and the main training subject areas will be specified	European Commission	1/1/2017	12/31/2017	Finished	76,550.00 €	J.Z.U. INSTITUT ZA JAVNO ZDRAVJE NA REPUBLIKA MAKEDONIJA SKOPJE	Grant	International	RIA (Research Innovation Action)	1. H2020-EU.1.4.1.1. (Developing new world-class research infrastructures)
32	Inter-sectoral Health Environment Research for InnovaTions (INHERIT)	The overarching aim of INHERIT is to define effective inter-sectoral policies and interventions that promote health and well being across the social gradient by tackling key environmental stressors and related inequalities in the areas of living, consuming and moving. INHERIT will bring together relevant stakeholders from different sectors, including the private sector. It will support inter-sectoral cooperation between environment, climate and health by: a) Analysing existing scientific knowledge on key environmental stressors to health and approaches to address these; b) Identifying existing promising inter-sector policies and interventions that enable conditions for more healthy and environmentally sustainable behaviours, in three main areas: living, consuming and moving; c) Developing a Common Analytical Framework using impact assessment tools and quantitative and qualitative indicators to assess the social, environmental and health benefits and the economic value in promising inter-sectoral interventions; d) Developing targets and future visions while considering overall economic and politics contexts and global trends (i.e. participatory back-casting, stakeholder and citizen consultations and household surveys); e) Implementing, testing and evaluating pilot interventions in different European contexts; f) Enhancing the leadership skills of public health professionals in inter-sectoral work to address key environmental stressors to health and promote healthy and environmentally sustainable lifestyles; g) Translating evaluation findings into models of good practice for effective inter-sectoral work and evidence based tools for policy development to contribute to the global and European environment, health and sustainable development policy agenda. The novelty of INHERIT lies in its support for health, environment and climate sectors to jointly pursue the inter-related goals of improving health and well-being of the population while preserving the environment.	European Commission	1/1/2016	12/31/2019	Finished	134,762.00 €	J.Z.U. INSTITUT ZA JAVNO ZDRAVJE NA REPUBLIKA MAKEDONIJA SKOPJE	Grant	International	RIA (Research Innovation Action)	1. H2020-EU.3.1.2. (Preventing disease)
33	Seismology and Earthquake Engineering Research Infrastructure Alliance for Europe (SERA)	SERA is the 'Seismology and Earthquake Engineering Research Infrastructure Alliance for Europe', responding to the priorities identified in the call INFRAIA-01-2016-2017 Research Infrastructure for Earthquake Hazard. The overall objective of SERA is to give a significant contribution to improve the access to data, services and research infrastructures, and deliver solutions based on innovative R&D in seismology and earthquake engineering, aiming at reducing the exposure of our society to the risk posed by natural and anthropogenic earthquakes. To this end, SERA will: Involve the communities involved in previous successful projects including NERA and SERIES; Offer transnational access to the largest collection of high-class experimental facilities in earthquake engineering; Offer virtual access to the main data and products in seismology and anthropogenic seismicity; Promote multi-disciplinary science across the domains of seismology, anthropogenic seismicity, near-fault observatories and deep underground laboratories, to achieve an improved understanding of earthquake occurrence; Revise the European Seismic Hazard reference model for consideration in the ongoing revision of the Eurocode 8; Develop the first comprehensive framework for seismic risk modeling at European scale; Develop the new standards for future experimental observations in earthquake engineering and for the design of future instruments and networks for observational seismology; Develop reliable methodologies for real-time assessment of shaking and damage; Expand access to seismological observations; Network infrastructures and communities in the fields of deep seismic sounding, experimental earthquake engineering and site characterization; Provide an important contribution to the construction and validation of EPOS; Provide effective communication and outreach to all stakeholders.	European Commission	5/1/2017	4/30/2020	Ongoing	200,000.00 €	PUBLIC SCIENTIFIC INSTITUTE-INSTITUTE OF EARTHQUAKE ENGINEERING AND ENGINEERING SEISMOLOGY SS CYRIL AND METHODIUS UNIVERSITY SKOPJE IZIS	Grant	International	RIA (Research Innovation Action)	1. H2020-EU.1.4.1.2. (Integrating and opening existing national and regional research infrastructures of European interest)

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name	Sector / Action / Funding Scheme	Policy/Programme/Description
34	Transnational Network of cooperation for WIDESPREAD NCPs (NCP_WIDE.NET)	The objective of the NCP_WIDE.NET is to create a transnational network of National Contact Points (NCPs) for Spreading Excellence and Widening Participation under Horizon 2020 in order to facilitate trans-national co-operation between NCPs, with a view to identifying and sharing good practices and raising the general standards of support to applicants, taking into account the diversity of actors, including newcomers, that make up the constituency of WIDESPREAD part. Project is targeted towards the Widespread NCP Forum - officially nominated WIDESPREAD NCPs in EU Member States and Associated Countries - including experienced and less experienced NCPs. Expected impacts of the proposal aiming at ensuring quality standards of services, lowering entry barriers and increased applications to Horizon 2020 will be reached through a portfolio of dedicated measures. The overall logic of the proposal is based on the improving and leveling of the NCPs capacities to deliver services of high quality standards, enhancing transnational collaboration between applicants, delivering complex information on WIDESPREAD activities and promoting the Network itself. The implementation of the proposal includes following tailored actions: internal trainings and mentoring based on benchmarking, support to WIDESPREAD expertise through development of guides and reports, transnational collaborative events for stakeholders such as brokerage events and joint workshops, actions dedicated to newcomers, networking activities, dissemination actions, complex source of information (Project Portal one-stop-shop) and promotion activities. Proposal addresses the work programme in terms of supporting and leveling NCPs capacity in delivering services of high quality standards. The project will contribute to more balanced development of ERA, spreading of excellence in research in all European regions and widening participation of research centers and stakeholders from weaker regions in H2020.	European Commission	1/1/2018	8/30/2020	Ongoing	35,937.00 €	PUBLIC SCIENTIFIC INSTITUTE-INSTITUTE OF EARTHQUAKE ENGINEERING AND ENGINEERING SEISMOLOGY SS CYRIL AND METHODIUS UNIVERSITY SKOPJE IZIIIS	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.4.f. (Strengthening the administrative and operational capacity of transnational networks of National Contact Points)
35	Implementation of an effective and cost-effective intervention for patients with psychotic disorders in low and middle income countries in South Eastern Europe (IMPULSE)	Severe mental disorders are major health burden worldwide with a large treatment gap in low- and middle- income countries (LMICs) in South Eastern Europe. Policymakers, planners and professional bodies in these countries are committed to closing the treatment gap; however they struggle to overcome basic obstacles such as funding difficulties and lack of qualified staff. IMPULSE aims to facilitate the development of effective community-based mental health care in these countries by implementing an evidence-based, easily deliverable, affordable and cost-saving intervention called DIALOG. The intervention is a technology-assisted and based on patient-centred communication, quality of life research and solution-focused therapy. It was designed to make routine meetings between clinicians and patients structured, comprehensive and more therapeutically effective. DIALOG is effective in reducing clinical symptoms, improving quality of life and reducing treatment costs. IMPULSE brings together a multi-disciplinary Consortium (experts in psychiatry, psychology, implementation science, health economy and transcultural research) to conduct a mixed method, multiple case implementation study across five LMICs - Bosnia and Herzegovina, Kosovo, Former Yugoslav Republic of Macedonia, Montenegro, and Serbia. IMPULSE will formulate contextually appropriate approach and optimise delivery of this intervention across different healthcare systems, thus exploring how local, organisational and national factors influence adoption, implementation, sustainability and economic costs. This process will generate new knowledge on how to best develop and organise community mental health care in LMICs through the implementation of effective and generic interventions. We will undertake a series of activities to widely disseminate IMPULSE results to maximise the impact of the research. This will include translating the findings into national implementation guidance and policies in each country.	European Commission	4/1/2018	3/31/2021	Ongoing	210,286.00 €	UNIVERSITY CLINIC OF PSYCHIATRY	Grant	International	RIA (Research Innovation Action)	1. H2020-EU.3.1.6. (Health care provision and integrated care)
36	Large-scale implementation of Community based mental health care for people with severe and enduring mental ill health in Europe (RECOVER-E)	For nearly 900 million people living in Europe, mental disorders constitute the most significant yet most neglected public health problem: depression affects an estimated 30.3 million Europeans, and psychotic disorders 5 million Europeans. People with severe and enduring mental ill health want the same things out of life as other citizens but are often placed in a vulnerable position and are hence afforded less opportunities to attain their goals and thus experience a lower quality of life, and have a lower life expectancy compared to the general population. For many countries that have undergone mental health services reform or have health systems in transition, efforts to make such comprehensive community-based mental health services available resulted in short-lived outcomes or are still to demonstrate substantial impact. RECOVER-E's aims to ensure well-functioning community mental health teams in 5 countries in Europe (Macedonia, Romania, Bulgaria, Croatia, and Montenegro), which will serve as the central node for coordination and provision of care for people with SMI. Our project narrows the implementation gap by going beyond infrastructure changes and pursuing the development of human resource capacity and care pathways that can be distilled in a comprehensive pathway to scale for regional and national decision-makers for uptake after the project's life span. RECOVER-E will: 1) Develop evidence based care pathways and treatment protocols for transition to scale for regional and national decision makers in 5 implementation sites; 2) Establish a peer to peer capacity building partnership in community mental health by linking a European expert panel with key stakeholders in 5 implementation sites to co-create community mental health services for people with SMI) 3) Evaluate intervention elements that will enhance sustainable adoption and implementation of community-based mental health care for people with SMI, by carrying out implementation research.	European Commission	1/1/2018	6/30/2021	Ongoing	294,082.00 €	UNIVERSITY CLINIC OF PSYCHIATRY	Grant	International	RIA (Research Innovation Action)	1. H2020-EU.3.1.6. (Health care provision and integrated care)
37	BIMcert – 1. Construction skills, 2. Energy efficiency, 3. Regulating supply chains, 4. Tackling climate change (BIMcert)	A Transparent Training Model and toolkit enabling and empowering industry to achieve a greener built environment. To develop a more efficient and relevant training programme materials to integrate concepts of sustainability and renewables together its practical application and integration with technology (BIM) based on real life industry needs and limitations.	European Commission	3/1/2018	10/31/2019	Finished	87,370.00 €	PRIVATE SCIENTIFIC INSTITUTION, INSTITUTE FOR RESEARCH IN ENVIRONMENT, CIVIL ENGINEERING AND ENERGY, SKOPJE	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.3.3.7. (Market uptake of energy innovation - building on Intelligent Energy Europe) 2. H2020-EU.3.3.1. (Reducing energy consumption and carbon footprint by smart and sustainable use)

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name	Sector / Action / Funding Scheme	Policy/Programme/Description
40	Ubiquitous iNteroperable Care for Ageing People (UNCAP)	The lack of ICT platforms based on open standards is regarded as one of the most significant market barriers to the creation of new care & assistance paradigms with global interconnection and interworking. UNCAP delivers an interoperable platform based on open industrial standards that leverages on existing technologies for biosensing, indoor/outdoor localisation and home-automation. The result is an open source, scalable and privacy-savvy ecosystem compatible with existing Personal Health Record systems, that can deliver novel services that can help aging people (incl. those with cognitive impairments) live independently and with dignity. To do so, UNCAP uses state-of-art physical/cognitive assessment tools together with technologies to locate objects, devices and users within indoor/outdoor spaces, to continuously monitor-in a non-invasive way- users and to assist them in case alert conditions are detected. In practice, UNCAP develops a product suite for formal and informal care environments made of: 1) the UNCAP BOX (an Android consumer device connected to TVs); 2) the UNCAP App for both users and caregivers; 3) the UNCAP CLOUD, delivering scalable care services; 4) the UNCAP certification suite, to help software and hardware manufacturers assess compliancy with standards. UNCAP will be assessed for 12 months in 14 pilots within real operational scenarios. Pilots will be located in rehabilitation centres, daily nursing facilities etc. and will involve 750 users and 220 caregivers. Users' physical & cognitive assessment will be carried on before and after the introduction of UNCAP to extract quantifiable metrics to assess its impact in terms of quality of care services and improved quality of life of users and caregivers. Lastly, UNCA will carry on a RoI analysis (both financial & social), an analysis of best practices of innovative organisational/business models as well as financing/procurement models for health & care service delivery at EU level.	European Commission	1/1/2015	12/31/2017	Finished	109,395.00 €	REPUBLIC OF MACEDONIA GOCE DELCEV STATE UNIVERSITY STIP	Grant	International	Innovation actions (IA)	1. H2020-EU.3.1. (SOCIETAL CHALLENGES - Health, demographic change and well-being)
41	Building EGNSS capacity On EU Neighbouring multimodal Domains. (BEYOND)	The overall project concept consists of building capacity in the field of multi-modal applications, focussed mainly on aviation using EGNSS in different Eastern European and Mediterranean countries. These countries are located at boundaries of the EGNOS SOL coverage area with limited EGNSS experience; the projects will promote the development of multi-modal applications, building on the lessons learnt in previous European R&D activities. With relation to the call's objectives, the goal of BEYOND is threefold: - Promoting the use of EGNSS outside the EU in neighbouring countries and stimulating investments in EGNSS - Preparing these countries for an optimal adoption of EGNSS and thus contributing to the increase in knowledge of EGNSS outside the EU - Supporting networking between EU and non-EU players, from industry, institutions, research, academia, higher education and creating a basis for cooperation and business opportunities in EU neighbours; for aviation and other fields The project is intended to achieve a critical mass of new EGNSS applications, including multi-modal and aviation, providing crucial financial support and increasing the visibility of EGNSS in the different countries involved in the project.	European Commission	3/1/2015	6/30/2017	Finished	0.00 €	PROVISION OF AIR NAVIGATION SERVICES M NAV AD SKOPJE	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.2.1.6. (INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies – Space)
42	Enhancing Research Careers and mobility in Macedonia (ENCIRCLE)	The main goal of the project ENCRICLE is to organize an ERA Career and Mobility Days event in the Republic of Macedonia, with the vision to better inform the generation of young researchers in the country about their career prospects in Europe. The focus will be on the jobs provided by the EURAXESS jobs portal, but other groups are targeted as well. The project contains three major objectives: 1. To provide targeted mobility information on jobs, funding and research positions to 30-50 students in each of the following tracks: Engineering Sciences, Medicine and Life Sciences, Social Sciences, Innovation and Entrepreneurship and Natural Sciences; 2. To provide targeted career development and mobility information on jobs, funding and research positions to 5-15 R2 researchers in each of the following tracks: Engineering Sciences, Medicine and Life Sciences, Social Sciences, Innovation and Entrepreneurship and Natural Sciences 3. To engage at least 30 companies from the industrial sector in using the capabilities of the EURAXESS jobs portal.	European Commission	3/1/2017	10/31/2017	Finished	80,000.00 €	MACEDONIAN ACADEMY OF SCIENCES AND ARTS	Grant	National	Coordination & support actions (CSA)	1. H2020-EU.5.a. (Make scientific and technological careers attractive to young students, and foster sustainable interaction between schools, research institutions, industry and civil society organisations)
45	Partnership for New Energy Leadership 2050 (PANEL 2050)	The aim of PANEL 2050 project is to create durable and replicable sustainable energy networks at local (municipality/community) level, where relevant local stakeholders collaborate for the creation of a local energy visions, strategies and action plans for the transition towards low carbon communities in 2050. The PANEL 2050 project will focus on the creation of these sustainable local energy networks in CEE countries, where this type of networks at local level is almost completely absent and therefore additional support is needed for the creation of the first successful local energy networks that have the potential to set an example and a new standard for local energy road mapping in other local communities in the CEE region. Furthermore, the PANEL 2050 project will not choose a specific focus on a certain type of stakeholder, but will try to work at the local level and assemble all relevant and available stakeholders related to sustainable energy. The number and type of stakeholders will vary very much in different local settings and the ambition of this project is to create sustainable energy networks at local level that will connect and involve all relevant stakeholders that are present at local level into the local policy development and implementation. At present, the involvement of local shareholders in local policy development in any field in CEE countries is very limited and the aim of this project is to create durable sustainable energy networks in a number of local communities in different CEE countries that will also be a replicable example that can be spread to other communities in CEE countries. Introducing stakeholder concept to energy planning will help generate sustainable energy policies and create more sustainable future for Europe.	European Commission	3/1/2016	2/28/2018	Finished	132,500.00 €	BALKAN DEVELOPMENT SOLUTIONS LTD SKOPJE	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.3.3.7. (Market uptake of energy innovation - building on Intelligent Energy Europe)

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name	Sector / Action / Funding Scheme	Policy/Programme/Description
46	HIGH PERFORMANCE POLYHYDROXYALKANOATES BASED PACKAGING TO MINIMISE FOOD WASTE (YPACK)	<p>The main objective of YPACK is the pre-industrial scale up and validation of two innovative food packaging solutions (thermoformed tray and flow pack bag) based on PHA, with active and passive barrier properties. New packaging will use food industry by-products (cheese whey and almond shells), assure the biodegradability and recyclability, and reduce food waste, in the frame of the EU Circular Economy strategy.</p> <p>YPACK will use a holistic approach and methodology involving different knowledge areas: Development of packaging solutions (Production of PHBV layers, compounding, prototyping, Industrial Validation), Product Validation (Quality / Shelf life), Social approach (Customer profiling, Dissemination, Policies & Regulatory) and Market Assessment (Business study and Risk assessment). YPACK is aligned with the EU Circular Economy strategy, including the use of raw bio-based food industry by-products, LCA studies, recyclability & biodegradability of packaging and trying to reduce Food Waste. The project is constructed in line with the Responsible Research and Innovation guidelines of the European Commission.</p>	European Commission	11/102017	10/31/2020	Ongoing	97,050.00 €	COMPANY FOR SOFTWARE PRODUCTION, TRADE AND SERVICES PRAJM APPS LLC SKOPJE	Grant	International	Innovation actions (IA)	1. H2020-EU.3.2.2.3. (A sustainable and competitive agri-food industry)
47	ECOPOTENTIAL: IMPROVING FUTURE ECOSYSTEM BENEFITS THROUGH EARTH OBSERVATIONS (ECOPOTENTIAL)	<p>Terrestrial and marine ecosystems provide essential services to human societies. Anthropogenic pressures, however, cause serious threat to ecosystems, leading to habitat degradation, increased risk of collapse and loss of ecosystem services. Knowledge-based conservation, management and restoration policies are needed to improve ecosystem benefits in face of increasing pressures. ECOPOTENTIAL makes significant progress beyond the state-of-the-art and creates a unified framework for ecosystem studies and management of protected areas (PA). ECOPOTENTIAL focuses on internationally recognized PAs in Europe and beyond in a wide range of biogeographic regions, and it includes UNESCO, Natura2000 and LTER sites and Large Marine Ecosystems. Best use of Earth Observation (EO) and monitoring data is enabled by new EO open-access ecosystem data services (ECOPERNICUS). Modelling approaches including information from EO data are devised, ecosystem services in current and future conditions are assessed and the requirements of future protected areas are defined. Conceptual approaches based on Essential Variables, Macrosystem Ecology and cross-scale interactions allow for a deeper understanding of the Earth's Critical Zone. Open and interoperable access to data and knowledge is assured by a GEO Ecosystem Virtual Laboratory Platform, fully integrated in GEOS. Support to transparent and knowledge-based conservation and management policies, able to include information from EO data, is developed. Knowledge gained in the PAs is upscaled to pan-European conditions and used for planning and management of future PAs. A permanent stakeholder consultancy group (GEO Ecosystem Community of Practice) will be created. Capacity building is pursued at all levels. SMEs are involved to create expertise leading to new job opportunities, ensuring long-term continuation of services. In summary, ECOPOTENTIAL uses the most advanced technologies to improve future ecosystem benefits for humankind.</p>	European Commission	6/1/2015	5/31/2019	Finished	112,587.00 €	PSI HYDROBIOLOGICAL INSTITUTE OHRID	Grant	International	RIA (Research Innovation Action)	1. H2020-EU.3.5.5. (Developing comprehensive and sustained global environmental observation and information systems)
48	Facilitating Multi-level governance for energy efficiency (multEE)	<p>MultEE aims to improve the ease and quality of energy efficiency (EE) policy planning and implementation in the project's partner countries and beyond, addressing the challenges of evidence-based policy-making in a multi-level governance setting. It contributes to making EE and sustainable energy planning vertically consistent between the national, regional and local level, to facilitating horizontal coordination between policy levels and to improving the quality of monitoring energy efficiency. The project pursues a two-faceted, yet integrated, approach in order to reach this objective: (1) building on a mapping of European best practices and experience from a pilot project carried out by the lead partner, country-specific solutions for effective monitoring and verification (M&V) based on bottom-up data will be developed and their implementation supported; (2) the implementation of innovative M&V schemes will be facilitated via coordination mechanisms developed and introduced together with the partners, aimed at spurring on exchange and cooperation between policy levels. The project pays particular attention to providing opportunities for peer learning between old and new EU Members States and neighbouring countries from Southeast Europe to partner countries from the EU and its South-Eastern neighbourhood as well as to disseminating results beyond partner countries and to other policy areas. One of the specificities of multEE is that its activities target the interplay between administrative levels rather than focusing on a single one of them. Particular focus will be put on capacity-building for the entities and officials involved with EE planning in the partner countries. MultEE will be put in practice by experienced partners within a strong consortium led by GIZ, drawing upon solid experience and a well-established network of contacts to ensure dissemination and high impacts within and beyond the project.</p>	European Commission	3/1/2015	8/31/2017	Finished	103,820.00 €	MACEDONIAN CENTER FOR ENERGY EFFICIENCY SKOPJE- MACEF ASSOCIATION	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.3.3.7. (Market uptake of energy innovation - building on Intelligent Energy Europe)

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name	Sector / Action / Funding Scheme	Policy/Programme/Description
50	Expertise hub for a market uptake of energy-efficient supermarkets by awareness raising, knowledge transfer and pre-preparation of an EU Ecolabel (SuperSmart)	Supermarkets comprise various technical disciplines: buildings, heating-, cooling- and ventilations systems. Over one million supermarkets across Europe require ca. 4% of the total electricity. New integrated technologies for more efficient supermarkets are now available and efficiency improvements up to 30% have already been demonstrated. These heating and cooling technologies offer in the mid-term both environmental and economic benefits. The uptake of such efficient solutions is mainly hindered by non-technological market barriers. SuperSmart tackles different barrier categories, both short-term (awareness and knowledge) and long-term (organizational, political, social), even though an immediate impact on the sector will be expected to come already from the removal of the short-term hindrances. The purpose of the SuperSmart hub is to establish a knowledge transfer and promotion platform devoted to the supermarket sector to educate/train and crosslink stakeholders of various backgrounds in such a way that the uptake of energy-efficient heating and cooling solutions is made possible. Specific objectives pursued by the hub for the supermarket sector contain: - Reduce the environmental impact and primary energy demand - Support the introduction of a new EU Ecolabel for Supermarkets - Determine and remove challenges hindering the implementation of eco-energy supermarkets - Raise the expertise level of the different decision makers (non –technical and tech. staff) related to energy usage of equipment and the benefit of integrated systems. Encourage to supply energy (heating&cooling) to nearby business units or local grids. - Conduct direct communication among R&D organizations, suppliers, end users and governmental bodies on potential legislative initiatives Active participation at 10 conferences & fairs and 5 dedicated workshops will disseminate the information beside trainings, and the online end-user expert panels, manufacture panels and innovation panels.	European Commission	2/1/2016	1/31/2019	Finished	60,000.00 €	DPTU ENERGIJA DOO	Grant	International	Coordination & support actions (CSA)	1. H2020-EU.3.3.7. (Market uptake of energy innovation - building on Intelligent Energy Europe)
51	Towards the elimination of iodine deficiency and preventable thyroid-related diseases in Europe (EUthyroid)	Despite the fact that iodine deficiency (ID) can easily be prevented by iodine fortification of table salt, industrial salt and cattle food, Europe belongs to the worst regions in terms of access to iodized salt and is seriously ID, resulting in the perpetuation of the single most important, preventable cause of brain damage. European ID is due to significant heterogeneity in prevention and monitoring programs, leading to inappropriate interventions, increased disease burden, health inequities and increased health care costs. Up to 360 Million European citizens are exposed to ID disorders. An effective European monitoring program is a crucial step towards eradication of ID disorders with significant benefits for European citizens and the sustainability of health care systems. The effects of ID in total cause tremendous, preventable costs in health care systems of affected regions. The overall aim of EUthyroid is to evaluate ID prevention and monitoring programs in 24 European countries, to initiate capacity building for harmonized European ID prevention and monitoring programs, and to disseminate project outcomes for supporting measures on national and EU level in order to eradicate ID disorders in Europe. The project will position itself as international hub of current national initiatives in the attempt to coordinate and support existing national activities. EUthyroid will generate the first harmonized data set of ID resulting in the first valid map of iodine status in Europe. With a dedicated dissemination program about the unfavorable health outcomes of ID, EUthyroid will pave the way for a harmonized EU-wide regulation of iodination, a common approach to iodine and outcome monitoring and establish recommendations for scientists on how to monitor IDD prevention programs. The project aims to make Europe a benchmark for ID disorder prevention worldwide.	European Commission	6/1/2016	5/31/2018	Finished	20,177.00 €	CENTRE FOR REGIONAL POLICY RESEARCH AND COOPERATION STUDIORUM ZDRUZENJE	Grant	International	RIA (Research Innovation Action)	1. H2020-EU.3.1.2. (Preventing disease)
52	Establishing the European Geological Surveys Research Area to deliver a Geological Service for Europe (GeoERA)	The GeoERA proposal is put forward by the national and regional Geological Survey Organisations (GSO) of Europe. Its overall goal is to integrate the GSO's information and knowledge on subsurface energy, water and raw material resources, to support sustainable use of the subsurface in addressing Europe's grand challenges. The GeoERA consortium will organise and co-fund together with the EC a joint call for transnational research projects that address the development of 1) interoperable, pan-European data and information services on the distribution of geo-energy, groundwater and raw material resources; 2) common assessment frameworks and methodologies supporting better understanding and management of the water-energy-raw materials nexus and potential impacts and risks of subsurface use; 3) knowledge and services aimed at European, national and regional policy makers, industry and other stakeholders to support a more integrated and efficient management and more responsible and publicly accepted exploitation and use of the subsurface. The transnational projects selected in the call will be implemented by the consortium partners themselves, who provide their co-funding in-kind. GeoERA will contribute to the overall EU objective of building the ERA through enhanced cooperation and coordination of national and regional Geological Survey research programmes. GeoERA will also include forward looking activities, including the creation of opportunities for future collaborative research, and the feasibility assessment of an Article 185 initiative in Applied Geoscience as follow-up to the GeoERA ERA-NET towards the development of the ultimate goal of delivering a Geological Service for Europe.	European Commission	1/1/2017	12/31/2021	Ongoing	35,015.00 €	GEOLOGICAL SURVEY OF THE REPUBLIC OF MACEDONIA	Grant	International	ERA-NET-Cofund	1. H2020-EU.3.3.2. (Low-cost, low-carbon energy supply) 2. H2020-EU.3.5. (SOCIAL CHALLENGES - Climate action, Environment, Resource Efficiency and Raw Materials)

Annex 3 - Database of ERASMUS+ Projects that meet the Selection Criteria (connected to Climate Change)

No.	General Information							Financial Information			Classification		
	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost for Macedonian partner	Domestic implementator/Beneficiary	Type of assistance	Partner countries	Sector	Subsector/Policy/Programme	
1	Innovation starts with action! STEAM	Occupations of the future have been changing rapidly and the knowledge and skills acquired today are not foreseen to be sufficient while preparing our students for life. According to the research...	ERASMUS +	2016	2019	Completed	€ 127,215.00	Education	K2 - Cooperation for innovation and the exchange of good practices	TR,IT,MK,RO,PT,ES,UK	Strategic Partnerships for Schools Only	Quality Improvement Institutions and/or methods (incl. school development), Environment and climate change, Entrepreneurial learning - entrepreneurship education	
2	Scientific Concepts In The Production Of Sustainable Energy	The Renewable Energy Directive establishes an overall policy for the production and promotion of energy from renewable sources in the EU. It requires the EU to fulfil at least 20% of its total energy needs with renewables by 2020 – to be achieved through the attainment of individual national targets. The project aims to set the grounds for the 5 partner countries to cooperate and share practices in the area of renewable energy resources and sustainable production and consumption through activities designed for students.	ERASMUS +	2019	2022	Ongoing	153,110.00 €	Education	K2 - Cooperation for innovation and the exchange of good practices	IT,BG,PT,MK,TR	School Exchange Partnerships	Intercultural/intergenerational education and (lifelong)learning, Social/environmental responsibility of educational institutions, Energy and resources	
3	Innovative design practices for achieving a new textile circular sector	The objective of Design4Circle is to create an innovative learning curriculum in line with the needs of designers of the textile and fashion industry towards a circular business model, being the main target group current and future fashion designers of the textile industry. Design4Circle will allow designers from the textile sector to reduce environmental impact during the product's life-cycle, and to develop new and innovative businesses within the principles of circular economy.	ERASMUS +	2018	2021	Ongoing	299,105 €	Education	K2 - Cooperation for innovation and the exchange of good practices	LV,RO,MK,BE,PT,ES	Strategic Partnerships for vocational education and training	New innovative curricula/educational methods/development of training courses, Entrepreneurial learning - entrepreneurship education, Environment and climate change	
4	The splendour of nature	The aim of our project: "The splendour of nature" is to make more investments in knowledge and encourage innovation and the development of more sustainable solutions to solve different environmental problems. We would like to reduce threats from pollution common for the European region and to improve the standards of living adequate for the health and well-being of the population by providing opportunities for environmental democracy via the project, which is a further development of the partnership's e-winning on-going project "We are green schools", aims to promote in our pupils the development and achievement of skills and competences through innovative practices, collaborative and holistic approaches to teaching and learning, focusing on Environmental Education and Education to Sustainable Development, connected to the urgent need to protect and preserve the environment.	ERASMUS +	2018	2021	Ongoing	162,750 €	Education	K2 - Cooperation for innovation and the exchange of good practices	BG,MK,HR,FR,UK,IT	School Exchange Partnerships	Environment and climate change, Health and wellbeing, Early School Leaving / combating failure in education	
5	Green Schools 2.0 for a sustainable future	The main project objective is to develop a new more attractive education approach to implement climate change issue in STEM related school subjects, which will be mix of theoretical (by use of ICT based free on-line available OER) and practical education tools (school experiments) suitable for students in primary schools in Bulgaria, Macedonia and Croatia. The second objective is to establish long-term strategic transnational partnership among schools.	ERASMUS +	2017	2020	Ongoing	140,025.00 €	Education	K2 - Cooperation for innovation and the exchange of good practices	IT,EL,PL,RO,MK,PT	Strategic Partnerships for Schools Only	Environment and climate change, ICT - new technologies - digital competences, Inclusion - equity	
6	Two and a half minutes to midnight - Innovative education approach for addressing the climate change issues in primary schools	The aim of the project "RESONATE" is to provide comprehensive engineering knowledge and develops professionals' scientific, communication and problem solving skills through a combination of practical, hands-on courses, industry projects and theoretical foundations. The Professional courses will be developed in consultation with industry to equip engineering professionals with the advanced technical expertise, critical thinking and professional skills required to remain competitive in a global workforce and succeed in the future career.	ERASMUS +	2017	2020	Ongoing	135,050 €	Education	K2 - Cooperation for innovation and the exchange of good practices	BG,HR,MK	Strategic Partnerships for school education	ICT - new technologies - digital competences, New innovative curricula/educational methods/development of training courses, Environment and climate change	
7	Development of Professional Courses in Sustainable Water Management	Environmental education addresses cognitive, affective, and psychomotor learning of the students. Information gained through preschool and school ages underpins the terminal behaviors of the future. We can raise such active individuals who are conscious on environmental problems, responsible and decision makers. However, sustaining the indifference to protection of the environment will probably put the humanity on the verge of big dangers. Just to spite the humans invading the nature for their self-interest, we need to raise the next generation equipped with environmental consciousness for a livable and sustainable world. Thanks to the intramural and extramural projects we plan to conduct, we will make sure that the participants to these projects will have the love of nature and respect to it.	ERASMUS +	2019	2022	Ongoing	142,834 €	Education	K2 - Cooperation for innovation and the exchange of good practices	MK,ES,PT,RS	Strategic Partnerships for vocational education and training	Environment and climate change, Energy and resources, New innovative curricula/educational methods/development of training courses	
8	"FOOTFALLSofNATURE"	The aim of this project is to empower the partner organisations and the IVS movement (and in turn other organisations/ young people/communities who wish to follow the results of the project) to start the pathway (or to strengthen their organisations) towards the implementation of sustainable youth led initiatives in local communities around the globe. The project "Boost your green" is a strategic partnership developed by six vocational schools from Europe, with the financial support of the European Commission through the programme Erasmus+, Key Action2. It emerged from the need to offer schools some concrete tools in order to help them implement sustainable development in the lives of all people attending a vocational school. The project activities are designed in such a way as to involve students and staff in the process. The project will start with a survey, it will continue with the implementation of workshops meant to boost their motivation and also with practical activities.	ERASMUS +	2019	2022	Ongoing	124,944.00 €	Education	K2 - Cooperation for innovation and the exchange of good practices	PL,TR,MK,IT	School Exchange Partnerships	Social/environmental responsibility of educational institutions, Environment and climate change, Civic engagement / responsible citizenship	
9	IVS for Climate Justice Don't just say it! Do it! Volunteering to create a network of knowledge through ecological & sustainable practice	The aim of this project is to empower the partner organisations and the IVS movement (and in turn other organisations/ young people/communities who wish to follow the results of the project) to start the pathway (or to strengthen their organisations) towards the implementation of sustainable youth led initiatives in local communities around the globe. The project "Boost your green" is a strategic partnership developed by six vocational schools from Europe, with the financial support of the European Commission through the programme Erasmus+, Key Action2. It emerged from the need to offer schools some concrete tools in order to help them implement sustainable development in the lives of all people attending a vocational school. The project activities are designed in such a way as to involve students and staff in the process. The project will start with a survey, it will continue with the implementation of workshops meant to boost their motivation and also with practical activities.	ERASMUS +	2017	2020	Ongoing	148,357 €	Education	K2 - Cooperation for innovation and the exchange of good practices	FR,IN,KE,JP,KH,LU,TH,UA,ZA,TG,JP,MZ,NG,PE,UG,EE,EE,AR,HN,MU,BG,MK,SE,AU,IK,IT,ZM,FC,UK,HK	Capacity Building for youth in ACP countries, Latin America and Asia	Environment and climate change	
10	Boot your green	The aim of this project is to empower the partner organisations and the IVS movement (and in turn other organisations/ young people/communities who wish to follow the results of the project) to start the pathway (or to strengthen their organisations) towards the implementation of sustainable youth led initiatives in local communities around the globe. The project "Boost your green" is a strategic partnership developed by six vocational schools from Europe, with the financial support of the European Commission through the programme Erasmus+, Key Action2. It emerged from the need to offer schools some concrete tools in order to help them implement sustainable development in the lives of all people attending a vocational school. The project activities are designed in such a way as to involve students and staff in the process. The project will start with a survey, it will continue with the implementation of workshops meant to boost their motivation and also with practical activities.	ERASMUS +	2016	2019	Completed	31,000 €	Education	K2 - Cooperation for innovation and the exchange of good practices	FR,RO,BG,MK,PT,TR	Strategic Partnerships for Schools Only	ICT - new technologies - digital competences, Teaching and learning of foreign languages, Environment and climate change	
11	Clean Nature Long Life	Every partner of the project has the belief that NGOs, public bodies involved in environmental problems, universities and institutions should all be involved in our project. They can organise workshops, conferences in our schools and connect them with Environmental Education. Using innovative strategies, new methodologies teachers and students will have opportunity to get better professional skills and exchange good practices. As well our school will provide to society a higher educational level, our students will be able to do researching work, will present, analyse, experience and find solution.	ERASMUS +	2019	2022	Ongoing	100,590 €	Education	K2 - Cooperation for innovation and the exchange of good practices	UK,PT,TR,MK,RO	School Exchange Partnerships	New innovative curricula/educational methods/development of training courses, ICT - new technologies - digital competences, Environment and climate change	

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost for Macedonian partner	Domestic implementator/Beneficiary	Type of assistance	Partner countries	Sector	Subsector/Policy/Programme
12	Clean and Green is Our Perfect Dream	The project mainly focuses on environmental issues such as pollution, biodiversity, renewable energy, recycling, reforestation, water and healthy diet. The coordinator of the project is Yenimahalle Bilim ve Sanat Merkezi from Turkey and the partners are from Bulgaria, Romania, Macedonia, Portugal and Slovenia. The applicant and partner organisations' student age range are very similar. The pupils' age range is 12-18. The partner schools have experiences in Erasmus+ projects. Some of the partner schools are also eco-schools and some are running environmental project in their schools.	ERASMUS +	2019	2022	Ongoing	162,184 €	Education	K2 - Cooperation for innovation and the exchange of good practices	TR,SI,MK,RO,PT,BG	School Exchange Partnerships	Natural sciences, Energy and resources, Environment and climate change
13	LIVABLE EARTH FOR HAPPY GENERATIONS	According to the results of the environmental survey conducted with our school and project partners environmental damage,unconscious consumption of resources and low awareness are our common problems.The reason for giving our project the name of "Livable World for Happy Generations" is to give a prominent,meaningful and catchy message to the groups and the world at risk.Our project focuses on 4 basic issues:Environmental problems and destruction,renewable energy sources (solar,wind,water) and natural life and ecosystem,recycling and energy saving.Our project is the result of collaboration of six schools, including students between 11-15years of age, having similar needs,goals and problems located in Macedonia,Romania,Slovakia,Portugal,Italy,Turkey.The little touches made by 6 partner countries will show the effects to the whole world in the future as a butterfly effect.	ERASMUS +	2019	2022	Ongoing	124,025 €	Education	K2 - Cooperation for innovation and the exchange of good practices	TR,PT,RO,MK,IT	School Exchange Partnerships	Environment and climate change, Energy and resources, Regional dimension and cooperation
14	DON'T WASTE, SAVE ! THE EARTH IS YOURS	Common problems of the globalizing world are the problems due to climate change,the reduction of potable water resources and usable agricultural areas, and the lack of sustainable energy resources. Our goal is to create environmental awareness in all individuals from the age group of our target audience.	ERASMUS +	2019	2022	Ongoing	180,150 €	Education	K2 - Cooperation for innovation and the exchange of good practices	LV,TR,RO,BG,EL,MK	School Exchange Partnerships	Environment and climate change, Natural sciences, Energy and resources
15	The safeguarding of the environment	The main aim of the project is to make students aware of the significance of adopting alternative sources of energy such as wind, wave or sun energy which do not compromise the natural environment.	ERASMUS +	2019	2022	Ongoing	144,604 €	Education	K2 - Cooperation for innovation and the exchange of good practices	LT,MK,BG,TR,IT	School Exchange Partnerships	Energy and resources, Environment and climate change, Social/environmental responsibility of educational institutions
16	Developing Eco Skills for a Green Economy	As a result of the steady economic development Europe is facing a huge number of low-skilled adults that need to be integrated into the labour market. But for a successful integration of low-skilled adults into their social environment good education is essential. DECOS combines labour market integration with social integration via environmental awareness and green skills. The environmental standards and awareness in Europe's workplaces and societies is very high. E.g. waste separation and management is an important issue to many European people, neighbourhoods, communities and cities. Often these topics are rarely developed at low-skilled adults, either in their social environment or at the workplace. DECOS addresses these education gaps and will contribute to a more successful integration of low-skilled adults in their social environment AND the labour market.	ERASMUS +	2018	2021	Ongoing	183,237 €	Education	K2 - Cooperation for innovation and the exchange of good practices	MK,AT,RO,FI,SI	Strategic Partnerships for adult education	New innovative curricula/educational methods/development of training courses, Energy and resources, Environment and climate change
17	Circular Economy for Youth	Central to the project design is the bringing together of youth organisation and networks, together with Circular Economy associations at European, regional and municipal levels including and local government. The aim is not only to exchange initiatives and best practice but to establish a permanent forum for dialogue including around policy and practice. Such goals will develop the capacities of all participant organisations and build the foundation for longer term collaboration in this area.	ERASMUS +	2019	2022	Ongoing	255,155 €	Education	K2 - Cooperation for innovation and the exchange of good practices	UK,BE,EL,IT,MK,FR	Strategic Partnerships for youth	Reaching the policy level/dialogue with decision makers, Environment and climate change, Youth (Participation, Youth Work, Youth Policy)
18	Implementation of "learning by doing" education methods for teaching about utilization of solar energy in primary schools	The project proposal offers great start for youngsters to learn more about solar energy, and grow up more informed about the vital role of solar technologies in changing world's energy future. All project partners have rich previous experience in environment related projects and are dedicated to climate change mitigation mainly by promotion and application of EE principles and RES use. The project partners include: two primary schools (Mirche Acev (MK) and Sveti Paisii Hilendarski (BG)), two municipalities (Gjorche Petrov (MK) and Razlog (BG)), and two NGOs (Solar Macedonia (MK) and Eco Razlog (BG)).	ERASMUS +	2016	2019	Completed	93,700 €	Education	K2 - Cooperation for innovation and the exchange of good practices	MK,BG	Strategic Partnerships for school education	Environment and climate change, Natural sciences, Energy and resources
19	Sustainability Advisors: Discussing the potential for new green jobs among young people in Europe	The idea is to exchange practices in order to improve the ongoing VET programme on sustainability advisors developed in Macedonia, by combining and adding several components which are not included in the current programme. The topics that are targeted within the action are meant for the same target group, unemployed people, both male and female, including people from marginalized groups. The needs of these people and in general described as: retraining. And in relation to the availability of open job positions in the green sectors, the demand is high, in many various industries in a given community.	ERASMUS +	2018	2021	Ongoing	13,350 €	Education	K2 - Cooperation for innovation and the exchange of good practices	MK,AT,PL	Strategic Partnerships for youth	New innovative curricula/educational methods/development of training courses, Labour market issues incl. career guidance / youth unemployment, Environment and climate change
20	Our Rivers Our Common Future	We aim to create a methodological model, which enables us to make an interdisciplinary educational program for the ages of 13-17 at secondary level as this age group will be the main focus range of our project activities. With the help of the program students will understand the importance of water, and how much it intertwines all fields of life. It is also essential for students to comprehend the vulnerability of water bases and the diminishing quantity of resources as well as the need to find ways of sustainable water management.	ERASMUS +	2017	2020	Ongoing	127,720.00 €	Education	K2 - Cooperation for innovation and the exchange of good practices	PT,PL,MK,IT,TR	Strategic Partnerships for Schools Only	Environment and climate change, Energy and resources, Natural sciences

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost for Macedonian partner	Domestic implementator/Beneficiary	Type of assistance	Partner countries	Sector	Subsector/Policy/Programme
21	Using upcycling for boosting youth employment	Upcycling 4 Youth is a project aiming to empower the young people by training them how to use upcycling as a method for gaining self-confidence and sense of usefulness (use the newly gained techniques to create upcycled art and useful items and take part in initiatives for environmental protection and improvement) leading them to become active citizens in their community. At the same time we want to introduce and promote social entrepreneurship and green businesses among young people as a productive and creative way of finding employment or becoming self-employed.	ERASMUS +	2018	2021	Ongoing	56,142.00 €	Education	K2 - Cooperation for innovation and the exchange of good practices	MK,UK	Strategic Partnerships for youth	Youth (Participation, Youth Work, Youth Policy) ...
22	In Nature we learn	Exploring creatively and self-experiences discovering nature seem to be the best way for children to learn about a lot of subjects, mainly Science, according to recent research. Taking into account these study results and based on our needs to find different activities which allow students to perform better in class, we have created this project aiming to get the desired results and sharing them with other schools from our areas and all	ERASMUS +	2018	2021	Ongoing	141,566.00 €	Education	K2 - Cooperation for innovation and the exchange of good practices	ES,EL,PL,MK,TR	School Exchange Partnerships	Key Competences (incl. mathematics and literacy) - basic skills, Natural sciences, Environment and climate change
23	Aligning VET curricula to Greening and the Sustainable Development Goals (SDG)	Greening is defined as the process of becoming active about protecting the environment. The idea for this project is to promote the training about Greening in VET in line with policies of the EU and the Sustainable Development Goals (SDG) as identified by the United Nations Development Programme for the year 2030. The international partners in this project come from 5 European countries and each partner brings unique expertise to the project.	ERASMUS +	2018	2021	Ongoing	191,555.00 €	Education	K2 - Cooperation for innovation and the exchange of good practices	MT,MK,ES,EL	Strategic Partnerships for vocational education and training	Energy and resources, International cooperation, International relations, development cooperation, Environment and Climate Change
24	21st Century Skills in the Context of the UN's Social Development Goals for Pupils	The project objective is to increase pupils' skills and competences in 21st century skills with the UN Sustainable Development Goals (SDG) as the framework. This will be done by developing online learning materials and modules for pupils between 10 and 15 years, aiming to improve their understanding of current societal issues, i.e. environment, circular economy etc. The digital materials will focus on developing critical thinking skills, creativity, problem solving skills and digital competencies such as media literacy in the context of the UN Sustainable Development Goals.	ERASMUS +	2019	2022	Ongoing	223,424.00 €	Education	K2 - Cooperation for innovation and the exchange of good practices	DK,LV,MK,PT,CY,IT	Strategic Partnerships for school education	Environment and climate change, ICT - new technologies - digital competences, Social entrepreneurship / social innovation
25	Youth and Communities for Environmental Justice	Through mapping exercise, the project has identified the substantial gap between well established youth climate justice groups and front line communities in Europe which are directly impacted by environmental justice. Project Youth and Communities for Environmental Justice (YCEJ) ...	ERASMUS +	2018	2021	Ongoing	103,867.00 €	Education	K2 - Cooperation for innovation and the exchange of good practices	BE,NO,MK,IE,HR,CY,ES,DE,UK,LV	Strategic Partnerships for youth	Environment and climate change, Inclusion - equity, Access for disadvantaged
26	ENERGY AND DAILY USAGE	The main aim of the project is to make students aware of the significance of adopting alternative sources of energy such as wind, wave or sun energy which do not compromise the natural environment.	ERASMUS +	2018	2021	Ongoing	136,928.00 €	Education	K2 - Cooperation for innovation and the exchange of good practices	LV,TR,IT,DK,MK	School Exchange Partnerships	Social/environmental responsibility of educational institutions, Environment and climate change, Energy and resources
27	Online Master Study Programme for Circular Economy	The general and specific objectives refer to the need to build transnational strategic partnership aimed at connecting partner universities, involved institutions and the business sector; exchanging experience and knowledge in the field of circular economy; building a shared Online Master Study Programme for Circular economy; raising the awareness of students about the importance and benefits of circular economy and the need to abandon the concept of a linear economy; encouraging the innovative spirit of students for new business ideas in order to build and establish economically viable solutions which will contribute to waste utilization and profit, and improving the entrepreneurial culture in the business sector.	ERASMUS +	2017	2020	Ongoing	197,855.00 €	Education	K2 - Cooperation for innovation and the exchange of good practices	MK,SI,HR,LV	Strategic Partnerships for higher education	Environment and climate change, Entrepreneurial learning - entrepreneurship education, Research and innovation
28	Keep Calm and be Green	Our project is addressed to Secondary School students(16-19) who must be prepared by modern school in best possible way for the future labour market and higher education .The students involved in the project work will have opportunity of gaining comprehensive knowledge by its	ERASMUS +	2018	2021	Ongoing	133,740.00 €	Education	K2 - Cooperation for innovation and the exchange of good practices	PL,FI,IT,PT,MK,EL	School Exchange Partnerships	Energy and resources, Cultural heritage/European Year of Cultural Heritage, Early School Leaving / combating failure in education
29	We grown up with eco resources	Main project objective is to create strategic partnership for school education between Kocani and Pazardzhik through preparation of Strategy for development of education and training teachers from 2 (two) primary schools from Program Countries (Macedonia and Bulgaria) in development of innovative teaching methods for renewable resources, energy efficiency and environmental protection.	ERASMUS +	2015	2018	Completed	94,416.93 €	Education	K2 - Cooperation for innovation and the exchange of good practices	MK,BG	Strategic Partnerships for school education	Energy and resources, Natural sciences, Environment and climate change
30	Live and Let Bee: Training for Ecological Beekeeping	"Live and Let Bee: Training for Ecological Beekeeping" Project aimed an exchange of know-how, sharing best practices, providing trainings, dissemination of pollinator-friendly knowledge and creating awareness to tackle this problem. The project strived to reach out to both rural and urban populations, since the problem and the solution lie in both places.	ERASMUS +	2015	2018	Completed	142,488.85 €	Education	K2 - Cooperation for innovation and the exchange of good practices	TR,MK,UK,NL	Strategic Partnerships for adult education	Agriculture, forestry and fisheries, Environment and climate change ...
31	Professional courses for preservation and conservation from climate change influences of the built cultural heritage	The wider objective of the project is to improve Macedonian conservator's and engineer's performance through improvement of their knowledge in the field of conservation and prevention from the climate changes of the built cultural heritage. The target group consists of conservators, architects and engineers on position, entrepreneurs and participants who wish to have carriers in the preservation of built cultural heritage, from Macedonia and the Western Balkans region countries. The professional courses for preservation and preventive conservation from climate change influences of the built cultural heritage will improve their knowledge, linked to their professional profiles, increase opportunities for professional development and will increase the motivation in their daily work.	ERASMUS +	2017	2020	Ongoing	144,343.00 €	Education	K2 - Cooperation for innovation and the exchange of good practices	MK,DE,BE,LT	Strategic Partnerships for vocational education and training	Environment and climate change, Enterprise, Industry and SMEs (incl. entrepreneurship) ...
32	Good Life and Sustainability. Contributions for a consumer education in the context of an emerging culture of sustainability and sufficiency in European regions	The GLAS project aimed at supporting consumer education in the context of the „UN 2030 Agenda for Sustainable Development“ and the multiple European Sustainable Development implementation processes. It identified factors of good life in different European regions, and it collected didactic material and examples of good practice in this field, thus also contributing to an emerging culture of sustainability. The basic platform for consumer education served well in realising these objectives.	ERASMUS +	2014	2017	Completed	55,291.00 €	Education	K2 - Cooperation for innovation and the exchange of good practices	DE,IT,EE,MK	Strategic Partnerships for adult education	Creativity and culture, Environment and climate change, New innovative curricula/educational methods/development of training courses

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost for Macedonian partner	Domestic implementator/Beneficiary	Type of assistance	Partner countries	Sector	Subsector/Policy/Programme
33	GOT POLLUTION? BE THE SOLUTION!...RECYCLE.	The topic of the project is to reduce the amount of wastes in the environment and our schools and to investigate the causes of throwing so much garbage .And to raise awareness of the need to reduce the amount of wastes that we throw away and to provide to recycle or reuse the wastes. Some schools from Portugal, Poland, Italy, Macedonia and Sweden joined us to share their ideas for this project. The common feature of these schools was that they were either eco-schools or they had worked in the national or international areas before.	ERASMUS +	2016	2019	Completed	128,737.00 €	Education	K2 - Cooperation for innovation and the exchange of good practices	TR,SE,MK,PL,IT,PT	Strategic Partnerships for Schools Only	Environment and climate change, Energy and resources
33 Projects							4,599,458.78 €					

Annex 4 - Database of IPA 1 - Components 1 Projects that meet the Selection Criteria (conected to Climate Change)

No.	General Information							Financial Information		Classification			EU funding
	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme	
2	Supply of appropriate equipment to exchange and manage information and monitoring for water, waste, air management, nature and climate change (Lot 2 - Vehicles)	Supply, delivery, unloading, installation, putting into operation, testing and training of equipment to exchange and manage information and monitoring for water, waste, air management and nature for the Ministry of Environment and Physical Planning and National Hydro-meteorological Service - LOT 2 Vehicles.	EU Programmes - IPA Component 1	11/1/2016	3/1/2018	Completed	39,200.00 €	Ministry of Environment and Physical Planning (MoEPP); National Hydro-meteorological Service (HMI)	Transition Assistance and Institution Building	National	Environment and climate action	Water resource management;Waste management	29,400.00 €
3	Supply of appropriate equipment to exchange and manage information and monitoring for water, waste, air management, nature and climate change (Lot 4 - Air Quality Management)	Supply, delivery, unloading, installation, putting into operation, testing and training of equipment to exchange and manage information and monitoring for water, waste, air management and nature for the Ministry of Environment and Physical Planning and National Hydro-meteorological Service - LOT 4 - Air quality management	EU Programmes - IPA Component 1	1/1/2017	5/1/2018	Completed	248,062.00 €	Ministry of Environment and Physical Planning (MoEPP); National Hydro-meteorological Service (HMI)	Transition Assistance and Institution Building	National	Environment and climate action	Air quality and noise	186,046.00 €
7	Preparation of technical specifications for supply of equipment for strengthening the administrative capacity for enviroment and climate change	To further approximate and implement the environmental acquis, through strengthening the administrative capacities for environmental management on central and local level in the fields of water management, waste management, nature protection, air management and climate change. Specific objective:To assist the Beneficiary institution – MoEPP with the preparation of Technical Specification for TAIB 2012 Supply Contract for appropriate equipment to exchange and manage information and monitoring for water, waste, air management, nature and climate change.	EU Programmes - IPA Component 1	3/1/2016	10/1/2016	Completed	71,000.00 €	Ministry of Environment and Physical Planning (MoEPP)	Transition Assistance and Institution Building	National	Environment and climate action	Institution building for European Integration	63,900.00 €
8	Zletovica Project: Electricity Production and Irrigation Components	This project concerns the sustainable provision of water to municipalities and farmers and renewable energy in the catchment of Zletovica river.The project, is made up of three phases covering: 1) Construction of Knezevo dam; 2) Irrigation in Probstip and Kratovo municipalities; 3)Construction of small hydroelectric power plants.The Zletovica project will contribute to the social and economic development in the region by providing new employment and reducing poverty. Irrigation will encourage agricultural development through increased product quantity and quality. The production of hydroelectricity will increase renewable energy supply, so reducing CO2 emission of the country, and contributing to actions mitigating climate change.	EU Programmes - IPA Component1	1/1/2015	Ongoing	Ongoing	131,000,000.00 €	Public Enterprise HS Zletovica	Transition Assistance and Institution Building	East region of RNM	Environment and climate action	Renewable energy	1,000,000.00 €
10	Strengthening the capacities for implementation of NATURA 2000	To increase the effectiveness of the Beneficiary country's preparation for EU accession, in area of nature protection. The project purpose is to strengthen administrative capacities of the Ministry of Environment and Physical Planning, Administration of Environment, Nature Department and other relevant stakeholders for implementation of the nature protection acquis, through development of implementing legislation, provision of training etc. and implementing of nature protection legislation.	EU Programmes - IPA Component 1	2/1/2016	3/1/2017	Completed	1,178,300.00 €	Ministry of Environment and Physical Planning (MoEPP)	Transition Assistance and Institution Building	National	Environment and climate action	Nature protection	1,060,470.00 €
11	Strengthening the administrative capacities on central and local level for transposition and implementing new Industrial Emissions Directive	To increase the effectiveness of the country's preparation for EU accession and to ensure efficiency of the EU programme in the country. The Industrial Emissions Directive 2010/75/EU (IED) sets the main principles for permitting and control of installations based on an integrated approach and on best available techniques (BAT). The Directive replaces seven existing Directives relating to industrial installations and stipulates binding requirements for the operation of industrial installations which are stricter than previously applicable under EU legislation.	EU Programmes - IPA Component 1	10/1/2015	1/1/2017	Completed	900,000.00 €	Ministry of Environment and Physical Planning (MoEPP)	Transition Assistance and Institution Building	National	Environment and climate action	Air quality and noise	855,000.00 €
12	Further strengthening of the capacities for effective implementation of the acquis in the field air quality	To improve air quality by supporting the implementation of the air quality related legislation including Directive 2008/50/EC on ambient air quality and cleaner air for Europe and Directive 2004/107/EC relating to arsenic, cadmium, mercury, nickel and polycyclic hydrocarbons in ambient air.	EU Programmes - IPA Component 1	3/1/2015	1/1/2017	Completed	1,100,000.00 €	Ministry of Environment and Physical Planning (MoEPP)	Transition Assistance and Institution Building	National	Environment and climate action	Air quality and noise	1,045,000.00 €
13	Strengthening the administrative capacities for implementation of Waste Framework Directive (WFD) and Special Waste Streams Directives (WEEED, WBAD and WPD)	To strengthen the administrative capacity and undertake measures for implementation of Waste Framework Directive (WFD) and Special Waste Streams Directives (WEEED, WBAD and PPWD) through further development of implementation of the legislation and provision of trainings.	EU Programmes - IPA Component 1	10/1/2016	10/1/2018	Completed	1,010,526.00 €	Ministry of Environment and Physical Planning (MoEPP)	Transition Assistance and Institution Building	National	Environment and climate action	Waste Management	959,999.00 €
14	Strengthening the capacities for effective implementation of the acquis in the field of nature protection	The overall objective of the project is to improve air quality by supporting the implementation of the air quality related legislation including Directive 2008/50/EC on ambient air quality and cleaner air for Europe and Directive 2004/107/EC relating to arsenic, cadmium, mercury, nickel and polycyclic hydrocarbons in ambient air.	EU Programmes - IPA Component 1	5/1/2015	1/1/2017	Completed	1,100,000.00 €	Ministry of Environment and Physical Planning (MoEPP)	Transition Assistance and Institution Building	National	Environment and climate action	Air quality and noise	1,045,000.00 €
26	Strengthening the administrative capacities at central and local level for implementation and enforcement of the environmental acquis	To strengthen capacities of inspections in environment on central and local level in three pilot sectors: Water Quality, Air Quality and IPPC (inspections on A and B installations).	EU Programmes - IPA Component 1	12/1/2014	7/1/2016	Completed	1,000,000.00 €	Ministry of Environment and Physical Planning / State Environmental Inspectorate	Transition Assistance and Institution Building	National	Environment and climate action	Institution building for European Integration	743,328.00 €
33	Strengthening the capacities for effective implementation of the acquis in the field of nature protection	The project purpose is to strengthen administrative capacities of the Ministry of Environment and Physical Planning/Administration of Environment/Nature Department for implementation of the nature protection acquis, through development of implementing legislation, provision of training etc. and implementing of nature protection legislation.	EU Programmes - IPA Component 1	11/1/2017	11/1/2019	Completed	1,100,000.00 €	Ministry of Environment and Physical Planning (MoEPP)	Transition Assistance and Institution Building	National	Environment and climate action	Nature Protection	935,000.00 €
35	Bogdanci Wind Park Pilot Project	The overall objective: a feasibility study was undertaken for a pilot wind farm that will demonstrate the technology, prove the viability of wind energy, and encourage private investment in further such renewable energy projects. The 16 turbines have a 36.8 mw capacity and annual production averaged 120 gwh over the first 3 years of operations (2015-2017), ahead of plan, thanks to stronger than expected summer winds. This is approximately one week of the North Macedonian power production. ELEM is now considering a second phase to bring total capacity to 50 mw according to the original plan. This second phase should be finalised by the end of 2019.	EU Programmes - IPA Component 1	1/1/2012	12/1/2019	Completed	76,000,000.00 €	AD ELEM Macedonian Power Plants	Transition Assistance and Institution Building	Bogdanci	Environment and climate action	Renewable energy	400,000.00 €

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme	EU funding
36	The North Macedonia - Serbia 400 kv power interconnection: construction of section Stip substation - Serbia border	Part of this process is linking with neighbouring countries for better efficiency, flexibility and customer service. The line runs from Štip in centre-east to the northern border with Serbia. In Serbia, the 400 kv line has been extended in stages from Niš south to the border. The EIA process examined a number of route options for the 70 km long corridor between Štip and Kumanovo, and assessed factors such as noise, electromagnetic radiation, geology, flora and fauna, cultural heritage and other impacts of the line.	EU Programmes - IPA Component 1	1/1/2015	Ongoing	Ongoing	14,100,000.00 €	Macedonian Power Transmission System Operator MEPSO	Transition Assistance and Institution Building	Stip	Environment and climate action	Energy connectivity	100,000.00 €
37	Albania -the North Macedonia power interconnection (ii): grid section in the North Macedonia	The aim of diversifying generation modes and fuel sources as well as upgrading the transmission and distribution networks. The project is part of the east – west electricity transmission corridor between Bulgaria, the North Macedonia, Albania, Montenegro and Italy. The investments include a 400 kv transmission system from Bitola to Ohrid and from there to the border with Albania. It will thus complete the 400 kv electricity ring between Albania, the North Macedonia and Greece.	EU Programmes - IPA Component 1			Ongoing	50,948,000.00 €	Public Energy Transmission Operator AD MEPSO	Transition Assistance and Institution Building	Regional	Environment and climate action	Energy connectivity	13,948,000.00 €
63	Capacity Building of the Competent Authorities for food safety, veterinary and phytosanitary policy	To improve the institutional framework for food safety in the country by strengthening the existing system of competent bodies and institutions in order to ensure an integrated multidisciplinary approach, covering all chain stages.	EU Programmes - IPA Component 1	12/19/13	1/30/2016	Completed	1,795,000.00 €	Agency for Food and Veterinary	Transition Assistance and Institution Building	National			90%-10%
64	Supply of Equipment for Biodiversity Monitoring Information System and Equipment for Water Management Information System and Water Monitoring - Lot 3	Supply, delivery, unloading, installation, testing, training and putting into operation by the Contractor the supplies of Lot 3: Off-road vehicles	EU Programmes - IPA Component 1	12/20/2013	1/30/2015	Completed	74,532.00 €	Ministry of Environment and Physical Planning of the Republic of Macedonia	Transition Assistance and Institution Building	National			75%-25%
65	Supply of equipment for biodiversity monitoring information system and equipment for water Management information system and water monitoring Lot 2	Supply, delivery, unloading, installation, testing, training and putting into operation by the Contractor the supplies of Lot 2: Supply of IT Equipment	EU Programmes - IPA Component 1	12/20/2013	4/15/2015	Completed	172,000.00 €	Ministry of Environment and Physical Planning of the Republic of Macedonia	Transition Assistance and Institution Building	National			75%-25%
66	Assistance to Development of Sector Environment and Climate Change Strategy 2014-2020	The specific purpose of the project is to assist the Beneficiary institution with the preparation of Sector environment and climate change strategy 2014-2020.	EU Programmes - IPA Component 1	12/20/2013	7/17/2014	Completed	100,964.00 €	Ministry of Environment and Physical Planning of the Republic of Macedonia	Transition Assistance and Institution Building	National			100%-0%
67	Natural Network for people and places in Macedonia	Building the capacities of national and local CSOs to engage Macedonian citizens as volunteers for nature conservation; undertaking actions which contribute to implementation of EU nature conservation legislation in particular the conservation of the Natura 2000 network.	EU Programmes - IPA Component 1	12/20/2013	6/22/2015	Completed	62,620.00 €	General Secretariat of the Government of the Republic of Macedonia	Transition Assistance and Institution Building	National			100%-0%
68	Strengthening the Administrative capacity of the Energy Department in the Ministry of Economy and the Energy Agency	To strengthen institutional capacities of the MoE's Energy Department and the Energy Agency, for developing, monitoring and evaluating the energy sector reforms necessary for alignment with the Energy Acquis and other relevant EU obligations.	EU Programmes - IPA Component 1	6/26/2013	8/13/2015	Completed	1,674,000.00 €	Ministry of economy/Energy Agency	Transition Assistance and Institution Building	National	Energy policy and administrative management	Institutional capacity building	90%-10%
69	Preparation of ToR for IPA TAIB 2012 service contract for Long- term strategy and law on climate action	Achieving coordinated approach in addressing climate change in the Beneficiary Country in accordance with EU climate policies. The specific objective of this assignment is to assist the Beneficiary institution to develop logical framework and Terms of Reference for IPA TAIB 2012 service contract for Long-term strategy and Law on Climate Action.	EU Programmes - IPA Component 1	7/22/2014	3/29/2015	Completed	56,189.00 €	Ministry of Environment and Physical Planning	Transition Assistance and Institution Building	National			100%-0%

Annex 5 - Database of IPA 1 - Components 3 Projects that meet the Selection Criteria (conected to Climate Change)

No.	General Information							Financial Information		Classification			EU funding
	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme	
15	Preparation of necessary documents for establishing of an Integrated and Financially Self-sustainable Waste Management System in Pelagonia, Southwest, Vardar and Skopje Regions	The project purpose is to support the establishment of an integrated regional waste management system in Pelagonia, Southwest, Vardar and Skopje Regions.	EU Programmes - IPA Component 3	12/1/2015	12/1/2017	Completed	3,580,000.00 €	Ministry of Environment and Physical Planning (MoEPP); all municipalities in the 4 regions	Regional Development, Environment and Transport	All 4 municipalities	Environment and climate action	Waste Management	3,043,000.00 €
16	Preparation of project studies, design and tender documentation for establishing of an integrated and financially self-sustainable waste management system in East and Northeast Region	To contribute, via the development of integrated and financially self-sustainable waste management systems in selected regions of the country, to the sustainable and continuous improvement of the quality of the natural environment of the regions and of the country, in order to reach EU standards, especially in relation to public health and environmental protection.	EU Programmes - IPA Component 3	12/1/2015	7/1/2017	Completed	975,000.00 €	Ministry of Environment and Physical Planning (MoEPP)	Regional Development, Environment and Transport	National	Environment and climate action	Waste Management	828,750.00 €
17	Preparation of technical and tendering documentation for closure of noncompliant landfills/dumpsites for the East and Northeast region	To further contribute towards achieving an integrated and financially self-sustainable waste management system in East and Northeast Regions. The purpose of the project is preparation of technical and tendering documentation for closure, rehabilitation and after care of municipal non-compliant landfills and dumpsites in East and North-East Regions.	EU Programmes - IPA Component 3	12/1/2014	4/1/2016	Completed	269,393.00 €	Ministry of Environment and Physical Planning (MoEPP)	Regional Development, Environment and Transport	National	Environment and climate action	Waste Management	228,984.00 €
18	Preparation of technical specifications for supply of equipment for waste collection and transferring of waste for East and Northeast region	Achievement of an integrated and financially self-sustainable waste management system in East and Northeast Regions. The purpose of the project is Preparation of technical specifications and related supporting documents for supply of equipment for waste collection and transferring of waste in East and Northeast Regions.	EU Programmes - IPA Component 3	12/1/2014	4/1/2016	Completed	182,846.00 €	Ministry of Environment and Physical Planning (MoEPP)	Regional Development, Environment and Transport	National	Environment and climate action	Waste Management	155,419.00 €
19	Technical assistance for supporting the Operating Structure of Ministry of Environment and Physical Planning in implementation of the OPRD 2007-2013 - LOT6	Provision of technical assistance (expert help) to the IPA structure staff within the MoEPP to review and assess the quality of the draft technical and tendering projects' documentation - Project Studies (Feasibility Studies, Cost Benefit Analysis, and Environmental Impact Assessments), Design Documentation and Tender Dossiers to be prepared by the on-going projects under Measure 3.1 and Measure 3.2 from the OPRD 2007-2013.	EU Programmes - IPA Component 3	4/1/2015	11/1/2016	Completed	278,827.00 €	Ministry of Environment and Physical Planning (MoEPP)	Regional Development, Environment and Transport	National	Environment and climate action	Institution building for European Integration	237,002.00 €
20	Strengthening the capacities for effective implementation of the acquis in the field of water quality	To strengthen the administrative capacity and undertake measures for implementation of Water Framework Directive (WFD) and the EU water acquis. The project will improve transposition of the WFD and other water related Directives through the preparation of bylaws defining ecological status of surface waters and good status of ground water.	EU Programmes - IPA Component 3	4/1/2017	4/1/2019	Completed	1,200,000.00 €	Ministry of Environment and Physical Planning (MoEPP)	Regional Development, Environment and Transport	National	Environment and climate action	Water resource management	1,140,000.00 €
21	Post-Disaster Needs Assessment - Expertise in water and sanitation	To lead the water and sanitation sector of the PDNA, in coordination with the WB and UN teams and following the PDNA Guide (in particular the specific chapter on WASH)	EU Programmes - IPA Component 3	9/1/2016	11/1/2016	Completed	2,000.00 €	Areas affected by floods	Regional Development, Environment and Transport	Gazi Baba	Environment and climate action	Water resource management	2,000.00 €
23	Improving the Management of Protected Areas	The project aims to improve nature protection and to promote sustainable use of natural resources while increasing the capacity of management authorities of protected areas, local self-governments and NGOs to manage and promote protected areas in a professional and sustainable fashion.	EU Programmes - IPA Component 3	10/1/2017	10/1/2019	Completed	4,300,000.00 €	Ministry of Environment and Physical Planning (MoEPP); Ministry of Agriculture, Forestry and Water Economy;3. Ministry of Local-Self Government	Regional Development, Environment and Transport	National	Environment and climate action	Waste Management	4,000,000.00 €
24	External independent observers for supply and works tender evaluations in the area of Environment (Waste Management)	The global objective of the assignment is to observe the regularity and the conformity of the tender procedures with the Practical Guide to Contract procedures for EU external actions of a number of tender evaluations and contributing to successful tendering procedures.	EU Programmes - IPA Component 3	12/1/2017	12/1/2018	Completed	99,912.00 €	Ministry of Environment	Regional Development, Environment and Transport	National	Environment and climate action	Water resource management	99,912.00 €
25	Strengthening Capacities for Implementation of Environmental Legislation at Local level	To contribute to improved environmental protection, monitoring and implementation of the national environmental legislation in the country, at both central and local level. Specific objectives: To enhance capacities of municipalities for implementation of the environmental legislation; To enhance the coordination among central and local government in implementation of environmental legislation.	EU Programmes - IPA Component 3	12/1/2014	7/1/2016	Completed	1,190,000.00 €	Ministry of Environment and Physical Planning (MoEPP); Ministry of Local Self-Government (MoLSG); Association of Units of Local Self-Government (ZELS); 9 pilot municipalities	Regional Development, Environment and Transport	National	Environment and climate action	Institution building for European Integration	1,071,000.00 €
27	Supply of equipment for inspection services and environmental departments at local level - Lot 1, 2 & 3	To strengthen the enforcement capacities of the environmental inspection services and implementation capacities of environmental departments at local level.	EU Programmes - IPA Component 3	2/1/2015	7/1/2016	Completed	732,050.00 €	Ministry of Environment and Physical Planning / State Environmental Inspectorate; selected municipalities	Regional Development, Environment and Transport	National	Environment and climate action	Institution building for European Integration	534,000.00 €
28	Technical assistance for strengthening the institutional capacities for approximation and implementation of environmental legislation in the area of water management	To assist national authorities to harmonise the legislation in the area of water management and to strengthen their administrative capacities for implementation of water management legislation with specific focus on Water Framework Directive 2000/60/EC	EU Programmes - IPA Component 3	12/1/2013	1/1/2016	Completed	1,665,400.00 €	Ministry of Environment and Physical Planning (MoEPP)	Regional Development, Environment and Transport	National	Environment and climate action	Water resource management	1,498,414.00 €
29	Studies and technical assistance in all sectors External Observers in three tender evaluations - LOT 1	Recruitment of observers for evaluation of tender related to infrastructure works in water sector.	EU Programmes - IPA Component 3	9/1/2015	5/1/2016	Completed	66,540.00 €	Delegation of the European Union in the former Yugoslav Republic of Macedonia	Regional Development, Environment and Transport	National	Environment and climate action	Water resource management	66,540.00 €
30	Reform in water sector in central level	The Project reform in water sector on central level will support mainly the second step of the Water Tariff Reform, the development of Regulatory Body.	EU Programmes - IPA Component 3	7/1/2016	11/1/2017	Completed	1,801,000.00 €	Ministry of Environment and Physical Planning (MoEPP)	Regional Development, Environment and Transport	National	Environment and climate action	Water resource management	1,530,850.00 €
31	Development of the National Water Study	Support the development of the National Water Study, which is considered as a framework to complete planning system for implementation of national and EU water supply and waste water collection and treatment relevant requirements.	EU Programmes - IPA Component 3	2/1/2016	8/1/2017	Completed	1,750,000.00 €	Ministry of Environment and Physical Planning (MoEPP); Ministry of Transport and Communications (MoTC)	Regional Development, Environment and Transport	National	Environment and climate action	Water resource management	1,487,500.00 €
32	Implementation of Pilot Measures for Sustainable Use of Natural Resources	The central feature of the project is a grant scheme established to support the achievement of the following three main goals: 1) to address priority needs in improving the management of protected areas, where possible including those recently proposed as pilot Natura 2000 sites; 2) to promote more sustainable use of natural resources; and 3) to demonstrate through practical examples that nature protection and the economic development of communities can go hand in hand.	EU Programmes - IPA Component 3	7/1/2017	12/1/2018	Completed	4,300,000.00 €	Ministry of Environment and Physical Planning (MoEPP)	Regional Development, Environment and Transport	National	Environment and climate action	Nature Protection	4,300,000.00 €

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme	EU funding
38	Water and Sewerage Programme	The aim is to improve the living conditions of the people in the participating municipalities and to improve public water services wider afield so ensuring a sustainable supply of drinking water at socially acceptable costs. The programme is divided into two phases, together with an additional interim phase, whereby access to the interim phase (= Phase 1 Step 2) and the second phase is conditional on achievement of specific performance indicators in Phase 1. Construction activities of Phase 1 Step 1 have been completed and the investment programme for Phase 1 Step 2 is currently being prepared.	EU Programmes - IPA Component 3	12/1/2011	12/1/2021	Ongoing	18,399,376.00 €	Ministry of Transport and Communications	Regional Development, Environment and Transport	National	Environment and climate action	Water resource management	400,000.00 €
39	Development of Environmental Monitoring and Information System	The purpose of the Operation is to strengthen capacities for monitoring, data collection, data management and reporting through establishment of national environmental information system and monitoring network structure. The main activities of the project are: • Development of Macedonian National Environmental Information System (MNEIS) • Development of National Environmental Monitoring Network (NEMN) • Strengthening the capacity for implementation of MNES and National Environmental Monitoring Network	EU Programmes - IPA Component 3	8/2/2019		Ongoing	1,369,050.00 €	Ministry of Environment and Physical planning	Regional Development, Environment and Transport	National	Environment and climate action	Horizontal legislation	1,369,050.00 €
40	W-S-S Effect (food Waste - food Security - food Sustainability Effect) - Building Capacities and Cultivating Accountability for real alleviation of (food) poverty	The overall objective of the action is to encourage improvement of the legal and institutional framework that enables proper food waste prevention in the country. W-S-S action is designed with intention to create an adequate environment which stimulates an open debate between CSOs and different stakeholders (policy-makers, food industry, consumers) and consequently, inspires joint action for prevention and reduction of food waste and food poverty.	EU Programmes - IPA Component 3	12/1/2017	12/1/2020	Ongoing	308,181.00 €	Organization for support and aid for the socially excluded and poor citizen FOOD FOR ALL BHM Skopje	Regional Development, Environment and Transport	National	Agriculture and rural development	Food safety, veterinary and phytosanitary	308,181.00 €
41	Small-scale, low-cost and environment-friendly irrigation projects: Elaboration on the concept and preparation of ToR	The project has undertaken general scoping study to analyse the irrigation sector in the country, defined alternative concepts for small-scale, low-cost and, environment friendly schemes, and assess the potential for the development of such schemes. According to the results of the scoping study, the project has prepared draft ToR and budget for IPA 2013 Service Contract for preparation of detailed technical designs and tender dossiers for investments on eight irrigation sites to be funded under IPA II.	EU Programmes - IPA Component 3	2/1/2016	10/1/2016	Completed	87,720.00 €	Ministry of Agriculture, Forestry and Water Economy (MAFWE)	Regional Development, Environment and Transport	National	Agriculture and rural development	Water resource management	87,720.00 €
42	Small-scale, low-cost, environment friendly irrigation schemes: sites selection and preparation of full work tender dossier	The purpose of this project is to mitigate adverse effects of climate change in agriculture by promoting small-scale, low-cost, environment-friendly irrigation schemes, through the following areas of assistance: 1/screening and selection of potential investment sites;2/preparation of (pre)feasibility reports and technical design; 3/compile tender documentation for construction/rehabilitation of small-scale irrigation;4/capacity building of different stakeholders in irrigation water management.	EU Programmes - IPA Component 3	9/1/2017	3/1/2020	Ongoing	1,630,000.00 €	The whole territory of the Beneficiary country	Regional Development, Environment and Transport	National	Agriculture and rural development	Rural development	1,630,000.00 €
43	Skopje Wastewater Treatment Plant	This investment project concerns the construction of a 650,000 p.e. wastewater treatment plant in Skopje, the capital and the largest city in the country. The future WWTP will serve a population of 518,000 and cover nine of the ten municipalities of the City of Skopje. The implementation of the legal requirements and standards of the UWWT Directive (91/271/EEC) and the Drinking Water Directive (98/83/EC) is a significant challenge for the country as far as investments are concerned. Only 15% of the country is serviced by WWTPs, which ensure mechanical and biological treatment. Larger cities still discharge untreated wastewater directly to water bodies, in this case Vardar, the longest and the largest river in the country and transboundary watercourse.	EU Programmes - IPA Component 3	4/1/2015	12/1/2021	Ongoing	125,475,000.00 €	Public Utility Company Skopje	Regional Development, Environment and Transport	National	Environment and climate action	Waste Management	350,000.00 €
48	Supervision of the implementation of the works contract for construction of WWTP in Municipality of Prilep;	The overall objective of the project of which this contract will be a part is as follows: To improve environmental protection through investments in environmental infrastructure, and create conditions for environment friendly sustainable development, with prevention of surface and underground waters pollution. The purpose of this contract is as follows: To assist in works contract management and successful implementation of the investment measures through the supervision of the implementation of the works contracts for Construction of wastewater treatment plant in the Municipality of Prilep compliant with the Urban Wastewater Directive (UWWD) requirements.	EU Programmes - IPA Component 3	9/1/2017	10/1/2019	Completed	282,000.00 €	Ministry of Environment and Physical Planning (MoEPP); Municipality of Prilep	Regional Development, Environment and Transport	Pelagonia	Environment and climate action	Waste Management	239,700.00 €
49	Preparation of studies (FS, EIA, CBA), design documentation and tender dossiers for wastewater collection and treatment investment projects in the Municipalities of Veles and Shtip	The purpose of the Contract is preparation of Project Studies, Design Documentation and Tender Dossiers for Waste water Collection and Treatment Infrastructure in the Municipalities of Veles and Shtip which comprises preparation of Feasibility Studies (FSs), Environmental Impact Assessments (EIAs), Cost-Benefit Analysis (CBAs), Design Documentation on a level of Detailed Designs (DDs) and Outline Designs (ODs) as well as preparation of Volume 3, Volume 4 and Volume 5 of the Tender Dossiers for construction of wastewater collection and treatment infrastructure.	EU Programmes - IPA Component 3	11/11/2016	5/29/2018	Completed	1,499,900.00 €	Ministry of Environment and Physical Planning	Regional Development, Environment and Transport	National			1,274,915.00 €
50	Technical audit for the works and supervision contracts under the project "Improvements in waste water collection and waste water treatment in Prilep"	Assessment and report on the sound implementation of the organisational, technical, financial and contractual aspects of the works contract(s) and on the associated supervision contract(s) and providing recommendations which contribute to the intended results of the project. Three (3) works and two (2) supervision contracts foreseen under the project "Improvements in waste water collection and waste water treatment in Prilep" will be targeted by the audit.	EU Programmes - IPA Component 3	6/1/2016	2/1/2018	Completed	131,530.00 €	Ministry of Environment and Physical Planning	Regional Development, Environment and Transport	Pelagonia	Environment and climate action	Water resource management	111,800.00 €
51	Construction of Waste Water Treatment Plant in Kichevo - Lot 2	The contract shall cover the design and construction of waste water treatment plant for 32 000 p.e. and construction of the main collector with 4 km length in the municipality of Kichevo under the FIDIC 1999 'Yellow Book' conditions of contract.	EU Programmes - IPA Component 3	2/1/2016	10/1/2017	Completed	6,924,916.00 €	Ministry of Environment and Physical Planning (MoEPP); Municipality of Kichevo	Regional Development, Environment and Transport	Southwest	Environment and climate action	Water resource management	5,886,179.00 €

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme	EU funding
52	Construction of WWTP in Municipality of Strumica LOT 3	The contract shall cover the design and construction of waste water treatment plant in Strumica for 53 419 p.e. and extension of the existing main collector by 375 m under the FIDIC 1999 'Yellow Book' conditions of contract.	EU Programmes - IPA Component 3	4/1/2016	10/1/2017	Completed	6,910,876.00 €	Ministry of Environment and Physical Planning	Regional Development, Environment and Transport	Southeast	Environment and climate action	Waste management;Water resource management	5,874,245.00 €
53	Construction of Waste Water Treatment Plant (WWTP) and rehabilitation and extension of priority sewerage network in Municipality of Radovich LOT 1	Design and construction of Waste Water Treatment Plant for 25,000 PE, rehabilitation and extension of the priority sewerage network of 4.7 km, and supply and installation of one (1) pumping station in the Municipality of Radovich under the FIDIC 1999 Yellow Book Conditions of Contract.	EU Programmes - IPA Component 3	4/1/2016	10/1/2017	Completed	6,027,246.00 €	Ministry of Environment and Physical Planning (MoEPP); Municipality of Radovich	Regional Development, Environment and Transport	Southeast	Environment and climate action	Waste management;Water resource management	5,123,159.00 €
54	Rehabilitation and Extension of Sewerage Network in Municipality of Berovo and Kumanovo LOT 2 (Kumanovo)	The Project includes: 1. Rehabilitation/replacement of the identified critical sections in the existing sanitary sewerage system in Kumanovo; and 2. Extension of the existing system –construction of new sewers in zones that are not covered with wastewater collection services at present. The length of network involved in this project is 26 km.	EU Programmes - IPA Component 3	5/1/2016	11/1/2018	Completed	4,323,224.00 €	Ministry of Environment and Physical Planning (MoEPP); Municipalities of Berovo and Kumanovo	Regional Development, Environment and Transport	Northeast	Environment and climate action	Water resource management	3,226,422.00 €
55	Rehabilitation and Extension of Sewerage Network in Municipalities of Berovo and Kumanovo LOT 1 (Berovo)	The overall objective of the project is to improve municipal waste water collection infrastructure. The project envisaged measures for upgrading of the existing sewerage system, which would contribute to improved hygienic standards for the population, protection of the watercourse and proper functioning of the existing Waste water treatment plant. Contract covers works on the sewerage and storm network systems which include replacement of old and installation of new pipes in the Municipality of Berovo and Pechevo.	EU Programmes - IPA Component 3	5/1/2016	11/1/2018	Completed	3,863,186.00 €	Ministry of Environment and Physical Planning (MoEPP); Municipalities of Berovo and Kumanovo	Regional Development, Environment and Transport	East region of RNM	Environment and climate action	Water supply and waste water	2,889,663.00 €
56	Supervision of the construction works for rehabilitation and extension of sewerage network in Prilep (II phase)	The supervision of works during construction and defect notification period for the rehabilitation and extension of sewerage system in Prilep (approx. 44 km).	EU Programmes - IPA Component 3	11/1/2015	4/1/2018	Completed	499,750.00 €	Ministry of Environment and Physical Planning (MoEPP); Municipality of Prilep	Regional Development, Environment and Transport	Pelagonia	Environment and climate action	Water resource management	424,787.00 €
57	Rehabilitation and extension of sewerage network in Prilep Phase 2	Rehabilitation and extension of around Prilep sewerage network, in accordance with FIDIC conditions of contract (Red Book). Extension measures include: Extension of secondary sewers in currently not served residential areas of the town; extension of main collectors; construction of new collectors in the industrial area of the town; construction of the new sewers to collect waste water from properties currently connected to the storm drainage system. Altogether approximately 44 km of sewers will be built/up-graded.	EU Programmes - IPA Component 3	10/1/2015	8/1/2018	Completed	7,684,060.00 €	Ministry of Environment and Physical Planning (MoEPP); Municipality of Prilep	Regional Development, Environment and Transport	Pelagonia	Environment and climate action	Water resource management	6,531,451.00 €
58	Preparation of studies (FS, CBA), design documentation and Volume 3, 4 and 5 of the tender dossiers for wastewater collection investment projects in the Municipality of Kichevo LOT6	This assignment comprises preparation of Feasibility Study (FS), Cost-Benefit Analysis (CBA), Detail Design and Volume 3, Volume 4 and Volume 5 of the tender dossier (TD) for works contract for rehabilitation and extension of the sewerage network in the Municipality of Kichevo.	EU Programmes - IPA Component 3	7/1/2015	4/1/2016	Completed	248,520.00 €	Ministry of Environment and Physical Planning (MoEPP); Municipality of Kichevo	Regional Development, Environment and Transport	Southwest	Environment and climate action	Water resource management	211,242.00 €
59	Preparation of studies (FS,EIA,CBA) design documentation and tender dossiers for wastewater collection and treatment investment project in the Municipality of Strumica, Bitola and Tetovo	To assist the Ministry of Environment and Physical Planning in preparation of wastewater collection and treatment investment projects in the municipalities of Strumica, Bitola and Tetovo	EU Programmes - IPA Component 3	7/1/2014	7/1/2017	Completed	3,203,000.00 €	Ministry of Environment and Physical Planning (MoEPP); Municipalities of Strumica, Bitola and Tetovo	Regional Development, Environment and Transport	Southeast, Pelagonia, Polog	Environment and climate action	Water resource management	2,722,550.00 €
60	Construction of Waste water treatment Plant in Prilep	Design and construction of municipal Waste Water Treatment Plant (WWTP) meeting the requirements of Annex I of the Urban Waste Water Treatment Directive (91/271/EEC) for 95.000 People Equivalent, in accordance with FIDIC conditions of contract (Yellow Book). The works include design, civil works, mechanical works, electrical works, access road and bridge, training of staff and commissioning.	EU Programmes - IPA Component 3	5/1/2014	5/1/2019	Completed	9,667,773.00 €	Ministry of Environment and Physical Planning (MoEPP); Municipality of Prilep	Regional Development, Environment and Transport	Pelagonia	Environment and climate action	Waste Management	7,888,903.00 €
61	Rehabilitation and extension of sewerage network in Prilep Phase 1	Rehabilitation and extension of approx. 22 km sewerage network, in accordance with FIDIC conditions of contract (Red Book).	EU Programmes - IPA Component 3	8/1/2013	11/1/2016	Completed	6,263,363.00 €	Ministry of Environment and Physical Planning (MoEPP); Municipality of Prilep	Regional Development, Environment and Transport	Pelagonia	Environment and climate action	Water resource management	5,110,904.00 €
62	Works supervision for the investment project for wastewater collection and treatment in Prilep - SER	The supervision of works during construction and defect notification period for the construction of WWTP and rehabilitation and extension of sewerage system in Prilep.	EU Programmes - IPA Component 3	7/1/2013	8/1/2017	Completed	999,460.00 €	Ministry of Environment and Physical Planning (MoEPP); Municipality of Prilep	Regional Development, Environment and Transport	Pelagonia	Environment and climate action	Water resource management	849,541.00 €
70	Reform in the system for water supply, collection and treatment at local level	Purpose is to have and adequate management capacity for provision of operation and services for water supply, collection and treatment at local level, which is a condition to effectively absorb and operate future investments.	EU Programmes - IPA Component 3	12/4/2015	12/1/2017	Completed	1,850,000.00 €	Ministry of Environment and Physical Planning	Regional Development, Environment and Transport	National			85%-15%
71	Supporting the evaluation of the Work Tender for WWTPs construction in the municipalities of Radovich,Strumica and Kichevo	The global objective of the assignment is to evaluate the works tender for Construction of WWTPs in Municipalities of Radovich, Kichevo and Strumica according to the rules of the Practical Guide to Contract procedures for EU external actions – PRAG. The specific objective of this assignment is to provide an independent, professional, impartial and confidential evaluation of the works tender with three lots for Construction of WWTPs in Municipalities of Radovich, Kichevo and Strumica according to the rules of the Practical Guide to Contract procedures for EU external actions – PRAG.	EU Programmes - IPA Component 3	9/16/2015	3/18/2016	Completed	75,120.00 €	Ministry of Environment and Physical Planning	Regional Development, Environment and Transport	East, South-East			85%-15%
72	Preparation of necessary documentation for upgrading the WWTP in Vranishta, extension of the collector system for Ohrid Lake and separation of the foal and storm priority water network in the Cities of Ohrid and Struga	The specific objective of this assignment is preparation of necessary documentation for upgrading the WWTP in Vranishta, extension of the collector system for Ohrid Lake and separation of the foal and storm priority water network in the Cities of Ohrid and Struga. This assignment comprises preparation of Feasibility Study, Cost-Benefit Analysis (CBA), design documentation and Volume 3, Volume 4 and Volume 5 of the tender dossier (TD) for the works contract for upgrading the WWTP in Vranishta, extension of the collector system for Ohrid Lake and separation of the foal and storm priority water network in the Cities of Ohrid and Struga.	EU Programmes - IPA Component 3	11/12/2014	12/1/2015	Completed	284,570.00 €	Ministry of Environment and Physical Planning	Regional Development, Environment and Transport	West			85%-15%
73	Preparation of project documentation for Improvement of the Wastewater Collection Infrastructure in the City of Skopje	The specific objective of this assignment is preparation of project documentation for Improvement of the Wastewater Collection Infrastructure in the City of Skopje. This assignment comprises preparation of Feasibility Study, Cost-Benefit Analysis (CBA), Detail Design and Volume 3, Volume 4 and Volume 5 of the tender dossier (TD) for works contract for rehabilitation and extension of the sewerage network in the City of Skopje according to Red FIDIC contract conditions.	EU Programmes - IPA Component 3	11/11/2014	10/3/2015	Completed	289,443.00 €	Ministry of Environment and Physical Planning	Regional Development, Environment and Transport	Skopje			85%-15%

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme	EU funding
74	Preparation of project documentation for Improvement of the Wastewater Collection Infrastructure in the Municipality of Kumanovo	The specific objective of this assignment is preparation of project documentation for Improvement Collection Infrastructure in the Municipality of Kumanovo. This assignment comprises preparation of Feasibility Study, Cost-Benefit Analysis (CBA), Detail Design and Volume 3, Volume 4 and Volume 5 of the tender dossier (TD) for works contract for rehabilitation and extension of the sewerage network in the Municipality Kumanovo.	EU Programmes - IPA Component 3	8/11/2014	6/29/2015	Completed	225,920.00 €	Ministry of Environment and Physical Planning	Regional Development, Environment and Transport	Kumanovo			85%-15%
75	Preparation of project documentation for Improvement of the Wastewater Collection Infrastructure in the Municipality of Berovo	The objective of the contract is to improve municipal wastewater infrastructure in compliance with the Directive 91/271/EEC through preparation of project documentation for the wastewater collection and treatment infrastructure in the Municipality of Berovo.	EU Programmes - IPA Component 3	7/10/2014	6/7/2015	Completed	253,232.00 €	Ministry of Environment and Physical Planning	Regional Development, Environment and Transport	Berovo			85%-15%
76	Preparation of project documentation for Improvement of the Wastewater Collection and Treatment Infrastructure on the Municipality of Kicevo	The objective of the contract is to improve municipal wastewater infrastructure in compliance with the Directive 91/271/EEC through preparation of project documentation for the wastewater collection and treatment infrastructure in the Municipality of Kicevo.	EU Programmes - IPA Component 3	7/10/2014	5/17/2015	Completed	280,380.00 €	Ministry of Environment and Physical Planning	Regional Development, Environment and Transport	Kicevo			85%-15%
77	Preparation of project documentation for improvement of the Wastewater collection and treatment infrastructure in the Municipality of Radovich	The objective of the contract is to improve municipal wastewater infrastructure in compliance with the Directive 91/271/EEC through preparation of project documentation for the wastewater collection and treatment infrastructure in the Municipality of Radovich.	EU Programmes - IPA Component 3	5/30/2014	4/12/2015	Completed	248,940.00 €	Ministry of Environment and Physical Planning	Regional Development, Environment and Transport	Radovich			85%-15%
78	Preparation of Tender Dossier for rehabilitation and extension of sewerage network in Prilep (II Phase)	The specific objective of the project is to assist the Ministry of Environment and Physical Planning and end recipients in preparation of Preparation of Tender Dossier for rehabilitation and extension of 43.36 km sewerage network in Prilep under PRAG rules and according Fidic Red Book, 1999 conditions of contract for Works Contract	EU Programmes - IPA Component 3	5/2/2013	7/26/2013	Completed	36,430.00 €	Ministry of Environment and Physical Planning of the Republic of Macedonia, Municipality of Prilep, Public Enterprise VIK	Regional Development, Environment and Transport	Prilep			85%-15%
79	Preparation of regional waste management plans and strategic environmental assessments for east and north-east regions	The project purpose is to support the planning process for an integrated regional waste management system through preparation of Regional Waste Management Plans and Strategic Environmental Assessment (SEA) in East and North-East Region.	EU Programmes - IPA Component 3	4/5/2013	9/10/2014	Completed	1,140,000.00 €	Ministry of Environment and Physical Planning of the Republic of Macedonia	Regional Development, Environment and Transport	Regional	Waste management/disposal	Regional development	85%-15%
80	Preparation of Terms of reference (ToR) for the Service Contract for TA for reform in the system for water supply, collection and treatment at local level	The specific objective of the project is providing of technical assistance for preparation of Terms of Reference for the Service Contract for reform in the system for water supply, collection and treatment at local level in the City of Skopje and in the Municipalities of Strumica, Bitola, Tetovo, Gostivar, Kavadarci and Debar.	EU Programmes - IPA Component 3	2/20/2013	7/4/2013	Completed	56,324.00 €	Ministry of Environment and Physical Planning of the Republic of Macedonia	Regional Development, Environment and Transport	National			85%-15%
81	Support in identification, assessment and selection of eligible projects for IPA Regional Development Component - part Environment	The specific objective is to provide assistance to develop the capacities of the Ministry of Environment and Physical Planning for developing sound and sustainable pipeline of investment projects, and to apply this capacity in the waste water collection and treatment and waste management area.	EU Programmes - IPA Component 3	12/9/2010	5/11/2011	Completed	104,784.00 €	Ministry of Environment and Physical Planning of the Republic of Macedonia	Regional Development, Environment and Transport	Regional			85%-15%
86	Supply of equipment for biodiversity monitoring information system and equipment for water management information system and water monitoring	Purchase of equipment for monitoring of biodiesel system information and equipment for management of information system and water monitoring (2 outreach activities).	EU Programmes - IPA Component 3	3/19/2014	6/18/2014	Completed	74,532.00 €	Ministry of Environment and Physical Planning	Technical Assistance	National	Bio-diversity	Institutional capacity building	
87	Innovative practices in environmental protection	The project is part of the cross-border cooperation programme with Republic of Albania. The estimated results include: Established sustainable and innovative small scale reed beds techniques as natural system for waste water collection and treatment in the villages Grncari/Podmocani and Gorica; Supported actions for sustainable agriculture and rational use of pesticides and fertilizers to reduce the impact of agricultural practices to the Prespa Lake basin ecosystem; Implemented trainings, educational activities and promotion of comprehensive awareness campaign related to environmental issues.	EU Programmes - IPA Component 3	2/27/2014	8/27/2015	Completed	153,854.00 €	Municipality of Resen, National Park Galicica - Ohrid	Technical Assistance	Pelagonia	Environmental policy and administrative management	Environmental protection	
88	Technical assistance for strengthening the institutional capacities for approximation and implementation of environment legislation in the area of water management	This project is part of IPA, Component 1. The aim of the project is to strengthen the national administrative capacities for water management, i.e. the administrative capacity of the Water Department in the Ministry of Environment and Physical Planning, in particular the River Basin management authorities, for the purpose of providing administrative structure for implementation of Water Law. Additionally, the project will contribute for further approximation of legislation through Development of the relevant secondary legislation. The following activities are planned under this project:1) strengthening of administrative capacity for water management on central level for implementation of Water Law - Assessment of the administrative capacity; and 2) strengthening of the administrative capacity of the River Basin management authorities for River Basin - Vardar and development of elements of the River Basin Management Plan of Vardar River.	EU Programmes - IPA Component 3	12/31/2013	20/12/2015	Completed	1,665,400.00 €	Ministry of Environment and Physical Planning	Technical Assistance	National	Water sector policy and administrative management	Institutional capacity building	

Annex 6 - Database of IPA 1 - Components 2 CBC Projects that meet the Selection Criteria (connected to Climate Change)

No.	Project Title	General Information						Financial Information		Classification			EU funding
		Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme	
1	Protection of the environment through the promotion of biomass for substitution of fossil fuels in heating and power generation / Biofoss	Protection of environment and its resources, promotion of the conformity with the European Union and the national energy targets for 2020 and contribution towards the global effort to confront the climate change. The core idea behind the project is to extend the knowledge of the region regarding the utilization of biomass as a source of clean energy. Moreover to study biomass technologies for heat or CHP production for district heating and demostate through pilot projects, dissemination activities and study visits on EU region where biomass is widely utilized.	EU Programmes - IPA Component 2	7/1/15	12/1/2016	Completed	135,513.00 €	MUNICIPALITY OF BITOLA	Cross-Border Cooperation	Pelagonia	Democracy and Governance	Nature protection; Renewable Energy	115,186.00 €
4	Communities Communicating Climate Change (CCCC)	The proposed action is contributing to the specific objective of the call by strengthening the impact and involvement of civil society in decision-making processes and key reforms for support of the eu accession process. The main objectives are to establish a nationwide climate change coalition for enhanced involvement in the creation of public opinion, increased influence in policy development and to raise awareness of North Macedonian citizens about the importance of tackling climate change issues.	EU Programmes - IPA Component 2	1/1/2018	12/1/2020	Ongoing	396,826.00 €	ECO- Svest, Skopje	Cross-Border Cooperation	National	Environment and climate action	Climate Action	396,826.00 €
5	Green building for common green future GREEN	The project will create better conditions for a more sustainable energy future in the Cross Border region through construction of energy-efficient public buildings, improving of awareness of population and stakeholders for the benefits of the energy efficiency measures and increasing of capacity of public administration staff for energy efficiency measures and climate change adaptation.	EU Programmes - IPA Component 2	10/1/2016	10/1/2018	Completed	408,680.00 €	LB - Centre for Development of the East Planning Region; B2 - Regional administration Blagoevgrad	Cross-Border Cooperation	East region of RNM	Democracy and Governance	Local economic development; Tourism and Heritage	338,670.00 €
6	Joint Cross Border Cooperation for Securing Societies Against Natural and Man Made Disasters	J-cross project is the result of a long standing cooperation between the region of western North Macedonia and the pelagonia region. Both are fully aware of the need to secure development initiatives and opportunities against risks from natural and man made disasters. The two regions acknowledged the importance of civil protection in securing such efforts. Climate change increases risk from natural hazards, while big infrastructure projects (such as tap pipeline recently approved by european commission) increase the risks of a man made - man induced disaster. Refugees' flows put also great challenges to cross border area, being also a civil protection priority, as proved by the invitation of joint european civil protection mechanism to support humanitarian operation in the two countries' border area. Therefore, j-cross tackles the challenge to minimize increasing -by climate change- frequency and severity of risks in both regions by jointly planned, developed and implemented effective actions. The overall project objective is to elaborate joint cross border action plan that will lead to joint risk assessment, joint prioritization of risks and financing of counter measures, joint exercises and training activities.	EU Programmes - IPA Component 2	7/4/2018	1/4/2020	Ongoing	935,389.00 €	Region of Western Macedonia Center for Development of Pelagonia Region Crisis Management Center Aristotles' University of Thessaloniki National Observatory of Athens	Cross-Border Cooperation	Pelagonia	Democracy and Governance	Territorial cooperation	419,982.00 €
22	Innovative practices in Environmental Protection phase II	To increase the awareness for sustainable use of natural resources for protection of the environment B. To reduce the negative effects from usage of pesticides and fertilizers on environment.	EU Programmes - IPA Component 2	11/1/2017	11/1/2019	Completed	439,929.00 €	Association Center for Civil Initiative	Cross-Border Cooperation	National	Environment and climate action	Nature protection	373,940.00 €
44	Safe Cross-Border transportation of Hazardous Materials: Orphan Radioactive Sources	The main objective is: Non-experts in the radiological field, such as front line officers, will be familiarized with radiation detection, radiation hazards, and measuring and relaying technical information obtained from instruments for subsequent analysis by the scientific experts. This complexity and the need for optimized use of radiation measurement equipment obviously call for thorough training of the front line officer and the other competent authorities relative to their roles in the State's national nuclear security plan. The project deals with green transportation and one of the challenges is to minimize any risks of accidents and pollution with hazardous materials.	EU Programmes - IPA Component 2	6/1/2018	6/1/2020	Ongoing	946,402.00 €	Alexander Technological Educational Institute of Thessaloniki-Department of Automation Engineering; Greek Atomic Energy Commission 19/04/2018 Aristotle University of Thessaloniki-Department of Electrical and Computer Engineering; Protection and Rescue ; Engine; Ss. Cyril and Methodius University in Skopje - Faculty of Mechanical Engineering	Cross-Border Cooperation	Regional	Democracy and Governance	Nature protection	341,860.00 €
45	Transboundary Air Pollution Health Index Development and Implementation (TRAP)	The project aims to evaluate current situation regarding air quality in partners' areas, install monitoring stations and create public health indexes for assessing air quality impact on human health and natural environment. TRAP will extend the already established network of air quality to both countries and cross-border area. Moreover, epidemiological indicators and indicators of air quality, based on the effects of air pollution on human health, will be calculated and displayed on the project's website in correlation with air quality. TRAP is expected to go a step beyond the current state of the art in air quality by correlating air quality and health and providing an integrated air quality – health index ICT tool which will be accessible by stakeholders and general public (vulnerable target groups). TRAP creates significant added value at CBC area by: • New modules promoting air quality monitoring and public health. • Safeguard human life and upgrade the level of public health • Capacity and infrastructure building of bodies responsible for monitoring and protecting air quality and human health. • Awareness about functioning of EU funding and EU rules. • Stimulated communication and cooperation actions that foster common aspects and mitigate differences of the population in cross-border regions.	EU Programmes - IPA Component 2	3/8/2018	8/2/2020	Ongoing	969,331.00 €	Center for the Environment of Western Macedonia, Municipality of Florina, European Regional Cooperation Framework, Center for Climate Change – Gevgelija, Ministry of Environment and Physical Planning	Cross-Border Cooperation	Regional	Democracy and Governance	Nature protection	483,965.00 €

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme	EU funding
46	From trash to cash: Sustainable development and economic empowerment of informal waste collectors through waste recycling in the cross border region of Albania and Macedonia	This project is part of Component II of IPA (cross-border cooperation). It is aiming towards enforcement of the position of the informal waste collectors in the cross-border areas of Macedonia and Albania. This will be achieved through trainings on the possibilities for PPP, realization of activities for awareness rising on topics such as environment, health and safety of people, as well as on the economic benefits coming from waste collection (mutual visits to Albania and Macedonia), preparation and printing of promotional materials etc. In addition, appropriate equipment will be purchased, such as bailing machines, protective clothing and equipment, containers etc.	EU Programmes - IPA Component 2	11/1/2013	4/30/2015	Completed	189,665.00 €	NGO	Cross-border cooperation	Regional			189,665.00 €
47	Sustainable tourism and ecology promotion under partnership	This project is part of the Programme for Cross Border Cooperation between the Republic of Macedonia and the Republic of Bulgaria. The specific objectives that the project aims to achieve are: Construction of small-scale infrastructure for ecological tourism (eco itineraries) and places for leisure and recreation in the Municipalities of Razlog and Gevgelija contributing towards the development of alternative tourism; Creation of new tourist attraction allowing innovative and interactive representation of the local natural heritage and its further integration into a common tourist service/package; Raising ecological awareness of the local population in both partner municipalities; Increasing the number of alternative tourist services offered to the visitors of both municipalities; Establishment of a fruitful long term partnership between the two Municipalities.	EU Programmes - IPA Component 2	4/30/2013	4/30/2015	Completed	147,763.00 €	Municipality of Gevgelija	Cross-border cooperation	Gevgelija			
82	Promotion of eco - products in the cross - border area	The specific objective of the project is support to development and promotion of eco – products in the cross-border area.	EU Programmes - IPA Component 2	6/2/2014	2/3/2016	Completed	181,210.00 €	Municipality of Mavrovo and Rostuse, Public Enterprise National Park Mavrovo, Mavrovi Anovi	Technical Assistance	Regional	Environmental policy and administrative management	Cross-border cooperation	
83	Green future for our kids	The projects operational objectives are thermal and hydro insulation of the kindergarten in Rusinovo vilage, municipality of Berovo; switch to eco pellets as a source of heating at the kindergarten and use of solar energy; switch to gas as a source of heating at the Gianni Rodari kindergtrten; joint development of an education programme for children and their parents for building responsible and active attitude to the renewable energy sources and to the preservation of natural resources.	EU Programmes - IPA Component 2	5/14/2014	5/14/2016	Completed	496,500.00 €	Municipality of Berovo	Technical Assistance	East	Environmental education/ training	Environmental protection	
84	Go Green, be a part of Guerilla Gardening Team	The specific objectives of the project are: Promoting innovative activities to raise environmental awareness (eco-activism) and turning them into daily practice; Developing participants' skills to re-use waste; Increasing the number of activities for urban landscaping of all areas in Strumica; Active public involvement in the preservation of the environment.	EU Programmes - IPA Component 2	5/12/2014	9/11/2014	Completed	4,498.00 €	Ekological Society Planetum Strumica	Technical Assistance	South-East	Environmental education/ training	Regional development	
85	Public Institutions - Energy Efficiency	This project is part of the Programme for Cross-Border Cooperation between the Republic of Macedonia and the Republic of Bulgaria. The primary goal that will be achieved by this project is the development of the technical documentation. These documents will include improving the conditions of work and life, creating pleasant ambience and optimization between architecture and power consumption through a number of realistic solutions using natural sources of energy. Improvement of the conditions will be achieved through construction activities for rehabilitation of building, renovations of roof construction and roof cover, flat passable roof reconstruction and replacement of carpentry facade. Planned construction activities will be specified in the project tasks that will assure project success.	EU Programmes - IPA Component 2	4/22/2014	2/21/2015	Completed	142,324.00 €	OOU Ilinden; Center for social support	Technical Assistance	North - East	Energy policy and administrative management	Cross-border cooperation	
89	Research your closest environment and discover its most dangerous and harmful effects	Research your closest environment and discover its most dangerous and harmful effects	EU Programmes - IPA Component 2	12/19/2013	18/12/2014	Completed	97,392.00 €	Association ZUG Valandovo, SOU Goce Delcev Valandovo	Technical Assistance	South - East	Environmental research	Cross-border cooperation	
90	Enabling Organic Production in the Cross-Border Region	The specific objectives of the project are: 1. To foster the development of the transition to organic production and agriculture by raising awareness and building capacities, knowledge and skills for organic production among targeted groups on the various ecological, economic and social benefits of developing and moving to organic production; 2. To improve and enhance the skills and knowledge of agricultural producers that are currently engaged in organic production in the common cross-border region; 3. To build capacities for extension of specific know-how on modern techniques and agricultural practices in setting up and implementing organic production among advisory, training and educational service providers from the common cross border region; 4. To contribute towards protection of the environment and provide sustainable management of the natural resources by establishing basis for suitable cross-border cooperation, networking, exchange of experience, good practices and joint promotion among the organic production stakeholders.	EU Programmes - IPA Component 2	12/18/2013	12/17/14	Completed	98,468.00 €	Association "Savremenie", Macedonian Organic Producers Federation (MOPF)	Technical Assistance	National	Agricultural education/training	Cross-border cooperation	
91	Rivers with no borders	This project is part of the Programme for Cross Border Cooperation between the Republic of Macedonia and the Republic of Bulgaria. The specific objectives of the project are: Regulation of the negative impact of flood phenomena; Rehabilitation of protective river walls and cleaning the riverbeds; Integration of the rivers in the urban aspect of Dupnitsa and Kriva Palanka.	EU Programmes - IPA Component 2	12/18/2013	8/18/2015	Completed	499,987.00 €	Municipality of Kriva Palanka	Technical Assistance	North - East	River basins development	Cross-border cooperation	
92	Working together for protecting the climate	Project purpose: initiate advocacy activities of civil society organizations towards institutions on key energy and transport problems by establishing long term opportunities for such activities. The main activities are: 1. Awareness raising campaign 1.1 Preparation and dissemination of informative materials of citizens; 1.2 Organizing open air events with the participation of citizens; 1.3 Working with media to amplify our messages. 2. Advocacy activities 2.1 establish cooperation with civil society initiatives; 2.2 stimulate discussions among civil society, institutions and experts on key energy and transport problems in Macedonia; 2.3 organize meetings with national policy-makers.	EU Programmes - IPA Component 2	11/4/2013	9/15/2014	Completed	9,371.00 €	Center for environmental research and infomration Eko-vest	Technical Assistance	National	Environmental policy and administrative management	Environmental protection	
93	Increasing Energy Efficiency and Utilization of Renewable Energy Sources in the cross-border region (IPA Cross Border Programme 2009, 2010, 2011)	Overall objective is to determine and increase the utilization of Renewable Energy Sources (RES) and the Energy Efficiency (EE) in the cross border region, specifically the Southwest region of Republic of Macedonia and Korca region in Albania. Specific objectives: improving the living and working conditions, reducing energy poverty, decreasing the CO2 pollution in the cross-border region, preservation of the national resources.	EU Programmes - IPA Component 2	9/1/2013	11/30/14	Completed	71,115.00 €	Center for Energy Efficiency, Centre for development of the South-Western Planning Region	Other grants	Regional	Power generation/renewable sources	Strengthening natural resources management	

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme	EU funding
94	Promotion of energy efficiency in buildings and protection of the environment – PEEBPE	The project is part of the CBC Programme with Greece. The expected outputs of the project are: Raising awareness of the civil society and business community in both regions by organizing relevant seminars and conferences and by development of respective interactive website; The report on the detailed building energy audit of all the public buildings; The production of an innovative and simple guide for building carbon footprint estimation for general use, based on the detailed building energy audit; One model for energy efficiency studies and implementation measures based on the detailed energy efficiency studies. This will include all the energy efficiency and renewable energy technology measures that should be applied on future zero-emission buildings; Implementation of models on three buildings, two in Greece, one in Resen; Establishment of regional center for energy efficiency which will offer consultancy, project development and technical services.	EU Programmes - IPA Component 2	8/13/2013	2/13/2015	Completed	218,239.00 €	Municipality of Resen	Technical Assistance	Pelagonia	Environmental policy and administrative management	Environmental protection	
95	Recycling of organic waste and green entrepreneurship in the urban web to secure public health	The main objective of the proposed project is the organisation of a network for recycling organic waste from enterprises of the urban fabric which will enable citizens to actively contribute to an alternative waste management and will ensure the protection of public health. Further, it will upgrade and develop the existing infrastructure and will acquire new one for the support of organic wastes recycling and its monitoring and will develop common methodology standards for collection and composting of organic wastes.	EU Programmes - IPA Component 2	8/9/2013	2/9/2015	Completed	125,001.00 €	Municipality of Struga	Technical Assistance	South-West	Waste management/disposal	Environmental protection	
96	Transfer of know-how to Dojran Municipality and adaptation of DEYAK to the new status created by "Kalikratis" for the management of waste water in the area of intervention – Improvement of citizens' quality of life (CRIS No. IPA 2011/DN022620/CN 314 198)	The overall objective of the project is to support environmental resources of the cross-border municipalities of Kilkis and Dojran through joint interventions on environment protection with focus on improvement of the quality of Lake Dojran waters through reconstruction of the waste water treatment plant of Dojran and respective controls in the areas around the lake that integrated in Kilkis municipality after "Kalikratis" enforcement.	EU Programmes - IPA Component 2	7/16/2013	10/16/14	Completed	309,734.00 €	Municipality of Dojran	Technical Assistance	Regional	Water resources conservation (including data collection)	Strengthening natural resources management	
97	Valorization of renewable energy sources in the cross-border area	The objective of the project is to promote sustainable economic development and environmental awareness through valorization and efficient use of renewable energy sources in the region. This will promote the balanced development of the cross-border region by strengthening the smaller municipalities through wise utilization of their natural resources and raising public awareness about global warming.	EU Programmes - IPA Component 2	5/15/2013	11/15/2014	Completed	94,500.00 €	Municipality of Zrnovci	Technical Assistance	East	Environmental policy and administrative management	Strengthening natural resources management	
98	A cross border approach to tourism development based on water resources	The project is related to construction of a local asphalted road to the lake valley of Lipkovska Brana and improvement the environmental surrounding of River of Bistrica established the precondition for eco water based tourism in partner municipalities. Educating local population about the touristic opportunities of the areas and the touristic benefits supported establishment of ecotourism initiatives by development of strategic local documents and products. Choosing and arranging locations for sport fishing, horizon point views, providing mountain and tracking paths are some of the tourist products that were developed as a cross-border joint tourist product.	EU Programmes - IPA Component 2	5/7/2013	11/6/2014	Completed	491,875.00 €	Municipality of Lipkovo	Technical Assistance	North - East	Tourism policy and administrative management	Promotion of favorable business and investment climate	
99	Efficient usage of solar energy for better future – SP-Future	The project is part of the IPA cross-border programme with the Republic of Bulgaria. The overall objective of the project is to improve the existing designs for mitigation of environmental pollution as a role model for development of the border region.	EU Programmes - IPA Component 2	7/23/2012	7/23/2014	Completed	432,392.00 €	Municipality of Strumica, Municipality od Petric, Bulgaria	Technical Assistance	South-East	Environmental education/ training	Cross-border cooperation	
100	Cross-Border water resource management (Grant no. 2012/287-772)	Improving environmental planning and resource management. This project recognizes needs expressed by representatives of municipalities and local stakeholders for further development of environmental planning, efficient public participation in decision-making, facilitating environmental investments and improving environmental resource management. Project would open channels of communication and improve cooperation across national borders and among different ethnic groups in Macedonia and Albania. This project will guide two cross-border municipalities in Macedonia and Albania towards prudent use of water resources and increased awareness of the communities for sustainable living and behaviour.	EU Programmes - IPA Component 2	4/23/2012	4/24/2014	Completed	166,935.00 €	Municipality Debar	Other grants	South-West	Water resources conservation (including data collection)	Strengthening natural resources management	
101	Interactive farmers' support system for efficient water use management - RULAND (CRIS No: 2011/280-227)	The main objective of the project is to develop cross border interactive farmers' support system that will help farmers to improve their water use efficiency, as well as to improve their yields and economic benefits. Furthermore there will be significant environmental benefits as decreased pressure on water resources in the region as result of decreased water use in agricultural sector.	EU Programmes - IPA Component 2	3/26/2012	12/31/13	Completed	99,112.00 €	University "St. Cyril and Methodius", University „St.Kliment Ohridski" - Bitola	Other grants	Regional	Agricultural water resources	Environmental protection	
102	Joint Applicable Research for Natural Resources Preservation and Environmental Protection in the Cross Border Region between the municipalities of Pehchevo and Simitli (IPA Cross-Border Programme; CCI No. 2007CB16IPO007-2011-2-106)	Overall objective of the project is: to foster capacities for Natural Resources Preservation and Environmental Protection in the Cross Border Region between the municipalities of Pehchevo and Simitli by using high-tech information technologies, GIS, GPS and satellites data. Specific objectives: to conduct GIS inventory of the natural resources within both municipalities and to develop joint GIS database; to evaluate geo and landscape resources, climate resources, water resources and forests within both municipalities; to establish a system for joint collaboration, coordination, information and experience exchange considering natural resources within both municipalities; to evaluate natural resources and to identify cross-border areas with significant or unique natural characteristics as possible protected areas; to establish a GIS-based network for natural resources protection and natural risk processes monitoring in the areas of: forest fires, flooding, excess erosion and landslides	EU Programmes - IPA Component 2	7/23/2012	7/22/2013	Completed	99,244.00 €	Municipality of Pehchevo	Technical Assistance	East	General environmental protection	Cross-border cooperation	
103	Restoration of Nature for good quality of life (IPA Cross-Border Programme; CCI No. 2007CB16IPO007-2011-2-34)	The overall objective of the project is: to utilize the existing natural resources in a way that increases the quality of life in the two towns on the two sides of the border. Specific objectives are to: ameliorate the space along the course of the rivers Bregalnica and Sandanska Bistrica in Sandanski; raise the awareness of the residents and visitors of the two municipalities of the importance of environmental issues for the quality of life; sensitize the residents of the border area of the rivers as natural heritage with economic development potential; build partnership between the two municipalities for joint initiatives toward green growth of the common territory.	EU Programmes - IPA Component 2	7/23/2012	7/23/2014	Completed	499,199.00 €	Municipality of Berovo	Other grants	East	General environmental protection	Cross-border cooperation	
104	Savoring Unique Nature - Bicycle-tourism in support of nature (IPA CBC; CCI No. 2007CB16IPO007-2011-2-86)	Overall objective: To improve the quality of life in the cross-border region (CBR) of Bulgaria and Macedonia by creating new opportunities for sports, recreation, tourism and sustainable management of joint tourism and environmental protection initiatives.	EU Programmes - IPA Component 2	7/23/2012	7/22/2013	Completed	98,964.00 €	Center for Rural Development - Bujrum	Other grants	Regional	Rural development	Cross-border cooperation	

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme	EU funding
105	Nature for people and people for nature	The project is part of the cross-border cooperation program with Bulgaria. Sharing of knowledge from the region of Rila (where sustainable tourism is well-developed) to the region of Strumica, offers the innovative opportunity to transfer best practices and lessons learned regarding sustainable forms of tourism into Macedonian counterparts. Providing theoretical and practical training helps strengthening human resources in the Strumica region and development of eco-tourism based on the principles of sustainable development, particularly of rural areas where the most of the natural resources are.	EU Programmes - IPA Component 2	4/30/2013	10/30/14	Completed	77,159.00 €	Environmental Association Planetarium Strumica; Directorate of Rila Monastery Nature Park	Technical Assistance	Soth-East	Environmental policy and administrative management	Environmental protection	
106	Local Communities in Environment Actions-ENVI CRS No.2011/280-093	The overall objective of the project is realization of common actions for the protection of natural environment and the mobilization of natural resources as well as the implementation of specific interventions that will protect the local environment. Protection of environmental resources and encouragement of local communities to participate actively in this process are the main themes tackled by the project.	EU Programmes - IPA Component 2	3/22/2012	6/22/2013	Completed	111,556.00 €	Municipality of Kavadarci	Technical Assistance	Kavadarci	General environmental protection	Environmental protection	
107	We are saving together for more energy	The project is part of the cross-border cooperation program with Republic of Bulgaria. The objective of the project is to promote energy-saving measures.	EU Programmes - IPA Component 2	12/18/2012	12/17/14	Completed	333,563.00 €	Kindergarten Goce Delcev, Probstip	Technical Assistance	East	Environmental policy and administrative management	Environmental protection	
108	Promoting and preserving the biodiversity of Maleshevska Mountain-MALESH	The overall objective of project "MALESH" is to promote the preservation and restoration of the biodiversity on the territory of the border Maleshevska Mountain in order to increase attractiveness and improve the quality of life in the common cross-border region.	EU Programmes - IPA Component 2	7/23/2012	1/23/2014	Completed	99,953.00 €	Association Business Information and Consulting Center - Sandanski; Center for development of the Eastern planning region	Technical Assistance	East	Bio-diversity	Environmental protection	
109	Sustainable Tourism and Ecology Promotion Under Partnership - STEP UP	The project aims at creation of preconditions for development of alternative forms of tourism in the target regions by taking advantage of the rich natural heritage. The main activity in the project is construction of two eco-paths in the Municipalities of Gevgelija and Razlog. The places where the eco-paths were built are chosen because of their location allowing a picturesque view over the regions. In Razlog it is the locality "Golak" and in Gevgelija – it is Vardarski rid – a famous archaeological site surrounded by beautiful nature. Also an advertisement and awareness raising campaign was organized to promote the new tourist places and increase ecological awareness.	EU Programmes - IPA Component 2				499,873.00 €	Municipality of Gevgelija, Municipality of Razlog	Cross-Border Cooperation	Regional			424,892.00 €
110	Traditional knowledge for sustainability - a cross-border network for utilization and protection of wild and cultivated plant diversity of East Macedonia and South-West Bulgaria (IPA CBC; CCI No. 2007CB16IPO007-2011-2-101)	The project strategy has three main pillars: 1. Inventory-the border area is rich in plant resources used by the local communities for centuries. Therefore, the project was start with a survey of local practices for plant uses. 2. Training- a manual for studying local practices in the CBC area was prepared. 3. Promotion-the utilization of local knowledge for sustainable local growth is a relatively new topic and needs promotion so that the messages can reach wide audience.	EU Programmes - IPA Component 2	7/23/2012	7/23/2013	Completed	88,525.00 €	Agricultural Association Mechanical Ring - Probstip	Other grants	Regional	Bio-diversity	Cross-border cooperation	
111	Measures for flood prevention of Rivers Bregalnica and Bistrica	The project joins the efforts for a common flood management measures in cross border region. The project specific objectives included: 1. Increased protection on the negative effect of flood phenomena in the CBC region; 2. Introduced structural and non-structural measures for flood prevention of rivers Bregalnica and Bistrica(cleaning of the river beds and renewal/rehabilitation of water control and water redirection structures, development of comprehensive action plans for flood protection, joint discussions and trainings and improving a transnational effort to restore rivers' natural flood zones. 3. Increased public awareness for problems associated with floods and individual role and responsibility in prevention during our day-to day acting.	EU Programmes - IPA Component 2		implemente d 2016	Completed	498,125.00 €	Municipality of Delcevo, Municipality of Blagoevgrad	Cross-Border Cooperation	Regional			
112	Promotion of waste management and energy efficiency practices in the cross-border region	This project mainly oriented to promote energy efficiency and environmental activities in small and medium enterprises (SMEs) in the cross border region, in order reducing the negative impact from their economic activities on the environment. This action is focusing on identification of the best practices and tools for better energy and waste management, applicable and suitable for the SMEs from cross border region.	EU Programmes - IPA Component 2	1/1/2014	implemente d 2015	Completed	86,410.00 €	Center for Climate Change - Skopje, Branch Office Center for Climate Change – Gevgelija, Alliance of the Producers of Ecological Energy – BG	Cross-Border Cooperation				
113	Zero-waste-energy-efficient agricultural communities in the Greece- Republic of North Macedonia cross-border area	The project ZEFFIROS aims to implement the first, one-of-a-kind, bio-gas energy production pilot installations in the two programme areas, designed and operated through inter-municipal cooperation and based on cross-border exchange of knowledge and good practice. y implementing pilot installations for bio-gas production, indirect interventions will be made in the segments of environmental protection, better air quality, increased food safety, more efficient use of available resources and renewable energy sources. The increased use of bio-waste as a resource for energy production, at the expense of the use of fossil fuels, will lead to a cleaner and healthier environment.	EU Programmes - IPA Component 2	7/16/2018	7/16/2020	Ongoing	1,353,404.00 €	Municipal primary school "Koco Racin", Municipality of Dojran, Aristotle University of Thessaloniki - Special Account for Research Funds - Department of Mechanical Engineering, Slaughterhouse Municipality of Strymona S.A. Regional and Local Authorities	Cross-Border Cooperation	Regional			43%
114	Energy Efficiency in the cross border area as an indicative factor for environmental policy	The main objective of the project is the implementation of a series of actions that will promote the significance of energy efficiency in both public and private space as an indicative factor of environmental policy for local authorities of the cross border area. The promotion will take place by promoting the significance of locality in the protection of environment and its contribution of the local/national/european policies.	EU Programmes - IPA Component 2	5/25/2018	5/25/2020	Ongoing	849,900.00 €	Municipality of Pella, Municipality of Negotino	Cross-Border Cooperation	Regional			43%
115	Common plans for biodiversity conservation and sustainable targets for the development of a bilateral network of protected areas	"Nature knows no borders". On the basis of this globally accepted saying, updated strategies on nature conservation focus on the design and implementation of common environmental policies, the expansion of current network of Protected Areas (PAs) and the development of coherent, functional and interconnected, international networks of PAs.	EU Programmes - IPA Component 2	4/2/2018	4/1/2020	Ongoing	1,269,000.00 €	Region of Western Macedonia, Aristotle University of Thessaloniki - Special Account for Research Funds- Department of Biology	Cross-Border Cooperation	Regional			43%

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme	EU funding
116	New Environmental Bio-Reality	The project's overall objective is to improve the solid waste and wastewater management, with special focus to the promotion of recycling and biological wastes separation at source and treatment. Specifically, the project includes the elaboration of several studies, concerning specific issues about biological wastes, and training actions in order to support recycling actions of biological wastes.	EU Programmes - IPA Component 2	4/2/2018	4/1/2020	Ongoing	1,297,942.00 €	Municipality of Sveti Nikole; Public Waste Company "Komunalec" - Prilep; Public Communal Enterprise Derven Veles; Municipality of Thermoikos; Municipality of Chalkidona; Alexander Technological Education Institute of Thessaloniki, Department of Food Technology	Cross-Border Cooperation	Vardar, Pelagonia	Democracy and Governance	Waste Management	451,142.00 €
117	Building ENergy Efficiency Improvement: Demonstration for public buildings	The aim of benefit project (building energy efficiency improvement: demonstration for public buildings) is to support public authorities at local and regional level in Greece and North Macedonia, towards adopting energy-efficiency (ee) plans, containing specific energy saving objectives and actions for the renovation of public buildings' stock; it also aims to increase capacities of public authorities personnel in the cross-border area, in planning and implementing energy renovation projects in public buildings.	EU Programmes - IPA Component 2	10/20/2018	10/19/2020	Ongoing	1,170,475.00 €	Ministry of Interior and Administrative Reconstruction (former Ministry of Macedonia and Thrace) (YPESDA) Centre for Renewable Energy Sources and Saving (CRES) Cluster of Bioenergy and Environment of Western Macedonia (CluBE) Municipality of Bitola Public	Cross-Border Cooperation	Pelagonia	Democracy and Governance	Energy efficiency	460,052.00 €
118	Sustainable management of cross-border water resources	The common need that triggered the need for this project is the protection of the water resources of Axios-Vardar River, the sustainability of the ecosystem and the protection of its habitats. The AQUA-M II Project idea was formulated by the common understanding of all Partners, of the environmental problems that Axios – Vardar River is facing. Axios/Vardar River represents one of the main aquatic resources of the cross-border area of Greece. These sensors will be established in the river's water nearby their sewage treatment plants. This equipment will monitor and provide essential data for water quality in a continuous way (24h/7d) and in real time. It will be able to detect abnormalities in water physicochemical parameters and toxicity levels even in very low concentrations. Moreover, the Laboratory Equipment for the PP3 can analyse water samples from the river and detect the majority of pollutants (like pesticides, pharmaceuticals, organic and inorganic pollutants).	EU Programmes - IPA Component 2	4/2/2018	4/1/2020	Ongoing	1,488,329.00 €	Municipality of Gevgelija, Public Communal Enterprise of Gevgelija, Aristotle University of Thessaloniki - Special Account for Research Funds - Department of Chemistry Municipal Enterprise for Water Supply and Sewerage of Paionia Municipal Enterprise for Water	Cross-Border Cooperation	South-East	Democracy and Governance	Nature protection	640,307.00 €
119	Protection of the water resources by reducing the human environmental footprint	The overall objective of the project is the reduction of the environmental footprint of human activities with sustainable use of natural water resources in ecosystems of the cross border area. In Almopia, a great area is included in the Natura2000 network with a forest characterized as a Monument of Nature and a part of the EU Biogenetic Reserve Network. Additionally, endemic species of flora can be found in the numerous mountains, accompanied with protected species of avifauna making crucial the role of the 40 villages of the municipality to the protection of biodiversity. Negotino has also a significant natural environment with the river Vardar passing through its territory and the area Orlovo Brdo which is a Natural Monument according to national law.	EU Programmes - IPA Component 2	4/2/2018	2/1/2020	Ongoing	975,010.00 €	Municipality of Negotino; Public company Komunalec Negotino; Municipality of Almopia; Municipal Enterprise for Water and Sewerage of Almopia	Cross-Border Cooperation	Negotino	Democracy and Governance	Nature protection	481,478.00 €
120	Symbiotic Network of Bio-waste Sustainable Management	The project's main objective is to set up an integrated, sustainable, bio-waste management and trading scheme between the partner regions of western North Macedonia in Greece (former prefecture of Florina) and the municipality areas of Bitola and Novaci in the North Macedonia, following the industrial symbiosis concept. Symbiosis will develop symbiotic networks bringing together companies and stakeholders from all business sectors, aiming to improve cross industry resource efficiency through material trading and sharing assets in an environmentally sustainable way. Planning and regional development infrastructures, and matchmaking and retrieval services are key means in symbiosis to set up cost-effective biomass supply chains.	EU Programmes - IPA Component 2	5/9/2018	5/9/2020	Ongoing	898,858.00 €	Public Enterprise KOMUNALEC Bitola; Waste Management of Western Macedonia DIADYMA S.A.; Public Enterprise for communal works KOMUNALNA HIGIENA Novaci; InnoPolis - Centre for Innovation and Culture; Movement for Environment MOLIKA Bitola; National Technical Uni	Cross-Border Cooperation	Pelagonia	Democracy and Governance	Nature protection	482,086.00 €
121	Sustainable management and treatment of Bio Wastes by using Bio fuel production methods	The Project "SumBio - Sustainable management and treatment of Bio-wastes by using Bio-fuels production methods" proposes a method for disposal/valorisation of any kind of waste that does not contain plastic or hazardous materials. The basic project goal is to develop a small thermal unit that by using bio-waste materials will extract energy in the form of gas named syngas. Bio-waste can be, for example, vegetal biomass obtained after tree pruning (branch removing), wood chips, solid remains of grapes, olives, or other fruit after pressing for juice or oil, skin of fruit and vegetables that are industrially transformed, remains from agriculture activities and many others with similar characteristics. These kinds of materials nowadays are poorly utilized and in general are accumulated in garbage dump. The project approach to address the challenge of sustainable and safe bio-waste management is based on the synergy between local communities and advanced research centers. The project will develop an efficient Waste Treatment Pilot Unit (WTPU) for reducing garbage dumps and extract energy at the same time.	EU Programmes - IPA Component 2	8/3/2018	8/2/2020	Ongoing	1,046,455.00 €	Communal Service Enterprise Ohrid (CSE); Municipality of Lagsda; National Technical University of Athens; Central Union of Municipalities in Greece; University of Information Science and Technology "St. Paul the Apostle"	Cross-Border Cooperation	South-West	Democracy and Governance	Waste Management	657,320.00 €
122	A real time monitoring and leakage detection and reduction system in water distribution networks	The water distribution networks in the transboundary Prespa Park face severe water loss problems mainly due to structural deterioration of the pipe networks. It is estimated that approximately the 50% of the total pumped water is lost. The large volume of the pumped groundwater results in the increase of energy consumption in order to treat groundwater and distribute it. The aim of the SmartWaterSave project is to introduce an innovative technical methodology based on the idea of a Supervisory Control and Data Acquisition system (SCADA), using real-time flow and pressure monitoring sensors, and therefore to promote a cost-effective approach for achieving a significant reduction in water leakage. The effective water pressure management is expected to reduce the risk of burst pipes and extend pipes service life.	EU Programmes - IPA Component 2	7/9/2018	7/9/2020	Ongoing	573,003.00 €	Faculty of Electrical Engineering and Information Technologies of Ss. Cyril and Methodius University; Municipality of Prespes; JKP Proleter Resen; Aristotle University of Thessaloniki - Special Account for Research Funds - Department of Civil Engineering	Cross-Border Cooperation	Pelagonia	Democracy and Governance	Water resource management	187,666.00 €

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme	EU funding
123	Integrated sustainable management system of Doirani Lake ecosystem	The overarching strategic objective of the project is to establish a permanent, common mechanism in the sustainable management and development framework based also on environmental and socio-economic axes in the border region. The originality of the project that basically gives the project particular added value mainly consists of three features: 1. Complete and truly integrate nature 2. To secure institutional and financial viability even after the end of program funding period. 3. For the truly trans - border character which not only affects our common assets but mainly because all project activities operate interactively and complementary.	EU Programmes - IPA Component 2	10/1/2018	9/30/2020	Ongoing	1,398,652.00 €	REGION OF CENTRAL MACEDONIA, MUNICIPALITY OF DOJRAN, "MACEDONIAN" SCIENCE SOCIETY, MUNICIPALITY OF KILKIS	Cross-Border Cooperation	South-East	Democracy and Governance	Nature protection	492,600.00 €
124	Development of an Action Plan for the Management of Bio-wastes at the Cross-Border Region	The overall objective of LESS-WASTE-II is waste prevention through the joint development and implementation of actions for the better management of bio-wastes in the cross-border area. LESS-WASTE-II's specific objectives are: to address the need for waste management strategies that combine both regional (centralized) and local (decentralized) actions that reduce the volume of waste going to landfilling, to introduce home-composting and separation-at-source of the organic fraction of urban waste to local residents and municipalities of the cross-border region by providing both the necessary equipment and dissemination activities and material, to demonstrate new and sustainable ways of management and re-utilization of bio-waste to local authorities and vocational groups through trainings and equipment demonstration, to initiate synergies and a culture of awareness among target groups that serves the needs of the citizens.	EU Programmes - IPA Component 2	6/14/2018	6/13/2020	Ongoing	709,162.00 €	Municipality of Resen; Waste Management of Western Macedonia S.A.;Municipality of Prespes;Municipality of Amynteo;Municipality of Florina;	Cross-Border Cooperation	Pelagonia	Democracy and Governance	Waste Management	233,545.00 €
125	Integration of Green Transport in Cities	Upgrade public infrastructure to improve road travel time, safe border crossing and promote energy efficiency towards green transport. The main common cross-border challenge of BENEFIT is to tackle the insufficient capacities of public administrations in this area to develop reliable cost-effective energy efficiency action plans for their public buildings' stock, the lack of expertise to apply advanced energy modelling methodologies, the difficulty in the collection of buildings' energy data, the lack of specific methodology to categorize them in typologies and the lack of specific decision support system for planning energy retrofits.	EU Programmes - IPA Component 2	7/1/2019	7/1/2021	Ongoing	1,170,475.00 €	Cluster of Bioenergy & Environment of Western Macedonia (CluBE), Municipality of Bitola, Public enterprise for urban planning, architectural design and engineering Bitola, Centre for Renewable Energy Sources and Saving (CRES)	Cross-Border Cooperation	Pelagonia			43%

Annex 7 - Database of BalkanMED Projects that meet the Selection Criteria (connected to Climate Change)

General Information								Financial Information		Classification			
No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme	ERDF Funding
1	Improving the conservation effectiveness of wetlands	Wetlands are amongst the most threatened and fragile ecosystems worldwide. At the same time are recognizing as important landscape features for the NATURA 2000 network as natural water retention systems for WFD and Flood Directive, as auspices to climate change. On the top of that they are recognizing for their services to human well being including provision of materials, mediation of extreme events, and cultural and aesthetic values. The overall objective of the project is the protection, conservation and development of wetlands, as a shared asset of the Balkan Mediterranean (BalkanMed) territory. BalkanMed wetland ecosystems are biodiversity hotspots with significant natural and cultural values and with high potential for territorial development and cooperation, including ecosystem basis development, improvement of knowledge, know how exchange and capacity to take informed decisions with a positive impact on the whole territory.	ERDF	9/1/17	5/31/2020	Ongoing	1,159,383.00 €	BULGARIA, GREECE, REP. OF NORTH MACEDONIA, ALBANIA		Regional			169,882.00 €
2	Fostering resource efficiency and climate change resilience through community based Air Quality Internet of Things	Air pollution has been one of the first environmental problems to be addressed by the EU, in that sense clean air is considered essential to good health and a basic human need. EU law has recognised this need and given legal protection to it through Directive 2008/50/EC by imposing stringent limits on levels of harmful air pollution in ambient air. Late reports confirm that up to one-third of the EU urban population are exposed to air pollution which exceeds EU limit values. The project will leverage the emerging technologies through Internet of Things intelligent air quality measuring	ERDF	11/15/2017	10/15/19	Completed	1,417,322.00 €	BULGARIA,GREEECE, CYPRUS, ALBANIA, REP. OF NORTH MACEDONIA		Regional			241,141.00 €
3	Towards farms with zero carbon-, waste- and water-footprint. Roadmap for sustainable management strategies for Balkan agricultural sector	The project conception shares deeply the willingness of the farmers to protect the environment but also their deep concern to develop their skills,modernize and increase the profitability of their enterprises by reaching EU and international markets.Hence,BalkanROAD will provide tools and policies for economic development,through the adoption of environment protective practices which is a strong motivation for farmers to adopt and implement	ERDF	9/8/2017	5/5/2020	Ongoing	1,284,723.00 €	GREECE, CYPRUS, BULGARIA, ALBANIA, REP. OF NORTH MACEDONIA		Regional			232,786.00 €
4	Stimulating Citizens Participation to Recycle Processes through the Implementation of Benefits Systems	The common challenge is implementation of European Directive 2008/98/EK introducing the "polluter pays principle" and the "extended producer responsibility", including two new recycling and recovery targets to be achieved by 2020: 50% preparing for re-use and recycling of certain waste materials from households and other similar origins. The Directive requires that Member States adopt waste management plans and waste prevention programmes. Since Balkan states are still far from these targets, project's	ERDF	12/1/2017	5/28/2020	Ongoing	912,594.00 €	GREECE, CYPRUS, ALBANIA, REP. OF NORTH MACEDONIA, BULGARIA		Regional			257,176.00 €
5	Utilising Pay As You Throw Systems and Autonomous Composting Units for Biowastes Management in Touristic Areas	BIOMASS is a municipal solid wastes (MSW) source separation scheme, specifically designed for the hospitality sector and small / decentralized communities, aiming mostly in BIOWASTES (food and green wastes). The main tools that utilizes in order to achieve a high quality separation,is the correlation of municipal taxes with the amount of wastes produced and managed, as well as,on site treatment of the BIOWASTESs. The pay as you through (PAYT) system uses specially designed weighing equipment in the wastes collection trucks and bins with recognition chips. It allows the direct correlation of each producer of the wastes, with the amounts that produces, irrelevant if these are recyclable (glass, paper, plastic, metals) or mixed wastes, and through that the respective charging is allowed. As far as the organic wastes these are collected separately and introduced in an automated composting unit (ACU) and composted on site, reducing the collection and transportation cost, the central unit treatment cost (if such a unit exists) and allowing the production of a high quality usable product. Both PAYT and ACUs are considered as state of the art process, in the wastes' management sector, incorporating innovative technologies.	ERDF	9/8/2017	5/31/2020	Ongoing	1,338,255.00 €	GREECE, REP. OF NORTH MACEDONIA, CYPRUS		Regional			306,678.00 €
6	Enhancing storage integration in buildings with Photovoltaics	The Balkan Med (BM) region is facing the challenge of sustaining and increasing the growth of PV systems that is endangered by several barriers and their unpredictable nature. This is especially important in the built environment as member states are developing plans to increase the number of Nearly Zero Energy Buildings (NZEB), which most probably employ PV's , in order to reach their 2030 climate change targets. As the number of NZEBs increase, PV integration in the distribution grids of BM region will be very difficult, unless buildings become more grid-friendly and policies/regulations are suitably adapted in the above context, the overall objective of project is to enhance the penetration of PV's in built environment. This will be achieved by using storage, which will transform the building into a more predictable power source. With the high solar potential of the BM region and the decreasing cost of PV/storage systems, such a solution is becoming cost-efficient as well Project aims to change the way buildings with PV's are treated (i.e. selling energy to grid) and instead conceptualize them as systems that must efficiently interact with grids.	ERDF	8/1/2017	3/31/2020	Ongoing	1,237,442.00 €	GREECE, CYPRUS, BULGARIA, REP. OF NORTH MACEDONIA		Regional			83,012.00 €
7	Urban water full cycle: from its source to its end-users and back to the environment	The WFD 2000/60, Drinking Water Directive 1998/83 & EU2020 strategy towards climate change & energy sustainability are the trigger of legislations' harmonization. Complying with that, WATenERgy CYCLE project aims at developing a common methodological approach towards efficient & effective transnational water & energy resources management. Our common challenge is to increase the current low level of innovative technologies use along the water supply chain, from the water's source to its end-users and back to the environment along with the increase in climate change resilience. WATenERgy CYCLE is a valuable & unique joint-tool for the design, preparation & implementation of an integrated multi-level approach in the urban (short term), rural & industrial (midterm) environment, promoting a Europe of worth	ERDF	9/1/2017	5/29/2020	Ongoing	1,346,400.00 €	GREECE, ALBANIA, CYPRUS, BULGARIA, REP. OF NORTH MACEDONIA		Regional			281,520.00 €

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme	ERDF Funding
8	Towards Zero Energy Hospitals in the Balkan Region	One of the basic energy objectives of EU is to decouple energy consumption from economic development. To meet the challenge the EU is setting specific energy efficiency and carbon emission goals for the years 2020, 2030 & 2050. The long term goal (2050) is to achieve a reduction of the CO2 emissions to 85% with respect the 1990 levels. The project aims to facilitate the implementation of the EPBD by defining the characteristics and Standards for Zero Energy Hospitals in the South Balkan region. Thus, will contribute towards improved energy efficiency in the building sector. Hospital buildings are considered complex systems as they are hosting several energy intensive functions (HVAC under strict comfort conditions, high HOT Water demand, Kitchen facilities, etc.).	ERDF	12/1/2017	11/29/19	Completed	816,096.00 €	GREECE, ALBANIA, BULGARIA, CYPRUS, REP. OF NORTH MACEDONIA		Regional			293,335.00 €

Annex 8 - Database of GIZ Projects that meet the Selection Criteria (connected to Climate Change)

General Information								Financial Information			Classification		
No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Project Cost for Macedonia	Domestic implementor/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme
1	Asset Management for Water and Sanitation Sector in South-East Europe (SEE)	The primary aim of the project is "The introduction of Asset Management methods in Pilot municipalities improves efficiency and transparency in managing water and sanitation infrastructures in SEE". This objective is defined by the following benchmarks: Raising understanding of the benefits of Asset Management methods among decision makers in efficiency and transparency in managing water and sanitation infrastructures in SEE; Developing data exchange standards between existing financial AM and GIS software, designing and establishing a web-based database and web-based modules for asset management complying with the needs in SEE; Disseminating Asset Management methods in water and sanitation sectors at the local level in SEE.	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH/ Executing agency: Regional Cooperation Council (RCC)	12/1/2013	11/30/15	Completed	402.219,00 €	402,000 €	NALAS- Network of the National Associations of the local governments in SEE	Technical Assistance	National	Water sector policy and administrative management/Sustainable Development and SDGs	Strengthening natural resources management
2	Open Regional Fund for South East Europe - Implementation of Biodiversity Agreements	Biodiversity is under serious threat in rural areas and in mountainous, forest and coastal areas in particular. This is largely due to inappropriate land use, sprawl and invasive building, the construction of infrastructure, excessive demands on soils, the intensification or abandoning of agriculture, and climate change. There are many national borders in South-East Europe that run through ecosystems and regions of high ecological value. The countries in the region share the goal of EU accession. However, adaptation to the EU's complex environmental legislation is a major challenge. In the context of biodiversity, this means that South-East European countries have to implement the Birds Directive, the Habitats Directive and the EU 2020 Biodiversity Strategy. All the countries in the Western Balkans have also undertaken to protect biodiversity within the framework of the international Convention on Biological Diversity.	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH/ Executing agency: Regional Cooperation Council (RCC)	2015	2020	Ongoing	5,500,000 €	900,000 €	6 SEE WBs countries	Technical Assistance	EU Accession countries in South-East Europe	Regional cooperation/ Preservation of Biodiversity and Climate Change	Biodiversity/ Climate Change
3	Open Regional Fund for South-East Europe – Energy Efficiency (ORF-EE)	The goal of the ORF-EE is to support energy and climate relevant political and civil society actors, through networks in South-Eastern Europe, in implementing required EU regulations. Regional networks supported by the ORF-EE share their experiences on implementation of energy efficiency and climate protection measures independently, and are empowered to address issues of common interest. In doing so they contribute towards a more effective implementation of these topics in their respective countries.	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH/ Executing agency: Regional Cooperation Council (RCC)	2008	2020	Ongoing	19,740,000 €	3,300,000 €	6 SEE WBs countries	Technical Assistance	EU Accession countries in South-East Europe	Regional cooperation/ Sustainable Development and SDGs	Energy efficiency/ Climate Change/
4	Adaptation to Climate Change through Transboundary Flood Risk Management in the Western Balkans	Transboundary flood risk management is strengthened with regard to climate change.	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH/ Executing agency: Regional Cooperation Council (RCC)	2012	2021	Ongoing	6,000,000 €	1,000,000 €	Ministry of Environment and Physical Planning	Technical Assistance	EU Accession countries in South-East Europe	Regional Cooperation / Climate Change	Risk Management / Flood Hazard
5	Open Regional Fund for South-East Europe – Foreign Trade Promotion	The Project aims at improving framework conditions for trade in Southeast Europe in line with the requirements of the EU approximation process.	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH/ Executing agency: Regional Cooperation Council (RCC)	2006	2020	Ongoing	18,670,000.00 €	3,100,000.00 €	6 SEE WBs countries	Technical Assistance	EU Accession countries in South-East Europe	Regional Cooperation / Economic Development	Economy/ Export
6	Support to Economic Diversification of Rural Areas in Southeast Europe (SEDRA)	The institutional capacities of selected stakeholders in Southeast Europe are being strengthened, and therefore supporting EU-compliant economic diversification in rural areas with work and economic growth. The core problem SEDRA program addresses is the insufficient capacity of the responsible stakeholders to support the economic diversification and the sustainable use of natural resources in rural areas.	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH/ Executing agency: Regional Cooperation Council (RCC)	2018	2021	Ongoing	9,406,000.00 €	1,600,000.00 €	Ministry of Environment and Physical Planning	Technical Assistance	EU Accession countries in South-East Europe	Business policy and management / Economic Development	Economy/ Sustainable businesses
7	Regional and local economic development	Project for planning and implementing regional and local structure with measures for EU financing where are established eight economic planning regions (EPR) in NM (1 cycle 2010-2015); and second cycle 2015-2020 for GIZ funding development programmes for companies' competitiveness in eight EPR.	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH/ Executing agency: Regional Cooperation Council (RCC)	2010	2020	Ongoing	4,000,000.00 €	4,000,000.00 €	National Council for Regional Development and the Ministry for Local Self Government	Technical Assistance	National	Regional Cooperation / Economic Development	Economy/ Sustainable businesses

14,302,000 €

Annex 9 - Database of Ministry of Foreign Affairs Projects that meet the Selection Criteria (connected to Climate Change)

General Information							Financial Information		Classification			
No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme
1	Technical Assistance for Institutional Framework for Establishing National /Regional Power Exchange	The purpose of the project is to increase the institutional capacity of the relevant institutions in the Republic of Macedonia by providing technical assistance (TA) for the establishment of a national/regional exchange (PX) with the primary focus on Albania, Kosovo and Montenegro. The expected results of the project are fulfillment of the objectives of the Energy Community Treaty, opening of the energy wholesale market, development of the capacity in the Ministry of Energy and preparation of necessary primary and secondary legislation compatible with EU Acquis.	Ministry of Foreign Affairs of Norway	11/1/2013	10/31/16	Completed	1.142.168,31 €	Faculty of Electrical Engineering and Information Technologies	Technical assistance	National	Energy policy and administrative management	Macro-economic stability
2	Integrated pollution prevention and control in Macedonia (Grant No. MAK-12/0012)	The project would help the ministry's capacity strengthening in the sector of integrated pollution prevention and control, as well as acceleration of the permit issuance process for harmonization with the operational plan for companies from the energy and metallurgy fields. Its purpose is to support Macedonia in managing industrial emissions by proposing adjustments in relevant legislative framework and increasing local environmental competence in authorities, non-governmental organizations and industry. The program is divided into four components: Program coordination, Policy Framework, Capacity Building and Technical Assistance.	Ministry of Foreign Affairs of Norway	11/2/2012	11/2/2015	Completed	619.716,64 €	Ministry of Environment and Physical Planning	Technical assistance	National	Environmental policy and administrative management	Environmental protection
3	Capacity building for implementation of the new Energy Law (Grant number MAK-11/0004)	The project provides technical assistance (expertise) to capacity building of the Energy Regulatory Commission (ERC), as independent regulatory body. In specific, the project shall assist ERC in implementation and enforcement of the new Energy law (enacted in February 2011). The project shall contribute in building capacities of the Energy Regulatory Commission, necessary to perform new competences. Among else, the project will provide expertise in development of needed sub-legislation, work protocols and procedures, various tools(price lists, introduction of EU models and methods, etc.), as well as targeted trainings and on the job support. The main goal of the project is to establish functioning energy market, in line with criteria of the Energy Community Treaty.	Ministry of Foreign Affairs of Norway	11/8/2011	11/8/2014	Completed	9.545.000,00 €	THEMA Consulting Group AS; Energy Regulatory commission	Technical assistance	National	Energy policy and administrative management	Institutional capacity building
4	Nordic support for progress of North Macedonia	supporting Secretariat for European Affairs with national and local institutions in prioritizing the technical assistance that is needed for EU accession	Ministry of Foreign Affairs of Norway / Sweden International Cooperation Agency (SIDA)	2018	07/12/05	Ongoing	4,000,000 €	Secretariat for European Affairs	Technical assistance	National	Environmental policy and administrative management	Environmental protection

Annex 10 - Database of Embassy of Switzerland Projects that meet the Selection Criteria (connected to Climate Change)

Swiss Agency for Development and Cooperation (SDC) and the State Secretariat for Economic Affairs (SECO)

No.	General Information							Financial Information		Classification		
	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme
1	Rehabilitation of the water supply system in the village Dolni Lipovik by the reconstruction of two water catchments and the construction of a new transport pipeline	Rehabilitation of the water supply system in the village Dolni Lipovik by the reconstruction of two water catchments and the construction of a new transport pipeline	Embassy of Switzerland (Swiss Agency for Development and Cooperation (SDC))	5/5/2014	12/31/14	Completed	36,585.00 €	Municipality of Konche	Technical Assistance	South - East	Water Management	Strengthening natural resources management
2	River regulation and flood protection measures on Moroshka River in the village Morodvis	Aim of this project is to protect the land, private properties and transport infrastructure from erosion and floods from the water of Moroshka river in the central core of the village Morodvis	Embassy of Switzerland (Swiss Agency for Development and Cooperation (SDC))	5/5/2014	12/31/14	Completed	40,573 €	Municipality of Zrnovci	Technical Assistance	East	River basins development	Strengthening natural resources management
3	Construction of new well in the well field Grdovski used for the drinking water supply system of the city of Kocani	The project includes the construction of new exploitation well for drinking water which aim is to increase the production of drinking water; to provide quality and clean drinking water, continuous supply the population with drinking water during the whole year, rational use of water resources, prevention of infections, diseases and epidemics.	Embassy of Switzerland (Swiss Agency for Development and Cooperation (SDC))	5/5/2014	12/31/14	Completed	40,060 €	Municipality of Kocani	Other grants	East	Basic drinking water supply and basic sanitation	Strengthening natural resources management
4	Replacement of asbestos pipes of the water supply network on Neretva Street and reconstruction of a pumping station in Rusinovo	The project aim to improve the quality of life of local inhabitants ensuring access of good quality of water through replacement of asbestos pipes of the water supply network on Neretva Street and reconstruction of a pumping station in Rusinovo.	Embassy of Switzerland (Swiss Agency for Development and Cooperation (SDC))	5/10/2014	12/31/14	Completed	40,573 €	Municipality of Berovo	Technical Assistance	East	Basic drinking water supply	Strengthening natural resources management
5	Replacement of pumps and upgrade of the pumping stations at the well field Gradecka	The project envisages procurement and installation of pumps that will contribute by improving the quality of water supply for the city dwellers and rural areas in the municipality of Vinica; reduction of power consumption; connection of new customers; increased production of drinking water, regular and sufficient supply, provision of quality drinking water.	Embassy of Switzerland (Swiss Agency for Development and Cooperation (SDC))	5/9/2014	12/31/14	Completed	40,000 €	Municipality of Vinica	Technical Assistance	East	Basic drinking water supply	Strengthening natural resources management
6	Modernization and upgrading the treatment plant for drinking water Sivirtepe at Sveti Nikole	Modernization and upgrading the treatment plant for drinking water Sivirtepe at Sveti Nikole	Embassy of Switzerland (Swiss Agency for Development and Cooperation (SDC))	5/5/2014	12/31/14	Completed	40,624 €	Municipality of Sveti Nikole	Technical Assistance	East	Basic drinking water supply	Strengthening natural resources management
7	Improvement of the Gostivar water supply system project	The objective of the project is to contribute to the sustainable development of the Gostivar region, by improving the quality of the water supply for the city of Gostivar and the surrounding villages. This will ensure healthy living conditions and will promote the economic development of the region, such as industry and agriculture.	Embassy of Switzerland (Swiss Agency for Development and Cooperation (SDC))	9/1/2013	5/31/2015	Completed	1,891,296 €	Municipality of Gostivar	Technical Assistance	Polog	Water supply and sanitation - large systems	Strengthening natural resources management
8	Improvement of the Gostivar water supply system project	This project is financed by the Swiss government. The aim of the project is to improve the water supply system in the town of Gostivar and 8 surrounding villages, as well as to strengthen the strategic planning skills of the municipal public enterprise.	Embassy of Switzerland (Swiss Agency for Development and Cooperation (SDC))	9/1/2013	5/31/2015	Completed	160,959 €	Municipality of Gostivar	Other grants	Polog	Water supply and sanitation - large systems	Infrastructure development
9	Restoration of Prespa Lake System	Thanks to its biodiversity, the local ecosystem in Prespa Lake is of global significance. The widespread, improper disposal of waste is polluting both surface and ground water. The SDC is helping to decontaminate these waterways and to raise awareness of environmental issue.	Embassy of Switzerland (Swiss Agency for Development and Cooperation (SDC))	2011	2018	Completed	6,138,000 €	Municipality of Resen	Technical Assistance	Lake Prespa	Climate change and environment	Water / Environmental Policy
10	Environment protection through education	Environmental education is a compulsory subject in school curricula, school students are becoming increasingly aware of environmental issues.	Embassy of Switzerland (Swiss Agency for Development and Cooperation (SDC))	2010	2016	Completed	2,970,000 €	North Macedonia	Technical Assistance	NM	Climate change and environment	Water / Environmental Policy
11	Nature Conservation Programme	North Macedonia's natural resources provide a high potential for sustainable development. The country adopted the SDGs, and meeting the EU Environmental Acquis is a designated aim of the government. Unfortunately, the lack of resources (financial, human, technical) at all level slows down implementation of laws and strategies, hampering effective nature conservation Switzerland has developed a programme that will assist Macedonia in better managing its natural resources. Specifically, this programme will strengthen the Ministry of Environment, the Centre for Development of the East Planning (Bregalnica) Region and thirteen municipalities of that region to ensure the sustainable conservation of their natural resources in line with international standards. The programme is expected to generate an economic benefit for the population through proper conservation and protection initiatives.	Embassy of Switzerland (Swiss Agency for Development and Cooperation (SDC))	2017	2021	On-going	4,000,000 €	North Macedonia	Technical Assistance	NM	Climate change and environment	Biodiversity

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme
12	Restoration of Strumica River Basin	As a continuation of the support to the Macedonian water and nature sector, Switzerland developed a group of projects that will assist the country to have cleaner water and a healthier environment, as well as to move forward in meeting its obligations towards the EU. Through this project, Citizens and farmers in the Strumica river basin will benefit from improved economic wellbeing as a result of a better ecological status of the river basin and reduced flooding hazards.	Embassy of Switzerland (Swiss Agency for Development and Cooperation (SDC))	2014	2021	Completed	3,900,000 €	Ministry of Environment, the Centre for Development of the East Planning (Bregalnica) Region	Technical Assistance	Thirteen municipalities	Climate change and environment/ Water/Agriculture, food security	Water Resources Conservation
13	Integration of Environmental Education in Education system in North Macedonia	The Environmental Education programme relates strongly to all other SDC and SECO water projects in North Macedonia, since it contributes to awareness raising and increased interest for better and healthier environment. It is expected that the school children and their parents will be more sensitive on the environmental issues and will demand from the institutions in charge to address these issues in more effective way.	Embassy of Switzerland (Swiss Agency for Development and Cooperation (SDC))	2013	2015	Completed	720,000 €	North Macedonia	Technical Assistance	NM	Climate change and environment/ Environmental Policy / Education policy	Education
14	Macedonia: Nature Conservation Programme	Switzerland has developed a programme that will assist Macedonia in better managing its natural resources. Specifically, this programme will strengthen the Ministry of Environment, the Centre for Development of the East Planning (Bregalnica) Region and thirteen municipalities of that region to ensure the sustainable conservation of their natural resources in line with international standards. The programme is expected to generate an economic benefit for the population through proper conservation and protection initiatives.	Embassy of Switzerland (Swiss Agency for Development and Cooperation (SDC))	2010	2016	Completed	3,500,000 €	Ministry of Environment, the Centre for Development of the East Planning (Bregalnica) Region	Technical Assistance	East Planning Region of NM	Climate change and environment/ Agriculture, food security	Environmental Policy
15	Sustainable and Inclusive Regional Economic Development in Macedonia	The level of development of Macedonia's eight regions is highly unequal. A national structure for balanced regional development has been built up since 2007. SDC will contribute to the establishment of a national system for coordination and monitoring for balanced regional development.	Embassy of Switzerland (Swiss Agency for Development and Cooperation (SDC))	2015	2021	Outgoing	3,800,000 €	North Macedonia	Technical Assistance	East Planning Region of NM	Economic development / SME Development/Sustainable Development	Economic development

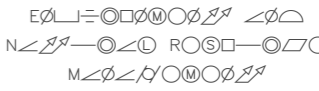
27,318,670 € Total

Annex 11 - Database of USAID Projects that meet the Selection Criteria (connected to Climate Change)

No.	General Information							Financial Information		Classification		
	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme
1	Clean Energy Investment Project	The project comprises the following objectives and activities: Renewable energy project development and investment process streamlined; Low emissions development process established; Low-emission development strategies (LEDS) donor coordination	USAID	4/15/2013	03/14/16	Completed	1,277,855.00 €	Winrock International Podruznica Skopje	Technical Assistance	National	Environmental policy and administrative management	Environmental protection
2	USAID Municipal Climate Change Strategies Project	The project addresses both the need to strengthen civil society and the need to raise awareness, boost activism, and bolster local resilience to global climate change. The specific project goal is to better prepare municipal stakeholders to manage local climate change issues.	USAID	9/26/2012	9/25/2014	Completed	1,170,960.00 €	Milieukontakt Macedonia	Technical Assistance	National	Environmental policy and administrative management	Environmental security
3	USAID - Adaptation to climate change in agriculture	The objective of the project is to promote adaptive agricultural practices and raise farmer, but also general public awareness. The activities are grouped in the following components: 1. Test, demonstrate and disseminate innovative climate change related adaptive agricultural practices; 2. Public awareness and civil society capacity building.	USAID	3/8/2012	3/8/2015	Completed	1,076,626.00 €	Rural Development Network of RM	Technical Assistance	National	Agricultural development	Environmental security
4	Improving Energy Efficiency in the Housing Sector in Macedonia, Cooperative Agreement No.AID-165-A-11-00001	Objectives: Contribute toward increasing the standard of living in collective housing units in Macedonia through a set of demonstration projects on energy efficiency improvements that significantly decrease energy consumption and operating cost.	USAID	4/19/2011	04/17/14	Completed	1,135,074.00 €	Association for human housing "Habitat-Macedonia" - Skopje	Technical Assistance	National	Energy policy and administrative management	Environmental protection
	USAID Business Ecosystem Project (BEP)	Project (BEP) increases productivity, revenues, and jobs for micro-, small- and medium-sized enterprises (MSMEs) through building a responsive and sustainable business ecosystem. It works in partnership with business associations, chambers of commerce, consultants and training centers to improve the services available to MSMEs	USAID	6/1/2018	6/1/2021	Ongoing	1,500,000.00 €	Ministry of Economy / Ministry of Labor / State Innovation T&D Fund	Technical Assistance	National	Advancing Enterprise - Driven Growth	Economic Development
6	USAID's Development of Regional Energy Markets (DREM)	with the Government of North Macedonia (GONM) to comply with European Union (EU) energy policies, regulations and translate relevant EU legislation into national legislation. The overall goal of the project is to enhance the regulatory environment of the energy sector and establish the legal framework for an open, transparent and vibrant energy market while	USAID	12/1/2017	12/1/2020	Ongoing	2,200,000.00 €	Government of North Macedonia	Technical Assistance	National	Energy policy and administrative management	Energy / Energy efficiency
7	Partnership for Better Business Regulation	USAID project to support small-and-medium-sized enterprises (SMEs) in North Macedonia by helping improve their ability to comply with legal requirements and participate in economic policy making. The four main chambers of commerce in the country — Economic Chamber, Macedonian Chambers of Commerce, Chamber of NorthWest Macedonia, and MASIT (the ICT Chamber) — are jointly implementing this activity with the assistance of the local consulting firm EPICENTAR International.	USAID	7/1/2018	7/1/2022	Ongoing	1,900,000.00 €	Chambers of Commerce and company Epicentar International Skopje	Technical Assistance	National	Advancing Enterprise - Driven Growth	Economic Development
							10,260,515.00 € Total					

Annex 12 - Database of World Bank Projects that meet the Selection Criteria (connected to Climate Change)

in Milion US Dolars

No.	General Information							Financial Information		Classification		
	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme
1	Agriculture Modernization Project	ID P168014	World Bank/IBRD	30-Jan-20	6/30/2025	Active	\$50.50	North Macedonia	Commitment/Lending Instrument N/A	North Macedonia	Private Sector Development	Human development/Urban Rural Development
2	North Macedonia Public Sector Energy Efficiency Project	ID P149990	World Bank / IBRD	30-Jan-20	9/30/2025	Active	\$27.40	IIST	Borrower IIST/Lending Instrument N/A	North Macedonia	Environment and Natural Resource Management	Energy
3	North Macedonia: Local Roads Connectivity Project	ID P170267	World Bank/IBRD	18-Sep-19	12/31/2024	Active	\$78.09	North Macedonia	Commitment/Lending Instrument N/A	North Macedonia	Public Sector Development	
4	North Macedonia Public Finance and Competitiveness DPL	ID P171851	World Bank/IBRD	19-Sep-19	5/31/2020	Active	\$139.25	North Macedonia	Commitment/Lending Instrument	North Macedonia	Other Industry, Trade and Services/Central Agencies/Social Protection/Oil and Gas/Energy Transmission and Distribution	
5	Western Balkans Trade and Transport Facilitation	ID P162043 The development objective of the Trade and Transport Facilitation Project for Western Balkans is to reduce the trade costs and increase transport efficiency in Albania, North Macedonia, and Serbia. The project comprises of four components. The first component, facilitating movement of goods across the Western Balkans.	World Bank/IBRD	18-Apr-19	12/15/2025	Active	\$90.00	Western balkans	Commitment/Lending Instrument	North Macedonia	Trade / Transportation/ Railways/ Rural and inter-Urban Roads	Economic Policy/Private Sector Development/Environment and Natural Resource Management
6	Local and Regional Competitiveness Project	P154263 The objective of the Local and Regional Competitiveness Project (LRCP) for Macedonia is to enhance the contribution of local economic development and improve the capacity of the government and public entities to foster tourism growth and facilitate destination management. There are four components to the project, the first component being technical assistance, the second component is the strengthening destination management and enabling environment., the thried in tourism-related infrastructure and linkages at destinations, fourth component is the strengthening project management.	World Bank/EEA Borrower	12-Jan-16	12/31/2020	Active	\$19.36	North Macedonia	Commitment/Lending Instrument	North Macedonia	Private Sector Development/Urban and Rural Development	
7	Road Upgrading and Development Project	P149955	World Bank/PULIC ET Borrower	30-Sep-15	12/31/2020	Active	\$90.95	PULIC ET	Commitment/Lending Instrument	North Macedonia	Rural and Inter-Urban Roads/Transportation	Economic Policy/Privte Sector development
8	National and Regional Roads Rehabilitation	P148023 The development objectives of the National and Regional Roads Rehabilitation Project for Former Yugoslav Republic of Macedonia are to enhance the connectivity of selected national and regional roads, primarily to corridors tenth and eighth, and to improve public enterprise for state roads' (PESR) capacity for road safety and climate resilience. T	World Bank/PULIC ET Borrower	23-Sep-14	9/30/2019	Closed	\$70.98	North Macedonia	Commitment/Lending Instrument	North Macedonia	Rural and Inter-Urban Roads/Transportation	Environmental and Natural Resources Management
9	Competitiveness DPL 2	P13047 The objective of the Second Programmatic Competitiveness Development Policy Operation Program is to strengthen the competitiveness of FYR Macedonia's economy by incentivizing productive investment and technology upgrading in the manufacturing, agribusiness and trade logistics sectors, and establishing enabling conditions to progressively increase labor market flexibility and innovation capacity. The Second Programmatic Competitiveness Development Policy Loan (DPL2) to the Former Yugoslav Republic of Macedonia (FYR Macedonia) supports the government's competitiveness development agenda.	World Bank/IBRD/EU Borrower (Loan)	13-Mar-14	10/30/2014	Closed	\$50.00	IIST	Commitment/Lending Instrument	North Macedonia	Industry, Trade, Agribusiness	Economic Policy/Privte Sector development

No.	Project Title	Project Description	Main Donor	Start date	End date	Project Status	Project Cost	Implementator/Beneficiary	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme
10	Skills Development & Innovation Support	P128378 The objective of the Skills Development and Innovation Support Project for Macedonia is to improve transparency of resource allocation and promote accountability in higher education, enhance the relevance of secondary technical vocational education, and support innovation capacity in the country. The project consists of the following components: 1) improving transparency of higher education; 2) modernization of secondary Technical Vocational Education and Training (TVET); 3) improving the innovative capacity of enterprises and collaboration with research organizations; and 4) project management and monitoring and evaluation.	World Bank/IBRD	28-Jan-14	6/30/2020	Active	\$24.00	North Macedonia	Commitment/Lending Instrument	North Macedonia	High, Secondary and VAT Education	Private and Public Sector Development/ Humn Development

Annex 13 - Database of UNDP Projects that meet the Selection Criteria (connected to Climate Change)

Naziv za sektor ima vo izvorite

General Information							Financial Information			Classification					
No.	Project Title	Project Description	Implementing agency/Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme	UNDP Funding	Government of North Macedonia co-funding	Other Donor fund
1	Creating an enabling environment for energy management in the municipality of Karposh	The project aims at creating sustainable environment for mitigating climate change in the country through improving energy efficiency on a municipal level and enhanced awareness and capacities of stakeholders involved in municipal energy management issues. The project will be focused on creating the municipality of Karposh as a pilot municipality for improved energy management on local level that can serve as an example for other local self-governments in the country. On long term the activities will contribute to reduction of energy consumption on a municipal level, thus reducing municipal energy demand, energy losses and greenhouse gas emissions. This will be achieved through promotion of energy efficiency benefits that can be achieved by implementation of energy efficient measures in municipal buildings, improved technical tools for energy monitoring and capacity building and public awareness activities.	UNDP / Municipality of Karpos	2/1/2013	02/28/15	Completed	€ 300,000.00	Municipality of Karpos	Technical Assistance	Skopje	Environmental policy and administrative management	Environmental protection	150,000.00 €		150000 Karpos
2	Innovation Lab in the City of Skopje	Set up innovation teams and innovation labs by supporting four governments in the region. Lab as a new model of Government - Citizen collaboration can address the problem of lack of civic engagement and influence in policy making.	UNDP / Government of Turkey	1/15/2016	12/01/17	Completed	€ 70,000.00	City of Skopje / Faculty of Computer Science and Engineering	Technical Assistance	National	Environmental policy and Sustainable Natural Resources Management	Environmental protection	20,000.00 €		50000 GOV Turkey
3	Resilient Skopje: Scaling-up for Sustainability, Innovation and Climate Change	UNDP assists the City of Skopje to become more resilient to climate change and other environmental threats, and to work with the public administration to help it design and deliver better services for its citizens. The project will pursue these aims by assisting the City of Skopje in implementing a set of priority measures identified in the Climate Change Strategy – Resilient Skopje and the Skopje Innovation Framework.	UNDP / Government of RNM	7/1/2018	12/1/2020	Ongoing	€ 1,584,294.00	City of Skopje	Technical Assistance	Skopje	Climate Change	Sustainable development	45,018.99 €	€ 799,507.00	€ 799,507.00
4	ICT for Urban Resilience	The risk of disaster are increasing throughout the world as more people than ever before live in urban areas. At the same time, new technologies (Smart City) are revolutionizing social behaviour and entire industries. Unfortunately, city planning and development have given little consideration to the consequences of earthquakes, hydro-meteorological risks and other disasters. The main objective of this project is to help build greater disaster and climate resilience in Skopje by increasing institutional capacity, mobilizing knowledge and transferring appropriate best-practice innovation technologies.	UNDP / Government of RNM	12/1/2014	12/01/19	Completed	€ 466,701.00	UNDP	Technical Assistance	Skopje	Environmental policy and administrative management	Environmental protection	178,402 €	€ 288,299.00	€ 288,299.00
5	Restoration of the Prespa Lake Ecosystem	The Prespa Lakes Basin is over 5 million years old—amongst the most ancient freshwater lakes in the world. The region is home to more than 2,000 species of fish, birds, mammals and plants. Many of these species are unique. And many are in danger of dying out if their habitat is not protected. The overall objective of this project is to introduce a set of comprehensive measures that will significantly improve the Prespa Lake's overall health, strengthen its resilience, and ensure, in the long-run, control of the eutrophication processes.	UN Centre For Human Settlements / Government of Switzerland	6/28/2012	5/31/2018	Completed	€ 6,385,940.00	Municipality of Resen	Technical Assistance	Prespa Lake Basin	Bio-diversity	Strengthening natural resources management	5,940.00 €		€ 6,380,000.00
6	Restoration of Strumica River Basin	The overall objective of this project is to introduce a set of comprehensive measures that will help restore Strumica River Basin's socio-ecological functions and its overall resilience against the complex pressures resulting from human activities and global changes. Aligned with the key principles of the EU Water Framework and Floods Directives and the underlying concept of Integrated Water Resources Management, this project aims at addressing the main types of pressures in the Basin (point source and diffuse pollution, as well as hydro-morphological modifications), maximizing at the same time the possibilities for mitigating flooding risk.	UNDP / Government of Switzerland	7/1/2015	12/1/2020	Ongoing	€ 3,431,100.00	Ministry of Environment and Physical Planning	Technical Assistance	South-East	Water saving	Natural Resources Saving	23,000.00 €		€ 3,410,000.00
7	Reducing Flood Risk in Kumanovo and Lipkovo Municipalities	UNDP supports efforts to significantly reduce flood risk in communities along Lipkovska River in the City of Kumanovo and central parts of Lipkovo. For this purpose, the following river regulations have been completed (or in advanced stages of implementation): 1. Regulation of the most critical sections of the riverbed in total length of app. 1 km. This intervention will help directly protect an ethnically mixed community sharing a densely populated land resource extending along a high flood-risk zone. 2. Extension of existing river regulation for additional 400 meters in the center of Lipkovo	UNDP / Government of RNM	1/1/2017	12/1/2018	Completed	€ 347,535.00	Ministry of Environment and Physical Planning	Technical Assistance	North-East	Environment, Natural Resources	Natural Resources Saving	3,875.00 €	€ 343,660.00	
8	EU Floods Recovery Programme	EU is assisting the country and its citizens in overcoming the effects of the floods, by providing funds over the next two years to address the top priority reconstruction needs, transport and water infrastructure in the most affected areas in line with "build back better" principles of sustainability.	UNDP / European Commission	4/1/2016	9/1/2018	Completed	€ 6,819,261.00	UNDP	Technical Assistance	East, South-East, Pelagonia	International water saving	Sustainable Development / Natural Resources Saving			€ 6,819,261.00
9	Improving Resilience to Floods in the Polog Region	The goal of the project is to assist the country's flood recovery efforts in the Polog Region. It aims to prevent loss of life and damage to property during future floods by reconstructing important parts of the flood control infrastructure in the City of Tetovo.	UNDP, Government of Switzerland, SECO, Government of North Macedonia	10/1/2017	12/1/2023	Ongoing	€ 6,122,685.00	Ministry of Environment and Physical Planning	Technical Assistance	North-West	Water saving Environment	Sustainable Development / Natural Resources Saving		€ 212,080.00	2340000 Swiss + 3570000 SECO
10	Improving the Management of Protected Areas	To assist the country in addressing priority needs in improving the management of natural resources within protected areas, promoting more sustainable use of natural resources through practical examples that nature protection and economic development can go hand in hand.	UNDP / European Commission	7/1/2015	12/1/2020	Ongoing	€ 4,845,998.00	Ministry of Environment and Physical Planning	Technical Assistance	North-West	Environmental policy and administrative management	Environmental protection	331,450.00 €		€ 4,510,000.00

No.	Project Title	Project Description	Implementing agency/Main Donor	Start date	End date	Project Status	Project Cost	Domestic implementator	Type of assistance	Location Name / Target region	Sector	Subsector/Policy/Programme	UNDP Funding	Government of North Macedonia co-funding	Other Donor fund
11	Response to Flash Floods in Skopje and Tetovo	The flash floods that hit Skopje in August 2016 and Tetovo in August 2015 and the river flooding that engulfed the Pelagonija region in February 2015 are part of a wider pattern that makes the Western Balkans one of the world's most disaster-prone regions. But there is nothing inevitable in this cycle. Prevention is the answer: investing in protective infrastructure and smarter practices can protect lives and property.	UNDP	8/20/2016	3/1/2017	Completed	€ 75,000.00	Cities of Skopje and Tetovo	Technical Assistance	North-West	Environment, Natural Resources	Environmental protection	75,000.00 €		
12	Tackling Air Pollution	The project will establish a fully functional platform that brings all traditional and non-traditional partners to work together to address the issue of air pollution in the City of Skopje.	UNDP / Swedish International Development Cooperation (SIDA)	12/12/2019	12/31/2021	Ongoing	€ 926,110.00	Ministry of Environment and Physical Planning	Technical Assistance	North-West	Climate Change	Environmental protection			€ 926,110.00
Total							€ 31,374,624.00						832,685.99 €		

Annex 14 - Database of FITD Projects that meet the Selection Criteria (conected to Climate Change)

FITD-Fund for Innovation and Tecnology Development of te North Macedonia

General Information						Financial Information			Clasification				
No.	Project Title	Main Donor	Start date	End date	Project Status	Project costs	FITR Co-funding	Own co-financing	Company Beneficiary	Location Name	Type of company	Sector	Support Instrument
1	InDiPa - Industrial Distribution Panel	FITD	2020	2021		221.672,50	155.170,75	66.501,75	BMG Electrical Engineering	Skopje			Innovation / Comercialization
2	MyHotel-a smart hotel system	FITD	2020	2021		48.725,92	34.108,14	14.617,78	HAS Engineering	Skopje			Innovation / Comercialization
3	Healthy functional food	FITD	2020	2021		€ 224,730.00	€ 157,311.00	€ 67,419.00	Zito Prom Zoran DOOEL	Gevgelija			Innovation / Comercialization
4	Vegetative Modules-Semperville	FITD	2020	2021		€ 108,500.00	€ 75,840.00	€ 32,660.00	FOJA KO DOOEL	Skopje			Innovation / Comercialization
5	MICROECO-innovative application technology aerobic microorganisms up to less pesticides in soils	FITD	2020	2021		484.815,10	290.889,06	193.926,04	Farmahem DOOEL	Skopje	Medium		Innovation / Comercialization
6	Clean air, a healthy future	FITD	2020	2021		510.488,00	306.303,00	204.185,00	Biotec DOO	Skopje			Innovation / Comercialization
7	Commercialization of Innovative processes for promoting energy efficiency in sector based housing of Typology of Energy appraisal of residential buildings in GB according to the TABLE method	FITD	2020	2021		169.525,00	89.525,00	80.000,00	Megapolis	Skopje			Innovation / Comercialization
8	Development of thermoplastic composite tank with large opening for use in the heating, cooling and plumbing industry	FITD	2020	2021		€ 432,940.00	€ 303,058.00	€ 129,882.00	Euroterm DOO	Prilep			Innovation / Comercialization
9	Macedonian handmade shoes and sandals made of natural material-natural leather without chemicals, environmental friendly shoes	FITD	2019	2020		€ 72,205.00	€ 34,924.00	€ 37,281.00	Trgokoza 2 DOOEL-Import-Export Bitola	Bitola	Micro	Textile and Leather Industry	Innovation / Comercialization
10	New innovative design of cosmetic box for long active life of creams	FITD	2019	2020		€ 284,477.00	€ 199,134.00	€ 85,343.00	VA-Plast DOOEL	Ohrid	Small	Other specialization activities	Innovation / Comercialization
11	Branded organic salads	FITD	2019	2020		€ 50,705.00	€ 35,493.00	€ 15,212.00	AKVAPONIKA DOOEL	Skopje	Micro	Agriculture	Innovation / Comercialization
12	0/48	FITD	2019	2020		€ 240,096.00	€ 168,068.00	€ 72,028.00	FEYDOM Furniture DOO	Skopje	Medium	Wood Industry	Innovation / Comercialization
13	Raw Food-The future of healthy eating	FITD	2019	2020		€ 419,118.00	€ 293,383.00	€ 125,735.00	Vitalia Nikola DOOEL	Skopje	Large	Technology Industry	Innovation / Comercialization
14	Programme for production of Rafja for gardening	FITD	2019	2020		€ 56,525.00	€ 39,535.00	€ 16,990.00	ASP-PAK DOOEL	Ohrid	Medium	Agriculture	Innovation / Comercialization
15	Development of innovative and organic alkaline bread	FITD	2019	2020		€ 199,023.00	€ 139,316.00	€ 59,707.00	Dibonan DOOEL	Gevgelija	Small	Technology Industry	Innovation / Comercialization
16	Vauron 2020	FITD	2019	2020		€ 210,033.00	€ 142,395.00	€ 67,638.00	Vauron DOO	Skopje	Small	Energy Industry	Innovation / Comercialization
17	Development of smart photovoltaic module (JV-PAM)	FITD	2019	2020		€ 428,070.00	€ 299,649.00	€ 128,421.00	Torax DOO	Skopje	Medium	Energy Industry	Innovation / Comercialization
18	Heat pump	FITD	2019	2020		€ 271,756.00	€ 190,229.00	€ 81,527.00	ILS Engineering	Bitola	Small	Energy Industry	Innovation / Comercialization
19	A new era in the "terry cotton" products industry	FITD	2019	2020		€ 555,693.00	€ 321,024.00	€ 234,669.00	Frotirka Company AD	Delcevo	Medium	Textile and Leather Industry	Innovation / Comercialization
20	Ornalit	FITD	2019	2020		€ 213,757.00	€ 149,630.00	€ 64,127.00	Ornamax DOOEL	Skopje	Small	Technology Industry	Innovation / Comercialization
21	Replacement of internal combustion engine for classic cars - Zastava 750 (ficio) electrically powered	FITD	2019	2020		€ 160,194.00	€ 112,136.00	€ 48,058.00	BB Classic Cars DOO	Skopje	Micro	Automotive Industry	Innovation / Comercialization
22	Innovative and sustainable outdoor solvents	FITD	2019	2020		€ 459,204.00	€ 321,443.00	€ 137,761.00	DASS Engineering DOO	Ohrid	Medium	Electronics and Electrotechnics	Innovation / Comercialization
23	Manufacture of insulating building materials from textile waste	FITD	2019	2020		€ 119,417.00	€ 83,592.00	€ 35,825.00	NETAM DOO	Skopje	Small	Construction	Innovation / Comercialization
24	From Pilan wood waste to fuel for heating - wooden pellets	FITD	2019	2020		€ 62,966.00	€ 44,076.00	€ 18,890.00	Cavle Ela Trejd DOOEL	Prilep	Small	Energy Industry	Innovation / Comercialization

No.	Project Title	Main Donor	Start date	End date	Project Status	Project costs	FITR Co-funding	Own co-financing	Company Beneficiary	Location Name	Type of company	Sector	Support Instrument
25	Development of new methods of environmental testing	FITD	2019	2020		€ 170,665.00	€ 119,116.00	€ 51,549.00	TehnoLab DOO	Skopje	Small	Other specialization	Innovation / Commercialization
26	Modular solar roofs	FITD	2019	2020		€ 371,764.00	€ 260,235.00	€ 111,529.00	MZT Engineering DOO	Bitola	Medium	Energy Industry	Innovation / Commercialization
27	EPS Innovative Research and Development Technology System	FITD	2019	2020		€ 555,680.00	€ 323,625.00	€ 232,055.00	Usjepor DOOEL	Skopje	Medium	Construction	Innovation / Commercialization
28	Construction of cooling chamber	FITD	2019	2020		€ 28,040.00	€ 8,412.00	€ 19,628.00	Blameja DOOEL	Bitola	Small	Mechanical Engineering	Technology Development
29	Energy Efficiency Software	FITD	2019	2020		€ 33,637.00	€ 9,465.00	€ 24,172.00	Delta Project DOO	Skopje	Small	IT	Technology Development
30	ECO food supply by electric vehicles	FITD	2019	2020		€ 71,153.00	€ 21,346.00	€ 49,807.00	City Food Group DOOEL	Skopje	Small	Hospitality	Technology Development
31	Ormak - development of ORC plant for waste heat utilization	FITD	2019	2020		€ 350,136.00	€ 245,095.00	€ 105,041.00	Interbako DOO	Skopje			Innovation / Commercialization
32	Urban energy independent air filter system	FITD	2019	2020		€ 137,466.00	€ 96,226.00	€ 41,240.00	DETAL-VELD DOO	Kavadarci			Innovation / Commercialization
33	Smart Photovoltaic Systems, "SunSmart Solar Systems"	FITD	2019	2020		€ 158,945.00	€ 111,220.00	€ 47,725.00	SunSmart Solar Systems DOO	Skopje			Innovation / Commercialization
35	10,000 sunny roofs	FITD	2019	2020		€ 172,065.00	€ 119,638.00	€ 52,427.00	SIETO DOO	Skopje			Innovation / Commercialization
36	Waste glass treatment	FITD	2019	2020		€ 358,252.00	€ 248,786.00	€ 109,466.00	AKRON DOOEL	Skopje			Innovation / Commercialization
37	Air purifier and pollution exhaust	FITD	2019	2020		€ 81,181.00	€ 56,827.00	€ 24,354.00	Daris Engineering DOO	Skopje			Innovation / Commercialization
38	An innovative and stimulating system for selective waste collection and data analysis	FITD	2019	2020		€ 332,212.00	€ 218,393.00	€ 113,819.00	Pakomak DOO	Skopje			Innovation / Commercialization
39	Aero C - Multifunctional Exterior Air Purifier	FITD	2019	2020		€ 67,110.00	€ 46,977.00	€ 20,133.00	Luksiko DOOEL	Sveti Nikole			Innovation / Commercialization
40	Eco-efficient boilers	FITD	2019	2020		€ 291,260.00	€ 203,883.00	€ 87,377.00	Tehnoben Nova DOO	Prilep			Innovation / Commercialization
41	Enhanced PVT collector with new design for simultaneous generation of built - in electricity and heat in combined solar heating, cooling and air conditioning systems for residential and commercial customers	FITD	2019	2020		€ 274,863.00	€ 192,404.00	€ 82,459.00	Plasma DOO	Skopje			Innovation / Commercialization
42	Production of industrial paints	FITD	2019	2020		€ 485,880.00	€ 145,764.00	€ 340,116.00	ELMA DOOEL	Ohrid			Technology Development
43	Recycled paper pulp molds	FITD	2019	2020		€ 232,434.00	€ 69,004.00	€ 163,430.00	MIT Group Company DOOEL	Kumanovo			Technology Development
44	100% renewable sources	FITD	2019	2020		€ 322,059.00	€ 96,618.00	€ 225,441.00	Propoint DOOEL	Skopje			Technology Development
45	Development of a production network with a "zero-waste" production concept	FITD	2019	2020		€ 128,641.00	€ 38,592.00	€ 90,049.00	Markt Organic DOOEL	Skopje			Technology Development
46	Marmi de-la pellets	FITD	2019	2020		€ 535,599.00	€ 160,680.00	€ 374,919.00	Marmi Sped	Prilep			Technology Development
47	Composite insulators with smart malfunction detection system	FITD	2020	2021		€ 303,163.00	€ 212,214.00	€ 90,949.00	TM DOO Stip	Stip			Innovation / Commercialization
48	Ship IT	FITD	2020	2021		€ 146,630.00	€ 96,480.00	€ 50,150.00	Macedonian Business Systems	Skopje			Innovation / Commercialization
49	LarvoBac Tablets	FITD	2020	2021		€ 246,000.00	€ 172,200.00	€ 73,800.00	Mediko Matriks DOO	Skopje			Innovation / Commercialization
50	Manufacturing of self-heating fabric	FITD	2020	2021		€ 79,000.00	€ 55,300.00	€ 23,700.00	NETAM DOO	Skopje			Innovation / Commercialization
51	Golijat-conic pillar that will use electricity from renewable sources	FITD	2020	2021		€ 323,802.00	€ 226,661.00	€ 97,141.00	KOD Engineering	Skopje			Innovation / Commercialization
52	Easy Network Power	FITD	2020	2021		€ 463,975.00	€ 324,783.00	€ 139,192.00	New Energy DOO	Skopje			Innovation / Commercialization

