

# SoE 2010 Chapter Outlines

## Section 1. Introduction

### **Chapter 1. Background & Introduction**

Short description/characterization of the country and its environment/nature.

### **Chapter 2. Socio-economic Developments Having Impact on Environment**

1. Population
2. Households
3. Economy
4. Infrastructure
5. Other (?)

#### **Key Challenges**

## Section 2. Air Pollution

Short summary of the section.

### **Chapter 3. Ambient Air Quality**

#### **1. Introduction**

Importance of air quality

Normative basis (permitted pollution levels, comparison with EU/WHO norms)

#### **2. Air Quality in Georgia**

Description of air monitoring (how many stations, in which cities, what is measured, how often, background monitoring station)

Map of Monitoring Stations

Air quality data (to be compared with PAC and EU/WHO allowable levels):

- Particulate Matter Total
- Nitrogen Oxides
- Sulphur Dioxide
- Lead
- Carbon Monoxide

For each pollutant:

- Short description of the general origination of pollutant and its effects
- Number of exceedences of relevant standard per year
- Annual mean concentrations, Time Series

#### **3. Causes**

Main air polluting sectors of economy and their effect on air quality (diffuse and point sources). Diagrams of annual emissions from relevant sectors, time series.

#### **4. Key Challenges**

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

## **Chapter 4. Climate Change**

### **1. Introduction**

Short information about the causes – effects of climate change

Short story about the international process of IFCCC and latest developments, status of Georgia, obligations/opportunities

### **2. Current Situation**

Observations and projections:

- Air Temperature
- Precipitation
- Impacts (3 cases described in second national communication: sea level rise, desertification, increased geohazards in mountains) -

### **3. Causes**

GHG Emissions

Trends (*graphs for sectors and gases*)

Share of Georgia in worlds emissions

### **4. Key Challenges**

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

## **Section 3. Water**

Short summary of the section.

## **Chapter 5. Groundwater**

### **1. Introduction**

Importance of underground waters for the environment

Normative basis (permitted concentrations of main pollutants, other requirements, comparison with international norms)

### **2. Current Situation**

Classification of groundwater, comparison with EU approach

Types of underground waters in Georgia and their total volumes

Quality of groundwater (description of data availability problems, summary of old data)

Use of groundwater by:

- drinking water supply systems
- enterprises
- share of population using the unprocessed groundwater for drinking purposes (in the country and per region)

Main sources of groundwater contamination, intensity of contamination caused by each of them and reasons (industry, agriculture, landfills/waste dumps, septic tanks/toilets, etc.)

Map of hydrogeological rayoning of Georgia, Sectors/sources of pollution of main artesian basins.

Hydrogeological cutouts of characteristic sensitive regions.

### **3. Key Challenges**

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

## **Chapter 6. Rivers**

### **1. Introduction**

Importance of rivers for the environment

Normative basis (permitted concentrations of main pollutants, other requirements to water quality, comparison with international norms)

### **2. Current Situation**

Brief description of existing river monitoring (*how many rivers, how many points, how frequently, what parameters. brief info about planned bio-monitoring*)

Monitoring data of main rivers (*annual means for 10 years, diagrams*) -

Map of Georgia's main Rivers with monitoring points indicated (*size of the point proportional to the pollution in year 2008 or 2009*)

Map of river catchments. Main water polluter sectors in each catchment

### **3. Causes of Pollution**

Main polluting sectors, major polluters (municipalities/enterprises)

Occurences of large fish kills

### **4. Key Challenges**

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

## **Chapter 7. Lakes**

### **1. Introduction**

Importance of lakes for the environment

Normative basis (permitted concentrations of main pollutants, other requirements to water quality, comparison with international norms)

### **2. Current Situation**

Short description of monitoring of lakes

Data for the monitored lakes (*diagrams:N, BOD, for recreational lakes \_ also microbiology*)

### **3. Causes of Pollution**

Description of main causes of pollution of lakes

#### **4. Key Challenges**

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

### **Chapter 8. Coastal Waters**

#### **1. Introduction**

Importance of coastal waters for the environment

Normative basis (permitted concentrations of main pollutants, other requirements to water quality, comparison with international norms)

#### **2. Current Situation**

Description of monitoring of coastal waters

Data on quality of coastal waters:

Characterization of phyto- zoo-plankton

nutrients (N, BOD, etc)

Characterization of coastal waters in terms of bathing water quality

#### **3. Causes of Pollution**

Description/numbers of:

- Oil Pollution Incidents
- Litter and Unauthorised Dumping on the Coast
- Urban Waste Water Discharges
- Industrial Discharges

#### **4. Key Challenges**

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

### **Chapter 9. Water Use**

#### **1. Introduction**

Normative basis (norms of water uptake, comparison with international norms)

#### **2. Current Situation**

Data on water abstraction, use for different purposes, water losses

Drinking water quality

Description of monitoring (number of samples, map of sampling points, measured parameters)

Monitoring data (for 3 last years)

#### **3. Key Challenges**

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

## Chapter 10. Discharges to Waters

### 1. Introduction

Normative basis (norms and requirements for water discharges, comparison with international norms)

### 2. Current Situation

Most important discharges (*in terms of sensitivity of water object or in terms of hazardous substances discharged*)

Description of level of treatment of discharged waters. Share of treated waters. -

### 3. Key Challenges

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

## Section 4. Land and Mineral Resources

## Chapter 11. Land Use and Soils

### 1. Introduction

Importance for the environment of rational distribution of land and soils

Normative basis (regulation norms, comparison with international norms)

### 2. Current Situation

The way the existing information on land use has been collected. When it stopped. What are future projections.

Land use figures and changes during 1989-2004 (diagrams). (urban territories, different types of agricultural lands, forestry, erosion, loss of soils etc) -

Dynamics of coastal erosion 1989-2004

National Strategy of Fight Against Desertification – short description

Map of soils of Georgia

Soil contamination monitoring future plans

### 3. Key Challenges

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

## Chapter 12. Geological hazards

### 1. Introduction

Importance of geological stability for the environment

Normative basis (regulation norms, comparison with international norms)

### 2. Current Situation

Short description of geohazards in Georgia

Map of sensitive areas (whole country and regions)

Diagrams showing changes in annual numbers of natural disasters

### **3. Key Challenges**

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

## **Chapter 13. Mineral Resources**

### **1. Introduction**

Importance of mineral resources for country's economy

Normative basis (regulatory norms of environmental impact, comparison with international norms)

### **2. Current Situation**

Short description of mineral resources of Georgia

Map of mineral resources of Georgia

Geological map of Georgia

Main environmental problems resulting from mining

Amounts/share of annual use, life expectancy of mines

### **3. Key Challenges**

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

## **Section 5. Biodiversity and Biological Resources**

Short summary of the section.

## **Chapter 14. Biodiversity**

### **1. Introduction**

Importance of biodiversity

Normative basis (main regulative requirements, comparison with international norms)

### **2. Current Situation**

#### **2.1. Species**

General description (taxonomic groups existing in Georgia, number of species in each taxonomic groups)

Number of species included in Georgian Red List and IUCN lists of vulnerable and endangered species, dynamics

Endemic species

Species which improved, which worsened, loss of species

Case studies of specific studied species

Invasive species and their impact

#### **2.2. Ecosystems and Habitats**

Types of biomes existing in Georgia, total area of each, vulnerability, importance, important species, pressures, protected or not (share of protected):

- Forests
- Wetlands and freshwater
- Highlands
- Arid and semiarid
- Marine and Coastal

### **2.3. Protected Areas**

Map of protected areas of Georgia

Short description of management of protected areas (management plans, their effectiveness etc)

### **2.4. National Biodiversity Action Plan**

Short description of the plan and its implementation

### **3. Key Challenges**

Sectoral Pressures (Fisheries, Agriculture, Forestry, Tourism, Transport, Urban and Rural Development). Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

## **Chapter 15. Use of Biological Resources**

### **1. Introduction**

Importance of biological resources for country's economy

### **2. Current Situation**

Fisheries: state of resource, its management and impact of its use on biodiversity

Hunting: state of resource, its management and impact of its use on biodiversity

Forestry: state of resource, its management and impact of its use on biodiversity

Pastures: state of resource, its management and impact of its use on biodiversity

### **3. Key Challenges**

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

## **Section 6. Wastes and Chemicals**

### **Chapter 16. Wastes**

#### **1. Introduction - შესავალი**

#### **2. The Current Situation - არსებული მდგომარეობა**

Waste Generation (annual volumes):

- Municipal wastes
- Industrial wastes
- Medical wastes

Waste recycling (existing facilities, types and volumes of recycled wastes)

Waste Disposal:

number of landfills, short description, map of existing landfills

Data on existing medical waste incinerators (numbers, capacity, location)

Short description of transboundary of hazardous wastes

### **3. Waste Management Infrastructure - ნარჩენების მართვის ინფრასტრუქტურა**

Short explanation of situation with waste collection, transportation, disposal and future plans/projections.

#### **4. Key Challenges**

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

## **Chapter 17. Chemicals and Other Environmental Issues**

### **1. Chemicals**

Short information about POPses in the country, undertaken and planned activities with this regards

Consumption of Ozone Depleting Substances

### **2. Radioactivity**

Naturally Occurring Sources of Radioactivity (description, intensity)

Man-made Sources of Radioactivity (description, intensity)

Radioactivity Monitoring in Georgia and its results

### **3. Key Challenges**

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

## **Section 7. Economic Activities Having Impact on Environment**

Short summary of the section

## **Chapter 18. Agriculture and Forestry**

### **1. Introduction**

Importance of Agriculture as a sector contribution to economy.

Importance of Forestry as a sector contribution to economy.

### **2. Agriculture**

#### **Current Situation**

Specifics of agriculture in Georgia (privatized and unprivatised land, their types and shares)

Main agricultural produce. Trends in production.

Land take for agriculture

Use of pesticides and fertilisers (amounts, hectares, pressure), trends

Pressures of agriculture on the environment:



- Surface water pollution
- Groundwater pollution
- Green house gas emissions
- Impact on biodiversity
- Other?

### **3. Forestry**

#### **Current Situation :**

Specifics of forestry in Georgia (roles of state and private sectors)

Main forestry products . Trends in production.

Land take for forestry and its changes (“forestry fund”, territories covered and not covered by forests, total area of territories with more than 35° slope, total area of degraded forests)

Forestry as a sink for GHG

Use of pesticides and fertilisers (amounts, hectares, pressure), trends

Pressures of forestry on the environment:

- Deforestation
- Impact on biodiversity
- Other?

### **4. Key Challenges**

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

## **Chapter 19. Transport**

### **1. Introduction**

Importance of transport to the economy

### **2. Current situation**

Vehicle numbers and its dynamics (according to types)

Composition and age of national fleet

Numbers using public transport, Public transport as a share or overall passenger movement

Freight transport description, freight transport demand

Use of different fuel in transport sector, trends

Main emissions from transport

Pressures of transport on the environment:

- Air pollution
- Surface water pollution
- Greenhouse gas emissions
- other?

### **3. Key Challenges**

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

## **Chapter 20. Industry and Energy**

### **1. Introduction**

Importance of Industry as a sector contribution to economy

Importance of Energy as a sector contribution to economy

### **2. Industry**

#### **Current Situation:**

Main industrial sectors. Trends in production, sectoral changes

Pressures of industry on the environment:

- Air pollution
- Waste generation
- Surface water pollution
- Greenhouse gas emissions
- other?

### **3. Energy**

#### **Current Situation:**

Main energy sectors, sectoral changes, trends

Energy Balance and Energy efficiency

Pressures of energy sector on the environment:

- Air pollution
- Waste generation
- Surface water pollution
- Greenhouse gas emissions
- other?

### **4. Key Challenges**

In short: Main issues, the response so far, its effectiveness, gaps, what needs to be done, what challenges lie ahead.

## **Section 8. Managing the Environment**

Short summary of the section

## **Chapter 21. Environmental Policy and Regulation**

Organisation involved in environmental governance and distribution of responsibilities among them

Funding of environmental programmes and activities

International cooperation in the sphere of environment (conventions and their implementation, international organizations and directions of cooperation with them)

## **Chapter 22. Environmental Permits, Licenses, Control**

1. Issued environmental permits and licenses
2. Short description of control of conditions of permits and licenses, also functioning of the system of control of general environmental requirements, results and problems

## **Chapter 23. Environmental Research, Education and Awareness Raising**

Short description of situation with the environmental researches and education

Short overview of environmental awareness raising activities

## **Chapter 24. Main Challenges for Protection of Environment – Report Summary**

Summary of main conclusions of the report

Main environmental problems in Georgia