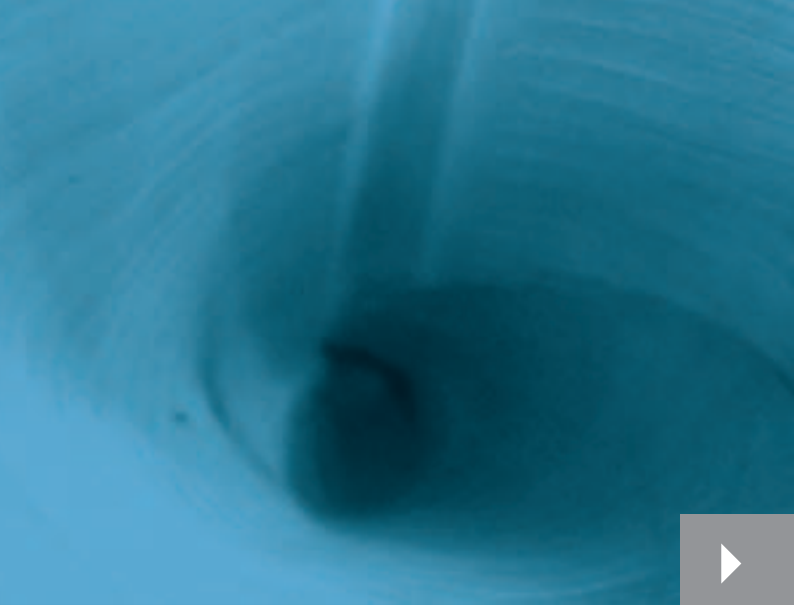


# 05



After 1989, the dismal state of the environment in the Czech Republic could not have been improved without a significant increase in the funds spent on its protection. The basis for the significant growth of investment in the environment was laid down by new legislation created after 1989. Not only demanding goals (e.g. the amount of emissions), but also deadlines for the achievement of these goals were determined.

In the 1990s, the amount of investment in air protection was important; after 1998, it was focused on investment in water protection ensuring a pollution decrease. The largest amount of investment in environmental protection was reached between 1995 and 1997 (over CZK 40 billion in 1997) due to events aimed at air pollution reduction (esp. desulphurisation). After 1998, the amount of funds spent on environmental protection was reduced, as the most important environmental problems of the 1990s had been solved.

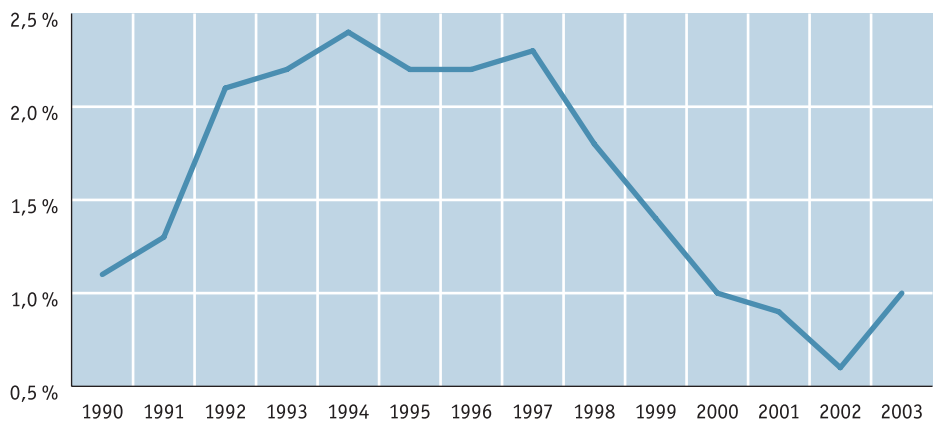
All data in this chapter in current prices (as it is not given differently)

### Environmental Investments

In the last fifteen years, over CZK 350 billion have been invested in environmental protection in the Czech Republic, and of that CZK 150 billion has come from central resources. Between 1992 and 1997 the investment in environmental protection reached the highest GDP percentage ever, 2–2.4% (graph 5.1), while it dropped to 0.7% of the GDP in 2002. Since 2002 it seems that the investment has been growing again.

**Graph 5.1**

**Total investment in environmental protection/GDP**



Source: Czech Statistical Office (CSO)

The unusual height of investments in the 1990s was especially influenced by the legal deadline of the end of 1998, by which the operators of all the large and medium-size sources of air pollution had to achieve tighter emission limits. Within the scope of this all power plants and large heating plants were dusted off and desulphurised. Such high investments, concentrated in a couple of years, will never be repeated again. At the beginning of the current decade the Czech Republic got into a stage when all relatively „cheap“ measures had been realised and every other improvement was markedly more expensive (the cost curves moved into a non-linear area).

**Table 5.1**

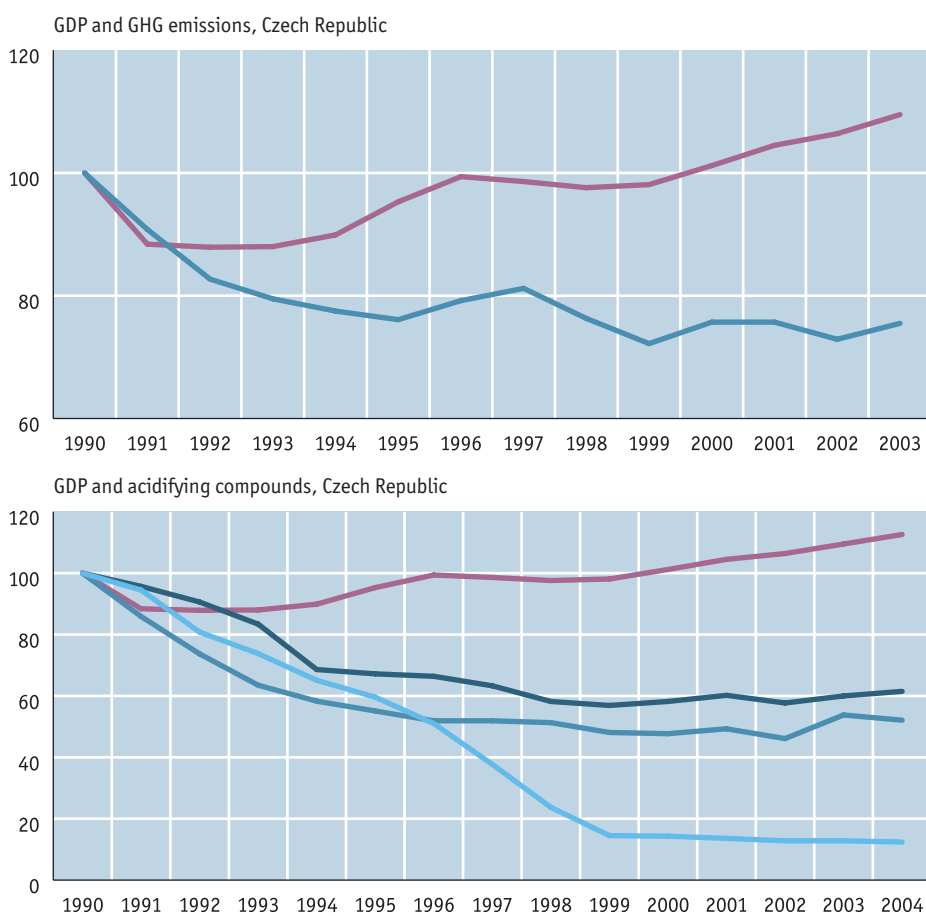
**Total investments in environmental protection in the Czech Republic (mil. CZK)**

| Projects  | 1989  | 1990  | 1991  | 1992   | 1993   | 1994   | 1995   | 1996   | 1997   | 1998   | 1999   | 2000   | 2001   | 2002   | 2003   |
|---|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| CR Total  | 3 602 | 6 048 | 9 376 | 16 954 | 19 890 | 28 272 | 32 252 | 37 036 | 40 503 | 35 160 | 28 956 | 21 399 | 19 892 | 14 919 | 19 383 |
| Waste water management  | 2 271 | 3 268 | 4 626 | 7 224  | 8 715  | 10 843 | 10 246 | 10 011 | 11 275 | 8 291  | 8 839  | 8 567  | 8 815  | 7 034  | 9 523  |
| Air and climate protection  | 692   | 1 688 | 3 187 | 5 755  | 7 876  | 13 489 | 17 886 | 21 475 | 22 323 | 20 141 | 15 762 | 8 407  | 7 057  | 4 149  | 4 179  |
| Waste management  | 639   | 1 092 | 1 427 | 3 115  | 2 893  | 3 127  | 2 772  | 3 449  | 4 765  | 4 698  | 2 597  | 2 270  | 1 463  | 1 236  | 2 125  |
| Reclamation of land   |       |       | 136   | 72     | 109    | 162    | 374    |        |        |        |        |        |        |        |        |
| Biodiversity and landscape protection                               |       |       |       |        |        |        |        | 659    | 1 081  | 1 162  | 1 091  | 1 549  | 1 437  | 511    | 405    |
| Reduction of noise and vibrations (apart from workplace protection) |       |       |       | 788    | 297    | 651    | 974    | 567    | 455    | 313    | 241    | 277    | 632    | 365    | 374    |
| Protection and revitalisation of soil, ground and surface water     |       |       |       |        |        |        |        | 875    | 604    | 555    | 426    | 329    | 488    | 1 027  | 2 153  |
| Protection against radiation  |       |       |       |        |        |        |        |        |        |        |        |        |        | 15     | 33     |
| Environmental research and development                              |       |       |       |        |        |        |        |        |        |        |        |        |        | 132    | 137    |
| Other activities of environmental protection                        |       |       |       |        |        |        |        |        |        |        |        |        |        | 450    | 454    |

Source: CSO

An issue itself is the new industrial technologies where regular investment within the innovation cycle leads to a lower environmental load in comparison with similar production and older equipment. „Decoupling“ has been relatively strong recently – in other words the level of pollution does not follow GDP growth any more.

Relation between GDP and level of environmental pollution, year 1990 = 100



Source: CHMI, CSO, CENIA

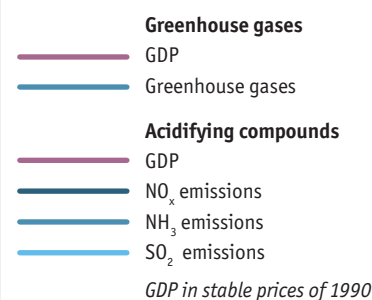
The problem of financial evaluation of the last fifteen years lies in the way in which the funds were used to meet environmental goals. Until 1995 the method of “nominal shares registration” for environmental protection introduced before 1989 had been used. This method did not cover a lot of investment and all non-investment measures. Since 1997 environmental expenditures have been registered according to the EU methodology.

## Sources of Financing

### STATE BUDGET

The state budget is the most important central source of financing environmental protection projects. Subsidies, refundable aids (free loans) and guarantees for commercial credits are covered by it. The structure of environmental protection costs corresponds to the budget structure issued by the Ministry of Finance from 1997 onwards. The same methodology of monitoring the environmental costs is applied also by the Czech Statistical Office and corresponds to statistical reports used in the EU.

Graph 5.2



According to current methodology, environmental protection activities involve:

- Water protection – waste water treatment plants, storage and accumulation tanks for controlled wastewater discharge, groundwater protection, construction of sludge beds, etc.
- Air and climate protection – elimination of emissions, using of ecological fuels, innovation of industrial technologies with significant or complete removal of emissions, etc.
- Waste usage and disposal – construction of recycling plants for municipal waste, of incinerators, composting plants, landfills, etc.
- Nature conservation and landscape protection – land reclamation, protection against corrosion, landslide and fire, river system revitalisation programme, etc.
- Reduction impacts of physical factors on the environment – reduction of noise, electromagnetic field intensity, radioactive radiation, etc.
- Protection and remediation of soil, ground and surface water including e.g. prevention from pollutant deposition in the soil incl. infiltration into water, prevention from soil contamination and degradation by chemical agents, and land remediation, land protection against corrosion, landslides and degradation caused by physical features, incl. the costs of solving the issue of landslides, costs of geological survey tasks in order to protect the soil, ground and surface water.
- Research and development focus on the protection of air, the climate and the ozone layer, of water, waste disposal, protection of soil and groundwater, reduction of noise and vibrations, protection of biodiversity and the landscape, protection against radiation, etc.
- Other activities to protect the environment include e.g. acquisition of long-term tangible property to prevent floods, education in environmental protection, training exercises, courses.

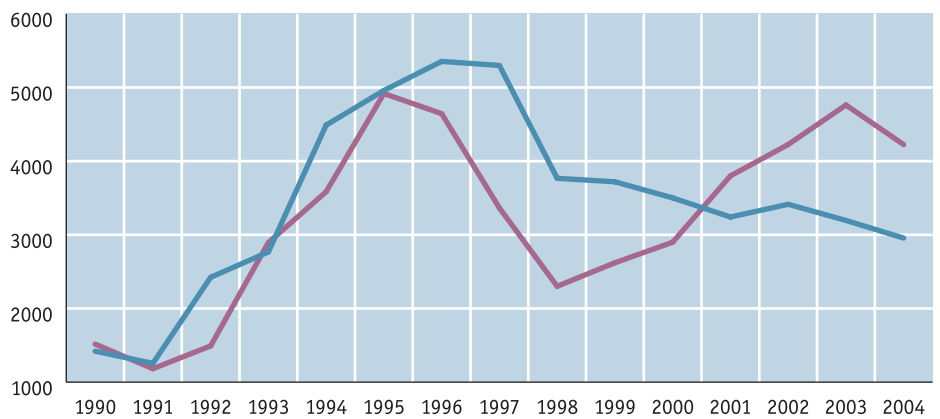
**Graph 5.3**

— Incomes  
— Expenses

### STATE ENVIRONMENTAL FUND OF THE CZECH REPUBLIC

To support environmental protection measures, Act No. 388/1991 Coll. established the State Environmental Fund (SEF), which accepted tasks of the former Air Protection Fund and State Water Management Fund. It is the second largest central resource for financing environmental protection. SEF incomes consist of charges for pollution, use of natural resources and a specified part of incomes from penalties for breaching environmental laws imposed by the Czech Environmental Inspectorate. Under Act No. 388/1991 Coll., state subsidies can be granted to SEF – however, this option has not been applied yet. In 1994–1997 SEF was funded by the National Property Fund in the amount of CZK 6.1 billion. This finance was a share of “small” privatisation revenue addressed to the National Clean Air Programme.

### Total incomes and expenditures of the State Environmental Fund CR (b il. CZK)



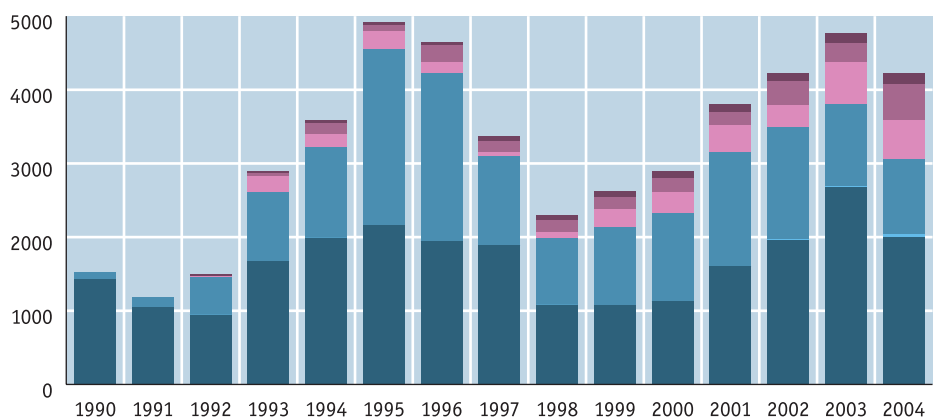
Source: SEF

The SEF has contributed to the implementation of many environmental protection measures in the form of subsidies, loans and contributions to cover partially the interest accrued. The support is intended for measures according to programmes declared annually by the Ministry of the Environment. The areas of support can change according to defined priorities. Since 2002, the SEF has been an implementation agency for EU pre-structural fund ISPA, the Cohesion Fund and the Operational Programme Infrastructure (OPI). By now, the fund has supported 11,665 events and projects, spending more than CZK 45 billion, and thus has become an important tool of environmental policy.

**Graph 5.4**

■ Others  
■ Nature  
■ Waste  
■ Air  
■ ISPA  
■ Water

### SEF expenses according to the environmental items (bil. CZK)



Source: SEF

## NATIONAL PROPERTY FUND OF THE CZECH REPUBLIC

The National Property Fund of the Czech Republic (NPF) founded by Act No. 171/1991 Coll., is another central resource of financing the recovery measures. In the area of environmental protection, it focuses on reclamation related to old ecological burdens in privatised companies. Reclamations of polluted areas, which represent the most serious danger to the environment, are preferred. The NPF will be dissolved as of 31 December 2005 and will be replaced by the Ministry of Finance. By 1 May 2005, NPF had supported 277 events in the area of reclamation, spending almost CZK 24 billion.

### Expenditure on environmental protection and drinking water from central sources in the Czech Republic (bil. CZK)

| Year               | State budget | State funds <sup>2)</sup> | NPF   | Total  |
|--------------------|--------------|---------------------------|-------|--------|
| 1990               | 3 200        | 1 900                     | 0     | 5 100  |
| 1991               | 7 500        | 1 500                     | 0     | 9 000  |
| 1992               | 10 700       | 1 500                     | 0     | 12 200 |
| 1993               | 9 100        | 2 900                     | 0     | 12 000 |
| 1994               | 10 000       | 3 600                     | 100   | 13 700 |
| 1995               | 9 201        | 4 955                     | 818   | 14 974 |
| 1996               | 8 325        | 4 645                     | 935   | 13 905 |
| 1997 <sup>1)</sup> | 4 401        | 3 269                     | 1 392 | 9 062  |
| 1998               | 4 732        | 2 278                     | 2 174 | 9 184  |
| 1999               | 5 540        | 2 610                     | 1 768 | 9 918  |
| 2000               | 5 038        | 2 884                     | 2 143 | 10 066 |
| 2001               | 4 314        | 3 711                     | 2 727 | 10 752 |
| 2002               | 4 955        | 4 132                     | 3 230 | 12 317 |
| 2003               | 5 988        | 4 723                     | 2 587 | 13 298 |
| 2004               | 6 614        | 4 203                     | 3 563 | 14 380 |

Source: CSO

## LOCAL BUDGET EXPENSES

Local budget expenses, i.e. budgets of municipalities and until 2002 district offices, and regional budgets since 2001, are also used as an environmental protection resource. While state subsidies are granted on the basis of specified and approved programmes or titles, particular expenses are included in the national budget law for a respective year and approved by the Parliament; subsidies of municipalities or regions are granted continuously on the basis of the competence of municipalities or regions. It usually applies to local events – e.g. wastewater discharge and treatment, air protection, waste disposal, soil and groundwater protection, nature and countryside protection and measures related to appearances of municipalities and public greenery.

## OWN RESOURCES OF PRIVATE INVESTORS

The most important sources for environmental protection are own resources of private investors. Their share constitutes about two thirds of investment costs spent for this purpose. The collection of funds for specified measures at the level of individual investors was thus one of the main problems in the area of protection of the environment.

Table 5.2

<sup>1)</sup> Drinking water expenses have been excluded from the environmental expenses since 1997.

<sup>2)</sup> Until 1996 only the State Environmental Fund, the State Fund for Soil Fertilization and State Agriculture Intervention Fund.

Note: Until the EU budget structure was adopted in 1997 the data comparability was restricted by a number of changes in the methodology.

Table 5.3

By the end of 1994 environmental investments had not been registered according to the sources of financing.

Acquired investment in environmental protection (bil. CZK)

| Year | Total acquired investments | Own resources | Grants and subsidies from public budgets | Grants and subsidies from abroad | Credit, loans, etc. | Other |
|------|----------------------------|---------------|--|----------------------------------|---------------------|-------|
| 1995 | 32 280                     | 17 108        | 7 276                                    | 1 892                            | 4 586               | 1 418 |
| 1996 | 37 037                     | 22 921        | 5 659                                    | 152                              | 7 138               | 1 166 |
| 1997 | 40 503                     | 24 843        | 5 570                                    | 277                              | 7 586               | 2 226 |
| 1998 | 35 160                     | 23 555        | 3 338                                    | 184                              | 6 680               | 1 402 |
| 1999 | 28 956                     | 21 960        | 2 572                                    | 174                              | 3 566               | 684   |
| 2000 | 21 400                     | 15 751        | 2 597                                    | 265                              | 2 441               | 346   |
| 2001 | 19 892                     | 12 465        | 3 640                                    | 589                              | 2 482               | 716   |
| 2002 | 14 918                     | 9 808         | 2 190                                    | 132                              | 1 713               | 1 075 |
| 2003 | 19 383                     | 11 189        | 3 477                                    | 604                              | 3 115               | 998   |

Source: CSO

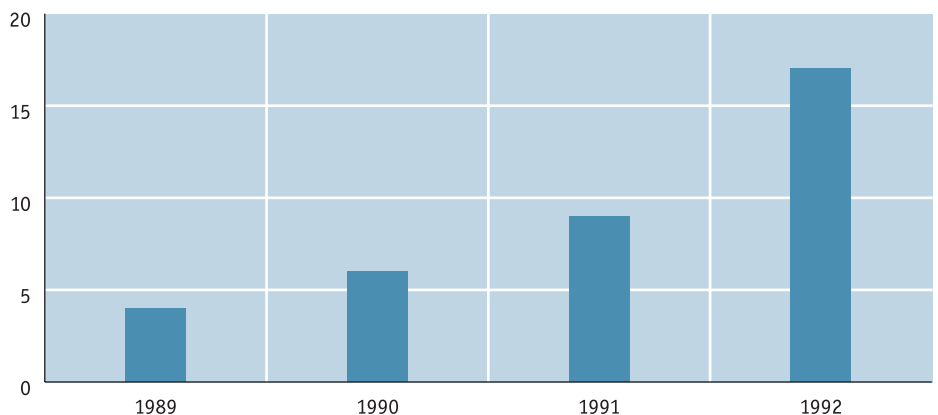
### Founding Period (1989–1992)

Between 1990 and 1992 the investment and expenditures into the environment in the Czech Republic increased significantly. The reason was the effort to improve the bad condition of the environment. The total investment volume increased from CZK 3.6 billion in 1989 to CZK 17 billion in 1992 and the dynamics of investment growth proportionate to GDP were the highest in the last 15 years.

In 1991 the State Environmental Fund of the Czech Republic was established and owing to a gradual increase in pollution charges this institution started to support activities and measures of environmental protection.

Graph 5.5

Investment in the environment in the Czech Republic 1989–1992 (bil.CZK)



Source: CSO

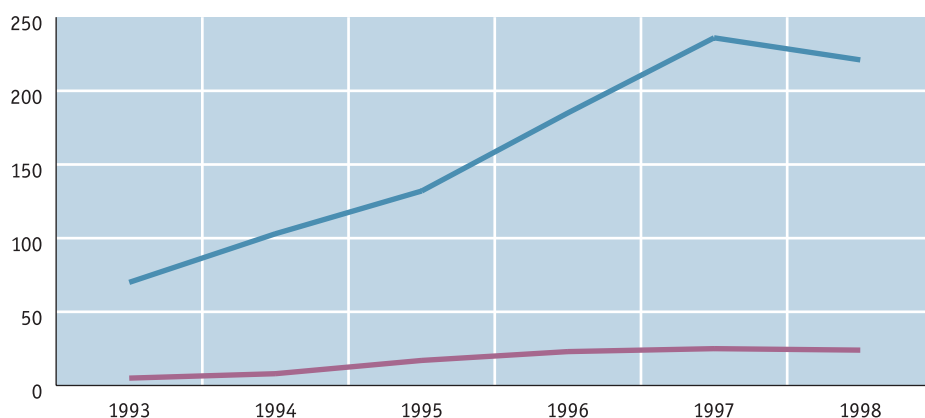
In 1992 the so-called deferred payment of the charges was introduced. This means that polluters may use the resources to finance directly their environmental investment provided that they take measures with respect to the pollution source. Deferred payments amounting to 40–80% of the total charges were a significant financial resource and a stimulus for implementation of environmental measures.



## Implementation Period (1993–1998)

Between 1993 and 1997 investment into the environment was at its peak, amounting to 2.1 to 2.4% of GDP (see graph 5.1). In absolute values it was CZK 20 billion in 1993 with a CZK 40 billion accrual in 1997, which was the greatest amount of the whole assessed period.

### Gross fixed capital formation – private resources (bil. CZK)



Source: CSO

The advance of privatisation also meant increased investments paid for by private resources, in other words by companies established in compliance with the Commercial Code. Private investment aimed at air and water protection and waste management. This environmental investment as a share of the gross fixed capital formation is given in graph 5.6. Public investment (or investment goals controlled by municipalities) were aimed at public interest facilities, especially urban water treatment plants, environmental measures concerning municipal heating plants and public institutions (hospitals, schools, military quarters, etc.).

The State Environmental Fund co-financed many environmental measures, especially in the municipal sector. An important stimulus to reduce the emissions of small and medium pollution sources was the National Clean Air Programme financed with CZK 6.1 billion transferred from the National Property Fund to the State Environmental Fund between 1994 and 1997. It was in particular this programme that helped the gasification of more than 2,000 cities and municipalities between 1992 and 2004.

Remediation of old environmental burdens, financed by the National Property Fund, started in 1994 (after the 2<sup>nd</sup> wave of the coupon privatisation). Since it concerns only the 2<sup>nd</sup> wave of privatisation, some old environmental damage in companies privatised during the 1<sup>st</sup> wave has not been removed yet.

## Pre-Accession Period (1999–2003)

Between 1999 and 2002 investment in the environment was decreasing, and since 2003 we have been experiencing an opposite trend. The reason for that was to meet the objectives prescribed by air protection law (completion of the desulphurisation programme of coal-fired power plants and heating plants) and a slow growth of investment into a better water quality.

While in 1999 the investment amounted to CZK 29 billion, in 2002 it was CZK 15 billion and in 2003 CZK 19 billion. The biggest expenses have been used for waste water treatment, especially construction of the sewage system and water treatment plants in municipalities and cities in compliance with the requirements of adopted European regulations, in particular Council Directive No. 91/271/ECC.

Graph 5.6

— Gross fixed capital formation  
— Gross investment into the environment from private resources

### Investment by ČEZ, a. s.

The environmental programme of ČEZ, a. s. (Czech Power Company), played a major role in the decrease in air pollution during the 1990s. The programme was implemented between 1992 and 1998. ČEZ, a. s., was also the biggest private investor in the environment during the 1990s. They invested over CZK 46 billion into remedial measures.

Before the upgrading and desulphurisation programme of coal-fired power plants started, their total installed capacity was 8,482 MW. A part of the capacity was phased out completely, and a major part of the power plants was upgraded and desulphurised. The total 6,462 MW of the installed capacity was desulphurised of which 5,930 MW were cleaned by means of the combustion gas removal (5,710 MW wet scrubber removal, 220 MW medium-dry scrubber method), 497 MW by replacement of old boilers with upgraded new ones, fitted with fluid combustion, and 35 MW by a fuel change.

Further work on coal sources cleaning started the phase-out programme of the oldest equipment. A total of 2,020 MW were phased out in 20 production units of coal-fired power plants. 1,640 MW were phased out in northwestern Bohemia which was affected most by the bad environment due to a high concentration of energy and industrial productions.

Emissions of SO<sub>2</sub> and dust from ČEZ sources dropped by 90% by 2000, compared to 1990, and emissions of nitrogen oxides by 50%.

Source: ČEZ, a. s.

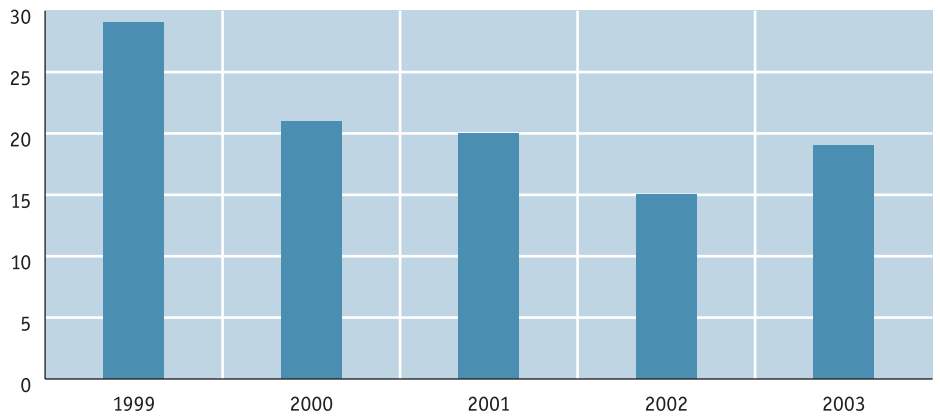


**Graph 5.7**

**Investment in the environment in the Czech Republic 1999–2003 (bil. CZK)**

According to the Framework Strategy of Financing the Investments Ensuring Implementation of the Environmental Law of the EC, which was adopted by the Government Decision No. 1230/1999, meeting the requirements resulting from the adopted legal regulations of the European Communities will require investment to the extent of CZK 304.1 billion by 2010.

According to the recently made calculations, it will be necessary to invest around CZK 180 billion in the time period 2005–2010.



Source: CSO

**Graph 5.8**

**Current and capital costs of environmental protection from public budgets**

- Other environmental activities
- Administration of the environment
- Environmental research
- Waste management
- Biodiversity and landscape protection
- Water protection
- Reduction of impacts of physical factors
- Air protection
- Soil and groundwater protection



Source: MoE and Ministry of Finance

## European Period (from 2004)

With respect to the cost of the EC directive on waste water treatment, the amount of investment into the environment and its percentage of GDP is increasing again, although it has not reached the level of 1995–1998.

The state budget deficit hinders higher subsidies into the environment. The income of the SEF from pollution charges has been decreasing on a long-term basis which is caused by implementation of various environmental measures and also by a production slump of certain big polluters.

As the public investment into environmental protection has been stagnating for the last years the weight of private environmental investment is expected to be dominant (approximately 2/3). Investment from private resources is important especially in order to meet the demanding goals of water protection.

Resource acquisition for compliance with European requirements has become a topical problem of environmental financing, both at public and private levels.

## Tax Relief due to Environmental Protection

In recent years, several other economic measures favourable to environmentally-friendly technologies and/or means of transport and fuels, have been applied for the protection of the environment. They have included mainly exemptions from the road tax for some modes of transport; variances in excise duties on leaded and unleaded petrol; exemption from the property tax in case of real estates important for environmental protection; and application of a reduced VAT rate on some environmentally-friendly products.

In the early 1990s environmental tax reliefs were only exceptional. The whole system of taxation was rather unclear, especially because of the sales tax. This tax consisted of hundreds of rates and was used instead of the VAT and concise taxes. In this context we should point out a high sales tax imposed on the sale of passenger vehicles and fuels.

Different kinds of tax reliefs are provided only according to the environmental cost determination as specified by the Ministry of the Environment, the Ministry of Finance and the Czech Statistical Office. This list is not complete. Other tax reliefs (e.g. income tax, inheritance tax, gift tax and real property transfer tax) have not been monitored by the Ministry of Finance.

On 1 January 1993 the Czech Republic made a tax reform. New tax laws contained a number of tax reliefs for environmental protection.

### REAL ESTATE TAX

The tax relief of the real estate tax for environmental reasons is specified in letters h), j), k), l), m), o) of Article 4, and regarding construction in letters l), m), r) of Article 9 of Act No. 338/1992 Coll., on Property Tax.

### Amounts of individual exemptions from real estate tax for reasons of environmental protection (mil. CZK)

| Year        | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Estate land | 87   | 93   | 80   | 66   | 66   | 64   | 65   | 60   | 62   | 60   | 59   | 61   |
| Buildings   | 40   | 130  | 177  | 176  | 218  | 242  | 233  | 217  | 191  | 178  | 159  | 155  |
| Total       | 127  | 223  | 257  | 242  | 284  | 306  | 298  | 274  | 253  | 238  | 218  | 216  |

Source: Calculated by CENIA according to data provided by the Ministry of Finance

Table 5.4

Table 5.5

**The amounts of tax exemption from road tax for reasons of environmental protection (bil. CZK)**

| Year | Letter e) | Letter i) | Letter j) | Letter k) | e+i+j+k total | Car age surcharge | Environmental reasons |
|------|-----------|-----------|-----------|-----------|---------------|-------------------|-----------------------|
| 1995 | 43        | 69        | 380       | 1,1       | 483           | –                 | 493                   |
| 1996 | 182       | 70        | 614       | 0,7       | 867           | –                 | 867                   |
| 1997 | 211       | 69        | 964       | 0,5       | 1244          | –                 | 1244                  |
| 1998 | 206       | 124       | 1315      | 0,6       | 1645          | –                 | 1645                  |
| 1999 | 205       | 0         | 0         | 0         | 205           | –                 | 205                   |
| 2000 | 214       | 27        | 308       | 0         | 549           | –                 | 227                   |
| 2001 | 216       | 175       | 1307      | 0         | 1698          | –                 | 304                   |
| 2002 | 214       | 386       | 721       | 0         | 1321          | -194              | 407                   |
| 2003 | 149       | 491       | 693       | 0         | 1334          | -161              | 394                   |
| 2004 | 167       | 569       | 567       | 0,1       | 1303          | -18               | 392                   |

Source: Calculated by CENIA according to data provided by the Ministry of Finance

e) City transport vehicles, i.e. buses and trolley-buses. According to Act No. 143/1996 Coll. also vehicles of domestic line traffic with over 80% of the mileage since 1996.

i) Combined transportation vehicles (containers) up to 50 km in rail, water and air transportation (cancelled as of 1 January 1999). The tax relief applies only to combined transportation which is not monitored any more. The combined transportation included a road-air entity that was not environmentally friendly. Since 2000 letter i) has provided for a tax relief for complying with the emission limits of Euro 3.

j) Vehicles complying with the emission standard given by the Directive 91/542/EEC and 94/12/EEC. According to the Act No. 16/1993 Coll., on Road Tax as amended, there are exemptions for cars compliant with the EURO 3 norm at 66%, and for cars compliant with EURO 2 norm at 60%.

k) Electric cars.

A surcharge to the road tax for the age of a vehicle was introduced in 2002. Its impact was CZK 194 million in 2002, CZK 161 million in 2003 and CZK 18 million 2004.

**ROAD TAX**

The road tax provides for reliefs in compliance with Article 3 of Act. No. 16/1993 Coll., on Road Tax as amended.

**CONCISE TAX ON FUELS**

The concise tax on fuels was determined by Act No. 587/1992 Coll., on Concise Tax, and since 2003 it has been given by Act No. 353/2003 Coll. Rates of the sales tax and concise tax on fuels grew only a little between 1989 and 2004 in comparison with consumer price inflation. Therefore environmentally demanding road transportation was indirectly preferred. International water transportation and environmentally demanding international air transportation have been exempted from any concise taxes on fuels based on international agreements. Domestic air transportation has been exempted from the concise tax on fuels since 1 January 2001 and domestic water transportation since 1 January 2004. In 2004 the extent of this allowance was CZK 178 million for water transport and CZK 5446.4 million for air transport.

A lower sales tax rate was applied between 1991 and 1992 and a lower concise tax rate on unleaded petrol between 1993 and 1995. The tax advantage of unleaded petrol was cancelled from 1 January 1996 and since 1 January 2001 it has not been possible to sell leaded petrol.

A zero concise tax on biodiesel was applied until 2000. A lower concise tax rate has been applied to LPG used as a fuel for vehicles. Until 2003 there was a zero concise tax on CNG used as a vehicle fuel. A relatively high concise tax on CNG and substantially increased concise tax on LPG and diesel oil were applied in 2004, and the concise tax on petrol has been increased too. Economic advantages of more environmentally-friendly fuels in the form of lower concise taxes dropped in 2004 to ca ½.

**The amount of the economic advantage for reasons of environmental protection in concise tax for automotive fuels in transportation of the Czech Republic (bil. CZK)**

| Year | Unleaded petrol | Biodiesel fuel | Liquified gases LPG | Compressed gases CNG | Total |
|------|-----------------|----------------|---------------------|----------------------|-------|
| 1993 | 438             | low            | low                 | 10                   | 448   |
| 1994 | 876             | low            | low                 | 21                   | 897   |
| 1995 | 1 103           | 209            | 12                  | 28                   | 1 352 |
| 1996 | 0               | 250            | 38                  | 30                   | 318   |
| 1997 | 0               | 1 398          | 62                  | 33                   | 1 493 |
| 1998 | 0               | 1 261          | 557                 | 40                   | 1 858 |
| 1999 | 0               | 1 624          | 658                 | 48                   | 2 330 |
| 2000 | 0               | 315            | 710                 | 50                   | 1 075 |
| 2001 | 0               | 79             | 827                 | 41                   | 947   |
| 2002 | 0               | 395            | 1 051               | 50                   | 1 496 |
| 2003 | 0               | 648            | 1 118               | 51                   | 1 817 |
| 2004 | 0               | 424            | 554                 | 2                    | 980   |

Source: Calculated by CENIA according to the concise tax rates and estimated transport consumption (Transport Research Centre Brno)

### VALUE ADDED TAX

A lower VAT rate (5%) covered a whole number of products between 1993 and 2003 supporting fuel and energy savings (especially flow metres), use of renewable fuels and energy sources and biodiesel. These were mostly lower absolute but important relative values.

The advantage of 5% VAT on biodiesel until 1996 concerned very small amounts at first, but later as the biodiesel production increased it became more significant – see the table below. Economic advantages of biodiesel must be considered as a sum of the concise tax advantage, the VAT advantage (including potential recovery) and subsidies.

### Biodiesel subsidies of rape – advantage of 5% VAT rate (bil. CZK)

| Year    | 1997    | 1998    | 1999    | 2000 | 2001 | 2002 | 2003 |
|---------|---------|---------|---------|------|------|------|------|
| Subsidy | 100–150 | 100–150 | 200–250 | 958  | 624  | 835  | 836  |

Source: Ministry of Agriculture

Inclusion of three-port catalysts into the 5% VAT rate amounted to an advantage of CZK 300–900 million per year between 1993 and 2003 depending on the number of produced cars.

Since 2004 all products under the lower VAT rate (for the purpose of environmental protection, fuel and energy savings and use of renewable sources) have been transferred to the basic VAT rate, i.e. 22% (respectively 19% as of 1 May 2004).

**Table 5.6**

### Sale of fuels for transportation in the Czech Republic in 1993–2004 (thous. t)

| Year | Petrol total | Diesel   | Others |
|------|--------------|----------|--------|
| 1993 | 1 425,60     | 1 682,50 | 175,30 |
| 1994 | 1 651,60     | 1 685,60 | 140,50 |
| 1995 | 1 684,40     | 1 982,90 | 207,00 |
| 1996 | 1 850,10     | 2 285,30 | 194,50 |
| 1997 | 1 941,00     | 2 239,60 | 330,50 |
| 1998 | 1 788,70     | 2 275,00 | 356,50 |
| 1999 | 1 975,60     | 2 232,00 | 433,30 |
| 2000 | 1 920,60     | 2 393,10 | 484,30 |
| 2001 | 1 977,60     | 2 668,40 | 481,10 |
| 2002 | 1 979,00     | 2 659,30 | 529,30 |
| 2003 | 2 110,80     | 3 046,00 | 599,90 |
| 2004 | 2 305,20     | 3 413,50 | 591,30 |

Source: Transport Research Centre Brno

**Table 5.7**



## PAYMENTS FOR ENVIRONMENTAL IMPACTS

The new system of environmental protection, developed in the Czech Republic after 1989, uses a wide variety of economic instruments, including various payments for pollution and utilisation of the natural resources.

The payments have been utilised since the mid 1960s. They include charges for air pollution, charges for discharge of waste water into surface water, charges for consumption of surface and ground water, as well as charges for the use of agriculture land resources.

The transformational changes since the beginning of the 1990s (especially privatisation and the introduction of the market economy) created the need for the application of economic measures, mainly with regard to impacts of these payments on entities polluting or utilising the living or natural environment. The environmental law has been changed significantly, including changes related to the extent and structure of pollution sources, charges for pollutants, rates of charges and other aspects related to the charges.

In the 1990s, other charges were introduced – especially for waste dumping, extraction of mineral resources and forestland exclusion.



## ▶ Payments for Environmental Impacts

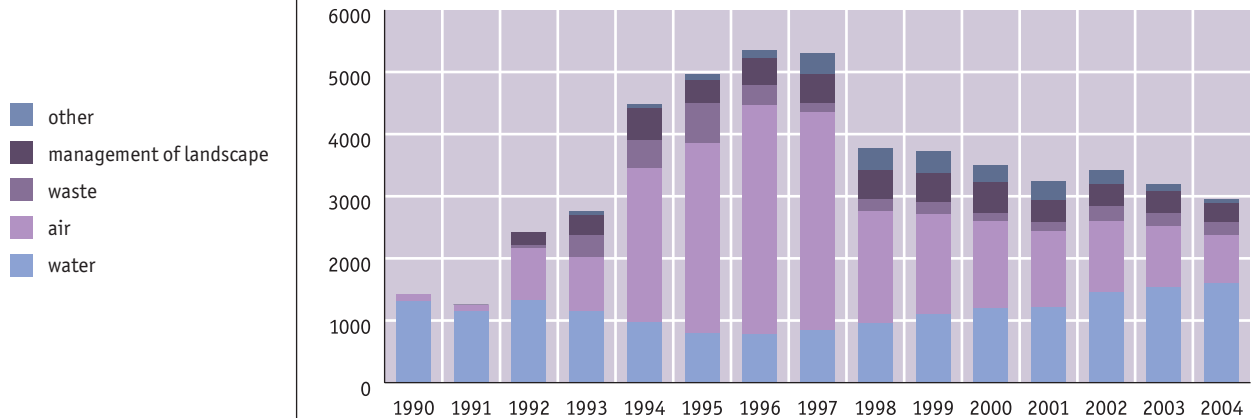
Some general payments – such as excise duty on fuels, and some local charges – function partially as payments for the pollution or utilisation of the environment as well. Some other payments – such as specific environmental taxes, compensation for environmental damages or other payments for utilisation of natural resources – have only been proposed.

Payments for damage to the environment have not been high enough to actively effectuate environmental protection, even though the introduction of a market economy provided a more suitable instrument for its realisation.

Within environmental policy tools the application of administrative tools significantly prevails (definition of limits, standards, bans, regulation, etc.). Economic instruments (incl. payments) thus serve only as a complement to the administrative tools, and are usually not considered equivalent in the process of forming a particular policy in individual segments. The main reason for their existence is their fiscal effect – it means the possibility to use income from the payments for the financing environmental protection or for compensation for negative impacts. E.g. income from payments to the State Environmental Fund of the Czech Republic (SEF) is used completely in this manner.

**Graph 6.1**

**Income of SEF Acc. to environmental components (mil. CZK)**



Source: SEF

The charges are paid according to the rules stipulated by relevant laws (including rates per pollution unit). They are paid mainly by industrial companies and companies providing services to citizens (e.g. within the supply of drinking water, and waste water discharge and treatment, within municipal waste treatment, within centralised heating supply). The payment of the charges is controlled mainly by the Czech Environmental Inspectorate or regional authorities, most of the charges are collected by tax offices and the financial revenue is received by the State Environmental Fund of the Czech Republic or municipalities. The majority of the collected charges are used to support activities dedicated to environmental protection.



## Founding Period (1989–1992)

At the turn of the 1980s and 1990s, charges in the Czech Republic included:

- charges for polluting the air <sup>1)</sup>
- charges for the discharge of waste water into surface water, charges for withdrawal of groundwater and charges for withdrawal of water from water courses <sup>2)</sup>
- charges for agricultural land use <sup>3)</sup>

Under the condition of a centrally-controlled and planned economy (i.e. till 1989), these charges did not act as an economic incentive that would influence payers towards more environmentally-friendly behaviour. However, the stage was set for the further application of these payments, esp. for their incorporation into legislation occurring at the beginning of the 1990s.

### AIR POLLUTION CHARGES

Air pollution charges are regulated by Act No. 309/1991 Coll. on the Protection of Air against Pollutants, and Act No. 389/1991 Coll. on the State Administration of Air Protection and on Charges for Air Pollution. Important changes related to the extent and structure of pollution sources, charged pollutants, rates of charges and other aspects related to air pollution charges were adopted here.

From 1992 to 1994, the charges for small air-pollution sources (heat output up to 50 kW) utilised for business purposes was set at a fixed amount of up to CZK 10,000 per year and was levied by the relevant local authority.

If a pollution source exceeds the stipulated emission limit, a surcharge amounting to 50% is added to the stipulated basic charges (emission volume multiplied by rate). The charges were stipulated by means of the so-called “start-up curve”, which means that they amounted to 30% from 1992 to 1993; 60% from 1994 to 1995; 80% in 1996; and 100% from 1997.

### Charges for air pollution imposed on operators of large (including extra large since 2003) and medium sources of pollution (CZK/t)

| Pollutant   | 1968–1991 <sup>1)</sup> | 1992–1993 | 1994–1995 | 1996    | 1997–2002 | 2003 ad. |
|---|-------------------------|-----------|-----------|---------|-----------|----------|
| Dust emissions  | 100                     | 900       | 1 800     | 2 400   | 3 000     | 3 000    |
| Sulphur dioxide   | 100                     | 300       | 600       | 800     | 1 000     | 1 000    |
| Nitrogen oxides   | X                       | 240       | 480       | 640     | 800       | 800      |
| Carbon monoxide   | X                       | 180       | 360       | 480     | 600       | 600      |
| Hydrocarbons  | X                       | 600       | 1 200     | 1 600   | 2 000     | X        |
| Volatile organic compounds  | X                       | –         | –         | –       | –         | 2 000    |
| Be, Cd, Hg, Tl and the compounds  | X                       | 6 000     | 12 000    | 16 000  | 20 000    | 20 000   |
| Sb, Sn, Cr, Co, Mn, Cu, Ni, Pb, Te, V, Zn and the compounds             | X                       | 3 000     | 6 000     | 8 000   | 10 000    | 20 000   |
| Ammonia   | X                       | 300       | 600       | 800     | 1 000     | 1 000    |
| Methane   | X                       | –         | –         | –       | –         | 1 000    |
| Polycyclic Aromatic Hydrocarbons (PAH)                                  | X                       | 6 000     | 12 000    | 16 000  | 20 000    | 20 000   |
| Burning or steamy part of a coal mine or stonepit in CZK/m <sup>2</sup> | X                       | 60        | 120       | 160     | 200       | 200      |
| Burning landfill or dump, CZK/m <sup>2</sup>                            | X                       | 60        | 120       | 160     | 200       | 2 000    |
| Freons <sup>2)</sup>  | X                       | –         | 200 000   | 200 000 | 200 000   | 400 000  |
| Pollutants, 1 <sup>st</sup> class                                       | X                       | 6 000     | 12 000    | 16 000  | 20 000    | 20 000   |
| Pollutants, 2 <sup>nd</sup> class                                       | X                       | 3 000     | 6 000     | 8 000   | 10 000    | 10 000   |
| Pollutants, 3 <sup>rd</sup> class                                       | X                       | 300       | 600       | 800     | 1 000     | –        |

Source: CENIA according to the relevant legal provisions

### Legislative basement of primary charges

<sup>1)</sup> Act No. 35/1967 Coll. on Measures against Air Pollution

<sup>2)</sup> Act No. 138/1973 Coll. on Water, and Government Decree no. 35/1979 Coll. on Payments in Water Management (amended by Act No. 91/1988 Coll.)

<sup>3)</sup> Act No. 53/1966 Coll. on the Protection of Agricultural Land, including Government Decree No. 102/1976 Coll. and No. 39/1984 Coll.

Table 6.1

<sup>1)</sup> In 1968–91, dust and SO<sub>2</sub> emissions were charged at 100 CZK/t, which applied to sources exceeding an applicable hygienic (pollutant) standard in relation to the height of a chimney, which amounted to ca 1/3 of volume of the emissions.

<sup>2)</sup> Charges for Freons were imposed in 1995 by Act No. 86/1995 Coll. – effective from 1 July 1995 (later new act – Act No. 86/2002 Coll.).



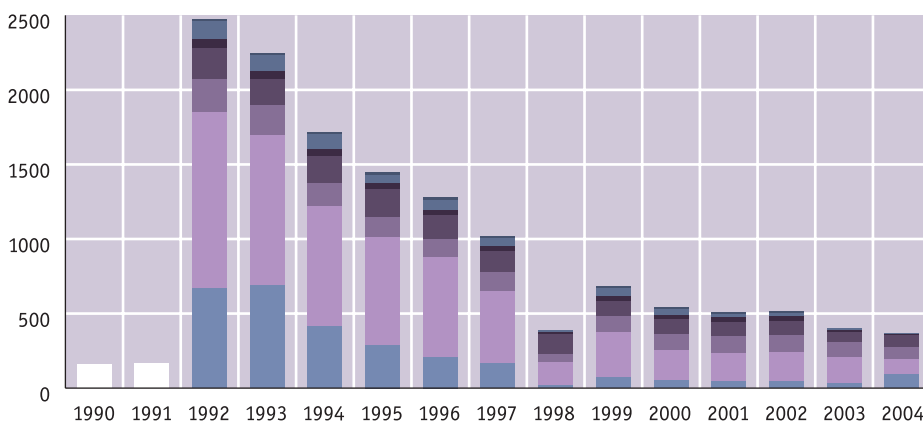
## Payments for Environmental Impacts

**Graph 6.2**

- Total per year
- Class III. Pollutants
- Class II. Pollutants
- Class I. Pollutants
- Hydrocarbons
- Carbon monoxide
- Nitrogen oxides
- Sulphur dioxide
- Particulate matter

In 1990–91 income of the Air Protection Fund amounting to 40 % of the air pollution charges. Since 2003, VOC have been charged instead of  $C_xH_y$ .  
Nominal charges = charges without deferral and surcharges.

**Nominal charges for air pollution from large sources in the Czech Republic between 1990–2004 (bil. CZK)**



Source: SEF, CEI, regions from 1 January 2003

**Table 6.2**

Accounting of actual rates is given by MoE decree (at the beginning by the decree of the Ministry for Water Management and Forestry) and is quite complicated. Since 1999 only the total sum of charges has been registered.

### PAYMENTS FOR DISCHARGING NON-TREATED OR INSUFFICIENTLY TREATED WASTEWATER

Payments for discharging non-treated or insufficiently treated wastewater were newly regulated by Act No. 281/1992 Coll., which amends a government decree on payments for water pollution. The rates were increased by ca 100 % to reflect relevant inflation.

#### Rates for discharge of waste water into surface water

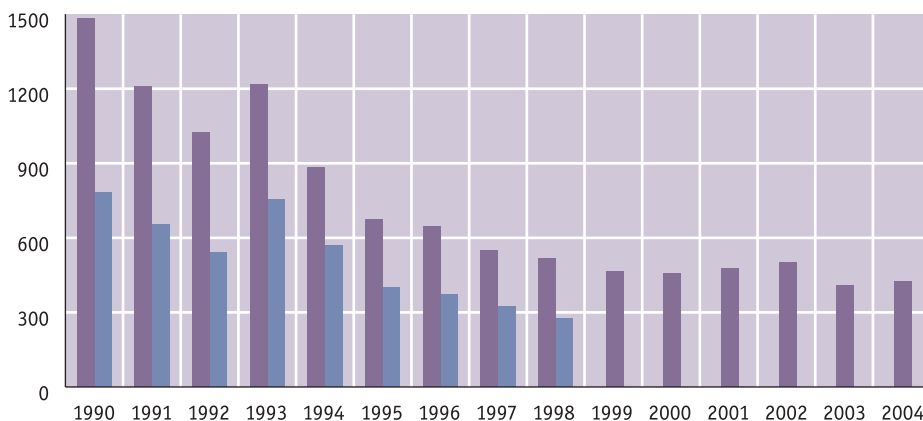
| Pollutant (unit)                           | Till 1992 | 1992–1998 |
|--|-----------|-----------|
| BOD <sub>5</sub> (CZK/kg)                  | 5–17,7    | 10–35,5   |
| Insoluble compounds (CZK/kg)               | 0,05–1,3  | 0,1–2,6   |
| Oil compounds (CZK/kg)                     | 1–3       | 2–6       |
| Dissolved inorganic compounds (CZK/kg)     | 120–600   | 240–1200  |
| Apparent acidity and alkalinity (CZK/kmol) | 135       | 270       |

Source: CENIA according to the relevant legal provisions

**Graph 6.3**

- Total sum of charges
- Water supplies and sewerage of that

**Total sum of basic charges for discharging waste water into surface water reduced by deferrals (bil. CZK)**



Since 1999 the water mains and sewerage has not been monitored as an independent category.

Source: Ministry of the Environment of the Czech Republic – Report 3-01, 1999, MoE – Water report 1-01

## CHARGES FOR THE DEPOSIT OF WASTE

In the Czech Republic, charges for the deposit of waste have been imposed only since 1 April 1992 by Act No. 238/1991 Coll. on Waste and Act No. 62/1992 Coll. on Charges for the Deposit of Waste. Rate I (in 1992–1997) and a basic charge (since 1998) were paid for waste deposit in a landfill. It was received by the municipality within which the landfill was located, and served as compensation for harm connected with the operation of the landfill. Until 31 July 1996, Rate II was paid for waste dumping on a site not contemplated by the Act on waste (later, from 1 August 1996, it has been impossible to dump waste on such a site).

### Rates of charges for the deposit of waste (CZK/t of the waste)

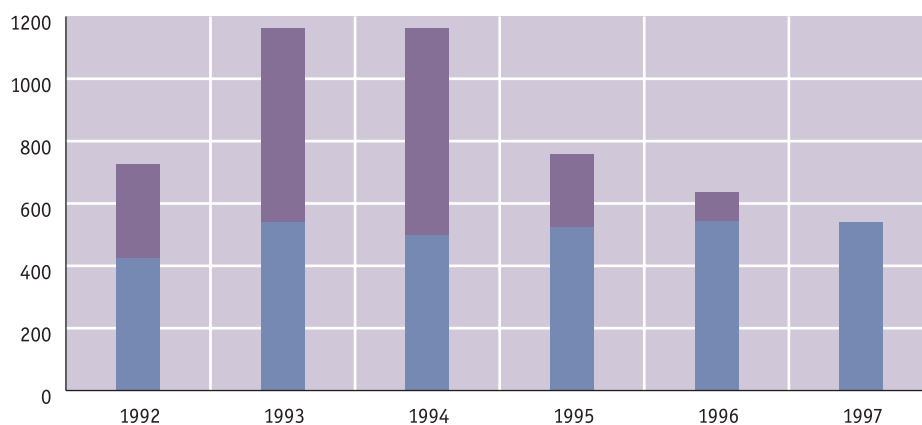
| Rate    | Year    | Soil and gangue | Other waste | MSW | Special waste | Hazardous waste |
|---------|---------|-----------------|-------------|-----|---------------|-----------------|
| Rate I  | 1992–97 | 0               | 10          | 20  | 40            | 250             |
|         | 1992    | 1               | 25          | 20  | 110           | 3 000           |
| Rate II | 1993    | 3               | 70          | 70  | 320           | 4 000           |
|         | 1994–96 | 6               | 140         | 210 | 640           | 5 000           |

Source: CENIA according to the relevant legal provisions

Table 6.3

MSW = municipal solid waste

### Charges paid for waste dumping according to waste categories in 1992–1997 (mil. CZK)



Source: CENIA from MoE data

Graph 6.4

Rate II  
Rate I

## CHARGES FOR SURFACE WATER CONSUMPTION

At the beginning of the 1990s, charges for surface water consumption and water withdrawal from rivers were paid under Government Decree No. 35/1979 Coll. at 0.46 CZK/m<sup>3</sup> of surface water consumption. Water consumed for steam turbine flow cooling was charged at 0.05 CZK/m<sup>3</sup>. In 1991–92, the existing system of a regulated rate for surface water consumption was imposed, under which a consumer of a larger volume of surface water pays a rate to a relevant basin entity, which was calculated for the relevant basin. The basin entity cannot include listed items of its expenses into the rate. The prices are thus differentiated according to individual basins, the average rate amounting to ca 2 CZK/m<sup>3</sup>.

## GROUNDWATER CONSUMPTION CHARGES

Charges for groundwater consumption were given at 2 CZK/m<sup>3</sup> under Government Decree No. 91/1988 Coll. Waterworks consumption was not charged.

## Implementation Period (1993–1998)

### CHARGES FOR AIR POLLUTION FROM LARGE AND MEDIUM – SIZED SOURCES

Charges for air pollution from large and medium – sized sources were gradually increased in accordance with Act No. 389/1991 Coll. (see table 6.1). Act No. 158/1994 Coll. regulates the range of rates for small sources of air pollution. Charges from the large and medium sources were imposed by the Czech Environmental Inspectorate and collected by the relevant tax offices. The income was received by the SEF. Charges from small sources of pollution were imposed by the individual relevant municipalities, as specified by law (see the following table). These charges were collected and received by the municipalities themselves.

**Table 6.4**

#### Rates for air pollution imposed on operators of small sources of pollution (entrepreneurs) (CZK/t)

| Type of fuel                          | 0–50 kW     | 50–100 kW     | 100–200 kW    |
|---------------------------------------|-------------|---------------|---------------|
| Light fuel oil                        | 400–800     | 800–1 250     | 1 250–1 700   |
| Other fuel oils                       | 700–1 400   | 1 400–2 100   | 2 100–2 800   |
| Bituminous coal                       | 1 000–2 000 | 1 000–1 500   | 1 500–2 000   |
| Brown screened coal, brown coal fuels | 500–1 000   | 1 000–1 500   | 1 500–2 000   |
| Brown power coal, lignite             | 2 000–4 000 | 4 000–6 000   | 6 000–8 000   |
| Coal sludge, partings                 | 10 000      | 10 000–20 000 | 20 000–40 000 |

Source: CENIA according to the relevant legal provisions

### EXTRACTED MINERALS CHARGES

In the Czech Republic, extracted minerals charges were imposed in 1993 by Act No. 541/1991 Coll., which amends Act No. 44/1988 Coll. on the Protection and Utilisation of Minerals. A set charge for a mined area and 50% (75% from 23 November 2000) of charges based on volume of extracted minerals partially compensate damages caused by mining to relevant municipalities. The second part is income of the state budget, where it is bound to reversing the impact of mining. Charges based on the volume of extracted minerals have been stipulated for 44 types of minerals, and this for the range of 0,5–10% of the entire revenue for the extracted minerals, evaluated by the market price. The rates are fixed by the Decree of the Ministry for Economic Affairs No. 617 of 3 December 1992 and the Decree of the Ministry of Trade and Industry No. 426 of 23 November 2001. The highest rates (10%) for the period until 2001 have been set for magnesite, rock salt, technically usable crystals, precious stones and heavy lime stone, and from the year 2002 for ore, technically usable crystals, precious stones and heavy lime stone.

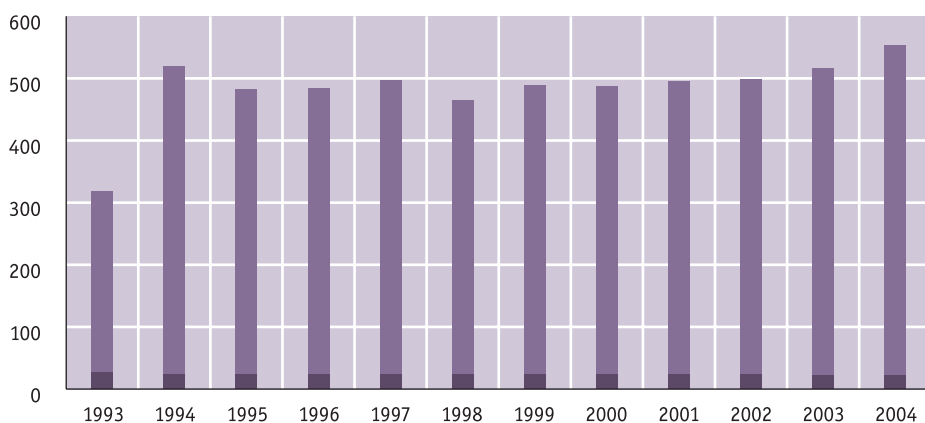
**Table 6.5**

#### Rates of charges based on a mined area and extracted reserved minerals

| Charging                            | Rate                           | Income received by                   |
|-------------------------------------|--------------------------------|--------------------------------------|
| 1 km <sup>2</sup> of the mined area | 10,000 CZK/year                | relevant municipality                |
| To 2 ha of the mined area           | 2,000 CZK/year                 | relevant municipality                |
| Volume of extracted minerals        | 0.5 to 10% of the market price | relevant municipality + state budget |

Source: CENIA according to the relevant legal provisions

### Charges based on a mined area and extracted reserved minerals (bil. CZK)



Source: Czech Mining Office (year 2004 estimated)

Graph 6.5

- For mining volume
- For using an area

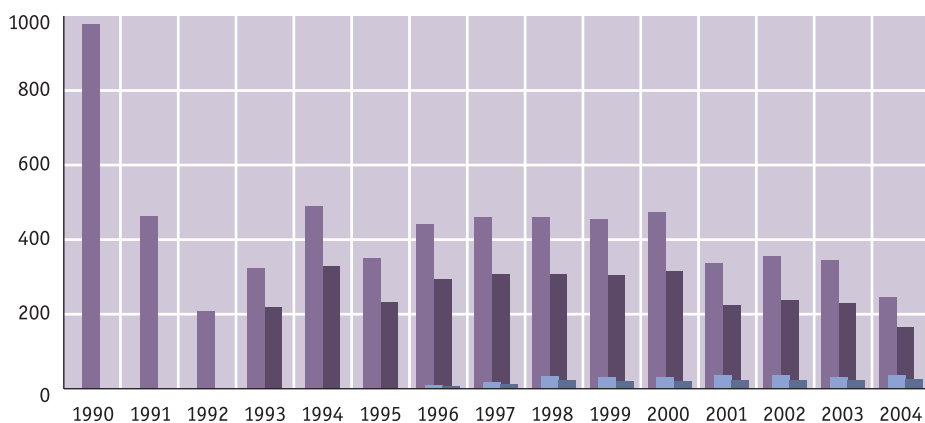
### CHARGES FOR THE LAND USE

Since 1993, charges for agriculture land use have been regulated by Act No. 334/1992 Coll. on Agricultural Land Protection. The rates are based on detailed land valuation and/or it amounts to a hundredfold of the 1989 net agricultural production in Czechoslovakia without evaluation of the ecological function of the land. 60% of the income goes to the SEF and 40% to relevant municipalities.

### CHARGES FOR FOREST LAND EXCLUSION

In the Czech Republic, charges for forest land exclusion from the fulfilment of the function of a forest, were imposed in 1996 by Act No. 289/1995 Coll. on Forests. They are based on fiftyfold of net timber production of a relevant forest, which is increased by a coefficient reflecting its extra-production functions. 60% of the income is received by the SEF and 40% by relevant municipalities.

### Incomes from charges of land use (bil. CZK)



Source: 1990–1991 State Ameliorative Administration; 1992–2004 SEF

Graph 6.6

- Agricultural land (SEF)
- Agricultural land (municipalities)
- Forest land (SEF)
- Forest land (municipalities)

## Pre-Accession Period (1999–2003)

### AIR POLLUTION CHARGES

Since 2003, the charges for air pollution have been regulated by Act No. 86/2002 Coll. on Air Protection (see tab. 6.1).

Table 6.6

#### Rates for air pollution imposed operators of small sources of pollution – entrepreneurs (CZK/t)

| Type of fuel                                   | 50–100 kW     | 100–200 kW    |
|--|---------------|---------------|
| Fuel oils containing sulphur from 0.1 to 0.2 % | 1 000–1 500   | 1 500–2 000   |
| Fuel oils containing sulphur to 1 %            | 1 500–2 500   | 2 500–3 000   |
| Other liquid fuels and matters                 | 6 000–8 000   | 8 000–12 000  |
| Bituminous coal                                | 1 500–2 000   | 2 000–3 000   |
| Brown screened coal, brown coal fuels          | 2 500–4 000   | 4 000–5 000   |
| Brown power coal, lignite                      | 4 000–6 000   | 6 000–10 000  |
| Coal sludge, partings                          | 10 000–20 000 | 20 000–40 000 |

Source: CENIA according to the relevant legal provisions

### CHARGES FOR DISCHARGING POLLUTED OR INSUFFICIENTLY TREATED WASTEWATER

Charges for discharging polluted or insufficiently treated wastewater into surface water are regulated by Acts No. 58/1998 and No. 254/2001 Coll. Since 2002, a charge based on the volume of discharged wastewater has been added to the charges for discharging polluted wastewater, amounting to 0.10 CZK/m<sup>3</sup> (if the volume exceeds 100,000 m<sup>3</sup>/year).

Table 6.7

#### Rates of basic charges (no surcharge added) for discharging polluted or insufficiently treated wastewater into surface water (CZK/kg)

| Pollutant  | 1999–2001 | Since 2002 |
|--|-----------|------------|
| COD of non-treated wastewater <sup>1)</sup>  |           | 16         |
| COD of treated wastewater  |           | 8          |
| COD for treated wastewater from cellulose production and cotton and flax textiles processing |           | 3          |
| Dissolved inorganic salts  |           | 0,5        |
| Insoluble compounds <sup>2)</sup>  |           | 2          |
| Total phosphorus   |           | 70         |
| Ammonia nitrogen   | 40        | –          |
| Inorganic nitrogen   | –         | 30         |
| Mercury  |           | 20 000     |
| Cadmium  |           | 4 000      |
| Discharging non-treated wastewater from households into groundwater (CZK/household)          | –         | 3 500      |
| Groundwater consumption for drinking water (CZK/m <sup>3</sup> )                             | –         | 2          |
| Groundwater consumption for other purposes (CZK/m <sup>3</sup> )                             | –         | 3          |

Source: CENIA according to the relevant legal provisions

<sup>1)</sup> COD = chemical consumption of oxygen

<sup>2)</sup> The charges for this coefficient are paid only by polluters, who either fail to pay for chemical oxygen demand (COD) while the pollution exceeds the limit for charging insoluble compounds or discharge a greater amount of insoluble compounds than the triple amount of charged COD.

### GROUNDWATER CONSUMPTION CHARGES

In 2002, Act No. 254/2001 Coll. changed the charges for groundwater consumption. For industry, the rate was increased from 2 to 3 CZK/m<sup>3</sup>, and charges for waterworks (drinking water) amounting to 2 CZK/m<sup>3</sup> were introduced. In both cases, the income is received by the SEF.

### CHARGES FOR WASTE DEPOSITION ON A LANDFILL

Charges for waste deposition on a landfill are regulated by the Acts on Waste No. 125/1997 Coll. and No. 185/2001 Coll. Since 1998, a charge for hazardous waste dumping /deposition on a landfill/ has been paid.

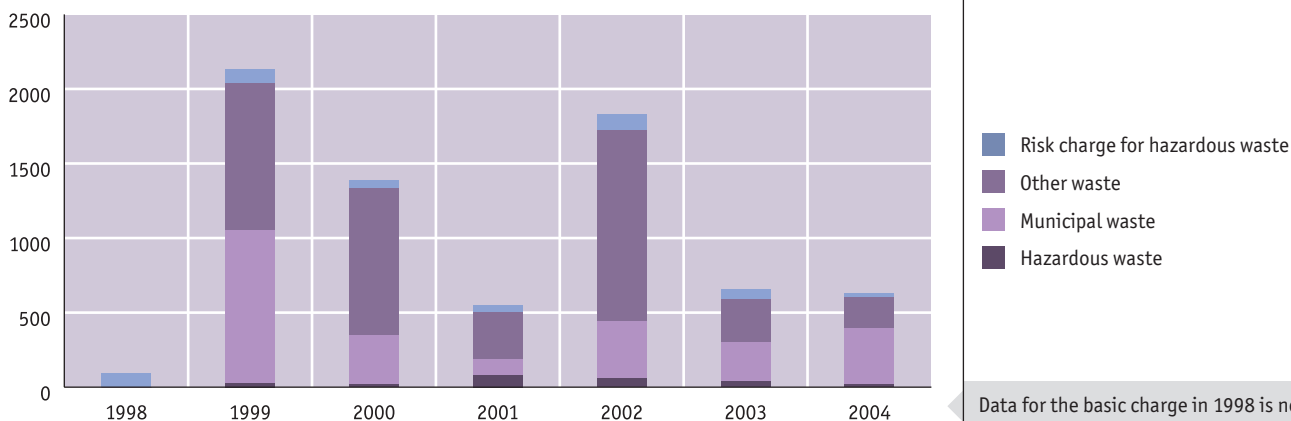
#### Rates of charges for waste deposition (CZK/t)

| Year      | Basic charge for hazardous waste | Basic charge for municipal and other waste | Risk charge for hazardous waste |
|-----------|----------------------------------|--|---------------------------------|
| 1998      | 200                              | 20   | 300                             |
| 1999–2000 | 250                              | 30   | 500                             |
| 2001      | 350                              | 50   | 750                             |
| 2002–2004 | 1 100                            | 200  | 2 000                           |
| 2005–2006 | 1 200                            | 300  | 2 500                           |

Source: CENIA according to the relevant legal provisions

The so-called monetary reserve for landfill reclamation after its lifetime amounts to 100 CZK/t of hazardous and municipal waste and 35 CZK/t of other waste and asbestos waste.

#### Charges paid for waste dumping /deposition/ according to waste categories (bil. CZK)



Source: CENIA on base of MoE data

Table 6.8

Graph 6.7

Data for the basic charge in 1998 is not available.





- In agreement with the Council Directive 2003/96/EC of 27 October 2003 restructuring the Community framework for the taxation of energy products and electricity the taxation of fuels and electricity is also being prepared in the Czech Republic. The height of the taxation differs depending on the type of energy source and the way of fuel use. This change can be understood as an introduction of consumer tax of its kind or as a part of ecological tax reform. The preparation of a budget neutral ecological tax reform is a part of the policy statement of the current government.
- Introduction of trade with air emission permits is a new economic tool for environmental protection in accordance with the Act No. 695/2004 Coll. Through the mentioned act the Directive 2003/87/EC of the European Parliament and the Council was implemented in the Czech legal order.

**Table 6.9**

### Present Time

At present, 16 types of charges (payments) are paid in the CR. They include charges:

- for air pollution – operators of extra large and large stationary sources,
- for air pollution – operators of medium-sized stationary sources,
- for air pollution – operators of small stationary sources,
- for production and import of regulated substances and products containing them (Freons) (they in fact, but not de jure, ceased as of 1 May 2004 after the accession of the Czech Republic into the EU),
- for discharging wastewater into surface water,
- for permitted discharging of wastewater into groundwater,
- for surface water consumption in order to pay for the river basin management,
- for groundwater consumption,
- for waste dumping on a landfill
- to support the collection, processing, usage and removal of selected car wrecks, which have been paid since 22 April 2004 by the car importer, amounting to 5,000 CZK/car, if the imported used car does not comply with the emission standard for new cars,
- for the operation of a system of collection, transport, separation, usage and removal of municipal waste /for municipal waste – this is a fee for municipal waste disposal,
- for registration and annual recording in a list of authorised entities under the Act on packaging,
- for a mined area,
- for a volume of extracted minerals,
- for the agricultural land use exclusion (permanent and temporary),
- for forestland use exclusion

A special category of payments includes fines – sanctions for not observing limits or duties defined by the State.

#### The Upper limit of fines for breaching the duties resulting from the environmental protection laws

| Environment sector   | Upper limit of the fine | Pursuant to Act no.   |
|--|-------------------------|---|
| Waste <sup>1)</sup>  | 50,000,000 CZK          | 185/2001 Coll. <sup>2)</sup>                                |
| Chemical compounds <sup>1)</sup>   | 5,000,000 CZK           | 356/2003 Coll. <sup>2)</sup>                                |
| Air protection   | 10,000,000 CZK          | 86/2002 Coll. <sup>2)</sup>                                 |
| Integrated prevention  | 7,000,000 CZK           | 76/2002 Coll. <sup>2)</sup>                                 |
| Water protection <sup>1)</sup>   | 10,000,000 CZK          | 254/2001 Coll. <sup>2)</sup>                                |
| Packaging  | 50,000,000 CZK          | 477/2001 Coll. <sup>2)</sup>                                |
| Forest protection  | 1,000,000 CZK           | 282/1991 Coll. <sup>2)</sup> , 289/1995 Coll. <sup>2)</sup> |
| Nature protection  | 1,000,000 CZK           | 114/1992 Coll. <sup>2)</sup>                                |
| CITES  | 1,500,000 CZK           | 100/2004 Coll.  |
| Cruelty to animals   | 500,000 CZK             | 246/1992 Coll. <sup>2)</sup>                                |
| Agricultural land protection   | 500 × min. wage         | 334/1992 Coll. <sup>2)</sup>                                |
| Evaluation of products <sup>4)</sup>                                       | 300 × min. wage         | 244/1992 Coll.  |
| Nuclear safety   | 100,000,000 CZK         | 18/1997 Coll. <sup>2)</sup>                                 |
| Public health protection   | 3,000,000 CZK           | 258/2000 Coll. <sup>2)</sup>                                |
| Prevention of serious accidents caused by chemical compounds <sup>1)</sup> | 5,000,000 CZK           | 353/1999 Coll. <sup>2)</sup>                                |
| Genetically modified organisms   | 5,000,000 CZK           | 78/2004 Coll.   |
| Land planning and building code <sup>3)</sup>                              | 1,000,000 CZK           | 50/1976 Coll. <sup>2)</sup>                                 |
| Other  | 1,000,000 CZK           | 17/1992 Coll. <sup>2)</sup>                                 |
| Other <sup>5)</sup>  | 100,000 CZK             | 36/1975 Coll. <sup>2)</sup>                                 |

<sup>1)</sup> In the case of repetitions within 1 year, the fine can be doubled.

<sup>2)</sup> as amended

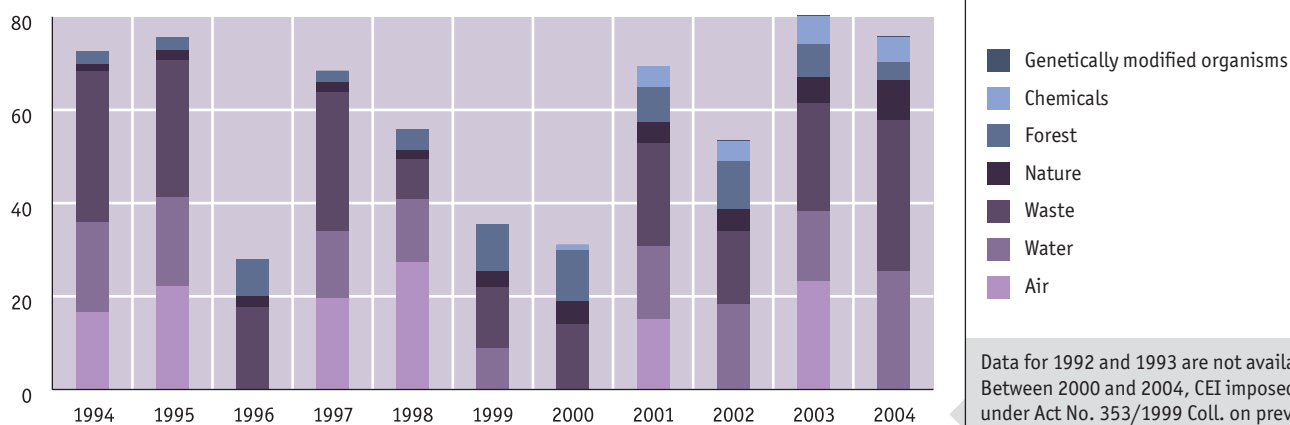
<sup>3)</sup> In the case of a construction without permission by a natural person, the fine can be ten times higher.

<sup>4)</sup> cancelled by Act No. 100/2001 Coll.

<sup>5)</sup> cancelled by Act No. 258/2000 Coll. (especially penalties for unauthorised excessive noise)

Within the last 11 years, the Czech Environmental Inspectorate imposed fines amounting to 795 mil. CZK. Usually, 50% of this is income of the SEF, and 50% of the municipality within which the law was violated.

#### Amount of fines imposed by CEI in sectors of environmental protection (bil. CZK per year)



Source: Czech Environment Inspectorate

Graph 6.8

- Genetically modified organisms
- Chemicals
- Forest
- Nature
- Waste
- Water
- Air

Data for 1992 and 1993 are not available. Between 2000 and 2004, CEI imposed no fines under Act No. 353/1999 Coll. on prevention of serious accidents and under Act No. 153/2000 Coll. on genetically modified organisms.

Incomes from charges and fines received by the SEF are generally used for measures for environmental protection. Similar incomes that go to the state budget or budgets of regions or municipalities (and earlier districts offices) are not bound to environmental protection. Incomes from the basic rate of waste dumping charges and charges for extraction of minerals that are received by relevant municipalities are used to compensate for damages incurred to the municipalities. Part of incomes from charges for extraction of minerals, which goes to the state budget, is bound to recultivation of the land devastated by mining.

The range of economic instruments available for environmental protection applied in the Czech Republic is one of the largest in Europe and probably in the world (Slovakia and Poland have a similar, though less numerous range of charges). However, environmental charges have not always been introduced and modified systematically and ideally. Therefore, there are cases when charging is ineffective (e.g. with regard to administration or transaction expenses). For this reason, the existing system of charges, its improvement and gradual coordination with other tools of environmental policy, should be explored.



Concealment of environmental information before 1989 resulted in strong demand for this type of information and the Ministry of the Environment was established with the goal to “guarantee and control an Unified Information System on Environmental Issues including comprehensive monitoring of the environment, also in reference to international treaties”.

# Regulations Supporting the Access to Environmental Information

In the autumn 1983 the Ecological section of Association of Biology of the Czechoslovak Academy of Sciences elaborated a Report on the Environment in the Czechoslovak Socialist Republic on the instigation of the Czechoslovak Government. The authors of this document hoped that the data involved would positively change the approach of the state political leaders to the environment. However the data were only submitted to several political representatives and there was no subsequent outward effect. One of the printouts disappeared and via signatories of the Charter 77 the data were successively published, first in the samizdat periodical Information on the Charter, consequently a part of the Report was issued in the Parisian *Le Monde*, after that the report was quoted in the radios Voice of America and Free Europe, and it was also published in *Tageszeitung* in Berlin, in the *Czech Listy* (Gazette) and in June 1984 in *Die Zeit*. The released information proved that Czechoslovakia belonged to the most devastated countries in Europe. With or without previous intention, the Ecological section so appeared to be in the opposition to the regime. The importance of this document consisted in breaking the information blockade and in a resulting decision of the Government to become engaged in the problems of the environment and in the improvement of its quality.

*Miroslav Vaněk: It was impossible to breathe here*

The UISEI acts as an umbrella information system covering 37 principal information systems and almost 5,000 databases.

Demand for environmental information during the 1990s was so significant that a law on right to access to environmental information was passed (Act No. 123/1998 Coll.) before adoption of a general law on free access to information (Act No. 106/1999 Coll.). It is the only one-department act regulating access to information (besides the personal data protection laws). It also was the first act of the approximation period during which the legislation of the European Communities was adopted. This act envisaged the Aarhus Convention, signed by the Czech Republic in June 1998 at the 4th Ministerial Conference in Aarhus, Denmark.

Act No. 123/1998 Coll. on the Right to Information on the Environment sets rules of communication between the state administration (the data administrator) and the applicants for data (users). This Act has also had an indirect positive influence on the data acquisition regime from the subjects (companies in particular) with reporting obligations. Thanks to this Act people can acquire information which is the fundamental and initial precondition of their participation in decision-making and environmental problem-solving processes.

Act No. 123/1998 Coll. ensures access to information on the comprehensive state of the environment, environmental pressures and impacts, exploitation of natural resources, impacts of construction, human activities and industrial technologies, and to information on the environment protection measures.

## Unified Information System on Environmental Issues

The necessity to establish an Unified Information System on Environmental Issues (UISEI) is established in Act No. 2/1969 Coll., on the Establishment of Ministries and Other Central Authorities of the State Administration of the Czech Republic.

The objective of the UISEI is to meet the information obligations with respect to the public pursuant to Act No. 123/1998 Coll., on the Right to Information on the Environment, providing foundation for data collection and information assessment in compliance with the environmental legislation and providing the information support to the state administration.

The development stages of the UISEI as a supportive tool were different from the stages of the environment protection:

### UNTIL 1995

This period can be best characterised by a radical analytical work which helped define the scope of data to be collected and connection to international information systems. Moreover, the principles of monitoring and the role of the Ministry of the Environment and other departmental institutions within the UISEI were defined. Majority of information systems operated by departmental institutions were formed.

Based on the concept of the late 1980s there was an attempt to centralise the outputs of the individual data sources in one supercomputer in the Centre of Environmental Information. Only the content aspect of the information was taken into account but the technical solution was underestimated. Ensuing substantial problems with the implementation of the project resulted in early project termination.

### 1996–1999

After the failure of the centralised solution the Ministry of the Environment concentrated its attention to setting up the individual information subsystems which were fundamentally decentralised. In order to support the implementation of new regulations, the environmental information systems were developed, unfortunately without mutual connections. Uncontrolled development of data sources caused problems in later harmonisation of the systems; on the other hand, it enabled to comply quickly with legal requirements and to enlarge the scope of collected data.



**2000–2001**

In 2000 the first information strategy of the Ministry of the Environment was approved. This strategy evaluated the steps which had been taken to date and identified what was necessary to build the information infrastructure. The strategy addressed communication, technology and safety together with personnel, financial and regulatory prerequisites. A new computer network connecting all bodies enabled direct communication between the data creators and end users. Additional measures included user support, centralised security, cataloguing of data sources, etc.

**2002–2003**

An updated information strategy informed about achieving sufficient infrastructure for further development of data sources and identified the necessity to develop common tools. A central environmental portal was built, as well as map and indicator services, etc. These tools were later reused by the departmental institutions as well as many other public bodies facilitating technical interoperability of the data sources.

**FROM 2004 ONWARDS**

The information strategy for 2004–2006 is based on the existing infrastructure and technical inter-institutional interoperability of data sources. The accomplishment of existing information strategies showed that many data acquisition and publishing problems are still to be solved, namely absence of assignment, methodology and quality objectives, non-compliance with technical standards, absence of validation, cataloguing, data storage, cross-cutting interpretation and unified centralised publication. These problems are solved by commencing the information management process and consequential process of information assessment and publishing.

## Environmental Information

The key element for successful provision of information on the state and development of the environment in an efficient way is the detailed knowledge of main user groups information needs. In 2001 fourteen major interest groups were identified, including especially the state administration, the public and non-governmental organisations, as well as business entities, teachers, students, courts, etc. The cataloguing of information needs started in 2002 and is mainly used for controlled information publishing at the Environmental Portal.

### Main Information Sources

**ENVIRONMENTAL PORTAL**

The Portal to the Environmental Information, is a central place for publishing environmental information. It provides access to sustainable development indicators, environmental maps, environmental statistics and meta-information alike. The newest part of the Portal is the Czech Integrated Pollution Register and it has been one of the most sought-after portal components ever.

**ENVIRONMENTAL INFORMATION SYSTEMS****Information System of Nature Conservation** [www.nature.cz](http://www.nature.cz)

- Locations, botany, zoology, small-area nature reserves, specially protected trees (memorable trees), geology, remote sensing, aerial photo archive, etc.

Environmental information systems were mostly finished and their integration and interdepartmental use started.

The information sources were refocused on delivery of services and further development in terms of quality.

To effectively institutionalise and implement these processes, CENIA, Czech Environmental Information Agency was established. The main objective of the Agency is to foster the development of UISEI.

**Important links:**

<http://portal.env.cz>

<http://indikatory.env.cz>

<http://geoportal.cenia.cz>

<http://mis.env.cz>

At the beginning of the 1990s a quality system of cooperation of public information service centres in departmental organisations was established, and since then it has been coordinated by the Ministry of the Environment. It enables to collect data effectively and to enlarge the scope of environmental information.

Edition EKO VIS of the Ministry of the Environment:

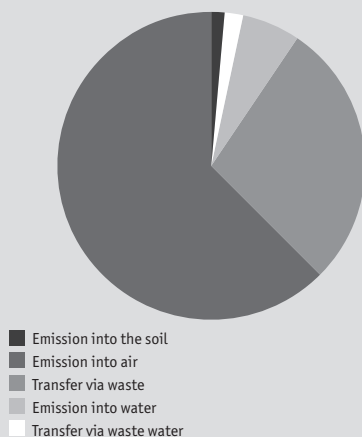
- Information bulletin; 6 issues per year since 1991
- Guide to public library and information services of the organisations of the Ministry of the Environment and cooperating organisations; since 1992
- Translations of the environmental laws of the EC, since 1996
- Environmental laws of the EC, since 1996
- Register of the periodicals of the libraries and information centres of the Ministry of the Environment and cooperating organisations; since 1992

Also printed publications and publications on electronic data carriers belong to the main environmental information sources. The Ministry of the Environment issues several dozens of titles yearly:

- Report on the environment of the Czech Republic; first published in 1991, issued yearly in Czech and in English
- Statistical environmental yearbook of the Czech Republic; first published in 1990, issued yearly in Czech-English version
- The state of environment in regions of the Czech Republic; first published in 1996, issued yearly
- Selective bibliography from the field of environment; first published in 1992, issued yearly
- Support of environmental protection in the Czech Republic; first published in 1999, issued yearly

Basic information on the state administration activities is involved in the Bulletin of the Ministry of the Environment which has been issued since 1991

Reports into the CIPR in 2005 according to the type of emission



### Central Nature Protection Register [www.nature.cz](http://www.nature.cz)

- List of national natural monuments, national natural reserves, natural monuments, natural reserves and natural parks.

### Hydroecological Information System <http://heis.vuv.cz>

- Models of the water volumes and quality, watercourses, surface water facilities, water utilities, sampling and water discharge sites, time series, map layers.
- Groundwater and surface water hydrology, water quality, volume, hydrologic forecast, hydro fund, etc.

### Air Quality Information System [www.chmi.cz](http://www.chmi.cz)

- Register of emissions from large pollution sources, emission balance, consumption of principal fuels, emission density, etc.
- The current state of atmosphere, ground ozone, air quality monitoring, air pollution models, atmospheric deposition (S, N, H, Pb, Cd, Ni), precipitation, airborne monitoring, etc.

### Meteorological and Climatic Information System [www.chmi.cz](http://www.chmi.cz)

- Weather forecast, wind forecast, European forecast map, early warnings, biometeorological forecast, UV index, lightning and tornadoes detection system, etc.

### Waste Management Information System <http://ceho.vuv.cz>

- Register of waste and packaging management, waste dumps and facilities for waste treatment, use and disposal, information on waste production and disposal, etc.

### Environmental Burdens <http://map.env.cz>

- Site remediation, old waste landfills, elimination of environmental burdens caused by the former Soviet Army.

### Decisions and Penalties of the Czech Environmental Inspectorate [www.cizp.cz](http://www.cizp.cz)

- Charges for pollution sources and discharge of waste water into surface water.

### GeoInformation System [www.geology.cz](http://www.geology.cz)

- Geo-database "GeoČR" 25, 50, 500 – GIS of digital geological maps. A digital atlas of the Czech Republic GEOČR 500, a geological database GEOČR 1:25000, other geo-databases such as important geological locations, a litho-geochemical database, petrographic and mineralogical analyses, a geo-database of radon risk maps 1:50 000, geochemistry of surface water, geochronology of rocks, GEOMON – monitoring of small catchment areas, database of petrographic and mineralogical analyses, etc.

### Mineral Resources Information System [www.geofond.cz](http://www.geofond.cz)

- Maps of protected raw material deposit, other deposits, survey areas

### Geofund [www.geofond.cz](http://www.geofond.cz)

- Bore-hole register, landslides, deposits, undermined areas.

### Information System of Environmental Impact Assessment [www.cenia.cz](http://www.cenia.cz)

- Subjects under EIA, activities, authorised persons, etc.

### IPPC Information System [www.ippc.cz](http://www.ippc.cz)

### Decisions of the Minister of the Environment, proposed by the State Environmental Fund [www.sfzp.cz](http://www.sfzp.cz)

### Natura 2000 [www.nature.cz](http://www.nature.cz)

### Alternative Energy Sources [www.vukoz.cz](http://www.vukoz.cz)

### Non-productive Plant Gene Pool [www.vukoz.cz](http://www.vukoz.cz)

### Register of approved GMO and Register of GMO Users [www.env.cz](http://www.env.cz)

### Information System of Public Library and Information Services [www.env.cz](http://www.env.cz)

### Integrated Pollution Register [www.irz.cz](http://www.irz.cz)

## INTEGRATED POLLUTION REGISTER

The Czech Integrated Pollution Register (CIPR) is a database of selected pollutants, their emissions and transfers in compliance with the requirements of the European Pollutant Emission Register (EPER). Since the data in the database has a geographic location (company, plant), the CIPR can be used to determine the quality of the environment in a given place. The CIPR is used to monitor the success of environmental policies. By facilitating access to the pollution sources' emission data CIPR promotes public participation and control, contributing to more responsible environmental behaviour of the companies. Industrial and agricultural enterprises may use the data from the register as an environmental management tool (reduction of inputs, implementation of new technologies).



The register contains information on the release of the registered pollutants into air, water and soil (emission) and the pollutants contained in waste and waste water of production facilities (also known as transfer). The obligation to report in terms of the CIPR is effective only if the amount of a released pollutant over a calendar year is equal to or exceeds the threshold level, as specified in Governmental Decree No. 368/2003 Coll.

The Central Registration Office (CRO) unifies and facilitates reporting on the use of a registered substance and its emission in water, air and soil. The objective is to unify all environmental reporting through the CRO so that the environmental portal is used as a single output and the CRO as a single input of the sector.

#### Installations with obligation to report into the Czech Integrated Pollution Register

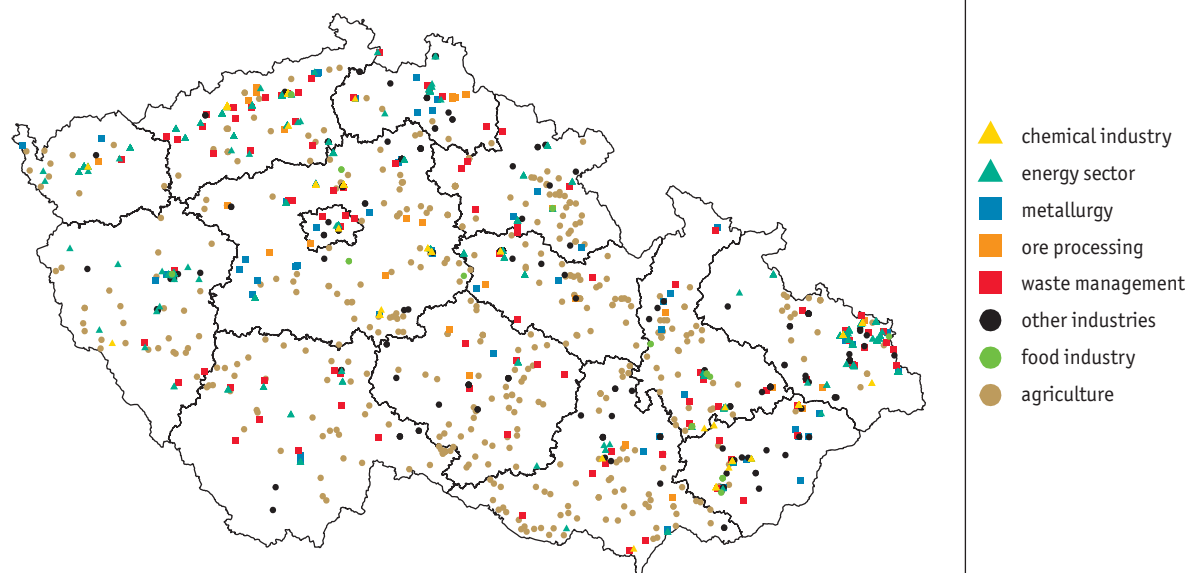


Fig. 7.1

Source: CENIA

### Assessment of Environmental Information

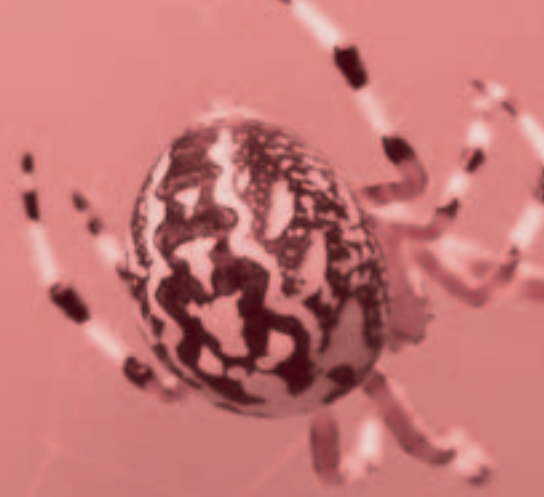
At present high-quality and easily accessible publications exist, both in printed and in electronic versions, as well as large databases. As early as in the mid 1990s information over-saturation became visible – extensive facts cannot bring quick answers to the questions of politicians and citizens. There were no interpretations, systematic interdisciplinary analyses and prognostics.

One of the main reasons to establish CENIA was to provide information support including interdisciplinary analyses and syntheses also in the international context. Assessment is carried out by experts from many areas not only from CENIA.

Information on the state of environment is also involved in the yearbooks of other ministries, as e.g.:

- Report on the state of agriculture in the Czech Republic, issued by the Ministry of Agriculture
- Report on the state of water management in the Czech Republic, issued by the Ministry of Agriculture
- Report on the state of forests and forest management in the Czech Republic, issued by the Ministry of Agriculture
- Public water services, issued by the Ministry of Agriculture
- Yearbook of transport, issued by the Ministry of Transport
- Tourism in the Czech Republic, issued by the Ministry for Regional Development
- Panorama of the Czech industry, issued by the Ministry of Industry and Trade
- Statistical yearbook from the field of labour and social affairs, issued by the Ministry of Labour and Social Affairs
- Czech health statistics yearbook, issued by the Ministry of Health

08



Throughout the monitored period, there has been an obvious strong political influence on perception of the society and on optimistic expectations for further development in the Czech Republic. Polls show that political orientation and satisfaction with the political situation influence also the view on the condition and development of the environment in the Czech Republic, as well as the view regarding administrative bodies.

Access to environmental information provided in Act No. 123/1998 Coll., including the state's duty to publish the information actively, is not a sufficient reason for creating an objective civic rational attitude to environmental issues. Over the past 15 years the perception of the environment as an urgent issue has decreased, people's satisfaction with the condition of their environment has grown, and the perception of institutions dealing with environment protection has been favourable.

The Public Opinion Research Centre (PORC) of the Institute of Sociology of the Academy of Sciences of the Czech Republic (formerly the Poll Opinion Research Institute) deals with public attitudes to the environment. The systematic research of PORC applies to four types of questions, esp. satisfaction with the environmental condition in the place of residence (1990–2005); satisfaction with the condition of the environment in the Czech Republic (1996–2004); urgency to solve problems in certain social areas (1992–2005); and evaluation of governmental and non-governmental institutions in the area of protection and management of the environment (1995–2002).

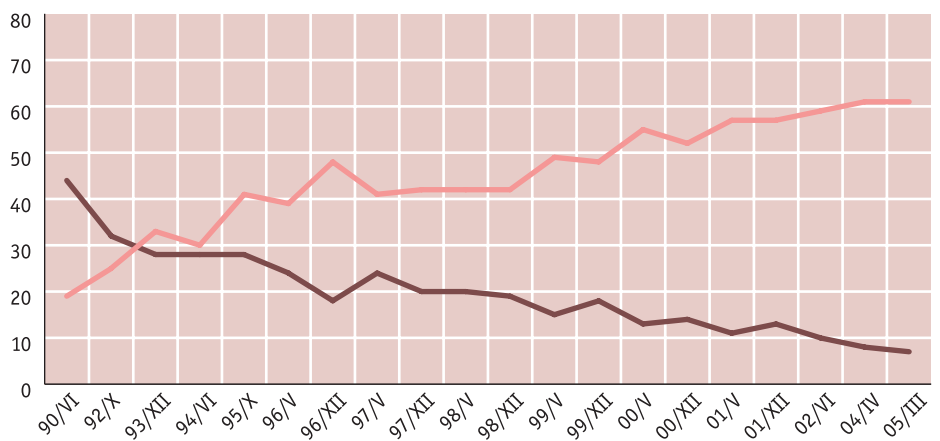
Other institutions carried out several ad hoc surveys upon request by the Ministry of the Environment, the Czech Environmental Institute and some companies.

Research is carried out with a representative sample of Czech citizens. Most often, about 1,000 respondents over 15 are surveyed in the form of "face to face" interviews. Respondents are selected with a quota method based on the data received from the public census by the Czech Statistical Office.

**Graph 8.1**

— dissatisfied  
— satisfied  
Horizontal axis: year/month

**Public satisfaction with the environment in the place of residence 1992–2005 (%)**



Source: PORC

In the European Union sociological indicators have been observed since 1973. Under the patronage of the European Commission standardized researches of the mass observation in the Member States are carried out.

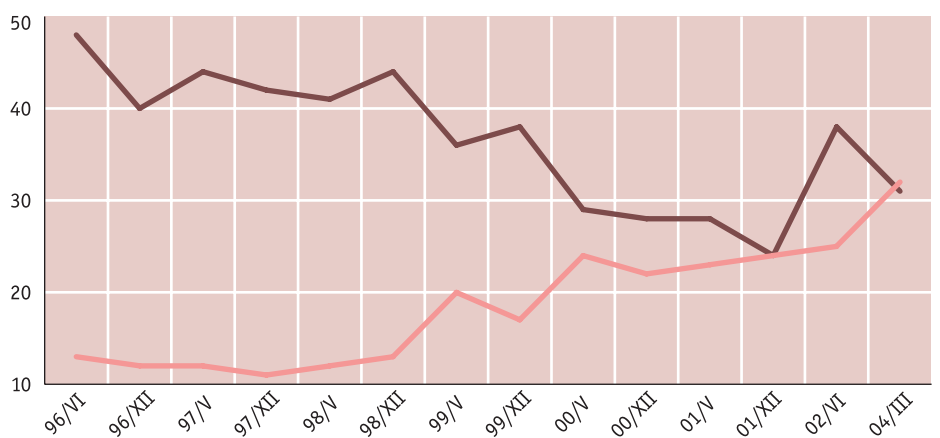
For more than 30 years the Eurobarometer has mapped the European public opinion in such areas as social situation, health, culture, information technologies, environment, defence and education.

People evaluate the environmental condition in the Czech Republic in completely different ways. The public opinion of the environment has been continuously monitored since 1996. Throughout that period, dissatisfaction with the environment has prevailed, though it has gradually decreased almost by 40% and satisfaction has grown by 2.5 times. At the same time, education and social situation of dissatisfied respondents has shifted. In the period of "obvious pollution", less educated people of a lower social status were dissatisfied; currently, better situated university graduates are mostly dissatisfied.

**Graph 8.2**

— dissatisfied  
— satisfied  
Horizontal axis: year/month

**Satisfaction of inhabitants with the environment in the Czech Republic 1996–2004 (%)**

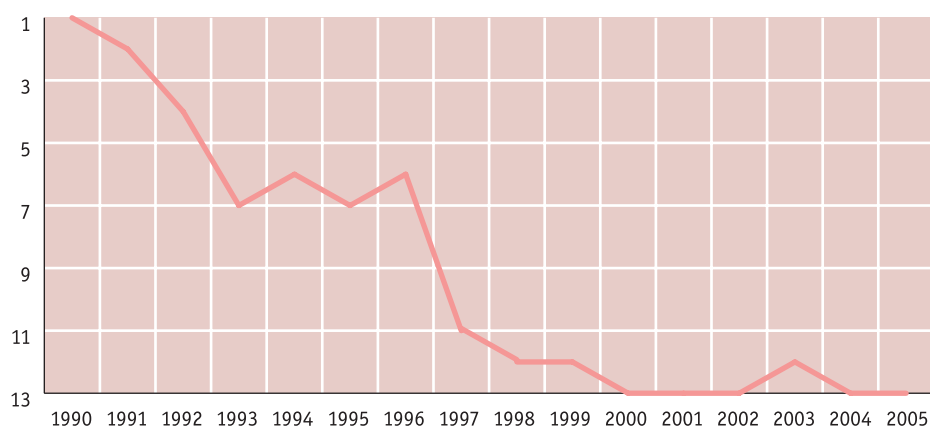


Source: PORC

## Urgency of Environmental Issues and Their Solutions

The perception of the urgency regarding environmental issues has been decreasing, although inhabitants still consider the environmental condition to be very important. In a large (non-standardised) opinion poll in 1990, citizens placed environmental protection first in a value hierarchy. In 1993 most people considered the environmental issue to be very important (7<sup>th</sup> place out of 16 monitored social areas) in 2005, only one fourth of inhabitants were of the same opinion (13<sup>th</sup> place out of the 15 monitored) – see table 8.1. and graph 8.3.

**Public perception of the environmental condition**



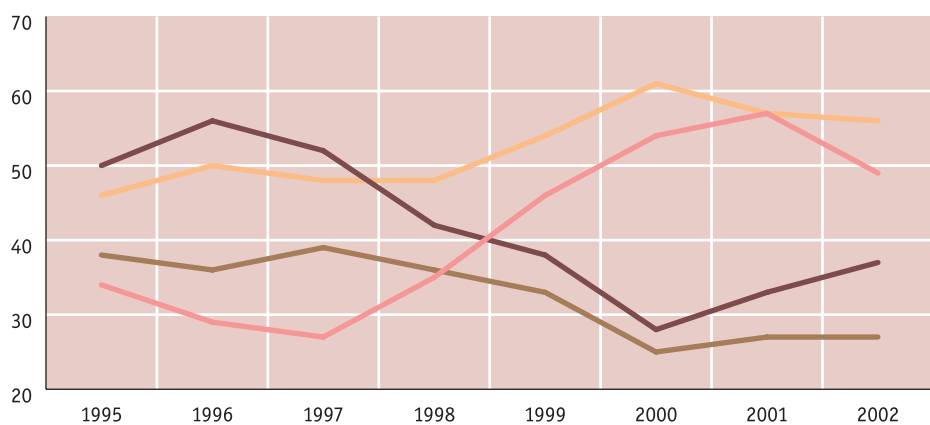
Source: PORC

Activities of environmental institutions have been evaluated in the same way as the perception of the environment – the most positive evaluation is related to personal experience. While activities of the government have been perceived negative so far (though the evaluation has been better), satisfaction with local self-government has grown (see graph 8.4). Non-governmental environmental organisations have been considered reliable too.

Although the environmental condition has improved in the last fifteen years in part because of, also due to measures taken by large industrial companies, the attitude of companies to the environment is evaluated negatively by over 60% of respondents.

The public survey of environmental issues showed a rational approach from people as regards environmental problem solving (introducing power savings as a solution to growing power consumption) and the willingness to participate in the environmental protection (sorted waste, purchase of environmentally friendly products).

**Public satisfaction with activities of the Ministry of the Environment and municipal offices**



Source: PORC

**Graph 8.3**

The assessment of the Ministry of the Environment has considerably improved since 1999.

**Graph 8.4**

- Ministry of the Environment
  - dissatisfaction
  - satisfied
- Municipal offices
  - dissatisfaction
  - satisfied

Table 8.1

Time series of the perception of individual social areas as very urgent between 1992 and 2005 (%)

| Year/month                            | 92/X      | 93/III    | 93/X      | 94/IV     | 94/X      | 95/IV     | 96/VI     | 97/V      | 98/V      | 99/V      | 99/X      | 00/V      | 00/X      | 01/V      | 01/X      | 02/IV     | 03/III    | 04/III    | 05/I      |
|---------------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Bribery, economic crime               | –         | –         | 70        | 76        | 77        | 73        | 70        | 83        | 82        | 76        | 78        | 79        | 80        | 80        | 74        | 73        | 70        | 65        | 67        |
| Unemployment                          | 44        | 42        | 40        | 47        | 42        | 37        | 26        | 32        | 55        | 74        | 67        | 76        | 70        | 59        | 48        | 67        | 74        | 84        | 70        |
| Organised crime                       | –         | –         | 68        | 76        | 73        | 66        | 68        | 68        | 71        | 64        | 68        | 70        | 67        | 63        | 70        | 70        | 72        | 65        | 66        |
| General crime                         | 73        | 81        | 83        | 85        | 79        | 76        | 72        | 68        | 70        | 62        | 69        | 62        | 63        | 60        | 60        | 64        | 66        | 59        | 57        |
| Social security                       | –         | 55        | 48        | 57        | 59        | 60        | 53        | 55        | 60        | 55        | 58        | 58        | 59        | 52        | 50        | 52        | 57        | 62        | 50        |
| Functional legislation                | –         | 51        | 45        | 47        | 48        | 48        | 39        | 53        | 55        | 50        | 53        | 54        | 58        | 56        | 53        | 50        | 60        | 48        | 49        |
| Health service                        | –         | 59        | 55        | 45        | 46        | 56        | 54        | 75        | 65        | 49        | 47        | 50        | 51        | 52        | 51        | 58        | 59        | 70        | 63        |
| Living standard                       | 54        | 57        | 52        | 58        | 54        | 54        | 49        | 48        | 54        | 47        | 48        | 45        | 47        | 44        | 44        | 51        | 46        | 52        | 45        |
| Economic reform                       | 69        | 58        | 53        | 47        | 42        | 41        | 33        | 61        | 58        | 64        | 56        | 57        | 46        | 48        | 37        | 47        | 33        | 51        | 45        |
| Housing and rent                      | –         | –         | 32        | 39        | 41        | 43        | 49        | 50        | 44        | 32        | 38        | 40        | 37        | 31        | 33        | 46        | 44        | 47        | 41        |
| Agriculture                           | 56        | 44        | 37        | 42        | 45        | 41        | 36        | 39        | 39        | 40        | 45        | 38        | 35        | 38        | 36        | 43        | 47        | 44        | 37        |
| Education                             | –         | 46        | 36        | 35        | 35        | 36        | 28        | 42        | 36        | 24        | 25        | 26        | 33        | 35        | 41        | 43        | 37        | 41        | 36        |
| <b>Environment</b>                    | <b>55</b> | <b>66</b> | <b>51</b> | <b>57</b> | <b>48</b> | <b>52</b> | <b>50</b> | <b>38</b> | <b>36</b> | <b>27</b> | <b>29</b> | <b>27</b> | <b>29</b> | <b>29</b> | <b>32</b> | <b>35</b> | <b>33</b> | <b>31</b> | <b>25</b> |
| Refugees in the Czech Republic        | –         | –         | 20        | 25        | –         | 15        | 18        | 16        | 17        | 18        | 23        | 18        | 23        | 13        | 23        | 19        | 23        | 24        | 17        |
| Racism                                | –         | –         | –         | –         | –         | –         | –         | –         | 22        | 17        | 16        | 18        | 16        | 15        | 18        | 21        | 22        | 20        | 16        |
| Living with the Romanies              | –         | –         | 28        | 31        | 24        | 22        | 19        | 16        | 13        | 11        | 13        | 11        | 15        | 9         | 11        | –         | –         | –         | –         |
| Relationship with the Slovak Republic | –         | 27        | 15        | 16        | 12        | 10        | 10        | 16        | 10        | 5         | 6         | 5         | 5         | 8         | 5         | –         | –         | –         | –         |
| Territorial administration            | –         | –         | –         | 10        | 8         | 9         | 7         | 5         | 6         | 5         | 4         | 5         | 5         | 6         | 5         | –         | –         | –         | –         |

Source: PORC

## Development of Opinions in the Monitored Periods

### After 1989

In 1990–1992, when citizens mostly felt the need to solve problems of the environmental protection, the following laws were passed:

- 1991: the Act No. 282 on the Czech Environmental Inspectorate
- 1991: the Act No. 388 on the State Fund for the Environment of the Czech Republic
- 1992: the Act No. 17 on the Environment

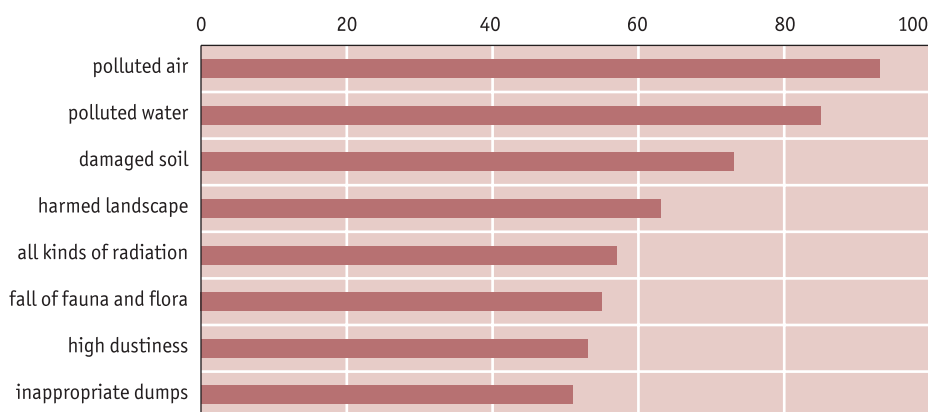
The environmental damage caused before 1989 was extensive in some localities, and it was one of the main drivers for rejecting the state policy in this area (for instance demonstrations in northern Bohemia at the end of the 1980s, the first demonstration of Prague Mothers in Prague, etc.). For these reasons – according to first “post-revolution” polls carried out in 1990 – citizens put environmental protection in the first place in a value hierarchy. They were strongly dissatisfied mainly with the quality of air, drinking water and the environment in the place of residence. Citizens perceived the unsatisfactory quality of the environment as the main cause of health risks. 83 % of respondents were dissatisfied with the environment in the place of residence.

From a global point of view, industrial pollution of environmental components was seen as the primary danger to the mankind. As much as 92 % of respondents were of the same opinion.

People were dissatisfied with the quality of air, drinking water, food, and with solid waste disposal. This was reflected in the order of urgency of solutions to individual environmental problems.



**Priorities of environmental components improvement – May 1990 (%)**



Source: PORC

Public interest in information related to the environment has been steadily high since the beginning of the 1990s. Since 1992, it has ranged from 80% to 90%. Generally, the higher the dissatisfaction with the environment, the higher the interest (81% of the fully satisfied and 97% of the very dissatisfied showed interest). In 1992, 91% of respondents showed interest.

### The 1990s

Public opinion of the impact of economic transformation on the environment is striking. At the time of large investments in environmental restoration (see chapter 5) when buyers of companies were bound to remedy damage to the environment in the privatisation process, most citizens perceived impact of economic changes on the environment negatively.

**View of impact of economic changes on the environment (%)**

| changes in economy –                                   | yes  |      |      |      | no   |      |      |      |
|--|------|------|------|------|------|------|------|------|
|  | 1995 | 1996 | 1997 | 1998 | 1995 | 1996 | 1997 | 1998 |
| effective remedy of environmental damage from the past | 34   | 35   | 25   | 28   | 61   | 55   | 64   | 60   |
| environmental damage prevention at present             | 34   | 33   | 24   | 29   | 60   | 57   | 64   | 61   |
| development of conditions of environmental improvement | 44   | 41   | 33   | 33   | 46   | 46   | 51   | 52   |

Source: PORC

### Before Accession to the European Union

A public administration reform had formed regional councils, which took over important part of the state administration in the environmental area. While the regional councils have become more prestigious – at least with those who have some opinion of them (and probably experience with them), the Parliament, which was included in the surveys and did considerable work in the area of the European legislation approximation during the monitored period, was seen negatively (table 8.3).

**Graph 8.5**

In 1993–1998, when the perception of urgency of environmental problems rapidly decreased, fundamental changes in environmental protection took place:

- Drop in sulphur dioxide air pollution
- Drop in dust air pollution
- Drop in insoluble substances water pollution
- Drop in oil substances water pollution
- Decrease in the mining of mineral resources
- Increase of investment in environmental protection

**Table 8.2**

In 1998 the right of the public to information on the state of the environment gained a legal framework. The Act No.123/1998 Coll. on the right to information on the environment was adopted.

Table 8.3

## View of activities of the Parliament and regional offices in the environmental area (%)

|                      |             | 2001 | 2002 | 2004 |
|----------------------|-------------|------|------|------|
| Parliament of the CR | Good        | 30   | 23   | 22   |
|                      | Bad         | 48   | 50   | 52   |
|                      | Do not know | 10   | 27   | 26   |
| Regional offices     | Good        | 23   | 27   | 36   |
|                      | Bad         | 25   | 27   | 32   |
|                      | Do not know | 52   | 46   | 32   |

Source: PORC; Note: PORC did no such research in 2003

Investigation of the non-profit sector as a whole carried out by PORC in 2003 showed that 63 % of respondents consider it an indispensable part of the society.

On the other hand, behaviour of companies and enterprises to the environment has been negatively evaluated by more than 80 % citizens, although there are no obvious reasons.

## Present Time

As in the period before the accession to the EU, citizens have become more satisfied with the environment in the place of residence. In December 2001, 57 % of inhabitants were satisfied; 61 % in March 2005. People are most satisfied with factors listed in table 8.4.

Table 8.4

## Satisfaction in place of residence (%)

|                            | Satisfied | Dissatisfied | Do not know |
|----------------------------|-----------|--------------|-------------|
| Access to free nature      | 86        | 14           | 0           |
| Purity of the surroundings | 74        | 26           | 0           |
| Quality of drinking water  | 72        | 24           | 4           |
| Quality of air             | 67        | 32           | 1           |
| Level of noise             | 63        | 35           | 2           |
| Quality of surface water   | 51        | 37           | 12          |

Source: PORC

People also like to participate in the environment protection if it is easy to do so. However, they are not active in solving this issue. For example, only one third of respondents participated in the conservation of nature.

Table 8.5

## Attitude of households to the environment (%)

|  | Always | Often | Rarely | Never | Don't know |
|--|--------|-------|--------|-------|------------|
| Deliver, separate hazardous waste                  | 36     | 34    | 17     | 9     | 4          |
| Separate ordinary waste                            | 32     | 35    | 20     | 12    | 1          |
| Save energies and water to protect the environment | 12     | 30    | 30     | 24    | 4          |
| Buy environment-friendly products                  | 4      | 22    | 36     | 25    | 13         |
| Reduce driving by car to protect the environment   | 4      | 11    | 34     | 41    | 10         |

Source: PORC

The right of citizens to influence the decisions of the state administration regarding environmental issues is confirmed by the Act No. 100/2001 Coll. on environmental impact assessment and in several other laws.

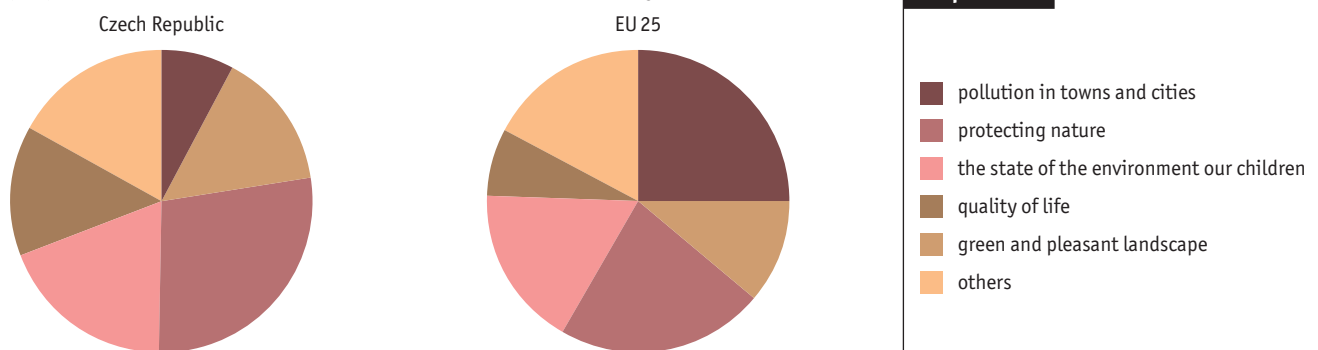
## Are We Different from the Other Europeans?

In November 2004, environmental issues were researched in Europe upon request by the European Commission (Eurobarometer 217). The research involved almost 25,000 respondents; 1,025 respondents were questioned in the Czech Republic.

Question *“What is your first association if you hear the Environment?”* was most frequently answered by: polluted environment in towns, nice countryside, nature and environment protection for the children. The answers differed significantly according to regions: the most frequent association in countries with large population density in southern Europe is polluted towns (Italy 43%, Portugal 41%); in contrast, polluted towns are hardly a problem for Scandinavian countries (Finland 7%). In the Czech Republic, the most frequent answer was “protection of the nature” followed by “the environment for our children” (see graph 8.6). Main dangers related to the environment (respondents could give 5 answers) included climatic changes, industrial accidents, air and water pollution, and the growing volume of waste. In the Czech Republic, people were most afraid of industrial accidents, air and water pollution; in some countries, people were most afraid of climatic changes (Sweden 68%) – see graph 2. In the Czech Republic, the proportion of people who felt well informed about environmental issues was almost the same as the proportion of those who did not feel so. The Danes felt they were best informed (77%); the Lithuanians (34%) and the Portuguese (39%) feel to be least informed. The majority of European citizens felt a lack of information in the area of genetically modified organisms and the health impact of chemical compounds contained in food. People said they would like to have more information in the area of solutions to the environmental problems (EU15 average: 55%; accessing countries: 60%) rather than on the problems as such (EU15: 14%, CR: 10%).

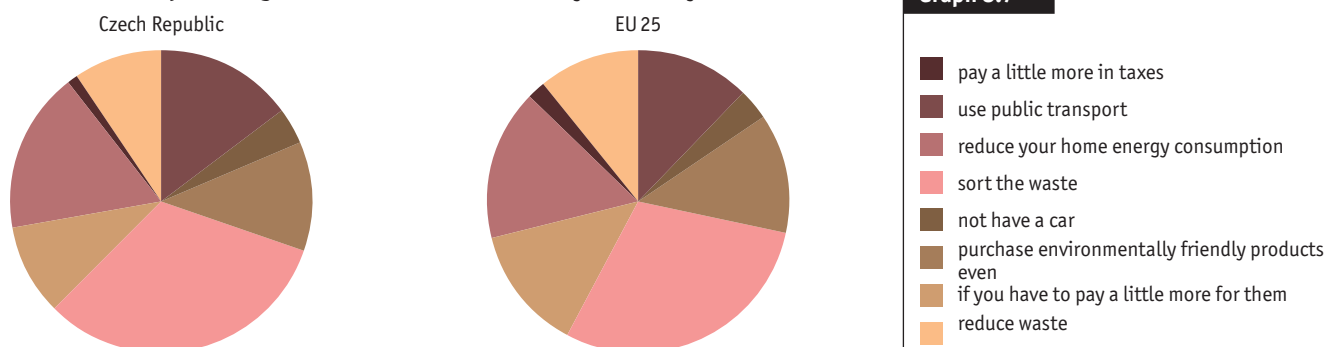
Question *“What do you do or what would you give up to contribute to the improvement of the environment?”* was most frequently answered by: separation of waste (72% in EU15, 80% in CR), power savings in households (39%), usage of environmentally friendly products (31%) and public transport (30%). Only 8% of people on average said they would be able to live without their cars (graph 8.7).

### When people talk about „the Environment“, which of the following do you think of first?



Source: Eurobarometer 217

### In order to contribute protecting the environment, what would you be ready to do?

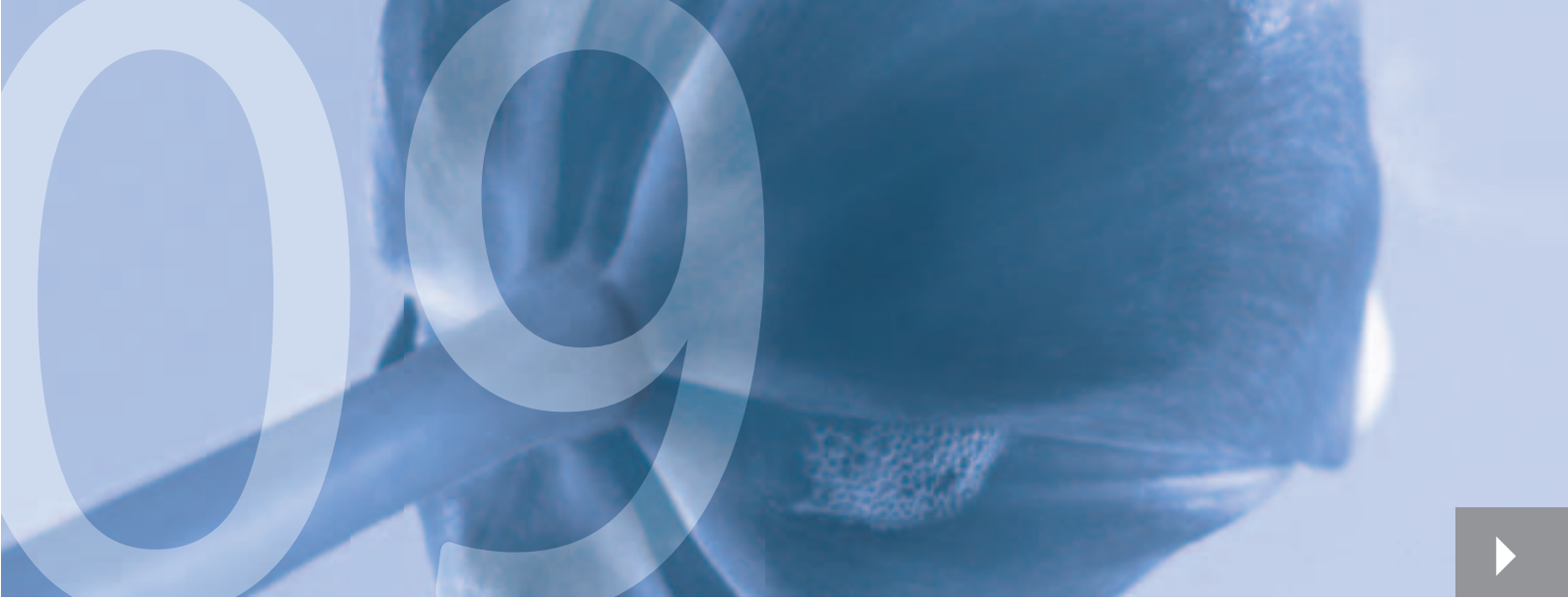


Source: Eurobarometer 217

From the Eurobarometer research results the following: the Czech citizens perceive the term environment somewhat differently than do other EU-citizens. On the other hand the willingness of our citizens to protect the environment is directed in the same areas as in other European regions.

Graph 8.6

Graph 8.7



Environmental education leading to responsible behaviour not only with respect to society, but also towards nature, has been involved in the Rainbow Programme from 1990. At present environmental education is embedded in Section 13 of Act No. 123/1998 Coll., on the right to access environmental information. In 2000 the Czech government made a decision regarding the issue of environmental education and recommended it to the whole state administration. The Gestor of the environmental education is the Ministry of the Environment.

Non-governmental non-profit organisations dealing with environmental protection were started from “scratch” after 1989. Only some conservationist organisations, e.g. Czech Union for Nature Conservation or the famous Brontosaurus movement, survived the previous regime. At the moment there are more than 420 non-governmental environmental organisations in the Czech Republic.

New post-revolution environmental regulations provide for participation of general public and their associations in deciding public matters which might influence the environment. The Czech Republic joined the Aarhus Convention (Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters) in 1998. It was ratified by the Chamber of Deputies in 2004.

# Environmental Education, Enlightenment and Public Awareness

## Founding Period (1989–1992)

During the whole of the 1990s the term ecological education as the relation to the environment was also referred to as ecology. Due to later discussions as to whether ecology as a more general term outside the scientific ecology should be used for the environment or not, the term environmental started to be used also in environmental education.

Ecological education was included in the proposal of the conception for the state ecological policy elaborated by a team of workers from the federal State Commission for Scientific, Technological and Investment Development (later the Federal Committee on the Environment) and from the republic's ministries of the environment. In the conception such important personalities took a share as Josef Vavroušek, the head of the Federal Committee on the Environment, Bedřich Moldan, Czech minister of the environment, and Vladimír Ondruš, the head of the Slovak Commission on the Environment. The conception was approved by the decision of the Czech Government No. 210 of 18th July 1990 and consequently by the decision of the federal Government No. 511 of 26th July 1990.

Non-governmental non-profit organisations, schools, centres of environmental education and information, mass media and the state administration were identified as the most important areas to influence environmentally more acceptable behaviour of society in the Strategy of the Czech and Slovak Republic for Environmental Education from the perspective of non-governmental organisations, which was prepared by non-governmental organisations with support of the World Wide Fund, and published in Brno in 1992.

Environmental education, public awareness and dissemination of interpreted information or public education (hereinafter also EE) were together with the state administration one of the biggest domains of non-governmental non-profit organisations. Although these activities are supported by the state which formulates relevant programmes and priorities, they are actually implemented by environmental organisations. Their activities are based on and related to the interest in environmental information. The lack of such information was one of the visible triggers of the Velvet Revolution.

The dialogue between the state administration and non-governmental organisations resulted in a number of conceptual documents on EE. In 1990 the agency of the Civic Forum in Prague published the Strategy of Environmental Impacts on Population between 1990-1992 (authors: Blažek, Kruliš, Slavotínek). This strategy was the first document to define target groups of environmental education.

The 1990 Rainbow Programme says the priorities are: a strategy of environmental education for 1990s in the Czech Republic, implementation of a new philosophy of human education, support to scientific research focused on philosophical, sociological, psychological and pedagogical aspects of environmental protection, support to specific projects, development of environmental education for the state administration officers and implementation of the environmental aspect within education at primary and secondary schools.

Obligations resulting from the Rainbow Programme were detailed in the Strategy of the State Support for Ecological Education in the Czech Republic for the 1990s, approved by the Government by Decree No. 232 of 1 April 1992. The body to coordinate the ecological education was the foundation EVA. The Foundation was granted the status of the National Centre for Ecological Education. The Government also approved the obligation to inform on the Strategy performance once a year in the Environmental report of the Czech Republic.

The 1992 strategy was the only implementation of environmental education in the Czech Republic for a long time. The Strategy included basic principles of environmental education generally accepted also today. However, EVA, founded by non-profit organisations (especially Brontosaurus), never became a respected agent and organiser of environmental education.

## Implementation Period (1993–1998)

After first experience with EE the Ministry of the Environment prepared conditions of providing grants and support for non-governmental associations. The number of entities systematically pursuing environmental education increased.

The state environmental policy from 1995 defines the mission of the EE as a change in attitudes and actions of man towards nature, creating preconditions of normative and economic tools. The policy says that there is not a uniform system of environmental education in the Czech Republic as there is no legislative and institutional support.

In June 1998 the parliament passed Act No. 123/1998 Coll., on the right to information on the environment. Pursuant to Article 13 the Ministry of the Environment has the duty to support environmental education with a special focus on children and young people. The Ministry of the Environment and the Ministry of Education, Youth and Sports has to create conditions to help public bodies and organisations to provide access to environmental information, creating conditions of environmental education within the competence of public administration bodies.

## Pre-Accession Period (1999–2003)

In 1999 the Ministry of the Environment initiated the programme National Network of EE Centres, a joint programme of the Association of Environmental Education Centres Pavučina (the Web) and the Czech Union for Nature Conservation and since 2004 there has also been the Eco-Counselling Network (STEP). The programme contributed to the development of EE in regions. The programme involves about 50 non-governmental non-profit organisations. The project of the Associ-



ation of Environmental Education Centres “Pavučina” called Methodology and Implementation of Comprehensive Regional Environmental Education has run since 2001.

The 1999 Environmental Policy declares the necessity to incorporate the environmental aspect into education at all levels.

The Czech Government adopted the state EE programme in its Decree No. 1048 of 23 October 2000. The EE programme included the Action Plan for 2001–2003 with 45 specific tasks to be fulfilled prior to accession into the EU. More emphasis was placed on consulting and public participation, and more information on sustainable development and active civic participation in implementation and development of local Agendas 21. Attention was also aimed at enhancing qualifications of civil servants and elected representatives to reach the environmental minimum at least.

In 2001 the objectives and tools of environmental education became part of the National Programme of Education Development in the Czech Republic (so-called White Book approved by Decree of the Government No. 113 of 7 February 2001).

#### State resources used to support environmental education, enlightenment and public awareness in the Czech Republic

| Year         | Project             | Implemented by | CZK               |
|--------------|---------------------|----------------|-------------------|
| 1999         | Národní síť CEV/SEV | SSEV Pavučina  | 4 400 000         |
| 2000         | Národní síť CEV/SEV | SSEV Pavučina  | 4 000 000         |
| 2001         | Národní síť CEV/SEV | SSEV Pavučina  | 4 000 000         |
| 2002         | Národní síť CEV/SEV | DEV Lipka Brno | 3 600 000         |
| 2003         | Národní síť CEV/SEV | DEV Lipka Brno | 3 600 000         |
|              | MA21                | DEV Lipka Brno | 1 400 000         |
| 2004         | Národní síť CEV/SEV | SSEV Pavučina  | 5 000 000         |
|              | MA21                | NSZM           | 600 000           |
| <b>Total</b> |                     |                | <b>26 600 000</b> |

Source: MoE

Environmental education, enlightenment and public awareness are supported also by municipal and regional budgets.

## Present

Act No. 561 of 24 September 2004 on pre-school, basic, secondary, advance vocational and other education (the Education Act), which became effective on 1 January 2005, talks about environmental education as one of the key topics.

Amended Act No. 123/1998 Coll., amends provisions regarding environmental education. The new regulation is based on experience and the needs of regions and statutory cities. It regulates obligations of individual entities (central administrative bodies, regions and municipalities) of EE and defines the term of environmental consulting.

The Inter-departmental Group is an institution founded under the Ministry of the Environment for the purpose of EE. The Czech Ministry of Education participates in the Group and is the gestor of its sector. A lower level of EE is organised by regional coordinating bodies. The project of environmental education is supported also by the CENIA, Czech Environmental Information Agency, the National Park Administration, the Nature Protection Administration, and non-governmental organisations are represented by the Czech Union for Nature Conservation, the Association of Young Conservationists, the Eco-Counselling Network STEP, the Association of Environmental Education Centres Pavučina, the Environmental Education Club, and the associations of Brontosaurus, Tereza, Koniklec, and Zelený kruh.

“Environmental education within the meaning of sustainable development must be viewed as one of the vital conditions of the continuity of human society and its culture. This education not only brings new information but also helps develop a relationship with nature and acquire abilities and motivation, form a healthy environment and do away with global poverty.”

Source: *National Programme of Educational Development in the Czech Republic (White Book), Chapter 1 – “General Objectives of Education”*

**Table 9.1**

#### Financial aid from the EU

The most important programme in terms of the volume of finance which currently supports the sectional activities including environmental education is the Human Resources Development Operational Programme financed by the European Social Fund.

## Non-Governmental Non-Profit Organisations

„Recognize and protect“ is a famous motto of the oldest and for many years the only non-governmental ecological organisation in Czechoslovakia. This motto is inscribed in the emblem of the organisation together with a twig of yew – the red, ancient, scarce, and very resilient wood of Central Europe. Under this emblem in 1958 in Prague the first modern voluntary conservationist organisation then called Sbor ochrany přírody (Environmental Protection Group) was established on the instigation of the zoologist Otakar Leisky.

... From the beginning the YEW, in the name of its motto, focused not only on protection of the environment and landscape, but also on education; it paid extraordinary attention to the young generation.

*Miroslav Vanek: It was impossible to breathe here*

Non-governmental environmental organisations started to emerge after 1989 as newly established or on the basis of older ones which were more or less tolerated or supported during the communist regime. The best-known were TIS – Union of Nature and Landscape Protection, Czech Union for Nature Conservation and Brontosaurus.

A large number of non-governmental organisations were established at the beginning of the 1990s thanks to enthusiasm of many people. These organisations were provided institutional support from the Ministry of the Environment and financial support from US government resources and foundations, and also from the Netherlands, Great Britain and the EU programme Phare.

This boom died down in the mid 1990s when some smaller organisations cease to exist.

Powerful and important centres of environmental education got ahead in the late 1990s (SEVER, Lipka, Chaloupky, Paleta, Dřítatka, Víta, Toulcův dvůr) which started another wave of centres (and experience) established after 2000.

Zelený kruh (Green Circle) is an important representative of non-governmental organisations which gathers comments for all strategic and programme documents prepared by the Ministry of the Environment.

The public awareness of non-governmental organisations was represented by organisations with good communication skills which were able to prepare noticeable events – Děti Země (Children of the Earth), Greenpeace, Hnutí Duha (Rainbow) and others.

In 1989, 537 citizen-action public entities were registered (mostly successors of social organisations of the communist National Front), and by 2001 it was more than 48,000 organisations. During the 1990s two new legal forms of non-profit organisations developed – the general interest society (o.p.s.) has existed since 1995 and the endowment fund since 1997.

According to the Czech Statistical Office, there was only one foundation in 1989 (Hlávkovo nadání). In 1990 the figure was 37, and in 1991 their number grew to 420, while when the foundation and endowment act was passed in 1997 there were 5300 foundations.

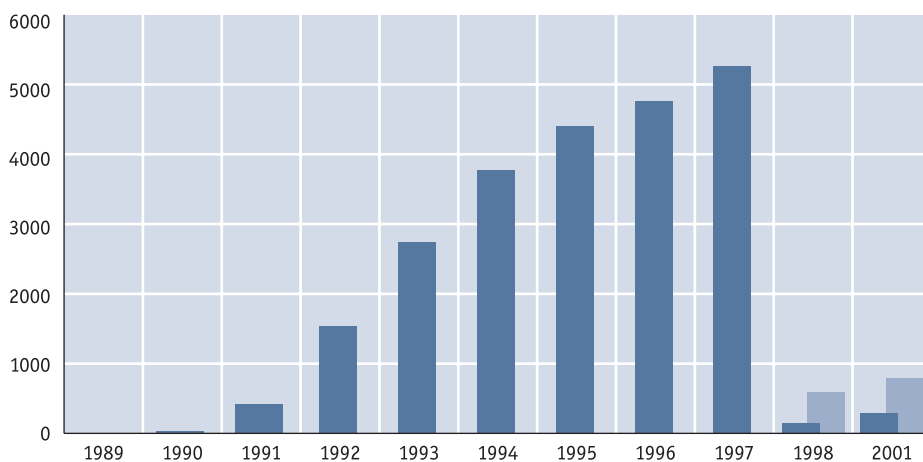
Table 9.2

### Projects of non-governmental organisations supported by the Ministry of the Environment

| Year         | Number of submitted projects (pcs) | Total number of supported projects (pcs) | Required contributions of NGO (thousand CZK) | Amount of provided subsidies (thousand CZK) |
|--------------|------------------------------------|--|--|---|
| 1995         | 329                                | 153                                      | 16 902                                       | 11 669                                      |
| 1996         | 507                                | 204                                      | 30 306                                       | 17 300                                      |
| 1997         | 497                                | 193                                      | 49 375                                       | 18 800                                      |
| 1998         | 680                                | 230                                      | 76 532                                       | 19 350                                      |
| 1999         | 581                                | 143                                      | 69 606                                       | 19 350                                      |
| 2000         | 498                                | 158                                      | 51 823                                       | 19 350                                      |
| 2001         | 523                                | 157                                      | 56 100                                       | 19 350                                      |
| 2002         | 465                                | 145                                      | 49 183                                       | 19 350                                      |
| 2003         | 499                                | 159                                      | 55 005                                       | 22 000                                      |
| 2004         | 519                                | 164                                      | 49 426                                       | 20 000                                      |
| <b>Total</b> | <b>5 026</b>                       | <b>1 706</b>                             | <b>504 258</b>                               | <b>186 519</b>                              |

Source: MoE

Number of foundations and endowment funds



Source: MoE

One of the important motivational factors for activities of non-profit organisations is the yearly announced prize of the minister of the environment, the Prize of Josef Vavroušek. Also the prize of the Sasakawa peace foundation for the best projects of non-governmental organisations is very prestigious.

The way of pursuing the ecological education by environmental organisation can be demonstrated by several successful international projects.

- One of the most famous is the project “Wild”. By means of more than eighty activities this project in a natural way educates children regarding environmental protection. The project is realized in education centres.
- In the programme “GLOBE” students from nearly a hundred schools take measurements and observe the quality of the environment in such fields as meteorology, hydrology, biometry, phenology, pedology and Earth Remote Sensing. The project is coordinated by the non-governmental organisation Tereza which is also in charge of the project “Blue from the sky – are you interested in what you breathe?”. The goal of this project is to draw attention of the public and of the competent officials to the regional and global consequences of air pollution.
- The aim of the project “Vitalizing water” coordinated by Alcedo is to collect as much information about the watercourses as possible and submit them to experts and competent officials to solve problems related to them. From July 2002 to November 2003 a pilot project called “Vitalizing water for the municipality” proceeded within which several Czech schools under the assistance of Tereza came up with and realized their own projects on water quality protection.
- Also the campaign “Clean up the world!” has its place in this list. Its goal is to increase the ecological knowledge of children and adults and to support education for waste minimisation. Every year more than 8000 volunteers join this project. This project is realized by the Czech Union for Nature Conservation.

Graph 9.1

■ Foundations  
■ Endowment Funds

#### Organisations specialising in environmental education:

- Association of Environmental Education Centres Pavučina – 28 members, e.g. SEVER Horní Maršov, Lipka and Rezekvítek Brno, Vita Ostrava operate nation-wide
- Eco-Counselling Network STEP – 9 members, e.g. Veronika, Environmental Legal Service operate nation-wide
- Tereza – association for environmental education, Prague
- Brontosaurus – 31 founding units and children clubs Brdč
- Association of Brontosaurus
- Environmental Education Club

#### Organisations using environmental education enlightenment and public communication as a tool of direct environmental protection and sustainable development:

- Czech Union for Nature Conservation – 28 accredited and 10 registered environmental centres, about 150 groups of Young Conservationists associating 3,500 children
- Zelený kruh (Green Circle) – 25 organisations, some of them operating nation-wide: Duha, Děti Země, Arnika, Greenpeace PRO-BIO, Sustainable Development Society

Source: Non-profit sector prior to Czech accession to EU – Development, Capacity, Needs and Orientation of Czech NGO Specialised in the Environment and Sustainable Development, Foundation Partnership 2004



## VOLUNTARY ACTIVITIES OF COMPANIES AND PUBLIC SECTOR

Over the last 15 years, the improvement in the quality of the environment in the Czech Republic has been brought about not only by promotion of mandatory measures prescribed by law, but also by voluntary activities of industry and public administration, especially municipalities, carried out by means of the so-called voluntary instruments of environmental policy.

The first voluntary regulatory instruments (i.e. instruments reducing the negative impact on the environment) to be implemented in our country were: ecolabelling (1993), Responsible Care (1994) and Cleaner Production (1994). These were followed by voluntary agreements between industry and state administration (1995), implementation of ISO standards of the 14 000 series (1997) and since 1998 also by EMAS (Eco-Management and Audit Scheme).

In mid-2005, more than 300 products of 75 producers have been labelled as environmentally friendly products (179 ecolabelling licences granted) in 41 product categories.

29 companies of the chemical industry are entitled to use the Responsible Care trade mark, 118 Cleaner Production projects have been implemented, seven voluntary agreements have been made, 1 332 firms have been certified ISO 14 001 and 18 companies have implemented EMAS.



### National Programmes Promoting the Voluntary Activities

#### National Programme for Labelling Environmentally Friendly Products (EFP)

On 7 June 1994, the first ecolabel was awarded to the product CLIMATIZER PLUS (thermal and sound insulation) of the company CIUR a. s.

On 11 February 2005, the first EU ecolabel "The Flower", was awarded in the Czech Republic – to the Czech textile producer, Hybler Textil, a. s.

The preparation of the Czech National Programme for Labelling Environmentally Friendly Products started in September 1992. The first documentation for governmental discussion on implementation of the programme was drawn up. It contained various management scheme proposals, texts of basic documents and proposed criteria for product evaluation.

The Decision of the Government No. 159 of 7 April 1993 commissioned the Minister of the Environment to implement the National Programme for Labelling Environmentally Friendly Products and harmonise its rules with the emergent EU Ecolabel Scheme.

The Czech National Programme for Labelling EFPs was started in April 1994. Criteria were set for evaluation of thermal insulating materials from scrap paper, lubricating oils for chain saws, detergents for textiles and water-based painting and coating materials.

In 2005, the National Programme encompasses 41 evaluated product categories, ca 300 labelled products and 75 companies – ecolabel holders. The Ministry of the Environment is the guarantor of the programme, which is administered by CENIA, the Czech Environmental Information Agency (formerly the Czech Environmental Institute).

The programme and the placement of the ecolabel on a product guarantee the consumer that the labelled product has only minimum detrimental impact on the environment.

The Czech Republic was the first post-communist country to develop a successful national ecolabelling programme.

In 2000, the Czech Ecolabelling Programme became part of the Global Ecolabelling Network (GEN), an organization currently (2005) associating more than 35 most significant world ecolabelling programmes.

In the Czech Republic, the National Programme is being implemented in parallel with the EU Ecolabel Scheme and the ecolabel "Environmentally Friendly Product" is awarded together with the EU ecolabel "The Flower".

Fig. 10.1

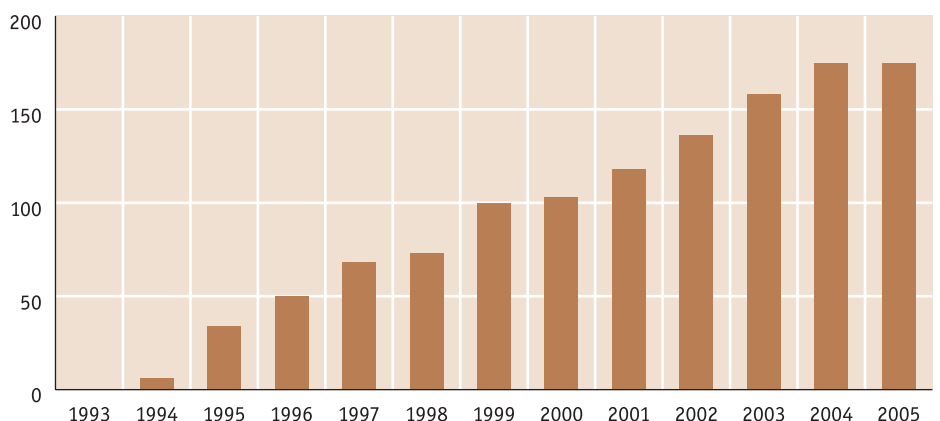
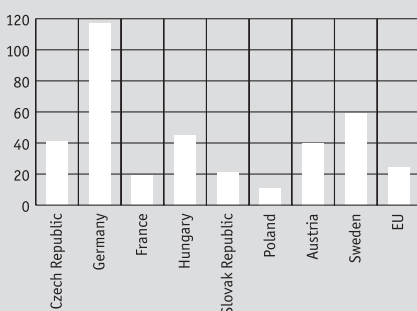
Logo of the Czech ecolabel and the logo of the EU's "The Flower"



Graph 10.1

Number of labelled products (ecolabelling licences granted)

Product categories in national ecolabelling programmes of EU countries



Source: CENIA



## Cleaner Production

The first (demonstrational) Cleaner Production project in the Czech Republic was carried out in Chemopetrol, Litvínov in 1992–93. Initiated by the Czech Environmental Management Centre (CEMC), it was implemented by the World Environmental Centre. It resulted in a reduction in VOC emissions as well as annual savings in the amount of CZK 4 mil.

In 1999, the Czech Republic joined the International Declaration on Cleaner Production which was proclaimed at the international level in Seoul, South Korea in 1998. At the same time, the Declaration was joined by the city of Zlín and by the companies Škoda Plzeň and Znovín Znojmo. The national framework was provided by Government Resolution No.165 of 9 February 2000 which declared the National Cleaner Production Programme (NCP). The activities of NCP as an agency were entrusted to the Czech Cleaner Production Centre. In 2000, the International Declaration on Cleaner Production was joined by 6 more organizations (the city of Moravská Třebová and the companies Mora Moravia, Provio Jaroměř, ŽS Brno, Plzeň heating plant and Xaverov holding). The seventh International High-Level Seminar on Cleaner Production was held in Prague in 2002, where a new activity was declared – the Life Cycle Initiative – promoting the evaluation of products' life cycles. At this seminar, the International Declaration on Cleaner Production was signed by 3 more organisations (Kovohutě Příbram, Eastman Sokolov, the "Eco-building" association). The total amount of signatories of the declaration in the Czech Republic rose to 12.

In 2004 the functions of the NCP Agency and of the National Cleaner Production Centre were entrusted to the Czech Environmental Institute (today's CENIA).

During the 12-year history of Cleaner Production in the Czech Republic, 118 projects were implemented in businesses from the fields of light and heavy industry, transportation, chemical and textile industry, health care, food industry, costume jewellery production, agricultural primary production, bakeries, brewing as well as forestry. 32% of these projects resulted in financial savings. In the year following the Cleaner Production implementation, 37 businesses saved a total of CZK 177 million. The average saving was almost CZK 5 million. The ROI varied between 0 and 72 months with an average of 27 months.

## National EMAS Programme

The EMAS system entered into force in April 1995 by Council Regulation (EEC) 1836/1993/EC of July 1993 (EMAS I) and it was opened mainly to businesses from the production (industrial) sphere. The National EMAS Programme based on this Regulation was approved by Decision of the Government of the Czech Republic No. 466 of 1 July 1998. The EMAS Programme Council and the EMAS Agency were established as bodies responsible for the EMAS implementation in the Czech Republic.

The accreditation body of the Programme is the Czech Accreditation Institute, o.p.s.

Government Decision No. 651/2002 of 19 June 2002 on Updating the National Implementation Programme incorporated the Regulation (EC) No. 761/2001 of the European Parliament and of the Council (also referred to as EMAS II) into the National Programme.

The main purpose of the new Regulation was to extend the applicability of the Regulation from the field of industry to all economic sectors (incl. public institutions), to strengthen the compatibility between EMAS and ISO 14 001 by using ISO 14 001 as an essential EMAS basis and to encourage the participation of SME in the programme.

### Cleaner Production Project: Minimization of Waste from Surface Treatment in the company

#### KOH-I-NOOR Praha, a.s., in 1995

The main production programme of KOH-I-NOOR, a.s., is formed by products for textile industry and small consumers. The project dealt with reducing waste water consumption from plating lines and reducing consumption of chemicals in these lines. The impact of the changes on the production quality of the nickel plating lines was also monitored.

#### Cleaner Production Measures:

- returning water from economical rinsing to plating baths, thickening the economical rinsing
- lowering plating currents
- introducing consumption record-keeping
- reducing the amount of added chemicals

#### Economic Benefits:

The costs of the CP measure were insignificant, the return period instantaneous. Through cleaner production implementation, the company saved CZK 761,732/year. The savings do not include the costs of saving 21,621.6 kWh (approximately CZK 40,000).

#### Environmental benefits:

- waste water reduction of 8,250 m<sup>3</sup>/year
- waste water load reduction of 5 g Ni/l
- reduction in the amount of NiCl<sub>2</sub> by 231 kg/year
- reduction in the amount of NiSO<sub>4</sub> by 656 kg/year
- reduction in the amount of H<sub>3</sub>BO<sub>3</sub> by 203 kg/year
- elimination of Saccharine – approximately 2 t/year

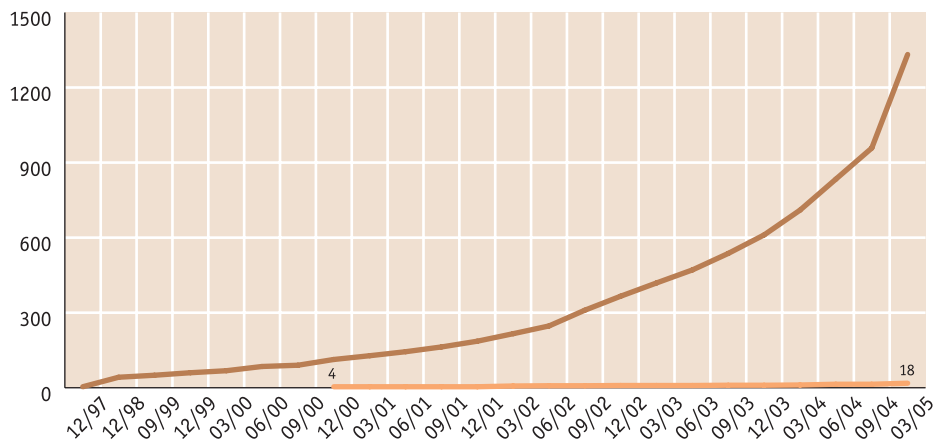
Source: KOH-I-NOOR, a.s.



**Graph 10.2**

**Number of enterprises with EMAS and ISO 14 001 by year quarters**

— ISO 14 001  
— EMAS



Source: CENIA, Czech Environmental Management Centre (CEMC)

Barum Continental, Ltd, is a company with a long tradition of tyre production established by the company Bata in Zlin as long ago as 1932. It currently produces tyres for cars (this production with 100,000 pieces a year is dominant), trucks and agricultural machinery. The company has had a certified EMAS System in place since 1997 – according to the Council Resolution 1836/93. The EMAS emergency plans helped to minimize losses (chemical leaks) when the seat of the company was hit hard by the 1997 extensive floods. No environmental emergency occurred thanks to the readiness of the company as regards storing materials and harmful substances.

On 6 November 2005, Barum Continental became the first organization registered in the National EMAS Register in the Czech Republic. The efforts and results of the company in the field of environmental protection were rewarded in 2002, when the company was awarded the European prize "Awarded for Best Practice in Environmental Management". Barum was the only company among non-EU countries that received this prize.

Source: Environmental statement 2004, Barum Continental, Ltd.

The graph shows a sharp increase in ISO 14 001 implementation. ISO 14 001 surpasses EMAS as regards the number of certified businesses mainly for economic reasons. ISO is the less demanding option, valid worldwide and its implementation is currently seen as a full market factor. This trend is apparent all over Europe, despite the pressure from EU authorities to implement EMAS.

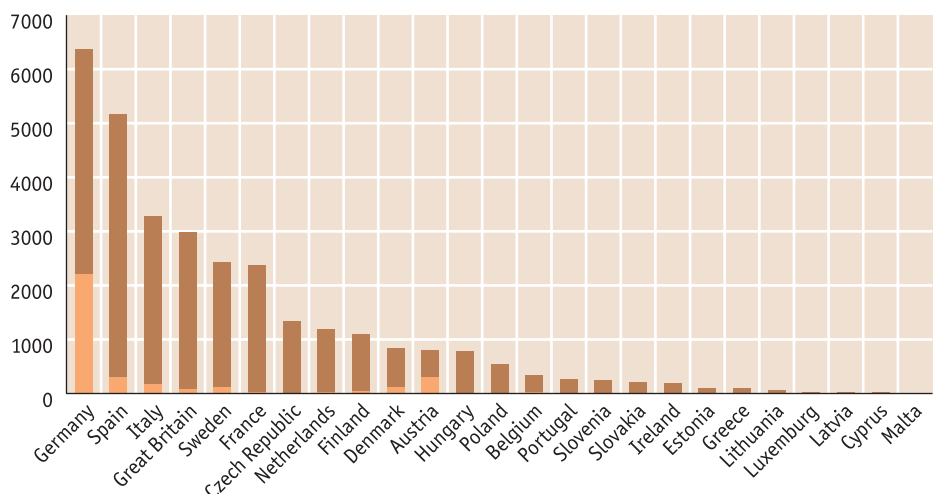
The most subjects with implemented EMAS are in Germany, Austria, Italy and Spain. In these countries EMAS is strongly supported by state programmes.

The Czech Republic ranks seventh among the European Union Members concerning the number of ISO 14 001 certificates (2004/2005). Among enterprises with EMS (ISO 14 001 + EMAS) manufacturing enterprises prevail, by which accepting environmental system is caused by competitive pressure.

**Graph 10.3**

**EU Countries by number of ISO 14 001 and EMAS certificates**

■ ISO 14 001  
■ EMAS



Source: CENIA, CEMC

## Other Voluntary Activities

### Responsible Care

In the Czech Republic, this instrument was named “Responsible Enterprise in Chemistry” and the commitment of compliance with the established principles has been voluntarily endorsed by businesses of the chemical industry since 1994 – at present 29 companies are entitled to use the label Responsible Care. The administrator of this programme in the Czech Republic is the Association of Chemical Industry of the Czech Republic.

### Voluntary Agreements

A voluntary environmental agreement, i.e. a contract between a public law entity on one side and one or more subjects on the other side, was first implemented in the Czech Republic in 1995. It was concluded between the Ministry of the Environment and the Czech Soap and Detergent Products Association with the aim to reduce the phosphate content in their products. The content of voluntary environmental agreements varies significantly. By the end of mid-2005, there were 7 voluntary agreements concluded in the Czech Republic.

- Agreement on Gradual Reduction in Environmental Impact of Detergents (Ministry of the Environment – MoE – and Czech Soap and Detergent Products Association, 1995)
- Agreement on Packaging (MoE, Czech Industrial Coalition for Packaging and the Environment, 1999)
- Agreement on Cooperation with the Czech Business Council for Sustainable Development and Confederation of Industry of the Czech Republic (MoE, Confederation of Industry of the Czech Republic and Czech Business Council for Sustainable Development, 1999)
- Agreement on Portable Batteries Collection (MoE, Czech Portable Battery Association, 2001)
- Voluntary Agreement on Reduction in Mercury Load from Dental Medical Institutions (MoE, Czech Dental Chamber, 2001)
- Cooperation Agreement with Building Industry (MoE, Association of Entrepreneurs in Building Industries and Association for Eco-building, 2002)
- Cooperation Agreement (MoE, Common Section for the Environment at the Economic Chamber)

### Environmental Managerial Accounting

Environmental managerial accounting presents a tool, which is generally applicable to support decision-making processes in enterprises, but also in other institutions and in municipalities. The environmental managerial accounting system collects, records, evaluates and transfers to the user the information on material and energy flows, flows of all types of waste and waste management, as well as information on costs, savings and revenues relating to all activities with potential impact on the environment. The first attempts to use environmental accounting on the level of enterprise in the Czech Republic were made in the beginning of the 1990s in connection with introduction of several environmental laws, which significantly influenced the economy of the entrepreneurial sector, and it was necessary to make analyses of impact of these laws. Regarding the fact that no integrated policy on the national level was available, in some enterprises a simplified version of environmental accounting was applied, which was based on monitoring the main cost items relating to environmental protection and influencing the accounting of the enterprise. In 2002 the Ministry of the Environment elaborated the “Methodical instructions for introducing the environmental managerial accounting” according to which it is possible to introduce this system.

The impulse to form the tool “Responsible Care” or statement of responsible care guiding principles in chemical industry was a big accident in a chemical plant in Bhopal in 1984, which led to significant decrease in call for work in chemical plants.

Environmental agreements among industry and state administration bodies first appeared in OECD countries in the 1960s and in the beginning of 1970s. In larger extent they began to develop in the EU and in other OECD countries in the beginning of the 1990s. They can be found in different problematic areas of environmental protection, in different economic sectors.

The EU countries use agreements relating to industry and energy sector focusing on pollution reduction the most. Whereas voluntary access in the EU Member States usually has the form of negotiated agreements, in the USA the public voluntary programmes play the main role.

Voluntary agreements with industry or other sources of environmental pollution are becoming a more and more relevant component of the current systems of the environmental policy tools.



The concept of sustainable development is part of the first legal regulation for environmental protection drafted since 1989 – Act No. 17/1992 Coll., on the Environment. It has been endorsed by all environmental policies so far, though wordings may differ. In 2004, the Czech Government approved the Strategy of Sustainable Development in the CR.

In regions and municipalities, sustainable development has been promoted mainly by the Local Agenda 21, which has been in use since 1997. Currently, more than 60 municipalities and regions participate in these activities.

# The Concept of Sustainable Development

*“Sustainable development means development which satisfies current needs without compromising the possibilities for future generations to fulfill their own needs.” (UN World Commission on Environment and Development led by G. H. Brundtland, the report “Our Common Future” (1987).*

Czech legislation defines sustainable development in Section 6, Act No. 17/1992 Coll., on the Environment: *“Sustainable development is such development which preserves the possibility to secure the necessities of life for contemporary as well as future generations without reducing biodiversity and which preserves the natural functions of ecosystems.”*

The Strategy was designed by the Government Council for Sustainable Development, which was set up by the Government Resolution No. 778 of 30 July 2003 as a permanent advisory, initiative and coordinating governmental body in the fields of sustainable development and strategic management. The members of the Council represent central and local government authorities, social partnerships, academics and non-profit organizations. The Council initiates, designs, coordinates, monitors, evaluates and promotes strategic dimensions of state management. It proposes measures to harmonize long-term objectives with mid- and short-term objectives

Local Agenda 21 is defined as a process which improves the administration of public matters, allows strategic planning (management), involves the public and uses the achieved level of knowledge of sustainable development in individual areas, enhancing the quality of life in all its aspects and aims towards citizens' responsibility for their lives as well as for the lives of other beings in time and space.

The concept of sustainable development in the meaning of the first 1987 definition has been implemented in the Czech Republic since the very beginning of the evaluated period.

The 1990 environmental policy – Rainbow Program – lists “the concept of sustainable development against economic growth leading to high consumption of natural resources” as the primary principle used by the Ministry of the Environment within its activities.

With different intensities and wordings, the principle of sustainable development has been endorsed by all environmental policies so far. In the 1990s this concept was implemented mainly through activities associated with the Agenda 21 adopted at the 1992 conference in Rio de Janeiro. The state and development of all three pillars of sustainable development (economic, environmental and social) have begun to be measured by indicators in the Czech Republic as well. Basic indicators were published by the Ministry of the Environment at <http://indikatory.env.cz>

Since the end of the 1990s the discussion on sustainable development has culminated in several attempts to formulate a sustainable development strategy of the Czech Republic to be adopted by the Government. The first draft was prepared by the team led by prof. B. Moldan, another was formulated by the Czech Environmental Institute in 1999. A third and final draft was prepared by the Institute for Environmental Policy in cooperation with DHV. The Government Council for Sustainable Development prepared the Strategy on the base of this draft. The Sustainable Development Strategy of the CR was approved under Government Decision No. 1242 on 8 December 2004. The Strategy was presented to the Czech Parliament and became the basis for the preparation of conceptual documents, for strategic decision-making within the state administration and for its cooperation with interest groups. The Strategy is also intended as a long-term framework for political decision-making in the context of international obligations assumed or to be assumed by the Czech Republic on the basis of its membership in the UN, OECD and EU, but respecting the specific conditions and needs of the country. The promotion of the Local Agenda 21 is a part of the Sustainable Development Strategy. The following part of this publication will deal with the implementation of the Sustainable Development Strategy.

## Local Agenda 21

The Agenda 21 from Rio had a positive worldwide acceptance and the term Agenda 21 became a synonym for sustainable development. The Agenda is implemented in particular at local and regional levels as described in Chapter 28 of the Rio outcomes – Local Agenda 21.

The implementation of Local Agenda 21 (LA21) allows citizens' participation not only in environmental protection. In our country, this activity began to develop in 1997, mainly with foreign financial assistance to projects of NGOs.

At the same time, the Ministry of the Environment (MoE) started to support LA21, mainly through the Czech Environmental Institute (CEI), today's CENIA. The project “Cooperation with the British Council on Capacity-Building for the LA21 Implementation in the Czech Republic (1997–2001, participants: MoE, CEI, Institute for Environmental Policy)” was carried out with the aim of sharing British experience in the practical implementation of LA21.

The project was prepared as a joint action of the District Authority of Děčín, the Association for the Development of the Šluknov Area, the Administration of the Nature Reserve Poodří, the municipal part Prague 15 and the Brontosaurus Movement Ecocentre Toulcův Dvůr under the official patronage of MoE, which guaranteed its implementation on the Czech part. The coordination and implementation of the project was entrusted to CEI. Three pilot projects were implemented – the city of Kladno, microregion Poodří and region Děčínsko, which provided materials for the methodology of sustainable development implementation by means of LA21s. The methodology is still in use.

LA21 is one of the objectives of the current State Environmental Policy (SEP) for 2004–2010 and is also supported by the State Program of Environmental Education.



## List of Municipalities in the LA21 Database (as of August 2004)

| Name of municipality/town/region registered for LA21  | Population | LA21 adopted in |
|---|------------|-----------------|
| Brno  | 389 000    | 1998            |
| Kladno  | 72 000     | 1998            |
| Děčínsko  |            | 1999            |
| Jindřichovice pod Smrkem  | 623        | 1999            |
| Polička   | 9 000      | 1999            |
| Vsetín  | 30 000     | 1999            |
| Český kras  |            | 2000            |
| Hlučín  | 15 000     | 2000            |
| Hodonín   | 28 000     | 2000            |
| Boskovice   | 11 000     | 2001            |
| Chrudim   | 24 000     | 2001            |
| Karviná   | 65 000     | 2001            |
| Krnov   | 26 000     | 2001            |
| Kroměříž  | 30 000     | 2001            |
| Letovice  | 7 000      | 2001            |
| Mikroregion Poodří  |            | 2001            |
| Moravská Třebová  | 12 000     | 2001            |
| Orlová  | 34 000     | 2001            |
| Prostějov   | 50 000     | 2001            |
| Třebíč  | 40 000     | 2001            |
| Litoměřice  | 26 000     | 2002            |
| Valašské Meziříčí   | 12 000     | 2002            |
| Zlín  | 83 000     | 2002            |
| Praha 7   | 44 000     | 2003            |
| Velké Meziříčí  | 12 000     | 2003            |
| Kopřivnice  | 23 000     | 2004            |
| <b>In the archive of the LA21 database (formerly involved in LA21, not involved any more)</b> |            |                 |
| Havířov   | 88 000     | ?               |
| Český Krumlov   | 14 000     | 1997            |
| Kolín   | 31 000     | 1998            |
| Mikroregion Novojičínsko  |            | 1998            |
| Studénka  | 11 000     | 1999            |
| Liberec   | 101 000    | 2000            |
| Frýdlant nad Ostravicí  | 10 000     | 2001            |
| Veselí nad Moravou  | 12 000     | 2002            |

Source: CENIA

The database of Local Agendas 21 in the Czech Republic is operated by the CENIA, Czech Environmental Information Agency. More on [www.cenia.cz](http://www.cenia.cz), [www.ma21.cz](http://www.ma21.cz)

Table 11.1

In the governmental statement of policy of August 2002 sustainable development and environmental protection belong to the priorities of the current term of office.

„In the field of regional development it is necessary to create conditions for the reduction or elimination of regional economic disparities, and, at the same time, to use possibilities to support the trans-boundary cooperation of regions and realisation of Local Agenda 21.

One of the strategic goals of the Sustainable Development Strategy of the Czech Republic is to ensure such position of regions/municipalities that would comply with their perspective function in obtaining balance among the constituent dimensions of sustainable development. To meet this target the Government using its disposable tools will among others support the introduction of Local Agendas 21 including their economic securing and will establish conditions for the integration of sustainable development principles into the regional development documents.”

*Sustainable Development Strategy of the Czech Republic, Prague 2005*

**The town of Vsetin, an example of a successful realization of Local Agenda 21**

Vsetin is the first town in the Czech Republic to obtain the ISO 14001 certificate. The Vsetin town hall managed to achieve the integrated system in the field of certification according to ISO 9001 (quality control) and simultaneously ISO 14001 (friendly approach of an organisation to the environment).

Since 2003 Vsetin has been a signatory of the Aalborg charter. At the same time it entered the project focusing on creating and monitoring common European indicators.

These activities were acknowledged by the Prize of Minister of the Environment, which was obtained by the town mayor for his personal engagement, thanks to which Vsetin now sets an example in practical enforcing of sustainable development to other municipalities.

The project of common indicators was launched at the third Conference on Sustainable Cities and Towns, Hanover, 2000.

For example, the measurement of the sustainable development level according to the ECI indicator No. 3 "Local Mobility and Passenger Transportation" in Hradec Kralove has shown that as opposed to the beginning of the 1980s when the hard (cars) vs. soft (public transportation, walking, cycling) transportation ratio in Czech cities was 20 : 80 with the hard transportation percentage gradually increasing, the current ratio in Hradec Kralove is 21.73% : 78.27% – despite a sharp increase in "hard" transportation in other Czech cities.

**Graph 11.1**



## Activities of Towns and Municipalities for Sustainable Development

The awareness of global consequences of even "small actions" of citizens at their place of residence has led some Czech towns to join the Charter of European Cities and Towns towards Sustainability (the Aalborg Charter – adopted at the first European Conference on Sustainable Cities and Towns, Aalborg, Denmark, May 1994). Out of the 2400 European towns joining the Charter (August 2005) only three are Czech: Hlucin (2002), Vsetin (2003) and Hradec Kralove (2004).

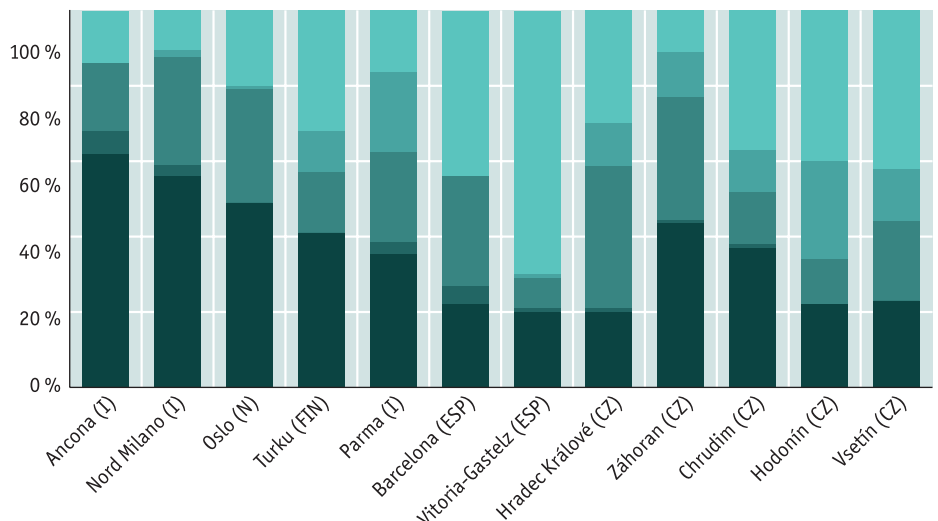
On signing the Aalborg Charter, approximately 160 European towns also joined the European Commission project "European Common Indicators of Sustainable Development at the Local Level" (ECI).

The Czech towns participating in the ECI project are: Krnov, Hradec Kralove, Svitavy, Vsetin, Chrudim, Kladno, Mlada Boleslav, Trebic, Hodonin, Decin, microregion Zahoran.

At present, 10 indicators of ECI are assessed:

1. Citizen Satisfaction with the Local Community – overall citizens' satisfaction with life in a municipality
  2. Local Contribution to Global Climate Changes – CO<sub>2</sub> emissions (over a longer period of time and with simplified methodology - this indicator focuses on environmental consequences)
  3. Local Mobility and Passenger Transportation – daily means and distances of transportation
  4. Availability of Local Public Open Areas and Services – accessibility of the closest public green spaces and basic services
  5. Quality of Local Ambient Air – number of days with good air quality
  6. Children's Commuting to School and Back – means of transportation used by children
  7. Sustainable Management of the Local Authority and Local Businesses – percentage of state and private organizations using environmental and social management systems (EMS and EMAS)
  8. Noise Pollution – percentage of population exposed to harmful noise levels
  9. Sustainable Land Use – sustainable development and protection of land in a municipality
  10. Products Promoting Sustainability – percentage of certified environmental friendly products and eco-agriculture in the total consumption;
- Ecological Footprint is used as an additional indicator.

**Mobility and passenger transportation in cities (%)**



Source: CENIA

### The list of LA21 projects supported by MoE

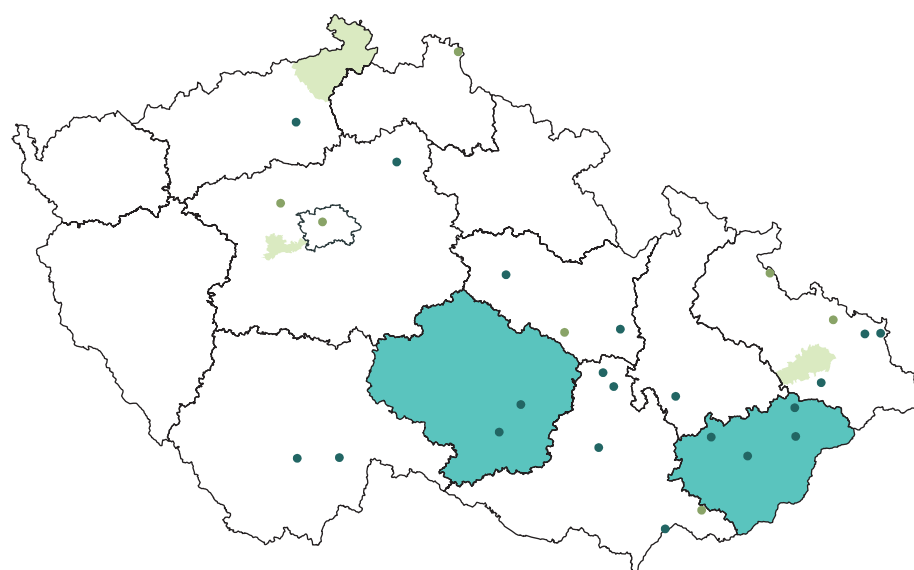
| Year | Number of projects supported | Subsidies in total (CZK) |
|------|------------------------------|--------------------------|
| 1997 | 1                            | 180 000                  |
| 1998 | 3                            | 349 000                  |
| 1999 | 8                            | 877 500                  |
| 2000 | 7                            | 765 000                  |
| 2001 | 7                            | 1 036 900                |
| 2002 | 8                            | 1 082 930                |
| 2003 | 8                            | 1 273 745                |
| 2004 | 11                           | 1 371 100                |
| 2005 | 6                            | 1 191 620                |

Source: MoE

The creation of the National Network of Healthy Cities dates even further back, it was based on a 1988 international project of the UN World Health Organization (WHO) – the Healthy Cities Project. In 1994 eleven active Czech cities established the National Network of Healthy Cities of the Czech Republic (NNHC CR). Since 1998, the NNHC CR methodology supported by the UN Development Program became a common guide for all cities, municipalities and regions. According to this methodology, a number of LA21s as well as local action plans for health and environment were created in member cities, municipalities and regions.

The National Network had 63 members by 1 July 2005 – 1 district, 22 cities qualify as regular members and 1 district, 32 cities and municipalities and 7 micro-regions qualify as affiliated members.

### Cities involved in LA21 on the map of the Czech Republic (by 31 July 2005)



Source: CENIA

Table 11.2

Fig. 11.1

- Municipality – member of NNHC CR – with adopted LA21
- Municipality with adopted LA21
- Region – member of NNHC CR – with adopted LA21
- Region with adopted LA21



Dear readers,

The publication you have just finished reading is the first, more extensive cross-cutting report on the environment in the Czech Republic, which came into existence in the CENIA, Czech Environmental Information Agency.

We have made an effort to demonstrate the fundamental change in the state of the environment in the Czech Republic within the last fifteen years. This change is measurable and provable, and documented in this report. The Czech Republic has not only a higher quality environment, but also developing economy, a quality health service and a good social security system for its citizens.

Apart from the state of the environment also the goals of environmental protection are also developing. The protection of the environment harmoniously supplements the requirements of social and economic development. Enterprises do not any more regard the environment as only a limitation on their business activities, but also as a possible competitive advantage. Citizens perceive the impact of the state of the environment not only on their health, but also on the quality of their lives as a whole. I believe that voluntary environmental protection will present increasingly important partners for the state administration.

This publication is an image of CENIA, Czech Environmental Information Agency. Its authors have managed to find data, which had often been regarded as having disappeared. They also found a way of presenting the data in a well-arranged manner and in context. Therefore I would like to express my thanks to everyone who has contributed to writing this book.

The Czech Republic has moved forward on the way to sustainability. The answer to the question as to whether this statement is correct or too daring will be the subject of an expert evaluation exercise of CENIA and the topic of the next volume of this publication, which will focus on sustainable development.



**Jiří Hradec**

Director of CENIA, Czech Environmental Information Agency





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# The Environment in the Czech Republic 1989–2004

**Authors:**

Ing. Ruť Bízková, Ing. Halina Adámková, Ing. Vladislav Bízek, CSc., RNDr. Jana Čermáková, Ing. Petr Holý, Ing. Jiří Hradec, Ing. Jan Klášterka, Ing. Jaromír Kovář, Ing. Zuzana Kozielová, Ing. Ivana Krpatová, Zdeňka Lepková, Mgr. Jan Mertl, Bc. Eva Neckářová, Mgr. Adéla Princová, Ing. Květoslava Remtová, CSc., Petr Saifříd, Ing. Pavel Zámyslický, Ing. Jan Zeman, CSc.

**Translation into English:**

Lucie Králová, Lenka Česneková, Julia Bartoš

**Reviewers:**

doc. Ing. Miroslav Hájek, Ph.D., JUDr. Jiří Hlaváček, PhDr. Eva Kružíková, CSc., prof. RNDr. Bedřich Moldan, CSc., Ing. Lubomír Nondek, CSc., prom. biol. Pavel Šremer

**Co-authors:**

Eva Branišová, RNDr. Pavel Doubrava, Ing. Milena Drašťáková, Mgr. Eva Dvořáková, Iva Chludilová, Ing. Veronika Jandová, Mgr. Zuzanna Hokkyová, Mgr. Jan Kolář, Ing. Luděk Knorr, Mgr. Jan Krátký, Marcela Křížová, Mgr. Jiří Kvapil, Ing. Jan Nepimach, RNDr. Jan Prášek, Mgr. Martin Štěpánek, RNDr. Hana Švejdarová, Ing. Světlana Vachová, Drahomíra Žáková

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