Finance, technology and capacity building needs and support received in the Republic of North Macedonia

- Chapter of the 3rd BUR -

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Contents

1.1 Capacity building needs

This chapter is a sublimate of the rapid assessment Report for current status of the research, development, innovation and technology transfer related to climate change in the Republic of North Macedonia, 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 (further called Report) [1].

The Report presents the rapid assessment that was conducted for determining the current status of the research, development (R&D), innovation and technology transfer related to climate change in Republic of North Macedonia, summarizes the main principles of the UNFCCC TT: Clear Mechanism as an instrument for transfer of technology (TT) and development between the member states of the UNFCCC, established to facilitate the implementation of TT and development related to mitigation and adaptation climate change (CC) actions, as well as possibilities for its utilization in the country. There is **proposed the most appropriate Macedonian institution for the National Designated Entity for this mechanism**, 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.

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).

According to the ranking investigation and selection criteria, the **highest ranked** organisation, which should be promoted as organisation that possesses significant potential **to be nominated as NDE** in Republic of North Macedonia, is the Fund for Innovation and Technology Development (**FITD**). From the other hand, the analysis of the national legislation 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 FITD (2020) provides the measure to establish NTTO with the same goal.

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

At the **second place** of ranking within the assessment analysis are ranked two Technology Transfer Centers established at the technical campus of the UKIM, CIRKO and INNO FEIT, and Research Center RCESD at the MANU.

Continuous improvement of that infrastructure with a special consideration to the TT and 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.

1.2 Legal framework and institutional set-up

The legal framework comes from the directions provided by the Programme of the Government of Republic of North Macedonia, retrospectively for the periods 2012-2015 and 2017-2020 that are dedicated to achievement of the overall goals for economic and sustainable grown with high quality education. The realization of the overall goals and their R&D policy goals goes with the laws, the policies, the strategic documents and the measures.

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

- Law on the Scientific and Research Activities (2016) with National Programme for Scientific R&D Activities,
- Law on Encouragement and Support of Technological Development with National Programme for Encouragement and Support of Technological Development (2012-2015), repealed wit Law of Innovation Activity (2015)
- Law on Higher Education (2018), with National Strategy for Education (2018-2025).

Issues related to innovation and TT policy goals are regulated by the following legal acts:

- Law of Innovation Activity of the Republic of North Macedonia (2015),
- Innovation Strategy of the Republic of North Macedonia (2012-2020),
- Industrial Policy of the Republic of North Macedonia (2009-2020),
- Strategy of competitiveness (2016-2020),
- Policy of Small and Medium Enterprises of the Republic of North Macedonia (2018-2022),
- Industrial Strategy of the Republic of Macedonia (2018-2027),
- Regional Strategy for Innovation R&D of Western Balkans (2014).

According to the legal framework, underpinning institutional set-up and capacities building in the country, as appropriate for UNFCCC Technology Mechanism implementation, can be designed at the three levels, macro, mezzo and micro (deeply presented in [1]):

- 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.

1.3 Finance, technology and support received

The deep assessment analysis for the current state of R&D, innovation and TT national conditions related to CC activities was made in close collaboration with 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 (2014-2020) [1], as well as results for the previous 5 years period (2009-2013) [2], 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.

According to analysed results for the period 2014-2020, it can be concluded that North Macedonia receives significant financial (granting and lending schemes), 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 R&DITT projects with direct or indirect impact on the climate change mitigation and adaptation in the country.

Detailed analysis about ongoing and realized projects presented by programmes, by donors, by implementing agencies and financial institutions, as well as summarized information about the overall support received are presented in Report [1].

1.4. Driving forces for capacity building

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. The international and bilateral **donor programmes** with their **successful utilisations** are driving forces behind development of capacities for R&D, innovative and TT CC activities and awareness growing for environmental and sustainable development.

The multilateral or bilateral **donors** usually use different approach having precise 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.

1.5 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 **6 main recommendations**:

1. As recommendation, 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, in detail presented in [1]. CCC Platform (klimatskipromeni.mk), as an initial point for providing updated national information related to climate change, can matching with recommended central platform.

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 the Report (INTERREG CBC Programmes, some of the IPA programmes), the national authorities in charge for the specific area 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 ensuring the national co-financing funds, in detail presented in [1].

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.

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. 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.

6. 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 to synergize their efforts in achieving better environment and society.

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.

Literature

1. Rapid Assessment Report: Current status of the research, development, innovation and technology transfer related to climate change in the Republic of North Macedonia, 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)", *funded by GEF and UNDP*, January 2020. (*Author: V. Gecevska*)

2. Final report: Current assistance and lessons learned from international multilateral and bilateral donors in Republic of Macedonia, part of the process of development of a new Country Partnership Competitiveness Strategy for Republic of Macedonia for the period 2014-2017, *funded by World Bank*, July 2014. (*Authors: V. Gecevska, R. Polenakovik, B.R. Jovanovski*)