10. A NON-TECHNICAL SUMMARY OF THE SEA REPORT

Strategic environmental assessment (SEA) is a process of detecting, characterising and assessing the likely effects on the environment, which involves development of strategic environmental assessment documents, consultations, consideration of the assessment and consultation results before adopting and/or approving a plan or a programme, and provision of information related to decision-making and/or approval of the plan or the programme.

This report presents the results of the strategic environmental assessment, which was carried out pursuant to the requirements laid down in Resolution No. 967 of the Government of the Republic of Lithuania of 18 August 2004 on the approval of the Procedure for the strategic assessment of the effects of plans and programmes on the environment (Official Gazette, 2004, No. 130-4650) and in Directive 2001/42/EC of the European Parliament and of the Council of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment, and taking into account the recommendations provided in the Handbook on Strategic Environmental Assessment for Cohesions Policy 2007-2013 and in the Strategic Environmental Assessment Guide (ISBN 9955-9845-1-1, Vilnius, Lithuania, 2006).

The SEA was undertaken as a parallel process which was coordinated with the preparation of the Operational Programme and provided its inputs thereto. Also, consultations with relevant public authorities and general public were carried out. Since the Structural Funds Operational Programme for the Programming Period 2014-2020 has been developed at the national level, information on the SEA was first of all provided to the public by publishing notification of the defined scope in regional and national press (announcements were published in one national and seven regional newspapers on 8-9 October 2012).

A SEA Scoping Report was drafted and submitted to the SEA relevant authorities (Ministry of Environment, Ministry of Culture, Ministry of Health, and Service for Protected Areas under the Ministry of Environment), which provided their conclusions on the quality of this document. In order to reach consensus on the conclusions, a consultative meeting was held to discuss the Scoping Report on 29 October 2012 at the premises of the authority in charge of the preparation of the Operational Programme, the Ministry of Finance. The meeting was attended by representatives of all SEA relevant authorities, SEA consultant and the authority in charge of the preparation of the Operational Programme. The SEA Scoping Report was supplemented and revised taking into account the conclusions of the SEA relevant authorities and then once again submitted to the SEA relevant authorities in November 2012. In December 2012, all SEA relevant authorities approved the Scoping Report. Based on this Report, work was undertaken on the preparation of the Strategic Environmental Assessment Report.

Having drafted the report, the following public consultation procedures were carried out: people were informed about the availability of the draft Structural Funds Operational Programme for the Programming Period 2014-2020 and the draft Strategic Environmental Assessment (SEA) Report, possibilities to submit proposals, and a planned public meeting, by publishing this information in the regional and national press (announcements were published in one national and seven regional newspapers on 6-7 September 2013). The said drafts were available for the public at the headquarters and on the website of the authority in charge of the drafting of the Operational Programme for one month. The public could submit their proposals throughout the entire assessment period until and during the public meeting.

The draft SEA Report and the draft Operational Programme were presented to the public on 10 October 2013 at the premises of the authority in charge of the drafting of the Operational Programme, the Ministry of Finance. After the presentation, public information

documents were prepared and enclosed to the SEA Report: a note on the public proposals, a public presentation protocol, a list of the participants, and copies of the announcements published in the regional and national press.

Consultations with authorities responsible for the protection of the environment, public health, cultural heritage, and protected areas were started in October 2013 following the public consultation procedures: the draft SEA Report, draft Operational Programme, and public consultation documents were submitted to the SEA relevant authorities (Ministry of Environment, Ministry of Culture, Ministry of Health, and Service for Protected Areas under the Ministry of Environment). Conclusions on the draft SEA Report and draft Operational Programme were received in November – December 2013. All conclusions and proposals were analysed and taken into account when supplementing and revising the SEA Report. At the end of the SEA process, the public will be informed about the decision on the Operational Programme (approval of the Programme) publishing it in the regional and national press. The assessment identified that the implementation of the Structural Funds Operational Programme for the Programming Period 2014-2020 in the Republic of Lithuania will not have any significant effects on the environment of other countries, therefore no transboundary consultations were carried out.

The SEA Report consists of 11 chapters, including Introduction, Summary, and Annexes. Chapter 1 of the Report (Introduction) provides general information about the strategic environmental assessment and its objectives.

Chapter 2 analyses SEA methods and techniques, describes difficulties encountered in compiling the required information and the assessment. The Structural Funds Operational Programme for the Programming Period 2014-2020, which is currently being drafted, addresses strategic directions for action without relating them to any specific territory or area, so the only suitable strategic environmental assessment method is assessment in terms of environmental protection and sustainable development aspects (goals), because no information is available yet on what particular economic activity will be the focus of projects to be developed on the basis of the planning document; also, the area subject to the impact covers the entire territory of the Republic of Lithuania. Since the Structural Funds Operational Programme for the Programming Period 2014-2020 (hereinafter – the Operational Programme) does not provide a quantitative expression of the solutions, the assessment was carried out based on qualitative research and without using quantitative assessment criteria. The assessment in terms of environmental protection and sustainable development aspects (goals) was carried out using the following basic methods: analysis of strategic documents and legislation; analysis of secondary sources of information; analysis of statistical data; expert judgement; preparation of environmental impact tables (assessment matrices).

The key difficulties encountered throughout the assessment were:

- the assessment of the Operational Programme cannot be based on quantitative assessment criteria because the Programme provides for only general strategic directions for action;
- the only applicable method of the assessment, namely, the assessment in terms of environmental protection and sustainable development objectives, is related to some level of uncertainty and subjectivity depending on personal opinions, approaches and competences of SEA experts and representatives of the SEA relevant authorities;
- neither quantitative (scale), nor technological or location selection alternatives of the Operational Programme can be considered;

— no specific (technology, scope or site related) measures to reduce the effects can be identified and proposed;

— as mentioned above, the Operational Programme addresses strategic directions for action without relating them to any specific territory or area, therefore the implementation territory is the whole area of the Republic of Lithuania and there are no possibilities to take into account sensitivity and importance of specific territories.

Chapter 3 provides information about links between the Structural Funds Operational Programme for the Programming Period 2014-2020 and other strategic planning documents whose environmental and sustainable development objectives were used to assess individual components of the environment. Totally, 44 international and national strategic documents were identified and relevant environmental objectives were selected and used in further assessment. These objectives are briefly described below (summary of Chapter 4 of the Report).

Chapter 4 gives information about the current status and baseline trends of the environmental components being assessed (state of the environment) as well as information about environmental protection and sustainable development objectives, established at international, EU or national level, and existing environmental problems relevant to the implementation of the Operational Programme, including those relating to areas designated pursuant to Directives 79/409/EEC and 92/43/EEC. The assessment of the current environmental status was carried out for each component, providing information on the environmental and sustainable development objectives of the respective component, problems, trends and triggers, and future trends in the assessment. Information on the baseline trends provided a basis for subsequent evaluation of the likely effects of the Operational Programme. The chapter focuses on the following components: management of groundwater and surface water resources; reduction of air pollution; use of resources and waste management; biodiversity and landscape; protection of NATURA 2000 sites; climate change and energy efficiency; management of soil status; management of forest resources; health protection; protection of cultural heritage. The following major environmental protection and sustainable development objectives can be mentioned:

- achieving good status or potential for all surface water bodies by 2021,
- achieving good status for all groundwater bodies by 2021,
- achieving good status of the Curonian Lagoon (transitional waters) and coastal waters of the Baltic Sea,
- improving the quality of water supply and wastewater management services and increasing the availability of these services,
- establishing effective flood risk assessment and management systems taking into account social, economic and environmental aspects,
- ensuring air quality conforming to the established requirements and not harmful to human health throughout the country,
- ensuring that the increase of pollutant emissions is twice slower than the growth of production and services,
- ensuring that pollutant emissions from the industry, energy and transport sectors during the period until 2010 do not increase by more than 5% compared to 2001-2005,

• pursuing responsibility and reimbursement of costs for restoring impoverished and polluted environment from beneficiaries, or users of natural resources and production instead of all citizens,

• aiming at the use of environmentally most advanced, effective and feasible technology to ensure higher production efficiency in the use of natural resources, waste management and recycling, and other areas,

• taking steps that substances hazardous to the environment and human health are replaced with non-hazardous ones, non-renewable resources – with renewable ones, and that waste is reused, recycled or used otherwise,

• ensuring that waste generation increases much slower than production and that the amount of waste generated per unit of GDP does not exceed the average amount generated in respective industries in the Member States,

• achieving favourable conservation of local fauna and flora species and habitats of European importance found in Lithuania by 2030,

• achieving that at least 18 per cent of the land area and at least 10 per cent of the marine area of Lithuania are assigned to protected areas and/or the European ecological network Natura 2000 by 2020,

• eliminating and preventing the spread of invasive non-native plant and animal species,

• protection, adequate restoration and sustainable use of the Baltic Sea coastline ensuring a balance between the use of the Lithuanian coast of the Baltic Sea and interests of the coast use,

• strengthening the functions of the natural framework and ecosystems which regulate the natural balance,

• developing landscape and biological diversity, ecosystem research

• identification, legal protection and management of areas with most valuable landscapes and high biodiversity values

• ensuring protection and rational use of recreational resources, increasing public access to protected areas, disseminating information on the importance and goals of protected areas,

• optimising the ratio between natural, agrarian and urban areas,

• optimising land use and the territorial structure of land, promoting traditional land management,

• restoring damaged landscape areas,

• developing a system of territorial and strategic planning documents by ensuring protection, use and management of landscape, wildlife and cultural heritage values,

• ensuring social, economic and ecological functions of the formation of the Lithuanian landscape,

• ensuring protection, use, management, planning of the landscape and land characteristics,

• maintaining and enhancing the existing biodiversity of the country, territorial-spatial structure of the landscape, and its potential,

• optimising targeted formation of the cultural landscape,

• harmonising architectural-spatial composition of the landscape,

• reducing greenhouse gas emissions,

• ensuring sustainable use of renewable natural resources,

• increasing energy efficiency,

• reducing pollution of soil by organic and mineral fertilisers and other agricultural chemicals, petroleum products, and heavy metals in urban areas, industrial areas, landfills, pesticide storage areas, and roadsides of highways,

• preventing the spread of soil degradation processes by implementing requirements for good agricultural and environmental status and raising public awareness in the area of soil conservation,

• preventing soil erosion and loss of soil in slopes and surface karst areas,

• encouraging new constructions in historical urbanised or rehabilitated areas instead of natural forest or agricultural land,

• extending life expectancy in Lithuania – reducing morbidity, mortality and disability, particularly from accidents and injuries, circulatory system diseases, oncological diseases, mental health disorders,

• improving the quality of life of Lithuanian population,

• improving access to and quality of health care services,

• ensuring conservation of cultural heritage objects and rational, prudent use of these objects for cultural, educational and/or social needs,

• ensuring public participation in the protection of cultural heritage (especially in the change of areas),

• disseminating and collecting information on natural and cultural values of the country, developing respect and care for cultural heritage, interest in the preservation and proper use of cultural heritage, educating the public in terms of heritage protection,

• promoting adaptation of environmental and cultural heritage objects for tourism and recreational purposes,

• taking special care of Lithuanian cultural heritage objects included in the UNESCO World Heritage List,

• organising training of craftsmen and communities, activities for creativity and cultural education during the management of cultural heritage objects.

This chapter also provides a comprehensive description of the Lithuanian environment and the existing environmental problems in over 60 pages. The following major environmental problems related to the implementation of the Operational Programme and reflecting the major challenges in reaching more favourable status of the environment can be pointed out:

- point pollution of water bodies,
- diffuse pollution of water bodies,
- hydromorphological changes,
- pollution by chemical substances,
- floods,
- historical pollution,
- eutrophication,
- illegal or accidental pollution,
- contamination by hazardous substances,
- chloride and sulfate anomalies in five groundwater bodies,
- degradation of urban air quality,

- emissions from the industrial sector,
- emissions from the transport sector,
- lack of waste sorting,
- slow decline in the generation of industrial waste by GDP units,
- general increase in greenhouse gas emissions,
- lack of energy efficiency in the transport sector,
- lack of sustainable use of renewable natural resources,
- lack of territorial planning documents for protected areas,
- lack of funding of protection and management measures in protected areas,
- lack of regulation of the land privatisation process in protected areas,
- failure to ensure the established regime of protection and use of protected areas,
- lack of recreational infrastructure in national and regional parks and other protected areas,
- unfavourable image of protected areas. Protected areas are still largely viewed as a system of complete prohibition without considering the benefits provided by these areas,
- absence of a compensatory system for restrictions in protected areas,
- failure to complete the system of cultural protected areas, first of all, historic national parks,
- soil acidification, historic and present pollution of the soil, soil sealing (covering of the ground) problems, leaching of nutrients and microelements from the soil,
- lack of healthy living skills among Lithuanian population,
- unfavourable environmental factors which have the largest impact on the physical and mental health, such as inadequate air quality and increased ambient noise,
- lack of cooperation between health authorities,
- insufficient improvement of the quality of primary health care and other outpatient health care services,
- failure to sufficiently investigate, disclose and codify cultural heritage,
- failure to sufficiently protect cultural heritage,
- cultural heritage areas are insufficiently adapted for visitors,
- lack of funding for the protection and management of material cultural values,
- poor public awareness of the landscape as a living environment, the needs, principles and techniques of protection of the natural and cultural heritage objects contained therein.

Chapter 5, which is the key chapter of the Report, provides the results of the environmental assessment of the Operational Programme. The assessment was conducted in two levels. Firstly, it analysed consistency of goals of the Operational Programme with national and EU goals and priorities for environmental protection and promotion of sustainable development. It considered the importance of the Operational Programme for the implementation of the national and European Community environmental legislation; relevant environmental problems; the extent to which the Programme forms the basis for economic activities with regard to the location, nature, size and operating conditions or demand of resources. A second level of the assessment focused on the analysis of the lowest-level (i.e. most detailed) solutions proposed in the Operational Programme and their likely significant effects. Each solution (planned activity) of the Operational Programme was analysed in terms of its consistency with the relevant environmental and sustainable development goals, taking

into account the results of the assessment of the current environmental status and baseline trends (Chapter 4), and identifying the likely effects, their nature, characteristics, and significance. The results of this assessment of the lowest-level (most detailed) solutions were summarised in detail in descriptive tables on the assessment of the effects of the Operational Programme (in respect of each component subject to assessment). These tables provide additional detailed information on the effects of higher-level solutions of the Operational Programme, not only identifying the effects, their nature and characteristics, but also indicating the causes of the effects and, where possible, measures to avoid or mitigate the effects and giving recommendations to the authors of the Operational Programme. A brief overview of the likely significant effects (positive and negative) on different sectors of the environment and likely evolution of the status of environmental sectors is provided below.

Management of groundwater and surface water resources

- Measures designed to improve the status of the Baltic Sea and other surface water bodies will have to ensure improvement of the ecological and chemical status of the water bodies and reduction of water bodies at risk.
- Rehabilitation and development of the infrastructure of inland waterways can have a negative impact on the ecological status of rivers. Dredging of rivers or lakes for the construction of marinas can also have negative consequences.
- Reduction of pollutants entering in groundwater and shallow groundwater bodies.
- The measures will allow determining the current status and problems of water bodies, as well as factors influencing the problems, and the implementation of pollution management and reduction measures is expected to reduce pollution loads and improve the status of the Baltic Sea environment.
- More intense shipping and an increased number of cargo incur a greater risk of pollution. This threat is related to both port activities and accidental or illegal pollution from ships. Shipping activities are mainly related to oil pollution and marine litter. Intense port activity increases the risk of contamination by hazardous substances.
- Expansion of the drinking water infrastructure will ensure greater access to drinking water of controlled quality; better availability of waste management services represents a significant potential of improving the status of surface water bodies. The measures designed in the Operational Programme for the development and renovation of the waste management infrastructure are expected to prevent illegal discharge of household wastewater to surface water bodies, reduce pollution of water bodies by surface runoff, and improve the ecological status of surface water bodies.
- Strengthening the environmental monitoring, assessment, control and data management system will enable efficient management of the consequences of climate change-related events. Timely, reliable and sufficient information will allow envisaging necessary protection measures and determining areas where such measures are required.
- Measures designed to protect the coastal zone and manage and prevent the risk of flooding will reduce the impact of natural weather phenomena on the coastal zone of the Baltic Sea. Surface (rain) runoff management measures will prevent flooding and water pollution in urban areas.
- Environmental measures in the transport sector will reduce pollutants entering surface and ground waters.

Air quality

- Management of urban air quality and measures to reduce pollution by particulate matter is associated with direct positive effects on urban ambient air quality.
- Enhancement of environmental monitoring, assessment, control, and data management capacities will allow for effective management of the consequences of air pollution. In the long term, this measure will have a positive long-term effect on the ambient air quality.
- Renovation of buildings and rehabilitation of heat transmission networks reduces heat losses and, consequently, the demand for primary energy (fuel) and air pollutant emissions. These measures are highly likely to have a positive long-term effect on the ambient air quality.
- The use of biomass for energy production in the long term can have negative cumulative effects (of moderate significance) on the ambient air quality due to potential increase in contamination by particulate matter, benzo(a)pyrene, and others pollutants.
- Development of a multimodal transport system will enable more effective distribution of traffic flows and relative reduction of air pollution; in the long term, however, increase in traffic flows can cause cumulative negative effects on the ambient air quality.
- Expansion of ecological transport systems and infrastructure will directly contribute to the abatement of pollution caused by transport in urban areas and will have a positive effect on the urban air quality in the long term.
- Reconstruction and development of bicycle and pedestrian paths, development of public transport infrastructure is associated with reduction of traffic flows in urban areas, which will have a positive effect on the urban air quality in the long term.
- The expected results of cooperation between science and business will have indirect positive effects on the urban air quality in the long term; also, it is highly likely that the introduction and promotion of eco-innovation will have direct positive cumulative effects on the ambient air quality in the long term.
- Installation of cogeneration plants will allow for using less fuel for the generation of the same amount of energy, which will have direct positive cumulative effects on the ambient air quality in the long term.

Use of resources and waste management

- Development of research and promotion of innovation will lead to creation and introduction of new low-waste technology, which, in its turn, will ensure long-term positive effects: saving of resources, use of substances less harmful to the environment and human health, and reduction of waste.
- Investments in the waste sector – acquisition of laboratory equipment, improvement of the information system, promotion of and public information on waste prevention will contribute to better administration of the waste management system and waste reduction.

- Planned investments in the collection of municipal waste, preparation of waste for recycling and reuse will promote use and recycling of waste, reduce the amount of landfilled waste.
- A larger number of visitors of cultural and natural heritage objects may lead to additional generation of waste and environmental pollution, thus causing negative long-term consequences of moderate significance. During the implementation of the Operation Programme, measures have to be envisaged to limit generation of waste and to manage the generated waste.

Conservation of biodiversity (fauna, flora), landscape, Natura 2000 sites and national protected areas

- The promotion of renewable resources provided for in the Programme will have significant positive indirect long-term effects at the national level on the component subject to assessment (positive effects are less significant in respect of the protection of the landscape); however, the development of renewable energy involves negative consequences for the environment (in particular hydropower and, in some cases, development of biofuel resources), so there is a small likelihood of negative direct and indirect effects.
- Despite the plans to introduce advanced electricity network technology, there is a likelihood (small) that the development of this infrastructure may have direct negative local effects on biodiversity and especially the landscape – particularly in sensitive natural areas.
- It is expected that enhancement of environmental resistance to climate change will have indirect, yet long-term, positive regional effects on the protection of biodiversity and landscape.
- Planned reduction of landfilled waste may lead to the reduction of the total number landfills and landfilling capacities, which would have indirect, yet long-term, positive effects at the national level.
- Investments in the water sector and associated improvement of the status of water bodies and groundwater quality (or reduction of the negative impact) will have a significant positive effect of this component of the environment, especially on protected aquatic ecosystems and habitats.
- Promotion and development of cultural and natural heritage may be associated with the development of tourism infrastructure, which may have local direct and continuous long-term effects on the landscape and biodiversity in case of failure to ensure appropriate control and supervision, especially in sensitive natural areas. Intensive tourism may be one of the reasons of the extinction of plants, animals, fungi or microorganisms; this activity is also associated with the spread of invasive non-native plant and animal species.
- Protection and restoration of biodiversity and soil, promotion of ecosystem services, including Natura 2000 areas, and green infrastructure is associated with significant positive effects in respect of all environmental or sustainable development objectives related to the conservation of biodiversity conservation and protected areas. In addition, significant positive effects are envisaged for the protection of the landscape due to the rehabilitation of damaged landscape areas.

- Development of transport infrastructure works and traffic growth related to the implementation of the Programme determine changes in the structure and behaviour of local fauna and flora, increase in the number of animals killed on the road, habitat displacement, destruction of natural migration routes, i.e. potential adverse effects on this component. In addition, the growing water transport flows due to the development of ports and marinas may also increase pollution of air and water, construction may have an adverse impact on the soil (pollution during construction, changes in the soil structure), and lead to changes in the landscape; there may be a potential impact on the hydrological regime of water bodies, and marine transport is also associated with the spread of invasive non-native plant and animal species. Since the consequences will directly depend on the selection of specific project sites and the nature of the implementation, they should be addressed during a lower-level SEA or EIA of economic activity.
- Planned development of gas and electricity distribution, storage and transmission infrastructure potentially may lead to changes in physical characteristics of the environment, habitat fragmentation, and visual pollution, so there is a probability (although small) of negative consequences.

Climate change and energy efficiency

- Development of research and promotion of innovation will encourage sustainable use of renewable natural resources and increased energy efficiency. Therefore, positive effects of moderate significance are expected in respect of climate change gas emissions.
- Wider use of renewable energy sources instead of fossil fuels both in energy and industry, introduction of carbon dioxide reduction technologies should significantly reduce greenhouse gas emissions, so positive direct significant effects are expected in respect of climate factors.
- Renovation of residential houses and public buildings resulting in significant increase in final energy efficiency will reduce energy demand and consumption and, at the same time, emissions of climate change gases, i.e. significant positive effects are expected.
- Since biodegradable waste disposed of in landfills is a significant source of climate change gases (methane), the estimated reduction of landfilled waste is associated with positive effects of moderate significance.
- Development of transport infrastructure will facilitate smooth flow of traffic, reduce vehicle fuel consumption, and thus is associated with positive effects. On the other hand, however, the development of the infrastructure for all types of transport contributes to the growth in traffic and, consequently, higher fuel use and increased emissions of climate change gases.
- Introduction of advanced energy networks creating opportunities for more efficient use of energy and enhancement of the power grid, as a necessary condition for the integration of renewable energy into the market, is associated with reduced use of fossil fuel and greenhouse gas emissions from vehicles, i.e. positive consequences.

Soil

- Promotion of measures to improve the urban environment, brownfield remediation and recovery measures will reduce negative effects of urban areas contaminated by hazardous chemical compounds and their soil on the environment and human health.
- Decreases in landfilled municipal waste will, as a result, reduce pollution of soil.
- Development of transport infrastructure and the resulting increase in traffic flows may determine contamination of soil by heavy metals, oil and oil products, benzo(a)pyrene, and lead. The increasing intensity of transport and the amount of cargo involves a higher risk of accident. A fertile layer of soil is removed during road construction works. Other effects – soil compaction and erosion. Fertile soil areas may be lost due to the development of transport infrastructure.
- Development of energy distribution, storage and transmission systems may be associated to a temporary negative effect on soil (soil damage).
- Sustainable mobility in the installation of complex transport solutions will reduce traffic pollution and its adverse effects on the soil.

Health care

- The Programme provides for a number of measures to improve the quality and accessibility of health care services, which will affect disease prevention, timely and more accurate diagnosis, better treatment, i.e. direct consequences on the improvement of public health indicators.
- Cooperation and education measures to improve the quality and accessibility of health care services will enable to improve the performance of health institutions, the quality of services, to bring services to the community, which will have a direct impact on the improvement of public health indicators, such as decrease in health disparities, increase in patients' health literacy, awareness of the performance of health care institutions, and health promotion opportunities.
- Measures to enhance disease prevention, diagnosis, and treatment efficiency will ensure early identification of health problems and improvement of treatment quality and results, which will have a direct effect on reducing morbidity rate, and prolonging healthy life.
- Since lack of healthy lifestyle skills is currently one of the major causes of morbidity, the Programme provides for measures that will have significant positive effects on public health indicators.
- Development and expansion of infrastructure favourable for healthy lifestyle, i.e. development, modernisation and expansion of infrastructure for tourism and active recreation, will enable promotion of people's physical activity and development of a healthier lifestyle, which will positively affect public health indicators.
- Promotion of the transport area and higher regional mobility is associated with a twofold impact on human health. Transport infrastructure development may lead to increased water and soil pollution and noise, so potential negative consequences of moderate significance are envisaged. On the other hand, traffic safety measures should reduce the number of injuries and deaths on the road and thus will have a direct positive impact on public health and mortality indicators. Lagging behind the EU-15 countries shows that not all traffic safety measures have been used, therefore

tangible positive results are expected after the implementation of the planned activities.

- Improvement and expansion of population alert and rescue systems will help ensure people's safety, reduce the number of victims, and enable to provide adequate timely help.
- Expansion and renovation of the drinking water supply and wastewater management infrastructure is very important for ensuring a safe and healthy living environment. The implementation of this measure will enable provision of quality drinking water to more people and prevent adverse effects on human health of using contaminated water from wells.
- Measures, such as improvement of the urban environment, management of urban areas contaminated by chemicals, introduction of engineering traffic safety and security measures, environmentally friendly and energy-efficient public transport, improvement of the status of environmental components, etc., will allow protecting the population from harmful effects and to maintain health, to reduce negative effects of environmental factors, which will have a positive impact on public health indicators.
- Since social exclusion is one of the most important factors determining significant health disparities, its reduction will improve the social situation of marginalized groups and reduce exclusion. The improved socio-economic situation of the population should reduce health disparities, thus social exclusion will have positive long-term effects on public health and life expectancy indicators.

Protection of cultural heritage and material assets

- Improvement of applied e-governance, e-learning, e-inclusion, and e-cultural programmes will enable digitization of Lithuanian cultural heritage, while ensuring preservation and dissemination of the content in cyberspace, and promotion of initiatives in the development of innovative e-services, the use of digital products of the Lithuanian culture, language, historic heritage, thus preventing loss of valuable cultural heritage – instead, it will be opened for more extensive and comprehensive use by the public, which is associated with highly significant positive effects on the conservation and sustainable use of cultural heritage. Positive effects are also expected in terms of optimizing the infrastructure and integrating services of cultural institutions and communities.
- Although expansion of energy infrastructure is focused on promoting the use of renewables, it has negative effects on the environment, so there is a small likelihood of local adverse effects on objects of immovable cultural heritage.
- The Programme provides for conservation, protection, promotion, and development of cultural and natural heritage intended for direct comprehensive management of cultural heritage objects, so significant positive effects are expected in respect of all cultural heritage conservation objectives, including development of cultural infrastructure and a positive impact on modern cultural activities.
- Planned tourism development (especially rural) promotes more powerful continuity, exhibiting and maintenance of cultural values and traditions, contributes to sustainable development goals; however, there is a small likelihood that increased tourist flows, or improperly installed infrastructure, may also have negative effects,

though this impact can be avoided with proper planning and implementation of specific projects.

- There is a likelihood that upgrading and expansion of rail, air transport and, in particular, road network (thus determining growth of traffic and increase of speed) may have negative long-term local effects on the status of immovable cultural heritage status due to air pollution, vibration, visual pollution, earthworks, etc.
- Potential negative consequences are also associated with expansion of power and gas infrastructure due to earthworks and visual pollution.
- Indirect positive effects are envisaged on the cultural environment, spiritual cultural heritage, and contemporary cultural activities as a result of such measures as reorganisation of industrial regions in decline and improvement of availability and use of specific natural and cultural resources, investment in education and vocational training in order to provide skills and ensure lifelong learning and improving education and training infrastructure.

Chapter 6 of the Report describes the environmental context of the Operational Programme, indicating how environmental objectives are integrated in the document being drafted. It is concluded that the environmental objectives laid down in international, EU and national legislation have been successfully integrated into the Operational Programme: the integration of the objectives in respect of each component under assessment is demonstrated in diagrams provided in this chapter.

Chapter 7 provides information on the alternatives considered and their comparison. It was concluded in this chapter that the Structural Funds Operational Programme for the Programming Period 2014-2020 is the highest-level planning document which discusses only general strategic directions for action, without relating them either to any specific economic development projects or their scope, or any particular territory, and therefore considers only a single scenario (alternative). For this reason, in addition to the options for the implementation of this scenario, the strategic environmental assessment involved only an analysis of the "zero alternative", providing a general comparison (without any information available on any specific economic development projects to be undertaken under the Operational Programme, the scope, implementation territories or areas of such projects) between the expected implementation of the Operational Programme (i.e. effects on the environment if the Programme is implemented) and the "zero alternative" (i.e. effects on the environment if the Programme is not implemented). Analysis (comparison) of the "zero" alternative vs. implementation alternative is presented in the SEA Report in a form o a table, identifying and summarizing potential negative and positive effects of each alternative for each investment priority of the Operational Programme. Effects of implementation of the Operational Programme compared with the "zero" alternative is briefly overviewed below for each priority of the Programme.

Operational Programme Priority 1. Promoting research, experimental development and innovation. No significant adverse effects on any environmental component being assessed were found in relation to the investment priorities. On the contrary, the implementation of the priority measures in Lithuania, a country with prevailing medium and low technology industry, is very relevant and is likely to have indirect positive effects on many environmental components in the long run. In addition, the promotion of research, technological development and innovation will help enhance resource efficiency, reduce waste generation, and use substances less hazardous to the environment and human health.

Operational Programme Priority 2. Promoting information society. No significant adverse effects on any environmental component being assessed were found in relation to the investment priorities. On the contrary, considerable positive effects are envisaged in respect on the protection of cultural heritage since digitisation of the Lithuanian cultural heritage will be supported under this priority. Significant positive effects are also associated with the promotion of the use of information technology in the areas of cultural heritage conservation and sustainable use. The development of the Lithuanian eHealth system and eHealth services will facilitate improvement of the quality and accessibility of healthcare services and will have a positive impact on the improvement of public health indicators and reduction of health disparities.

Operational Programme Priority 3. Promoting competitiveness of small and medium-sized business. The implementation of this priority will encourage innovation of enterprises through support for the introduction of technological innovation and improvement of technological capabilities. In the long run, this will reduce pollution generated by the industry and will have a direct positive impact on the quality of the environmental components (air, soil, water resources). In its turn, the improved status of the environmental components will have a beneficial impact on the public health due to reduced negative environmental effects on the population. Positive effects also involve those on the use of cultural heritage objects and areas for tourism and recreation purposes.

Operational Programme Priority 4. Promoting energy efficiency and production and use of renewable energy. In the long run, the implementation of the priority will have positive effects on the ambient air quality due to reduced use of fuel for energy generation needs. The environmental effect achieved as a result of the measures will have a beneficial impact on the public health. Housing renewal measures will ensure a better living environment, which will positively affect the quality of life and contribute to the improvement of public health indicators. There is a certain likelihood of negative effects on biodiversity, landscape and cultural heritage due to the development of energy infrastructure and on the ambient air quality because of the use of biomass, however, these consequences will not be significant if projects are implemented in a proper manner.

Operational Programme Priority 5. Protection of the environment, sustainable use of natural resources and adaptation to climate change. In the long run, the implementation of measures under this priority will positively affect the status of all environment components, with an especially favourable impact on water resources – the measures will help improve the status of the Baltic Sea, Curonian Lagoon, surface water and groundwater resources and reduce the number of water bodies at risk. Conditions for more efficient management of water resources will be created. Development and renovation of the drinking water supply infrastructure will provide access to safe drinking water to a larger number of people, so the measures are significant not only from the environmental point of view but also in the context of the public health.

Investment priorities, such as “Protection, promotion and development of cultural and natural heritage” and “Protection and restoration of biodiversity and soil, promotion of ecosystem services, including NATURA 2000 and green infrastructures”, will have particularly significant positive effects in terms of achieving objectives in the area of the protection and sustainable development of biodiversity, landscape and immovable cultural heritage.

In addition, the investments planned in the waste sector to meet the requirements of the EU environmental acquis will have a number of positive effects: procurement of laboratory equipment and improvement of the information system will contribute to better administration of waste management and reduction of waste; investment in the collection of

municipal waste, preparation for recycling and recovery will encourage reuse and recycling of waste and reduce the amount of landfilled waste. Reduction of the quantities of biodegradable waste disposed of in landfills will result in lower emissions of greenhouse gas methane. Planned development of the wastewater infrastructure will include handling of wastewater sludge generated during the treatment of wastewater thus reducing the amount of sludge to be discharged as well decreasing the emissions of greenhouse gas methane generated in the disposed sludge. Enhancement of the environmental monitoring, assessment, control and data management system will provide for conditions for efficient management of consequences of phenomena caused by climate change. Timely, reliable and sufficient information will allow provision of necessary protection measures and identification of areas where such measures are needed. The measures will help prevent the loss of human lives due to natural disasters. The implementation of the priority measures will have significant direct positive effects on the reduction of urban ambient air pollution with particulate matter. Indirect positive consequences for the protection of biodiversity, landscape and objects of immovable cultural heritage are also anticipated.

Operational Programme Priority 6. Promoting sustainable transport and key network infrastructures. The implementation of this priority may have negative effects on the quality of ambient air, water and soil, protection of biodiversity, landscape and cultural heritage due to infrastructure development activities and more intensive traffic flows. Adverse impacts may be avoided through proper planning and implementation of projects, selection of appropriate areas and technological solutions for the projects. These steps are taken during a lower-level SEA or EIA of economic activity. The measures may have both positive and negative effects on the public health. Improvement of traffic safety will help reduce the number of people killed and injured on the road, construction of cycling paths will promote healthier lifestyle. On the other hand, however, development of transport infrastructure may lead to increased air pollution and noise. Transport infrastructure development will facilitate smooth flow of traffic and reduce vehicle fuel consumption (and, consequently, air pollution), meanwhile the use of renewable energy resources in transport will significantly reduce the use of fossil fuels. This should substantially reduce greenhouse gas emissions from vehicles.

Operational Programme Priority 7. Promoting quality employment and participation in the labour market. The implementation of this priority will have no significant consequences for the quality of environmental components. However, positive indirect effects are forecasted on the cultural environment, spiritual cultural heritage. The public health will benefit from improved quality of the living environment and development of infrastructure encouraging a healthier lifestyle. Active labour market policies will have a positive impact on reducing social exclusion, which is currently named as one of the major factors determining health disparities.

Operational Programme Priority 8. Promoting social inclusion and combating poverty. The implementation of measures under this priority will have no consequences for the quality of environmental components. However, the measures will affect the development of the infrastructure of social services and the ensuring of their quality and accessibility. This will have a favourable impact on reducing social exclusion. The priority measures will help improve the quality and accessibility of health care services and will positively affect indicators of the public health and life expectancy.

Operational Programme Priority 9. Public education and enhancing human resource capacity. The implementation of this priority will have no consequences for the quality of environmental components. However, there is a high likelihood of positive effects on the cultural environment and spiritual cultural heritage.

Operational Programme Priority 10. Responsive and progressive public governance. No significant effects of measures under this priority on the environmental components being assessed are expected.

Operational Programme Priority 11. Technical assistance for the administration of the Operational Programme. No significant effects of measures under this priority on the environmental components being assessed are expected.

Operational Programme Priority 12. Technical assistance for information about the Operational Programme and its evaluation. No significant effects of measures under this priority on the environmental components being assessed are expected.

Chapter 8 of the SEA Report provides information on the measures that could be applied to prevent, reduce or offset significant adverse effects on the environment as a result of the implementation of the Operational Programme. Traditional measures (usually technological) for mitigating the consequences envisaged in the environmental impact assessment of planned economic activity may be applied during the strategic environmental assessment, depending on the level of the plan/programme; however, measures reducing the effects may also include formulation of strategic actions (or solutions) with less significant consequences, such as selection of alternative sites for implementing a plan or a programme. Unfortunately, as already mentioned, the Operational Programme is the highest-level planning document, which deals only with general strategic directions for action without relating them either to specific economic development projects, or specific areas. Therefore, no specific impact mitigation measures may be provided during the SEA – neither in relation to the quantity (volume or extent) of solutions nor to technical solutions or selection of alternative programme implementation sites. However, the Report did examine potential impact reduction measures for each investment priority of the Programme and each environmental component which may be subject to this impact. The assessment found that the negative effects are mostly related to projects of specific economic activities the development of which is determined by the Operational Programme, so these effects will directly depend on the selection of sites for the specific projects as well as the scope and nature (technological aspects) of the projects.

Summing up, the following key measures to reduce potential consequences may be pointed out in respect of the main environmental aspects. Prevention of adverse effects on surface water and groundwater water resources will first of all require abstaining from unacceptable environmental measures for pursuing the intended water transport infrastructure development goals, such construction of hydraulic structures. The activities provided for in the Operational Programme will determine growth in the volume of shipping, which will increase the risk of pollution. Prevention of higher levels of water pollution will require compliance with environmental requirements. Therefore, the increasing intensity of water transport will have to involve strengthening environmental control capacities and improving the control mechanism itself.

The negative impact on the air quality is mainly associated with the use of biomass and possible deterioration of the air quality due to increased emissions of particulate matter, benzo(a)pyrene and other pollutants. To minimise these potential adverse effects, introduction of the most advanced biomass combustion technologies and environmental measures for the existing technologies will have to be ensured during the implementation of the Operational Programme. In addition, the negative effects on the ambient air quality are particularly associated with the expansion of the infrastructure of different roads, rail, water and air transport. In the long term, the expanded transport network is likely to determine the

growth of traffic growth and, consequently, increase of emissions. In order to avoid negative consequences in respect of the use of resources and waste management, specific waste prevention and waste management measures will have to be envisaged in the projects.

In order to avoid and reduce potential consequences for biodiversity and landscape, Natura 2000 sites and national protected areas, first of all, procedures for establishing significance of the impact of plans or programmes and planned economic activities on the existing or potential Natura 2000 sites will have to be carried out in cases when lower-level planning documents are drafted on the basis of the Operational Programme or when projects of planned economic activities are related to the existing or potential Natural 2000 sites. These procedures are aimed at identifying whether a specific plan, programme or planned economic activity is going have a negative impact on the environmental status of natural habitats or species found in the existing or potential Natura 2000 sites and on the integrity of the areas in question.

In addition, all infrastructure development objects (energy, transport, tourism, etc.) planned pursuant to the Operational Programme will have to be adapted to the specific area, taking into account its characteristics, sensitivity to planned activities, and implementation of projects related to the said objects will have to ensure preservation of important and characteristic features of the landscape. In cases where the projects lead to damaging important and characteristic features of the landscape, plans will have to be drawn up for restoring the affected areas (actions provided for in the Law on Environment Protection of the Republic of Lithuania).

In order to avoid or reduce potential effects on the status of soil, compliance with environmental and safe work requirements will have to be ensured and soil remediation work will have to be provided for, if necessary.

Negative consequences for public health are associated with possible deterioration in the quality of the living environment. To avoid such impact, technical designing of specific infrastructure objects will have to involve assessment of potential effects on public health, compliance with hygiene standards, and provision of measures to reduce noise and air pollution, as appropriate.

In order to avoid negative consequences for cultural heritage, all infrastructure development objects (energy, transport, tourism, etc.) planned pursuant to the Operational Programme will have to be adapted to the specific area, taking into account its characteristics, protection status, cultural heritage objects protected by the state which are located in that area and their valuable characteristics, sensitivity to planned activities, immovable cultural valuables monitoring results, special protection plans valid for the area – special territorial planning documents of immovable cultural heritage protection, which serve as the basis for identifying protected cultural heritage objects, establishing protected areas, managing territories of the protected objects and buffer zones, laying down heritage requirements for activities developed in such areas, as well as for setting or modifying boundaries of the territories, areas and buffer zones of cultural heritage objects.

Furthermore, the Operational Programme will have to be implemented ensuring that in all cases (and in respect of all environmental components) potential negative consequences are taken into account and specific impact reduction, prevention or compensation measures are provided for by carrying out a strategic environmental assessment of lower-level planning documents (such as policy making plans or programmes for specific industries or development areas, plans laying down principles for the use of specific areas (territorial planning documents)) and/or an environmental impact assessment of planned economic

activity under specific economic development projects (environmental impact assessment at the project level).

Chapter 9 of the Report lists potentially applicable measures for monitoring environmental effects. The monitoring measures were identified for each of the priority of the Operational Programme, the investment priority, and the environmental sector subject to potential effects (such as biodiversity, fauna, flora, soil, water, air, climatic factors, material assets, cultural valuables, landscape, and human health). A table on the monitoring measures was prepared and included in the SEA Report containing information on the key monitoring indicators and public institutions that would be able to provide information required for the evaluation of these indicators.

Depending on the potential environmental effect of the priorities of the Operational Programme, about 40 monitoring indicators (measures) were identified, such as the share of innovative companies in the total number of enterprises, reduction of industrial emissions, contaminated soil area, water bodies at risk, the number of population affected by the negative impact of air pollution, the share of renewable energy in the final energy balance, changes in the landscape structure, the degree of landscape polarization, loss of biotopes, changes in cultural heritage objects and sites, the intensity of energy consumption in beneficiary industries, final energy savings, indicators for monitoring animal migration routes, urban air quality, traffic intensity, the length of the coastal strip subject to the protection measure, the volume of surface runoff treated to the established standard, the share of used (recycled) municipal waste, the share of landfilled biodegradable waste, the quality of groundwater and shallow groundwater, the number of people who have access to safe (i.e. centrally supplied) drinking water, monitoring indicators for habitats of European importance, monitoring indicators for the spread of non-native invasive plant and animal species posing the greatest threat to biodiversity in Lithuania, the number of deaths and injuries on the road, the level of unemployment, public health indicators, life expectancy, integration of socially vulnerable individuals and target groups into the labour market, etc.

Chapter 10 contains the Summary, while Chapter 11 includes annexes related to the assessment and consultations with relevant authorities and the public. The following annexes are added to the Report: Matrix of the Analysis of Lowest-level Measures of the Operational Programme and Their Likely Significant Effects; Final SEA Scoping Document; Comments and Proposals of Relevant Authorities; Copies of Public Announcements in Regional and National Press; Analysis of Public Proposals; Protocol of the Public Meeting; List of Participants of the Public Meeting.