

# JOINT REPORT ON OCCUPATIONAL HEALTH, SAFETY AND ENVIRONMENTAL PROTECTION OF THE UNIPETROL GROUP FOR 2009



# TABLE OF CONTENT

Letter of the Chairman of the Board of Directors	. 4
Unipetrol Group in 2009	. 6
Unipetrol Group's key financials for 2009 Brief history of the Unipetrol Group	
Introducing the Unipetrol Group	
Business profiles of Unipetrol Group's main companies	
Joint Policy for Responsible Care and Integrated Management System	
of Occupational Health and Safety, Environmental Protection	
and Quality Assurance.	13
Unipetrol Group's environmental protection and occupational health and safety in 2009	
Environmental investments	
Environmental protection costs	
Management systems	
Responsible Care programme for corporate responsibility in chemistry	ZZ
Compliance with environmental protection laws	24
Integrated pollution prevention	
Air quality control, wastewater discharge, and waste management	
Environmental impact assessment	
Fines for violating environmental protection laws	30
Mitigation of environmental and operating risks and prevention	
of serious accidents	32
Prevention of serious accidents	32
Transport information and accident system	
Serious accidents in the Unipetrol Group in 2009	34

Open approach to environmental issues	35
Role of employees in environmental protection	35
Public relations	35
Mitigating the impact of old environmental damage	37
Programme for eliminating old environmental damage	
Overview of old environmental damage in the Unipetrol Group	
Progress of clean-up work in 2009	
Fund spending in 2009	40
Custo in a blanda una ant	
Sustainable development	
Global aspects of environmental protection	
Working with primary resources of raw materials and energy	
Occupational health and safety and fire protection	45
Important milestones of the Unipetrol Group in 2009 from the perspective of	
environmental protection and health and safety at work	ЛО
environmental protection and health and safety at work	+0
Contacts for environmental matters in Unipetrol Group companies	50

# LETTER OF THE CHAIRMAN OF THE BOARD OF DIRECTORS



Ladies and gentlemen,

Unipetrol's business in 2009 was strongly affected by unfavourable macroeconomic conditions. The global economy was only slowly recovering from a recession. Meanwhile, average GDP of European Union member states in this time period decreased by as much as 4%. The Czech Republic was no exception, and the crisis hit the country with full impact at the end of 2008 and the beginning of 2009. Although some recovery could be seen from the second quarter of last year, in 2009 the Czech Republic's GDP dropped by more than 4% year-on-year.

Unipetrol remained a noteworthy and robust company in all its strategic segments, both in the Czech and European contexts despite these unfavourable macroeconomic conditions. Still, in order to maintain this position the Group was forced to adopt austerity measures in all areas of activity.

Despite pressure to cut costs, environmental protection and work safety remained firmly among our top priorities. In 2009 the Group spent circa CZK 200 million on environmental investments and the total environmental costs exceeded CZK 1.5 billion. A notable part of our investment expenditure went into soil and water protection.

Unipetrol's key activities included those related to fulfilling the requirements for chemical substances registration in accordance with the resolution of the European Parliament and Council (known as REACH), preparations for the new legal regulations, especially the new plan for regulation of the carbon dioxide emissions (the so-called Climate and Energy Package), the new Industrial Pollution Directive and other new legal requirements. All of these changes introduce new risk factors and place additional financial demands on the entire chemical industry in the European Union.

The direct financial costs related to the REACH registration by 2018, when the process is expected to be complete, are expected to exceed CZK circa 200 million within the Group. The costs may be somewhat mitigated by utilising the cost-sharing principle within consortiums or "Substance Information Exchange Forums (SIEF)".

Meanwhile, the requirements of the climate and energy package and the new industrial emissions directive is expected to have a much more significant impact. Over the next decade the Group faces additional investment related to implementation of these regulations in the range of several billion CZK.

The Group continued to prepare and implement several investment projects of a developmental nature. In 2009 Benzina expanded its network and modernised filling stations. Česká rafinérská increased the LPG capacity in the fluid catalytic cracking (FCC) unit and Unipetrol RPA completed the expansion of its polypropylene output up to 275 kt/year.

Unipetrol's companies also participate in various voluntary activities. On the basis of the strategy adopted in 2007, we implemented and then certified or recertified the following systems: the Integrated Management System meeting the environmental demands compliant with ISO 14001, Quality in accordance with ISO 9001 and Work Safety and Health Protection in accordance with OHSAS 18001. Since October 2008 all the Group companies, including the HQ, UNIPETROL, a.s., have a certified Integrated Management System. In addition the Group participated in the international program for the chemical industry "Responsible Care", in the Czech Republic known as "Odpovědné podnikání v chemii". The Group's production firms maintained their right to use the Responsible Care program logo on the basis of successful public defence. The HQ, UNIPETROL, a.s., justified its right to use the Responsible Care logo in 2007. Paramo obtained it in 2008, along with the [Sustainable Development Award] Cena udržitelného rozvoje Svazu chemického průmyslu ČR.

I would like to hereby thank everyone who participated in Unipetrol's activities in 2009, especially our employees for their good work, our business partners and investors for their trust in us, and the public for its positive approach towards our business.

I would also like to assure everyone that the company's management is devoting maximum efforts to the protection of the natural environment and work safety and will continue to perceive these as a priority for the development of our company in the future.

CCCCinta:

**Piotr Chełmiński** Chairman, Board of Directors, and Chief Executive Officer UNIPETROL, a.s.

# UNIPETROL GROUP IN 2009

# Unipetrol Group's key financials for 2009

Equity (CZK '000)	37,871,336
Registered capital (CZK '000)	18,133,476
Total sales (CZK '000)	67,386,500
Profit before tax (CZK '000)	-1,217,732
Profit for the period (CZK '000)	-840,295
Dividends (CZK)	0
Annual average number of employees (FTE)	4,191
Total capital expenditure (CZK million)	2,973 of which petrochemicals 1,858; refineries 902 and retail 213

# **Brief history of the Unipetrol Group**

#### 1995

– Establishment of UNIPETROL, a.s. The following companies became the key members of the Group: CHEMOPETROL, a.s., KAUČUK, a.s., ČESKÁ RAFINÉRSKÁ, a.s., and BENZINA, a.s.

#### 2000

 Further major acquisitions took place starting in 2000. PARAMO, a.s., SPOLANA, a.s., UNIPETROL TRADE a.s., and UNIPETROL RAFINÉRIE, a.s. became new members of the Group.

#### 2003

- KORAMO, a.s., and PARAMO, a.s. merged. PARAMO, a.s. became the successor company.
- Česká rafinérská was transformed into a processing [cost centre] refinery.

## 2004

Agreement on the sale of a 63% interest in UNIPETROL, a.s. was signed between PKN ORLEN
 S.A. and the National Property Fund.

## 2006

 A majority interest in Unipetrol's subsidiary SPOLANA, a.s. was sold to the Polish company Zaklady Azotowe ANWIL S.A.

## 2007

- Unipetrol's subsidiary KAUČUK, a.s. was sold to the Polish company Firma Chemiczna Dwory S.A.
- UNIPETROL SERVICES, s.r.o., a new subsidiary, started operating.
- Unipetrol Doprava, Benzina and Petrotrans changed their legal form from public limited companies to private limited companies.
- Butadien Kralupy, a.s. was established. Its shareholders are UNIPETROL, a.s. (51%) and KAUČUK, a.s. (49%).

- The subsidiaries CHEMOPETROL, a.s. and UNIPETROL RAFINÉRIE, a.s. merged with UNIPETROL RPA, s.r.o.

#### 2008

- At the very beginning of the year, Unipetrol's Board of Directors adopted the investment plan to add new monomers to the product portfolio of Unipetrol RPA.
- On 26 June 2008, Unipetrol's Annual General Meeting decided that dividends totalling CZK 3,200,558,584.60, would be paid from the retained profit of previous years.
- Unipetrol purchased 49,660 shares of Paramo, thereby increasing its interest in Paramo to 91.77%.
   In October, Unipetrol announced its plan to buy the rest of the shares from minority shareholders.
- Unipetrol adopted a plan of implementing an integrated management system across the Group and, on this basis, a pilot project was carried out between 1 and 17 October 2008, under which five selected companies were successfully certified: Unipetrol, Unipetrol RPA, Unipetrol Doprava, Unipetrol Services, and Benzina.

#### 2009

- Unipetrol's Supervisory Board elected Krzysztof Urbanowicz as a new Chairman and CEO in February.
- Unipetrol became the owner of a 100% stake in Paramo. Milan Kuncíř became the new CEO of Paramo.
- The end of May saw the definitive closedown of the oxo-alcohol unit at Unipetrol RPA; the unit had been in operation from 1969.
- An agreement on oil transport and storage in Slovakia for 2009 was signed by Transpetrol, Česká rafinérská and Paramo in June.
- In mid-2009, Unipetrol Group companies started to use an e-procurement system almost exclusively for selecting their suppliers of goods and services.
- In September, Benzina presented a major improvement to its fuel portfolio, when it was the first on the Czech fuel market to launch a new formulation of the premium Verva diesel fuel with cetane number 60 and started to distribute this product to 130 fuel filling stations.
- In the fourth quarter of 2009, Benzina started to withdraw from the market the no longer promising Special 91 petrol, the position of which had been weakening. The company plans to remove it from its product range on offer in the second half of 2010.
- Miroslav Vlasák became a new Director of Unipetrol Doprava in mid-October.
- On 10 December, Unipetrol's Supervisory Board appointed Piotr Chełmiński, until then on the Board of Directors serving as the Administrative Director, as the company's new Chairman and CEO. Artur Paździor became a new Director of Unipetrol RPA.
- Unipetrol's extraordinary general meeting approved the establishment of a new supervisory body for the company, the Audit Committee. The meeting elected Sławomir Robert Jędrzejczyk, Piotr Kearney, Ivan Kočárník and Iain Haggis to the four-member committee.
- The Unipetrol Group met the targets of the optimisation plan, achieving significant savings of both fixed and variable costs. The Group also reduced its capital expenditure.

# Introducing the Unipetrol Group

The Unipetrol Group's line of business is to make and sell refinery and petrochemical products in the Czech Republic and the Central European region. The Group's companies focus, in particular, on the manufacture and sale of refinery products, chemical and petrochemical products, polymers, fertilisers and special chemicals. The Group also operates its own transportation services and finances its own research and development. Unipetrol is the leading refinery and petrochemical group in the Czech Republic and a major player in Central and Eastern Europe.

The Group focuses on three strategic business segments:

- Refinery processing of crude oil and wholesaling of refinery products;
- Petrochemical production;
- Motor fuel retailing.

UNIPETROL, a.s. is a 100% owner of:

- UNIPETROL RPA, s.r.o., refinery, petrochemical and agrochemical product manufacturer and trader;
- BENZINA, s.r.o., operator of the largest network of fuel filling stations in the Czech Republic;
- UNIPETROL SERVICES, s.r.o., support centre providing services to all Group companies;
- UNIPETROL DOPRAVA, s.r.o., railway forwarder specialising in chemical and petrochemical products and also transporting other goods, including the provision of related services (99.88% of its shares are held by UNIPETROL RPA, s.r.o.);
- UNIPETROL TRADE a.s., operator of its own network of affiliates and trade representation offices outside the Czech Republic.

Other major equity interests:

- ČESKÁ RAFINÉRSKÁ, a.s. (51.22%), owned jointly with ENI INTERNATIONAL, B.V. and Shell Overseas Investment B.V., the largest crude oil processor in the Czech Republic for a wide range of products (its total annual output is 8.8 million tonnes);
- PARAMO, a.s., the largest manufacturer of bitumen, lubricating oils and fuel oils, other fuels and other refinery products (100% owned by UNIPETROL, a.s.).

The Unipetrol Group also includes two research and development companies with excellent research results and practical applications. These are:

- Výzkumný ústav anorganické chemie, a.s. (VÚAnCh, Inorganic Chemistry Research Institute),
- POLYMER INSTITUTE BRNO, spol. s r.o.

Refinery and petrochemical products make up a major part of the Group's output.

Refinery products: automobile petrol, diesel, light fuel oil, aviation fuel, LPG, bitumen, naphtha, lubricating oils and fuel oils.

Petrochemical products: ethylene, propylene, C<sub>4</sub> fraction, benzene, high-density polyethylene, polypropylene, oxo-alcohols, ammonia, urea, Chezacarb carbon black.

# **Business profiles of Unipetrol Group's main companies**

# UNIPETROL RPA

Merger of Chemopetrol, Unipetrol Rafinérie and Unipetrol RPA into Unipetrol RPA (refining, petrochemicals, agrochemicals) was a logical continuation of the implementation of the new model of management, which has been gradually introduced since the beginning of 2007.

The key advantages of the merger include the simplified flow of semi-finished products within a single firm and a better use of existing synergies. The increased efficiency of the internal purchase and sale of own products within the Group is another benefit. Not least, the change supports stricter control over the entire chain of production and sale, from the purchase of crude oil to customer care. A single compact entity has been formed as a result of the merger, leading to a simplified structure of organisational, personnel, administrative and logistics activities.

The company is divided into one production and three business units (BU I to BU III) based on product types.

## THE PRODUCTION UNIT

The production unit consists of three sections, the Chemical Production section, the Energy section and the Services and Regional Affairs section.

The Chemical Production section operates production units:

- Ethylene plant;
- Polypropylene production plant;
- Polyethylene production plant;
- Alcohol and Chezacarb carbon black production plant;
- Heavy oil (Mazut) gasification plant;
- Ammonia and urea production plant;
- Gas compression and distribution plant.

The Energy section supplies the entire premises with energies (electricity and steam) and water. It is also responsible for waste water treatment in the entire complex.

The Services and Regional Affairs section is responsible for facility management in the entire Záluží premises, for fire rescue services on the premises, and for the plastics, urea and carbon black logistics services.

## **BU I – UNIPETROL RAFINÉRIE**

BU I is a crude oil processing operation. It plans and controls crude oil processing at Česká rafinérská to the resulting products in accordance with the ownership rights of UNIPETROL, a.s., with a specific focus on the requirements of the downstream production processes in the Unipetrol Group. BU I is the leading player in the Czech wholesale market for crude oil products. Its main business lines include:

- Comprehensive supply of feedstock for petrochemical production in the Unipetrol Group;
- Wholesale in motor fuels and other refinery products;
- Purchase of crude oil for refinery production in the Unipetrol Group;

- Optimising the alignment between refinery and petrochemical production, with emphasis on the maximum use of the synergy of technological processes;
- Optimising refinery production in the Unipetrol Group.

# Key products of BU I:

Motor fuels (unleaded petrol: Normal 91, Super 95, and Super plus 98, aviation kerosene, diesel), fuel oils (extra light fuel oil, heavy fuel oil, R2 fuel oil), bitumen, road bitumen, liquefied oil products, propane, propylene, propane-butane, LPG, butane, N-butane, rafinate II, oil hydrogenates, stabilised oil hydrogenates, other refinery products, naphtha, liquid sulphur, and MTBE.

# **BU II – MONOMERS AND AGRO PRODUCTS**

BU II operates in the field of petrochemical products, ammonia and urea. It plans and controls the production downstream from crude oil processing and provides semi-finished products for the subsequent polyolefin segment. BU II is a key supplier of ethylene, propylene, benzene, ammonia and other chemical and petrochemical feedstock for other chemical firms in the Czech Republic and Central Europe. Its core operations are:

- Provision of feedstock for polyolefin production in the Unipetrol Group;
- Sale of petrochemical products, ammonia and urea;
- Development and strategy of petrochemical and chemical production.

# Key products of BU II:

Olefins and aromatics, ethylene for polymerisation, propylene for polymerisation, crude benzene,  $C_4$  fraction,  $C_5$  fraction,  $C_9$  fraction – redistilled, naphthalene concentrate, pyrolysis fuel oil, agrochemicals, ammonia, industrial ammonia water, urea, alcohols, technical grade 2-ethyl hexanol (octanol), hydration refined specially denatured fermentation alcohol, synthetic technical grade isobutanol, synthetic technical grade N-butanol, antifreeze liquid, carbon black and sorbents, highly conductive carbon black.

## **BU III – POLYOLEFINS**

BU III operates in the field of plastics - polyolefins. It plans production in the plants that produce polypropylene and high density polyethylene and is responsible for the sale of finished PP and HDPE products. In co-operation with the research and development base of the Polymer Institute in Brno, BU III is also involved in the modification of the existing polyolefin products and development of new ones. BU III is the leading supplier of polyolefins on the Czech market and a major player in Central Europe, as it controls 5% and 2% of European HDPE and PP capacities, respectively. Its core operations are:

- Sale of PP and HDPE products;
- Co-ordination of polyolefin research and development at Polymer Institute in Brno
- Technical services and advice for current and potential customers.

## Key products of BU III:

Polyolefins, high-density polyethylene (HDPE), and polypropylene.

# BENZINA

As at 31 December 2009, the company operated 337 fuel filling stations offering a broad range of fuels with additives; a selected segment of the stations offers a collection of the VERVA premium fuels and also a broad range of additional goods, refreshments and services. Between 2006 and 2009, the network was gradually refurbished and modernised and is currently structured into two segments, the premium segment, represented on the Czech market by 107 Benzina plus stations, and the standard segment of Benzina stations. By the end of 2009, a total of 289 stations had been upgraded in both segments.

Taking into account the figures for 2009 and 2008, the company holds a market share of almost 14%. Compared with its minimum market share (9.9%), which Benzina achieved in 2005, the development of its market share is favourable considering the average over the last three years (13%) and the level and development of the Czech macroeconomic factors. At the same time, the overall number of fuel filling stations on the market is steadily rising every year (up 1% annually) and also the number and market share of hypermarket fuel filling stations are on the rise.

# PARAMO

PARAMO, a.s. processes crude oil into refinery and bitumen products and into lubricant and process oils, including related and ancillary products. Since 2003 the refinery has been purchasing and processing oil hydrogenation and hydrocrack products. The intermediate products are used for the production of base and lubricant oils with a very low sulphur content. The company primarily places its products on the domestic market.

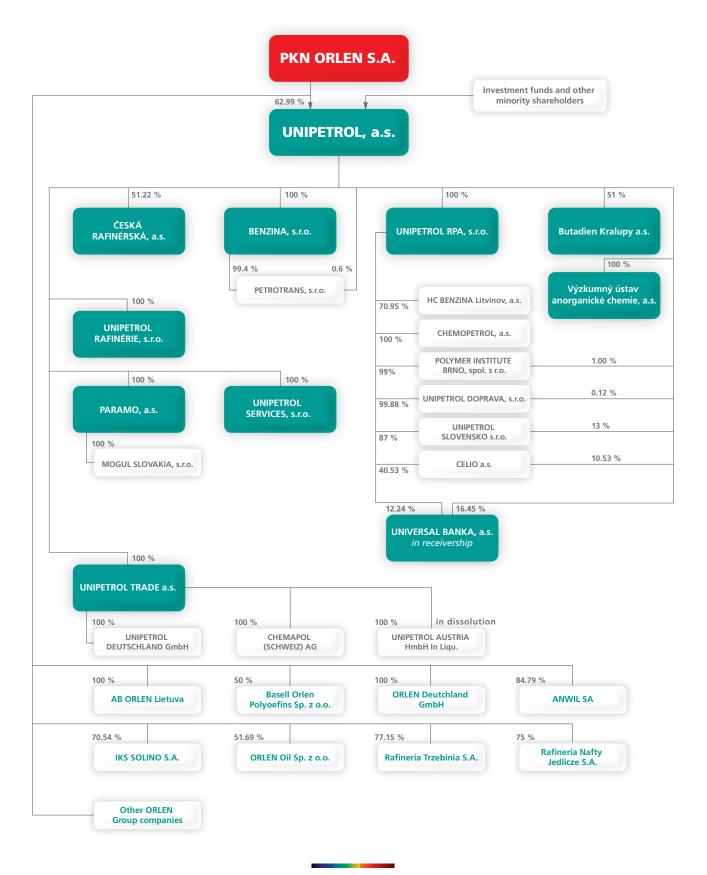
Diesel oil is and will remain the key commercial product of the refinery. With the gradual reduction in bitumen production at Česká rafinérská, Paramo will become the leading Czech bitumen producer. One advantage of the company is its broad range of products and the state-of-the-art Biturox base bitumen production unit, which was commissioned in the third quarter of 2006.

# **UNIPETROL SERVICES**

The Shared Services Centre (SSC) was opened on 1 January 2007. To create the SSC, some of the administrative and support activities were transferred to it from Unipetrol, Chemopetrol, Unipetrol Doprava, Benzina and Unipetrol Trade. Later it was demerged to form a new company, UNIPETROL SERVICES, s.r.o.

The mission of Unipetrol Services is to provide its services to other companies within and outside the Group, to improve their efficiency and to reduce their costs.

#### Structure of the Grup as of 31 December 2009



# JOINT POLICY FOR RESPONSIBLE CARE AND INTEGRATED MANAGEMENT SYSTEM OF OCCUPATIONAL HEALTH AND SAFETY, ENVIRONMENTAL PROTECTION AND QUALITY ASSURANCE

In November 2007 the Board of Directors of UNIPETROL, a.s. adopted a new "Policy for Responsible Care and Integrated Management System of Occupational Health and Safety, Environmental Protection, and Quality Assurance" as a follow up to the previous "Joint Environmental Policy of the Unipetrol Group" from 1999, which reflects the new structure of the Unipetrol Group and new challenges of the company's Corporate Social Responsibility (CSR).

#### POLICY FOR RESPONSIBLE CARE AND INTEGRATED MANAGEMENT SYSTEM OF OCCUPATIONAL HEALTH AND SAFETY, ENVIRONMENTAL PROTECTION, AND QUALITY ASSURANCE

The Unipetrol Group is one of the leading Czech industrial corporations and a national leader in the fields of crude oil refining and petrochemistry.

The Unipetrol Group endeavours to achieve long-term profitability and competitiveness, a high quality of products and services, and a high level of safety and environmental responsibility in respect of its production, commercial and logistics operations, comprising the refining of crude oil, petrochemical and agrochemical production, distribution, railway transportation and shipping services, and the wholesale and retail sale of motor fuels, oils and other products.

As a member of the Orlen industrial group, the Unipetrol Group adheres to the principles of the Responsible Care Global Charter, and the principles of sustainable development and corporate responsibility.

The Unipetrol Group considers it to be its priority to develop, manufacture, and distribute products with minimal risks of adverse impact on human health and the environment. To mitigate potential risks, Unipetrol is introducing the Product Stewardship programme, which consists in product testing, provision of information to customer chains about the broad range of product attributes, and risk management measures in areas where potential safety, health, and environmental risks occur.

The Unipetrol Group implements and maintains an integrated management system, comprising an occupational health and safety system, an environmental system, and a quality assurance system. In accordance with the integrated management system, the Unipetrol Group has committed to the following obligations:

# **Product supervision and care**

- Develop, manufacture, and distribute products with minimal risks of adverse impact on human health and the environment;
- Test products and provide information to customers and the public, either directly or through customer chains, about the broad range of product attributes and risk management measures in areas where potential safety, health, and environmental risks occur;

# Compliance with legal and other requirements concerning occupational health and safety, guality assurance and environmental protection

- Meet the requirements of legal and other regulations binding on the company in the areas of occupational health and safety, environmental protection, and the quality of products and services:
- Implement the best available technology wherever appropriate and effective;

# Integrated management system

- Regularly check the suitability and adequacy of the integrated management system policy;
- Monitor, measure, and assess the processes and specific measures to achieve continuous improvement in the efficiency of the integrated management system;
- Record discrepancies and analyse the causes of such discrepancies in processes and take the appropriate corrective and preventive measures for their elimination;
- Continuously improve performance in the areas of occupational health and safety, environmental protection, and quality assurance for products and services;
- Engage suppliers, both juristic and natural persons, in the management system, acquaint them with the principles and procedures used by the company, and demand the application thereof;
- Secure the resources necessary for implementing and maintaining the integrated management system and for financing the activities in the relevant areas;

## **Preventive approach**

- Prefer prevention in occupational health and safety, environmental protection, product and service quality assurance and property protection to elimination of the consequences of emergencies; maintain and test emergency and accident response systems;
- Operate facilities in a manner that is safe and protects the health of employees, suppliers, other companies and residents of the region and that has a minimal impact on the environment, product quality and product value;

# Mitigating the risks to health, safety, and the environment

- Apply a system of the prevention and management of risks to health, safety, and the environment, with a view to minimising the adverse effects of such risks and accidents; and provide compensation for damage caused by such accidents to health, the environment or property;
- Inform the public about the existence of health, safety, and environmental risks and about the safety and preventive measures that have been taken;
- Continuously identify dangers, assess risks and health and environmental impacts, adopt and apply measures for their elimination or mitigation, and minimise the adverse impacts of any accidents;
- Ensure that employees are involved in efforts to prevent any adverse impacts of their activities on occupational health and safety, the environment, product quality, and property;

# **Open** approach

• Apply an open approach to all stakeholders;

 Maintain contacts with all stakeholders and support an open approach to the public, especially the neighbouring communities;

# Assessment of impacts on safety, health, and the environment

• Assess the impacts on health, safety, and the environment before starting any new operations, projects, changes, or before closing any operations, and apply the results of the assessment so as to minimise any adverse effects;

## Logistics and transport services

 Provide logistics and transport services with due regard to a high standard of safety, quality, and environmental performance; implement and maintain the European Safety and Quality Assessment System (SQAS) for transport services and for the cleaning of transport equipment, based on the European Cleaning Document (ECD);

## **Removal of old environmental damage**

• Implement a long-term programme of removing old environmental damage;

# **Customer focus**

- Maintain a high guality of products and services; modify the specifications of products and services to meet customer requirements wherever possible and effective;
- Monitor information on customers' perception of how their requirements are met; meet customers' needs and expectations; meet the requirements of other stakeholders (suppliers, employees, and owners) to achieve their satisfaction and gain competitive advantages;

## **Employee training and education**

• Educate, motivate and enhance employees', suppliers' and other trading partners' awareness in respect of the need to secure occupational health and safety, environmental protection, and the quality of the products and services delivered;

## **Protection of company assets**

• Maintain and protect the company's assets and have them adequately insured against ineliminable risks to minimise any potential adverse impact on the company's assets.

# UNIPETROL GROUP'S ENVIRONMENTAL PROTECTION AND OCCUPATIONAL HEALTH AND SAFETY IN 2009

# **Environmental investments**

Environmental investments are defined as capital investment projects directly caused by the requirements of legal regulations on environmental protection and closely related to the practical application of integrated pollution prevention.

In 2009, the following major environmental investments were made within the Group:

# ČESKÁ RAFINÉRSKÁ

The unfavourable economic developments in 2009 did not affect investment activities geared towards environmental improvements. On the whole, the funds spent on this purpose were comparable with capital expenditure in 2008. Projects for environmental protection and occupational health and safety accounted for more than 60% of the total capital expenditure, and one half of that amount went to environmental protection.

Some previously launched projects were continued. New projects include in particular the following:

- Enhanced desulphurisation of tail gas from sulphur production using the Claus process in the Litvínov refinery;
- Increased energy efficiency of the Kralupy refinery's furnaces;
- Tank for the liquid seal of the flare of the Kralupy refinery;
- Refurbishment of the sewage draining system in Block 34 of the Litvínov refinery.

New projects were launched for improving both air quality control and groundwater protection. The Group achieves air quality improvements mainly by reducing emissions from process furnaces thanks to their lower fuel consumption, and also by increasing the energy efficiency of its installations, which is also part of the effort to spare natural resources.

The refurbishment of the sewage draining system mainly consists in its replacement using resistant materials to ensure that it is sealed and to prevent leakage into the rock environment.

The modification of the flare of the Kralupy refinery is intended to improve its operation overall, thereby reducing the load on the environment in its broad environs.

# **UNIPETROL RPA**

Despite the unfavourable economic developments in 2009, the company kept its environmental investments at a level similar to that of 2008. Environmental and safety investments accounted for about 5% of total investment. The most important investments made in 2009 include the following:

- Projects related to groundwater protection against leaks of harmful substances from installations, for example, the refurbishment of several unloading points for hypochlorite and other chemicals;
- Refurbishment of the effluent sump at PE I unit and the collection sump at the T700 fuel gas mixing station;

- Measures geared towards minimising the pollution of the integrated sewage draining system on the premises – preparation of project documentation for sewage segregation and diversion of effluent from the POX unit;
- Continued implementation of the co-firing of treated sludge from BWWTP at the T700 heat and power plant.

A number of other measures with a favourable influence on the environment were carried out and financed from operating expenditure as part of maintenance costs. These mainly included repair of sewers, handling areas and sumps.

# PARAMO

Environmental and safety investments accounted for about 19.5% of total investment. The lower level of investment compared with 2008 was due to the general reduction in the capital expenditure programme. The most important investments made in 2009 include the following:

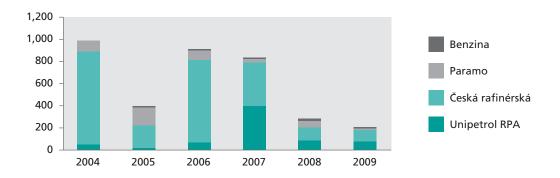
- Sound insulation of the cooling tower and pumping station at the Propane Deasphalting (PD) unit in the Pardubice Centre and completion of the project for noise reduction in the operations of the Paraffin Separation unit at the Kolín Centre (scraper crystallisers) a project for complying with the conditions of the respective integrated permits reducing noise at the boundary of the adjacent residential development.
- The Refurbishment of the VR 28 Liquid Hydrocarbon Storage Tank project, started on the basis of the decision on the allocation of a contribution under Operational Programme Environment (OPE). The project is expected to be completed in the first quarter of 2010.

PARAMO prepared an application for a contribution to its Retrofit of the VR 16 Liquid Hydrocarbon Storage Tank project. In 2009 it also applied for a subsidy under Operational Programme Enterprise and Innovation (OPEI) – the EKO-ENERGIE programme for its project entitled Increasing Energy Efficiency of the Heat & Power Plant by Installing a Turbine Generator including Accessories. The application was assessed favourably and the subsidy was granted.

PARAMO, a.s. will apply for contributions under the schemes run under OPEI and OPE in the coming years too.

Year	2004	2005	2006	2007	2008	2009
Unipetrol RPA	46	17	65	389	85	76
Česká rafinérská	841	200	740	397	116	105
Paramo	92	168	87	26	59	14
Benzina	1	5	6	16	22	5
Unipetrol Group	980	390	898	828	282	200

## Capital expenditure on environmental protection in the Group (CZK million/year)



## Overview of the Group's environmental investments and measures in 2009

Measure adopted	Environmental effect
Unipetrol RPA	
Refurbishment of the waste sump in PE1 unit	Reduced risk to groundwater and the bedrock
Refurbishment of chemicals unloading at station 1404	Reduced risk to groundwater and the bedrock
Water collection and pumping at Block 22	Reduced risk to surface water
Biofuel preparation and firing – stage 1	Reduced need for dumping, reduced risk of surface water contamination
Sodium hypochlorite unloading on rail at building 3333	Reduced risk to groundwater and the bedrock
Reduced $NO_x$ emissions from T 700 boilers (one boiler)	Urea solution dosage tests to reduce $NO_x$ emissions
Sodium hypochlorite unloading on rail at building 0513	Reduced risk to groundwater and the bedrock
Retrofit of the autonomous metering of emissions from FGD in the T 700 heat & power plant	More effective control of the boiler combustion process
POX production wastewater processing	Less pollutants in effluent
Segregation of sewage – design documentation	Less pollutants in effluent, building a separate sewage draining system
Turbidity meter for gauging leaked suspensions and sludge, and oil product detector for the integrated sewage draining system	Reduced risk to surface water
Diverting cooling water of UV pumps and mills of T 700 boilers from NPS $% \left( {{\rm NPS}} \right) = {\rm NPS} \left( {{\rm NPS}} \right) = {\rm$	Reduced risk to groundwater and the bedrock
Protection of ground floor of building 1103 against drain soiling with the final desulphurisation product, T700	Reduced soiling of the drains
Collection sump for oiled water pumping at the fuel gas mixing station, T700	Reduced risk to groundwater and bedrock
Building a chemical storeroom in the annex to building 1428, T200	Reduced risk to groundwater and bedrock
Emergency sump in the oil store in building 1133, T700	Reduced risk to groundwater and bedrock
Česká rafinérská	
Tail gas desulphurisation Furnace combustion process optimisation	Air quality control, reduced atmospheric emissions Air quality control, reduced atmospheric emissions
Replacement of operating furnace analysers Construction of a new oil-polluted water drain system at Block 34 of the Litvínov refinery	Air quality control – reduced atmospheric emissions Protection of surface and groundwater and the bedrock

UNIPETROL, a.s. | Environmental Report 2009 | Unipetrol Group's environmental protection and

# occupational health and safety in 2009

Groundwater clean-up and protection of surface and groundwater and the bedrock
More efficient processing of sludge in the wastewater treatment plant
More efficient use of mineral resources
Eliminace ohrožení podzemních vod při eventuálním havarijním úniku ropných látek
If carried out, elimination of risk to groundwater and in the case of accidental oil product leakage
Reduction in CO2 emissions thanks to more energy efficient operations
Lower noise exposure at the boundary of the residential area
Lower noise exposure at the boundary of the residential area
Reduced atmospheric emissions
Reduced surface water contamination
Reduced risk to groundwater and the bedrock
Reduced risk to groundwater and the bedrock
Reduced risk to groundwater and the bedrock

# **Environmental protection costs**

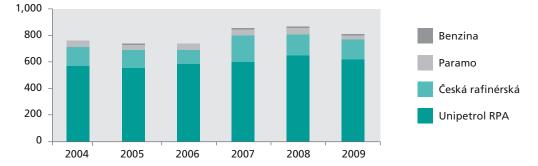
## **Environmental operating costs**

The costs incurred in the operation of air quality control systems, wastewater treatment plants, and waste disposal, operation of environmental management systems and monitoring of substances released into the environment, environmental impact assessment (EIA process), integrated pollution prevention, and in other related environmental activities, are referred to as environmental operating costs.

The recent installation of state-of-the-art equipment, characterised by a high degree of feedstock conversion, reduced waste volumes, and high energy efficiency, has resulted in an overall reduction in environmental operating costs compared with the preceding decade. The significant increase in Česká rafinérská's environmental operating costs in 2007 compared with 2006 was related to technical modifications of the Claus units in Litvínov (about CZK 90 million, paid from the maintenance operating costs). Environmental operating costs between 2004 and 2009 are shown in the following table:



## Environmental protection operating costs in the Unipetrol Group (CZK million/year)

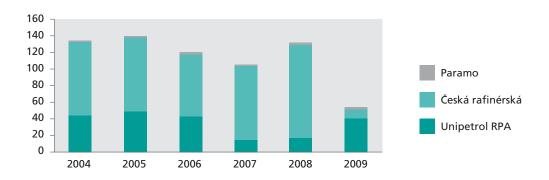


## Total environmental protection costs

The total environmental protection costs in the Unipetrol Group include the costs of environmental investment, environmental operating costs, costs of the clean-up of old environmental damage, charges for air pollution, wastewater discharge, and waste dumping in tips, and creating provisions for landfill reclamation and for compensations for forest damage caused by ambient air pollution. An overview of environmental pollution charges and total environmental protection costs between 2004 and 2009 is shown below. In Česká rafinérská, the decrease in fees and levies in 2009 compared with 2008 was caused by a change of the methodology.

## Environmental pollution charges in the Group (CZK million/year)

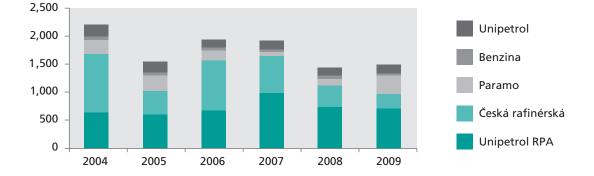
Year	2004	2005	2006	2007	2008	2009
Unipetrol RPA	45	50	44	16	18	41
Česká rafinérská	89	89	75	89	113	12
Paramo	1.8	2.3	2.3	1.4	2.1	1.7
Benzina	-	0	0	0	0	0
Unipetrol Group	155	162	142	125	154	55



The Group's total costs of environmental protection amounted to CZK 1,538 million in 2009.

Year	2004	2005	2006	2007	2008	2009
Unipetrol RPA	666	628	699	1,011	757	741
Česká rafinérská	1,077	428	921	689	395	261
Paramo	260	291	176	85	119	346
Benzina	41	36	26	38	73	31
Unipetrol	206	202	147	148	144	159
Unipetrol Group	2,250	1,585	1,969	1,971	1,488	1,538

## Total environmental protection costs in the Unipetrol Group (CZK million/year)



# **Management systems**

Management systems are an important part of environmental protection, occupational health and safety and fire protection. To guarantee a systematic approach to environmental protection and to other issues, the following management systems have been implemented and certified in the Unipetrol Group companies: environmental management system (EMS), health and safety management system (HSMS), and quality management system (QMS).

These systems have been certified under ISO 14001, OHSAS 18001, and ISO 9001 international standards.

In October, a supervisory audit of IMS took place at Unipetrol, Unipetrol RPA, Unipetrol Doprava, Benzina and Unipetrol Services. Lloyd's Register Quality Assurance, a certification organisation, confirmed in the audited companies' compliance with the new ISO 9001:2008 standard.

In Česká rafinérská, the operability and effectiveness of the IMS was checked in 2009 by two visits from Lloyd's Register Quality Assurance. In March 2009, Česká rafinérská was issued with a certificate for its IMS, which includes a health and safety management system, an environmental management system and a quality management system. Until then, Česká rafinérská used certificates for each of the systems separately.

In June 2009 a joint audit, comprising all three systems (EMS, HSMS and QMS), was performed at PARAMO, a.s. Lloyd's Register Quality Assurance issued an integrated certificate valid until 2012.

# **Responsible Care programme for corporate responsibility in chemistry**

Responsible Care is a voluntary worldwide initiative in the chemical industry aimed at promoting its sustainable development through proactive improvement of the safety of facility operations, product transport, and protection of human health and the environment. The programme represents a long-term strategy coordinated by the International Council of Chemical Associations (ICCA) and the European Chemical Industry Council (CEFIC). The contribution of the Responsible Care programme to sustainable development was acknowledged by an award from the UN Environmental Programme at the world summit in Johannesburg.

At an international conference on chemical substances held under UN auspices in 2005, a Global Responsible Care Charter was adopted as a continuation of the Responsible Care programme.

The national version of Responsible Care, a programme entitled Odpovědné podnikání v chemii (Responsible Business in Chemistry), was officially launched in October 1994 by the Minister of Industry and Trade and the President of the Association of Chemical Industry of the Czech Republic (SCHP ČR). The programme has complied with the Responsible Care Global Charter since 2008.

For details of the Responsible Care programme and the conditions of compliance therewith, see the SCHP ČR information server at http://www.schp.cz.

For successfully meeting the programme conditions, the Group companies, Unipetrol RPA, Česká rafinérská, Paramo and Unipetrol, have been repeatedly awarded by the authorisation to use the programme logo (the Responsible Care protected trademark, administered in Europe by the European Chemical Industry Council).

Company	Verified by	Certified under standard	Certified in	Recertification outlook
Unipetrol RPA	LRQA	ISO 14001	2002, 2005, 2008	2011
Unipetrol RPA	LRQA	ISO 9001	1996, 1999, 2002, 2005, 2008	2011
Unipetrol RPA	LRQA	OHSAS 18001	2005, 2008	2011
Unipetrol RPA	SCHP ČR	Responsible Care	1996, 1998, 2000, 2002, 2004, 2008	2011
Paramo	TÜV NORD	ISO 14001	2003, 2006	2009
Paramo	TÜV NORD	ISO 9001	1996, 2000, 2003, 2006	2009
Paramo	TÜV NORD	OHSAS 18001	2007	2010
Paramo	SCHP ČR	Responsible Care	2001, 2003, 2005, 2008	2012
Paramo	SCHP ČR	Sustainable Development Award	2008	
Unipetrol Doprava	LRQA	ISO 14001	2007, 2008	2011
Unipetrol Doprava	LRQA	ISO 9001	2005, 2008	2011
Unipetrol Doprava	LRQA	OHSAS 18001	2008	2011
Unipetrol Doprava	MOODY International	SQAS	2006, 2009	2012
Benzina	LRQA	ISO 14001	2008	2011
Benzina	LRQA	ISO 9001	1996, 1999, 2002, 2005, 2008	2011
Benzina	LRQA	OHSAS 18001	2008	2011
Česká rafinérská	LRQA	ISO 14001	2001 / 2005, 2007	2010
Česká rafinérská	LRQA	ISO 9001	2001 / 2004, 2007	2010
Česká rafinérská	LRQA	OHSAS 18001	2007	2010
Česká rafinérská	SCHP ČR	Responsible Care	2000 / 2002, 2004, 2008	2012
Unipetrol	LRQA	ISO 14001	2008	2011
Unipetrol	LRQA	ISO 9001	2008	2011
Unipetrol	LRQA	OHSAS 18001	2008	2011
Unipetrol	SCHP ČR	Responsible Care	2000, 2003, 2005, 2007	2011
Unipetrol Services	LRQA	ISO 14001	2008	2011
Unipetrol Services	LRQA	ISO 9001	2008	2011
Unipetrol Services	LRQA	OHSAS 18001	2008	2011

# Certified/verified management systems in the Unipetrol Group in 2009

# COMPLIANCE WITH ENVIRONMENTAL PROTECTION LAWS

# Integrated pollution prevention

The obligations of selected industrial companies in the area of integrated pollution prevention and control (IPPC) are governed by Act No. 76/2002 as amended. This Act covers, among other things, all production companies of the chemical and refining industry.

The integrated permits for the refineries at Záluží and Kralupy have been issued for the refineries as a whole, without any breakdown to individual operations. The integrated permits have been amended in relation to new capital investment projects that required such amendments due to their size.

The integrated permit for the Záluží refinery was issued by the Regional Authority of the Ústí nad Labem Region on 15 December 2003. The same authority granted an amendment to the integrated permit on 20 July 2006, in relation to capital investment projects for the unloading, storage and use of light-cycle oil from the Kralupy refinery, and the unloading, storage and blending of the rapeseed methyl ester (MEŘO) biofuel. By its decision of 17 October 2006, the Regional Authority of the Ústí nad Labern Region granted an amendment to the integrated permit in relation to the capital investment project for the revamp of the splitting unit of the new hydrocrack and installation of the VBU recontacting system. On 12 June 2007, an amendment to the integrated permit was granted in relation to the capital investment projects for installing new low-emission burners in the furnaces of the new refinery, installing a preheating system for combustion air and replacing the old burners by low-emission burners in the gas oil hydrogenation unit, and intensifying the rich gas desulphurisation and MEA regeneration unit. On 5 May 2008, an amendment to the integrated permit was granted in connection with the capital investment project of oxygen supply to enrich combustion air in the Claus unit. An amendment to the integrated permit was granted on 27 June 2008 in connection with the capital investment project for the construction of the light product filling facility. In 2009, the integrated permit was amended as part of the project for changing the fuel used in the catalytic reforming furnaces.

The integrated permit for the Kralupy refinery was issued by the Regional Authority of the Central Bohemian Region on 9 February 2004. Due primarily to the authority's procedural errors in issuing the permit, the decision was later reversed and on 13 March 2008 the authority issued a new decision on the integrated permit, covering all facilities of the Kralupy refinery. The integrated permit for the Kralupy refinery has not yet been amended.

All the process equipment operated by PARAMO, a.s. has valid integrated permits. The Pardubice Centre has obtained integrated permits for the operation of its heat & power plant, and its Bitumen Operation, Fuels Operation and Oils Operation, issued by the Pardubice Region. The Kolín Centre obtained one integrated permit issued by the Central Bohemian Region. These permits are being amended in line with the planned investments and legislative changes.

A new integrated permit was issued for the installations of UNIPETROL RPA, s.r.o. in 2009 in respect of the planned installations for Dicyclopentadiene and Non-hydrogenated C9 Fraction Production.

During 2009, the Regional Authority of the Ústí nad Labem Region issued three amendments to integrated permits for the company's facilities. The first amendment was issued due to the end of the operation of Oxo-alcohol Production in May 2009. The amended permit was effective until 31 March 2010 only for operating oxo-alcohol product storage and shipping. Another two amendments set

out a new condition for water protection in respect of the installations of The T200 and T700 Plants and the Effluent and Waste Plant and the installations of The Mazut Gasification Plant, requiring that by a specified date, industrial sewers, sumps and handling areas be rendered impermeable. By an amendment to the integrated permit for the installations of The T200 and T700 Plants and the Effluent and Waste Plant, the decision was issued, upon the operator's request, to postpone the date for the release of sewage water from outlet no. 1, the approval was granted for drawing on a financial reserve in a separate NPS escrow account by 31 December 2009, and the permission was given to operate a mobile desulphurisation unit at the T200 heat & power plant. Additional, less important amendments to these permits were made because of changes to legislation on air quality control and to clarify some conditions for operation.

Production unit	Integrated permit (who issued it and when)
Unipetrol RPA	
Polypropylene and polyethylene production	Regional Authority of the Ústí Region; issued on 16 December 2003 in perpetuity; seven amendments
Ethylene unit, including naphthalene concentrate production plant	Regional Authority of the Ústí Region; issued on 21 February 2005 in perpetuity; three amendments
Urea production	Regional Authority of the Ústí Region; issued on 22 September 2005 with validity until 2015; two amendments
Ammonia production	Regional Authority of the Ústí Region; issued on 12 June 2006 in perpetuity; one amendment
The Mazut gasification plant	Regional Authority of the Ústí Region; issued on 12 July 2006 in perpetuity; two amendments
Oxo-alcohol production	Regional Authority of the Ústí Region; issued on 16 July 2007 with validity until 31 March 2010; thee amendments
T200 and T700 plants and the effluent & wastes plant	Regional Authority of the Ústí Region; issued on 11 October 2007 in perpetuity; three amendments
Dicyclopentadiene and Non-hydrogenated $C_9$ Fraction Production	Regional Authority of the Ústí Region; issued on 23 February 2009 in perpetuity
Česká rafinérská	
Litvínov Refinery	
ČESKÁ RAFINÉRSKÁ, a.s., Litvínov Refinery	Regional Authority of the Ústí Region; issued on 15 December 2003 in perpetuity; six amendments
Kralupy nad Vltavou Refinery	
ČESKÁ RAFINÉRSKÁ, a.s., Litvínov Refinery	Regional Authority of the Central Bohemian Region; issued on 13 March 2008 in perpetuity
Paramo	
Heat and power plant, Pardubice Centre	Regional Authority of the Pardubice Region; issued on 2 February 2004 in perpetuity for K1 and K3 boilers and for a fixed term until the end of 2013 for K2 boiler; two amendments
Bitumen operation, Pardubice Centre	Regional Authority of the Pardubice Region; issued on 2 October 2004 in perpetuity; three amendments
Fuels operation, Pardubice Centre	Regional Authority of the Pardubice Region; issued on 7 December 2004 in perpetuity; two amendments
Kolín Centre	Regional Authority of the Central Bohemian Region; issued on 31 May 2005 in perpetuity; four amendments
Oil operation, Pardubice Centre	Regional Authority of the Pardubice Region; issued on 23 January 2006 in perpetuity; two amendments

#### Overview of the issued integrated operating permits (IPs) as at 31 December 2009

#### **Integrated Pollution Register**

The Integrated Pollution Register (IRZ) is operated in the Czech Republic under Act No. 25/2008 and in compliance with Regulation (EC) No 166/2006 of the European Parliament and of the Council concerning the establishment of a European Pollutant Release and Transfer Register (E-PRTR).

Pollution registers (IRZ and E-PRTR) contain records for each company and industry on 93 substances that are subject to notification, including information on their emissions to the air, water and soil, on their transfers in wastes and wastewater, and on the transfers of hazardous and other wastes. Data on the preceding year for both the IRZ and E-PRTR must be submitted, through the Integrated System for Meeting the Notification Obligations (ISPOP), by companies by 31 March and is subsequently published on the IRZ server by 30 September. In accordance with legislative requirements, substances the emissions of which reached or exceeded quantities set as the threshold value must be reported to the IRZ.

# Air quality control, wastewater discharge, and waste management

Compliance of the companies' operations with the relevant statutory requirements for environmental protection has been maintained on a long-term basis in all Group companies. Sources of air pollution are operated in accordance with the operating rules in force. Official measurement of emissions is taken at statutory intervals. Approved water management plans are in place for all operations. Wastewater quality is monitored on a regular basis. Wastewater contamination limits are respected. Approved waste management plans are also in place for all operations. Wastes are monitored and recorded in accordance with applicable legislation.

This compliance is monitored by the management of the companies and the Group headquarters and is independently examined by administrative authorities and certification bodies; in companies involved in the Responsible Care programme, compliance is verified by the Czech Chemical Industry Association. Should any non-compliance be identified, corrective measures are adopted immediately and fines may be imposed by administrative authorities.

#### Wastewater discharge

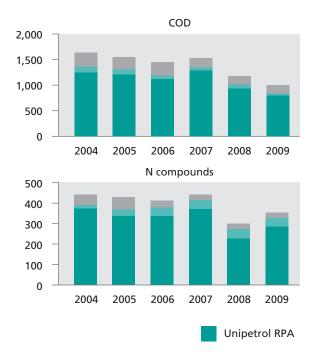
Over the last five years, pollutant emissions into the environment have been stabilised at a level achieved thanks to the massive environmental investments in the preceding decade.

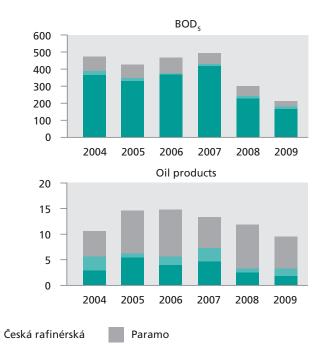
In 2009, pollutants discharged into surface waters (the COD and BOD<sub>5</sub> parameters) were reduced in the Unipetrol Group, mainly as a result of the extensive refurbishment of Unipetrol RPA's biological wastewater treatment plant in 2007 and 2008.

Year	Parameter	2004	2005	2006	2007	2008	2009
Unipetrol RPA	COD	1,239	1,197	1,107	1,261	932	780
	BOD <sub>5</sub>	381	344	379	435	237	171
	N compounds	398	355	357	395	241	302
	Oil products	3	5	4	5	3	2
Česká rafinérská <sup>1)</sup>	COD	92	83	69	66	71	49
	BOD <sub>5</sub>	19	16	9	11	15	14
	N compounds	17	40	43	45	49	46
	Oil products	3	1	2	3	1	1,5
Paramo	COD	269	245	248	171	163	239
	BOD <sub>5</sub>	89	79	92	65	59	36
	N compounds	54	59	38	27	27	26
	Oil products	5	8	9	6	8	6
Unipetrol Group	COD	1,600	1,525	1,424	1,498	1,166	983
	BOD <sub>5</sub>	489	439	480	511	311	220
	N compounds	469	454	438	467	317	374
	Oil products	10	14	15	13	12	10

#### Pollutants discharged in wastewater in the Group (tonnes/year)

<sup>1)</sup> Kralupy site only





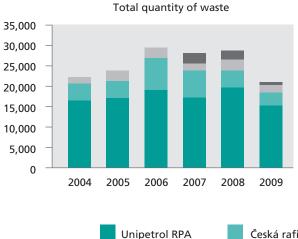
#### Waste management

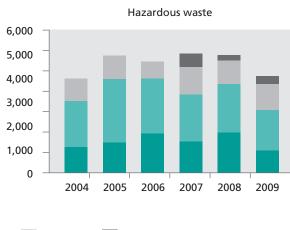
The volume of both total and hazardous waste has been reduced significantly in the Unipetrol Group on a long-term basis and this trend still continues, but for some fluctuations due, for example, to work during shutdowns or more extensive capital construction. A further reduction in waste production was achieved in 2007 and 2008. The trend of decreasing waste production is also visible when comparing 2009 against 2008.

Year	Parameter	2004	2005	2006	2007	2008	2009
Unipetrol RPA	Total	16,411	17,061	18,963	17,065	19,818	15,261
	of this, hazardous	1,059	1,215	1,620	1,309	1,661	914
Česká rafinérská <sup>1)</sup>	Total	4,192	4,301	8,051	6,599	3,911	3,323
	of this, hazardous	1,895	2,628	2,253	1,932	1,985	1,663
Paramo	Total	1,718	2,507	2,310	1,983	2,821	1,723
	of this, hazardous	920	963	665	1,115	939	1,060
Unipetrol Doprava	Total				2,419	2,094	722
	of this, hazardous				527	214	344
Unipetrol Group	Total	22,321	23,869	29,324	28,066	28,644	21,029
	of this, hazardous	3,874	4,806	4,538	4,883	4,799	3,981

#### Waste production in the Group (tones/year)

<sup>1)</sup> including investment activities





Česká rafinérská

Paramo

Unipetrol Doprava

#### Air quality protection

In 2007, a year-on year increase in total sulphur dioxide emissions was recorded in Unipetrol RPA and in the Záluží part of Česká rafinérská compared with 2006. This increase was due to the substitute burning of tail gases containing hydrogen sulphide from the Unipetrol RPA mazut gasification plant and the burning of excess tail gases from the Záluží refinery, which could not be processed in the rich gas desulphurisation units. Currently, after the implementation of the Modifications in the Rich Gas Desulphurisation Unit project, which has helped to increase the capacity of the desulphurisation unit, and the Construction of VBU Recontacting project, which enables the desulphurisation of the low-pressure gases from this unit, all the gases are being processes in the respective process units and are not burned. In 2008, no tail gas had to be burned due to lack of processing capacity. The increase in sulphur dioxide and nitrogen oxide emissions in the Litvínov refinery was caused by a failure on the Claus III unit boiler, due to which new pipes had to be installed on the boiler. During the repair work, hydrogen sulphide gas was burned; it contains ammonia whose emissions are converted to nitrogen oxides on a field burner.

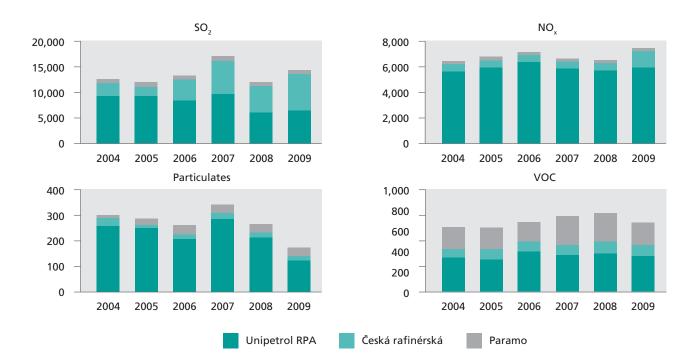
A significant year-on-year reduction in total emissions of sulphur dioxide was recorded in Unipetrol RPA in 2008, thanks to putting one boiler into the standby mode in the T200 heat and power plant and to the smaller quantity of tail gas containing hydrogen sulphide from mazut gasification, burned in the emergency flare. Compared with 2008, emissions of particulate pollutants dropped by about 40% in 2009. This drop was mainly registered at the T200 and T700 heat and power plants and the urea production unit. The drop was caused by a lower use of T200's and the urea unit's production capacities and a partial replacement of cloth filters at both heat and power plants.

Year	Parameter	2004	2005	2006	2007	2008	2009
Unipetrol RPA	SO <sub>2</sub>	9,334	9,197	8,409	9,691	6,143	6,397
	NO <sub>x</sub>	5,678	5,945	6,346	5,839	5,695	5,959
	Particulates	255	245	202	281	210	122
	VOCs	356	341	420	381	400	379
Česká rafinérská	SO <sub>2</sub>	2,530	1,910	4,107	6,469	5,166	7,121
	NO <sub>x</sub>	518	545	593	604	567	1,259
	Particulates	29	12	19	24	19	18
	VOCs	94	103	110	113	127	111
Paramo	SO <sub>2</sub>	717	835	704	749	721	742
	NO <sub>x</sub>	244	276	213	208	212	239
	Particulates	14	24	37	29	30	31
	VOCs 1)	230	225	200	304	293	231
Skupina Unipetrol	SO <sub>2</sub>	12,581	11,942	13,220	16,909	12,030	14,260
	NO <sub>x</sub>	6,440	6,766	7,152	6,651	6,474	7,457
	Particulates	298	281	258	334	259	173
	VOCs	680	669	730	798	820	721

#### Pollutants emitted into the air in the Group (tonnes/year)

<sup>1)</sup> Ninety per cent of these volatile organics are fugitive emissions, reported only on the basis of the purchase of solvents in the respective calendar year





# **Environmental impact assessment**

No environmental impact assessment procedure (EIA) took place in the companies of the Group in 2009.

# Fines for violating environmental protection laws

Consistent efforts for compliance with environmental protection regulations are also borne out by the small number of cases of non-compliance with environmental laws, which occurred as a result of irregular operating conditions in 2004–2009. On the whole, 13 fines were imposed on the Group companies in this period, and only two of them, imposed for a relatively serious breach of water protection obligations, exceeded CZK 100,000.

Company	Year	Grounds	Amount (CZK'000)	Note
Chemopetrol	2006	Missed deadline for stopping discharge	100	Delay by about 4 months due to adverse weather and technical problems at the end of 2005
Unipetrol RPA	2007	Unauthorised wastewater discharge during wastewater treatment plant refurbishment	1,000	Paid without appeal
Benzina	2004	Violation of water use obligations	130	
Benzina	2005	Violation of water use obligations	42	
Benzina	2006	Violation of water use obligations	20	Faulty operation of the biological wastewater treatment plant at Ostrov n/O.
Benzina	2006	Violation of water use obligations	48	Unauthorised operation of the biological wastewater treatment plant at Šlovice
Benzina	2007	Unauthorised oily water discharge from the oil trap at the Libhošť fuel filling station	15	Paid without appeal
Česká rafinérská	2005	Emission limit exceeded in 2004	20	Paid without appeal
Česká rafinérská	2006	NO <sub>x</sub> emission limit exceeded in 2005	100	Paid without appeal
Česká rafinérská	2009	Failure to observe the law in records of wastes	30	Paid without appeal
Česká rafinérská	2009	Breach of a provision of the Water Act	323.9	Appeal to the Regional Authority, the appellate body upheld the fine, which was paid
Paramo	2008	Failure to observe the IP conditions (technical condition of the sink at the fats plant)	41	Appeal to the Ministry of the Environment was dismissed
Paramo	2008	Failure to observe the law in records of wastes	31	

# Overview of fines for breaches of environmental protection obligations in 2004-2009

# MITIGATION OF ENVIRONMENTAL AND OPERATING RISKS AND PREVENTION OF SERIOUS ACCIDENTS

# **Prevention of serious accidents**

The Group's companies have long paid great attention to preventing serious accidents. Reliable and fail-safe operation of the production installations is the cornerstone of accident prevention. Such equipment must be designed, operated, inspected and maintained in accordance with Czech legislation and the companies' internal rules. Some of these rules even go beyond what is required by laws and are based on the Group's best practice.

The production plants are equipped with control systems that signal any difference from standard operating parameters. Automatic shut-down systems are installed in some dangerous operations to stop the process if the required operating parameters are exceeded. Depending on the type of hazardous substances being handled, the plants are equipped with state-of-the-art detection systems (to detect flame, smoke, or hazardous substance leakage), with outputs routed to the company's control centre and fire station. The plants are equipped with fixed and semi-fixed sprinkler systems and fire monitors.

The Group's companies are subject to regular internal safety and accident risk prevention audits. In addition, there are regular external audits and inspections by the relevant specialised authorities such as the Czech Environmental Inspection Authority, Labour Inspection Authority, Fire Services, Czech professional organisations, insurance brokers, insurers and foreign reinsurers. The recommendations and conclusions of these audits are incorporated into the relevant implementation plans.

Regular instruction and training of employees is an important element of the efforts to prevent serious accidents. The functioning of the serious accident prevention system is tested throughout the year in exercises and drills organised in co-operation with emergency crews (both own and external) to prepare for accidents and crisis situations. Emergency training exercises, taking place at the individual production units and on the entire premises, involve all companies that manage the industrial premises or operate nearby.

Serious accident risk management also includes third-party liability insurance under Act No. 59/2006.

The safety level in the Group's companies is significantly influenced by new investments in production installations. The potential operating risks are addressed as early as the design stage, employing generally recognised methods for analysing the risks of serious accidents. New operations are always equipped with the latest safety systems available at the time and meeting the requirements of Czech and EU regulations.

Each of the production companies in the Group has a fire brigade of its own. They are perfectly trained and equipped and able to perform highly specialised interventions to control accidents that are combined with hazardous substance leakages.

The majority of the Group's production companies are classified in group B, which is subject to Act No. 59/2006 on the prevention of serious accidents in the handling of selected hazardous chemical substances/preparations.

# Overview of Group companies' categorisation in groups under Act No. 59/2006 and the status of the consideration of the Safety Report as at 31 December 2009

Company	Group	Safety Report (SR)
UNIPETROL RPA, s.r.o.	В	1 March 2005 – 1st update of the SR (under Act No. 353/1999) approved by the Regional Authority of the Ústí Region
		18 January 2008 – 2nd update of the SR (under Act No. 59/2006) approved by the Regional Authority
UNIPETROL DOPRAVA, s.r.o. – Operating area East, Railway Siding Unit, Pardubice	В	2 April 2008 – 1st update of the SR approved by the Regional Authority of the Pardubice Region under Ref. No. 36470-16/2007/OŽPZ/BT
UNIPETROL DOPRAVA, s.r.o Operating area East, Railway Siding Unit, Semtín	В	2 April 2008 – 1st update of the SR approved by the Regional Authority of the Pardubice Region under Ref. No. 36472-18/2007/OŽPZ/BT
UNIPETROL DOPRAVA, s.r.o Operating area West, Railway Siding Unit, Litvínov	В	23 June 2008 – SR update approved by the Regional Authority of the Ústí Region under Ref. No. 2053/ZPZ/07/H-20.2
UNIPETROL DOPRAVA, s.r.o Operating area West, Railway Siding Unit, Kralupy	В	11 November 2008 – SR update approved by the Regional Authority of the Central Bohemian Region under Ref. No. 120636/2007/KUSK OŽP Bo
UNIPETROL DOPRAVA, s.r.o Operating area West, Railway Siding Unit, Neratovice	В	5 December 2008 – SR update approved by the Regional Authority of the Central Bohemian Region under Ref. No 119423/2007/KUSK OŽP Oh
ČESKÁ RAFINÉRSKÁ, a.s.	В	16 February 2003 – approval by the Regional Authority of the Ústí Region
Litvínov Refinery		3 June 2009 – update approved by the Regional Authority of the Ústí Region under Ref. No. 23/09/ZPZ/H-02-2a/stát
Kralupy Refinery	В	8 October 2002 – approval by the Mělník District Authority
		10 October 2008 – update approved by the Central
PARAMO, a.s., Pardubice Centre	В	<ul> <li>3 August 2004 – approval by the Regional Authority of the Pardubice Region</li> <li>16 June 2005 – approval of the updated Safety Report</li> <li>10 October 2008 – approval of the updated Safety Report</li> <li>16 October 2009 – approval of the updated Safety Report</li> </ul>
PARAMO, a.s., Kolín Centre	-	Act No. 59/2006 does not apply here
BENZINA, s.r.o.	-	Act No. 59/2006 does not apply here
		Reports on the non-inclusion of fuel filling stations in groups under the law were updated and delivered to regional authorities.

# Transport information and accident system

The Transport Information and Accident System (TRINS) is a system of providing assistance in the event of accidents associated with the transportation of hazardous substances. TRINS was founded by the Czech Chemical Industry Association (SCHP ČR) as part of the Responsible Care programme in 1996 under an agreement between SCHP ČR and the headquarters of the Czech Fire Service. It has been incorporated into the country's Integrated Rescue System as one of its supporting systems. Counterparts of TRINS in other countries include, for example, CHEMSAFE in the United Kingdom and TUIS in Germany; the latter was a model for TRINS. Similar systems also exist in Slovakia (DINS), in Hungary (VERIK) and, for many years, in a number of other EU countries.

TRINS centres work in co-operation with the Czech Fire Service to provide urgent consultations concerning chemicals and products, their safe transport and storage, and practical experience with the handling of hazardous substances and control of emergencies associated with their transport. TRINS centres also provide practical assistance in the handling of such emergencies and in the removal of the subsequent environmental damage.

At present there are 34 regional TRINS centres, provided by 27 companies in the chemical industry (the number is one company less: on the basis of the majority shareholder's decision, PLIVA Lachema, a.s. Brno discontinued all of its production operations as of 31 December 2009 and has been in liquidation since January 2010). Unipetrol Group companies are among the TRINS founding members. In addition, Unipetrol RPA plays the role of the system's national coordination centre.

Company	Participation in the TRINS system
UNIPETROL RPA, s.r.o.	National centre, regional centre
ČESKÁ RAFINÉRSKÁ, a.s.	
- Litvínov Refinery	regional centre
- Kralupy Refinery	regional centre
PARAMO, a.s.	regional centre
PETROTRANS, s.r.o.	regional centre
UNIPETROL SERVICES, s.r.o.	Representation of the Czech Chemical Industry Association – securing the operation of the whole system, including reporting and support for the national centre at UNIPETROL RPA, s.r.o.

#### **Unipetrol Group companies' participation in TRINS**

Česká rafinérská has acceded to the European Road Safety Charter and undertook specific obligations for the period of 2007 to 2009, responding to the initiative of the European Commission, which has launched a campaign for improving road safety and, specifically, reducing road accident fatalities by 10,000 (i.e. to a half) by 2010.

# Serious accidents in the Unipetrol Group in 2009

In 2009, Unipetrol Group companies experienced no serious accidents classified, within the meaning of Act No. 59/2006, as serious accidents. The companies managed minor operating accidents which occurred during the year, using its own resources and, if needed, with the help of the (company's own fire service, and responded to them adequately to remedy the situation and to prevent their recurrence. The effects of minor operating accidents did not extend beyond the premises of the Group's companies, with the exception of an accidental naphtha spill into the river Bílina at UNIPETROL RPA, s.r.o. in late 2009. Nevertheless, there was an adequate response to this emergency, clean-up was carried out, and remedial measures were adopted to prevent the recurrence of such an event. The accident was not evaluated as a serious accident within the meaning of Act No. 59/2006.

# OPEN APPROACH TO ENVIRONMENTAL ISSUES

#### Role of employees in environmental protection

Employees are considered to be the key element in environmental protection, occupational health and safety, and fire protection in Unipetrol Group companies. The Group's companies have therefore introduced an effective employee training system. The training and education of all employees is part of the companies' management systems and is subject to regular review, assessment and updates under the ISO 9001, ISO 14001 and OHSAS 18001 standards.

All employees are actively and continuously involved in environmental protection and planning. At regular refresher courses they are acquainted with the environmental protection, occupational health and safety, and fire protection policies, the environmental aspects of their activities, and the goals and programmes established for their workplaces.

The regular training is not intended only for employees of the Group's companies; it is also attended by employees of all the other companies that operate on the production premises. Environmental protection, occupational health and safety, and fire protection obligations are part of the agreements concluded with each of the contractors.

#### **Public relations**

Transparent and accessible information is one of the principles of Unipetrol Group's Policy for Responsible Care and Integrated Management System of Occupational Health and Safety, Environmental Protection, and Quality Assurance, a fundamental policy document of the Group.

Detailed information on the environmental impacts of the Group's operations is regularly published in the Joint Report on Occupational Health, Safety and Environmental Protection of the Unipetrol Group (referred to as the Joint Environmental Report until 2006), and on the Group companies' websites.

The Group companies meet with representatives of trade union organisations and local and regional self-government authorities to discuss their reports on compliance with the Responsible Care programme. On their websites, the companies provide overviews of their activities in environmental protection and occupational health and safety.

In respect of the communities and municipalities in the vicinity of their operations, Unipetrol Group companies apply the principles of Corporate Social Responsibility (CSR). As part of public relations, members of the management teams of the Group's companies take part in open door sessions of the local governing bodies to inform the residents of the surrounding towns and villages about the environmental impacts of the companies' operations. "Open House" days are held every year for the public. The companies meet with the local mayors on a regular basis to inform them about all of their activities, including environmental protection. In the event of irregular operating situations, mayors of surrounding municipalities are immediately notified. The companies use a "green number" for immediate communication with the public and with their employees. In addition, latest information is delivered to employees through the companies' internal communication channels (internal address system, printed materials, intranet).

The Environmental Centre in the town of Most is another example of how transparent environmental information is proactively provided to the public. This information centre, which has been in operation since 2000, is supported by Unipetrol RPA and Česká rafinérská. It plays a major role in the dialogue on environmental protection between the industrial companies and the general public. Another Environmental Centre was opened at Kralupy nad Vltavou in 2007 to provide similar services to the Kralupy area.

In co-operation with the Most Environmental Centre, a project for preparing the curricula of the "Chemistry and the Environment" programme, intended for primary and secondary schools, was completed in 2007. The specific goals of the project included the popularisation of environmental protection issues related to chemical production, explanation of the benefits and dangers of chemical production, and presentation of the activities of Unipetrol RPA in the area of environmental protection. The project was well received by schools and it therefore continued in 2008 upon their request.

An overview of Unipetrol Group companies' periodicals providing information on environmental
protection

Firma	Publication	Contact person
Unipetrol	UNI, newspaper for employees of the Unipetrol Group	Miroslav Mertl, tel. +420 476 164 303
Unipetrol	The company's website	http://www.unipetrol.cz
Unipetrol RPA	The company's website	http://www.unipetrolrpa.cz
Unipetrol RPA	Occupational safety and fire protection monthly	František Hrobský, tel. +420 476 164 883
Unipetrol Doprava	The company's website	http://www.unipetroldoprava.cz
Unipetrol Doprava	Occupational safety and fire protection monthly	František Hrobský, tel. +420 476 164 883
Česká rafinérská	Echo, Česká rafinérská information journal	Aleš Soukup, tel. +420 315 718 579
Česká rafinérská	Impuls, occupational health and safety, fire protection, quality assurance, and environmental protection bulletin	Michaela Freyová, tel. +420 476 164 041
Česká rafinérská	The company's website	http://www.ceskarafinerska.cz
Paramo	The company's website	http://www.paramo.cz

# MITIGATING THE IMPACT OF OLD ENVIRONMENTAL DAMAGE

# Programme for eliminating old environmental damage

On the basis of a Czech government decision, in connection with the privatisation Unipetrol Group companies have concluded the following agreements with the Ministry of Finance of the Czech Republic to address the pre-privatisation environmental obligations (Environmental Agreements):

- 1) Environmental Agreement No. 14/94, as amended by Amendment No. 3 of 25 January 2005 for UNIPETROL, a.s.
- 2) Environmental Agreement No. 32/94, as amended by Amendment No. 1 of 4 July 2001– for UNIPETROL, a.s.
- 3) Environmental Agreement No. 39/94, as amended by Amendment No. 2 of 4 July 2001– for PARAMO, a.s.
- 4) Environmental Agreement No. 58/94, as amended by Amendment No. 3 of 26 September 2008 for PARAMO, a.s.
- 5) Environmental Agreement No. 184/97, as amended by Amendment No. 7 of 18 January 2007 for BENZINA s.r.o.

# **Overview of old environmental damage**

The extent of old environmental damage did not change in 2009 compared with the previous periods. An overview of old environmental damage in Unipetrol Group companies is shown below:

#### Unipetrol, Litvínov - industrial premises and other sites

Clean-up work was done by UNIPETROL SERVICES, s.r.o.

Ethylbenzene pipeline from Záluží to Kralupy nad Vltavou – at Miletice near Velvary

- groundwater and soil contamination with ethylbenzene
- clean-up work has been completed; risk analysis is being updated

#### Fuel filling stations (former Torol)

- groundwater and soil contamination with oil products
- clean-up work has been completed

Industrial premises at Záluží and the dumping sites in their vicinity

- Liquid sludge disposal sites at Růžodol
  - contamination with residual tar and with petroleum refining waste
- Treatment plant sludge disposal site
  - clean-up work has been completed

- Fly ash dumps K1-K4
  - clean-up work has been completed at the K1 and K2 ash disposal sites
- Protection of the river Bílina in the area of the treatment plant sludge disposal site – clean-up work has been completed
- Entrapment and separating drain

- clean-up work has been completed

- Solid industrial waste disposal site; lime sludge disposal site; lime sludge disposal site at a railway siding
  - contamination with solid waste, petroleum products and lime sludge with phenols
- UHLODEHTA disposal site
  - contamination with coal dust, ash, fly ash, lime sludge and brown coal tar
- Area adjacent to ash disposal sites on the south

   contamination with fly ash and petroleum sludge
- Clean-up of the soil on the bank of the river Bílina by in situ biodegradation – clean-up work has been completed
- Groundwater clean-up in "contamination clouds" on the premises – groundwater contamination with oil hydrocarbons and phenols
- Groundwater monitoring
- Soil clean-up
  - soil contaminated with oil hydrocarbons and phenols

# Unipetrol, Kralupy – industrial premises and other sites

Clean-up work was done by UNIPETROL SERVICES, s.r.o.

- Block 19 (acidic by-products)
  - residues from motor fuel refining
- Nelahozeves disposal site
  - styrene scrap in steel barrels
- Kralupy industrial premises
  - contamination with products of refining and petrochemical processes
- Fuel filling stations (former K Petrol)
  - groundwater and soil contamination with petroleum products
  - clean-up work has been completed

#### Benzina

Clean-up work was done by UNIPETROL SERVICES, s.r.o.

- Clean-up of 52 contaminated fuel filling station areas – contamination with motor fuels
- Clean-up of 13 contaminated former fuel distribution stores – contamination with motor fuels

# Paramo, Pardubice Centre

- Clean-up of the Časy disposal site
- Clean-up of the Hlavečník, Blato, Zdechovice, and Nová Ves disposal sites
- Clean-up of Paramo's main plant

• Clean-up of the acid resin disposal site (LIDL and ČSAD BUS sites)

## Paramo, Kolín Centre (former Koramo)

- Clean-up of soil and groundwater
- Closedown of the acid resin disposal site (old and new sludge lagoon)

# Progress of clean-up work in 2009

# The following clean-up work was performed in 2009 to mitigate old environmental damage:

- Ground water clean-up in the area of five "contamination clouds" and underground drain pumping from four "contamination clouds" (Unipetrol, Litvínov-Záluží); a new project was approved for extending the clean-up period until the end of 2016, including additional financing;
- Environmental service soil monitoring and biodegradation under four capital investment projects (Unipetrol, Litvínov-Záluží);
- Ground and surface water monitoring (Unipetrol, Litvínov-Záluží);
- Extraction of wastes from the Růžodol lagoons (Unipetrol, Litvínov-Záluží); a new project was approved for extending the clean-up period by two years, including additional financing;
- Groundwater monitoring was carried out for the purpose of an updated risk analysis (Unipetrol, Litvínov-Miletice a long-distance pipeline);
- Groundwater clean-up and waste extraction and reprocessing continued at the Časy disposal site (PARAMO, a.s., Pardubice Centre);
- Start of the clean-up of an acid resin disposal site, on the LIDL site, at ČSAD BUS (Paramo, a.s., the Pardubice Centre);
- Continued clean-up of the bedrock (Paramo, the Kolín Centre);
- Start of the closedown of an acid resin repository old and new lagoons, inert reclamation material was brought to the site (Paramo, the Kolín Centre);
- Maintenance clean-up work (protective clean-up pumping) at the fuel filling stations in Mikulov, Pardubice, Přelouč and Vysoké Mýto and in the distribution stores in Bartošovice, Jičín, Nový Bohumín, Šumperk and Točník; clean-up work at the Tachov fuel filling station (Benzina).

#### Other clean-up work in 2009:

- Groundwater pumping and treatment, financed by Česká rafinérská, on the Litvínov-Záluží premises (two pollution hot spots) and at Kralupy (hydraulic barrier operation);
- Underground drain pumping at the Petrochemical Plant on the Litvínov-Záluží premises, financed by Unipetrol RPA.

#### New agreements concluded between contractors and the Czech Ministry of Finance in 2009:

• Amendment No. 1 to the implementation agreement on the clean-up of a deposit site in the Časy cadastral area, PARAMO a.s. – SITA CZ a.s. as the contractor;

 An implementation agreement on the clean-up of environmental damage – remedying the extremely urgent emergency situation in the area of a former acid resin disposal site of PARAMO a.s. – GHE a.s. as the contractor.

# Fund spending in 2009

On the basis of the environmental agreements entered into with the Czech Ministry of Finance, Unipetrol Group spent CZK 475 million in total for clean-up work in 2009. The total amount that has been provided by the Ministry of Finance to finance the elimination of old environmental damage since the beginning of the clean-up work is CZK 3,842 million. Another CZK 10,035 million is expected to be spent on the elimination of old environmental damage in the future.

# Overview of financial guarantees provided by the Czech Ministry of Finance and the drawdown of funds in the Unipetrol Group

	Unipetrol Litvínov	Unipetrol Kralupy	Paramo Kolín	Paramo Pardubice	Benzina	Group total
Financial guarantees by the Ministry of Finance	6,012	4,244	1,907	1,242	1,349	14,754
Costs paid by the Ministry of Finance in 2009	158	1	226	69	21	475
Costs paid by the Ministry of Finance since the start of work	2,161	12 1)	1,160	159	350 <sup>2)</sup>	3,842
Expected costs of future work	3,484	1,500	747	3,385	980	10,096
Total (estimated) clean-up costs	5,645	1,512	1,907	3,544	1,330	13,838
Balance of financial guarantees by the Ministry of Finance	367	2,732	0	-2,302 <sup>3)</sup>	19	816

<sup>1)</sup> **Kralupy:** not including the costs of the already completed clean-up of the fuel filling station network of former K Petrol, 1995-1999, about CZK 40 million;

<sup>2)</sup> Benzina: Not including the costs incurred by BENZINA, s.r.o. in clean-up work until 1997, about CZK 500 million;

<sup>3)</sup> **Paramo:** the rules of the public licence contract for the complete removal of old environmental damage (a tendering process) are to reflect the discrepancy between the guarantee amounts and the expected clean-up costs.

#### Financial costs of clean-up work in Unipetrol Group (CZK million/year)

Year	2004	2005	2006	2007	2008	2009
Unipetrol, Litvínov	206	199	147	146	144	158
Unipetrol, Kralupy	0	3	0	2	0.4	1
Benzina	40	26	15	17	46	21
Paramo, Kolín	104	65	37	1	0.6	226
Paramo, Pardubice	15	18	3	9	13	69
Unipetrol Group	365	311	202	175	204	475

# SUSTAINABLE DEVELOPMENT

# **Global aspects of environmental protection**

#### Carbon dioxide emissions control under the EU Emission Trading Scheme (EU ETS)

Under Act No. 695/2004 on the Conditions of Trading in Greenhouse Gas Emission Allowances and under the related Directive 2003/87/EC of the European Parliament and of the Council, the Czech government issued, for selected companies, carbon dioxide emission allowances through Government Order No. 315/2005 of 20 July 2005 on the National Allocation Plan for 2005–2007.

For the 2008-2012 trading period, the government issued allowances through Government Order No. 80/2008 of 25 February 2008 on the National Allocation Plan.

Allocation of allowances (units/year) Actual emissions (kt/year)	Unipetrol RPA	Česká rafinérská	Paramo	Unipetrol Group
Allocation under the NAP 2005–2007	3,495	1,100	270	4,865
2005: actual CO <sub>2</sub> emissions	3,071	803	194	4,068
2006: actual CO <sub>2</sub> emissions	3,092	910	196	4,198
2007: actual CO <sub>2</sub> emissions	2,889	904	191	3,984
Allocation under NAP 2008–2012	3,121	867	199	4,187
2008: actual CO <sub>2</sub> emissions	2,762	910	176	3,848
2009: actual CO <sub>2</sub> emissions	2,558	806	172	3,536

# Allocation of allowances to Unipetrol Group companies in the National Allocation Plan for the 2005–2007 and 2008–2012 periods and the actual CO2 emissions between 2005 and 2009

Emission allowances allocated to Unipetrol Group companies met the companies' needs and covered the actual emission levels in the first trading period 2005–2007 and in 2008 and 2009 of the second trading period. Surplus allowances have been sold or will be sold in the future.

The Group companies met all the requirements of Act No. 695/2004 and the relevant implementing regulations. They prepared emission monitoring plans and performed their obligation to have the reported emission levels audited by an independent professionally competent auditing body.

#### Protection of the Earth's ozone layer

All Group companies operate their production facilities in accordance with the requirements for the protection of the Earth's ozone layer and in accordance with applicable international agreements. As early as 1999, Česká rafinérská replaced halons as fire extinguishing agents with environmentally friendlier substances. Chemopetrol (Unipetrol RPA at present) already replaced refrigerants used in its low-temperature petrochemical operations with environmentally friendlier ones in previous years.

# **Chemical safety**

All Group companies handle chemical substances and chemical mixtures (preparations) in compliance with the applicable legislation on chemical substances and chemical preparations and with Regulation (EC) No 1907/2006 (REACH).

Companies classify all of their chemical products that they market and on the basis of the identified properties of the products, prepare their safety data sheets, the format and content of which meet the requirements of Annex II to REACH. Safety data sheets are provided to all customers free of charge and they are also posted on the companies' websites. In compliance with REACH, Unipetrol RPA makes safety data sheets for produced and purchased hazardous chemical substances and mixtures (preparations) available to all employees through its intranet.

All of the companies continuously monitor the handling of chemical substances and mixtures (preparations) ranging from feedstock to finished products, and ensure compliance with applicable legal regulations, including the obtaining of certificates for specific applications of selected products, for example, health certificates for contact with drinking water or food, for medical use, etc. The companies have a customer service group that provides detailed information on the properties of the products on relation to their specific use.

The Group companies are monitored by the UN international inspection authority (UN-OPCW), which monitors the observance of the Chemical Weapons Convention. All international inspections that have taken place until now have confirmed our strict compliance with the obligations of the Convention.

# Compliance with Regulation (EC) No 1907/2006 (REACH)

Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) entered into force on 1 June 2007; it constitutes a new European legislative basis for the operation of the chemical industry in the EU single market.

Unipetrol Group is among the members of the chemical industry producing chemicals in large volumes, i.e. exceeding 1,000 tonnes per year. The scope of the documentation that needs to be prepared for the registration, and also the final date for submitting the application for registration, then derive from this fact.

In the first stage of the registration process, pre-registration, companies were obligated to notify the European Chemicals Agency (ECHA) of the identification details of the company, and of the substances that they intended to register, by 1 December 2008. Česká rafinérská pre-registered 43 substances, Paramo 51 substances and Unipetrol RPA 58 substances. The final date of the subsequent stage, submission of applications for registration, is 30 November 2010 for most of the pre-registered substances. By then, companies must have prepared the required documentation, including a proposal for further testing for the purpose of the completion of the registration. The year 2009 was therefore marked by intensive communication and co-operation both within the Substance Information Exchange Forums (SIEF) and within supplier and customer chains. The objective was to make the necessary contacts as soon as possible and to put in place an efficient way of obtaining the details needed for preparing applications for registration.

In the registration process, the companies' co-operation with PKN Orlen and with various technical consortia, for example, CONCAWE, LOA, and ASVEP, plays an important role. Equally important is their co-operation with the production units and other technical arms of the companies, such as laboratories, and strategy, procurement and sales departments, without which the requisite details cannot be gathered.

The direct financial costs incurred in the registration of substances under REACH have been estimated at CZK 115 million for Unipetrol RPA, CZK 10 million for Česká rafinérská, and CZK 55 million for Paramo until 2018, when the registration process is expected to be completed. It is however expected that the actual cost will be lower thanks to the principle of cost sharing within consortia and SIEFs.

# Working with primary resources of raw materials and energy

In conserving primary resources of raw materials and energy, the UNIPETROL Group acts in accordance with the principles of sustainable development, pursuing the strategic objective of using innovative approaches to minimise energy and material inputs and applying a policy of continuously improving its environmental performance. Energy audits have been carried out in the Group's companies to achieve further energy savings.

Major savings have been achieved through a better utilisation of primary raw materials. For example, Česká rafinérská has carried out an extensive upgrade programme focused on a more thorough processing of crude oil to increase the output of 'light' products, particularly motor fuels.

In 2006, Česká rafinérská launched a series of projects that are jointly referred to as Biofuel, initiating a programme aimed at more efficient use of non-renewable resources by adding selected agricultural products, which are categorised as renewable resources, to motor fuels. The specific objective of the Biofuel programme was to provide for bio-component logistics, reception, storage and blending and biofuel storage and distribution. Both refineries currently turn out automobile petrol and diesel containing biofuels, as required by legislation and processors.

Continuous attention has been paid to water savings in the Unipetrol Group. Paramo has achieved particularly significant results in this area by installing closed cooling loop systems. The newly installed chemical water treatment facility at Paramo reduces the amount of leach water, which effectively reduces the consumption of make-up water.

Year	2004	2005	2006	2007	2008	2009
Unipetrol RPA	24.2	22.5	23.7	22.2	24.5	23.0
Česká rafinérská	1.4	0.8	2.0	1.7	1.8	1.8
Paramo	1.6	1.0	1.0	1.0	1.0	1
Unipetrol Group	27.2	24.3	26.7	24.9	27.3	25.8

#### Water consumption in the Group (million cubic metres/year)

The Group's ability not to increase its consumption of energy has been accompanied by a remarkable growth in production volumes. The enhancement of the energy efficiency of the Group's production processes is therefore more apparent from the following table of specific energy consumption, expressed as an energy consumption coefficient in tonnes of oil equivalent (toe) related to tonnes of production per year:

#### Energy consumption in the Group (thousand TJ/year)

Year	2004	2005	2006	2007	2008	2009
Unipetrol RPA	10.1	10.7	10.4	10.1	10.6	9.8
Česká rafinérská	12.0	13.8	15.1	13.6	16.8	16.6
Paramo	0.8	1.0	2.8	2.7	2.7	2.6
Unipetrol Group	18.8	19.9	23.5	21.6	24.3	29.0

Note: the 2004 and 2005 data for Paramo does not include former Koramo

#### Specific energy consumption in the Group (toe/tonne of production/year)

Year	2004	2005	2006	2007	2008	2009
Unipetrol RPA	0.171	0.166	0.173	0.163	0.154	0.178
Česká rafinérská, Litvínov	0.038	0.037	0.038	0.035	0.032	0.034
Česká rafinérská, Kralupy	0.051	0.053	0.056	0.056	0.057	0.053
Paramo, Pardubice	0.079	0.093	0.096	0.087	0.086	0.097
Paramo, Kolín	0.384	0.227	0.303	0.297	0.221	0.355

# OCCUPATIONAL HEALTH AND SAFETY AND FIRE PROTECTION

Unipetrol Group considers occupational health and safety and fire protection to be one of the highest values of its corporate policy. Companies of the Unipetrol Group

- improve the quality of working conditions and the measures to protect health and safety at work and fire protection measures in accordance with the applicable regulations and standards;
- improve methods of risk assessment and prevention of occupational injuries and illnesses;
- introduce measures to improve productivity;
- develop the skills of their employees and introduce measures intended to improve the working environment;
- inform their employees and the public about the applicable internal standards to ensure occupational health and safety and fire protection, and about their impacts.

# **Accident** rate

The total number of registered work accidents continued to decline in 2009: there was a drop from 33 to 23 cases. An increase from 6 to 11, compared with 2008, was recorded in the number of work injuries resulting in incapacity to work for more than three days. The Group's management has adopted a number of major measures to counter this trend. In 2009, the Unipetrol Group did not register any fatalities to its employees.

Unipetrol RPA registered two very serious cases of damage to health of external suppliers' employees. On 18 August 2009, hydrocarbons exploded and burned at the FA 801 separator of the ethylene unit during filter replacement; the fire caused heavy burns to two employees of BIS Czech, s.r.o. On 6 October 2009, a DORA Services, s.r.o. employee suffered a fatal injury at the T700 heat and power plant. Unipetrol RPA and also the Unipetrol Group's managements adopted robust systematic measures, both short-term measures and development and conceptual measures, concerning the Group's companies and external suppliers. These measures have a bearing on the occupational health and safety management system.

Data testifying to the level of occupational safety, maintained for many years in the Unipetrol Group, is shown in the following table:

Year	2004	2005	2006	2007	2008	2009
Unipetrol RPA	0.27	0.24	0.17	0.27	0	0.24
Česká rafinérská	0.4	0.3	0	0.3	0.14	0.45
Paramo	0.11	0	0.7	0.49	0.39	0.28
Benzina	0.52	0.61	0	0	0	0
Unipetrol Doprava	1.34	2.33	0.58	0.81	0.41	0.22

#### Incidence of injuries in the Unipetrol Group (number of injuries per 100 employees)

# Frequency of occupational injuries in the Unipetrol Group (number of injuries per million of hours worked)

Year	2004	2005	2006	2007	2008	2009
Unipetrol RPA	1.62	1.46	1.02	1.71	0	1.45
Česká rafinérská	2.4	1.7	0	1.7	0.8	2.8
Paramo	0.63	0.68	4.21	2.94	2.31	1.65
Benzina	3.15	3.55	0	0	0	0
Unipetrol Doprava	7.67	13.01	3.28	4.54	2.25	1.18

# Number of fatalities

Year	2004	2005	2006	2007	2008	2009
Unipetrol RPA	0	0	0	0	0	0
Česká rafinérská	0	0	0	0	0	0
Paramo	0	0	0	1	0	0
Benzina	0	0	0	0	0	0
Unipetrol Doprava	0	1	0	0	0	0
Unipetrol Group	0	1	0	1	0	0

## Number of occupational injuries registered

Year	2004	2005	2006	2007	2008	2009
Unipetrol RPA	28	14	11	13	10	14
Česká rafinérská	7	9	9	10	3	4
Paramo	12	8	20	14	8	3
Benzina	1	1	0	0	0	0
Unipetrol Doprava	25	22	10	11	9	1
Unipetrol Group	73	54	50	48	33	23

## Number of occupational injuries resulting in incapacity to work for more than 3 days

Year	2004	2005	2006	2007	2008	2009
Unipetrol RPA	7	6	4	6	0	5
Česká rafinérská	3	2	0	2	1	3
Paramo	1	1	6	4	3	2
Benzina	1	1	0	0	0	0
Unipetrol Doprava	7	11	3	4	2	1
Unipetrol Group	19	21	13	16	6	11

# **Occupational illnesses**

No cases of occupational illness were diagnosed in Unipetrol Group companies in 2009.

Year	2004	2005	2006	2007	2008	2009
Unipetrol RPA	0	0	0	1 1)	1 1)	0
Česká rafinérská	0	0	0	0	0	0
Paramo	0	0	0	0	0	0
Benzina	0	0	0	0	0	0
Unipetrol Doprava	0	0	0	0	0	0
Unipetrol Group	0	0	0	1	1	0

#### Number of new cases of occupational illness

<sup>1)</sup> Illness caused by exposure to polycyclic condensed hydrocarbons

# Prevention, personal protective equipment and aids

Employees professionally qualified in risk assessment are responsible for prevention in the area of safety at work, including inspections at individual workplaces. Personal protective gear is issued to company employees based upon actual risk assessment.

# Quality of the work environment

Quality of the work environment is regularly checked in Unipetrol Group companies by measuring work environment factors, especially occupational exposure to noise, chemicals, and dust on the basis of a categorisation of types of work. Measurements taken in 2009 confirmed the declining number of cases where the admissible exposure limits and highest permissible concentrations are exceeded.

# Health care and prevention

Unipetrol Group companies have entered into agreements with physicians for the provision of preventive medical care. Preventive medical check-ups are carried out as required by legal regulations and the decisions of the Public Health Inspection Service authorities.

In 2009, Česká rafinérská achieved a sickness rate of 1.4%. Such a low level of short-term illness can be attributed to the long-term implementation of health support programmes and above-standard periodical medical examinations. The main pillar of the health support programme in 2009 was the "Drogy? Ne!" [Drugs? No!] project geared towards mapping the current situation at workplaces, identifying the movement of persons who came into contact with an addictive substance, and addressing and communicating the findings, if any. Measurements intended to confirm that people who came into contact with drugs were not working in the company, were carried out under the project on the company's operating, both in offices and at production units. All results of the measurements were negative and the survey therefore proved that the environment in the company was drug-free.

# IMPORTANT MILESTONES OF THE UNIPETROL GROUP IN 2009 FROM THE PERSPECTIVE OF ENVIRONMENTAL PROTECTION AND HEALTH AND SAFETY AT WORK

# Unipetrol

• Transition to the requirements of the ISO 9001:2008 standard – verified by the certification body LRQA during a surveillance visit.

#### **Unipetrol RPA**

- Transition to the requirements of the ISO 9001:2008 standard verified by the certification body LRQA during a surveillance visit;
- A milestone of 2,250,000 hours without injury resulting in absence from work was achieved on 19 December 2009;
- Emergency training exercise to test the operability of the Internal Emergency Plans under Act No. 59/2006 on the prevention of serious accidents;
- A test exercise was taken in the TRINS system of help in the transport of dangerous items and all the other participating European centres within CEFIC (European Chemical Industry Council).

#### **Unipetrol Doprava**

- Transition to the requirements of the ISO 9001:2008 standard verified by the certification body LRQA during a surveillance visit;
- Verification by Moody of the implemented SQAS Tank Cleaning and Steam Station system;
- A milestone of 1,000,000 hours without injury resulting in absence from work was achieved on 15 June 2009;
- An emergency exercise to test the operability of the Internal Emergency Plans under Act No. 59/2006 on the prevention of serious accidents took place in all the areas in which the company operates, in co-operation with the fire services of the owners of these areas.

#### Benzina

- Transition to the requirements of the ISO 9001:2008 standard verified by the certification body LRQA during a surveillance visit;
- Operating website for partners at fuel filling stations was put into operation;
- Completion of the Benzina Plus programme, upgrade of fuel filling stations;
- Transfer of responsibility for maintenance pumping work on selected sites to the Czech Ministry of Finance;

• The risk analysis was completed, the first stage of work on all sites subject to the Environmental Agreement with the Ministry of Finance.

# Česká rafinérská

- A refinery and petrochemical conference awarded to Česká rafinérská the honorary title Refinery of the Year 2009 in Central and Eastern Europe. For the third time, Česká rafinérská won the PETROL awards 2009 in the Products and Technology category for its project of the Modernisation of the LPG Section in the FCC Complex in the Kralupy nad Vltavou refinery; the award recognised the high technical level and financial and environmental benefits of the project;
- A shutdown at the Kralupy refinery without any injuries resulting in absence;
- A milestone of 1,000,000 hours without an injury resulting in absence from work was achieved on 6 May 2009;
- The first stage of the Business Continuity Management (BCM) project was completed. BCM is part of the IMS, complements the Risk Management process and provides umbrella management over all crisis and emergency plans at Česká rafinérská;
- In co-operation with Shell, a Safety Day was held with the motto "Let's Do the Right Things", with a focus on teamwork:
- The company's designated personnel received HSE gualifications.

#### Paramo

- Paramo started to draw on a subsidy from the funds of Operational Programme Environment, Priority Axis Limiting Industrial Pollution and Mitigating Environmental Risks, for the project of "Refurbishment of the VR 28 Liquid Hydrocarbon Storage Tank";
- Paramo prepared another application for a subsidy under Operational Programme Environment (refurbishment of the VR 16 tank);
- Application for a subsidy under Operational Programme Enterprise and Innovation for the project of "Increasing the Energy Efficiency of a Heat and Power Plant through the Installation of TBG, Including Accessories". The application was received favourably and the subsidy was granted;
- Re-certification of the QMS, EMS and HSMS systems under ISO 9001, ISO 14001 and OHSAS 18001 by LRQA;
- A capital investment project was completed at the Kolín Centre as part of meeting the requirements of the integrated permit – reducing the noise exposure at the boundary of the residential area.

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