

ANNEX 3

ENVIRONMENTAL TAXES AND CHARGES IN CEECs

THE CZECH REPUBLIC

ENVIRONMENTAL LEVIES IN CZECH REPUBLIC

Introduction

Pollution charges were gradually introduced since the 60s. Air emission charges were introduced in 1967, and wastewater charges for effluent into surface waters were instituted in 1979. However, in the centrally planned economy they played no significant role. The current system of economic instruments in environmental policy in the Czech Republic was introduced in the early 1990s during the process of establishing state environmental policy and legislation.

The current system of environmental charges includes:

- Air emission charges;
- Sewage charges;
- Water pollution charges;
- User charges on municipal waste;
- Charges on solid waste disposal;
- Water extraction charges for the withdrawal of water from surface and ground water;
- Charges for dispossession of agricultural and forest land;
- Mining charges.

A. Air Emission Charges

Emission Charges on Air Pollution From Large and Medium Sources

Even if emission charges on air pollution from large and medium sources should provide incentives for measures to reduce pollution, the main function is fiscal. The charge was introduced by the act. No. 389/1991 Coll., on state administration of air protection and charges for its pollution, currently in the wording of act No. 211/1993 Coll., 158/1994 Coll. and 86/1995 Coll. The charge has been in force since 1.1.1992.

There are two source categories charged:

- large sources: thermal units above 5 MW and most important technologies (e.g. production of coke, steel and iron, cement, oil etc., heavy chemistry, waste incineration, etc.);
- medium sources: thermal units within the range 0.2 MW to 5 MW and other technologies.

The rates are related to the damages to the environment and are defined per ton of each main air pollutant:

Table A1: Tax Rates per Air Pollutant in CZK per ton (EUR)

Air Pollutant	Tax rate
solid emissions (particulates)	3,000 CZK/ton (EUR 87)
SO ₂	1,000 CZK/ton (EUR 29)
NO _x	800 CZK/ton (EUR 23.2)
CO	600 CZK/ton (EUR 17.4)
Hydrocarbons	2,000 CZK/ton (EUR 58)
I class pollutants (e.g. asbestos, cadmium, mercury, benzene, etc.)	20,000 CZK/ton (EUR 580)
II class pollutants (e.g. arsenic, chlorine, phenol, tin, etc.)	10,000 CZK/ton (EUR 290)
III class pollutants (e.g. ammonia, acetone, toluene, etc.)	1,000 CZK/ton (EUR 29)
Hard freon	200,000 CZK/ton (EUR 5803)

From the revenue point of view, the sulphur dioxide charge is the leader, whilst in second place is the solid emissions revenue. The revenue goes to the State Environmental Fund (SEF) and is used to finance programs related to air pollution.

The charge is paid by the operator of the emission source and the charge for emissions under a given limit can be included in costs (and thus in the price of production). If the charge exceeds the given limit, there is an additional charge added (see the non compliance section).

Emission Charges on Air Pollution from Small-scale Business Polluters

The subject of the charge are small-scale (thermal units not exceeding 0.2 MW) business polluters (non-households). The charges are levied on the basis of fixed fees for different source types (see Table A2).

Table A2: Emission Charges on Air Pollution from Small-scale Business Polluters in CZK (EUR)

type of levied fuels	heating system performance		
	0-50 kW	50-100 kW	100-200 kW
coke, firewood, heating oil with 0,3 - 1% sulphur	0	0	0
light heating oil	400-800 (11.6-23.2)	800-1,250 (23.2-36.25)	1,250-1,700 (36.25-49.3)
other heating oils	700-1,400 (20.3-40.6)	1,400-2,100 (40.6-60.9)	2,100-2,800 (60.9-81.2)
brown coal, derived fuels	500-1,000 (14.5-29)	1,000-1,500 (29-43.5)	1,500-2,000 (43.5-58)
hard coal	1,000-2,000 (29-58)	2,000-3,000 (58-87)	3,000-4,000 (87-116)
power plant brown coal	2,000-4,000 (58-116)	4,000-6,000 (116-174)	6,000-8,000 (174-232)
Sludges, shales	10,000 (290)	10,000-20,000 (290-580)	20,000-40,000 (580-1160)

Source: Act No. 158 / 1994 Coll.

B. Air Emission Non-compliance Fee

The aim of this instrument is to provide economic incentives for compliance with prescribed emission limits for air pollution sources. The fee has been in force since 1.1.1992. The fee is levied on the basis of pollutants (related to the output in the case of small sources). The rates are related to the damages to the environment. In case the prescribed emission limit is exceeded, the total amount of standard charges is multiplied by a factor of 1.5 (=50% increase). Again, the amount of the regular charge can be included in costs, the 50% surcharge must be paid from polluters' profits.

The revenue goes to the SEF (except those from small pollution sources, which remain with the respective local fund for environmental purposes) and is used to support programs related to clean air activities.

C. Water Charges

Charges for the Abstraction of Water from Surface Water-sources and Ground Water

- Extraction from surface water sources:

The charge is part of a permit system and has to be paid by each subject consuming water above the permitted limit. The permitted limit is 15,000 m³ yearly or 1,250 m³ monthly. Exceptions include water taken for ponds, swimming pools, fire-fighting purposes, skating rinks, and military use. Public water supply is not subject to payments. Each of the present five “Povodi“ (River Basin) Enterprises has a different rate constructed on the base of operational costs and rightful profits. The revenue goes to the SEF. It is used as a financial support for the River Basin Enterprises for measures and activities aimed at the protection of water sources.

- Extraction from ground water sources:

The charge is part of a permit system. Each subject taking ground water in a volume exceeding the permitted limit - more than 15'000 m³ yearly or 1'250 m³ monthly - pays 2 CZK per m³. Exceptions include water taken for water supply system, housing estates supply system, and military use. Public water supply is also not subject to payments. In total, no charges are paid for about 90% of extracted ground water. Charges go to SEF and are used to finance the protection of ground water reserves.

Sewage charges

Charges are paid by all users of sewerage and should work as a reimbursement of real costs for public water service and waste water collection/treatment. The charge is usually included in the cost of drinking water. The rates are determined by the public utilities “Vodovody a kanalizace“, which cover different areas.

Water effluent charges

These charges were established to (1) stimulate water polluters to construct waste water treatment plants, and also to create well-balanced economic conditions between subjects with waste water treatment plants and those without plants;(2) to generate income. Since July 1998 there is a completely new system of water effluent charges (Act. 58/1998 Coll., on water effluent charges).

The charge is levied on selected pollutants listed in the annex of the relevant act. The charge is paid in case the pollution exceeds concentration and mass limits at the same

time. Both these limits are also in the annex of the act. Some selected charges are valid from 2000, 2001, 2004 and 2005 respectively.

The system of waste water charges also includes a charge for the amount of waste water, which is paid in case the total annual amount of waste water exceeds 30 000 m³. At the same time, the polluter is subject to the waste water charge. The charge rate is 0,1 CZK per cubic metre of waste water.

If the polluter plans or has already started building a waste water treatment plant, he can ask for postponement of the charge for up to one year. If the polluter, after the waste water treatment plant has been put into operation, fulfils required limits on pollution, the postponed amount of charge will be excused.

Charges listed in Table C1 below are reduced by 40% for year 1999 and by 20% for 2000 and 2001, so the full charge rate is in force since 2002.

Table C1: Waste Water Charges, Concentration and Mass Limits

Pollutant	Charge	Mass limit	Concentration limit
	CZK(EUR)/ kg	kg/year	mg/litre
chemical consumption of oxygen, non treated waste water, till 31.12.2004	16 (0.46)	20 000	40
chemical consumption of oxygen, non treated waste water, since 1.1.2005	16 (0.46)	8 000	40
chemical consumption of oxygen, treated waste water	8 (0.23)	10 000	40
chemical consumption of oxygen, treated waste water from pulp, paper and textile production	3 (0.09)	10 000	40
dissolved inorganic salts	0,5 (0.015)	20 000	1 200
non dissolved substances	2 (0.06)	10 000	30
total phosphorus, till 31.12.2004	70 (2.03)	13 000	3
total phosphorus, since 1.1.2005	70 (2.03)	3 000	3
N-NH ₄ ⁺ , till 31.12.2000	40 (1.16)	15 000	15
N _{anorg.} , since 1.1.2001	30	20 000	20

	(0.87)		
AOX, since 1.1.2001	300 (8.7)	15	0,2
mercury	20 000 (580)	0,4	0,002
cadmium	4 000 (116)	2	0,01

If the charge (or advanced payment of the charge) is not paid within the given timetable, there is a fine of 0,1% of the debt value on each extra day.

The act also allows to impose a fine ranging from 1 000 CZK to 50 000 CZK, the conditions under which the fine is imposed are listed in the relevant act (no measurement of amount of waste water, not allowing to make independent controls, no measurement of pollutants in waste water for example).

In 1999, the total revenue from wastewater effluent charge was 526,7 million CZK (15.2 MEUR).

D. Waste

User Charges on Municipal Waste

Citizens and other subjects are charged by the operator of a dump or an incinerator for municipal waste storage or disposal. The aim is the reimbursement of real costs for safe municipal waste disposal and consequently to provide incentives to reduce the volume of municipal waste. The charge rate is determined by the individual municipalities. The rates are calculated in such a way that they include the waste treatment, operating costs, the charges for solid waste disposal, and the operator's economic profit. The waste producer pays the waste treatment operator, and the operator returns the charges on solid waste to the SEF.

Charges on Solid Waste Disposal

The aim is to compensate a municipality in the district of which dumps are located. The "hazardous charge" component of the charge system has the function of stimulating the proper disposal of solid waste in dumps which correspond to the required criteria. The charge has been in force since 1.4.1992, and was amended in 1.1.1998. The charges are levied on the basis of different waste categories, each with a basic charge for waste disposal and hazardous charge for hazardous waste disposal. The rates are related to the damages to the environment (see Table D1).

Table D1: Charge Rates on Solid Waste Disposal - New Charge System Since 1998

	Basic charge in CZK/ton (EUR/ton)		Hazardous charge in CZK/t (EUR/t)
	municipal waste	Hazardous waste	hazardous waste
1998	20 (0.58)	200 (5.8)	300 (8.7)
1999-2000	30 (0.87)	250 (7.25)	500 (14.5)
2001-2002	50 (1.45)	350 (10.15)	750 (21.75)
up to 2003	80 (2.32)	450 (13.05)	1'000 (29)

E. Soil, forests, agricultural land

Charges for Dispossession of Agricultural Land

The aim of the charge is to discourage the use of agricultural land - which is a limited resource in the Czech Republic -, for purposes other than agriculture. Agricultural land includes arable land, hop fields, vineyards, gardens, orchards, meadows and pastures. Each person who occupies agricultural land for other purposes, either temporarily or permanently, has to pay the charge. Paying the charge has a compensatory character. It is primarily implemented through awarding permits whose requirements becomes stricter as the number of applications for agricultural land occupation grows larger. The computation is made in accordance with tables provided with the following two parameters:

- CZK per hectare according to so-called main units (78 units are determined)
- Distinctions are made according to climatic regions (9 regions are determined).

Charges computed in this way may be increased on the basis of environmental factors (multipliers to the basic rates within the range 5-20) in national parks and other protected areas.

Charges for Dispossession of Forest Land

The aim of the charge is to discourage the use of forest land for any other purpose than forestry. The charge was instituted in autumn 1995 in connection with amendments to the Forest Law (289/1995 Coll.). Such a charge is very important because one third of the territory of the Czech Republic is covered by forests, which have not only an economic function in the production of wood, but also an increasing environmental role in water, air, and land protection, and in creating a natural

environment for humans and for the life of plants and animals. The rate is derived from the production of wood (biomass) and by means of correcting coefficients according to the prevailing functions of the respective forest.

The law differentiates between three types of forests:

- *Protected* forests in national parks, national natural reserves, in high mountains, and remote areas;
- Forests of a *particular determination* (in protected areas, in spa and urban surroundings, forests with intensive environmental functions);
- *Economic* forests.

Yearly charges for temporary sequestration of forest land from forest domain are set by multiplying the average yearly production of wood (6.3 m³/ha) by the average price of wood and by correcting it with an environmental coefficient (1.4 for economic forests, from 2 to 5 for protected and particular forests). Charges for permanent sequestration of forest land from forest domain can be expressed with the help of the following formula:

$$\text{charge} = (Q \times P \times C) / 0.02$$

where Q = average yearly production of wood (m³)
P = average price of 1 m³ wood
C = environmental coefficient (1.4 -5)
0.02 = discount rate

Besides these sequestration charges, of which 40% are paid to the municipality and 60% to SEF, the buyer of the forest land has to cover the economic value (loss) of forest land to the selling owner.

F. Mining charges

These charges are an economic compensation for the destruction caused by exploring for and extracting raw materials. The charge has been in force since 1.1.1993. It is levied both on the extracting area and the extracted selected raw materials.

The charge level for the extracting area is 10'000 CZK yearly per started km², or up to 2 ha 2'000 CZK yearly. The charge can be included in costs and thus in the price of minerals sold. From the environmental point of view the height of the charge is negligible. The revenue goes to the municipal budget, where the mining space is located.

The charge level for extracted selected raw materials has the character of royalty and represents maximum 10% of the market price of the extracted raw materials. The fee in fact does not include any environmental criteria (except for a differentiation between surface and deep pit mining)

G. Tax instruments

Value Added Tax

The VAT is comparable to the system used in the European Community. The law levies two tax rates for goods and services: currently, the standard rate for goods is 22%, with the exception of the special list of goods, which is subject to a decreased rate of 5%. The reverse applies to services, where the standard rate is 5%, except for those given on the list with a tax rate of 22% (in 1997).

Table G1: VAT Rates for Goods in the Czech Republic, 1994-1996 and 1997

VAT rates	standard rate	decreased rate
1994-1996	23%	5%
1997	22%	5%

A social approach was taken to select the goods with the reduced tax rate. Consequently, such items as food, solid fuels and heat energy are subject to a lower tax rate. With regard to environmental protection the following goods were included in the list:

- Coatings and lacquers (including enamel and fine lacquers) based on synthetic polymers or chemically-modified natural polymers, dispersed or dissolved in an aqueous medium;
- Bio-gas;
- Polyvinyl alcohol polymer foils;
- Saw dust, residues and waste, also agglomerates in the form of blocks, briquettes, pellets and similar shapes;
- Paper, carton, cardboard and products manufactured from them in the Czech Republic, on the condition that the certificate indicating production from more than 70% recycled paper is issued by a Branch Certificate Centre;
- Water and wind turbines with outputs respectively up to 100 kW and 75 kVA
- Heat pumps;

- Solar facilities;
- Household appliances for water purification and small waste treatment plants for family houses, and any parts and components for them, fillings for the appliances and plants;
- Machinery and instruments for air filtering and purifying;
- Automobile catalytic converters;
- Passenger cars and other primarily passenger motor vehicles with electric motors;
- Economical light sources (fluorescent and discharge tubes and their components);
- Thermostat valves;
- Flow meters;
- Heat consumption meters and hydrometers for households.

Due to the approximation to EC legislation, it is proposed to remove most of the environmentally friendly products from the list, the reason is that the current EC Directive 77/388/EC allows to include only some certain services connected to waste management into the reduced tax rate.

Income Tax Allowances

The relevant legislation is the Act No. 586/1992 Coll., on income taxes, in wording of later amendments.

Income from the operations of small hydro-electric power plants with an output up to 1 MW; wind powered electricity generating stations; heating pumps; solar powered facilities; biogas-producing plants; facilities producing bio-degradable substances, which are determined in generally binding legislative provisions; and facilities utilising geothermal energy; are exempted from paying income tax for the first six years.

Environmental aspects are also reflected in the possibility to decrease a tax base by 15 % from entering the price of equipment for water treatment (used in buildings) and sorting and other equipment for use of renewable sources, if the payer is the first owner of such equipment.

Airplane Noise Pollution Tax

The charge has a non-profit character, the revenue is used for monitoring

(approximately 25 mil. CZK each year). The rates are related to potential damages to the environment, there are 4 categories of noise introduced, the tax rate varies from 0 to 1 USD (approx. EUR 1.08)/ton according to airplane mass.

Excise Taxes

Excise taxes are introduced by the Act No. 587/1992 Coll., in the wording of later amendments. From the environmental point of view the excise tax on gasoline and diesel is of relevance, although the revenue goes to the state budget and thus is not earmarked. Until spring 2000, there was a zero tax rate on biodiesel, but since July 2000 the diesel part of the biodiesel is taxed like a regular diesel. This exemption will be replaced by the direct support of the producers of rape (to avoid profits for those who only mix the biodiesel, but do not produce the rape seed oil).

Excise taxes will play a key role in case the so-called environmental tax reform will be realised in the Czech Republic (now being prepared and under consideration).