

I. Policy document on a Cleaner Production strategy as an element of a life cycle perspective – presented by the Task Force on Cleaner Production

In order to contribute to sustainable development, action is needed to reduce the impact on the environment and human health from products since all products cause environmental degradation in some way, whether from their manufacture, use or disposal. To minimize the environmental impact, one should look at all phases of a products life cycle and take action where it is most effective (Integrated Product Policy, IPP). Cleaner production in a life cycle perspective is a useful first approach to minimizing waste generation and the emissions of harmful substances from products, making more efficient use of resources and reducing climate changes.

For the development of Cleaner Production we are committed to promoting a strategy that includes the following elements:

1 BUILDING CAPACITY through knowledge, awareness, education, dissemination and training

1.1 by raising awareness and knowledge in society of sustainable production and consumption and the impact that products have on the environment and human health,

1.2 by providing different stakeholders and decisionmakers throughout the product chain with the information necessary to establish environmentally sustainable practices related to products from cradle to grave,

1.3 by developing information and training activities and competent advice services in responsible Authorities/Cleaner Production Centres in order to increase company awareness of the advantages of cleaner production and increased CP-activities at plant level, with a particular focus on energy intensive and chemical industry in order to reduce greenhouse gases and toxic substances,

1.4 by further development of training programs for students at Cleaner Production Centres, schools and universities and integrating modern environmental tools (e.g. Environmental performance indicators, Life Cycle Assessment (LCA) Environmental Product Declarations (EPD), Environmental Management System (EMS), Eco efficiency, Eco design, Eco labelling, Producer Responsibility, etc.

2 INTEGRATION – encourage cooperation and development of tools in a life cycle perspective

- 2.1 by adopting a life cycle perspective and an approach where actors along the product chain are identified and involved,
- 2.2 by promoting cooperation between the national, central, regional and local levels in each country of the Barents region and coordination of action on national levels,
- 2.3 by striving for production of products that make the least negative impact on human health and the environment over their life cycle by promoting effective tools and instruments such as legislation, taxes and Best Available Technique (BAT) but also voluntary and market-based tools such as Environmental Management Systems, Eco labelling, LCA, Environmental Product Declarations, Eco-design, etc.

3 COMMUNICATION – broad participation and shared responsibility

- 3.1 by involving different stakeholders such as companies, retailer businesses, NGO:s, municipalities, labour organizations and media, etc. Making the stakeholders aware of the need for shared responsibility and cooperation, dissemination of information, and also by co-ordinating Cleaner Production activities among different actors,
- 3.2 by involving different stakeholders in Russia actually working in the field of environmental protection, (NGOs, associations, unions, companies, etc.) through joint projects with the Cleaner Production Centre to introduce cleaner production methodology and training and to integrate a CP approach into the activities of such entities,
- 3.3 by supporting partnerships, cooperation and networks between universities in the Barents region and the Nordic countries,
- 3.4 by strengthening the cooperation between local authorities, industries and technical universities,
- 3.5 by developing case studies and good examples of cleaner production approaches and initiatives and dissemination of results.

4 IMPLEMENTATION – taking action to adopt Cleaner Production

- 4.1 by making use of the existing environmental legal framework in order to develop measures for the Cleaner Production strategy,

4.2 by assessing the possibility of elaboration of new legal instruments needed for Cleaner Production requirements such as legal instruments pertaining to financial stimulation of Cleaner Production and on producer responsibilities,

4.3 by encouraging environmental authorities to use the Cleaner Production strategy with a life cycle perspective as a tool for developing environmental policies and accomplishment of measures,

4.4 by emphasising and considering economic benefits from a Cleaner Production approach in order to be of interest to companies and potential investors,

4.5 by using a Cleaner Production strategy as an important part of a national environmental policy.

5 RESEARCH AND DEVELOPMENT - creating innovative solutions

5.1 by developing and supporting research for sustainable production and consumption and in doing so promoting a shift of priority from end-of-pipe solutions to preventive strategies.

6 ACTION PLAN - in order to realize the Policy

6.1 by drawing up more concrete National Plans covering possible responsible actors for the implementation and accomplishment of the common Action Plan.

7 FOLLOW UP - for continues improvements

A follow-up of this Policy and Action Plan on Cleaner Production should be presented to the ministerial meeting in 2005, based on reports from each country. The Task Force on Cleaner Production will continue its work until further notice in order to monitor and facilitate the development of National Actions Plans and the fulfilment of the Policy.

8 FINANCING

In order to realize the Policy on Cleaner Production and enable the accomplishment of the Action Plan, extra financing and support from the countries having a direct role in the implementation of the action plan is needed. The Task Force on Cleaner Production will investigate the possibility of involving funds from existing facilities for financing Cleaner Production investments and activities. It is important to attract available EU regional funds (e.g. TACIS, Special Fund of the Environmental Partnership of the Northern Dimension/International financing institutions (WB,

EBRD, EIB NIB etc.) and NEFCO for the promotion of Cleaner Production activities and investments.

II. Action Plan on Cleaner Production

Areas for measures	Short-term actions	Long-term actions
<p>1. Promote knowledge, awareness, dissemination, education and training</p> <p>1.1 Marketing - organize short workshops aiming at making companies, retail business, NGO:s, Communities, Labour organisations, media etc. aware of the needs and benefits of Cleaner Production in a life cycle perspective, and the need of action and cooperation. - participate in different seminars with presentations on the Cleaner Production program. </p> <p>1.2 Databases - in a first step, investigate the existence of databases containing relevant information regarding cleaner production and identify the need of databases in different fields, (for example BAT, waste minimization and waste treatment, energy saving, renewable fuel, water saving), - in a second step integrate data in the form of one or several data banks on Cleaner Production and develop and streamline appropriate methodologies and technologies, - make the information available in a form that is usable for different actors and different systems. </p> <p>1.3 Training - further develop and improve training units for Cleaner Production Programs for companies, - elaborate new training units in line with the perspective of Integrated Product Policy such as Life Cycle Approach with a life cycle perspective (for companies on the whole). </p> <p>1.4 Training for universities - develop and offer training packages for university teachers and students in order to increase knowledge of Cleaner Production and modern environmental methods at university and primary school level. Another objective is to</p>	<p>Continuing starting 2003</p> <p>.....</p> <p>Continuing, starting 2003</p> <p>.....</p> <p>Accomplished by 2004</p> <p>.....</p> <p>Ongoing</p> <p>.....</p>	<p>.....</p> <p>.....</p> <p>Accomplished by 2006</p> <p>.....</p> <p>.....</p> <p>Start 2004</p> <p>.....</p> <p>Accomplished by 2006</p>

<p>stimulate the exchange of knowledge on cleaner production and products between companies and universities,</p> <ul style="list-style-type: none"> - develop booklets on cleaner production and its benefits. 		
<p>2 Integration</p> <p>2.1 and 2.2 Overview of activities and networking</p> <ul style="list-style-type: none"> - present an overview of Cleaner Production activities and identify actors and activities /responsibilities at national, central, regional and local levels, - establish networks for communication and coordination between actors and countries. <p>.....</p> <p>2.3 Overview/development of instruments</p> <ul style="list-style-type: none"> - develop an overview of product-related instruments in the Barents region, such as Environmental Management Systems, LCA, Eco-labelling, Green Public Procurement, Environmental Management Accounting, Producer responsibilities, Eco design (guidelines), legislation and taxes, etc., - promote development and use of those instruments and prepare recommendations (notes) on BATneec (Best Available Technology) use for different industrial sectors, - integrate Cleaner Production improvement activities with Environmental Management Systems (preparatory work for Certification according to ISO 14001 standards) through case studies (LCA can provide the relevant information and to prioritise where product improvements are most needed but it has to be delivered to the different stakeholders in different operational forms.) - make available life cycle analyses for different raw materials and promote the use of renewable materials (wood, energy). 	<p>Accomplished by mid-2004</p> <p>.....</p> <p>Accomplished by mid-2004</p> <p>Completed in Petrasavodsk and ongoing in two enterprises in Severodvinsk</p>	<p>.....</p> <p>Start 2004</p> <p>Accomplished by 2007</p>
<p>3 Co-operation/Communication</p> <p>3.1 (See 2.1 and 2.2)</p> <p>.....</p> <p>3.2 Dialogues</p>	<p>.....</p>	

<p>- involve stakeholders in Russia such as the Russian Regional Environmental Centre, the Network Waste Management Centre, the World Conservation Unit- IUCN, the European program office for Russia, through joint projects with the Cleaner Production Centre to introduce cleaner production methodology and training. Envisage appropriate actions with the inclusion of cleaner production implementation into the plan of activity in the above-mentioned entities.</p>	<p>Test projects to be identified and implemented by 2004</p>	
<p>..... 3.3 Networks - promote and support partnerships, cooperation and networks between universities in the Barents region and the Nordic countries.</p>	<p>.....</p>	<p>..... Start 2004</p>
<p>..... 3.4 Identifying roles - strengthen the cooperation between local authorities, industries and technical universities by identifying different actors' roles and activities and by information dissemination.</p>	<p>.....</p>	<p>..... Pilot projects to be implemented in 2006</p>
<p>..... 3.5 Case studies/good examples - develop case studies and good examples of cleaner production approaches and initiatives and dissemination of results.</p>	<p>..... Ongoing</p>	<p>.....</p>
<p>4 Implementation</p>		
<p>4.1 Use legal framework - assess the possibility of use of the existing legal framework for cleaner production promotion by identifying relevant legislation as well as the gaps in this area, for example the law of the Russian Federation on Nature protection and Best Available Technique (BAT).</p>	<p>Test projects to start in 2003 – accomplished by the end of 2004</p>	
<p>..... 4.2 New legal framework - assess the possibility of new legal instruments needed for cleaner production requirements such as legal instruments on economic stimulation of Cleaner Production and on producer responsibilities.</p>	<p>.....</p>	<p>..... Start 2005 – accomplished by 2007</p>
<p>..... 4.3 Meetings with authorities - arranging dialogues/meetings and developing information materials for environmental authorities in order to encourage them to use a Cleaner Production Strategy when developing environmental strategies and accomplishment of measures.</p>	<p>..... Continuing, starting 2004</p>	
<p>..... 4.4 Funds</p>	<p>.....</p>	

<p>- increase existing bilateral funds administrated by NEFCO for the promotion of Cleaner Production investments.</p> <p>.....</p> <p>4.5</p> <p>- see 1.1 and 3.5</p>	<p>Accomplished by 2004</p> <p>.....</p>	
<p>5 Research and development</p> <p>5.1 Integrate consumption and production aspects</p> <p>- strive for integration of sustainable production and consumption aspects when revising/developing research programs at national and EU levels.</p> <p>- identify the need for new knowledge concerning cleaner production/sustainable consumption and production</p>	<p>Ongoing, starting 2003</p> <p>Study 2005</p>	

Responsible actors for accomplishment of the Action Plan
The focus of the Action Plan is on the Russian Federation even though some of the measures, under to the Action Plan, are expected to be fulfilled in the member states within the Barents Euro-Arctic Council taking a direct active part in the implementation of the action plan. The most important actors in Russia are, of course, those actually working in the field of Cleaner Production e.g. the Cleaner Production Centre in Moscow and relevant central and regional authorities. The activities in the Russian Federation will be coordinated by the Ministry of Nature Resources.

In remaining active member states the actions/measures will be carried out by Cleaner Production Centres or corresponding organisations and relevant central and regional authorities. The Ministries of Environment will coordinate the national activities.

National Action Plans

In order to identify responsible actors and divide responsibilities for actions according to the Action Plan, the countries within Barents cooperation taking a direct active part in the implementation of the action plan will develop National Action Plans. Responsible bodies for developing these Action Plans will be the Ministries of Environment. The Action Plans should identify and appoint actors responsible for carrying out the measures/activities set out in the Action Plan. These National Actors Plans will be in place at the latest in December 2003.

The Task Force on Cleaner Production will be the coordinating and driving force for this task.

III. Developing a cleaner production strategy as an element of a life cycle perspective

BACKGROUND

Commitments in the Environmental Action Program

In recalling the commitments stated in the Barents Euro-Arctic Council Environmental Action Programme adopted on 21 August 2001 in Kirkenes, during the Swedish chairmanship the Barents Council Working Group on Environment (WGE) agreed to develop a strategy on Cleaner Production. To fulfil this task the WGE established a Task Force on Cleaner Production. The Task Force defined its task as the promotion of a more co-ordinated, systematic and comprehensive program, with a life cycle perspective, for cleaner production at different levels. The Task Force on Cleaner Production has thus developed a policy document including an action plan on Cleaner Production. This document is also in line with the follow-up to the Johannesburg Plan of Action that focuses on the need for a shift towards sustainable consumption and production. It also supplements and strengthens other environmental policies and the implementation of several multilateral environmental agreements (EMAs).

The Task Force was chaired by Sweden with the participation of Finland, Norway, the Russian Federation and the Nordic Environment Finance Corporation (NEFCO).

Needs

In achieving sustainable development there is a need to address unsustainable trends such as depletion of natural resources and changes in climate as well as diffuse emissions of hazardous chemicals and increased quantities of waste.

Some of the greatest challenges in addressing these unsustainable trends relate to the production and consumption of products and the environmental impact from different stages of the life cycle of products. Important elements of a sustainable society are economical use of materials and energy, the production of environmentally sound products, the use of products and waste treatment. Increasing attention needs therefore to be paid to lifestyles, consumption patterns and the organization and planning of co-operation. To change the way industrial societies produce and consume goods and services is the key to a better environment and sustainable development at both national and global levels.

Traditional approaches to environmental policy such as end-of-pipe solutions, etc. are not sufficient to deal with these new challenges as the composition of the products is becoming more complex and made available through more complicated supply chains as well as increasing consumption, resulting in growing amount of waste. A sustainable development is only possible if we adopt an integrated approach and if all sectors of society – central and local governments, industry, organizations and individual citizens are involved in the solutions. This will require a new approach and the development of different tools -

legislation as well as voluntary initiatives. This approach should be product-oriented and seen as a supplement to existing policies on end-of-pipe solutions, etc.

Cleaner Production

Cleaner Production has been defined by UNEP as follows: Cleaner Production (CP) is the continuous application of an integrated preventive environmental strategy to processes, products and services to increase overall efficiency, and reduce risk to humans and the environment. CP can be applied to the processes used in any industry, to products themselves and to various services provided in society". The Cleaner Production approach has been implemented in a number of countries. In general, the results have been encouraging from an environmental point of view, both through reduced pollution and through the improved environmental awareness that is created in the participating companies during the process. It is equally important that Cleaner Production gives a significant contribution to the bottom line results of the companies, partly through better utilization of raw materials and energy resources, and partly through improved quality and productivity as a result of improved motivation in employees and management.

A Cleaner Production program may not solve all environmental problems at a facility, but it will develop manufacturing processes and improve the environmental performance of products throughout their whole life cycle by maximizing the efficient use of raw materials, energy and water and also by minimizing the output of harmful substances, decrease the need for end-of-pipe equipment and create less waste (also toxic) to treat and dispose. It reduces workers' exposure to hazardous chemicals and usually reduces the number of accidents that can harm the surroundings. Products designed with cleaner production in mind, are often less harmful for consumers and produce less waste.

Cleaner Production activities and cleaner products not only result in environmental improvement but at the same time will give enterprises competitive advantages and promote trade worldwide due to increased demand for sustainable products on the market. This will accordingly result in a win-win situation with environmental advantages as well as economical ones. In forthcoming work it is therefore important to consider not only the supply side e.g. production but also the demand side e.g. consumption since today there are increasing demands for environmentally sound products and services. The environment has become a marketing argument and business is being driven more and more by environmental concerns. Market forces not only work at the national level, but also worldwide. Companies operate in competitive markets, and one effective way of keeping costs down is to economize with resources.

Life cycle perspective

Environmental impacts of goods and services can be found throughout the life cycle of products arising from resource extraction, designing, manufacturing, transport, trade, use and disposal. It is therefore important to develop a life cycle perspective and to involve different actors along the life cycle. In order to strengthen cleaner production and increase demand from consumers, private as well as public, for environmentally sound products there is a need for multiple initiatives such as information, education, co-operation, using

good examples, promotion and use of different tools, etc. One such multiple initiative is the Integrated Product Policy, IPP, which is developed under the EU Commission.

IPP is a strategy with the overall goal of reducing the environmental impact of products and services throughout the whole life cycle of products by more efficient use of resources and minimizing the emissions of hazardous chemicals. Products should be material and energy efficient, at the same time as they should not contain or require the use of substances that may involve adverse effects on human health or the environment. The strategy is based on a holistic view, a life-cycle perspective, co-operation between actors, the use of efficient and coordinated tools and integration into different policy areas. IPP can make a valuable contribution to all three dimensions of a sustainable development by promoting general concern for the environment on the market, getting to grips with unsustainable consumption and production trends, promoting the development and innovation of environmentally sound products, raising the level of consumer protection and acting as a link between environmental, social and economic aspects.

The base of IPP is the life cycle perspective. One of several important tools is Life Cycle Assessment and Environmental Product Declarations (EPD), based on Life Cycle Assessment, LCA. These tools can furthermore contribute to greater availability of data and a good general data quality (if International Standardisation Organisation (ISO)-standards are followed). EPD will also help companies fulfil their obligations to provide environmental information about their products and activities in accordance with the Århus convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental matters and others.

The Focus of the Barents Euro-Arctic Council Policy on Cleaner Production

In a broader context (such as the IPP context), it is important to consider the whole life cycle of a product, from extraction of raw materials and transport of materials, to production processes, transport of products, use and reuse and disposal of products. However, this Policy document including its Action Plan will comprise a somewhat restricted approach in order to make fulfilment of the strategy for cleaner production for the whole Barents region realistic. The focus will be at plant level, but with consideration taken to necessary co-ordination, co-operation and dissemination of information to different actors along the product life cycle and other important actors in society such as research actors, universities, media, NGO:s, etc. The Policy document and forthcoming measures will, however, serve as the basis for further development and co-operation between the Barents Council member countries towards a more comprehensive IPP approach.

Since the implementation of cleaner production policies and measures and the implementation of IPP are uneven in the region, the focus must be directed to the regions where developments should be strengthened. The focus of the Action Plan will therefore be on Russia even though some of the measures, according to the Action Plan, are expected to be fulfilled in other countries within the Barents Council.

Current work for environmental improvements

As pointed out above, there is a need for further development and action in the area of cleaner production in order to contribute to sustainable development. However, there is a variety of ongoing activities and co-operation through different forums to improve the environmental conditions in the Nordic countries and the Barents region. The new approach presented in this Policy Document should build on experience from this previous and current work.

In 1994 a Norwegian – Russian program on Cleaner Production was launched in the Russian part of the Barents Region in order to promote Economic and Eco-efficiency and application of an integrated preventive environmental strategy for Russian industry. The program has been concentrated to improve companies' and public utilities' economical and ecological performance. Up to now more than 1600 engineers in Russia have acquired know-how on how to make their activities and production more environmentally friendly. All larger industries have been involved in the program. NEFCO's Revolving Facility for Cleaner Production Investments with the aim of supporting the development of environmental investment facilities for small and medium-sized projects was established in 1997.

A workshop with participation from different levels in the Barents countries met in Oslo in December 2000. The aim was to discuss the development of a common policy on Cleaner Production. Recommendations from the workshop were followed up in the ministerial Declaration from the meeting between environmental ministers in Kirkenes in August 2001 where closer cooperation between Energy Efficiency Centres was underlined. In developing the Action Plan of the Northern Dimension in EU policy, the Barents countries have also stressed Cleaner Production as a strategy for eco-efficiency.

Experiences from the Norwegian – Russian program, workshops and the Recommendation shows that there is a need for a common policy in order to promote a more systematic program on Cleaner Production to achieve a fuller implementation of the concept and its benefits. There is a need to re-inforce available financial instruments, such as NEFCO's Revolving Facility for Cleaner Production Investments and to support the development of environmental investment facilities for small and medium- sized projects. There is also a need for supportive environmental legislation to create demand for cleaner production strategies at enterprise level. Environment authorities at the regional and central levels should be encouraged to use the Cleaner Production Program as part of their pollution control activities when designing emission permits, regulations and guidelines.

In order to show how to make waste minimization, recycling and environmental management profitable for the industry, the technical understanding of the Cleaner Production concept at enterprise level needs to be supplemented with supporting knowledge of the financial-economic implications.

The Task Force on Cleaner Production has also identified a need for enhanced co-ordination of cleaner production activities between the forums; the Nordic Council of Ministers, the Nordic Dimension and Baltic Sea co-operation. This in order to make more efficient use of resources (economic as well as personal), knowledge and experience.

Efforts are also made to implement international multilateral environment agreements (MEAs) such as the Stockholm Convention on Persistent Organic Pollutants, the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal, the Vienna Convention for the Protection of the Ozone Layer, the Montreal Protocol on Substances that Deplete the Ozone Layer, the Rotterdam Convention on Prior Informed Consent procedure for Certain Hazardous Chemicals and Pesticides in International Trade, the UN ECE Convention on Long-Range Transboundary Air Pollution including its protocols on POP:s and heavy metals, the Århus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental matters and others. The implementation of MEAs and the development of Cleaner Production are mutually supportive.

Expected results of Cleaner Production implementation

The Cleaner Production strategy with a life cycle perspective is expected to lead to a reduction of negative impacts on the environment and on human health. The expected benefits are:

- reduced use and emissions of chemicals and harmful substances during production, use and disposal of products, and thereby minimized uptake and negative effects on humans, vegetation and animals,
- efficient extraction and use of resources and thereby fulfilment of commitments to future generations and minimization of the negative impact on environment that can occur when extracting raw materials,
- energy saving, efficient use of renewable resources and stimulated conversion from fossil fuels to bio fuel at plant level thereby reducing the negative effects on climate and human health,
- optimal waste management systems that will contribute to the most effective use and reuse of resources in waste streams and to reducing the problems with landfills, leaking of harmful substances, etc,
- greater availability of environmental information about products and activities with regard to companies, improving environmental behaviour and environmentally sound choices of products and services,
- economic savings for companies through less use of materials, energy and more efficient production processes, etc.
- improved compliance with environmental legislation and thereby improved environmental performance but also a lower risk of fines and higher potential for investments, insurances etc.
- meeting demand from the western market indicating the products to be manufactured to a greater extent, according to the principles of sustainable development,
- taking advantage of Cleaner Production implementation as a basis for the use of environmental management tools (ISO 14001) and other supporting tools,
- support to other environmental strategies/policies and the implementation of MEAs.

For concrete results from Cleaner Production investments and activities in the Barents Region please visit websites;

<http://centrecp.narod.ru>
<http://ruscp.ru>