Global Climate Change

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Solving the global environmental problems is not easy. To attain favourable results, co-ordinated action of countries all over the world is necessary. The effect of successfully implemented global environmental policy is to be expected only in some 50 till 100 years.

Latvia signed the United Nations Framework Convention on Climate Change (UNFCCC; Convention) in Rio de Janeiro in 1992, and Saeima (Parliament) of the Republic of Latvia ratified the Convention in 1995. It means that since then Latvia has undertaken to implement series of internationally prescribed commitments to mitigate global climate change.

The aim of the Convention is to reach stabilisation of the concentration of greenhouse gases (GHG) in the atmosphere on the level to prevent dangerous anthropogenic interference in the climate system. GHG are natural and anthropogenic gaseous compounds in the atmosphere, which absorb and re-emit infrared radiation. They are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6), as well as indirect GHG – carbon oxide (CO), nitrogen oxides (NO_x) and non-methane volatile organic compounds (VOC).

The Kyoto Protocol to the Convention (Protocol) was adopted in Kyoto on 11.12.1997. Latvia signed the Protocol in 1998, and Saeima ratified it on30.05.2002. In accordance with the Protocol Latvia, individually or in a joint action with other country, should reach the level when aggregate anthropogenic direct GHG (CO_2, CH_4, N_2O, HFC, PFC and SF_6) emissions by the years 2008-2012 are 8% below emission level of 1990. There are three flexible mechanisms for GHG emission reduction prescribed by the Kyoto Protocol:

- Joint implementation (JI) projects,
- Clean development mechanism (CDM),
- International emission trade (ET).

The Parties to the Convention, including Latvia, should annually submit to the Conference of Parties (COP) the report anthropogenic emissions and removals of GHG. Furthermore, in terms fixed by the COP, they have to prepare the National Communication, in which information is provided not only on GHG emissions and removals but also on the policies and measures taken or planned to fulfil the commitments under the Convention.

The Latvian Environment Agency (LEA) prepares the annual report on the GHG emissions and removals making use of the guidelines approved by the Intergovernmental Panel on Climate Change (IPCC). Also are being used the National database, the Common Reporting Format for the national GHG inventory, and the database and publications issued by the Central Statistical Bureau of Latvia.

Climate Change Policy and Emission Trading

The climate change mitigation policies and measures to limit and reduce greenhouse gas emissions and to increase carbon dioxide removals in Latvia is gaining higher priority in line with the common policy and concerns about climate change in the world and the European Union. Climate Change Mitigation Policy Plan for Latvia for years 1997-1998 was prepared based on conceptions, programs, plans and other strategic documents for the main branches of the economy in Latvia. The general goals of climate change mitigation policy in Latvia were defined in the Plan as follows:

- Climate policy should create basis for sustainable development;
- Climate policy should be integrated into strategic documents of specific branches of national economy, in legislation and in

public awareness;

Climate policy is aimed to facilitate people to understand the necessity, feasibility and cost to arrest global warming, as well as possible consequences, if nothing is done at all.

To improve the present climate change mitigation policy in Latvia, the Prime Minister Order No. 142 has established the Working Group on 02.04.2004. During 2004-2005 the Working Group elaborated Climate Change Mitigation Programme for 2005-2010 . The Programme was accepted by the Cabinet of Ministers on April 2005. The latest document on the climate change mitigation policy contains overview of Governmental policy and measures for GHG emission reduction and limitation as well as increase of sequestration of carbon dioxide, EU measures for implementation of climate change policy, adaptation of flexibility mechanisms and legal and institutional measures for implementation of Kyoto Protocol. The primary goal of this programme – to ensure that starting with 2008, the total amount of GHG emissions does not exceed 92% of 1990 level. The primary goal is to be achieved by implementing activities in the following climate change mitigation policy areas:

increase the share of renewable energy sources in the energy balance;

increase efficient and rational use of energy resources;

develop an environmentally friendly transport system;

promote the implementation of the best available techniques, environmentally friendly technologies and cleaner production;

promote the implementation of environmentally sound agricultural methods that reduce direct GHG emissions;

increase CO_2 removals in forestry;

establish an up-to-date municipal waste management system, ensuring collection of biogas in municipal waste landfills.

In the implementation of the climate change mitigation policy, the following activities are analysed in detail:

promotion of biomass use;

promotion of biogas use;

support for energy generation in small hydropower plants;

support for wind power production;

promotion of solar energy use;

support for biofuel production and promotion of biofuel use;

support for the construction of combined heat and power generation plants and energy efficiency projects;

support for energy efficiency projects in thermal energy generation and transmission;

support for projects improving energy performance of buildings;

optimisation of the traffic flow in cities;

promotion of the use of public transport services in Riga;

development of bicycle transport infrastructure;

improving and construction of manure storage facilities;

sustainable use of agricultural resources;

development of environmentally friendly agriculture and promotion of Good agricultural practice;

increase of forest stand productivity

afforestation of unmanaged agricultural land;

processing of biologically degradable waste;

collection of biogas from municipal waste landfills;

restoration of small municipal dumpsites not meeting environmental requirements.

The first National Communication under UNFCCC in Latvia was prepared in 1995, and it provided GHG inventory for the year 1990, i.e. for the reference year only, and GHG emission projections for the year 2000. The second National Communication was drafted in 1998. It presented the GHG inventory for year 1995 and recalculated inventory data for year 1990, as requested by IPCC. It also gave emission projections till 2020 and described climate change mitigation policy in Latvia. The third National Communication was prepared in 2001 and accepted by the Cabinet of Ministers on November 13, 2001. It contains the information on GHG emissions and removals in the period between 1995 and 2000, data for 1990 being given for comparison. The document also provides projections about emissions and removals of the direct GHG for the time period till year 2020. The latest forecasts testify that in 2010 GHG emissions will be 45% below level of 1990 in case of the Baseline scenario (scenario "without measures"), and 51% below level of 1990 if scenario "with measures" is implemented. Hence, Latvia will be able to meet the obligations of the Kyoto Protocol.

The fourth National Communication was elaborated in 2006. The Communication comprises information on national political structure and fluctuations of Latvia's climate, as well as the economic profile of the country and the development trends of the different economic sectors. General insight into the annual GHG emissions in the period 1990 – 2003 is also given in the report. It includes summary information on the latest policies and measures to reduce GHG emissions in Latvia, giving insight into international financial support programs and events, implemented and started in the past three years and planned in the nearest future in each GHG-emitting sector. To assess the future GHG emissions and removals trends, considering the current economic and social development level and taking into account the implemented and approved policies and measures, separate projections were prepared for each sector. The Communication includes information on the impact of climate change on the environment, sensitivity evaluation and adaptation measures, and provides a brief description of recent research and observations in climate change assessment and mitigation. The effectiveness of solutions to environmental problems is directly dependent on the knowledge and awareness level of the people about the responsibility and opportunities to contribute to the global climate change mitigation efforts therefore information on all educational institutions, organisations and programmes in Latvia informing the community about these problems is concentrated together.

Adaptation to climate change

Climate change, currently characterised by an average temperature increase, temperature extremes, rising sea levels, increased and heavy precipitation etc. in all regions of the world, is directly related to human-induced change in atmospheric composition. It has become one of the most important challenges of today. Current actions to reduce atmospheric greenhouse gas (GHG) emission concentration and limit global average temperature are not sufficiently effective, and therefore global average temperatures continue to rise. Consequently, countries should introduce measures to improve their capacity to adapt, as it reduces climate risks and vulnerabilities, as well as taking advantage of the opportunities adaptation creates.

On July 17, 2019, the Cabinet of Ministers approved Latvia's national plan to adapt to climate change by 2030 (Plan).

The Plan was developed based on the analysis of the current climate changes in Latvia and climate change scenarios until 2100, as well as the assessment of climate change impacts and risks carried out in Latvia in six areas: building and infrastructure planning, civil protection and disaster management, health and welfare, biodiversity and ecosystem services, agriculture and forestry, and tourism and landscape planning. The Plan defines the main goal of adaptation to climate change, six strategic objectives, 14 action directions and 89 measures.

The principal objective of the Plan is to reduce the vulnerabilities of the population, national economy, infrastructure, buildings, and nature of Latvia to climate change impacts, and to promote the potential opportunities derived from climate change. The plan has five strategic objectives:

- Human life, health, and welfare, regardless of gender, age, and social background, are protected from the adverse effects of climate change.
- National economy has the capacity to adapt to the adverse effects of climate change and seize the opportunities derived from climate change.

Infrastructure and buildings are climate-resilient and planned according to possible climate risks.

Nature, cultural and historical values of Latvia have been preserved and the negative impact of climate change thereupon have been reduced.

Information based on scientific argumentation is provided, including monitoring and projections that promote integration of the aspects of adaptation to climate change in sectoral policy and territorial development planning documents, and also public awareness.

Implementation of the Plan requires wide involvement of authorities by implementing adaptation measures. However, most adaptation measures are largely related to measures already in progress (for example, civil protection, flood protection measures, compliance with building climatology and other building standards, etc.) and the Plan ensures the necessary vision on the adjustment of customary measures to the new climatic conditions and, where necessary, introduces effective planning, coordination, monitoring etc. It is planned to introduce the measures and tasks for implementation of the Plan by using both state and local government budget resources, as well as attracting financial resources of the EU and other sources, and private capital also.

Project Mechanisms and Renewable Energy

Taking into consideration investors' interest in the Joint Implementation (JI) projects in Latvia and in accordance with the UNFCCC Kyoto Protocol the Conception for the realisation the JI projects under the UNFCCC Kyoto Protocol for the time period from 2002 to 2012 (Conception) was created. The Cabinet of Ministers approved the Conception on April 30, 2002. The purpose of the document is:

To contribute to the mitigation of the global climate change;

To create basis for the policy of the realisation the JI projects in Latvia and attract additional investments for carrying out environmentally friendly and energy saving projects;

To offer to the Cabinet of Ministers the options how to manage the JI projects and to fulfil the commitments under the UNFCCC.

The Cabinet of Ministers accepted the version B2 of the Conception, which declares that Latvia will take active part in the JI projects. The specialists from Latvia will select and prepare potential JI projects and announce a competition for investors to realise projects. For gaining better results the accepted version of the Conception prescribes to establish an independent institution that could find potential JI projects and attract investors.

Based on the accepted Conception, the Strategy for the realisation the JI projects under the UNFCCC Kyoto Protocol for the time period from 2002 to 2012 (Strategy) has been created and accepted by the Cabinet of Ministers Order No.653 (07.11.2002). The objective of the Strategy is to contribute to the mitigation of the global climate change by means of attraction the investments to carry out GHG mitigation projects. The Strategy describes authority of various institutions to realise JI projects. These institutions are: Cabinet of Ministers; Ministry of Environment; Commission to the JI projects; JI projects' work group and its manager; JI projects' executors; an authorised certification institution; GHG register; LEA. Implementation of the Strategy will provide for creating technical, financial and administrative management of JI projects, as well as ready-to-implement portfolio of projects.

While implementing the Strategy, some legal documents regarding JI projects have been created and accepted:

Prime Minister Order No.399 (23.12.2002) "On Commission to the JI Projects", which decrees the staff of the Commission;

Cabinet of Ministers Regulation No.257 (13.12.2002) "Statute on the Commission to the JI projects under the UNFCCC Kyoto Protocol", which decrees the purpose, duties, rights, staff and activities of the Commission.

The most important renewable energy sources in Latvia are combustible biomass and animal products, wind and solar energy.

On 31.10.2006 by Order No.835 of the Prime Minister was excepted "The Strategy of Utilization of Renewable Energy Sources

2006.-2013". The document reflects measures for rational usage of biomass, biogas and other renewables. The Strategy implements the policy included in the Directives 2001/77/EK and 2003/30/EK approved by European Parliament and Council. The main task of the use of renewable energy sources is possibility to save fossil energy sources and to diminish amount of emissions into the atmosphere, soil and water. Exploitation of combustible renewables and waste promotes indigenous production and decrease dependence on energy import. The Strategy facilitates implementation of Convention of Long-range Transboundary Air Pollution and UNFCCC.

To provide the public in Latvia with information on climate change and with support of the Global Environment Facility the homepage was created.

https://www.varam.gov.lv/en/global-climate-change