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Promoting Financing Mechanisms for Eco-Innovation in SEE

Discussion Paper on Financing Mechanisms for Eco-innovation in SEE

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Table of Contents:

1. INTRODUCTION 4

2. BARRIERS TO ECO-INNOVATION 4

2.1. INSTITUTIONAL BARRIERS 4
2.2. STRATEGIC DOCUMENTS 5
2.3. LEGISLATION 5
2.4. ECONOMIC AND FINANCIAL BARRIERS 6

3. DISCUSSION TOPICS 7

3.1. ECO-INNOVATION SPECTRUM: WHERE TO START FROM? 7
3.2. HOW TO ACHIEVE BETTER COORDINATION AND INSTITUTIONAL CAPACITY? 8

REFERENCES 9

1. Introduction

The project Promoting Financing Mechanisms for Eco-Innovation in SEE aims to identify existing and potential mechanisms for stimulation and financing eco-innovation in the selected countries in the region (Albania, Bosnia and Herzegovina, Croatia, FYR Macedonia, Montenegro, and Serbia). The objectives of the project are to identify conditions for, and barriers to efficient financing of eco-innovation in the SEE countries, propose solutions for overcoming these barriers, and to organise a conference for exchanging experiences and ideas in order to further promote eco-innovation financing in the region.

In sectoral terms, this project is focused on sustainable energy (energy efficiency and renewable energy), recycling and cleaner production. The background study for this paper (REC 2009) showed that currently the most efforts are in the area of sustainable energy. In terms of the eco-innovation, we decided to encompass not only research and development, pilot/demonstration projects, and full commercialization of new eco-technologies, but also the issue of implementing such technologies in enterprises.

During 2008, a survey based on questionnaires and interviews with key stakeholders was carried out based on which a background study was completed in February 2009 (REC 2009). The present discussion paper summarizes the findings of the background study about existing barriers to eco-innovation in SEE, and it will serve for initiating the debate at a forthcoming regional conference on financing eco-innovation in SEE.

2. Barriers to Eco-innovation

The initial literature review (EC 2004, Kemp *et al.* 2004, Technopolis BV 2004, Ashford 1993) for this discussion paper identified the following most common types of barriers to supporting and financing technological innovation in general and eco-innovation in particular:

- inadequate institutional support for research and innovation;
- insufficient / inadequate strategies (policies and plans), legislation and standards;
- economic and financial barriers; and
- technological barriers.

This paper is concerned with the first three types of barriers, while the technological barriers will not be discussed further. All four types of barriers are interlinked, but the first two are inseparable, especially in the SEE countries where both the institutions and policies/legislation are still being reformed, in order to comply with the EU pre-accession requirements, as identified in the background study for this discussion paper (REC 2008).

2.1. Institutional Barriers

The factor of institutional support relates mostly to the national administration for science and technology but also to the administration responsible for environmental protection, economy, finance and regional development, as well as administration for energy and transport. Furthermore, coordinated actions between these institutions are needed in order to streamline the very limited human and financial resources (in case of SEE countries) that these institutions can offer for

supporting eco-innovation. In the EU countries, this national level coordination gap can be supplemented (subject to individual project proponents' capabilities) by using the EU institutions, pogrammes and funding schemes such as the Executive Agency for Competitiveness and Innovation (EACI) and its programmes (Eco-innovation Programme, Intelligent Energy Europe, and Marco Polo programme), and the Environmental Technologies Action Plan (ETAP), FP7 ad Life Plus. In contrast, the SEE countries have to rely on scarce assistance from bilateral donors' and IFIs' programmes, as well as some of the above mentioned EC programmes, subject to eligibility and mandatory cooperation with organizations from EU member states (which may not necessarily be interested to cooperate with institutions from SEE countries), and minor segments of IPA funds.

In the majority of the studied countries the institutional and systematic capacity is not sufficient to create supportive institutions and to design, implement and enforce policies and legislation for eco-innovations and technology transfer, as well as to monitor their results. In most of the studied countries, the national institutions relevant for promoting eco-innovation (such as energy efficiency, recycling, and cleaner production agencies and centres) are either not yet in place, or very weak both in terms of personnel capacities, political leverage and available funding. In most of the observed cases, these institutions have been created on the basis of foreign assistance projects, which in some cases included funds for small pilot projects at municipal level. Once this funding is used such institutions become practically inactive. The key challenge is the strengthening of the institutions in order to increase the absorption capacity for attracting and properly using international funding on an ongoing basis.

2.2. Strategic Documents

The quality of relevant strategic documents depends to a large measure on the capacities of and coordination between institutions responsible for designing them. The three policy areas that are key for eco-innovation in the context of this paper are science, research and innovation policy, environmental policy (including waste/recycling and cleaner production), energy policy (including renewable energy and energy efficiency), and policies relevant to competitiveness and promotion of SMEs. Policies that can indirectly stimulate eco-innovation are those related to green public procurement (GPP) and to intellectual property rights (IPR).

In the SEE countries, still being in the transition period, the relevant ministries have insufficient technical cadre to provide a steady support for developing necessary strategies, policies and plans of sufficient quality. Some of the SEE countries are making accelerated efforts to bring all the necessary strategic and legislative documents in the context of EU approximation. However, there is a geneeral lack of coordination in preparing these policies. As identified in the Background Study on Financing Mechanisms for Eco-Innovation in SEE (REC 2008), often the strategies, policies and plans in different sectors are not coordinated regarding cross-cutting issues. Furthermore, there are frequent cases where lower tier strategic documents are completed before the higher tier ones. An additional problem is that drafted strategic document proposals often wait for a long time to be adopted, which in some cases makes them obsolete by the time of adoption. The same is true for legislation proposals.

2.3. Legislation

Even well intended legislation and standards can act as barriers to implementing eco-innovation in production processes: unclear and un-ambitious legislation and standards do not provide sufficient drivers for developing and applying new green technologies (European CommissionC 2004). On the other hand, too detailed and inflexible legislation and standards make it hard or impossible for companies to introduce appropriate new pollution reduction and green-technologies in given timeframes. Well designed legislation and accompanying standards do take into account the actual

economic, financial and technology conditions in a given country, and allow sufficient time for enterprises to introduce changes according to the above mentioned conditions.

In our background study (REC 2008) we have identified that within the above mentioned EU approximation efforts, all of the covered countries have adopted most of the relevant primary laws but only a negligible amount of secondary legislation which is necessary to make the primary laws operational. The lack of secondary legislation and standards aimed at internalizing the costs of environmental pollution and weak implementation of existing laws, most of the companies do not have incentives to reduce their environmental impacts, increase their eco-efficiency and start introducing cleaner production measures. The market based instruments need to be created or strengthened by adding relevant primary and secondary legislation, that would stimulate investments in clean and energy efficient technologies. Furthermore, state aid legislation should be tailored in such a way to prevent bad subsidies, and support those that are favourable for eco-innovation.

An exception is Croatia, which has enacted sufficient secondary legislation and standards, especially in the sectors of renewable energy production and recycling, and created a set of institutions necessary for implementing this legislation and assisting companies technically and financially involved in renewable energy projects. Montenegro is currently working on a whole package of renewable energy and energy efficiency strategic documents, and primary and secondary laws.

2.4. Economic and Financial Barriers

According to the European Commission's Environmental Technologies Action Plan (ETAP, EC 2004), the economic barriers for introducing green technologies into production processes, in EC countries, range from market prices that do not include "externalities" i.e. the external environmental and health costs of products or services, to the fact that investments in environmental technologies induce higher costs because of their perceived risks, the size of the initial investments or the complexity of switching from traditional to environmental technologies.

Financial barriers, according to Ashford (1993, cited in Kemp et al. 2004), also include higher costs of developing new technologies in comparison with traditional ones, preference for short term profitability of established technologies over the long term profitability (and perceived lower profit margins) of new technologies, perceived risks regarding consumer acceptance of new technologies and products, increased management requirements associated with introduction of new (eco) technologies in enterprises, and potential lack of supplier support and risk of losing clients if certain products can not be delivered for a certain period in case of technology change in the production process.

The factors above relate mostly to EU 'old' member states. In SEE countries the problems are more basic. In the situation where the economies struggle to attain GDP and growth rates comparable to EU member states, and where basic environmental infrastructure is still underdeveloped, the existing environmental protection public funds are not even sufficient for supporting the essential municipal environmental infrastructure. Therefore, none of the national environmental protection public funds are used for supporting eco innovation, except in Croatia, where these funds are partly allocated for the sustainable energy sector. Small parts of research and development public funds are partly allocated to R&D in the eco-technology sector.

In EC countries, the financial barriers include lack of market demand from the private and public sector as well as from consumers, lack of public funds for initial research and pilot projects (pre-commercialisation) and lack of private capital and interest for financing full commercialization of new technologies and products. Therefore, the EU countries, especially EU 15, experience relatively sufficient public funding for early phases of eco-innovation, and relatively sufficient private financing of commercialization of fully proved new technologies and products, but a lack of both public and

private funding in the middle of the eco-innovation range, i.e. for demonstration and pilot projects and facilities. In the studied countries, except in Croatia, there are no systematic measures (apart from time limited programmes which are supported by international agencies) providing financing mechanisms for eco-innovation.

The recent energy price surges have somewhat raised interest into renewable energy and energy efficient technologies in the industrial sector. However, with the weak economies in the region, most of the domestic companies do not have sufficient capital to introduce large-scale energy efficiency measures or to modify their existing power/heat installations to renewable energy sources.

3. Discussion Topics

3.1. Eco-Innovation Spectrum: Where to start from?

While in the EU countries, the lack of funding is mostly felt in the middle of the eco-innovation process (demonstration/pilot projects and facilities), the SEE countries experience the lack of funding across the whole eco-innovation range, from basic research, to full comercialisation of new technologies. While in the EU countries it is a question of filling the gap, in SEE countries it is a question of where to start.

The discussion questions that arise are the following:

- In the given situation in SEE countries, is it possible and is it worth to try to cover supporting the whole spectrum of eco-innovation?
    - If not, where to start from?

- Provide more support to domestic research and development?
    - Would it it possible to secure more funds for that purpose and where from?
    - How to better use the opportunities stemmonig from EU programmes for stimulating industry-research cooperation, such as Eco-innovation Programme, Inteligent Energy Europe, FP7, Life Plus etc. (subject to country eligibility.
    - Since these EU programmes as a rule, require cooperation with Eu entities, how to attract EU research instuitutes and enterprises to cooperate on projects with SEE coutries' counterparts?
    - Even if possible, would it be feasible? The background study shows that there are competent research institutes that carried out good quality applied research that resulted in fully developed designs for pilot projects, which in most cases could not obtain funding for their actual realization.

- Would it then be more feasible in the coming period to provide funds for pilot projects stemming from successful past research projects?
    - Would it then be more feasible in the coming period to provide funds for pilot projects stemming from successful past research projects?
    - If so, how to obtain sufficient funds? The existing public funds would not be sufficient. Therefore, how to attract capital from private and/or public companies?
    - Could small to mid-size energy hungry companies be interested in having such pilot facilities installed at their own production facilities? Apart from uncertain long-term energy cost savings, could the state offer them additional incentives in form of e.g. tax breaks?

- Would it be more feasible and realistic to start from the other side of the spectrum (introduction of fully proven new green technologies - from abroad)?
    - If yes, how would that affect the foreign trade balance?
    - How would it affect national institutes and researchers in the long term?
    - If domestic private and public companies as a rule, cannot afford to install pilot facilities based on domestic materials and products, would they be able to afford foreign ones?

- Regarding the sectoral spectrum, the same question arises. Is it possible and worth trying to cover all major sectors of eco-innovation (sustainable energy, recycling and cleaner production)? The example of Croatia shows that focusing on one sector (wind energy and electricity distribution sector reform) was worthwhile.
    - Would it be worth taking such an approach in other countries?
    - If not, which sector to support first in a given country?
    - Are there enough studies in each country that show what are the biggest potentials in terms of renewable energy types?
    - Even though energy efficiency and renewable energy are the clean-tech sectors that have the biggest investment-return potential, what about recycling and cleaner production and their strategic and long term benefits?

3.2. How to Achieve Better Coordination and Institutional Capacity?

The background study showed lack of coordination at all levels: coordination between different donors and IFIs, coordination between them and relevant national administration, as well as within the national relevant institutions. There is also a lack of communication between the IFIs and intermediary banks and further down to potential users of preferential loans, resulting in incompatibilities between the pre-set loan conditions and the actual possibilities of potential users to repay them under those terms. Also in some cases, the use of intermediaries brings the interest rates up, so that the resulting packages are not much better than commercial loans.

The discussion questions that arise are the following:

- How to promote better coordination between different donors and different IFIs in a given country?
    - Would it be possible to set up a forum for donors and IFIs within a given country?
    - How to use the existing regional donor community forums for promoting finanacing eco-innovation in particular?

- How to promote better capacities of and coordination between different relevant national institutions regarding the support for eco-innovation?
    - Would it be possible to form a national network for supporting eco-innovation in a given country?
    - Is there an existing association or chamber or national institution that could serve as a secretariat for such a network?
    - Could such a platform contribute to better understanding between the stakeholders and increased capacities through experience exchange?
    - Which types of stakeholders would need to be represented in such a network at minimum (e.g. researchers/institutes, relevant agencies/ministries, industrial sectors or individual companies interested in this problematique etc.)?

- Would it be possible and useful to form a regional network for supporting eco-innovation?
    - If yes, which types of stakeholders would need to be represented in such a network, at minimum?

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