



UNIVERSITY OF GOTHENBURG  
SCHOOL OF BUSINESS, ECONOMICS AND LAW

# Environment and climate change input to Swedish Cooperation Strategy with Belarus<sup>1</sup>

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## Introduction

Sweden is preparing a new cooperation strategy for Belarus. The Environmental Economics Unit was asked by Sida (Lars Eklund) to provide input on environment and climate change to the strategy process. The task was to review existing documents and provide recommendations for Sida to consider on possible Swedish cooperation.<sup>2</sup> It was eventually found that European Bank for Reconstruction and

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<sup>1</sup> This Policy brief was written in January-February 2010, at the request of Sida by Olof Drakenberg at the Environmental Economics Unit (EEU), Department of Economics, University of Gothenburg, as part of Sida-EEU's institutional collaboration on environmental economics, with contributions from SEI, Ben Smith (climate change). The views expressed in this document are those of the author and do not necessarily represent the views of Sida.

<sup>2</sup> Sida had commissioned an environment focused study "Future Support to Ukraine and Belarus" 2005 by Karlberg et al, which has served as point of reference. The document also included information from the extensive study by UNECE, Second Environmental Performance Review, finalized in 2005. Recommendations from the Environmental Performance Review are found in Annex 1.

Development (EBRD) recently had undertaken analysis<sup>3</sup> of the environmental situation and ongoing initiatives as part of their new strategy for Belarus. Given that the EBRD analysis is recent, relevant and succinct it was agreed with Sida to build this brief around the EBRD strategy and complement where appropriate.

The first parts is directly taken from EBRD strategy, the second part comments on the EBRD strategy and complements with additional sources, the third part provides a broader coverage on the climate change aspects and the fourth part is forward looking and includes tentative recommendations for Sida to consider.

## **Part I Excerpts from the EBRD strategy for Belarus dated December 2009<sup>4</sup>**

### **Environmental Situation (problems, causes and challenges)**

Environmental and natural resource challenges present one of the most critical and complex areas in achieving environmentally sustainable economic growth for Belarus.

The land pattern of Belarus comprises arable land (27%), forests and woodland (38%), while marshland covers about 4% of the total area. Except for agricultural and forestry resources, Belarus is relatively poor in other resources. Peat is plentiful and is used as household fuel. In general, the local energy production, mainly oil, covers only 5% of the country's energy needs. Belarus also has deposits of potassium salt, limestone and phosphates.

Industrial activities are concentrated in urban zones where they discharge pollution into the air. Ambient air quality is a concern in Novopolotsk, Polotsk, Gomel, Svetlogorsk, and Vitebsk<sup>5</sup>. The biggest air polluters in these cities are chemical factories, power plants and manufacturing enterprises. Industry is the main polluter of the water through its waste water discharges. Another area of concern is biodiversity loss, especially in southern parts of the country in Polesie due to the poor irrigation practices of the past.

Although the environmental situation in Belarus has improved overall during the last few years, further challenges remain in the area of reducing air emissions from transport, industry and energy generation sectors as well as controlling and reducing water pollution, soil contamination and waste generation from industrial, agricultural and domestic sources. The majority of environmental improvements have taken place as a result of increased environmental expenditure (reported to be about 2.1% of the annual GDP) to finance energy efficiency, use of local resources, acquisition and installation of pollution abatement equipment and raising the level of environmental education and awareness of the public. Consequences of the 1986 accident at the Chernobyl nuclear power plant in Ukraine still affect the population, environment and economy of Belarus significantly. Twenty three years after, about 20% of the country is still contaminated with long-lived isotopes of caesium above acceptable levels. Environmental concerns are also raised by the recent plans to construct the country's own nuclear power plant in the north-western part of Belarus, with the two first reactors to be put in operation by 2016-2020.

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<sup>3</sup> EBRD, 2009, Strategy for Belarus

<sup>4</sup> To facilitate reading we have underlined specific sections of the EBRD strategy.

<sup>5</sup> UNECE Second Environmental Performance Review (2005). (However it should be noted that most of the environmentally related expenditures in the country are spent on maintenance and operation of existing, often polluting, equipment and installations and very few resources are put into introducing new, more efficient and less polluting technologies).

Further environmental challenges are also being presented by climate change in such areas as agriculture, forestry and water resources and ecosystems management, and it has been recognised that Belarus will need to put forward adaptation measures to protect its social and economic systems from changing climatic conditions.

The government of Belarus attaches high priority to environmental protection and management, and has adopted a number of key programmes and action plans, including the National Action Plan on the Rational Use of Natural Resources and Environmental Protection (NEAP2) for 2006-2010 and the National Strategy for Sustainable Development for the period to 2020 (NSSD3), and the National Programme of Measures to Mitigate the Consequences of Climate Change for 2008-2012. The overarching legislative document on environmental issues is the 1992 Law on Environmental Protection amended in 2002.

### **Energy**

Energy efficiency is a major challenge for Belarus, a highly industrialised economy with highly inefficient use of energy. Despite remarkable improvements over the last 15 years when energy intensity of output more than halved thanks to investment in modernisation of production and structural economic shift towards services, production in Belarus remains very energy intensive by international standards, with many inefficient and environmentally unfriendly technologies still in use and continues to lack the adequate institutional and incentive structure to adjust to a more sustainable path of energy use. The pricing of energy remains inadequate to incentivise efficient use and the non-price barriers to energy efficiency persist. Incentives for improvements in energy efficiency need to be strengthened through appropriate policies, including market pricing of energy and establishment of a clear framework for renewable energy.

Municipal infrastructure requires both substantial investment and commercialisation to ensure its medium and long-term sustainability. A number of facilities are near-obsolete and present a substantial environmental hazard, locally and for the Baltic region more generally. At the same time, cost recovery in municipal infrastructure has been declining as prices of energy rose, with the cost recovery ratio currently standing barely above 30 per cent. Application of economically justified tariffs and improvements in efficiency of service provision, including energy efficiency, could help to achieve a substantial and sustained increase in cost recovery ratios combined with improved service quality.

### **Environmental legislative framework in Belarus**

An overarching legislative framework on environmental issues in Belarus is the 1992 Law on Environmental Protection (last amended in 2002) that lists international cooperation in environmental protection both as a major principle of environmental protection and as a major aim of the national policy in environmental protection. Key directions of the country's environmental performance (such as improving administrative, economic and regulatory mechanisms of environmental protection and management, combating soil, air and water contamination and improving overall energy efficiency) are outlined in several documents, including the National Action Plan on the Rational Use of Natural Resources and Environmental Protection (NEAP) for 2006-2010 and the National Strategy for Sustainable Development for the period to 2020 (NSSD).

In past years Belarus made particular efforts to introduce the norms and principles of international environmental legal acts and commitments, striving to make its legislation EU-compatible. Updates of the national environmental legislation include the Law on Waste Management and the introduction of the Ecological Passport for enterprises in 2008. A Municipal Waste Management Programme (2007-2010) puts forward general principles and specific requirements related to methods of waste disposal which are consistent with comparable EU Directives and the country's international obligations. The overall objective is to prevent adverse environmental impacts, to promote separate municipal waste collection and recycling, and to maximize the recovery of valuable materials.

Since Belarus has borders with three EU countries, there have been several EU and World Bank–funded initiatives within the country to harmonise its environmental legislation with the pertinent provisions of EC Directives, such as the EC Water Framework Directive. Other environmental legislative harmonisation initiatives in the country include the introduction of a system of integrated environmental permits based on the provisions of the IPPC Directive and the BAT approach.

The Law on State Environmental Review currently in effect does not cover all aspects of environmental impact assessment (EIA). The existing system of environmental assessment of economic initiatives comprises two interrelated processes: Environmental Impact Assessment (EIA) and State Environmental Review (SER). EIA deals with initiatives at the project level and does not address strategic documents, whereas SER deals with proposed projects, plans and programmes for socio-economic, sectoral and spatial development based on technical norms and thresholds. The importance of introducing mechanisms that would facilitate integration of environmental concerns into national decision-making has also been recognised, and Belarus has committed itself to introducing strategic environmental assessment (SEA). It is now in the process of building adequate institutional capacity for that purpose with assistance from the EU and the UNDP.

A National Programme of Measures to Mitigate the Consequences of Climate Change for 2008-2012 (NPMCCC) has been prepared in order to fulfil the commitments of Belarus under the UNFCCC and Kyoto Protocol. The Programme includes the system of legal, financial, economic and organisational measures which are aimed at mitigation of the negative impacts on climate by encouraging GHG emissions reduction and increase of GHG absorption, support to national monitoring and assessment, wide implementation of renewable energy sources and energy-saving technologies.

### **Belarus and international cooperation in the environmental sphere**

Belarus is a signatory of a number of international conventions and protocols related to environment protection. For example, the country acceded to the Stockholm Convention on Persistent Organic Pollutants (POPs) in February 2004. Belarus signed and ratified the United Nations Convention to Combat Desertification in 2001 and applies its provisions for sustainable management of degraded peat lands in the south of the country. Belarus also ratified the United Nations Framework Convention of Climate Change and Kyoto Protocol in 2005. In 2000 the country ratified the Aarhus Convention on access to information, public participation and access to justice in environmental matters and in 2005 became a signatory (by acceptance) of the Espoo Convention on environmental impact assessment in a transboundary context.

Environment remains the focus of many other organisations working in Belarus. The EU, UNDP, UNEP and the World Bank are all working closely with Belarus and contributing to the promotion of sustainable development in the area.

The **European Union** mainstreams its cooperation with Belarus on common challenges in the fields of environment, public health and social development through the Neighbourhood Programmes in the border areas of Latvia/Lithuania/Belarus, Poland/Ukraine/Belarus, and the Baltic Sea region. This includes promoting a cross sectoral dialogue and cooperation in common environmental and sustainability projects and initiatives. The new Eastern Partnership initiative will additionally enhance closer cooperation with Belarus in such areas as good governance and energy.

**UNDP** is pursuing a number of initiatives in energy and environment in Belarus. The current strategic focus is on capacity building for implementation of flexible mechanisms under the Kyoto Protocol, building capacity for Strategic Environmental Assessment and implementation of environmental conventions, as well as supporting sustainable development at the local level. UNDP is also developing a full –size GEF project aiming to support the reduction of transboundary industrial chemical pollution from small industries currently discharging through municipal waste systems. In the sustainable energy area it also implements a GEF project on removing barriers to energy efficiency improvements in the state sector in Belarus (USD 1.4 million), and another GEF project in sustainable land management, aiming at sustainable management of peatlands in Belarus to combat land

degradation, ensure conservation of globally valuable biodiversity, and mitigate climate change (USD 1 million). In the area of biodiversity, UNDP is implementing a GEF project on catalysing sustainability of the wetland protected area system in Belarusian Polesie through increased management efficiency and realigned land use practices (USD 2.2 million).

The **World Bank / IBRD** maintains a close dialogue with Belarus on environmental initiatives, and its CAS objectives include ‘advancing a sustainable development agenda through support to environmental activities’. Ongoing projects include a Water Supply and Sanitation Project (USD 60 million) to improve the quality, efficiency and sustainability of water supply and wastewater treatment services in the six Oblasts of Gomel, Mogilev, Brest, Grodno, Minsk, and Vitebsk; a Social Infrastructure Retrofitting Project (22.6 million plus additional USD 15 million) to improve energy efficiency improvements and retrofitting in social sector buildings (schools and hospitals) across Belarus; and Post-Chernobyl Recovery Project (USD 50 million) to provide the population residing in the Chernobyl affected area with energy efficient and reliable heat and hot water services in order to improve their living environment. Most recently a USD 125 million energy efficiency project for Belarus has been agreed, aiming at improving energy efficiency in heat and power generation in selected towns in Belarus. This initiative will involve conversion of existing heat-only-boiler plants to combined heat and power plants at six sites. IBRD also has been pursuing enabling activities related to the implementation of the Stockholm Convention on POPs and a full-size GEF project of 5.5 million has been approved on POPs stockpile management and technical/institutional capacity building. Another initiative is a USD 60 million Belarus Solid Waste Management Project that is currently under consideration by IBRD for the development of an integrated Solid Waste Processing Facility in Grodno Oblast to support the country’s efforts to manage solid wastes according to international good practice, complemented with a GEF grant of USD 5.5 million to reduce environmental and health risks to the population from PCBs and POPs.

Belarus has been welcomed into the **Northern Dimension Environmental Partnership (NDEP)** initiative, and this cooperation will be a positive step towards reducing the pollution to the Baltic Sea. HELCOM has listed a number of Belarusian cities as environmental hot spots in its Baltic Sea Action Plan currently under implementation. The national nutrient reduction targets set for Belarus are 1,660 tonnes of phosphorus and 3,780 tonnes of nitrogen per year and equal to roughly half of Russia’s national targets. Although not directly at the Baltic Sea, Belarus still constitutes the 5th largest catchment area, and through its rivers, contributes to pollution of waters that are part of the catchment area of the Baltic Sea. There is also scope for achieving significant environmental benefits with cross border impacts through the implementation of projects in the agricultural/municipal solid waste and energy efficiency sectors. The current EU Strategy for the Baltic Sea Region sets out to develop cooperation with Belarus in the context of NDEP to improve the ecological state of the Baltic Sea.

## **Part II Comments to the EBRD strategy and complementary information**

*Better articulation of the benefits of improved management of environment, climate change and natural resources is needed*

Improved management of ecosystems can generate a range of benefits for the people of Belarus. Belarus suffers from relatively high scores of diseases linked to poor water and air quality in a European comparison which affects poorer segments of the population most.<sup>6</sup> Beyond positive health outcomes improved management can increase the efficiency of the industry, create employment in the renewable energy industry, improve opportunities for exports through

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<sup>6</sup> 20 % of the burden of disease is attributed to environmental health issues in Belarus, which gives the country rang 47 out of 52 European states (including states in the former Soviet Union) WHO, 2007. See also Annex 2.

compliance, improve relations with downstream countries, attract investments in clean technologies and protect biodiversity.

There is a need to highlight and quantify the benefits mentioned above to allow a comparison of costs and benefits as substantial investments are needed and trade off must be made between the shorter and longer term and between stakeholder interests. Furthermore information need to be broadly communicated to allow for increased awareness and improved accountability where citizens are becoming part of the environmental governance system. Corruption is a problem and current energy and resource users (industries and households) are likely to resist policy instruments that first of all eliminate subsidies and perhaps as a second step internalize costs of degradation in the price. It will therefore also be important to compensate vulnerable groups when prices of energy, electricity and water are adjusted to sustainable levels (full cost coverage, including capital investments).

*Findings broadly in line with previous analyses/priorities<sup>7</sup>*

The EBRD strategy highlights “reducing air emissions from transport, industry and energy generation sectors as well as controlling and reducing water pollution, soil contamination and waste generation from industrial, agricultural and domestic sources” as the main challenges for Belarus and points to the need to use economic instruments for better management. This mirrors well national priorities and previous analysis, see e.g. Box 1. It could be noted that the focus of the EBRD activities in Belarus might contribute to that report gives less attention to environmental challenges related to agriculture.

According to EBRD the government attaches great importance to environmental management. Yet there are signs of inadequate weight being given. These include problems with illegal logging, the withdrawal of some ecological taxes and insufficient implementation of environmental legislation.<sup>8</sup> The strong call for integration of environmental considerations in key economic sectors policies recommended in the UNECE Environmental Performance review (beyond adjustments of tariffs and elimination of subsidies) are less articulated in the EBRD strategy (See Annex I). It could be of interest to consider analyzing whether this capacity has been build both within the ministry of environment and its agencies and key sector ministries e.g. energy, agriculture, transportation, industry.

- Box 1 The 2006 National Action Plan on the Rational Use of Natural Resources and Environmental Protection** (2006-2010) identifies the following main priorities:
1. Waste management.
  2. Protection of atmospheric air, ozone layer and climate.
  3. Protection of rational use of water resources.
  4. Protection of land and soils.
  5. Rational use of sub-soil resources.
  6. Preservation of biological and landscape diversity.
  7. Improvement of environmental legislation.
  8. Further development of economic instruments of environmental policy.
  9. Environmental monitoring.
  10. Education for environment.

*New action plan is under way*

The Government of Belarus is currently preparing an updated National Action plan on the rational use of natural resources and environmental protection. The major change is expected to be a greater attention to climate change (mitigation and adaptation). The Environmental Bulletin from 2008 illustrate progress but also remaining challenges. Past experience show a gap between strategies, action plans and their implementation. This is partly a financial issue but it could also be of interest to assess the institutional capacity to achieve necessary broad engagement from the various sectors.

<sup>7</sup> For instance 2006 National Action Plan on the rational use of natural resources and Environmental protection, 2004 National strategy for sustainable socio economic development (2004-2020), Karlberg, T. et al. 2005 , EU Country Environmental Profile, 2007)

<sup>8</sup> Road user charges, including tax on fuel sale, ecological tax, tax on car purchases, and toll fees, have been introduced.

*Environmental management affects security and has transboundary impacts*

ENVSEC<sup>9</sup> complements the EBRD information with a focus on environment and security. According to ENVSEC the main transboundary environment and security issues for Belarus include reliance on energy imports, transboundary impacts of industrial sites, stockpiles and disposal sites of toxic waste, pollution from defence activities, nuclear energy (incl contaminated areas) and flood control measures. As an example Dvina/Daugava supplies most of the drinking water to Riga and are exposed to some of Belarus most dangerous industrial sites (chemical and refineries in Novopolotsk). For instance there are more than 2,700 tonnes of unidentified (potentially hazardous) pesticides. About two thirds of all pesticides are buried at various disposal sites – the rest are stored at farms and industrial facilities, often under unsuitable conditions and close to state borders. See also Annex 3 and 4.

*Urgency of improved energy security involves opportunities and risks*

The urgent need to reduce the reliance on imported, low cost energy from Russia will improve resource efficiency and might open up for improved natural resources management. However, there is also an apparent risk that the planned partial switch to new energy resources will not sufficiently consider environmental aspects. This could lead to local, regional and global environmental impacts on air emissions, biodiversity etc due to larger use of both renewable (forest fuels, hydro power, bio gas<sup>10</sup>), non renewable (peat, coal). There is currently a draft Biodiversity strategy out for comments. The success of this strategy will largely depend on other national priorities on energy, forestry and agriculture and opportunities for international funding.

*Poor women stand to gain from investments in municipal infrastructure*

The EBRD strategy notes that Belarus ranks highly on the Gender Development Indicator, that women account for 52.8 per cent of the total employment in the economy, including 45 per cent of employment in industrial enterprises and are relatively well represented in parliament (29 per cent). However, women are reported to be particularly vulnerable to discrimination in recruitment and dismissal and were paid substantially less than men. No specific link is made between current inadequate investment in areas like water and sanitation infrastructure, energy and gender. Previous study from Russia suggests that poor women, and above all poor women-headed households stand to gain most if access to clean water (hot and cold) and heating is secured.<sup>11</sup>

Finally, the Nordic Investment Bank (NIB) and the Nordic Environmental Finance Corporation (NEFCO) are important financial institutions that were not explicitly mentioned in the EBRD strategy. They are important partners for Swedish bilateral cooperation in the region.

## **Part III Belarus and climate change**

Climate change in Belarus will bring both threats and opportunities, and will require effective planning and coordinated responses in order to minimise the risks that it brings. In the near-term, however, the effects of climate change are likely to be small in comparison with a number of other environmental problems. Belarus is not particularly vulnerable to the effects of climate change - a recent World Bank report ranked it as only 18th most vulnerable out of 28 countries assessed in Eastern Europe and Central Asia<sup>12</sup>, and in comparison to many

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<sup>9</sup> ENVSEC, 2007, Environment and security-transforming risks into cooperation

<sup>10</sup> Biogas production facilities were being built in the Minsk and Brest regions in 2008. Environmental Bulletin, 2008

<sup>11</sup> Wolff, E, 2004, Gender Equality Study: Gender equality in the energy and environment sectors in a transition economy, the case of Russia

<sup>12</sup> World Bank, 2009, Adapting to Climate Change in Europe and Central Asia.

countries climate change is likely to bring relatively large opportunities as temperatures warm.

The ability to adapt to the changes that occur and take advantage of opportunities arising in Belarus is fairly low however, and there is an 'adaptation deficit'<sup>13</sup> when it comes to management of current climate and its variability.

### **Overview of climate change projections and uncertainties**

There has been a clear warming trend over the last century in Belarus, and over the last 30 years there has been no nation-wide change in precipitation but some increase over northern regions<sup>14</sup>. The warming trend will continue and is expected to be greatest in winter months. Increases in average annual temperature for Belarus are likely to be in the range of 1.5-2°C by 2050, and 2-3°C for the winter period. There is confidence that there will be a decrease in the number of frost days and the duration of snow cover and an increase in the frequency and duration of heat-waves<sup>15</sup>.

Projections for change in precipitation are less clear, with strong model disagreement as to whether there will be an increase or a decrease in annual precipitation in Belarus. It is expected however that run-off may decrease due to the increase in evapo-transpiration. There is also greater confidence that there will be an increase in the intensity of precipitation, with more extreme rainfall events.

### **Implications for key sectors**

Belarus has prioritised agriculture, water and forestry as key sectors for adaptation to climate change<sup>16</sup>. Assessments of the impact of climate change on agriculture in Belarus are varied and depend heavily on the climate scenario used and weight given to the impact of an increase in extreme hydro-meteorological events. There will be significant opportunity to take advantage of warmer temperatures and a longer growing season to expand northwards crops currently only viable in the south of the country. The major threat to agricultural production will be the increase in frequency of drought and heat-waves, however improved soil conservation measures, water management and more drought-resistant cultivars should allow agricultural production to benefit on the whole from changed conditions.

Additionally, there is at present a gap between the potential yield of many crops in Belarus and their actual production, and measures to reduce this gap could more than counter-act any negative effects on yield due to climate change.

The effect on the forestry sector is likely to be mixed, as growth will increase but there will be an increase in outbreaks of forest pests and an increase in the risk of fire. The composition of Belarussian forests will change as temperatures rise, with Oak and Pine likely to replace Fir and Alder<sup>17</sup>. As well as the provision of ecosystem services and acting as a valuable economic resource, forests have the potential to help sequester carbon and meet any emissions targets that Belarus may eventually have. A state programme on adaptation of the forestry sector has been developed and good forest management would maintain forest productivity.

Although precipitation change is unclear there is likely to be a reduction in run-off in Belarus, particularly during summer. This reduction could lead to an increase in the concentration of

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<sup>13</sup> 'Adaptation Deficit' refers to the inability of many countries to cope with current climate risks, even before any additional risks posed by climate change. There is a failure to adapt to current climate variability and extremes which represents the 'deficit'.

<sup>14</sup> 4th National Communication of Belarus to the UNFCCC, 2006 and World Bank 2009

<sup>15</sup> World Bank 2009 Adapting to Climate Change in Europe and Central Asia.

<sup>16</sup> Government of Belarus: National Program of provisions for climate change mitigation for years 2008-2012

<sup>17</sup> Kalinin, M. 2008 Adaptation of various economic branches of Belarus to climate change



radionucleides in watersheds in the Dniepr and Pripjat provinces. The frequency of large flood events such as those of 1999 is expected to increase along with the increase in extreme rainfall events. Improved flood management plans and the restoration of wetlands and degraded forest land could help to reduce the likelihood and magnitude of such floods. In addition, improving current efficiency in the water sector, possibly through pricing mechanisms and adjusting the specifications of new water infrastructure to be able to deal with a greater number of extreme wet and extreme dry years will provide a buffer against the effects of climate change.

### **Concluding remarks**

The core to any adaptation programme should be to start with current hazards and risks and the identification of management options to address these. With regards to adaptation to climate change in Belarus there is the potential for many 'no-regrets'<sup>18</sup> adaptation strategies which are of tangible benefit now (such as improving efficiency in the water sector) and will help to prepare Belarus for a changing climate.

It is becoming clear that a successful adaptation process requires strong stakeholder engagement and dialogue from the start to build a complete picture of current vulnerability and the conflicting issues that influence stakeholders in the decisions they take. This sort of democratic process may be difficult to achieve in the political context of Belarus and it may be useful to consider how such a multi-stakeholder process, with strong participation from civil society, can be enabled.

### **Mitigation**

Belarus does not at present have any binding green house gas emissions reduction commitments under the UNFCCC and Kyoto Protocol. In 2006 Belarus proposed an amendment to Annex B of the Kyoto Protocol which would have given it emissions targets of -8% on 1990 levels to meet by 2012<sup>19</sup>. This proposal was adopted by the 12th Conference of Parties to the UNFCCC but in order to come into force must be accepted by at least 3/4 of countries. As of Jan 2010 only 20 of the 190 countries signatory to the UNFCCC have accepted the amendment to the Kyoto Protocol<sup>20</sup>.

The significance of this lies in the fact that Belarus cannot participate in the Kyoto Protocol flexible emissions trading scheme unless it has a quantified emissions target. In numerous national documents Belarus has indicated a strong desire to be able to participate in these mechanisms as they may provide an easy way to generate income. The economic collapse and de-industrialisation of the 1990s caused a reduction in emissions of 47% between 1990-2001 and, while they have been rising since, in 2007 they were still 38% below their 1990 levels, meaning that a target of -8% would be easily attained and surpassed. This would then allow Belarus to sell excess emissions credits to those countries set to miss their targets, and thus generate income. The likely reason for the non-acceptance of the amendment to the Kyoto Protocol is that countries do not want to see Belarus gain from emissions reductions resulting from earlier economic collapse without actually having to put in place any mitigation measures.

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<sup>18</sup> This refers to measures that have value and give benefit even in the absence of climate change, but also reduce vulnerability to climate change.

<sup>19</sup> UNFCCC (2006) Report of the Conference of Parties serving as the meeting of Parties to the Kyoto protocol on its second session, held at Nairobi from the 6th-17th November 2006.

<http://unfccc.int/resource/docs/2006/cmp2/eng/10a01.pdf#page=36>

<sup>20</sup> UNFCCC (2010) Status of ratification: Amendment to Annex B of the Kyoto Protocol.

[http://unfccc.int/files/kyoto\\_protocol/amendment\\_to\\_annex\\_b/application/pdf/kp\\_annex\\_b\\_ratification\\_status\\_20100106.pdf](http://unfccc.int/files/kyoto_protocol/amendment_to_annex_b/application/pdf/kp_annex_b_ratification_status_20100106.pdf)

Belarus has indicated that it will support the Copenhagen Accord, and adopt a voluntary emissions target of 5-10% on 1990 levels by 2020 *if* it is allowed access to the flexible mechanisms of the Kyoto Protocol and provided there is enhanced technology transfer and capacity-building.<sup>21</sup> They have also asked for the rules on emissions reductions from land-use change to be clarified, due to the large potential for carbon sequestration in Belarus.<sup>22</sup> It remains to be seen what final agreement comes out of the Copenhagen Accord, however it seems unlikely that Belarus will be granted access to flexible mechanisms unless it adopts targets which require real mitigation efforts.

Belarus is meeting its reporting and organisational commitments under the UNFCCC and Kyoto Protocol through the production of National Communications, the establishment of a national Greenhouse Gas inventory system and the appointment of the a UNFCCC focal point.<sup>23</sup>

## **Part IV Tentative recommendations for Sida to consider**

Sweden has a long tradition on working in Eastern Europe on institutional strengthening on environment often in combination with investments in utilities (such as municipal waste water treatment plans) and reforms linked to the investment. A particular focus has been on the Baltic Sea riparian states with strong attention from Swedish leaders and successful cooperation with other Nordic donors and IFIs. Sweden also has strong experience in working on municipal level on waste management, bio energy, city heating systems and biogas, and technical support for environmental management including chemical management.

The existing Swedish –Belarus cooperation strategy stipulates that support in the environmental sector should focus on greater awareness of and commitment to environmental protection, enhanced environmental information and monitoring. This was to be achieved by assisting environmental organisations and promoting democratic discussion of environmental problems, and working for the fulfilment of international conventions and strategies, and promoting environmental cooperation with the EU and countries on the Baltic seaboard.

Other key areas for Swedish support have been in the field of i) democracy, civil society, human rights, media and information, ii) culture education and research, and iii) private business sector.

Opportunities to create synergies across different sectors should be investigated. The Aarhus convention on the right to environmental information to which Belarus is a signatory provides such an opportunity.

One of the consequences of the politically difficult situation in Belarus is that environmental sector (including energy) has become an important focus for key international partners and organisations. Better management of energy, water and waste has direct positive impacts on

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<sup>21</sup> Government of Belarus (2010) Communication of the Republic of Belarus to the UNFCCC regarding quantified emissions targets under the Copenhagen Protocol.

[http://unfccc.int/files/meetings/application/pdf/belaruscphaccord\\_app1.pdf](http://unfccc.int/files/meetings/application/pdf/belaruscphaccord_app1.pdf)

<sup>22</sup> The forests of Belarus are growing. However, in the shorter term growing forests is not sufficient to attract climate financing as trust and strong government institutions is needed as well as well as an international agreement on the set up of carbon schemes for forests.

<sup>23</sup> The First Deputy Minister of Natural Resources and Environmental Protection.

the citizens of Belarus and neighbouring countries positively impacts on climate change (mitigation and adaptation) and on broader energy security issues and market reforms. Such reforms are necessary as sustainable management of ecosystem and their services requires that users of energy, water, soils, rivers, climate etc pay the full costs (operation, capital, environmental cost). It is important to maintain close contacts between the various international actors and national counterparts working in sectors with large environmental impacts for a more coherent and coordinated support.

Based on this desk review we propose the following recommendations for Sida to consider during the strategy process and possibly in future dialogues.

#### *Improve awareness and analysis*

The citizens of Belarus have the right to environmental information. Support activities that raise awareness of rights but also of the consequences climate change and of poor environmental management on public health, economic growth, foregone fiscal incomes due to corruption etc. Improved analysis can help inform decision making and proper and transparent assessment of environment and climate change risks and opportunities. This could include media, academia, schools, civil society but also government agencies. Analysis need to be informed by sufficient data on environment and climate change. Given the need for integration of environmental aspects in policy development across sectors it could be considered to look for opportunities to support (financial, government dialogue) the ongoing capacity development program on Strategic Environmental Assessments with UNDP. Belarus has introduced a number of economic policy instruments in different sectors. It could be considered to evaluate the success of these instruments and opportunities for improvements. The capacity of local universities to undertake such analysis could be supported.

#### *Work with International Finance Institutions to leverage funding for investments and reforms with local and regional benefits*

Shortage of funds prohibits necessary investments in water delivery and treatment, energy and energy efficiency and waste management. In combination with reforms (prices, management etc) investments made jointly with IFIs and government can contribute to better service provision and local and regional environmental and health benefits, including the Baltic Sea. Rich Swedish experiences from cooperation with other East European countries should be built on. Management of hazardous waste also have both local and regional benefits and may be considered.

#### *Strengthen institutions across key economic sectors*

Support the implementation of the upcoming National action plan on the rational use of natural resources and environmental protection. A recent review of Swedish capacity development for environment that include Eastern Europe provide important recommendations.<sup>24</sup> These include the need to combine strengthening environmental institutions and improved legislation with efforts to address key constraints to environmental management that lie outside of the environmental sector e.g. key sector ministries and weak demand for improved environmental management. Other recommendations are to improve the use of institutional analysis and to pursue a strategic dialogue on environment and climate change issues. Particular care should to be given to strengthen capacity to engage in cross sectoral work and to improve the capacity of environmental institutions to assess costs and benefits of improved management, monitoring and enforcement. The recommendations from the Environmental

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<sup>24</sup> Slunge, D., César, E., 2010, Swedish Bilateral support to environmental capacity development- overview of key results and lessons learned, Draft 5

Performance Review from 2005 found in Annex 1 could be used when discussing the forthcoming national action plan.

*Improve climate information with the user perspective in mind*

Support national capacity on climate modelling and vulnerability assessments within relevant national institutions such as universities, drawing on Swedish expertise in organisations such as the Swedish Institute for Hydrology and Meteorology and its Rossby Centre on climate modelling research. Promote circumstances where providers of climate science information work together with users of this information, such as national or district planners and policy-makers, in order to create dialogue around what policy-relevant information is needed. This should help ensure the best available science is taken up by decision-makers and used to inform important policy processes.

*Increase energy efficiency*

There is a need to support price reform that ensures prices cover the full long term cost of energy supply. i) Help ease the pain of rising energy prices by investing in energy-efficiency measure in low income households; ii) develop and implement energy efficiency standards for equipment and buildings rather than relying on normative use of energy per unit of output, use economic incentives (fees, taxes, levies etc) to promote energy efficiency; support dialogue between government and major energy consumers; use monitoring and evaluation as tools to understand the benefits and impacts of energy efficiency policies and programs, and to expand and replicate successful programs.

*Develop renewable energy*

Facilitate development of renewable energy in areas where they have a competitive advantage (e.g. biomass); ii) support efforts to create a level playing field for renewable energy by removing subsidies for fossil fuels; iii) facilitate access to financing for potential developers and users of renewable energy resources; iv) support development of policies which facilitate the entry of renewable energy on the energy market through fiscal incentives, increased awareness, improved regulations for renewable energy planning and integration into energy systems.

*Enhance environmental safety of energy use*

Ensure that environmental assessments and issues are more thoroughly incorporated into energy policy; (ii) take full advantage of opportunities offered by the Kyoto Protocol. (iii) focus on the most polluted areas where the population is directly affected by poor air quality; (iv) support government and power sector representatives to jointly develop effective strategies on modernising and improving the efficiency of energy production to reduce environmental degradation; (v) facilitate emissions reductions where it is most cost effective (e.g. energy efficiency, district heating, renewable energy); (vi) support use of environmental audits of large power plants as a means of encouraging companies to capture cost-effective opportunities to improve efficiency and reduce emissions; (vii) facilitate internalization of a larger portion of the environmental costs of energy production into energy prices.

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## **Annex 1 Recommendations made in the UNECE Environmental performance review (2005)**

### *Recommendation 1.1:*

*The Government should reconsider the competencies of governmental bodies responsible for natural resources use and environmental protection in forestry and protected areas, including fishing and hunting. The Ministry of Natural Resources and Environmental Protection should have overall responsibility for controlling the use of natural resources. The activities of the Affairs Management Department of the President related to the use of natural resources should be made transparent and subject to oversight by the Ministry of Natural Resources and Environmental Protection and to public scrutiny.*

### *Recommendation 1.2:*

*The Ministry of Natural Resources and Environmental Protection should adapt its structure to current needs taking account internationally accepted principles. In particular, policy development and decision-making on natural resources use should be separated from monitoring and control. The Ministry should consider establishing relevant departments and assigning the policy development and decision-making functions currently performed by specialized inspectorates to them. It should also consider separating the tasks of issuing permits and enforcement, currently performed by specialized inspectorates.*

### *Recommendation 1.3:*

*The Ministry of Natural Resources and Environmental Protection as well as other relevant ministries and institutions, when developing policy documents, such as strategies, plans and programmes, on environmental protection and natural resources use should always include a section on their funding. This section should clearly identify the necessary financing to achieve each objective and the sources of the financing.*

### *Recommendation 1.4:*

*The Ministry of Natural Resources and Environmental Protection should initiate the introduction of modern and effective tools for environmental management and the protection of natural resources, such as integrated permits, taking into account the*

*application of best available techniques (BAT); eco-labelling; and environmental management and audit scheme (EMAS) into environmental legislation*

### *Recommendation 2.2:*

*The Ministry of Natural Resources and Environmental Protection should consider introducing integrated environmental permits and draft appropriate legislation, including the necessary by-laws. The changes should ensure that permits contain requirements for a high level of protection of the environment as a whole and a reduction in emissions based on the comparison with the best available techniques.*

### *Recommendation 2.3:*

*(a) The Ministry of Natural Resources and Environmental Protection should develop the necessary legislation to regulate the rights and obligations of environmental inspectors and the enforcement of self-monitoring requirements;*

*(b) The Ministry of Natural Resources and Environmental Protection should ensure that self-monitoring requirements are included in the permits, data obtained from self-monitoring are used as part of the general monitoring system, and uniform quality assurance requirements apply to both governmental monitoring and self monitoring systems.*

### *Recommendation 3.1:*

*The Ministry of Natural Resources and Environmental Protection should:*

*(a) Transform its local monitoring programme, step by step, into a full-fledged national PRTR which, among other things, should cover releases and transfers of the main pollutants from major point sources, accommodate available data on releases from diffuse sources (e.g. transport and agriculture), present standardized, timely data on a structured, computerized database, and be publicly accessible through the Internet, free of charge;*

*(b) In cooperation with the Committee on Land, Geodesy and Cartography under the Council of Ministers and within the framework of the National*

*System of Environmental Monitoring, take the necessary measures to establish and develop land monitoring; and*

*(c) Speed up the accession of Belarus to the PRTR Protocol to the Aarhus Convention.*

### *Recommendation 3.2:*

*The Ministry of Health, jointly with the Ministry of Natural Resources and Environmental Protection, should review the national ambient environmental quality standards to:*

*(a) Make the standards consistent, to the maximum extent possible, with international air and water-quality standards and monitoring guidelines, and set time schedules to phase in monitoring of the standards that are currently not measured, as well as the revised or new standards that cannot be introduced immediately;*  
*(b) Upgrade monitoring stations, equipment and devices, and analytical laboratories, and retrain staff to measure environmental quality against the revised list of standards.*

### *Recommendation 3.3:*

*(a) The Council of Ministers should streamline the natural resource cadastres to oblige the responsible ministries and institutions that have not done so yet to establish databases that:*

- Present standardized, timely and computerized data;*
- Are searchable according to key parameters;*
- Are user-friendly in their structure and provide links to other relevant databases;*
- Are publicly accessible through the Internet, free of charge; and*
- Have only limited confidentiality provisions.*

*(b) The Ministry of Natural Resources and*

*Environmental Protection, jointly with the Ministry of Statistics and Analysis, should update the national system of environmental indicators to make it consistent with indicators used in Europe and worldwide, and to facilitate international comparisons.*

### *Recommendation 3.4:*

*(a) The Ministry of Natural Resources and Environmental Protection should initiate the revision of:*

• *The Law on Environmental Protection to include detailed procedures ensuring public participation in decision-making regarding environmental permitting, standard-setting, environmental fund expenditures and development of laws, regulations, strategies, plans and programmes affecting the environment; and*

• *The Law on State Ecological Expertise and relevant regulations to include such important issues as: how to inform the public about the possibilities for receiving and commenting on EIA documentation, deadlines for submitting comments, modalities of public hearings, how the proponent should handle the public's comments and inform both the public and the State ecological expertise authorities how comments have been taken into account, and how to inform the public about the final decision taken by the State ecological expertise authorities.*

*(b) The Ministry of Justice, in consultation with the Ministry of Natural Resources and Environmental Protection, should draft proposals to make the legislation consistent with the Aarhus Convention regarding public access to justice, in particular the right to challenge acts and omissions by private persons and public authorities that contravene national environmental legislation.*

*Recommendation 3.5:*

*The Council of Ministers should review the current legislation and regulations regarding the registration and operation of public associations and initiate the adoption of amendments that would create a supportive framework for such associations, including environmental NGOs, and enable Belarus to comply with its obligations under the Aarhus Convention. It should include NGO representatives on the National Commission on Sustainable Development.*

*Recommendation 3.6:*

*The Ministry of Education should speed up the establishment, in close cooperation with the Ministry of Natural Resources and Environmental Protection, of the inter-agency coordinating council on education for sustainable development with the participation of all stakeholders, including NGOs and the mass media. The council should support and monitor the implementation of the*

*national multilevel integrated programme for environmental education and awareness raising for 2005-2010, once adopted by the Council of Ministers, and initiate other actions to promote and facilitate the implementation of the UNECE Strategy for Education for Sustainable Development*

*Recommendation 4.1:*

*The Ministry of Natural Resources and Environmental Protection should continue to introduce proposals to develop new and revise existing legislation according to Belarus's obligations under international agreements. The recommendations, contained in the National Sustainable Socio-Economic Development Strategy for the period to 2020, to harmonize national environmental legislation with the principles and norms of international environmental legislation should serve as guidelines. Speedy adoption and development of mechanisms for implementation of the law on environmental information in accordance with the Aarhus Convention should be a priority.*

*Recommendation 4.2:*

*The Council of Ministers should take measures to change the rules and procedures for the approval of international technical assistance for environmental protection so as to significantly simplify and expedite the process.*

*Recommendation 4.3:*

*The Ministry of Natural Resources and Environmental Protection should:*  
*a) finalize the necessary documents for the ratification of the Espoo Convention and the Copenhagen, Montreal and Beijing Amendments to the Montreal Protocol;*  
*b) prepare necessary documentation to proceed with ratification of the Protocol on SEA to the Espoo Convention, the Protocol on Volatile Organic Compounds to the LRTAP Convention, and the Protocol on PRTRs to the Aarhus Convention; and*  
*c) continue preparing national strategies and action plans for the implementation of conventions where such documents are lacking. MNREP may wish to continue applying for external funding to build up its capacity.*

*Recommendation 4.4:*

*a) The Ministry of Natural Resources and Environmental Protection should*

*analyse the results of implementation of bilateral and multilateral agreements and other forms of bilateral cooperation. Based on this analysis, it should identify the priorities for cooperation and concentrate its resources on them. It should integrate this analysis in its annual reports to the Ministry of Foreign Affairs;*

*b) The Ministry of Natural Resources and Environmental Protection should finalize preparations for signing intergovernmental agreements with neighbouring countries on the use and protection of water resources of the Daugava/Zapadnaya Dvina, Neman/Nyamunas, Dnepr and Zapadni Bug river basins and other bilateral agreements currently being negotiated. Once the agreements come into force, it should, as a matter of priority, develop practical steps to make them fully operational.*

*Recommendation 4.5:*

*a) The National Commission on Sustainable Development should prepare, by 2010, an analysis of the achievement of the medium-term goals and progress in the long-term goals of NSSD-2020. Based on this analysis, the Commission should consider revising the Strategy;*  
*b) The Ministry of Natural Resources and Environmental Protection should be involved in all stages of the preparation of the national progress report on the millennium development goals, particularly with regard to goal 7. Based on the conclusions of the report, the Government should consider, where appropriate, setting higher targets than those in the millennium development goals to be achieved by 2015.*

*Recommendation 5.1:*

*The Council of Ministers should aim to improve the data collection system on environmental expenditures. It should coordinate efforts to improve the quality of these data. Particular focus should be placed on improving the definition and scope of environmental expenditure in line with international standards. Transfers between the public sector and enterprises should be rigorously reported and a distinction between enterprise and public resources made to avoid double-counting.*

*Recommendation 5.2:*

*The Council of Ministers should improve the mechanism for the use of resources of the environment*

protection funds. The improved mechanism should include:

- (a) Identifying priorities where resources can make a significant difference;
- (b) Developing clear procedures for selection of the projects for financing. The cost-effectiveness of the projects should become an important appraisal and performance evaluation criterion;
- (c) Establishing specialized unit responsible for funds management within the framework of the Ministry of Natural Resources and Environmental Protection, in accordance with accepted standards of good governance for such institutions; and
- (d) Improving the reporting of the results achieved with the support from environment protection funds.

*Recommendation 5.3:*

The Ministry of Natural Resources and Environmental Protection, in coordination with the Ministry of Finance, Ministry of the Economy, Ministry of Taxes and Duties and other relevant governmental bodies should:

- a) Revise the number of pollution charges in order to make the system more efficient and cost-effective. The focus should be on those pollution charges that correspond to the environmental priorities, can be monitored at a reasonable cost and generate significant revenue;
- b) Consider introducing charges on environmentally damaging products or transactions (e.g. on used batteries and tyres), which can ensure a more stable and predictable revenue stream for environmental purposes; and
- c) Establish a transparent procedure that involves stakeholders for regularly revising and adjusting the rates. The primary objective of the system of charges should be pollution reduction rather than revenue raising.

*Recommendation 5.4:*

The Ministry of Natural Resources and Environmental Protection, in cooperation with the Ministry of Economy and relevant sectoral ministries, should aim to identify priority environmental investment projects, which could be included in donor cooperation programmes. Cooperation programmes should evolve into more long-term multi-year strategic partnerships rather than individual ad hoc activities.

*Recommendation 6.1:*

The Council of Ministers should develop a law on energy covering all aspects of the energy sector, including production, transport, distribution and consumption. The Law on Energy Saving and other energy-related legislation should become part of the law on energy with the necessary amendments.

*Recommendation 6.2:*

The Council of Ministers should consider reforming the current energy tariff-setting policy and improve the entire energy chain with a purpose of creating a competitive energy market to make it more attractive to investments.

*Recommendation 6.3:*

a) The Ministry of Transport and Infrastructure, the Ministry of Natural Resources and Environmental Protection and other relevant governmental bodies, when finalizing the national programme to mitigate the environmental impact of transport, should give particular attention to:

- Updating the standards on exhaust emissions from mobile sources in line with those in force in the European Union;
- Setting specific targets for public transport, including targets for emission reductions and energy consumption for each transport mode.
- Setting regulations for the environmental impact assessment of new transport infrastructure and traffic restrictions for freight transit in environmentally sensitive areas.

b) In connection with the implementation of this programme, the Government should establish a national coordinating centre to promote policies for sustainable development of the transport sector

*Recommendation 7.1:*

a) The Council of Ministers should initiate the drawing-up of a comprehensive strategy document for the development of agriculture, which would integrate environmental aspects.

b) The Ministry of Agriculture and Food, in cooperation with the Ministry of Natural Resources and Environment Protection, should analyse the environmental and agricultural aspects of the European Union's Nitrate Directive and Water Framework Directive and use their provisions as guidelines when improving national legislation and practice where applicable.

*Recommendation 7.2:*

The Ministry of Agriculture and Food should initiate the creation of extension (advisory) services in agricultural committees in oblasts and rayons. Advisory services of other organizations and private consultants should also be encouraged in order to improve the level of agriculture in general and to be instrumental in integrating environmental aspects and good agricultural practices in production.

*Recommendation 7.3:*

The Ministry of Agriculture and Food should promote organic production by creating a regulatory framework, a certification system and through extension (advisory) services. Among the first steps that it might consider are the development of a strategy, awareness raising seminars, education and training.

*Recommendation 7.4:*

The Ministry of Agriculture and Food, the Ministry of Natural Resources and Environment Protection, the Committee on Land Resources, Geodesy and Cartography, Ministry of Forestry, and other relevant bodies should give high priority to saving and restoring valuable wetlands when developing plans to rehabilitate ameliorated areas.

*Recommendation 8.1:*

The Ministry of Sport and Tourism, in cooperation with the Ministry of Natural Resources and Environment Protection, the Affairs Management Department of the Presidential Administration, tour operators and non-governmental organizations, should:

- Develop an action plan for the new national programme for tourism development, to set clear priorities, identify sources of financing, and specify actions for the development of infrastructure and conditions in rural areas for the promotion of ecotourism.
- Adopt a set of tourism standards for certification based on international standards;
- Develop indicators based on international standards to monitor and review the development of tourism; and
- Develop and apply a certification scheme for ecotourism.

*Recommendation 8.2:*

The Ministry of Natural Resources and Environment Protection should:



- *Draw up specific programmes and projects for those parts of the National Strategy and Action Plan on Biodiversity that have not been implemented and identify sources of financing for them; and*
- *Integrate those important bird areas and important plant areas, which are not yet part of the network of the specially protected natural areas, into this network.*

*Recommendation 8.3:*

*The Affairs Management Department of the Presidential Administration, the Ministry of Natural Resources and Environmental Protection, and the State Committee on Border Guards should promote the creation of corridors for migratory species, particularly mammals, in specially protected natural territories, especially in the Belovezhskaya Pushcha National Park.*

## Annex 2 Preventable environmental impact on mortality and morbidity in countries of the WHO European Region

The table below is an annex to the WHO/Europe press release issued on 13 June 2007, taken from WHO, 'Country profiles of the environmental burden of disease', 2007. The report indicates that well-tested environmental health interventions could reduce total deaths in the countries of the WHO European Region by almost 20%. The range of disability-adjusted years of life lost (DALYs) varies up to fourfold across the WHO European Region. The lowest levels of risk are found in northern and western European countries, while high risk levels are reported for some countries of eastern Europe. This may be due to a combination of traditional (such as water) and modern (such as air pollution and chemicals) environmental risk factors. Countries are ranked by the size of the portion of death and disability due to the environment.

Subregion	Country	DALYs due to environmental factors/1000 capita	% DALYs (burden of disease) due to environmental factors	Estimated deaths due to environmental factors
EurA	Iceland	13.7	14%	317
EurA	Israel	14.1	13%	5,594
EurA	Switzerland	14.6	13%	9,543
EurA	Sweden	15.1	14%	14,468
EurA	Monaco	15.5	14%	42
EurA	Malta	15.6	14%	490
EurA	Netherlands	15.8	14%	21,830
EurA	Italy	16.0	14%	90,809
EurA	Norway	16.1	14%	7,502
EurA	San Marino	16.3	15%	44
EurA	Austria	16.3	14%	11,424
EurA	Germany	17.1	14%	132,169
EurA	France	17.2	14%	80,107
EurA	Spain	17.3	14%	58,495
EurA	Cyprus	17.5	13%	1,363
EurA	Andorra	17.6	14%	91
EurA	Ireland	17.8	14%	5,286
EurA	Luxembourg	18.0	15%	574
EurA	United Kingdom	18.1	14%	101,335
EurA	Belgium	18.7	14%	17,032
EurA	Denmark	19.1	14%	9,235
EurA	Finland	19.1	15%	8,167
EurA	Portugal	19.7	14%	15,445
EurA	Slovenia	19.8	14%	2,926
EurA	Greece	20.0	16%	19,966
EurA	Czech Republic	21.4	15%	17,606
EurA	Croatia	23.0	14%	8,374
EurB	The former Yugoslav Republic of Macedonia	23.7	15%	3,137
EurB	Slovakia	25.1	16%	9,315
EurB	Poland	25.2	17%	66,113
EurB	Bosnia and Herzegovina	25.6	16%	6,172
EurB	Armenia	26.3	16%	4,712
EurB	Serbia-Montenegro	26.8	15%	21,023
EurB	Georgia	27.1	16%	10,874
EurC	Hungary	28.0	16%	21,740
EurB	Bulgaria	28.6	16%	18,469
EurB	Albania	29.9	19%	4,425
EurB	Uzbekistan	30.1	18%	33,479
EurB	Turkey	30.4	19%	86,712
EurB	Romania	30.8	17%	46,928
EurC	Lithuania	33.7	19%	8,332
EurC	Republic of Moldova	34.5	17%	8,952
EurB	Azerbaijan	35.7	19%	12,927
EurC	Latvia	38.3	18%	6,492
EurC	Estonia	38.7	20%	3,732
EurC	Ukraine	43.2	19%	155,230
EurC	Belarus	43.4	20%	29,712
EurB	Kyrgyzstan	46.2	21%	9,706
EurB	Tajikistan	47.5	21%	12,021
EurB	Turkmenistan	48.5	22%	9,108
EurC	Kazakhstan	49.3	20%	39,274
EurC	Russian Federation	53.7	20%	493,116

### Annex 3 Key environment and security issues and interactions in Belarus

Security Environment	Promoting energy security	External relations	Social and political stability	Military activities and restructuring
Hazardous sites and facilities	Risks associated with development of nuclear power	Stockpiles of hazardous substances located near borders		Pollution at defence sites and facilities. Disposal of obsolete armaments.
	Impact of energy pipelines	Impacts of radioactive waste depots upon border areas Local and transboundary impacts of Soligorsk, Novopolotsk and other industrial centres		
Water management	Environmental impacts of planned hydropower development	Protection and management of the Drysviaty and Braslav lakes		
		Protection and management of Z. Dvina, Dnieper, Neman, Z. Bug		
Ecosystems management and biodiversity protection	Environmental impacts of increased production of bio-fuels, peat and brown coal	Management of Polesie marshlands including the Pripyat basin (flow control), Dnieper-Bug canal and Chernobyl-contaminated areas		
		Regionally coordinated network of protected areas		

Source: ENVSEC, 2007, Environment and Security – Transforming risks into cooperation

Top 10 Natural Disasters in Belarus  
for the period 1900 to 2010  
sorted by numbers of total affected people:

Disaster	Date	No Total Affected
Flood	25-Jul-93	40,000
Storm	23-Jun-97	21,390
Flood	7-Mar-99	2,000
Extreme temperature	Jan-10	1,820
Epidemic	26-Nov-97	605
Epidemic	Jan-95	282

EM-DAT: The OFDA/CRED International Disaster Database, [www.em-dat.net](http://www.em-dat.net) - Université Catholique de Louvain - Brussels – Belgium



## Annex 4 Map of environment and security issues in Belarus



Source: ENVSEC, 2007, Environment and Security – Transforming risks into cooperation