THE GOVERNMENT OF THE REPUBLIC OF CROATIA

Pursuant to Article 46, paragraph 5 of the Air Protection Act (Official Gazette 178/2004), the Government of the Republic of Croatia, at its session on 21 December 2006, adopted the following

REGULATION

ON THE MONITORING OF GREENHOUSE GAS EMISSIONS IN THE REPUBLIC OF CROATIA

I GENERAL PROVISIONS

Article 1

(1) This Regulation stipulates the requirements and manner of monitoring of emissions of greenhouse gases in the Republic of Croatia, comprising the calculations and/or reporting on:

- all anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol on substances that deplete the ozone layer (hereinafter: greenhouse gas emissions and sinks)

- the implementation and achievements of the policy and measures to reduce emissions and enhance sinks for the purpose of meeting the commitments under the United Nations Framework Convention on Climate Change (hereinafter: the Convention) and accompanying international agreements,

- projections of greenhouse gas emissions.

(2) The reporting referred to in the first paragraph of this Regulation shall be done within the dates, in the scope and format established by the ratified international agreements.

Article 2

The monitoring of greenhouse gas emissions referred to in Article 1 of this Regulation shall comprise the following:

- the National System for Calculation and Reporting on Anthropogenic Emissions of Greenhouse Gases by Sources and Removal by Sinks (hereinafter: the National System),

- the National Greenhouse Gas Emission Inventory (hereinafter: the Inventory),

- the Report on the Implementation of Policies and Measures to Mitigate Climate Change,

- the Report on Projections of Greenhouse Gas Emissions,

- the National Report under the United Nations Framework Convention on Climate Change (hereinafter: the National Report).

Article 3

For the purposes of this Regulation the following definitions apply:

– *greenhouse gases* - gaseous constituents of the atmosphere monitored under the Convention, and comprising gases listed in Appendix I to this Regulation,

– *indirect greenhouse gases* - gaseous constituents of the atmosphere, also called the precursors of ozone, sulphates or aerosols, which have a positive or negative effect on the reduction of climate change, and comprising gases listed in Appendix I to this Regulation,

– *anthropogenic* – resulting from human action,

– *sink* – any process, activity or mechanism that removes a greenhouse gas, an aerosol, or a precursor of a greenhouse gas or aerosol from the atmosphere, e.g. photosynthesis in plants,

– *National System* – a system including all institutional, legal and procedural mechanisms for the calculation, reporting and filing of data and information on the Greenhouse Gas Inventory,

– *Greenhouse Gas Inventory* – a database organised on a sectoral basis and containing data required for the calculation and reporting on all anthropogenic emissions by sources and removals by sinks of greenhouse gases, especially emission factors, data on activities, calculated amounts of emissions and removals by sinks, key source and sink categories, additional information and assumptions used for calculations, including data on recalculation of emissions and removals of greenhouse gases.

– *Greenhouse Gas Inventory Report* – a report on all anthropogenic emissions by sources and removals by sinks of greenhouse gases, prepared annually in the scope and format established by the Convention and accompanying international agreements, decisions and guidelines,

– *Report on the Implementation of Policies and Measures to Mitigate Climate Change* – the report on national policies and measures limiting and/or reducing greenhouse gas emissions, including quantitative estimates of the effect of policies and measures, presented on a sectoral basis for each greenhouse gas,

– *authorised body* – the legal person authorised by the Ministry according to a separate regulation and responsible for the preparation of inventories, reports on inventories of greenhouse gases and other reports prescribed in this Regulation,

– *Report on Projections of Greenhouse Gas Emissions* – the report on quantified emission values in the future long-term period, based on expected scenarios of development of individual sectors

– *National Report under the United Nations Framework Convention on Climate Change* – the report prepared by the parties to the Convention to periodically report on implemented and planned measures for the purpose of meeting the commitments under the Convention

– *key source/sink category* – an emission source or sink that substantially contributes to the total emission/removal of greenhouse gases with regard to the absolute emission/removal quantities, emission/removal trends, or both,

– *emission factor* – a numerical value relating the amount of substance emitted to the quantity of product, consumed fuel or raw material, or the amount of work accomplished for a certain activity, process or environmental protection procedure. It is expressed in units of pollutant weight by the unit of source activity (e.g. kg/t of product, kg/t of raw material, kg/t of fuel consumed, kg/GJ of energy produced, kg/capita etc.)

– *activity data* – a numerical value expressing the total amount of product, consumed fuel or raw material, or the amount of work accomplished for a certain activity,

– *emission amount* – the total allowed yearly emission amount (expressed in weight units per time period) by a source or sources, or in certain areas and/or State territories,

– *recalculation* – the calculation procedure to re-evaluate previously submitted estimates of emissions and removals as a result of improvement in methodologies, the manner in which emission factors and activity data are obtained and used, or the inclusion of new source or sink categories,

– *good practice* – a set of procedures to ensure the accuracy of the inventory, in the sense that they are systematically neither over nor under true emissions or removals, as far as can be judged, and that uncertainties are reduced as far as practicable taking into consideration the national particularities,

– *quality control* – a system of standard technical activities to measure and monitor the quality of air emission calculations, undertaken during its preparation,

– *quality assurance* – planned and systematic actions and activities performed by an independent body required to acquire certification that the emission inventory is in compliance with the quality requirements,

– *Quality Assurance and Control Plan* – a document defining the activities, means, deadlines, responsibilities and sequence of implementation of activities to assure and control the quality of Greenhouse Gas Inventories,

– *National Registry of Greenhouse Gas Emissions* – a standardised and computerised central database containing data on greenhouse gas emissions and their emission amounts,

– *Clean Development Mechanism* – an instrument of the Kyoto Protocol for the implementation of emission limitation and reduction projects in countries not included in Annex I to the Convention,

– *joint implementation* – an instrument of the Kyoto Protocol intended for the implementation of emission limiting and reduction projects in countries included in Annex I to the Convention,

– *emission trading* – an instrument of the Protocol enabling trade exchange of emission units between Annex I Parties,

– *International Transaction Log* – the central electronic database of the Convention Secretariat to monitor the validity of transactions between the registry systems defined by the Kyoto Protocol,

– *Community Transaction Log* – the central electronic database of the European Commission to monitor the validity of transactions between the national registries of Community members involved in the emission trading scheme,

– *Clean Development Mechanism Registry* – the registry of the Convention Secretariat for the participants of the clean development mechanism,

– *assigned amount unit* – unit issued by a party to the Kyoto Protocol Annex B on the basis of the assigned amount (hereinafter: AAU),

– *removal unit* – unit issued by a party to the Protocol Annex B on the basis of activities of land use, land-use change and forestry (hereinafter: RMU),

– *emission reduction unit* – unit created by a party to the Protocol Annex B by conversion of assigned amount units or removal units on the basis of joint projects (hereinafter: ERU),

– *certified emission reduction* – unit issued in the clean development mechanism registry on the basis of an emission reduction which has been certified as resulting from project activities under the clean development mechanism (hereinafter: CER),

– *base year* – the selected calendar year in which the total amount of greenhouse gas emissions is selected as a basis for determining future commitments of greenhouse gas emission reductions; the base year for the Republic of Croatia is the year 1990,

– *The Intergovernmental Panel on Climate Change* – the scientific forum established in 1988 by the World Meteorology Organisation and the United Nations Environment Programme,

– *sector* – one of the six following sectors controlled under the Convention: (1) energy, (2) industrial processes, (3) solvent use, (4) land use, land-use change and forestry, (5) agriculture, (6) waste management.

II THE NATIONAL SYSTEM FOR CALCULATION AND REPORTING ON ANTHROPOGENIC EMISSIONS OF GREENHOUSE GASES BY SOURCES AND REMOVAL BY SINKS

Article 4

(1) The National System shall be established and maintained for the purpose of calculation and monitoring of anthropogenic emissions from sources and removal by sinks of greenhouse gases listed in Annex I to this Regulation.

(2) The National System shall ensure the transparency, consistency, comparability, completeness and accuracy of the Greenhouse Gas Inventory according to UNFCCC good practice guidance.

Article 5

The Ministry of Environmental Protection, Physical Planning and Construction (hereinafter: the Ministry) shall be the central national authority responsible for maintaining the National System.

Article 6

(1) The Croatian Environment Agency (hereinafter: the Agency) shall be responsible for reporting activities.

(2) The authorised entity shall be responsible for emission inventory preparation.

Article 7

The Ministry shall be responsible for the following activities to ensure the functioning of the National System:

– mediation and exchange of data on the emissions and removals of greenhouse gases with international organisations and parties to the Convention,

– mediation and data exchange with the Community competent bodies and organisations in the manner and deadlines established by Community law,

– control of calculation methodologies for emissions and removals of greenhouse gases in accordance with good practice and national particularities,

– evaluation and approval of the Greenhouse Gas Inventory Report before its final submission to the Convention Secretariat.

Article 8

(1) The Ministry shall be responsible for the following activities to ensure the functioning of the National System:

– organising the preparation of the Greenhouse Gas Inventory with the purpose of meeting the deadlines referred to in Article 12 of this Regulation,

– gathering activity data referred to in Article 11 of this Regulation,

– preparing the Greenhouse Gas Inventory Quality Assurance/Quality Control Plan in accordance with the IPCC good practice guidance,

– implementation of Greenhouse Gas Inventory Quality Assurance procedures in accordance with the Quality Assurance/Quality Control Plan,

– archiving activity data used for the calculation of emissions and emission factors and documents used for inventory planning, preparation, control and quality assurance,

– maintaining records and reporting on the authorised legal persons involved in emission trading, joint investment and clean development measures,

– reporting on any changes in the National System,

– selecting the entity authorised for the Greenhouse Gas Inventory preparation.

(2) The Agency shall sign a contract on Greenhouse Gas Inventory preparation with the authorised entity for a period of three years.

(3) The Agency shall present all data and documents from paragraph 1, indent 5 of this Article to the expert body of the Convention Secretariat for the purpose of technical review and assessment of the Greenhouse Gas Inventory Report.

Article 9

(1) Activities related to the preparation of the Greenhouse Gas Inventory and Inventory Report include:

– calculation of all anthropogenic emissions by sources and removals by sinks of greenhouse gases and calculation of indirect greenhouse gases, in accordance with the methodologies prescribed in the guidelines of the Convention, guidelines of The Intergovernmental Panel on Climate Change, the Reporting guidelines for greenhouse gas emissions published on the Ministry web site, and on the basis of activity data referred to in Article 19 of this Regulation,

– quantitative estimate of uncertainty of the calculation referred to in indent 1 of this Article for each greenhouse gas source and sink category, as well as for the overall Inventory, in accordance with guidelines of The Intergovernmental Panel on Climate Change,

– descriptions of key categories of greenhouse gas sources and sinks

– recalculation of anthropogenic emissions by sources and removals by sinks in case of improvement in methodologies, emission factors or activity, the inclusion of new source or sink categories, or the application of review methodologies,

– calculation of greenhouse gas emissions by sources and removals by sinks for the required and selected additional activities within the land-use, land-use change and forestry sector,

– reporting on the issue, holding, transfer, acquisition, cancellation and withdrawal of emission reduction units, certified emission reductions, assigned amount units and removal units, and the carryover of emission reduction units, certified emission reductions and assigned amount units into the next commitment period from the Registry in accordance with the decisions and guidelines of the Convention and accompanying international agreements,

– implementing and reporting on the quality control procedures in accordance with the quality assurance and quality control plan,

– preparing the Greenhouse Gas Inventory Report including all additional requirements in accordance with the Convention and accompanying international agreements,

– cooperation with the expert body of the Convention Secretariat for the purposes of technical review and assessment of the Greenhouse Gas Inventory Report.

(2) The Greenhouse Gas Inventory Report referred to in paragraph 1, indent 8 of this Article comprises all anthropogenic emissions by sources and removals by sinks of greenhouse gases for the period between the base year and the year preceding the current year in which the report is prepared.

Article 10

(1) The authorised entity shall perform the activities of Greenhouse Gas Inventory and Inventory Report preparation, subject to the approval of the Ministry.

(2) The approval referred to in paragraph 1 of this Article shall be granted in accordance with a special regulation.

(3) The authorised entity shall provide the expert staff, equipment and other resources required to perform the activities referred to in Article 9, paragraph 1.

(4) A single expert working for the authorised entity shall not be responsible for more than two sectors in the activities of Emission Inventory preparation.

Article 11

(1) Competent state administration bodies, state administrative organisations and public institutions referred to in Annex II to this Regulation that gather and/or hold activity data required for the preparation of the Croatian Greenhouse Gas Inventory Report shall be responsible for delivering the data to the Croatian Environment Agency by 30 June of the current year at the latest, on a sectoral basis, in the format and scope prescribed in Annex III to this Regulation.

(2) Activity data referred to in the first paragraph of this Article shall be delivered to the Agency in electronic form.

(3) International databases (UNECE, IEA, FAO) may also be used for the purposes of inventory preparation.

Article 12

(1) The Agency shall deliver the National Inventory Report referred to in Article 9, paragraph 2 of this Regulation to the Ministry by 31 December of the current year.

(2) The Ministry shall deliver the National Inventory Report referred to in paragraph 1 of this Article:

– to the Commission by 15 January each year (year N) for the period between the base year and the year N-2, and

– to the Convention Secretariat by 15 April each year (year N) for the period between the base year and the year N-2.

Article 13

(1) The preparation of the Greenhouse Gas Emission Inventory shall be financed from the budgetary resources of the Agency.

(2) The first Greenhouse Gas Emission Inventory under this Regulation shall be prepared for the year 2008.

III REGISTRY OF GREENHOUSE GAS EMISSIONS

Article 14

Acting through the Agency, the Ministry shall establish the Registry in order to ensure the accurate accounting of the issue, holding, transfer, acquisition, cancellation and withdrawal of emission reduction units, certified emission reductions, assigned amount units and removal units, and the carryover of emission reduction units, certified emission reductions and assigned amount units into the next commitment period.

Article 15

(1) The structure and format of data contained in the Registry shall be established according to the technical standards approved by the competent authority of the Convention and Commission in order to ensure the accurate, transparent and efficient exchange of data between the Registries, the Clean Development Registry and the Community Transaction Log.

(2) Instructions regarding the standardised and protected registry system prescribing the detailed functional and technical description of the Registry, the requirements for its management, functioning and maintenance, and the system for communication between the Registries, the Community Transaction Log and the International Transaction Log of the Convention Secretariat shall be made available to the public and published on the Ministry web site.

Article 16

(1) The Agency shall be responsible for maintaining the Registry.

(2) Registry maintenance activities comprise:

– maintenance of the accuracy and security of Registry data,

– creation and maintenance of user accounts,

– managing the party account,

– preparing the reports in accordance with the Convention and European Commission regulations,

– publishing information in accordance with the Convention and European Commission regulations.

Article 17

(1) The Registry referred to in Article 14 of this Regulation contains the following user accounts (hereinafter: the account):

– at least one base account for the party,

– at least one base account for each legal person authorised by the party to hold emission reduction units, certified emission reductions, assigned amount units and removal units under its own responsibility,

– at least one cancellation account for each commitment period for the purpose of cancellation of emission reduction units, certified emission reductions, assigned amount units and removal units for the land use, land-use change and forestry sector,

– at least one cancellation account for each commitment period for the purpose of cancellation of emission reduction units, certified emission reductions, assigned amount units and removal units if the competent authority of the Convention determines that the party did not fulfil its commitment during the previous commitment period,

– at least one cancellation account for each commitment period for the purpose of other cancellations of emission reduction units, certified emission reductions, assigned amount units and removal units,

–one retirement account for each commitment period

(2) Each Registry account shall have a unique account number consisting of:

– the party identification: the contractual party whose account is maintained in the Registry, identified by the two-letter country code in accordance with the provisions of the International Standardisation Organisation (ISO 3166),

- the unique number: the unique number designating the party account in the Registry in which the account is maintained.

Article 18

(1) Maintenance of the Registry shall be financed from budgetary resources of the Agency.

(2) The Registry shall be established by 30 June 2008 at the latest.

IV MONITORING THE IMPLEMENTATION OF POLICIES AND MEASURES FOR REDUCING GREENHOUSE GAS EMISSIONS AND PROJECTIONS OF GREENHOUSE GAS EMISSIONS

Article 19

For the purpose of monitoring the implementation and success of policies and measures for reducing greenhouse gas emissions and enhancing sinks with regard to the achievement of commitments under the Convention and accompanying international agreements, the Report on implementation of policies and measures for reducing greenhouse gas emissions, and the Report on projections of greenhouse gas emissions shall be prepared.

Article 20

The Report on implementation of policies and measures for reducing greenhouse gas emissions or enhance their removal, presented on a sectoral basis, referred to in Article 19 of this Regulation contains:

– the objective of policies and measures;

– the type of instrument for implementation of policies and measures;

– the status of implementation of the policy or measure;

– indicators to monitor and evaluate progress with policies and measures over time;

– quantitative estimates of the effect of policies and measures on emissions and removals by sinks of greenhouse gases between the base year and subsequent years, including 2005, 2010 and 2015, as well as their economic impacts.

Article 21

The Report on projections of greenhouse gas emissions by sources and their removal by sinks as a minimum for the years 2010, 2015 and 2020, organised by gas and by sector, referred to in Article 19 of this Regulation includes:

– projections "without measures", "with measures" and "with additional measures";

– description of the policies and measures included in the projections;

– a sensitivity analysis of the projections;

– descriptions of methodologies, models, assumptions and input parameters for the projections.

Article 22

In order to fulfil the commitments under the Convention and accompanying international agreements, special Reports and other papers shall be prepared.

Article 23

(1) The Agency shall be the competent authority for the preparation of reports referred to in Articles 19 and 22 of this Regulation, and they shall be prepared by the authorised entity.

(2) The entity authorised to prepare the Report referred to in paragraph 1 of this Article shall perform the activity subject to the approval of the Ministry.

(3) The approval referred to in paragraph 2 of this Article shall be given in accordance with a separate regulation.

Article 24

(1) Reports referred to in Article 19 of this Regulation shall be prepared every two years, starting from the year 2009.

(2) Reports referred to in Articles 19 and 22 of this Regulation shall be prepared in accordance with the Convention guidelines currently in force, guidelines of the Intergovernmental Panel on Climate Change and the Reporting guidelines for greenhouse gas emissions published on the Ministry web site.

(3) The authorised entity shall prepare the Reports referred to in Article 19 of this Regulation by 15 March of the current year at the latest.

(4) Activities of preparation of Reports referred to in Articles 19 and 22 of this Regulation shall be financed from budgetary resources of the Agency.

V THE NATIONAL CLIMATE CHANGE REPORT

Article 25

The Ministry shall be responsible for preparing and submitting the National Report to the Convention Secretariat.

Article 26

(1) The National Report shall contain the following data:

– Country-specific features;

– Greenhouse Gas Emission Inventory;

– Implementation of policies and measures;

– Emission projections;

– Impacts and adjustment to climate change;

– Education and enhancement of public awareness.

(2) The National Report shall be prepared in the scope and deadlines in accordance with the decisions of the Convention.

Article 27

(1) The Ministry shall select the legal and natural persons to prepare the individual chapters of the National Report.

(2) Data from Reports prepared in accordance with Articles 9 and 19 of this Regulation in the period covered by the National Report shall also be taken into consideration while preparing the chapters on the Greenhouse Gas Emission Inventory, the implementation of policies and measures to reduce emissions, and emission projections.

(3) The preparation of the National Report shall be financed from budgetary resources of the Ministry.

(4) For the purposes of technical review and evaluation of the National Report, legal and natural persons referred to in the first paragraph of this Article shall cooperate with the expert body of the Convention Secretariat.

VI TRANSITIONAL AND FINAL PROVISIONS

Article 28

The Reports prepared under this Regulation shall be published on the Ministry web site.

Article 29

The provision of Article 12 indent 1 of this Regulation shall enter into force on the date of accession of the Republic of Croatia to the European Union.

Article 30

Annex I, Annex II and Annex III and their respective contents are printed along with this Regulation and form an integral part thereof.

Article 31

This Decision shall enter into force on the eighth day after the day of its publication in the Official Gazette.

Class: 351-02/06-01/03
Reg. No: 5030114-06-1
Zagreb, 21 December 2006

Deputy Prime Minister
and
Minister of the Family, Veterans' Affairs and Intergenerational Solidarity
Jadranka Kosor, m.p.

ANNEX I

LIST OF DIRECT AND INDIRECT GREENHOUSE GASES

I.1. Greenhouse gases:
– Carbon dioxide (CO2)
– Methane (CH4)
– Nitrous oxide (N2O)
– Hydrofluorocarbons (HFCs)
– Perfluorocarbons (PFCs)
– Sulphur hexafluoride (SF6)
I.2. Indirect greenhouse gases:
– Nitrogen oxides (NOx)
– Sulphur dioxide (SO2)
– Non-methane volatile organic compounds (NMVOC)
– Carbon monoxide (CO)

ANNEX II

LIST OF INSTITUTIONS AUTHORISED FOR DATA SUBMISSION

Authorised institution	Sector	Data according to the reference table in Annex III/ database
Ministry of the Economy, Labour and Entrepreneurship Central Bureau of Statistics	Energy – stationary and mobile sources	III.1.1-III.1.8
Ministry of the Interior Ministry of the Sea, Tourism, Transport and Development	Energy – mobile sources River transport Sea transport	The database of registered vehicles in the Republic of Croatia The database of registered vessels fit for sailing or floating on water III.1-3, III.1-4 and III.1-8 Database of registered sailing objects III.1-3, III.1-4 and III.1-8
Ministry of the Economy, Labour and Entrepreneurship Ministry of	Industrial processes	III.2.1. III.2.2.

Environmental Protection, Physical Planning and Construction Central Bureau of Statistics		
Ministry of the Economy, Labour and Entrepreneurship Central Bureau of Statistics	Solvent use	III.2.1.-III.2.2.
Ministry of Agriculture, Forestry and Water Management	Land use, land-use change and forestry	III.3.1.
Ministry of Agriculture, Forestry and Water Management	Agriculture	III.4.1.
Ministry of Environmental Protection, Physical Planning and Construction Croatian Environment Agency	Waste management	III.5.1.-III.5.4.
Ministry of Agriculture, Forestry and Water Management Croatian Waters	Waste-water management	III.5.5.

ANNEX III

ACTIVITY DATA REPORTING FORMS BY SECTOR

III.1. Sector: **Energy**

Table III.1-1

	Anthracite		Hard coal		Brown coal		Lignite	
	10^3 t	PJ	10^3 t	PJ	10^3 t	PJ	10^3 t	PJ
PRIMARY BALANCE								
Import								
Export								

Storage balance								
TOTAL CONSUMPTION								
TRANSFORMATION CONSUMPTION								
Thermal power plants								
Industrial heating plants								
Industrial cogeneration plants								
TOTAL TRANSFORMATION								
ENERGY SUPPLIED								
ENERGY USE								
INDUSTRY								
Chemical								
Construction materials								
Other								
GENERAL CONSUMPTION								
Households								
Services								

Table III.1-2

	Crude oil		Natural gas		Water power	Fuel wood		Wind power	Industrial waste
	10^3 t	PJ	10^6 m^3	PJ	TJ	10^3 m^3	PJ	TJ	TJ
PRIMARY BALANCE									
Production									
Import									
Export									
Storage balance									
TOTAL CONSUMPTION									
TRANSFORMATION CONSUMPTION									
Hydro power plants									
– small hydro power plants									
Electric energy supply plants									
Public heating plants									
Public cogeneration plants									

Industrial heating plants									
– gas works									
Industrial cogeneration plants									
Refineries									
NGL plants									
TOTAL TRANSFORMATION									
ENERGY SECTOR USE									
Oil and gas extraction									
Refineries									
NGL plants									
TOTAL ENERGY SECTOR									
LOSSES									
ENERGY SUPPLIED									
NON ENERGY USE									
Petrochemical industry									
FINAL ENERGY DEMAND									
INDUSTRY									
Iron and steel									
Non-ferrous metals									
Glass and non-metallic minerals									
Chemical									
Construction materials									
Pulp and paper									
Food production									
Other									
GENERAL CONSUMPTION									
Households									
Services									
Agriculture									

Table III.1-3

	Coke oven coke	Liquefied petroleum	Unleaded motor	Standard motor

			gases		gasoline		gasoline	
	10^3 t	PJ	10^3 t	PJ	10^3 t	PJ	10^3 t	PJ
PRIMARY BALANCE								
Production								
Refineries								
NGL plants								
Import								
Export								
Storage balance								
TOTAL CONSUMPTION								
TRANSFORMATION CONSUMPTION								
Industrial heating plants								
– in refineries								
Industrial cogeneration plants								
Gas works								
TOTAL TRANSFORMATION								
ENERGY SECTOR USE								
Refineries								
TOTAL ENERGY SECTOR								
ENERGY SUPPLIED								
FINAL ENERGY DEMAND								
INDUSTRY								
Iron and steel								
Non-ferrous metals								
Glass and non-metallic minerals								
Chemical								
Construction materials								
Pulp and paper								
Food production								
Other								
TRANSPORT								
Rail								
Road								
Air								

– international								
– domestic								
Sea River								
GENERAL CONSUMPTION								
Households								
Services								
Agriculture								
Construction								

Table III.1-4

	Petroleum		Jet fuel		Diesel oil		Light heating oil	
	10^3 t	PJ	10^3 t	PJ	10^3 t	PJ	10^3 t	PJ
PRIMARY BALANCE								
Production								
Refineries								
Import								
Export								
Storage balance								
Marine bunkers								
TOTAL CONSUMPTION								
TRANSFORMATION CONSUMPTION								
Electric energy supply plants								
Public heating plants								
Public cogeneration plants								
Industrial cogeneration plants								
TOTAL TRANSFORMATION								
ENERGY SECTOR USE								
Oil and gas extraction								
TOTAL ENERGY SECTOR								
ENERGY SUPPLIED								

FINAL ENERGY DEMAND								
INDUSTRY								
Iron and steel								
Non-ferrous metals								
Glass and non-metallic minerals								
Chemical								
Construction materials								
Pulp and paper								
Food production								
Other								
TRANSPORT								
Rail								
Road								
Air								
– international								
– domestic								
Sea River								
Public city								
GENERAL CONSUMPTION								
Households								
Services								
Agriculture								
Construction								

Table III.1-5

	Low sulphur fuel oil		Standard fuel oil		Naphta		White spirit	
	10^3 t	PJ	10^3 t	PJ	10^3 t	PJ	10^3 t	PJ
PRIMARY BALANCE								
Production								
Refineries								

NGL plants								
Import								
Export								
Storage balance								
Marine bunkers								
TOTAL CONSUMPTION								
TRANSFORMATION CONSUMPTION								
Electric energy supply plants								
Public heating plants								
Public cogeneration plants								
Industrial heating plants								
– in refineries								
Industrial cogeneration plants								
TRANSFORMATION TOTAL								
ENERGY SECTOR USE								
Refineries								
TOTAL ENERGY SECTOR								
ENERGY SUPPLIED								
NON ENERGY USE								
TOTAL ENERGY DEMAND								
INDUSTRY								
Iron and steel								
Non-ferrous metals								
Glass and non-metallic minerals								
Chemical								
Construction materials								
Pulp and paper								
Food production								
Other								
GENERAL CONSUMPTION								
Households								
Services								
Agriculture								

Table III.1-6

	Bitumen		Lubricants		Paraffin and wax		Petroleum coke	
	10^3 t	PJ	10^3 t	PJ	10^3 t	PJ	10^3 t	PJ
PRIMARY BALANCE								
Production								
Refineries								
Import								
Export								
Marine bunkers								
TOTAL CONSUMPTION								
TRANSFORMATION CONSUMPTION								
Industrial heating plants								
– in refineries								
TOTAL TRANSFORMATION								
Refineries								
TOTAL ENERGY SECTOR								
ENERGY SUPPLIED								
NON ENERGY USE								
TOTAL ENERGY DEMAND								
INDUSTRY								
Iron and steel								
Chemical								
Construction materials								

Table III.1-7

	Ethane		Other derivatives		Refinery gas		Refinery semiproducts		Additives	
	10^3 t	PJ	10^3 t	PJ	10^3 t	PJ	10^3 t	PJ	10^3 t	PJ
PRIMARY BALANCE										
Production										
Refineries										

NGL plants										
Import										
Export										
Storage balance										
TOTAL CONSUMPTION										
TRANSFORMATION CONSUMPTION										
Industrial heating plants										
– in refineries										
Refineries										
TOTAL TRANSFORMATION										
ENERGY SECTOR USE										
Refineries										
TOTAL ENERGY SECTOR										
ENERGY SUPPLIED										
NON ENERGY USE										

Table III.1-8

	Gas works gas		Electricity		Steam and hot water
	10^3 m^3	PJ	GWh	PJ	TJ
PRIMARY BALANCE					
Production					
Hydro power plants					
– small hydro power plants					
Electric energy supply plants					
Public heating plants					
Public cogeneration plants					
Industrial heating plants					
– in refineries					
– in gas works					
Industrial cogeneration plants					
Gas works					
Import					
Export					

Storage balance					
Marine bunkers					
TOTAL CONSUMPTION					
TRANSFORMATION CONSUMPTION					
Hydro power plants					
– small hydro power plants					
Electric energy supply plants					
Public heating plants					
Public cogeneration plants					
Industrial heating plants					
– in refineries					
– in gas works					
Industrial cogeneration plants					
Refineries					
NGL plants					
Gas works					
TOTAL TRANSFORMATION					
ENERGY SECTOR USE					
Oil and gas extraction					
Electric energy supply industry					
Hydro power plants					
Thermal power plants					
Public heating plants					
Refineries					
NGL plants					
TOTAL ENERGY SECTOR					
LOSSES					
ENERGY SUPPLIED					
NON ENERGY USE					
TOTAL ENERGY DEMAND					
INDUSTRY					
Iron and steel					
Non-ferrous metals					
Glass and non-metallic					

minerals					
Chemical					
Construction materials					
Pulp and paper					
Food production					
Other					
TRANSPORT					
Rail					
Road					
Air					
– international					
– domestic					
Sea River					
Public city					
Other					
GENERAL CONSUMPTION					
Households					
Services					
Agriculture					
Construct					

III.2. Sectors: **Industrial Processes and Solvent Use**
Competent body: Central Bureau of Statistics
Reporting year: ____

Table III.2-1:

Source category/activity	Activity data	
Industrial processes		t/year
Cement production	Cement production	
	Clinker production	
Lime production	Quicklime production	
	Dolomitic lime production	
Limestone and dolomite use (all activities)	Limestone use	
	Dolomite use	
Soda ash (Na_2CO_3)	Soda ash production	

production and use (all activities)	Soda ash use	
Asphalt roofing production	Roofing products made of asphalt and similar materials	
Road paving with asphalt	Production of hot asphalt mass for road paving	
Glass manufacturing	Flat glass production	
	Container glass production	
Ammonia production	Ammonia production	
Nitric acid production	Nitric acid production	
Carbon black production	Carbon black production	
Ethylene production	Ethylene production	
Dichloroethylene production	Dichloroethylene production	
Styrene production	Styrene production	
Methanol production	Methanol production	
Coke production	Coke production	
Ethylbenzene production	Ethylbenzene production	
Propylene production	Propylene production	
Polypropylene production	Polypropylene production	
Polystyrene production	Polystyrene production	
Polyethylene production	Polyethylene production	
Polyvinylchloride production	Polyvinylchloride production	
Sulphate production	Sulphate production	
Pig iron production	Pig iron production	
Steel production	Steel production	
Ferroalloys production	Ferromanganese production	
	Silicon manganese production	
	Ferrochromium production	
Primary aluminium production	Primary aluminium production	
Pulp and paper production	Pulp and paper production - Kraft	

	(sulphate) pulping	
	Pulp and paper production - acid sulphite pulping	
	Pulp and paper production - neutral sulphite semi-chemical process	
Food production	Meat, fish and poultry products production	
	Sugar production	
	Margarine and solid cooking fats production	
	Cakes, biscuits and cereals production	
	Bread production	
	Animal feed production	
	Coffee roasting	
Alcoholic beverage production	Wine production	
	White wine production	
	Beer production	
	Spirits production	
	Brandy production	
	Production of brandies and other spirits	
Solvent use		t/year (nr. of inhabitants*)
Paint and varnish application	Use of solvent base paint	
Degreasing and dry cleaning	Metal degreasing	*
	Dry cleaning	*
Chemical products production and processing	Polyurethane – rigid foam production	
	Polyurethane – soft foam production	
	Polyester resins production	
	Polystyrene foam production	
	Polyvinylchloride production	
	Rubber processing	

	Pharmaceutical products manufacturing	*
	Paint and varnish manufacturing	
	Ink manufacturing	
	Glue manufacturing	
Other use of solvent	Solvent use in printing industry	
	Application of glue	
	Domestic solvent use (except for painting)	*

Competent authority: Ministry of Environmental Protection, Physical Planning and Construction
Reporting year: ____

Table III.2-2: Use of substitutes and substitute mixtures

Source category/activity	Activity data	t/year
Refrigeration and air conditioning equipment	Consumption of substitute from the Appendix III.2-2.A list	
	Consumption of substitute mixture from the Appendix III.2-2.A list	
Foam blowing	Consumption of substitute from the Appendix III.2-2.A list	
	Consumption of substitute mixture from the Appendix III.2-2.A list	
Fire extinguishers	Consumption of substitute from the Appendix III.2-2.A list	
	Consumption of substitute mixture from the Appendix III.2-2.A list	
Aerosols/metered dose inhalers	Consumption of substitute from the Appendix III.2-2.A list	
	Consumption of substitute mixture from the Appendix III.2-2.A list	
Solvents	Consumption of substitute from the Appendix III.2-	

	2.A list	
	Consumption of substitute mixture from the Appendix III.2-2.A list	
Semiconductor manufacturing – high-power switchgear and circuit breakers	amount of switchgear	
	SF_6 gas switchgear filling	
	SF_6 leaks from operating gear	
	handling used SF_6	
	handling SF_6 gas and switchgear at the end of its service life	

Appendix III.2-2.A: Substitutes and substitute mixtures

SUBSTITUTE NAME	Chemical formula
Sulphur hexafluoride	SF_6
Hydrofluorocarbons (HFCs)	
HFC-23	CHF^3
HFC-32	CH_2F_2
HFC-41	CH_3F
HFC-43-10mee	$C_5H_2F_{10}$
HFC-125	C_2HF_5
HFC-134	$C_2H_2F_4$
HFC-134a	CH_2FCF_3
HFC-152a	$C_2H_4F_2$
HFC-143	$C_2H_3F_3$
HFC-143a	$C_2H_3F_3$
HFC-227ea	C_3HF_7
HFC-236cb	$CH_2FCF_2CF_3$
HFC-236ea	CHF_2CHFCF_2
HFC-236fa	$C_3H_2F_6$
HFC-245ca	$C_3H_3F_5$
HFC-245fa	$CHF_2CH_2CF_3$
HFC-365mfc	$CF_3CH_2CF_2CH_3$
Perfluorocarbons (PFC)	
Perfluoromethane	CF_4

Perfluoroethane	C_2F_6
Perfluoropropane	C_3F_8
Perfluorobutane	C_4F_{10}
Perfluourpentane	C_5F_{12}
Perfluorohexane	C_6F_{14}
Perfluorocyclobutane	c-C_4F_8
Substitute mixtures	
R 404A	R143a/125/134a
R 407A	R32/125/134a
R 407B	R32/125/134a
R 407C	R32/125/134a
R 407D	R32/125/134a
R410A	R32/125
R 507A	R143a/125
R 508A	R23/116
R 508B	R23/116

III.3. Sector: **Land use, land-use change and forestry**
Competent authority: Ministry of Agriculture, Forestry and Water Management

Reporting year: ____

Table III.3-1:

Data	Area (ha) (for the reporting year)	Area (ha) (for the previous year)
Forests/Forest land		
Cropland		
Grassland		
Wetlands		
Settlements		
Other land		

Table III.3-2:

Data for forest soil category	Area (ha)	Yearly increment (m^3 ha^{-1} $year^{-1}$)	Yearly cut volume (according to structure) (m^3 $year^{-1}$)	Heating wood (m^3 $year^{-1}$)	Forest fire, disease and other

Conifers					
Broadleaves trees					

Table III.3-3:

Data for soil categories Agricultural soil	Area (ha)	Yearly increment ($m^3 ha^{-1} year^{-1}$)	Yearly cut volume (according to structure) ($m^3 year^{-1}$)
Agro-forestry composition			
Cultivable soil			

III.4. Sector: **Agriculture**
Competent authority: Ministry of Agriculture, Forestry and Water Management
Reporting year: ____

Table III.4-1: Livestock type and population size in the Republic of Croatia

Livestock type	number/head
Dairy cattle	
Non dairy cattle	
Buffalo	
Sheep	
Goats	
Mules and Asses	
Swine	
Poultry	

Table III.4-2: Types and quantities of mineral fertilisers applied in the Republic of Croatia

Type of mineral fertiliser	t/year
UREA	
KAN < 28% N	
NPK > 10%N	
NPK < 10%N	

Ammonium nitrate	
Urea ammonium nitrate	

Table III.4-3: Quantities of organic fertilisers in the Republic of Croatia

Quantities of organic fertilisers	t/year
Organic fertilisers	

Table III.4-4: Area under fixator plants N in the Republic of Croatia

Crop type	ha/year
Beans	
Soy	

Table III.4-5: Moss area in the Republic of Croatia

	ha/god.
Peatland	

III.5. Sector: **Waste management**
Competent authority: Ministry of Environmental Protection, Physical Planning and Construction
Reporting year: ____

Table III.5.1. – Data on the quantities of municipal waste

Data	t/year
Quantity of produced municipal waste	
Quantity of landfilled municipal waste	
Estimated quantity of municipal waste deposited on sanitary landfills	
Estimated quantity of municipal waste deposited on dumps with height/depth equal to or greater than 5 m	
Estimated quantity of municipal waste deposited on dumps with height/depth less than 5 m	
Estimated quantity of municipal waste deposited on other types of landfills	

Table III.5.2. – Data on the composition of biodegradable municipal waste

Waste type	Mass share

	(%)
Paper	
Textile	
Green waste	
Food waste	
Wood and straw waste	

Table III.5.3. – Data on the use of landfill gas from municipal waste landfills

Data	
Number of municipal waste landfills equipped with a landfill gas collection system without incineration or use for the production of thermal/electrical energy, including data on the quantity and composition of landfilled waste	
Number of municipal waste landfills equipped with a landfill gas collection and incineration system, including data on the quantity and composition of landfilled waste	
Number of municipal waste landfills equipped with a landfill gas collection and incineration system for the production of thermal/electrical energy, including data on the quantity and composition of landfilled waste	

Table III.5.4. – Data on quantities of fossil waste processed thermally without producing thermal/electrical energy

Waste type	t/year
Plastics	
Rubber	
Solvents	
Waste mineral oils	

Competent authorities: Ministry of Agriculture, Forestry and Water Management
Croatian Waters
Reporting year: ____

Table III.5.5. – Data on quantities

Data	

Number of inhabitants connected to the public sewage system and waste water treatment devices	
Quantities of waste waters disposed in septic tanks	
Data on total yearly quantities of waste waters and sludge produced by their treatment for domestic waste water	
Data on total yearly quantities of waste waters and sludge produced by their treatment for commercial waste water	
Data on total yearly quantities of waste waters and sludge produced by their treatment for industrial waste water	
BOD_5 and COD data and data on methods of waste water treatment and sludge management for domestic waste water	
BOD_5 and COD data and data on methods of waste water treatment and sludge management for commercial waste water	
BOD_5 and COD data and data on methods of waste water treatment and sludge management for industrial waste water	