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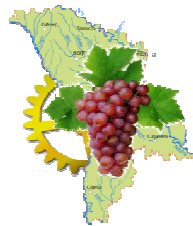


# **Policy Measures to Promote Resource Efficient and Cleaner Production in the Republic of Moldova**

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## Table of Contents

Executive Summary .....	3
Background and Purpose.....	4
RECP – Resource Efficient and Cleaner Production.....	6
Policy Approaches .....	10
Policy Instruments and Tools .....	12
Administrative/Regulatory Instruments.....	13
Specified and negotiated compliance.....	14
Economic/Market-Based Instruments.....	14
Taxes, Charges and Fees.....	15
Subsidies .....	15
Liability Rules .....	16
Informative/Information-Based .....	16
Policy Design and Implementation.....	16
RECP Policies in the Republic of Moldova.....	18
Method of Analysis.....	18
National Strategies and Analysis of Policy Measures .....	18
Key Recommendations .....	24

### **The National Cleaner Production Programme in the Republic of Moldova**

A full-scale implementation phase of the National Cleaner Production Programme (NCPP) was set up in 2011 in the Republic of Moldova, and officially launched in 2012 for the promotion and uptake of Resource Efficiency and Cleaner Production (RECP) concept as a follow-up to the preparatory stage. The NCPP in the Republic of Moldova is generously funded by the Government of Austria. United Nations Industrial Development Organisation (UNIDO) is providing professional and general support to the NCPP Moldova, in particular through its Cleaner and Sustainable Production Unit. Currently NCPP Moldova is granted with observer membership in the global network RECPnet ([www.recpnet.org](http://www.recpnet.org)), and thereby gains access to its resources.

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## Executive Summary

This report on Policy Measures to Promote Resource Efficient and Cleaner Production (RECP) in the Republic of Moldova has been developed during summer 2012 - spring 2013 as part of the National Cleaner Production Programme (NCPP) in the Republic of Moldova, implemented by UNIDO and funded by the Government of Austria.

The report strives to provide a set of measures that are feasible given the realities connected with institutional and economic constraints facing the Republic of Moldova today. The conclusion from this study is that main measures to promote Resource Efficient and Cleaner Production (RECP) in Moldova today have less to do with the wording in laws and policy documents, and instead it is the implementation of policies and related measures that should be in focus. The key recommendations given in the report are the following:

- The fiscal and environmental policy measures need to be predictable and transparent for Moldovan businesses.
- Price structures and control of payments need to reflect the use of various key resources and materials, including water and energy.
- Environmental charges and taxes are most efficient when focussing a limited number of key polluting substances and a limited number of polluters in order to also enable efficient and transparent enforcement.
- In the short term there is a need for continued education and training for professionals in businesses and government, combined with an improved access to information on technologies and methods for pollution prevention and minimisation, resource efficiency and pollution control.
- For long-term results the education on all levels should be reformed to include elements of environmental awareness and, more importantly, knowledge of how RECP actions can be taken in various organisations and by various employees.
- RECP assessments, as well as energy audits with a more limited scope, need to be of a good standard in order to allow for investment decisions to be based upon them. This demands a credible and accountable group of experts. To facilitate the development of such a group within the country there is a need for a high-class system of training and accreditation of these auditors.
- Good examples from companies implementing RECP activities should be promoted and recognised through award systems and publicity.
- A gradual implementation of a permit system built on the principles of the Integrated Pollution Prevention and Control approach in line with the EU IPPC Directive is important for the long-term development of environmental initiatives in the companies.
- The Government may consider a system of agreements between the Ministry of the Environment and individual companies that would give these companies a specified time period without environmental fees and fines in exchange for signed detailed commitments to participate in a RECP Programme and implement RECP measures.

## Background and Purpose

Economic growth is sought to address the development challenges countries are facing, whether these are necessities to eradicate poverty or to reach, maintain and further affluent life styles citizens have got used to. However, economic activities are inherently associated with potential human health related problems and frequently lead to significant negative impact on the assimilative and regenerative capacity of the environment. While all countries face this dilemma, the difficulties in addressing these problems are most evident in countries with the least developed economies. Resource Efficient and Cleaner Production (RECP) can provide solutions to some of these problems.

In order to successfully adopt a RECP approach to these challenges, countries need to align their environmental, industrial, resources, technology and related policies to create the right incentives for actors in businesses and organisations to actively participate in implementing the necessary approaches, methods and technologies in their work. While the decisions about investing in appropriate technologies and management approaches must be taken by businesses, organisations and individuals, the choices these actors make will be influenced by the policy framework present in the country and how these policies are being implemented in practice.

This report outlines conclusions and recommendations based on the work of developing policy approaches and measures for Resource Efficient and Cleaner Production (RECP) in the framework of the National Cleaner Production Programme in the Republic of Moldova (NCPP Moldova). It is a work commissioned by the United Nations Industrial Development Organisation with funding from the Government of Austria in the framework of the Programme and has been carried out from the summer of 2012 to spring 2013.

The purpose of this report is to provide a set of measures that are feasible given the realities connected with institutional and economic constraints facing the Republic of Moldova today and to link these measures with realistic expectations. The report consists of a generic part introducing RECP and connected policies, focussing on the aspects that are most relevant to the situation in the Republic of Moldova. This is followed by a part that emphasises the specifics of Moldova and derives recommendations for key RECP policy approaches and measures that can be introduced in the country in short and medium-term.

The report has been compiled following a combination of methods. The starting point has been five important national strategies, a parliament decree on the concept of environmental policy and a national law, selected at the recommendation of the National Executive Board (NEB) of the NCPP Moldova and the related national stakeholders in ministries, businesses, NGOs and academia. These are the documents:

- Moldova 2020 National Development Strategy;

- Strategy on Industrial Development until 2015;
- Energy Strategy of the Republic of Moldova until 2030;
- The National Waste Management Strategy;
- The draft of the National Environmental Strategy 2012-2022;
- Parliament Decree No 605 from 02.11.2001 confirming the Concept of the Environmental Policy of the Republic of Moldova; and
- Law No 272 of 23.12.2011 on Water.

The work has also included a considerable number of interviews with key stakeholders from among others several ministries, enterprises, the Chamber of Commerce, NGOs, RECP experts advising companies in the National Programme, the Academy of Science, and academia. These interviews have taken place during four visits to Chisinau in the summer 2012, autumn 2012 and winter and spring 2013. During these stays two workshops and a board meeting of the National Programme have also been attended.

The Moldova-specific information has subsequently been combined with experiences from other countries as presented in relevant literature and through contacts with practitioners and researchers during the project period and in earlier work.

Draft conclusions and recommendations were presented in a workshop on 21 November 2012 in Chisinau and feedback was received orally and in written through a questionnaire to all participants. The draft report was further presented for comment and review by the National Executive Board on 26 March 2013 and comments have since been included in the report.

## RECP – Resource Efficient and Cleaner Production

Countries have traditionally responded to industrial pollution and environmental degradation in four characteristic ways:

- First, by ignoring the problem;
- Secondly, by diluting or dispersing the pollution, so that its effects are less harmful or apparent;
- Thirdly, by trying to control the pollution and the wastes (the so-called ‘end-of-pipe’ or pollution control approach); and
- Fourthly, and most recently, by resource efficient and cleaner production, through the prevention of pollution and waste generation at the source of production.

The approaches of **ignoring, dilution, control and prevention** have gradually guided businesses to a strategy that combines maximum positive effects on the environment with potential substantial economic savings for industry, as well as, for society. This strategy, or approach, has gained worldwide recognition in the last decades and is globally promoted by a programme jointly initiated by the United Nations Industrial Development Organisation (UNIDO) and the United Nations Environment Programme (UNEP) under the name of Resource Efficient and Cleaner Production (RECP).

Resource Efficient and Cleaner Production (RECP) is defined in the UNIDO/UNEP Programme as

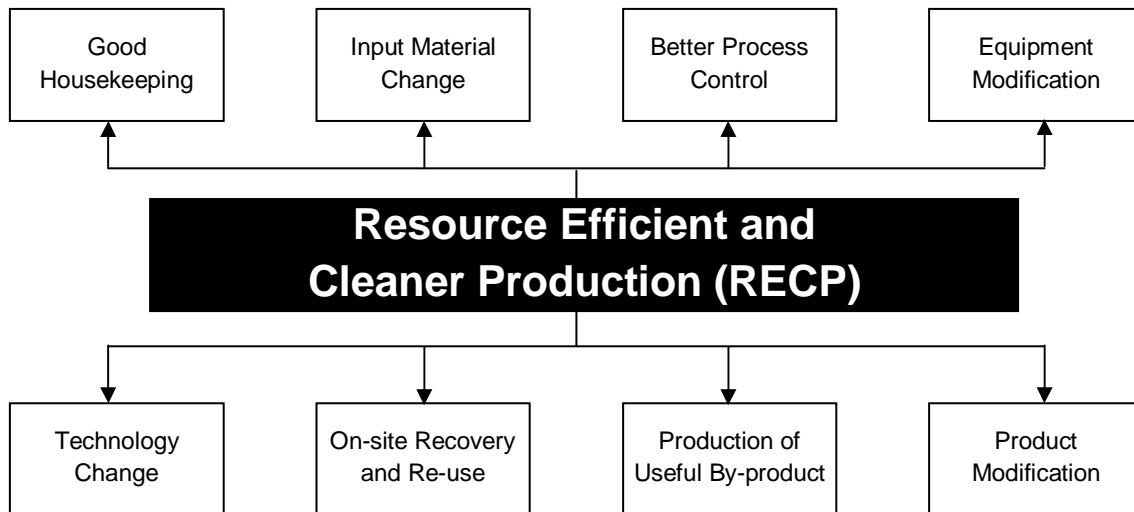
“Continuous application of preventive environmental strategies  
to processes, products and services  
to increase efficiency and reduce risks to humans and the environment”

As the definition shows, RECP is a universal approach that is applicable to processes in industry, to products they manufacture and to various services provided. Traditional pollution control and RECP can be said to be distinguished by the timing. Pollution control is a reactive approach that takes place after the problem has occurred, what could be called a **react-and-treat approach**. RECP is a proactive approach that anticipates potential problems and prevents them from occurring, or, at least, reduces the magnitude and severity of such problems. It is a professional implementation of the well-known wisdom that prevention is always better than cure.

This does not mean that end-of-pipe technologies are never needed and should be avoided at any price. The learning is, though, that it is preferable to tackle problems by anticipating and preventing them, that is, by implementing a RECP approach. This will give the ground for better planning, selection and implementation of technologies and management practices. Such an approach reduces the need for end-of-pipe technologies and may in some cases even eliminate the need for them altogether. Furthermore, RECP practices often result in useful cost savings, thus ensuring a win-win benefit that is particularly significant for a transition economy country like Moldova that is striving to promote

economic growth and implement good resource efficiency while at the same time maintaining sound health conditions for the population and a healthy environment.

RECP can be achieved in a number of different ways. Many of these falls in the categories of changing attitudes, applying know-how, and improving technologies. Several main practices connected with RECP are illustrated in the graph below.



We must remember that RECP is not just a technical approach aiming for the replacement of polluting technology with newer technology. Changing attitudes relates to new ways of defining how industry and the environment interact. Re-thinking an industrial process or a product based on RECP may produce the required results without necessarily implementing new technology.

Applying know-how leads to a number of options of efficiency improvements, more effective management approaches, implementation of good housekeeping (that allows to pick the so called low-hanging fruits – that is measures that are easy and do not demand much resources, yet deliver real time economic and environmental benefit), and introduction of effective means of steering organisations. Outside of the environmental discourse such measures also go under names such as lean production or lean management, etc.

Enterprises and organisations that apply RECP measures can be well rewarded, both directly financially, but also through building image and encouraging employees. Taken together these effects will have short-term and long-term positive effects in the form of substantial savings in industry and society.

It can be noted that a strong underlying motivation for adopting RECP practices is to contribute towards the attainment of sustainable development. By implementing the measures suggested by the RECP approach (resource efficiency, reduction of pollution,

etc.) better opportunities are being created for future generations to manage the sustainability challenges and to secure a reasonable life. RECP can surely be claimed to provide more effective and efficient means for promoting sustainability, as compared to traditional pollution control responses.

When RECP and pollution control options that solve the same environmental problems are properly evaluated against one another, the RECP options will usually be less costly to implement, operate and maintain over the long term (or even the short term) because of reduced costs for raw material, energy, pollution control, waste treatment and clean-up, and regulatory compliance.

The fact that investments into preventing pollution and achieving resource-savings through RECP measures are cheaper than to lean to old traditional end-of-pipe and control approaches are undisputed. While the initial investment for pollution control and RECP approaches may be similar, over time operational costs for pollution control will continue to mount while the RECP investments can generate operational cost savings.

Even though RECP measures may not always be sufficient to reach environmental compliance, they will reduce the amount of pollution and facilitate further treatment of remaining flows of pollutants, thus reducing the costs for any additional pollution control measures that may be necessary.

RECP approaches are widely and readily available, and methodologies do exist to identify and evaluate best possible RECP opportunities for specific enterprises. RECP depends only partly on new or alternative technologies. Much can be achieved using existing technologies but, by training and education, improving the organisation and management routines and techniques. RECP is to a large extent a question about what attitudes a company adopts and how it decides to organise itself and promulgate its goals and ambitions. This is why the concept contains the words cleaner production and not cleaner technology.

RECP is also relevant for products and in general encourages what is now commonly known as life cycle thinking. Work in the supply chain to secure products with a low life cycle impact is equally well guided by the preventive approach inherent to RECP. Through new design of products and product systems, benefits are created for the environment and sustainability at large, while companies are offered new market opportunities in a shifting world where environmental concerns are likely to play a bigger role also on the consumer market.

RECP is obviously by design tailored to combine protection of the environment with efficient use of materials, energy and water in the business activities and hence inherently productive and safe workplaces. But it is also an outstanding approach for compliance with environmental legislation in all its complexity. To prevent pollution and save resources is a fundamentally superior way of achieving compliance with local and national legislation, but it is also a way for countries to ensure that they adhere to international agreements they have signed and ratified. This is, in particular, true for the climate change agreements and

the agreements related to toxic substances and wastes (such as the Stockholm Convention and the Basel Convention), but it is relevant to most of the multilateral environmental agreements.

Implementation of RECP in a company or organisation follows a step-wise methodology that can be summarised in six main steps:

- Assessment of resource use and waste and emission generation;
- Source and cause analysis;
- Identification of possible measures;
- Assessment of various measures;
- Implementation of selected measures; and
- Follow-up and continued work.

The work initiated by the National RECP Programme in the Republic of Moldova has already proven that the above outlined approach does lead to substantial improvements in Moldovan industries and in municipal entities that have taken part in the activities so far. The potential for RECP work is as real and tangible in the Republic of Moldova as it has proven to be in the 50 other countries that have worked with the approach in the UNIDO/UNEP Programme or in other contexts.

However, the experience from all these countries shows that the work taking place in the National Cleaner Production Centres through training of RECP experts and demonstration projects needs to be complemented by adjustments in the policy framework, and the procedures and institutions for its implementation and where necessary enforcement, to fully benefit from the potential related to the RECP approach.

## Policy Approaches

Facing economic challenges, including poverty and unemployment, makes governments and policymakers look for ways of developing the economy without putting additional pressure on the environment, that is, to decouple economic growth from increased resource consumption and environmental degradation. The essential approach to this challenge is to prevent pollution at source and to promote greater resource efficiency. RECP forms a cornerstone of efforts for achieving sustainable development.

Five steps have been pointed out as essential for the success of a RECP programme:

1. Establish a shared vision of how to promote RECP – ‘start small but think big’ – and build a consensus that the best way forward is through RECP;
2. Assess the existing system of environmental, industrial and related policy – with techniques and procedures for identifying areas and sectors requiring change – and take corrective action;
3. Establish RECP programmes such as demonstration projects and similar small-scale activities;
4. Provide long-term financing and technical assistance – financing for RECP service providers<sup>1</sup> has been key to many successful programmes, while providing grants and soft loans for RECP investments by enterprises is not necessarily the most cost-effective path;
5. Organise an effective dissemination and replication programme with the involvement of appropriate institutions.

However, all approaches must be tailor-made to the national (local) conditions in the place the RECP programme should be established. To choose an appropriate size of initial measures has commonly been emphasised as essential – ‘Start small but think big’. By such an approach there will be the necessary conditions for building domestic capacities and learning from own experiences to build up a locally appropriate and customised body of expertise, methods and techniques. A division in short-term planning and long-term planning is another way of pointing to the same issue.

To build advisory and information centres and consultancy capacities, which will be able to introduce RECP to all enterprises and relevant organisations in the country is a long-term goal for many of the national RECP programmes. Such capacities can lead the comprehensive transformation of the practices and approaches in the business entities in a country and influence the idea of how a business ought to be run. To secure widespread application of RECP is a challenge for any country adopting the RECP approach and to reach such a goal implies the application of a number of different measures.

To initiate a spreading effect in a country or in a specific industry, the establishment of one RECP project that effectively demonstrates the potential of RECP work is a natural first

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<sup>1</sup> National Cleaner Production Programmes/Centres are the main RECP service providers at the national level

short-term goal. From such a successful demonstration, replication in more industries needs to be achieved, and eventually a gradual shift of a whole sector could take place. However, experience shows that complementary measures are necessary and among them key is the establishment of a well-designed policy framework that supports and stimulates the adoption of RECP. It is often pointed out that it is essential that the government proclaims RECP as a national priority and thus sets the basis for a shared vision and consensus.

The initial task in the development of a shared vision and consensus is to identify key people and key institutions that will form the backbone of the RECP initiative and then gradually to build capacities as time and resources allow. The educational system is often seen as the key to the long-term success of RECP in a country, but as education in general is a slow process it needs both to be started early and to be supplemented by other approaches.

RECP in practice in a country like the Republic of Moldova will on the governmental and societal level likely rely on five measures that also have been well documented in the international experience:

- Developing knowledge and capacities in society;
- Creating awareness, understanding and willingness to act;
- Providing incentives and removing disincentives;
- Secure the availability of financing on competitive conditions; and
- Mainstreaming policies and legislation to support RECP.

How this can be done and what policy instruments are available will be further developed in the coming sections.

## Policy Instruments and Tools

Ultimately the various actors in society – businesses, organisations and individual – must be the ones that implement RECP. However, government has an important role to show the way by providing an enabling environment that will accelerate this process and encourage the widespread adoption of RECP practices. It is appropriate to re-iterate that RECP as an preventive environmental strategy opens up for important opportunities of combining pollution reduction and more efficient use of resources with financial benefits for the companies and organisations that adopt these strategies. However, businesses are frequently not aware of the benefits connected to RECP and need encouragement, as well as, improved knowledge to realise the opportunities and turn them into reality.

There is a wide set of policy instruments that can be used to promote RECP by governments. To select the appropriate mix of instruments is an important task for the policymakers and demands good knowledge of the inherent properties of various instruments as well as the national (local) conditions in which they should work. It is probably true to say that policymaking contains both elements of art (in stakeholders' consultations, advocacy, etc.) and science (in policy instruments and change theory). Effective and efficient policies are designed based on a thorough understanding of the goals that are to be achieved and the nature – possibilities as well as constraints – that are connected to the various policy instruments and their combinations.

Policy instruments can be characterised and classified in various ways. A commonly used and practical way is to divide the instruments into three categories:

- Administrative or regulatory instruments that stipulate what must and must not be done;
- Economic or market-based instruments that reward or punish actions by financial measures; and
- Informative or information-based instruments build on the fact that actors will behave differently if they are better informed about the opportunities and consequences of various actions.

Administrative instruments are by nature effective if really implemented and enforced, that is, they reach the goal. This also assumes that sanctions for non-compliance are high enough to make it more attractive to comply than to violate the rules. Economic instruments, on the other hand, have the inherent possibility of leading to the most efficient solutions, that is, the results are reached at the lowest costs (cost-effectiveness).

Policy instruments can also be categorised in line with the interaction between government and industry, and the level of obligation of the policy instrument. In terms of this approach a distinction may be made between:

- Specified compliance: where government imposes obligatory standards on the regulated party;

- Negotiated compliance: where the regulators and the regulated interact in setting the obligatory standards;
- Co-regulation: where there is a high level of interaction between the parties, but the agreed standards are not mandatory; and
- Self-regulation: where industry acts unilaterally in setting standards that are not legally enforceable.

The way the instruments have been divided here is not the only possible division and any such division will also suffer from the fact that some instruments show characters that fit into several categories.

It is also important to note that the different policy instruments are usually not used in isolation of each other. Combinations of different policy instruments are rather the rule than the exception. Sanctions for breaking administrative policies are often economic, while not paying the environmental taxes may lead to administrative as well as economic penalties. The effective implementation of any administrative or economic instrument will demand provision of information.

Below a very brief review is given of the different types of policy instruments. More details on the most interesting in the context of RECP development in Moldova will be given in connection with the analysis and provision of recommendations.

### **Administrative/Regulatory Instruments**

The predominant strategy for pollution control has since the very beginning been the use of administrative instruments. They are also known as ‘command and control’ instruments. In particular, such measures as having a public authority setting standards for pollution releases and measures that needs to be implemented. This is followed by inspections, monitoring and various enforcement measures in order to secure compliance to these standards. Such administrative instruments may demand the use of a special abatement technology, or set goals for emissions, ambient air quality or other targets that must be implement or reached within specific time frames.

It can be argued that administrative instruments allow the government and the administration clear opportunities to decide and control what environmental goals should be reached and by what resources, and it thus gives certainty and predictability to the regulator. This means that it easier to set overall targets and to predict the contribution from all the implemented measures. It is thus possible to argue that administrative instruments can be the most appropriate and effective approach to secure compliance with set goals. It can also be argued that most of the progress achieved in environmental protection up to today has been based on such administrative policies. The historic conclusion may not, however, be equally valid when we examine the challenges of today and of tomorrow, and the old approach of relying on administrative instruments may need to be complemented and refined substantially. However, it should not be forgotten that administrative instruments have a special role in, for instance, the control of highly toxic materials through prohibitions and restrictions.

On the other hand, there is no straight environmental risk basis for setting environmental standards when environmental risks are less immediate and more indirect, such as in particular the use of water and energy. In other words, setting discharge and pollution limits works only for immediate environmental risks, and is not appropriate for achieving the broader and global needs of resource productivity.

### **Specified and negotiated compliance**

In the industrialised countries, administrative instruments are the foundation on which environmental quality has been built. These countries have relied mainly, though not exclusively, on what is known as specified compliance: precise and specific demands that have been imposed on the regulated communities, with little bargaining allowed and few exceptions made. This somewhat authoritarian style of government has undoubtedly been successful in improving environmental conditions. However, it has some significant drawbacks. The regulated community tends to become alienated, and united in its opposition to the rule-makers; and the approach has tended to encourage the use of end-of-pipe, media-specific technologies.

The negotiated compliance approach, by contrast, adopts a more cooperative approach between the regulators and the regulated in setting and enforcing standards. This 'shared responsibility' between government and industry enhances the likelihood of a more open exchange of information between the parties, and allows greater flexibility regarding the means of meeting the standard. Moreover, a number of countries have started to develop regulations where attainment of certain targets (for example recycling targets) is required while concrete means of achieving such targets are left in the hands of industries (non-prescriptive regulations). This in turn may increase the economic efficiency of the regulation, and may be conducive to the adoption of innovative, preventative approaches. However, this more cooperative approach is not appropriate in all instances, and needs to be supported by appropriate procedures to avoid undue 'regulatory capture' by industry.

### **Economic/Market-Based Instruments**

Broadly speaking, economic instruments seek to address the market failure of 'environmental externalities' either by incorporating the external cost of a firm's polluting activities within the firm's private cost (for example through taxation), or by creating property rights and facilitating the establishment of a proxy market (for example by using tradable pollution permits).

There are convincing theory and a large body of empirical evidence to demonstrate that economic instruments are inherently more cost-effective than administrative standards in achieving a desired reduction in pollution. The main reason is linked to the fact that they allow for flexibility in choosing the most efficient solution to the economic actors. Economic instruments are often also additional sources of revenues for governments that can be used for environmental measures or for supporting other activities covered by the national budget.

Besides the fact that politics often put considerable constraints on the introduction of effective environmental taxes or fees, there are also other problems related to the implementation of well-working such systems. A major concern is that the enforcement demands good monitoring, that is, possibilities for control of the regulated objects through qualified and equipped inspectors. The nature of some pollutants may allow for sampling of emissions, but other pollutants may need continuous, and hence expensive, monitoring.

Before introducing economic instruments, governments should identify and evaluate any economic incentives that may already be in operation, either explicitly or implicitly. These include, for example, the use of subsidies to make local industries more competitive. Many of these policies lead to artificially low prices for resources, such as energy and water, as a result of which these resources may be overused, creating both pollution and shortages. Government assessments of such policies, as well as, the conditions for enforcing the instruments in a proper way, are needed before other economic instruments are applied. These actions are also in line with international commitments towards environmental fiscal reform and removal of environmentally harmful subsidies.

### **Taxes, Charges and Fees**

Taxes, charges and fees are to raise the costs for polluting activities and thus promote the use of more appropriate technologies and operations that will lower the payments. RECP is such an approach that can reduce these payments through reducing the pollution and saving the use of natural resources. The governments should consider whether it is appropriate for the revenues from these instruments, fully or partly, to be used to support RECP activities and thus to further stimulate preventive approaches.

Successful implementation of taxes and charges requires a system of monitoring, revenue collection, and enforcement, as well as measures to combat possible corruption. An environmental taxation system including a large number of pollutants and resource uses makes the enforcement more complicated and the risk for related problems bigger, leading to unpredictability for concerned actors in businesses and organisations, and, as a consequence, reduced interest for improvement measures, and, possibly, more reliance on measures to circumvent the legislation and its proper implementation.

An important barrier stopping the widespread adoption of these types of economic instruments is that it is often not politically feasible to set taxes at a sufficiently high level to achieve desired environmental goals. Politically it is easy for opposing groups to claim that the instruments are imposed merely as a way of increasing the revenues for the government. Yet in practice, it is often the case that one starts with collecting real prices for underpriced water and energy, and thus eliminates state government expenditures that reward wasteful use.

### **Subsidies**

Subsidies should be treated with outermost care. Generally they risk distorting the markets and lead to suboptimal actions. Such subsidies should be the target for removal whenever possible. Low-interest loans, direct grants, or preferential tax treatment can, however, play an important role in the initial stages of introducing new technologies or methods, such as

a RECP programme, in order to lower initial high transaction costs and remove price premiums that are based on uncertainties connected to the unexplored approaches.

### **Liability Rules**

Liability rules are a way of clarifying property rules and the implications related to these. They can be powerful measures that create economic incentives for companies to avoid polluting technologies and unsafe operations, thus leading to the adoption RECP measures. Several countries have found that enforcing strict liability – in terms of which firms are held responsible for all the environmental damage they cause, even if they have fulfilled their legal obligations and have exercised ‘due care’ – often leads companies to try to minimise their risks and take preventive measures. The success of liability systems depends on the nature of the enforcement and legal system of the country.

### **Informative/Information-Based**

Governments may also promote the adoption of RECP practices through the use of informative instruments. These can have very different nature and ways of influencing actors. For instance, public disclosure of an industry’s pollution emissions can influence the image and incentivise the management to take action to lower such emissions, or measures can be to build capacity within industry, for example through training activities and dissemination of examples from demonstration projects.

### **Policy Design and Implementation**

Some important conclusions on the design and implementation of policies in general and RECP policies in particular, based on the experiences of many countries, can shortly be outlined as follows.

Governments and Parliaments need to

- Want the policies that are to be introduced;
- Be able to formulate the policies so they can be implemented and so that they give good results; and
- Have access to the competencies and capacities necessary, and they can in this context benefit strongly from using the experiences of other countries.

But policies should not only be designed and adopted in parliaments and by governments; they also need an implementation phase:

- Policies need to be implemented in real life and not just on paper;
- There needs to be a desire to enforce the policies by relevant actors in society;
- There needs to be competence, willingness and honesty in the enforcement (at least to a reasonable level);
- Competence-building (education, training) and experience-sharing are essential elements for successful implementation;

- Business actors should be competent to use opportunities and avoid problems if RECP policies should achieve the goals of preventing pollution and saving resources through measures that are short or long-term profitable.

The following section will anchor the discussion of possible RECP policy approaches in the realities of the Republic of Moldova and the current socio-economic situation and legal and administrative framework.

## **RECP Policies in the Republic of Moldova**

All policy frameworks need to be anchored in the national (local) circumstances, taking into consideration the socio-economic situation, national capacities and possibilities for international cooperation and support, just to mention a few factors. For this work of analysing the feasibility of implementing various RECP policies in the Republic of Moldova, it has been an essential task to understand the national conditions and the opportunities for effective and efficient policy interventions in the short and medium-term. The work has been directed by a strong desire not to recommend a standard set of generally appropriate policy measures, but to point to essential problems that are hindering effective and efficient policies and the need for gradually removing these obstacles, and to complement this with a set of recommendations that are readily implementable by the Government of the Republic of Moldova and/or the Government in cooperation with donor organisations active in the country.

### **Method of Analysis**

The report has been compiled following a combination of methods. The first step in the study on which the conclusions and recommendations are based was to analyse five key strategies of the Republic of Moldova and two pieces of legislation. These were selected in consultation with the National Executive Board of the NCPP Moldova and the related national stakeholders in ministries, businesses, NGOs and academia. The five strategies and the laws are the following:

- Moldova 2020 National Development Strategy;
- Strategy on Industrial Development until 2015;
- Energy Strategy of the Republic of Moldova until 2030;
- The National Waste Management Strategy;
- The draft of the National Environmental Strategy 2012-2022;
- Parliament Decree No 605 from 02.11.2001 confirming the Concept of the Environmental Policy of the Republic of Moldova; and
- Law No 272 of 23.12.2011 on Water.

In addition a number of interviews with key stakeholders and experts in Moldova during 20-26 May 2012 added to the analysis. Following further fact-finding and discussions in Moldova 18-24 November 2012, 27 February - 2 March 2013, and 25-27 March 2013 the analysis has continued and in this report a set of conclusions and recommendations is presented.

### **National Strategies and Analysis of Policy Measures**

Existing strategy documents give a comprehensive and thorough analysis of the conditions in Moldova and propose a well-chosen set of measures that will benefit the economic and industrial development, and address the environmental and energy-related challenges. At

the same time, the set of desirable measures is challenging to implement and the success of all outlined aspirations may not materialise. It has also been noticed that the draft of the National Environmental Strategy that has been available for the author is lacking precision and prioritisation, and it is thus difficult to use for identifying RECP policies that are effective, efficient and in line with Moldovan priorities.

The general commitment to environmental work is well expressed in The National Development Strategy “Moldova 2020”, where it is stressed that the country should “undertake all the necessary efforts to ensure the transition to a green economic development . . . , by integrating and strengthening environmental protection aspects in all social-economic development domains of the country.” This is in line with the experiences from RECP work that such approaches need to be integrated in all policies and not become promoted in the environmental policies only.

The step from the national strategies and the stated ambitions of national laws to the factual implementation has in many countries, to say the least, proven to be a challenging task for the government and other relevant stakeholders. The Strategy on Industrial Development (p.65) underlines the concern when it demands “policy for ‘real action’ in exchange of ‘policy statement’”. This should be kept in mind when outlining recommendations for operative RECP policy measures.

It should also be remembered that RECP is an important sub-set of the activities related to sustainability challenges for enterprises and municipal services that need special attention. Thus the likely set of policy recommendations will be a mixture of recommendations that have a general character and are important for many aspects of the governance of the country and more specific RECP-oriented actions that have less of the general character. Both types of recommendations should, however, be kept in mind.

**Good governance** is a key issue when it comes to the further development and implementation of policies in the Republic of Moldova. It can be said that the development of any country needs the presence of a public administration built on good governance, including:

- Efficiency in administration of decisions;
- Transparency of and accountability for decisions;
- Predictability of requirements and decisions; and
- A fair and predictable justice system.

The strategies do address these issues in several places and there is certainly an awareness of the needs in this respect. It is now important that continuous actions are taken to gradually secure such good governance. These factors are also crucial for the level of success of RECP activities.

The National Development Strategy ”Moldova 2020” (p.10) is ”the reconciliation between the need for accelerated economic development and environmental protection”. In this context it is important to remember the nature of many RECP measures being **win-win**

**solutions**, that is, combining environmental improvements with better economy, as also outlined in earlier sections of this report. Savings of resources in the form of energy, water and raw materials is one of the main ways to achieve win-win solutions. Energy efficiency is also among the strategic objectives in the Energy Strategy for the Republic of Moldova until 2030, and it is re-iterated both for the objectives for the 2013-2020 period and the 2021-2030 period. However, to induce energy efficiency investments in the sectors based on internal financing and commercial loans, as well as other resource-saving measures, demand that the **costs must in a predictable way relate to the resources used**.

- Costs paid by companies and organisations need to directly relate to the actual resource use; and
- Costs should as far as possible be predictable over time and government needs to avoid non-market related increases of costs without long-term transparent plans.

These are also fundamental parts of a good governance and makes it possible for businessmen and entrepreneurs to plan and make realistic budgets, thus to afford investments in new technologies and market development.

The Strategy on Industrial Development (p.65) is stressing the need for achieving competitiveness: “Ensuring a transparent economy instead of policy of isolation and protectionism ... domestic producers can attain production competitiveness”. RECP is a well-proven approach to ascertain resource efficiency and improved competitiveness.

RECP work (and environmental work in general) benefits strongly from coordinated regulations and permit procedures. Integrated permits are permits that regulate the pollution to all types of media and also key resource uses. Such permits for industrial facilities avoid transfer of pollution and promote preventive measures. The European Integrated Pollution Prevention and Control (IPPC) Directive provides a typical framework for such permitting practices. A gradual implementation of such integrated permits allows adaptation and makes enforcement possible. It is important to remember that all regulations should only address important aspects and be enforceable.

Industries can be promoted to spend more concerted efforts on RECP work –prevent pollution and improve resource efficiency – when getting temporary regulatory relief. During such a grace period a company could concentrate efforts on RECP work and achieve better environmental performance at lower costs, thus benefitting also society. A way to implement this could be to agree with individual companies that they will join a specified RECP programme, while during a set period their performance will continue to be monitored but fees and fines would not have to be paid. An agreement similar to the ones that are signed between the NCPP programme and companies could be the core of such an agreement between the Ministry of Environment and selected companies.

But investments also need capital and a sound economy will have capital available on reasonable conditions – economic as well as administrative. “Moldova 2020” favours “a dynamic model based on investment and development of goods- and service-exporting industries”. It further points out that this necessitates “attracting investment, developing

export industries, promoting a knowledge-based society, including strengthening research and development activities, innovations and technological transfer geared towards efficiency and competitiveness”.

RECP options sometimes demand small investments (sometimes zero capital) and in other cases larger investments. Measures to facilitate financing are essential for the long-term success of RECP Programmes. In initial stages, it may be necessary to create demonstrations based on grants rather than loans. However, a reliance on grants may also slow down investments in measures that will themselves be profitable with reasonable payback periods. It is therefore important that grants are replaced by credit structures in the middle-term at least.

An observation from many countries is that RECP measures are halted as there are not available any **credit lines for small loans**. The national government and international donors can facilitate such loans by fully or partly absorbing administrative costs related to such loans, as well as, credit risks when borrowers have less historic records and substantial assets that can serve as collaterals.

A revolving fund is a possibility to prolong the effect of grants. There are good experiences of revolving funds in the area of energy efficiency and also some important experiences in the general field of RECP in particular in the Czech Republic. Experiences show that revolving funds rely considerably on clear and transparent rules for return of loans. Thus devoted work must be taken to set the rules before such a fund is launched so that rules can remain the same over the long term.

A well-known problem in public bodies is inflexible budgets. Money is frequently allocated to specific costs and cannot be moved without major problems, or in reality they are locked to the original distribution of costs. This is in particular true when it comes to budgets for running costs versus investments. Such rules make it difficult, for instance, to replace energy-demanding devices with less energy-needing ones, even if the investment would pay back in relatively a short time period. More long-term investments, with payback periods extending over several budget years, will also demand flexibility in budget allocations. In particular to make energy-saving investments easier, it should be considered whether the legislation for public bodies could **allow shifts of budgets from running costs to capital investments to lower life cycle costs** for energy-using equipment and heating in general.

**Awareness of the costs** related to inefficient use of resources and production methods is key for decision-makers and practitioners in all relevant parts of society. **Awareness of the opportunities** related to RECP is also crucial. This leads to a demand for awareness-raising activities, as well as, education and training on RECP.

**Education and training** are often seen as the most crucial elements for both short-term and long-term success of RECP. The importance of training and education of professional staff as well as university students and school pupils in order reach energy efficiency goals is stressed in the Energy Strategy (item 104).

In this context it is important to build short-term capacities through training and continued education for professionals. Courses must be to-the-point, practical, affordable and they need to be announced in an appropriate way. Financial support for such activities is generally considered to be a good investment and can be a target for both national authorities and international donors.

To pave the way for continuous work, education at all levels and all disciplines should include RECP, in particular at institutions of higher education. This has been pointed out since the middle of the 1990s, but is still often a weak component in national RECP programmes.

RECP assessments and energy audits are essential components in the practical implementation of the approach. The usefulness of such assessments depends, however, on the quality of the work performed. A way of securing a higher and more even quality of these assessments is to develop a serious and rigorous system for training and certifying auditors. Important is that the system becomes credible and independent from direct commercial interests. Relying on well-established institutions of higher education is often a way of achieving such independence.

The power of the example plays a key role in awareness-raising. Measures that could support this includes in particular:

- Good examples from RECP work should be promoted and disseminated;
- International companies bringing with them RECP practices built on global commitments can serve as supplementary examples; and
- Good industrial practices should receive appreciation and attention through awards.

These are all measures that have been taken in other countries and have proven to be supportive of the development and dissemination of RECP, while not demanding excessive costs and administration.

Overall RECP is well in line with the development priorities as expressed in “Moldova 2020” and in particular the following items resonate well with RECP: “1. Aligning the education system to labour needs in order to enhance labour productivity and increase employment in the economy.; 3. .. Increasing competition in the financial sector; 4. Improving the business climate, promoting competition policies, ..; 5. Reducing energy consumption by increasing energy efficiency and using renewable energy sources; and 7. Increasing the quality and efficiency of justice and fighting corruption ...”

When policy documents are drafted or amended in the future, it will be important to include more concrete references to RECP and RECP principles. To propose detailed such amendments and other changes to existing and future versions of the examined policy documents and laws has been impossible at this stage given the limited resources available for this study. Such work would preferably be conducted with a team of experts including local and foreign participants and a clearly given mandate for proposing amendments. It

must, however, be stressed that the current work focus was on such catalysts for RECP uptake by enterprises that would result in widespread replication, scaling up and mainstreaming of RECP, without necessarily demanding the type of new legislation and other policies that would take long time to be considered and put in practice. The conclusion from this study is that main measures to promote RECP in Moldova today have less to do with the wording in laws and policy documents, and instead it is the implementation of policies and related measures that should be in focus.

## Key Recommendations

The selected set of recommendations below is an attempt of identifying a limited number of key measures that are of particular importance for the development of Resource Efficient and Cleaner Production (RECP) in Moldovan industry and organisations based upon the analysis conducted and using the experiences from other countries blended with the particularities of the socio-economic context in the Republic of Moldova. Some of the measures are of a more fundamental type and may demand substantial changes in the governance practice in the country and how institutions operate. Other measures are of a more limited type and can be implemented with more limited approaches, for instance as an element of the existing national RECP programme. It should be stressed that the emphasis should rather be on the implementation of laws and policies, creating capacities and good governance in general, than on the policy documents as such.

For businesses to benefit fully from RECP, it is important with a transparent and well-functioning society, making it possible to foresee the economic outcomes and the level of environmental compliance over a reasonably long time period to make investments in more efficient technology and production methods possible. This is a task for the whole Government.

- The fiscal and environmental policy measures need to be predictable and transparent for Moldovan businesses.

RECP measures typically depend on savings of key resources, such as raw materials, energy and water. Such measures lead to combined benefits of environmental and economic improvements for companies and organisations that implement them. In order to make full use of the incentives related to these measures, it is crucial that the prices paid for resources are reflecting the real costs of these resources. This means that the price structure and control of resource use must be accurate and reliable. Particular attention needs to be paid to the use of water resources and subsequent releases of waste water, but also to the access to energy and various raw materials.

- Price structures and control of payments need to reflect the use of various key resources and materials, including water and energy.

Human capacity is key to efficient and effective work in businesses and in government. The work of the educational and training institutions will be crucial for reaching the goal set by the National Cleaner Production Programme in the Republic of Moldova. In this context it is important to stress a combination of short-term and long-term approaches to build capacities.

- In the short term there is a need for continued education and training for professionals in businesses and government, combined with an improved access to information on technologies and methods for pollution prevention and minimisation, resource efficiency and pollution control.

- For long-term results the education on all levels should be reformed to include elements of environmental awareness and, more importantly, knowledge of how RECP actions can be taken in various organisations and by various employees.
- RECP assessments, as well as energy audits with a more limited scope, need to be of a good standard in order to allow for investment decisions to be based upon them. This demands a credible and accountable group of experts. To facilitate the development of such a group within the country there is a need for a high-class system of training and accreditation of these auditors.

International companies established in Moldova can play a role of good models for RECP work, in particular when they have global environmental policies and standards. Making such work visible will show the opportunities for savings and profitability through proactive RECP activities.

- Good examples from companies implementing RECP activities should be promoted and recognised through award systems and publicity.

Preventive measures in industry are promoted by environmental permits that are developed in an integrated approach allowing industries to reach the goals in a flexible manner. However, the complexity of fully implementing all aspects of such permits necessitates a step-wise implementation.

- A gradual implementation of a permit system built on the principles of the Integrated Pollution Prevention and Control approach in line with the EU IPPC Directive is important for the long-term development of environmental initiatives in the companies.
- The Government may consider a system of agreements between the Ministry of the Environment and individual companies that would give these companies a specified time period without environmental fees and fines in exchange for signed detailed commitments to participate in a RECP Programme and implement RECP measures.

The set of economic instruments that are related to resource use and environmental pollution needs to be designed and implemented in a way that they are enforceable and the outcomes of various measures in organisations can be foreseen. In order to facilitate such a development the number of pollution charges should be limited and directed to key environmental pollutants that also can be monitored and enforced in a transparent way, given the capacity of the environmental authorities. Such a system of fiscal environmental measures can then be gradually complemented when enforcement capacity is developed.

- Environmental charges and taxes are most efficient when focussing a limited number of key polluting substances and a limited number of polluters in order to also enable efficient and transparent enforcement.