

# ENVIRONMENTAL PROTECTION IN THE CZECH REPUBLIC **EXPERIENCE AND KNOW-HOW**

---

Ministry of the Environment  
of the Czech Republic

▼ Hydroelectric power station Dlouhé Stráně.



# Contents

1. Introduction	4
2. Specialized institutions of the Ministry of the Environment	6
3. Selected areas of the environment of the Czech Republic	12
3.1. Waste management	12
3.2. Water protection and waste water treatment, incl. climate adaptation	14
3.3. Remediation of ecological burdens and management of chemicals	17
3.4. Air quality protection	19
3.5. Nature conservation	22
3.6. Energy efficiency, clean energy and climate mitigation	24
3.7. Meteorology and climatology	26
3.8. Mineral resources	29
4. Areas for cooperation and Institutional support for cooperation with Czech companies	31



Devil's Lake, the Šumava Protected Landscape Area. ►



## 1. Introduction

The Ministry of the Environment of the Czech Republic, as the central state administration authority and supreme checking authority in environmental affairs and climate change, plays a crucial role in environmental protection, one of the major pillars of sustainable development. A good state of the environment is a basic prerequisite for ensuring high quality of life and human well-being as well as an integral part of sustainable economic growth.

As a result of tremendous efforts of the Ministry of the Environment together with other important partners, including relevant ministries, scientific community, business, industry and civil society organisations and other stakeholders, also with the assistance of foreign partners on European and global level, the environment in the Czech Republic has dramatically improved over the past 20 years, in particular in the field of greenhouse gas emissions, air quality, water protection and waste management. The transition process in our country sparked new ideas of protecting the environment and allowed strong boost to investments into environmental protection (see Figure I below).

We are aware of this unique experience and of our share of responsibility towards maintaining a healthy environment not only for the present but, also for future generations. Therefore, the Ministry of the Environment is keen on promoting its potential in the field of bilateral cooperation with foreign partners, taking advantage of **Czech environmental experience and know-how**.

The aim of this informative brochure is to present the basic facts about selected environmental areas and to focus on sharing our experience and know-how with partners. For further information, please see the following links.

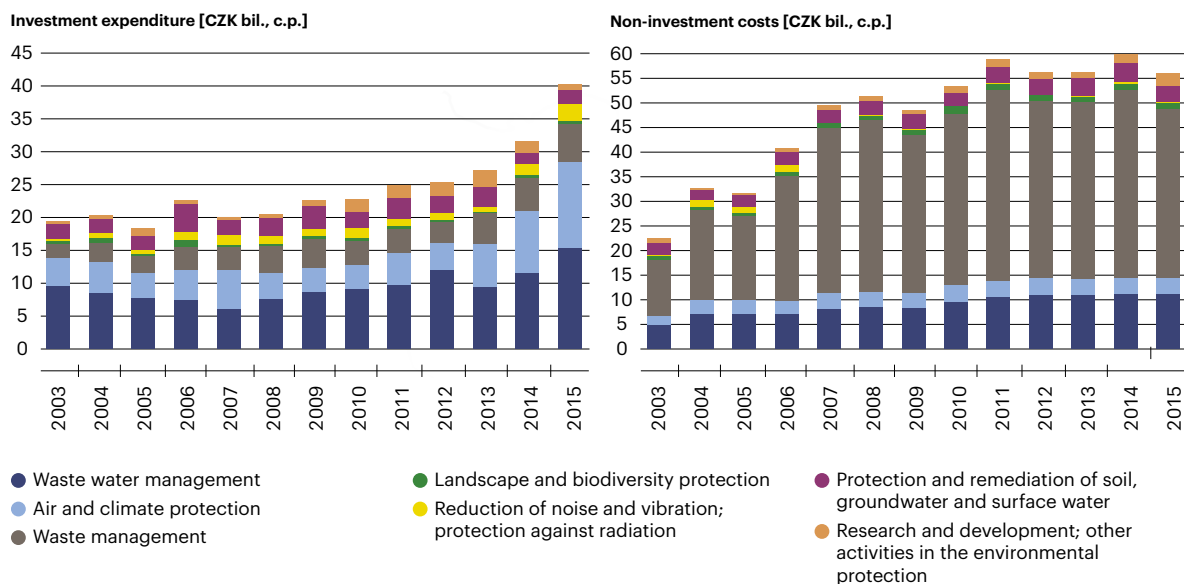
Compared with the EU average, the Czech Republic invests above-average finances into environmental protection in long terms, both within the public and industrial sectors.<sup>1</sup>

<sup>1</sup> Source: Report on the Environment of the Czech Republic 2015.



▲ Harrach's Stones, Krkonoše Mountains National Park.

Figure I: Investments and non-investment costs for environmental protection in the Czech Republic, according to the programme focus [CZK bil., current prices], 2003–2015.



Source: Czech Statistical Office

## 2. Specialized institutions of the Ministry of the Environment

Following organisations within the jurisdiction of the Ministry of the Environment are open to cooperation:



### Cave Administration of the Czech Republic

 [www.caves.cz](http://www.caves.cz)

The mission of the Cave Administration of the Czech Republic is to protect and care for show caves and other underground spaces according to the nature and landscape protection regulations and State Mining Authority regulations. The Cave Administration arranges steps according to the nature protection demands and ensures the technical protection in accordance with the state Mining Authority rules. It also cares for exploration, monitoring, documentation and guide services for the public. It provides the state-wide evidence and documentation of caves and other speleological objects.

Currently the Cave Administration cares for 14 Show caves and one mining locality containing cave spaces. It guarantees their protection according to the maintenance plan. In terms of the revitalization programme, the Cave Administration eliminates negative impacts of previous activities and exploitation of caves as well as renovates their real estate and technical furnishing. External tourist premises are being restored and educational exhibitions are being prepared at them, informative and scientific publications are published.

There are 4,000 caves registered in the Czech Republic; starting with small caverns to large systems of many kilometres. Show caves are the representative sample of the most remarkable caves in Bohemia and Moravia and they are utilized for educational and entertainment purposes. 700,000 tourists from all over the world visit them annually.



**cenia**

### CENIA, Czech Environmental Information Agency

 [www.cenia.cz](http://www.cenia.cz)

CENIA's mission is the collection, evaluation and interpretation of environmental information and their provision to the professional and wider public.

CENIA closely cooperates with all the providers of data sources within the field of the environment, and also with a variety of research, scientific and university institutions. CENIA also has rich experience with the development and provision of map services and operates many information systems. CENIA plays an important role within the processing of waste management data and uses its professional knowledge during the preparation of national evaluation documentation.

In the Czech Republic CENIA is the contact point for the European Environment Agency (EEA) and is linked into the European Environment Information and Observation Network (EIONET). Currently CENIA is also the national contact point for INSPIRE (Infrastructure for Spatial Information in Europe) and the representing organisation for the European Ecolabeling Programme – Ecolabel EU, and finally for the programme EMAS (Eco Management and Audit Scheme).

Individual teams of CENIA's employees cooperate in national and international projects, CENIA also has made a name for itself and is well regarded in the field of science and research.



## Czech Environmental Inspectorate



 [www.cizp.cz](http://www.cizp.cz)

The Czech Environmental Inspectorate (CEI) is an expert body within the state administration authorized with supervision in the area of environmental legislation enforcement. The CEI is divided into Headquarters, 10 regional inspectorates and two branch offices. The activities of the CEI can be divided into five core areas: waste management, air protection, water protection, nature protection (including CITES), and forest protection. The CEI has gradually been assigned additional responsibilities: protection of the Earth's ozone layer, supervision over the handling of chemical substances, industrial accident prevention, packaging management and genetically modified organisms (GMOs).

Overview of CEI activities:

- Supervise adherence to legal regulations on environmental protection;
- Carry out inspections/checks;
- Impose measures to remedy identified deficiencies and sanctions for non-adherence to laws;
- Inspect trade in and handling of endangered animal and plant species and products made from them (confiscate illegally acquired individuals and items);
- Restrict or halt operations if they seriously threaten the environment;
- Set charges for wastewater discharge and groundwater consumption;
- Participate in resolving historical environmental burdens and handling environmental accidents;
- Collaborate with inspection authorities of the EU countries and the EU network of inspection bodies (IMPEL);
- Elaborate position statements for other authorities;
- Handle alerts from citizens and legal entities;
- Provide information based on requests pursuant to laws in force;
- Inform public, media and state administration authorities about environmental data.

## Czech Geological Survey



 [www.geology.cz](http://www.geology.cz)

The Czech Geological Survey is the state organization that compiles, stores, interprets and provides expert geological information for the state administration, the private sector and the public. It is the only institution with the mission to systematically investigate the geological composition of the whole territory of the Czech Republic. The well-established reputation of the Czech Geological Survey is based on the optimum combination of services to society with top-ranking research in geological science, natural resources, geological hazards, and environmental protection. As an internationally respected scientific institution, it responds to the requirements of society for sustainable development and plays a significant role in education and in popularization of geology.

The main fields of activity are: geological research and mapping; rock environments and their protection; mineral resources and the environmental impact of mining; geological hazards, prevention and mitigation of their impact; and geoinformation management and delivery.

## Czech Hydrometeorological Institute



 [www.chmi.cz](http://www.chmi.cz)

The Czech Hydrometeorological Institute (CHMI) serves as a central governmental institution in the field of air quality, hydrology, water quality, climatology and meteorology, and is providing services primarily for the state administration. CHMI operates a national monitoring and observation network for monitoring of qualitative and quantitative conditions of the atmosphere, including the ozone layer, and the hydrosphere and the causes leading to their pollution or deterioration.

Main activities of the CHMI include:

- Establishment and operation of national monitoring and observing networks for monitoring the qualitative and quantitative conditions of the atmosphere, hydrosphere and sources resulting in pollution or harmful effects;
- Professional evaluation of the results of observation, measurements and monitoring, following the principles of the EU legislation;
- Establishment and operation of databases on state and quality of the air and sources of its pollution, as well as on state and development of the atmosphere and on quantity and quality of water according to requirement of the EU legislation and international agreements;
- Provision of information on characteristics and regimes of the atmosphere and hydrosphere;
- Provision of operational information on state of the atmosphere and hydrosphere, forecasts and warnings on hazardous meteorological and hydrological phenomena;
- Carrying out technical development of the monitoring, communication and information technologies, scientific and research activities in its field of expertise including design activities;
- Performing, under the authorisation or permission, other specialized technical activities related to the main activities of the CHMI, listed in the Charter of the Institute;
- Organizing technical courses, excursions, trainings and other educational events for the public, including teaching, environmental education and services of a specialised library.

In line with its Charter, the CHMI is organised as a multidisciplinary institution with close interdisciplinary links and cooperation.

The CHMI conducts expert analysis of the obtained measurements, creates and manages databases, provides forecasts and warnings, and implements and coordinates scientific research activities. The CHMI has an extensive experience in international cooperation, especially in regards to monitoring of air quality, ozone layer (implementation of the Montreal Protocol), as well as in the hydrological and meteorological services.

▼ Thermal insulation of a family house in Prague co-financed by the Green Savings Programme.





The CHMI as the national weather service provider, cooperates with the international meteorological community within the official structure of the World Meteorological Organization and other functional groupings (EUMETNET, ECMWF, RC LACE or Aladin Consortium). The CHMI contributes to the collecting and sharing data, shares the capacity development, especially in the field of numerical modelling and weather forecast.

Climatological database (CLIDATA) developed by the CHMI is currently being used in 36 countries on 4 continents and the regular trainings are taking place in the Czech Republic and abroad.

## Nature Conservation Agency of the Czech Republic

 [www.nature.cz](http://www.nature.cz)



The Nature Conservation Agency of the Czech Republic (NCA) is a governmental body, providing nature conservation and landscape protection at the national level. NCA manages 25 Protected Landscape Areas (PLA), 108 National Nature Reserves (NNR) and 119 National Nature Monuments (NNM), where it performs state/public administration in nature conservation, and implements various conservation measures in the field.<sup>2</sup> In the non-reserved landscape, the authority also supports and manages nature and the landscape through subvention programmes or subsidiary schemes, funded or co-funded both by the state budget and the European Union. At the same time, the NCA provides expertise and other expert/technical activities in nature conservation and landscape protection.

The NCA inter alia manages the Nature Conservancy Information System; conducts monitoring of the habitats and species; develops and, implements practical measures to conserve nature and to protect landscape; implements action and management plans for threatened species.

The NCA carries out, inter alia, broad international cooperation in nature conservation and landscape protection by implementing the EU legislation and multilateral biodiversity related agreements. For example, NCA is a Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES) National Scientific Authority and a partner of the European Topic Centre on Biological Diversity consortium.

## Silva Tarouca Research Institute for Landscape and Ornamental Gardening

 [www.vukoz.cz](http://www.vukoz.cz)



The Institute deals with the issue of rescue and utilisation of the plant gene pool, research on the application of vegetation in different types of landscape, biomonitoring of current and historical landscape burdens, cultivation of new varieties of plants and research of new methods of effective plant reproduction, research on harmful factors for ornamental plants and tree species, monitoring and diagnostics of selected plant viruses and virus-like organisms, research and verification of a pilot biomass plant as an alternative energy source. The institute runs a garden in a naturally land designed style within an area of 80 hectares. With about 5,000 planted taxa, the garden belongs to the most important plant genetic resources of woody and ornamental species in Central Europe.

<sup>2</sup> National parks are managed by the National Park Administrations, see p. 11.

## State Environmental Fund of the Czech Republic

 [www.sfzp.cz](http://www.sfzp.cz)

A dense network of consultants and skilled, highly qualified project managers, fair evaluation of applications and a quick payment of approved subsidies – these quality services are provided by the State Environmental Fund (SEF) to all subsidy applicants and project contractors in the field of environmental improvement.

The SEF offers financial support in the form of subsidies, loans and contributions to partial interest coverage. The fund obtains financial resources from the European Union, namely the Cohesion Fund and the European Regional Development Fund, from the state budget, and a fees collected from polluters.

The fund's main activities include providing consulting and advisory services, receiving and evaluating aid applications, preparing groundwork materials for approving aid and the contractual agenda for providing aid, disbursing financial resources to aid beneficiaries and continually auditing their use, conducting the final evaluation of the use of provided resources and of accomplished environmental effects, and occasionally imposing and enforcing sanctions in cases of non-compliance with the contractual conditions for granting aid.

The SEF administered two major subsidy programmes – Operational Programme Environment (OPE) and the New Green Savings Programme. The OPE have been earmarked for applicants nearly €2.637 billion from the Cohesion Fund and the European Regional Development Fund for the next few years. The OPE aims to protect and ensure the quality of the living environment of the Czech population, promoting the efficient use of resources, eliminating the negative impacts of human activities on the environment and climate change mitigation.

The New Green Savings Programme, focusing on energy savings and renewable energy sources in family houses, apartment buildings and public buildings has been launched in April 2014. The SEF also supports 'soft projects' in the areas of air protection, care of the natural environment, natural resource protection and use and environmental education, consultancy and awareness raising which cannot be financed by the European funds. The SEF supports these activities through the National Programme Environment.

## T. G. Masaryk Water Research Institute

 [www.vuv.cz](http://www.vuv.cz)

The main objectives of the Institute include research of the status, use and changes in aquatic ecosystems and their relations to landscape and related environmental risks, waste and packaging management, technical support of water protection, and prevention of flood risks.

In particular, the activities of the Institute include:

- In the field of research and protection of hydrosphere - research on relations and processes in water environment, focused on impacts of human pressures, the sustainable use and protection of the hydrosphere, and legislative tools;
- In the field of flood management – systematic preparation of conceptual and strategic documents, development of methodological tools for identification and evaluation of flood hazard and flood risk, and participation on real flood events assessment;
- In the field of waste management – research on the protection of environment and sustainable development (prevention and minimization of waste quantity and its assessment), research focused on sewage treatment plants, evaluation of existing technologies and development of new methods in order to increase the efficiency of substance removal from waste water, and research focused on comprehensive technologies for waste water treatment (stabilisation ponds, bio-filters, irrigation by wastewater etc.).

## National Park Administrations

National parks are extensive territories unique according to the national and/or international standards. A considerable part of these parks consists of natural ecosystems or ecosystems little affected by human activities, where plants, animals and inanimate nature are of an exceptional scientific and educational significance.

All utilisation of national parks must be in compliance with the preservation of natural conditions, and must be in conformity with the scientific and educational aims sought after in the proclamation of national parks.

**There are 4 national parks in the Czech Republic:**

### Krkonoše Mountains National Park

 [www.krnep.cz](http://www.krnep.cz)

- area 363 km<sup>2</sup> and 184 km<sup>2</sup> (buffer zone)
- the highest mountain range of the Czech Republic
- its attractiveness is due to an unusually diverse landscape plus an abundance and diversity of both flora and fauna



### Šumava National Park

 [www.npsumava.cz](http://www.npsumava.cz)

- area 683 km<sup>2</sup> + 996 km<sup>2</sup> forms Protected Landscape Area
- in western part mountain range creates natural boundaries with Bavarian Forest NP
- nearly 80 % of NP is woodland, 23 % of NP is largely left to spontaneous development
- together with Bavarian Forest NP creates the largest forest region without human intervention in Central Europe
- the whole range is scattered with numerous wetlands, raised peatbogs and there are even 3 glacial lakes



### Podyjí National Park

 [www.nppodyji.cz](http://www.nppodyji.cz)

- area 63 km<sup>2</sup>, 29 km<sup>2</sup> respectively (buffer zone)
- uniquely preserved river valley covered with rich forests bordering with Austria
- extremely rich biodiversity on a relatively small area, situated at boundaries of two biogeographic areas



### České Švýcarsko National Park

 [www.npcs.cz](http://www.npcs.cz)

- area 80 km<sup>2</sup>
- unique geomorphology of sandstone rock pillars together with rich biodiversity
- herb-rich beech forests on basalt formations in sharp contrast to acidophilous beech forests and pine forests growing on sandstones







▲ Containers for recycling waste sorting in the Czech Republic.

## 3. Selected areas of the environment of the Czech Republic

### 3.1. Waste management

Waste management is a relatively young, yet dynamic growing sector of the national economy. In the Czech Republic, the obligations of physical and legal entities are governed by legislation, which places the emphasis on the prevention of waste material being created and imposes a duty to prioritise material recycling and energy production over disposal by dumping.

**Total waste generation** in the period from 2009 rather stagnated, but in 2015, in year-to-year comparison, there was a more distinct increase by 16.6 %. Since 2009, the total generation of municipal waste is stagnating or, more precisely, oscillating around a value slightly above 5 mil. t. The prevailing method of waste treatment is **recycling**. Between 2009 and 2015, the proportion of waste used for material recovery increased from 72.5 % to 83.2 %. The aim is also to achieve waste re-use or energy recovery, which would minimize negative impacts on environment. This involves replacement of natural resources and raw materials or replacement of primary energy sources with waste.

The **take-back system for used products** is based on the principle of the individual responsibility of a manufacturer to arrange product disposal after the end of its service life. This is to motivate the manufacturer to design and produce goods with the lowest possible content of hazardous substances and to ensure their subsequent reuse or disposal after the end of their life in the cheapest way.

The Act on **Packaging** stipulates the rights and obligations of the legal and physical entities with respect to bringing packaging into the market or putting it into circulation. It sets the percentage volume of packaging waste to be recycled or reused, and moreover it defines the basic rules for returnable packaging treatment. Recycling is the most frequent use of packaging waste. Since 2009 there has been an increase in the amount of recycled waste from packaging by 192.2 thous. t. The second most frequent recovery is energy; however, the proportion of packaging waste used for this purpose dropped from 7.0 % in 2009 to 5.2 % in 2015.

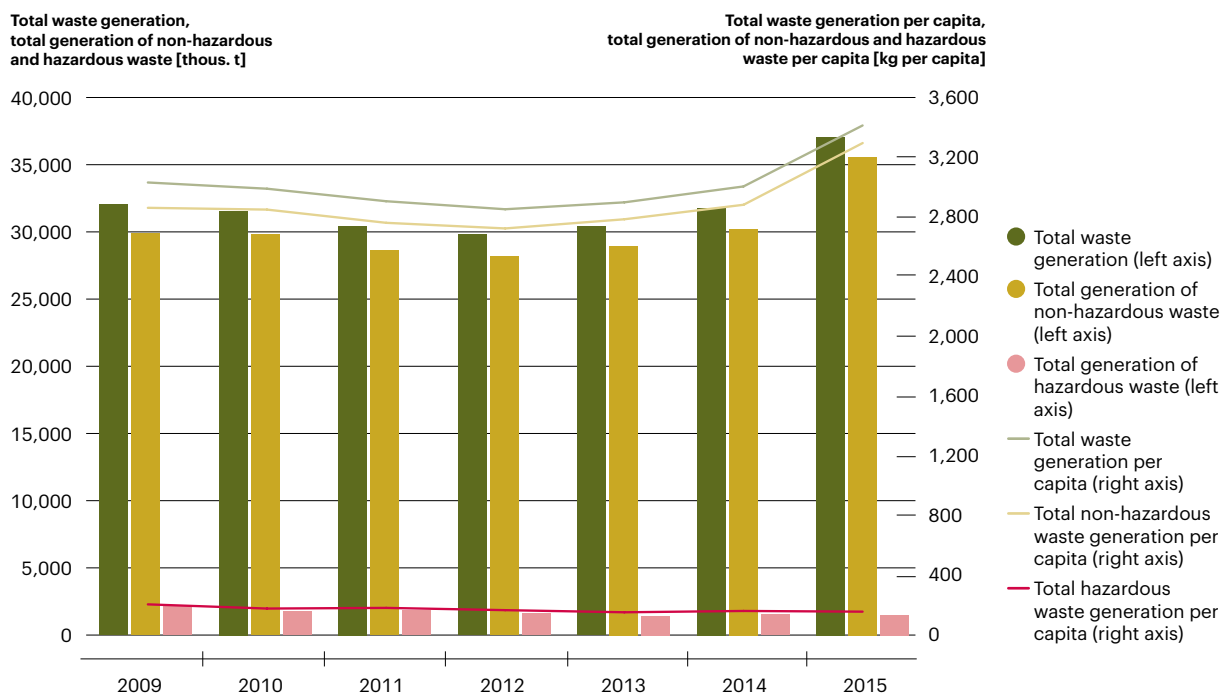
The main activities ensured by the **Centre for Waste Management of the T.G. Masaryk Water Research Institute** are focused on research in the field of waste, research, development, implementation and assessment of waste management methods, development of supporting mechanisms for the promotion of health and environmental protection principles throughout the complete waste management cycle, waste analysis, assessment and characterization, verification of the actual characteristics of waste, the complete waste management process monitoring, enforcement of measures for prevention and minimization of waste production and waste hazardous properties, implementation of new approaches in waste management according to the new legislation.

**CENIA, Czech Environmental Information Agency** has experience with the creation of an information system on waste.

**Czech experience can be shared in the following areas:**

- › Establishment of a take-back system, collection of waste, recycling
- › Promotion of cooperation among state administration, industry, towns and municipalities
- › Technologies for waste management
- › Household waste treatment technologies
- › Cogeneration units to turn the biomass waste into energy

**Figure II: Total waste generation, total generation of non-hazardous and hazardous waste in the Czech Republic [thous. t], total waste generation per capita, total generation of non-hazardous and hazardous waste per capita in the Czech Republic [kg per capita], 2009–2015.**



The data was determined according to the methodology *Mathematical Expression of Calculating the „Waste Management Indicator Set“* applicable for a given year.

Czech Statistical Office is the source of data on the population of the Czech Republic (mid-year population).

Source: CENIA, Czech Statistical Office

## 3.2. Water protection and waste water treatment, incl. climate adaptation

The Czech Republic has a vast experience with research and development in the area of **floods, droughts and sewage treatment technologies and sewage treatment plant construction**. Recently, the major issue in the Czech Republic represents waste water treatment in rural areas where there are only small and scattered settlements (less than 200 inhabitants). The related issue is the way of dealing with ground water pollution caused especially by agricultural practices. The focus could consider planning for the river basin district.

The Czech Republic actively cooperates with its neighbouring countries in the field of water management, which is governed by Agreements and Conventions on **management of transboundary waters**. The International Commission for the Protection of the Danube River, the International Commission for the Protection of the Elbe River and the International Commission for the Protection of the Oder River against Pollution were established for the purpose of achieving the goals of water management set by the Conventions, including the protection and rational use of surface waters and ground-waters, reduction of hazards originating from accidents involving the release of substances hazardous to water, floods and ice-hazards.

Further, within the bilateral commissions on transboundary water management set by the Agreements with Austria, Germany, Slovakia, and Poland, working groups on issues of implementation of Water Framework Directive (2000/60/EC) on transboundary waters were established with the aim of implementing the requirements of the Water Framework Directive mainly in the area of water management planning and water protection.

### Czech experience can be shared in the following areas:

- › Adaptation planning, incl. floods and droughts protection
- › Biological water treatment plants
- › Methodologies for water quality requirements
- › Development of law background, preparation of supporting programmes, including technical and economic aspects (this could be established by funds which provide financial support to partial interest coverage)
- › Bilateral and multilateral cooperation in transboundary water management

The **Czech Hydrometeorological Institute (CHMI)** is the National Hydrological Service of the Czech Republic. As such, CHMI monitors all aspects of water cycle. Monitoring of surface water and groundwater quantities is done to the extent of the approved quantitative water monitoring programmes and it includes all the basic activities in the operation of the national monitoring networks, data collection and primary processing, database management, and provision of operating and regime information. Field work and primary data processing are carried out by regional offices, while regime databases are centralized in Prague's headquarters.

In respect of water quality monitoring, the CHMI is responsible for the situational and operational monitoring of the chemical pollution of groundwater. The CHMI also carries out surface water quality monitoring of solid matrices. In line with the approved monitoring programme, the CHMI's employees sample suspended load, sediments and biota (macrozoobenthos, Dreissena, biofilm, adult and juvenile fish), and install floats in flows for organism exposure and passive samplers. Sediment sampling is coordinated with River basin authorities. Daily concentration of suspended load is monitored in 39 stations and analysed in the Institute's laboratory.

The CHMI operates national databases of water quantity and quality parameters. According to national Water Act 254/2001 CHMI is entrusted with the duty to compile annual hydrological budget of surface





▲ Root wastewater treatment plant, village Kobeřice near Brno.

and groundwater quantity, groundwater and surface water quality. Water budget assessments are prepared as inputs into the reports, yearbooks and statistics of the Ministry of the Environment and other institutions. The CHMI provides relevant water quality data and results of assessments through the Information System of Public Services (ISVS), where it also provides maps of hydrological networks, watershed divides and hydrogeology regions (<http://hydro.chmi.cz/hydro>).

CHMI is the only organisation authorized for preparation of expert hydrological reports (design hydrological data) and hydrological studies based on users' demands.

Important responsibility of CHMI stated by the Water Act is flood forecasting service realized by provision of real-time hydro-meteorological data, issuing of regular informative reports, hydrological forecasts and flood warnings. The most current information on stream flows and floods are posted on the CHMI's website (<http://hydro.chmi.cz/hpps>). Hydrological forecasting models are operated at all forecasting offices; forecasts are delivered to direct users and posted on the Internet, including the probabilistic forecasts of flood level exceedance within the forecast interval. Forecasts are shared with neighbouring countries, and in the case of Morava River (a tributary to Danube) a joint Czech-Slovak-Austrian forecasting system is operated by the Brno regional office of the CHMI.

Other operational products provided by the CHMI include operational evaluation of water content of snow cover for the needs of reservoir operation control and Flash Flood Guidance and information about various monitored and modelled aspects of droughts.

In addition, the CHMI operates the Flood Information System (POVIS, [www.povis.cz](http://www.povis.cz)) developed by the Ministry of the Environment which also includes the Digital Flood Plan of the Czech Republic ([www.dppcr.cz](http://www.dppcr.cz)).

Experts from the CHMI contribute to implementation of Directive 2007/60/EC on the assessment and management of flood risks and Water Framework Directive 2000/60/EC.

The Institute also participates in research activities and projects in the field of hydrology and water quality and operates the experimental basins in Jizerské hory mountains in order to monitor hydrological and climate data for research purposes.





▲ Hydraulic model in the T. G. Masaryk Water Research Institute.

Concerning the international cooperation, CHMI carries out various tasks stemming from conferences of government commissioners for cooperation on borderline streams and the tasks in International commissions for the protection of the rivers Labe, Odra, and Danube and relevant UN activities including programmes and initiatives of WMO, UNESCO-IHP, and UNISDR.

The Czech Republic has suffered from floods that occur rather often. Therefore, a recent research has been focused on flood hazard and flood risk assessment. Tools for this assessment were produced by the **T. G. Masaryk Water Research Institute** (WRI). They were used to fulfil national objectives and also requirements laid down by the European legislation (Flood directive 2007/60/EC). Moreover, the utilization of modern technologies can significantly improve flood management.

The Water Research Institute proposes a complex (integrated) system of water protection in large river basins. It includes:

- system of hydrological classification of watercourses;
- register of the natural flow affection (water withdrawals and discharges);
- register of surface water quality affection (pollution discharged);
- register of the area with a stringent water protection (used for drinking water supply, recreation, nature conservation);
- monitoring of pollutants (hazardous substances) in watercourses;
- system of management measures in water protection;
- possibilities of utilisation of economic instruments for water protection;
- design of administrative unit cooperation on complex water protection;
- system design of State Water Register (surface water and groundwater abstraction);
- discharge of waste water – including general scheme of industrial and municipal waste water production and discharge);
- economic, financial and pricing instruments for regulation and support of innovations in water protection and sustainable water use in the integrated river basin management.

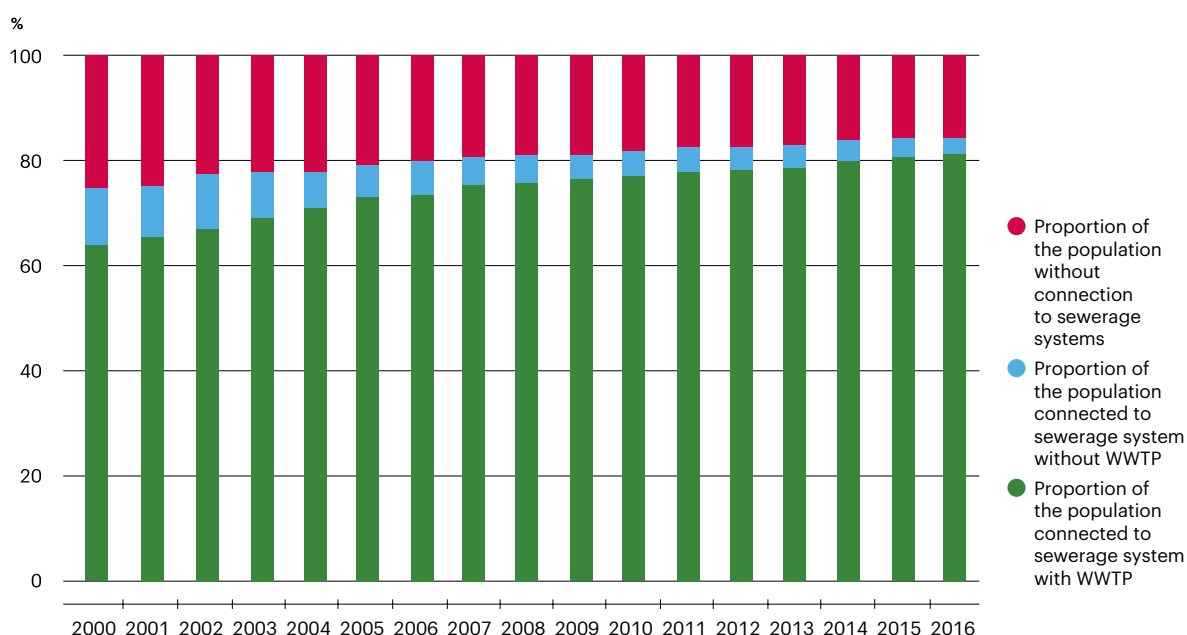
The Water Research Institute deals with themes related to impacts of climate change on water resources, and also possible adaptation measures to mitigate these impacts. Most importantly, a research of extreme events associated with climate changes (floods, droughts) is conducted and measures are proposed to eliminate risks from the effects of extreme conditions in sectors of water management, agriculture and forestry, including impacts on water quality. Specific attention is paid to the study of minimum residual flows. New software tools for hydrological modelling and balance calculations were developed, because the existing practices do not reflect the current conditions influenced by the

climate change. Hydraulic research is concentrated on assessment of new hydraulic structures (weirs, dams, waterways, fishways, water power stations etc.). Physical models are built on suitable scale and the research is conducted in large hydraulic laboratories. Hydraulic research is highly efficient and significantly reduces the financial cost of the planned construction. Part of the hydraulic research also presents mathematical modelling which focuses on determination of flood plain area, flood risk mapping, water quality in open channels, and evaluation of potential flood damages in urban areas using 1, 2 or even 3D modelling tools.

Also, the Institute focuses its activities on the quality of surface and groundwater and their protection, on contaminated sites and their survey, monitoring and evaluation, and on the risk assessment process. It is deeply interested in diffuse pollution sources from agriculture and the determination of nitrate vulnerable zones. It has great experience with enrichment of groundwater resources for drinking water purposes through artificial groundwater recharge methods.

T. G. Masaryk Water Research Institute is ready to cooperate in research and consultant activities regarding the harmonisation of human activities (water management, recreation, fisheries and aquaculture) with aquatic ecosystem conservation and sustainable use.

**Figure III: Proportion of the population connected to sewerage systems and to sewerage systems connected to WWTPs in the Czech Republic [%], 2000–2016.**



Source: Czech Statistical Office

### 3.3. Remediation of ecological burdens and management of chemicals

Activity of the industrial enterprises during last 100 years led to contamination of soils, surface and ground water at thousands of sites in the Czech Republic. Also army bases, especially airports, were often heavily contaminated. The most serious contaminants include petroleum hydrocarbons, chlorinated hydrocarbons, polychlorinated biphenyls, pesticides, radionuclides, heavy metals and other toxic substances.

The subject of environmental burdens from the past began to be broadly discussed in the Czech



Republic at the beginning of 1990 in connection with the departure of the former Soviet Army and with burdens related to privatisation of the state enterprises.

In the Czech Republic, the strategy for elimination of environmental burdens from the past is based on the principles of the environmental policies of the Ministry of the Environment. One of the basic principles includes finding a socially acceptable level of environmental and health risks. This approach is based on the fact that the attaining of „zero risk“ (e.g. absolute elimination of the contamination) is not always necessary from the standpoint of the environment and is usually associated with extremely high costs. A second important principle is based on future use of the territory (i.e. so that it is „suitable for use“). In some cases where decontamination is technically difficult to solve or financially unacceptable, consideration can even be given to an approach in which it is necessary to modify the subsequent use of the site.

In the years 2007–2015, the Operational Programme Environment provided funds in total amount exceeding 256 mil. € to implement more than 200 projects of old ecological burdens in the Czech Republic.

Since 2005, the database information about contaminated sites in the Czech Republic is available in the Contaminated Sites Database System (SEKM). The SEKM is freely accessible for the public and is fully compatible with all requirements of the European Environmental Agency. Priority evaluation and risk profile of each contaminated site is included in the SEKM. The database also includes the register of closed landfills and register of sites contaminated by POPs. The database is found on the website [www.sekm.cz](http://www.sekm.cz) and is being regularly updated by new data on environmental damages.

The **Czech Geological Survey** and their associated staff play a fundamental role in the qualification of geological risks caused by exogenic dynamic processes. The problems of rock avalanches and landslides, triggered by different processes, comprise a major part of the activities of the engineering geology team. Their research activities have resulted in the recommendation of mitigation measures after the catastrophic flooding in Moravia and Bohemia in 1997, 2002, 2006, 2010, 2013 and 2014. Engineering geologists are also assessing the risks of catastrophic gravitational slope movements in the Labe (Elbe) River valley of the České středohoří Mts. (highway D8 Dobkovičky locality), and slope stability around the dams along the Vltava River valley. In the Vltava River valley they estimate hazard risks to the City of Prague from possible flood waves triggered by landslides on unstable slopes. The long-time experience of CGS engineering geologists is being successfully applied to aid projects in developing countries (for instance, in Central America).

#### **Czech experience can be shared in the following areas:**

- Investigation of contaminated site
- Risk assessment study
- Feasibility study
- Detailed remediation design
- Soil and groundwater remediation including the following remediation methods: crushing, screening and sorting, solidification/stabilization, soil vapour extraction, washing, incineration, thermal desorption, chemical oxidation, chemical reduction, neutralization, bioremediation, bioventing, phyto-remediation, landfilling, reprocessing, containment construction, capping, bioremediation, biological reductive dechlorination, biological reduction, bio-slurping, hydraulic barriers, reactive barriers, monitored/enhanced attenuation, underground cut-off walls, air sparing, pumping and subsequent treatment by: gravity separation, stripping (by air or stream), coagulation, flocculation, reverse osmosis, chemical oxidation, chemical reduction, neutralisation
- Supervision of clean-up projects
- Post-remedial monitoring
- Contaminated sites evidence



▲ The Radioacoustic system (Doppler SODAR – Sonic Detection And Ranging) for atmospheric boundary layer monitoring at Tušimice Observatory.

### 3.4. Air quality protection

Immense funds were invested in emission reductions (mainly from large power plants) in the Czech Republic during the 1990s, resulting in a remarkable improvement in the air quality, the levels of which in some regions had previously ranked among the worst in the world.

The Czech Republic has implemented complex air protection policy that includes preparation of Programs for improvement of air quality, National program for emission reduction. Several binding instruments including national emission ceilings (regional and sectoral ceilings are under development) are in place. The Czech Republic has built air quality monitoring network which provides information about air pollution levels for government, municipal institutes and for public. All data are stored and processed in the Air Quality Information System.

The Czech Republic is a very densely populated area and is traditionally industrial; therefore, air protection policy has always been a complex issue that had to deal with identification of various sources of air pollution (energy, industry, road transport and household heating).

The Czech Republic is currently implementing a comprehensive air protection policy by the programming document “Medium-term Strategy for Air Quality Improvement in the CR (up to 2020)”, which sets the framework for the conceptual documents to ensure the improvement of air quality at the national (National Emission Reduction Plan) and regional level (Air Quality Plans).

Among the tools for improving air quality at regional level are the possibility to declare low emission zones to limit air pollution caused by the road traffic, setting emission ceilings for the road traffic in the cities with more than 5,000 inhabitants and emission ceilings for group of air pollution sources and requirement on realization of compensation measures when placing a new source of pollution into certain areas.

Among the financial measures of the Ministry of the Environment concerning air quality improvement is also the subsidy program of replacement of the existing hand-filled boilers for solid fuels by new efficient low-emission boilers.

Voluntary agreements with the operators of the major sources of air pollution and cross-border cooperation with neighbouring states play also important role in the improvement of air quality.

**Czech experience can be shared in the following areas:**

- Air quality monitoring
- Construction and functioning of the monitoring network
- Calibration services for air quality monitoring instruments
- Development and operation of air quality and emission databases, compilation of emission inventories
- Air quality modelling and assessment
- Consultancy in the field of air protection policy and promotion of clean air technologies can be offered (with experience from previous twinning and TAIEX projects)

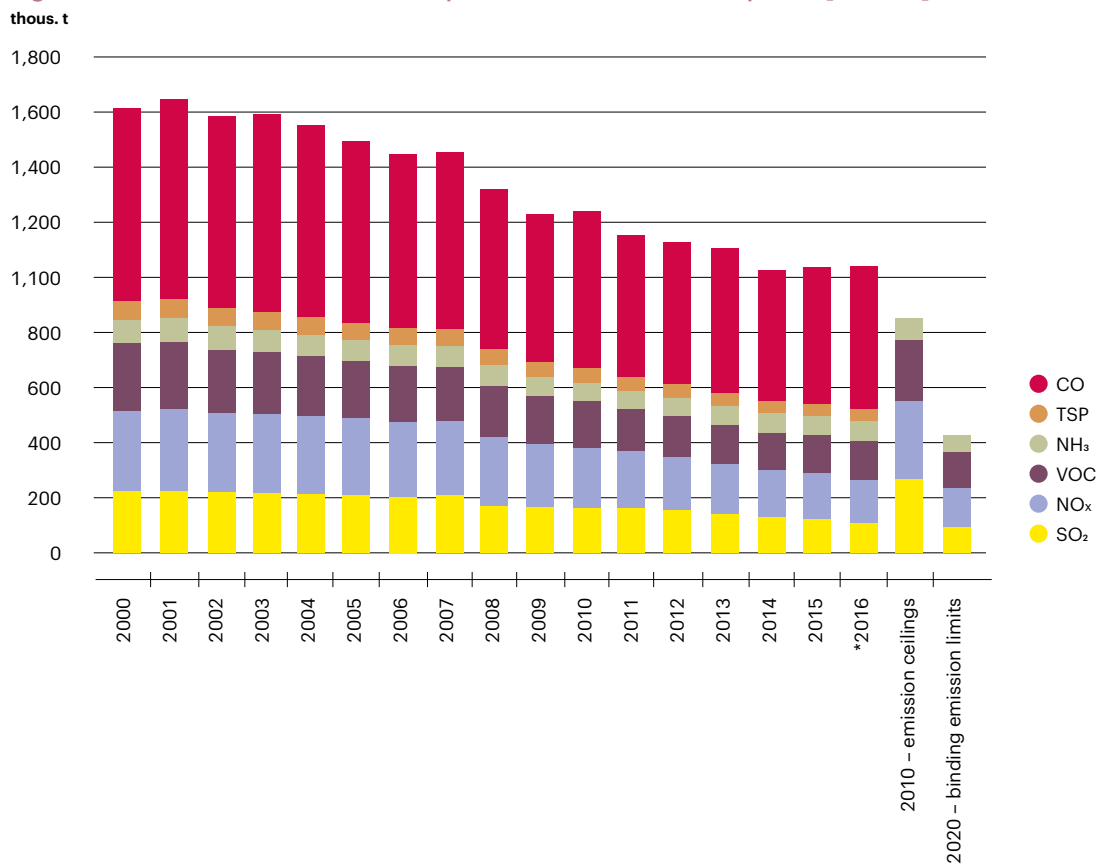
The **Czech Hydrometeorological Institute** can provide expertise for the operation and maintenance of the National Monitoring Network for the air quality of ambient environment (accredited by European Standard 17025). Moreover, it has extensive knowledge in the field of ambient air quality assessment and modelling. The CHMI also provides the public with current air quality data. This service is very important for the functioning of the Smog Warning and Regulatory System. CHMI is the National Air Quality Reference Laboratory and is experienced in collection of emission data and compilation of emission inventories and projections.

In addition, the CHMI operates AQIS (Air Quality Information System) which joins together data about ambient air quality, emissions from individual sources and information about greenhouse gasses. AQIS is the main source of air quality information including important metadata management. It is being continuously developed and upgraded.

The **Silva Tarouca Research Institute for Landscape and Ornamental Gardening** in the framework of the European cooperative programme UNECE ICP-Vegetation (<http://icpvegetation.ceh.ac.uk/>) has biomonitoring the current atmospheric deposition rates at about 200 permanent forest plots across the Czech Republic using moss analysis for about 25 years.



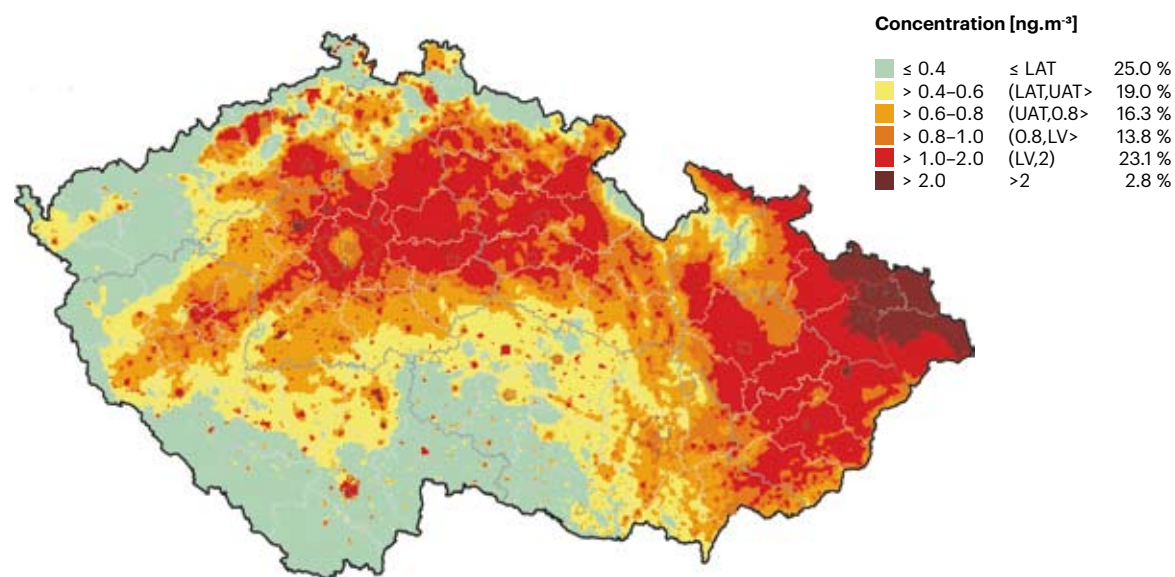
Figure IV: Total emissions of basic air pollutants in the Czech Republic [thous. t], 2000–2016.



\*Preliminary data.

Source: Czech Hydrometeorological Institute

Figure V: Field of annual average concentration of benzo[a]pyrene, 2016.



Source: Czech Hydrometeorological Institute



▲ Upupa epops, endangered species in the Czech Republic.

### 3.5. Nature conservation

The landscape of the Czech Republic harbours a significant part of the European natural heritage. Thanks to its unique geographic location, variety of geomorphological and natural conditions and the cultural-historical development, the Czech Republic is characterized by a great richness of wild plant and animal species and their communities/assemblages. In addition, it also encompasses many unique and rich landscapes, natural sites and areas. Therefore, we do our best to protect it.

Nowadays, there are **4 National Parks, 26 Protected Landscape Areas (PLA), 119 National Nature Monuments (NNM), 108 National Nature Reserves (NNR), 1,531 Nature Monuments and 814 Nature Reserves**, in total covering 16.8 % of the country's territory. In addition, there are **41 Bird Areas** and **1,111 Sites of European Importance** identified, established and managed pursuant to the EU nature conservation legislation, namely the Birds and Habitats Directives. Nature conservation and landscape protection outside the protected areas is also very important, aiming at maintaining as healthy and resilient ecosystems as possible to be able to provide humans with ecosystem services and thus contributing to human well-being.

National Parks in the Czech Republic are represented by the Krkonoše Mountains, Šumava, Podyjí and České Švýcarsko. The national parks are defined as extensive territories that are unique according to a national or international standard, a considerable part of which are natural ecosystems or ecosystems little affected by human activities, where plants, animals and inanimate nature are of an exceptional scientific and educational significance. The utilization of national parks must be subsidiary to the preservation and improvement of the natural conditions, and must be in conformity with the scientific and educational aims sought after in the proclamation of national parks. Existence of NPs has a strong socioeconomic function especially for regions. NP administrations create job opportunities, presence of the NP (NP label) can mean better access to support from public financial resources.

The national system of protected areas is complemented (and partially overlapped) by the Natura 2000 network which consists of 1,112 Sites of Community Importance and 41 Special Protection Areas. The Czech part of the European Natura 2000 network accounts for 14 % of the territory of the Czech Republic.

Based on information on recent developments and current data, a management for each specially protected area is established. It defines measures to preserve or improve the status of target features. For the Natura 2000 sites, similar documents called sets of conservation measures are prepared.

Conservation of the landscape outside the protected areas is also very important factor in the overall picture because many precious sites and habitats are placed in an open landscape where various activities like agriculture cultivation or forest management normally occur.

As mentioned above, the Nature Conservation Agency of the Czech Republic maintains, together with the National Park Administrations, the most valuable parts of nature and landscape in the Czech Republic. In addition to territorial conservation in PLA, NNR and NNM, it also implements action plans/recovery programmes for the most threatened wild plant and animal species, carries out monitoring of the target wild species and natural habitats across the whole country and gather, analyses, handle and provide data on state and on changes and trends in species and habitats. At present, the Species Occurrence databases managed by the NCA, includes more than 17.4 million records and it is supported not only by professionals, but also by citizen science.

Special and general species protection play significant role in the nature conservation inside and outside of protected areas. Special species protection in the Czech Republic focuses on more than 840 species of plants, animals and fungi threatened on national level as well as European level. Currently, there exist **8 action plans** (e.g. *Margaritifera margaritifera* or *Spermophilus citellus*) and **2 management plans** (*Lutra lutra* and *Castor fiber*) for specially protected species. The plans are prepared and implemented on the results of applied research. Several more plans are in preparation (e.g. for large carnivores, *Epidalea calamita*). Moreover, a series of **Red Lists** for all groups of organisms will be updated in 2017 by experts and the NCA.

Conservation and management planning go hand in hand with monitoring. The NCA has developed sophisticated system of obtaining information about the natural features in a form of monitoring of species and habitat types, including system of regular habitat mapping of the whole territory of the Czech Republic. The NCA has accomplished to set a system for management of data about the Czech nature, including verification and sharing of the data with research institutions and nature conservation authorities.

With respect to the international trade in endangered species protected by CITES Convention, the Czech Republic can share its experience and best practices regarding the implementation of this Convention and related EU Wildlife Trade Regulations, particularly in focus on legislation (incl. stricter domestic measures), national CITES e-permitting system for facilitation of issuing CITES permits and also on CITES enforcement to prevent and combat illicit wildlife trafficking.

The Czech State Nature Conservancy staff and scientists have an extensive experience and knowledge of nature conservation, landscape protection and biodiversity preservation and management.

#### Czech experience can be shared in the following areas:

- › Protected area management including the Natura 2000
- › Sustainable tourism
- › Forest, grassland and wetland management
- › Communication, education and public awareness
- › Biodiversity data gathering, analysis and handling
- › Preparation of action plans and management plans for threatened species
- › Implementation of CITES and its enforcement
- › Conservation planning
- › Ecological network setting up and management
- › System of monitoring of the habitat types and species of Community interest



### 3.6. Energy efficiency, clean energy and climate mitigation

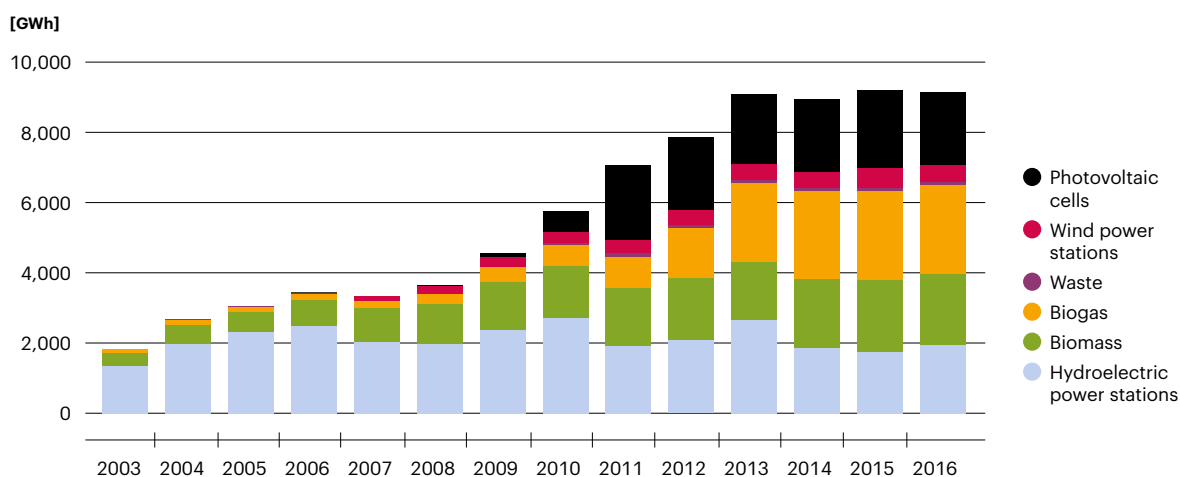
The energy efficiency represents a challenge and priority for the Czech Republic. The energy consumption is steadily decreasing in the Czech Republic due to better technologies, insulation of buildings or energy savings in households. Moreover, application of best available techniques and technologies as well as energy from low carbon-emission sources has been significantly promoted during the last years in order to help to achieve all three climate and energy targets for GHG emission reductions, energy efficiency and renewable energy by 2020 and 2030 based on EU policies and legislation. The Climate Protection Policy of the Czech Republic from 2016 summarizes short and long term goals and includes key policies and measures which contribute to those goals fulfilment.

To meet our climate and energy goals, it is important for the Czech Republic to use the Operational Programmes (OP) funded mainly from the EU Structural Funds. Due to the OP, application of best available techniques and technologies in industry, as well clean energy sources has been promoted significantly during last several years.

From National Programmes the New Green Savings Programme has become a one of the most successful and it has delivered significant contribution towards the energy efficiency goal of the Czech Republic to achieve almost 50 PJ of new energy savings by 2020.



Figure VI: Electricity generation from renewable energy sources (RES) in the Czech Republic [GWh], 2003–2016.



Source: Energy Regulatory Office

### The New Green Savings Programme

Website: <http://www.novazelenausporam.cz/en/>

The New Green Savings Programme (NGSP) builds on the existing Green Savings Programme. It is being carried out to ensure the use of the proceeds from the auction of EUA emission allowances (European Union allowance in accordance with Act No. 383/2012 Coll.), on the conditions of trading greenhouse gas emissions, as amended. The programme is implemented through the Ministry of the Environment and the State Environmental Fund of the Czech Republic.

The source of NGSP is a share of proceeds from auctioning EUA emission allowances within the EU ETS, designated in accordance with the law. The NGSP is realized between the years of 2014 and 2023, the programme revenues were CZK 6.8 billion at the end of 2016.

In the framework of NGSP, the actions to reduce the energy performance of buildings, particularly by building insulation and the support for the construction of new buildings with very low energy intensity, replacement of non-organic heat sources for efficient, environmentally friendly sources and installation of technologies based on renewable energy sources and recovery of heat from the exhaust air, are supported.

The NGSP is conceived as a growth-enhancing measure to support the economy of the Czech Republic with other social and environmental benefits, such as improving the quality of housing for citizens, improving the appearance of Czech cities and towns, the long-term trend of progressive reduction of emissions of greenhouse gases and local air pollution, reduction of energy consumption from non-renewable primary resources and increasing heat production from renewable energy sources.

The NGSP is depending on the object types which are the subject of support, broken down into three basic sub-programmes (family houses; apartment houses; buildings of the public sector) and a sub-programme to support the administration.

▼ Thermal insulation of a family house in Nymburk co-financed by the Green Savings Programme.







▲ Professional meteorological station at the Lysá hora Mt. in the Beskydy Mts.

### 3.7. Meteorology and climatology

The tradition of systematic monitoring of the atmosphere on the territory of the Czech Republic belongs to the longest in the world and reaches back to the year 1752, when meteorological measurements at the Clementinum station in Prague began.

Nowadays, the Czech Republic operates, as a member state of the World Meteorological Organization (WMO), through the Czech Hydrometeorological Institute (CHMI), a wide network of meteorological and climatological stations including systems for remote sensing of atmosphere and participates on international exchange of meteorological and climatological information.

The CHMI as a national meteorological service is responsible for meteorological measurement and observation, archiving, processing, and presenting the results of such measurements in a way that benefits society as a whole.

Meteorological and climatological data are used to create various forecasting and warning products (including special types, e.g. by combining rain gauges measurement with radar-based precipitation information); along with the data received from abroad enters the numerical weather forecasting model ALADIN. The meteorologists also prepare specialized forecasts for the safety of civil aviation, drought and fire risk, the operation of nuclear plants or for the road maintenance, especially during the winter.

The CHMI closely cooperates with the Integrated Rescue System, supplying with crucial information for crisis management decisions, and helping to respond to potential dangers in connection with, e.g. storm, torrential rain, heat waves, extreme frost, strong wind, changes in the ozone layer and solar radiation, floods, or smog.

Climatologists from the CHMI prepare long-term statistics and climate characteristics of the Czech Republic, which are used for many purposes (e.g. an agriculture planning, land use, preparing the state's energy policy, climate change studies, etc.). Climatological database (CLIDATA) developed by the CHMI is currently being used in 36 countries.



The CHMI monitors the ozone layer and its condition over the Czech Republic under the WMO GAW (Global Atmosphere Watch) programme and posts daily the total ozone and UV radiation on the CHMI's website. Monitoring of components of solar radiation in the Czech Republic is running in the CHMI's radiation network. Digitised long-term homogenised global radiation data series, together with records of sunshine measurements from certain stations, were stored in the CLIDATA climate database.

The CHMI actively contributes to the meteorological and climatological research and development abroad. The CHMI represents the Czech Republic in a number of international organizations, whose mission is to cooperate in the field of meteorology and share data, such as WMO, EUMETSAT (an intergovernmental organisation supplying weather and climate-related satellite data, images and products), EUMETNET (the association of European meteorological services, whose product is e.g. the Meteoalarm system ([www.meteoalarm.eu](http://www.meteoalarm.eu)), designed to present warnings across all of Europe), and ECMWF (the European Centre for Mid-Range Weather Forecasts). Experts from the CHMI also serve as appointed representatives of the Czech Republic in other organizations and groups, such as GEO (Group on Earth Observations), the IPCC (the Intergovernmental Panel on Climate Change), etc.

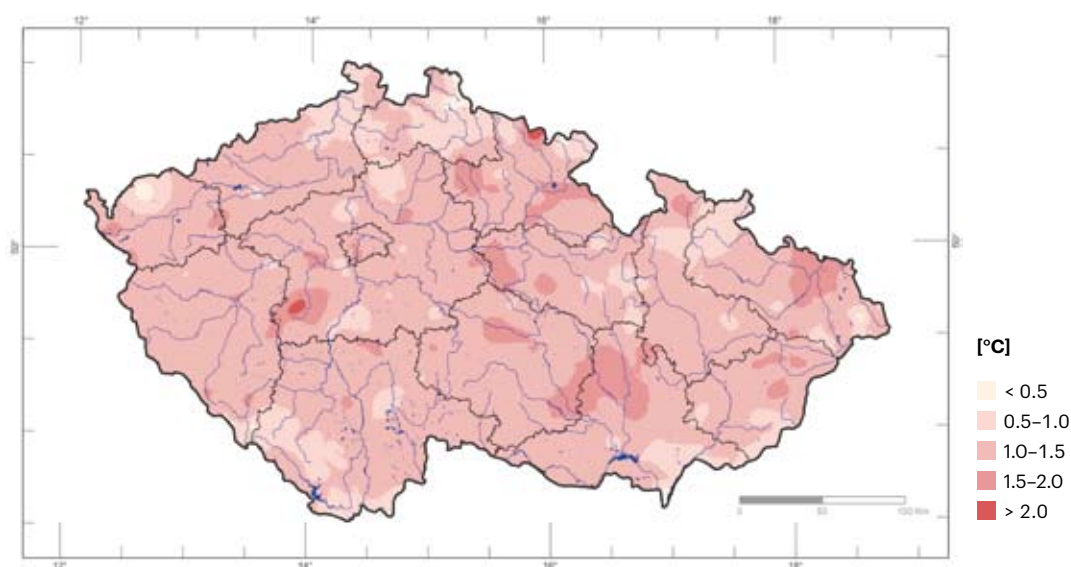
▼ Installation of Vaisala WRM-200 C-band polarimetric doppler weather radar on the Brdy-Praha radar site.



**The Czech Hydrometeorological Institute can provide expertise for:**

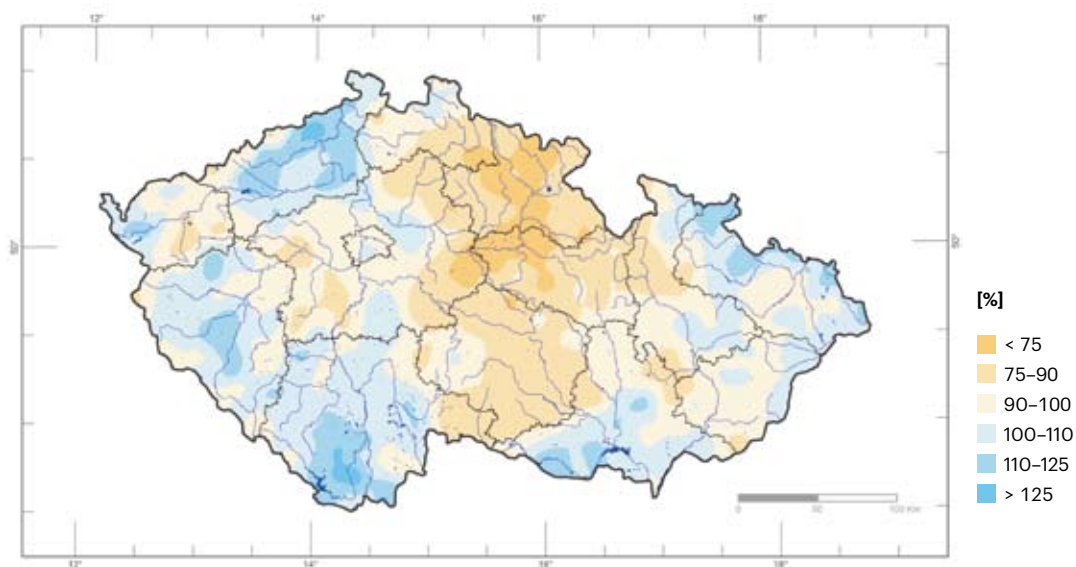
- Monitoring of meteorological atmospheric parameters and phenomena
- Long-term monitoring of components of solar radiation and ozone
- Training on climatological database (CLIDATA) developed by the CHMI
- Training on numerical weather predictions (ALADIN model)
- Remote sensing data processing and visualization
- Calibration of meteorological equipment (accredited by European Standard 17025)

**Figure VII: Deviation of annual mean air temperature in 2016 from the long-term air temperature normal 1961–1990.**



Source: Czech Hydrometeorological Institute

**Figure VIII: Annual precipitation amount in 2016 as percentage of the 1961–1990 normal.**



Source: Czech Hydrometeorological Institute



### 3.8. Mineral resources

Raw materials in the Czech Republic and abroad are the main area of interest of the economic geologists in the Czech Geological Survey (CGS), with focus on the optimal way of their utilization and upgrading the knowledge of national raw material potential, particularly in the field of the critical and energy resources.

Within the framework of competences of the state geological survey, a variety of activities were continually carried out on territory of the Czech Republic, related to gathering, processing and providing data on mineral resources, their protection and utilization. Attention was also paid to the mineralogical and geochemical assessment of mineral resources and evaluation of the impact of mining on the environment and history of mining.

Exploration geologists are working in a number of European research projects, participated in the studies of the mineral potential of several developing countries and of mining impacts on the environment.

▼ Marble quarry Mramorový vrch in the Jeseník district.





CGS influences the raw material policy in the Czech Republic on national and regional level in accordance with current public needs and sustainable development principles. CGS also provides information to the public in carrying out teaching, educational and popularization activities.

The project **Competence Centre for Effective and Ecological Mining of Mineral Resources (CEEMIR)**, supported by the Technology Agency of the Czech Republic and lead by the Technical University Ostrava, is currently one of the most important projects of CGS. The aim of the project is to study critical raw materials (CRM) of the EU, assess the suitable resources of CRM in the Czech Republic and propose a possible efficient and environment-friendly way of their mining and processing. Critical raw materials play important role in high technology products i.e. solar panels, energy saving materials, special alloys. The main task of the CGS in the project is to collect the current knowledge, provision of the knowledge and mineralogical and geochemical characterization of selected mineral deposits and prospective resources. The project started in 2014 and will be finished in 2019.

Other, but short term project, funded also by the Technology Agency of the Czech Republic, is oriented on technology and environmental accessibility of **rare and precious metals**.

The project entitled **Technical and economical inventory of natural construction aggregate quarries in the Czech Republic** was completed in 2014. In total, 113 catalogue sheets were prepared providing on-site information about the products, their certificates, data on special testing of alkalinity reaction, on abrasion tests and up-to-date information from field reconnaissance. This project, directly supporting industry of roads building, was funded by the Directorate for Roads and Motorways of the Czech Republic.

The Czech-Saxon **ArcheoMontan project** involved an extensive mineralogical and geochemical investigation of scorias from different archaeologically dated localities. One of the results has shown that the considerably vast iron ore mining in Přísečnice area was coupled by silver- and copper-ore extraction on at least two newly discovered localities. The project highlighted the need for close links between the archaeological and geological research. This project continues with ArcheoMontan II.

**Mineralogical and geochemical research** of mineral deposits is represented by many smaller projects. One of the projects entitled Five-element formation in Krušné hory Mts – mineralogy and geochemistry of ore minerals and ore-bearing processes was completed. It focused on the study of paragenetic associations and on geochemical and mineralogical investigation of the single mineral phases.

**Service for state geological survey** represents participating in compiling a number of expert reports serving as a basis for decision-making or for land-use planning according to the Geological Law for the Ministry of the Environment, the Ministry of Industry and Trade, regional and town municipalities. The most important among those reports are also the expert studies concerning on protection of mineral deposits or delimiting the mining areas, monitoring mining activities or special studies.

CGS has long-term tradition in the study of **the environmental impacts of mining**. At last time, ore mining and processing were studied under the terms of a project funded by the Czech Science Foundation in **Namibia**. The research of the potentially hazardous elements and study of isotopic composition of lead in the annual rings of trees has enabled to reconstruct the influence of emissions from the Tsumeb smelter on the environment within the past fifty years. At present, the main problem of ore smelting in Tsumeb is the high arsenic emissions into the atmosphere. Similar projects were implemented in **Zambia, Namibia and Burkina Faso**.

CGS is the leader of the UNESCO-IGCP-SIDA 594 project named Environmental impacts of mining in Africa. CGS experts supported minerals exploration in several other international expeditions, e.g. in Mongolia, Iran, Mali, Vietnam and Nicaragua.

## 4. Areas for cooperation and institutional support for cooperation with Czech companies

- There are various possibilities of cooperation with the institutions already mentioned above as well as with other governmental and non-governmental organisations (e.g. universities, research centres). Cooperation with companies and businesses can be facilitated with relevant associations and confederations listed below.
- The Czech Republic can offer its experience especially in the following areas:
  - waste management;
  - water protection and wastewater treatment;
  - remediation of ecological burdens;
  - improvement of air quality;
  - nature and landscape protection;
  - conservation and sustainable use of biodiversity;
  - promotion of energy efficiency.
- The Ministry of the Environment is ready to share environmental information and best practices including implementation of legislation and improvement of awareness on environmental (policy) issues.
- The Ministry of the Environment actively participates and supports a development and dissemination of clean environmental technologies.

### CzechTrade

 <http://www.czechtradeoffices.com/>

The agency is an official contact partner for foreign companies which are looking for qualified Czech-based products suppliers, services providers or investors. CzechTrade operates worldwide via 47 foreign representatives.

**Official database of Czech exporters:** <http://exporters.czechtrade.cz/en/>

### BusinessInfo

 <http://www.businessinfo.cz/en/>

The official Czech portal for business and exports is sponsored by the Ministry of Industry and Trade of the Czech Republic and is operated by CzechTrade, the agency responsible for promoting exports. It is an official Czech portal for business professionals searching information, assistance, or trade contacts in the Czech Republic. One of the main tasks of the portal is to help foreign businesses to navigate in the Czech business environment.

### CzechInvest

 <http://www.czechinvest.org/en>

Business and Investment Development Agency CzechInvest, is an agency of the Ministry of Industry and Trade. The agency contributes to attracting foreign investment and developing domestic companies through its services and development programmes. CzechInvest also promotes the Czech Republic abroad and acts as an intermediary between the EU and small and medium-sized enterprises in implementing structural funds in the Czech Republic.

### **Czech Export Bank**

 <http://www.ceb.cz/en/>

It is a specialised, directly and indirectly state-owned banking institution. It forms one of the pillars of the government's pro-export policy system. Its mission is to support Czech exports and the renown of the Czech Republic as a well-established international exporter, and thus promote the overall competitiveness of Czech products throughout the world.

### **Czech Chamber of Commerce**

 <http://www.komoracz.eu/>

It is an entity representing the entrepreneurial public and became an integral part of the economic life in the Czech Republic. It protects the interests of its members – small, medium and large enterprises associated in a network of regional chambers and trade associations.

### **Association of Small and Medium-Sized Enterprises and Crafts of the Czech Republic**

 <http://www.amszp.cz/>

On an open apolitical platform it associates small and medium-sized enterprises, as well as tradespeople and their organisations from the entire republic. It represents the interests of more than 260,000 entrepreneurial subjects and keeps its important position within European structures.

### **Confederation of Industry of the Czech Republic**

 <http://www.spcr.cz/en>

It is a voluntary, non-political and non-governmental body which is acting as the most important employers' organizations in the Czech Republic. It serves as an umbrella for 25 associations (so called collective members) together with 115 direct members. The total number of the members is reaching 1,600.

### **International Chamber of Commerce Czech Republic**

 <http://www.icc-cr.cz/en>

The main aim of ICC Czech Republic is to assist Czech companies and other businesses to integrate into world events through this prestigious world organization. Within the framework of its activities, ICC Czech Republic creates opinions and statements on issues sent by ICC Headquarters for examination. At the same time, this agenda is influenced to comply with interests of ICC Czech Republic members.



▼ Building of the Ministry of the Environment of the Czech Republic.





ENVIRONMENTAL PROTECTION IN THE CZECH REPUBLIC  
**EXPERIENCE AND KNOW-HOW**

Published by the Ministry of the Environment of the Czech Republic, Vršovická 1442/65, Prague  
[www.mzp.cz/en](http://www.mzp.cz/en)

---

Ministry of the Environment  
of the Czech Republic

Prepared by: Department of International Relations  
Ministry of the Environment of the Czech Republic

Photo credits: ČEZ a.s. (pg. 2), Kořenovky.cz (pg. 15) and MoE (the rest) – photography contest  
Moje Magické Místo  
Cover photograph: The River Vydra, NP Šumava

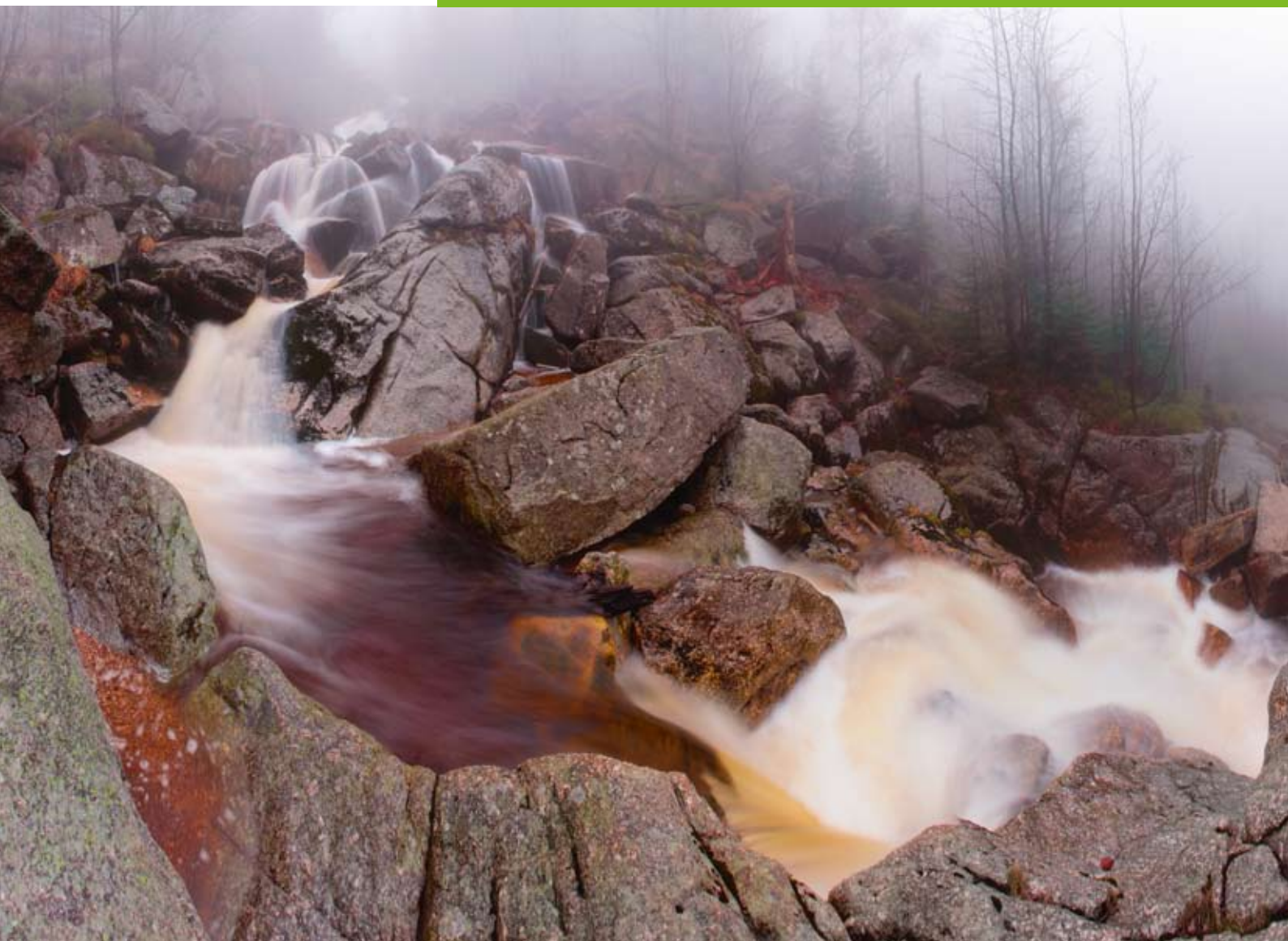
Printed by: P.O.S. FACTORY, s.r.o.  
Prague, 2017 (second edition)

First published in 2016  
No. of copies: 300 pcs

Copyright © 2017 Ministry of the Environment of the Czech Republic. All rights reserved

ISBN 978-80-7212-619-4

▼ The Jizera Mountains – Velký Štolpich.







---

Ministry of the Environment  
of the Czech Republic

**2017**