



ORLEN

ENVIRONMENTAL
REPORT
2005



Environment-friendliness

The combination of the sustainable use of the natural environment and concern for the good of local communities is one of the most important aims of the Mission of Polski Koncern Naftowy ORLEN Spółka Akcyjna. Such conscious and responsible action requires the compliance of company operations with the highest environmental, product safety and quality standards.

All actions undertaken in 2005 in order to enable the functioning of the Company complied with the valid ecological laws and the accepted Environmental Policy of PKN ORLEN S.A.

The most important event of the year 2005 was undoubtedly obtaining the integrated permission for the production installations of the refinery & petrochemical complex of ORLEN in Płock. The permission confirms the use of BATs (Best Available Techniques) by PKN ORLEN S.A. as well as compliance with environmental standards outside the areas to which the company has a legal title.

The permission of the Head of the Mazovian Province was granted for the plant installation in Płock:

- in the chemical industry:
 - petroleum refining installation –REFINERY
 - installation for the production of semi-finished products and finished products of organic chemistry with the use of chemical processes – PETROCHEMISTRY
- in the power industry for fuel combustion with a nominal power exceeding 50 MWt:
 - fuel combustion installation –HEAT AND POWER GENERATING PLANT.

It is worth stressing that the permission was issued with the validity period ending on 31 December 2010, however, the execution of new production facilities or the significant modernisation of existing facilities will require changes in the issued permission or the obtaining of a new permission. The conditions of operation of the installation specified in the permission are very rigorous. Such guidelines were determined by the joint influence of many facilities of various operators located in one area and the liquidation of the protective zone of the plant at the end of 2005.

The most important terms included in the permission concern are:

- compliance with emission levels acceptable for particular installations, sources and emitters that were specified in the permission,
- compliance with permissible noise standards in areas subject to protection round the plant through the execution of works aimed at suppressing the noise of equipment with the highest acoustic activity and the installation and starting of three stations for constant noise monitoring,
- continuation of reclamation of the soil & water environment of the Plant,
- monitoring of the method of impact of the installation on the environment.

For warehouse & distribution facilities located in Poland, an integrated permission is not required.

Another important event of the year 2005 was the commencement of the natural compensation project based on the planting of trees round the plant in Płock.

In the distribution & warehouse area of the Company, major actions involved the modernisation of fuel stations and bases by adapting particular facilities to the technical requirements ensuring the limitation of environmental nuisances.

The year 2005 brought a triple increase of investment outlays for environmental protection tasks, which totalled almost PLN180,000,000. At the same time, ORLEN recorded a reduction in ecological charges incurred, which confirms the proper direction of the Company's actions with regard to natural environment protection.

Environmental policy

Being aware of the impact of activity of Polski Koncern Naftowy ORLEN S.A. on the environment, we declare that we will systematically adjust our methods of planning and conducting processes to the requirements of the principle of constant and sustainable development through the integrated treatment of the pollution prevention process and the environment protection process.

We subordinate to this goal the entire strategy of the Company in the form of existing and future development programs and other actions performed on the basis of the Environmental Management System implemented in the Production Plant according to requirements of the standard PN-EN ISO 14001. We undertake to extend this system to other units of the Company in Poland and to build an integrated System guaranteeing the constant decrease of the adverse impact on the environment in all areas of operation of our Company.

We declare that our efforts will be aimed at achieving the following environmental goals:

1. Ensure the integrated prevention and monitoring of pollution discharged into the air, water and soil and waste produced so as to guarantee a high level of environmental protection as a whole, with constant adherence to the principle of sustained development.
2. Reach the level of full conformity with the applicable law and ecological standards.
3. Apply BATs for new facilities and facilities under modernisation.
4. Undertake preventive actions with regard to serious industrial failures.
5. Ensure the acoustic protection of areas and facilities around the Production Plant in Słupsk that are subject to such protection.
6. Reduce the emission of harmful substances from engines powered by liquid fuels in the territory of Poland by increasing the share of pro-ecological fuels, including low-sulphur fuels and biofuels, in the total consignment of products.
7. Eliminate the risk of spreading of pollution in soil and water and its impact on human health and life.
8. Provide access to information about the impact of the Company on the environment for all interested persons.
9. Improve the environmental awareness of personnel.
10. Continue the Responsible Care program.
11. Improve on a continuous basis the Environmental Management System and its integration with the Quality Management System in order to create one effective Management System.

Our aim is to achieve the maximum possible ecological neutrality of the production complex in Płock and other organisational units of the Company in Poland for their nearest environment, together with minimisation of the environmental impact resulting from the use of our products.



Fig. 1. Certificate of the Environment Management System granted by BVQI Office

CERTIFICATE
granted to the company:

Polski Koncern Naftowy ORLEN Spółka Akcyjna
with headquarters in Płock

BVQI certifies that the Management System of the aforementioned organisation was evaluated and regarded as compliant with the requirements of the standards and scope of services detailed below.

Standards
ISO 14001: 1996

Scope of certification

**PRODUCTION AND WHOLESALE OF REFINERY PRODUCTS: LIQUID GAS, LIQUID FUELS (PETROLS, DIESEL OILS, HEATING OILS, AVIATION FUELS).
STORAGE AND WHOLESALE OF LIQUID FUELS IN INTERNAL WAREHOUSE BASES.**

**PRODUCTION AND SALE OF PETROCHEMICAL PRODUCTS: AROMATIC HYDROCARBONS (BENZENE, TOLUENE, XYLENES), PROPANE, ETHYLENE, PROPYLENE, MTBE AND ETBE ETHERS, ACETONE,
PHENOL, GLYCOLS, BUTADIENE, ETHYLENE OXIDE, SOLVENTS, FARBASOL, LOW-FREEZING FLUIDS "PETRYGO", "QUAL" AND "PARAFU".**

PRODUCTION AND SALE OF TECHNICAL GASES: OXYGEN AND NITROGEN.

Date of first certification: **17 March 2000**

Ryszard Jankowski

Date: **5 August 2004**

Certificate No.: **128806**

Responsible Care

Responsible Care is an international pro-environmental program implemented in Poland since 1992. Its participants are chemical industry companies from all over the world. In Europe, the Program is implemented by all significant chemical companies and corporations. In the world, more than 85% of chemical production is generated by participants of the Program.

ORLEN joined the Responsible Care program in 1997. Our Company voluntarily obliged itself to improve its activity on a continuous basis within the HSE (Health, Safety, Environment) framework.

In order to fulfil the assumed obligations, in 2005 the Company declared the accomplishment of 26 tasks that are presented in the following table:

Environment protection actions

No.	Task
1	Co-operation with non-governmental organisations acting in the field of environmental protection, including the Regional Ecological Education Centre in Płock and the Board of the Peregrine Falcon Restitution Program in Poland
2	Participation in works of the ecological group "Forum for Płock", the aim of which is to prepare environmental elements of the city's development strategy
3	Preparation of the plan and execution of the 1st stage of planting of trees and shrubs in the area of the Plant
4	Building-up of gas burners in boilers OO-420 no. 6 and OO-420 no. 7
5	Modernisation of gas testers and optical dust indicators in emission monitoring stations no. 2 and no. 3 in the Heat and Power Generating Plant
6	Construction of the delivery truck unloading point
7	Modernisation of post-pyrolysis petrol and BTX fraction tanks
8	Hydro-desulphurisation of petrol from cracking units
9	Revamping of the Aromatics Extraction Unit
10	Modernisation of main sewerage systems at the PKN ORLEN Plant in Płock
11	Modernisation of the Water Demineralisation and Condensate Treatment Station
12	Modernisation of the intermediate sewage pumping station on Plot 2B
13	Construction of the sludge utilisation station, Stage I
14	Hydrofining of Diesel Oil from hydro-desulphurisation of the heavy vacuum residue (HOG)
15	Adaptation of the HON VI (Diesel Oil Hydro-Desulphurisation) installation to requirements of the new generation catalyst
16	HON VII
17	Reduction of sulphur content from 0.4% to 0.25% in fuel for process furnaces

Process safety and work safety improvement actions

No.	Task
18	Actions aimed at the expansion of the process of implementation of the Occupational Safety & Health Management System according to the standard PN-N-18001 to other organisational units of the Plant in Płock
19	Issue of a new "General OS&H and Fire Prevention Instructions for drivers of cars moving within the premises of the Production Plant of PKN ORLEN S.A. in Płock"
20	Building-up of cabinets for sampling and modernisation of the spherical tank drainage system
21	Improvement of technical safety of the cumene hydroperoxide unloading station

Health protection and preventive treatment actions

22	Preventive treatment programs based on the early detection of threats resulting from work performed by employees of PKN ORLEN S.A.
23	Seasonal preventive inoculations of employees against influenza
24	Inoculations against Hepatitis B virus
25	Ensuring of preferential access to coronary arteriography tests for employees of PKN ORLEN S.A.

Other

No.	Task
26	Current substantive supervision of the electronic version of "Ecological Handbook of an Employee of Polski Koncern Naftowy ORLEN S.A."

The Responsible Care program is also implemented by companies from the ORLEN Capital Group:

- ANWIL S.A. (in 2005 it celebrated the 10th anniversary of its participation in the program)
- SOLINO S.A. – Inowrocław Salt Mines
- Basell ORLEN Polyolefins Sp. z o.o.
- ORLEN Asfalt Sp. z o.o.
- ORLEN Eko Sp. z o.o.

ORLEN participates in the restitution of the peregrine falcon

The presence of a male peregrine falcon in the vicinity of the ORLEN production complex in Płock was observed for the first time in 1986. As the presence of the bird was noticed also in later years, in 1999 ORLEN started to support the reconstruction of the national population of the peregrine falcon through the settling of birds in an environment with favourable living conditions. It was then that ORLEN started to co-operate with the Board of the Program of Restitution of the Peregrine Falcon in Poland – since 2002 the SOKÓŁ Association for Wild Animals”, the program of which was approved by the Minister for Environment Protection, Natural Resources and Forestry. One of the aims of the Association is the consolidation of works connected with the restitution of the falcon, the development of monitoring across the country and the support of development of the wild population through the installation of artificial nests for birds.

The re-introduction of the peregrine falcon is one of the few programs of this kind implemented in Poland.

The fundamental principle is the social work of its participants, including falcon breeders (from all peregrine falcon breeding centres in Poland), ornithologists, hunters, foresters, representatives of state administration bodies, employees of national and landscape parks and a number of institutions.

There are three primary methods for the re-introduction of peregrine falcons that are used all over the world:

- **fostering** - i.e. bred birds of age similar to falcons from the hatch are added to the nest of wild falcons,
- **cross fostering** - i.e. falcons are introduced into nature by being placed in existing nests of other birds of prey, in case there are no natural nests of wild falcons. All nestlings are taken from the nest of another bird of prey and added to other nests of their species. Their place is taken by bred falcons of similar age – this prevents growing falcons from taking over features of the other species,
- **hacking** – this method is used most frequently in Poland; birds are placed in a properly roofed cage with a structure corresponding to the place of release of bred birds (rock, tree, building etc.).

Re-introduced birds are ringed. The colour of the ring depends on the place of release of the bird: red - on rocks, in urban areas (buildings) – yellow, in forest areas – green.

In support of the aims adopted by the Association, two hatching booths were placed in ORLEN on high chimneys of the Heat and Power Generating Plant and the Clausa installation in 1999.

Since that time, the presence of birds was observed very often in this area, and in February 2001 it was found out that the pair of peregrine falcons had finally accepted and settled in a booth installed on the chimney of the ORLEN Heat and Power Generating Plant in Płock.

The first hatch of birds was recorded in May 2002, and the pair of falcons brought forth three young: two females and one male already in the following year, four males in 2004 (in the hatching booth on the chimney of the Heat and Power Generating Plant) and a pair in 2005 (on the chimney of Claus unit). All nestlings of the peregrine falcon hatched in ORLEN were ringed with yellow ornithological rings and blue observation rings. The existence of falcons in the vicinity of our company is monitored all the year round through the inspection of hatching booths, preparation of film and photo documentation of the nesting peregrine falcon and the ringing of nestlings in co-operation with the Association. In 2005, after the hatching period, two hatching booths were preserved with a wood preserver and their floor was replaced.

We can be proud of the fact that up until now 11 peregrine falcons altogether have been born in ORLEN.

Corporate Ecological Inspection (“Green Police”)

Ecological inspections have existed in Polski Koncern Naftowy ORLEN S.A. since 1998. It was preceded by the ALERT operation carried out in the 1980's. During this period, the chemical rescue service of the production plant in Płock carried out air measurements at several points, using complicated yet not always accurate equipment. Now the Corporate Ecological Inspection uses modern and precise equipment, and the measurement results are fully reliable.

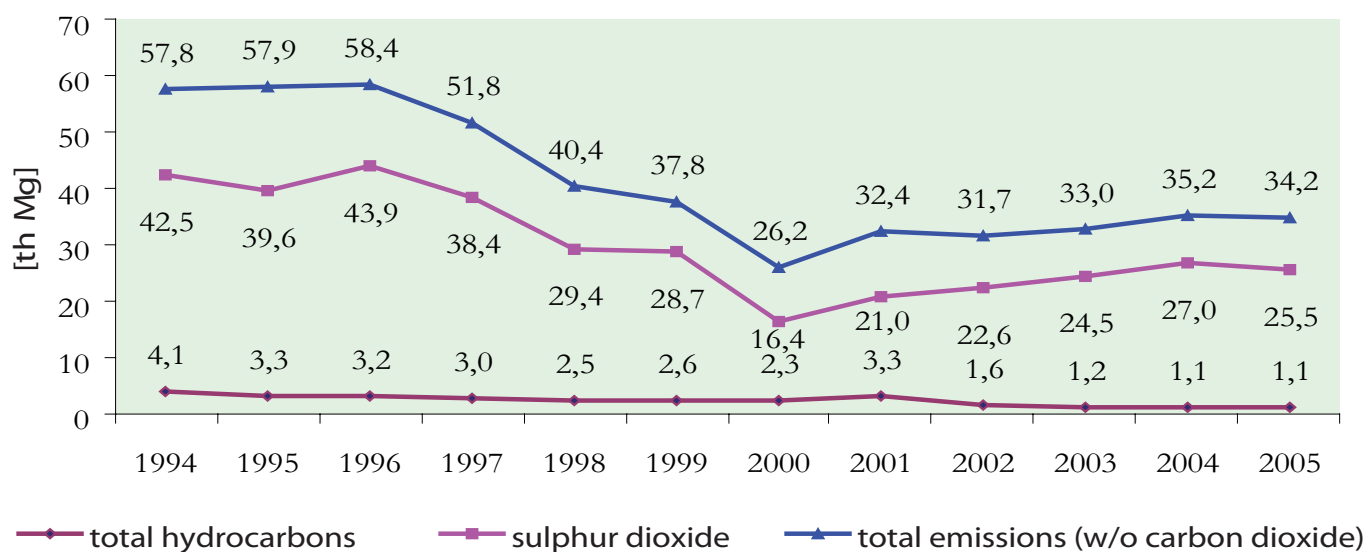
In 2005, the Corporate Ecological Inspection, commonly called the “Green Police” by employees of ORLEN, received 23 complaints concerning periodical nuisances.

Each complaint reported either by ORLEN employees or inhabitants of Płock, was considered by the Corporate Ecological Inspection in a particular manner. Pollution concentrations were measured in the area of nuisances and actions were undertaken in order to identify sources of such nuisances. In addition, the meteorological situation and pollution concentrations were inspected in automatic air monitoring stations. In most cases, the “Green Police” determined the reason of events and undertook actions to minimise the occurring nuisances.

In order to reduce the unpleasant odours of processes conducted, in 2005 a catalyst on the Claus unit installations was replaced and anti-odour agents were applied during installation steaming and the disassembly of the pipeline at the time of preparing for the renovation of the Catalytic Cracking II unit.

Air protection

The emissions of pollutants characteristic of the refinery & petrochemical complex of ORLEN in Płock is shown in the following graph:



Graph 1: Emissions of main pollutants in the production plant in Płock from 1994 to 2005

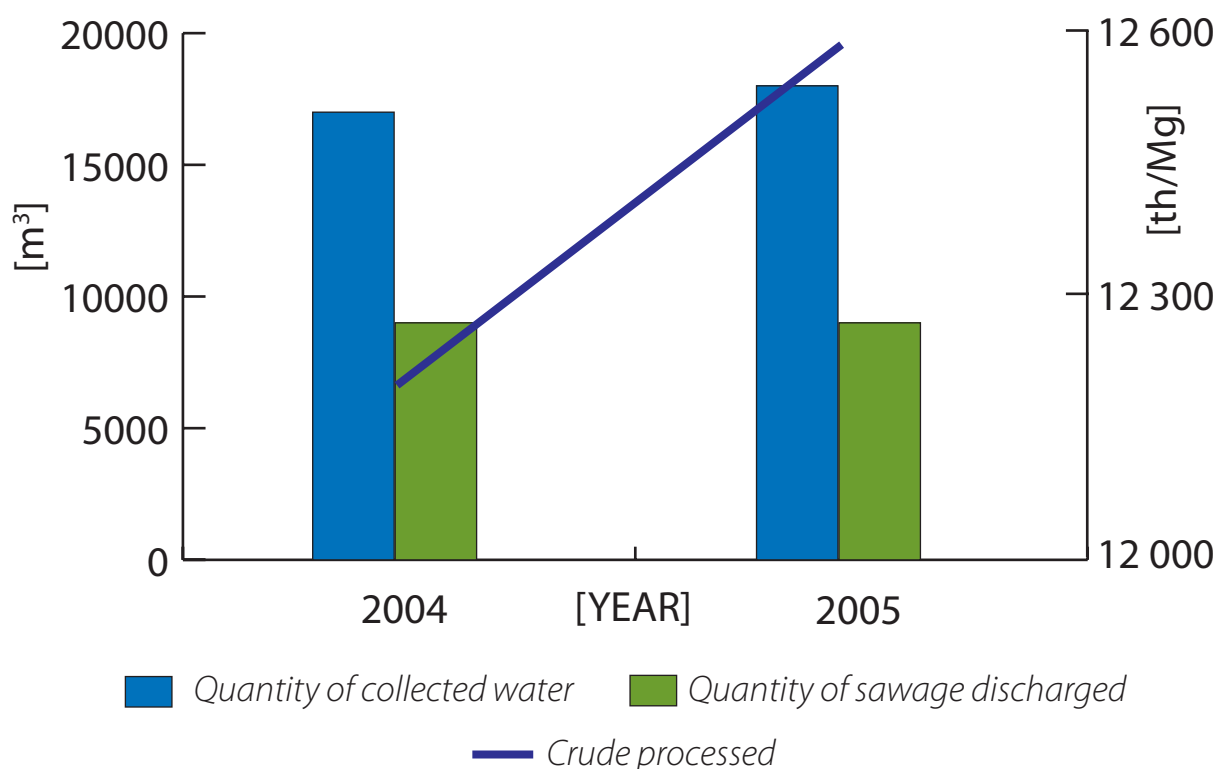
In 2005, there was an approx. 4% increase in the quantity of some substances (being fuel combustion products) introduced into the air.

This increase results from:

- an increase in the quantity of petroleum processed in the previous year (from 12,194 thousand Mg in 2004 to 12,569 thousand Mg in 2005);
- starting-up of new or intensified installations in the 4th quarter;
- intensified installation Olefin II (expanded with 5 furnaces),
- Polypropylene III and Polyethylene III installations belonging to Basell ORLEN Polyolefins company, the starting of which resulted in an increased consumption of electrical energy from the ORLEN Heat and Power Generating Plant and, therefore, an increase of emission from this source.

Water uptake and sewage dump

In 2005, there was a small increase (1.5%) in the uptake of water from the Vistula due to a higher demand for water both from installations of the production plant and Companies from the ORLEN Group which conduct their activity in the fenced area of the Płock plant.



Graph 2: Quantity of collected water and the quantity of sewage discharged to the Vistula compared to the petroleum processed at the end of 2004 and at the beginning of 2005

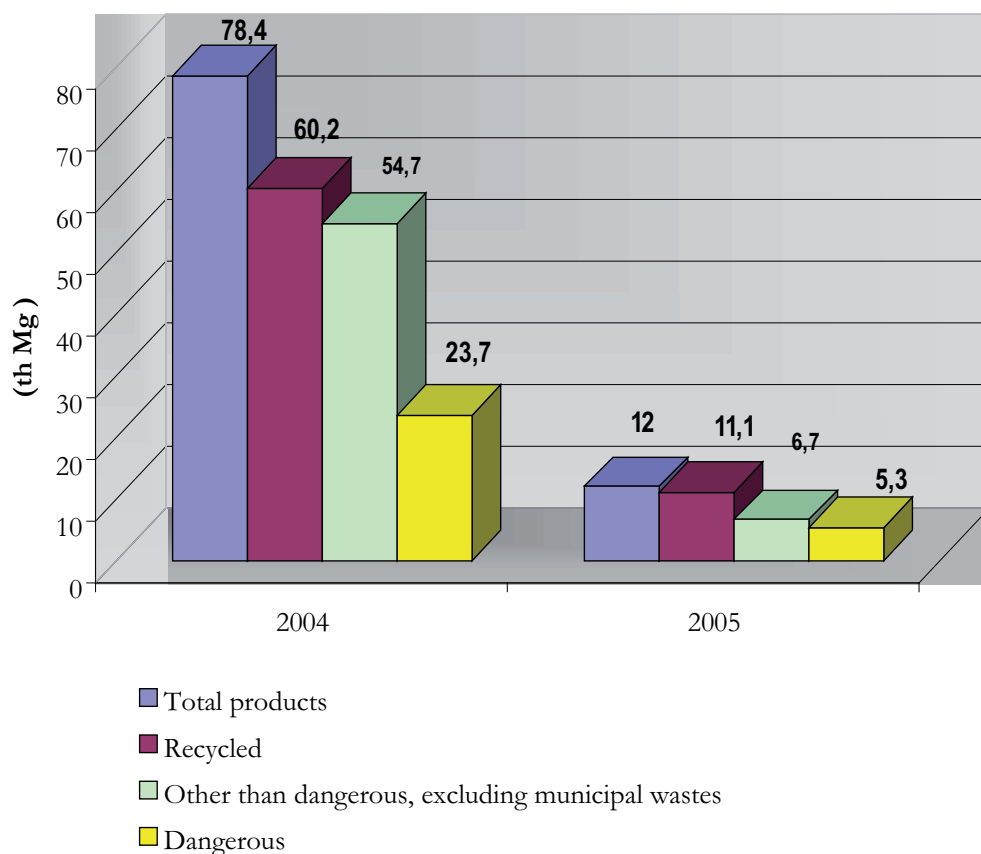
The increase of petroleum processing and the starting of the intensified Olefin Installation and new installations of Basell ORLEN Polyolefins Sp. z o.o. resulted in a bigger inflow of sewage into the Central Sewage Treatment Plant and, consequently, sewage dumped into the receiving body of water – the Vistula. It is worth stressing that the quality of sewage discharged into the Vistula has improved when compared to previous years.

Checks of ORLEN's sewage discharged into the Vistula that were performed in 2005 by the Provincial Inspectorate of Environment Protection did not show any infringement of the conditions of the water permit.

Waste management

The large decrease in the quantity of produced waste in 2005 compared to 2004 was a result of the separation of ORLEN Eko, a company which produced a substantial amount of waste due to the specific nature of its activity.

It is also worth noticing and stressing that the amount of recycled waste compared to total produced waste is still increasing.



Graph 3: Quantity of waste produced in years 2004-2005

Package management

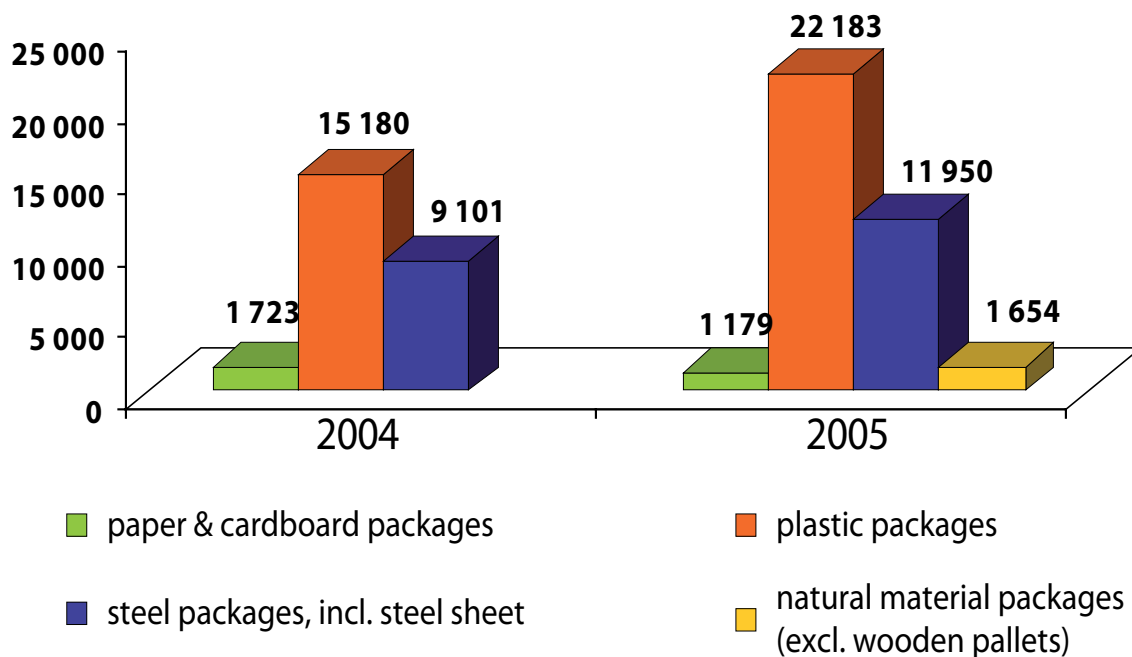
In 2005, ORLEN introduced four kinds of package in Poland:

- plastic packages,
- paper & cardboard packages,
- natural material packages,
- steel packages (incl. steel sheet)

In comparison with 2004, the weight of introduced packages increased by 34%. The quantity of paper and cardboard packages increased and natural packages appeared (excluding pallets). The change of the quantity and the presence of a new group of packaging results from the fact that a majority of products used by ORLEN (both imported and purchased within the EC) had exactly such kinds of packages, and also as a result of ORLEN's imports for some ORLEN Group companies.

ORLEN complied with the statutory levels and achieved the required recycling levels for all groups of packages:

- | | |
|--------------------------------|-----|
| - for plastics | 18% |
| - for paper & cardboard | 42% |
| - for natural materials | 11% |
| - for steel, incl. steel sheet | 14% |



Graph 4: Comparison of the weight of packages recycled in 2004 and 2005 (kg)

Noise

The refinery & petrochemical complex of ORLEN in Płock is a source of noise emissions to the environment.

According to the measurements of the noise level in the environment and calculations of propagation of noise generated by the activity of the plant, based on a mathematical model, noise levels are periodically higher in acoustically protected areas. This results from the complex nature of the acoustic climate in the external environment, which is shaped by many sources belonging to different entities located in the same area.

The obtaining of an integrated permission by ORLEN invalidated the decision establishing the admissible sound level penetrating to the environment, which came into force in 1990.

Now the equivalent sound level A, which penetrates to the environment from the production plant premises to premises covered by acoustic protection, cannot exceed the value of:

- 55 dB during the day, from 6:00 till 22:00
- 45 dB at night, from 22:00 till 6:00

The maintenance of these standards will require further actions to be undertaken in this area. The most important are:

- installation and starting-up of three constant noise monitoring stations,
- suppression of the noise of devices with the highest acoustic activity,
- starting of research aimed at decreasing the acoustic impact of flares.

Soil & water environment

On the premises of the refinery & petrochemical complex in Płock, there are 4 types of petroleum products floating on the ground water level. In 2005 the reclamation of the soil & water environment was continued in the production plant in Płock, along with the protective monitoring of ground water as per the decision of the Mayor of Płock.

The monitoring of ground water confirmed that pollutants have not moved outside the area to which the Company holds a legal title.

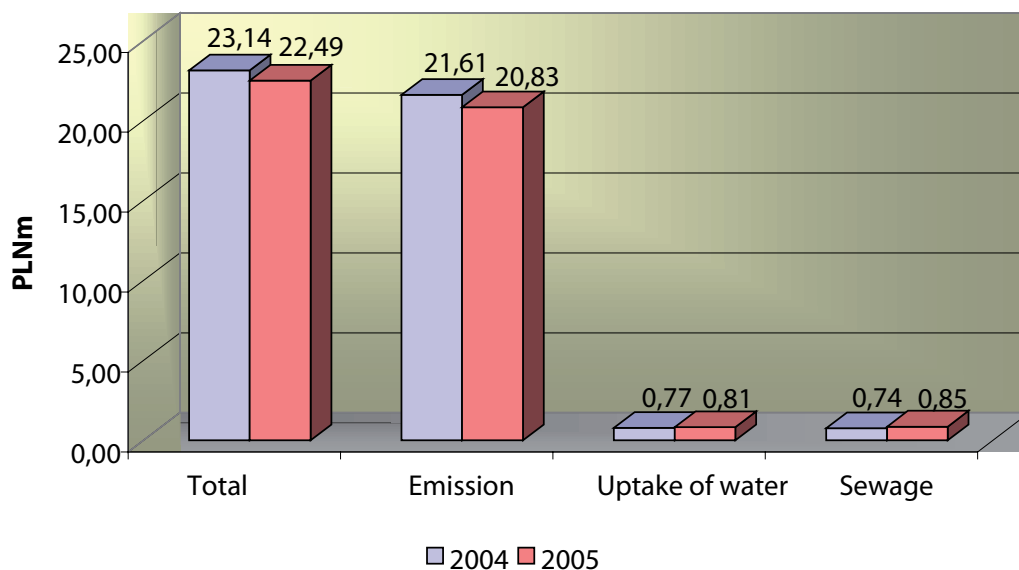
ORLEN prepared a reclamation strategy for the refinery & production complex. Such actions are undertaken in all areas of contamination of ground water with free hydrocarbons where it can be scooped.

The results of the reclamation and monitoring works carried out in the refinery & petrochemical complex in Płock confirm that the existing pollution of the soil & water environment in the plant is decreasing, and the prepared Risk Assessment excludes any danger to human life and health.

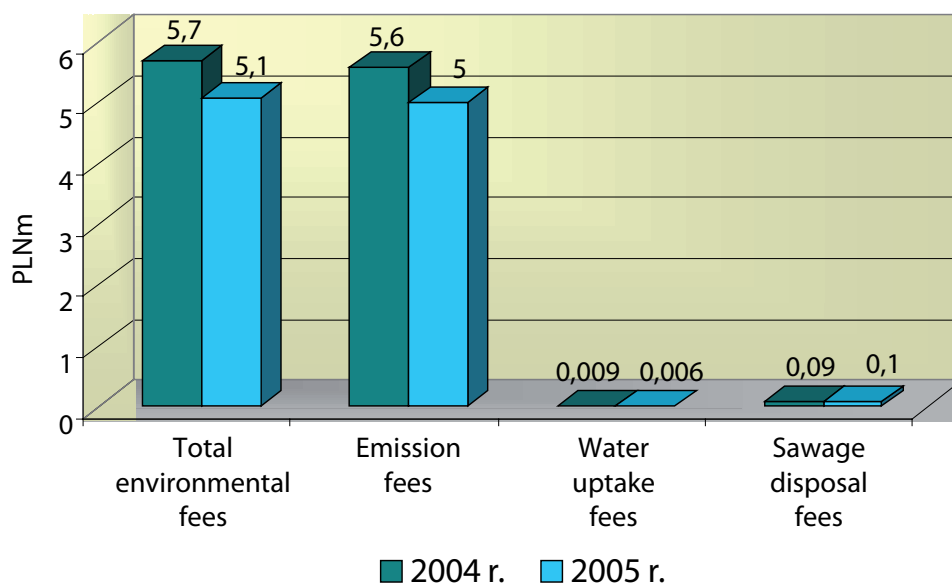
During the modernisation of facilities belonging to ORLEN, i.e. fuel stations, storage facilities, a comprehensive reclamation is also performed in the case of finding out any pollution of the soil & water environment.

Fees paid by ORLEN for the use of the environment

The total fees paid by ORLEN for the use of the environment in 2005 decreased by 2.8%. In the fuel stations and depots of ORLEN in Poland, fees dropped by 10.8% in comparison with 2004.



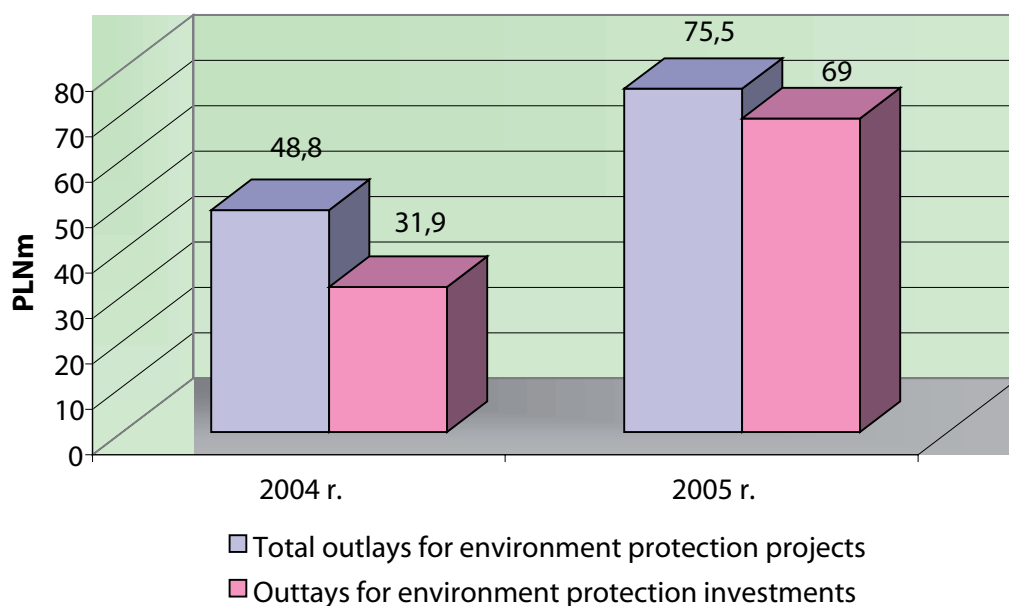
Graph 5: Fees for the use of the environment in Polski Koncern Naftowy ORLEN S.A. in 2004-2005



Graph 6: Fees for the use of the environment in fuel stations and storage facilities of ORLEN in 2004-2005

Environment protection in investment operations

The investment outlays of ORLEN for tasks connected with environment protection in the refinery & petrochemical complex in Plock in 2005 were three times as high as in the previous year, totalling almost PLN180,000,000.



One of the important pro-ecological projects implemented since 2004 is the hydro-desulphurisation of FCC naphtha. A concrete ecological result of this task was the decrease of sulphur content in petrol. This investment is extremely favourable for the environment on a national scale. The desulphurisation of petrol will make it possible to remove approx. 1,500 tons of sulphur per annum. This, in turn, will reduce the emission of sulphur dioxide from car engines into the atmosphere by approx. 3,000 tons per annum.

In 2005, ORLEN continued a number of investments with a view to reducing the impact of the plant on environment components, such as noise emission or sewage management. The most important of these investments are:

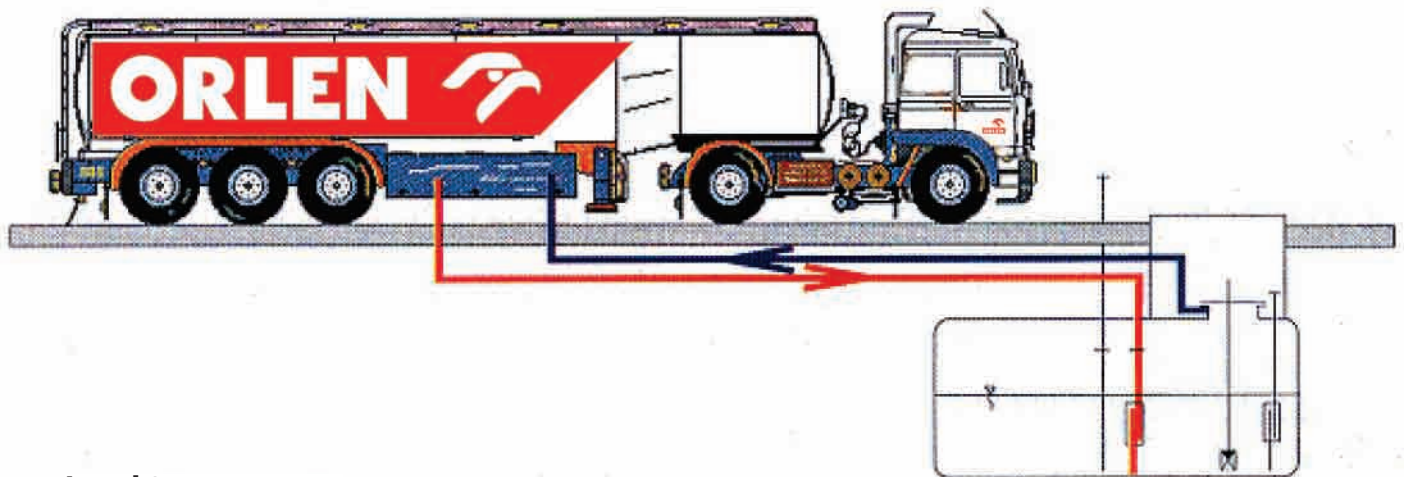
- modernisation of the Aromatic Extraction unit – one of the results is the reduction of the level of noise emitted from this installation;
- modernisations of the intermediate sewage pumping plant (on plot 2B) – reducing the amount of hydrocarbons sent to the sewerage system;
- modernisation of main sewerage systems for better sealing and improvement of the reliability of operation;
- modernisation of the Water Demineralisation and Condensate Treatment Station ensuring the averaging of sewage concentrations;
- construction of the sludge utilisation station (Stage I) to improve the management of sewage treatment sludge;
- adaptation of the HON VI installation for the production of diesel oil with a sulphur content below 10 ppm.

In 2005, in fuel stations, storage facilities and separate plants in the territory of Poland, a total number of 409 environmental tasks was performed and the total amount of outlays exceeded PLN 75,000,000, including almost PLN 69,000,000 for environmental investments. In comparison with 2004, financial outlays were 54.7% higher.

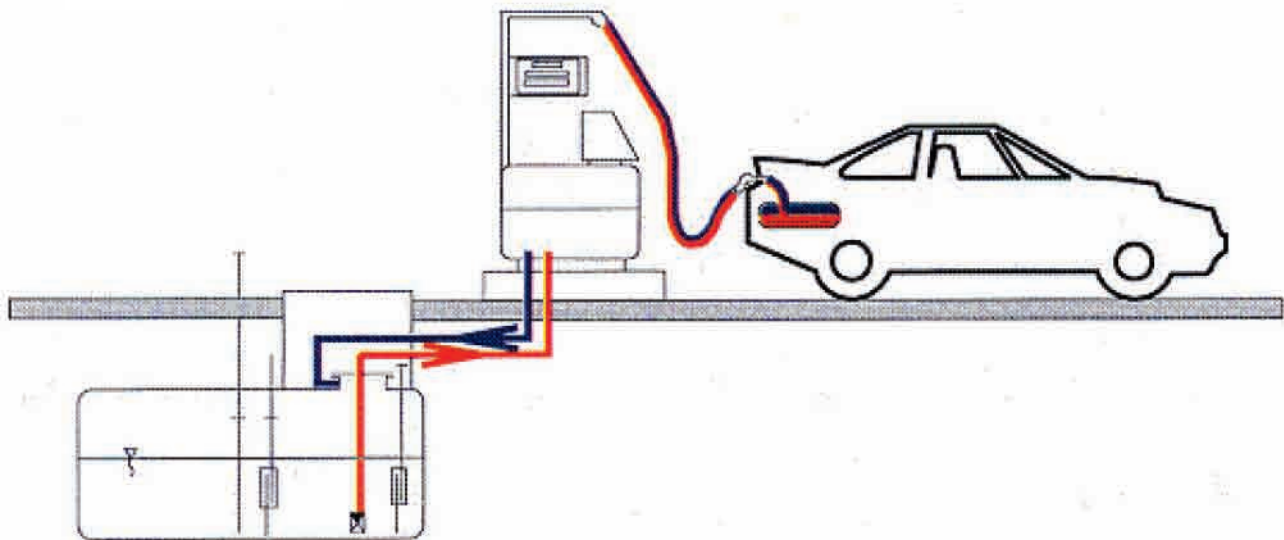
Investments in the fuel stations and depots of ORLEN focused mainly on the further adaptation of fuel stations to applicable laws and the construction of new stations fully equipped with ecological devices, i.e. a sewerage systems, separators and other sewage treatment devices, air-tight sealing installations, measuring probes, or additional piezometers and protection of the environment against pollutants (i.e. seals, double wall tanks).

Division into air-tight sealing levels at a fuel station

Level 1b



Level 2



Graph 7: Total outlays for environmental tasks in facilities of ORLEN located in Poland in 2005

Pro-ecological effects in fuel production

Motor petrols

The motor petrols produced by Polski Koncern Naftowy ORLEN S.A. are:

- Eurosuper 95
- Super Plus 98
- VERVA 98

Eurosuper 95 is a mixture of hydrocarbons obtained from petroleum processing. It is the basic type of petrol offered on the Polish market. The presence of most valuable components, such as ethers, alkylate and isomerisate, guarantees the required octane number with a lower content of aromatic hydrocarbons, benzene and sulphur. All sorts of petrols produced in Polski Koncern Naftowy ORLEN S.A. contain a top-quality packet of improvers whose primary component is a detergent addition guaranteeing compliance with highest criteria for the cleanness of motor valves specified in the World-Wide Fuel Charter.

Super Plus 98 is a sublimed mixture of hydrocarbons obtained from petroleum processing. The specific nature of components used guarantees the required octane number with a lower content of aromatic hydrocarbons, benzene and sulphur, whose level was often lower than 10 ppm.

VERVA 98 is a sulphur-free petrol ensuring the high efficiency and stability of the catalyst. The lowering of sulphur content below 10 mg/kg guarantees:

- ensuring of a less corrosive environment in the motor fuel system, in the petrol combustion system and in the waste gas exhaust system;
- extension of the life of the exhaust gas catalyst;
- reduction of hydrocarbon content in exhaust gas.

The VERVA 98 petrol combustion system in the motor is additionally improved by the use of a specially selected and optimally proportioned packet of additions. The packet contains additions with the following properties:

- washing (detergent) properties, which ensure the cleanness of the inlet system and even guarantee the elimination of deposits formed during the use of fuels of unknown origin and free of detergents;
- anti-corrosive properties;
- anti-oxidising properties which protect fuel from degradation during its storage.

According to the Law on biocomponents used in fuels and liquid biofuels (Dz.U. no. 199/2003, item 1934), the sale of the following fuels is permitted:

- liquid fuels – motor petrols containing $\leq 5\%$ of ethanol, $\leq 15\%$ of ethers, car diesel oils containing $\leq 5\%$ of esters,
- biofuels – motor fuels containing $> 5\%$ of ethanol, $> 15\%$ of ethers and car diesel oils containing $> 5\%$ of esters.

As early as 2001 ORLEN started to enrich fuels with ethyl-tert-butyl ether (ETBE), which is a valuable biocomponent obtained from ethanol and the C4 fraction. Fuels containing ETBE do not cause any logistic difficulties during their transport and storage.

Diesel oils

ORLEN produces the following grades of diesel oil with a sulphur content below 0.001%: Super Municipal Diesel Oil and Ekodiesel Ultra.

Super Municipal Diesel Oil is a fuel produced only in few European countries under the name of City Diesel. The first version of the fuel was introduced into the Polish market in 1994. Since then, Polski Koncern Naftowy ORLEN S.A. has been the only producer in Poland.

The product complies with the highest quality requirements. The content of sulphur is reduced to 10 ppm, and the content of polynuclear aromatic hydrocarbons is reduced to 5%*m/m*.

The product has been enriched with a packet of improvers which enhances the operational properties of the fuel and ensures its proper washing, anti-corrosive and anti-oxidising properties and good lubricating ability.

The municipal diesel oil is characterised by a very low sulphur content, a low content of aromatics and very good low-temperature properties. Just like any other diesel oil, this fuel is protected against microbiological contamination.

The Super Municipal Diesel Oil is used in ground-based transport, especially for mass transport in big urban agglomerations and ecologically protected zones.

Ekodiesel Ultra is a top-quality fuel which complies with strictest quality and ecological requirements determined for fuels for diesel engines in EU countries. The major advantages of this fuel in comparison to the diesel oil produced so far is the minute quantity of sulphur (below 10 ppm for Ultra fuel), the reduced content of aromatic hydrocarbons, the value of the cetane number, which is increased from 49 to 51, better operational properties in the winter period and the high level of microbiological cleanness.

Table – Quality of diesel oils

No.	Assortment	Content of sulphur (% of weights)		
		2003	2004	2005
1.	Ekodiesel Plus 50	0.0024	0.002	0.0007
2.	Ekodiesel Ultra	-	0.0006	0.0007
3.	ONM Standard 50	0.0012	-	-
4.	ONM Standard 25	-	0.0016	0.00045
5.	ONM Super	-	0.0005	0.00045

Polski Koncern Naftowy ORLEN S.A. is a producer of heating fuel – a light heating oil. Ekoterm Plus is a modern and safe source of energy which is a top-quality product complying with international standards both in terms of operational parameters and environment protection requirements. It is characterised by a low sulphur content (0.10%), low viscosity, low flow temperature (below -200C) and a high heating value. In 2005 ORLEN did not use biocomponents for diesel oil and light heating oil. In November 2004, in Rafineria Trzebinia S.A. – a company from the ORLEN Group, an installation was launched for the production of methyl esters of higher fatty acids, i.e. “biodiesel” (with a capacity of 100,000 tons/year), which can be used as a biocomponent for diesel oil or as a separate fuel.

Pro-ecological actions in companies from the ORLEN Group in 2005

In 2005, the legal status of companies from the ORLEN Group was settled with regard to environment protection.

Safety reports

Part of the companies belonging to the ORLEN Group was classified as plants with an increased or high risk of industrial failure. In 2005, all these plants prepared and submitted relevant documents required for the given type of plant to the competent Provincial Chiefs of the National Fire Service and the Provincial Inspectors of Environment Protection.

Integrated permits

The types of installation covered by the obligation to obtain an integrated permit are stated in the Ordinance of the Minister of Environment of 26 July 2002 on kinds of installations likely to cause a serious contamination of particular elements of nature or the environment as a whole (Dz.U. 122, item 1055). The deadline for obtaining the aforementioned permit expires in 2007. Both the PKN ORLEN S.A. plant in Płock and Companies from the Capital Group started their actions in 2003, as a result of which the integrated permit was obtained by:

1. PKN ORLEN S.A. plant in Płock
2. ORLEN OIL Sp. z o.o.
3. ORLEN Asphalt Sp. z o.o.
4. ORLEN Eko Sp. z o.o.
5. Basell ORLEN Polyolefins Sp. z o.o.
6. ANWIL S.A.
7. Rafineria Trzebinia S.A.
8. Rafineria Jedlicze S.A.

Environment protection tasks and their results in selected companies from the ORLEN Group

In 2005, the tasks performed within the ORLEN Group included, among others:

ANWIL S.A.

- in December 2005 the process of starting the modernised Chlorine and Soda Lye Production Plant was commenced. On 16 January 2006, after a positive guarantee test, the installation was put to use. The modernisation of the chlorine production process was based on the use of the state-of-the-art membrane method. As a result of these works, apart from the elimination of asbestos, the energy consumption of the process was significantly reduced;
- in the Polyvinyl Chloride Complex a task was also performed where the heat of post-reaction gases from the cracking furnaces was utilised through the construction of steam production boilers. This project will enhance the energy effectiveness of the vinyl chloride production process and the production of water steam by utilising the heat of post-cracking products. An intermediate result of this project will be also the reduction of exhaust gas emitted in connection with the production of energy in the Heat and Power Generating Plant of ANWIL S.A.
- the expansion of the existing sewage treatment system was completed; the system was expanded by building a biofiltration station co-operating with the mechanical & chemical industrial sewage treatment plant. The above investment made it possible to achieve a high standard of sewage treatment, in particular the reduction of biogenic compounds in sewage discharged into the receiving body of water, which fulfils the recommendations of the Helsinki Convention on the protection of the Baltic Sea, and brought a significant cost reduction.
- a 69% reduction of nitric oxides discharged into the atmosphere from the Ammonia Production Plant was achieved, thanks to the adaptation of the absorption column for leaching ammonia from waste gases.

RAFINERIA TRZEBINIA S.A.

- in 2005 the construction of a storage reservoir for excess precipitation water with a capacity of 5,000 m³ was finished. The result of this project is the protection of the soil & water environment through the expansion of the conservation storage of precipitation sewage;
- the construction of the biodiesel installation was finished. The primary product of this installation is biodiesel (methyl esters) and pharmaceutical glycerol with a purity exceeding 99.7%. The final products of this task fulfil the requirements of the best available technology. This installation has a minimum (controlled) impact on the environment;
- the construction of a paraffin hydrofining installation was finished, with the use of best available technologies, which is confirmed by the obtaining of an integrated permission. The primary task is the production of top-quality refined paraffins;
- works were also finished with regard to the removal of acid refining tars and oiled sludge and the reclamation of the area formerly occupied by tanks. The result of the work was the entire removal of previously produced waste (refining tars and oiled sludge) and the possibility of economic utilisation of the area.

RAFINERIA NAFTA JEDLICZE S.A.

- the modernisation of the incineration plant was finished, resulting in its adaptation to the requirements of the environment protection laws;
- the construction of an installation for the air-tight sealing of tanks located on the Oil Distillation installation was finished, resulting in the elimination of aromatic vapours of stored raw products from the processing of oil;
- modernisation works were conducted in connection with the adaptation of fuel storage tanks in accordance with the guidelines of the Ordinance of the Minister of Economy.

"Solino" S.A. Salt Mines in Inowrocław

- 3rd stage of construction of the Underground Petroleum and Fuel Store in Góra under performance.

ORLEN Asphalt Sp. z o.o.

- the ecological awareness of company employees was increased through training;
- tasks connected with the reduction of waste asphalt in Trzebinia were performed.

It is worth mentioning that, apart from PKN ORLEN S.A., the international Program "Responsibility and Care" was implemented also by the following companies from the ORLEN Group:

- ORLEN Asphalt Sp. z o.o. – January 2005
- ORLEN Eko Sp. z o.o. – October 2005

Share of entities from the ORLEN Capital Group in the national CO2 emission trading system

According to the Law of 22 December 2004 concerning the trade of authorisations to emit greenhouse gases and other substances into the air, the installations covered by the CO2 emission trade system are:

- PKN ORLEN S.A.
 - Heat and Power Generating Plant
 - Refinery
- ANWIL S.A.
 - Heat and Power Generating Plant
- ORLEN Asphalt
 - Refinery installation
- Rafineria Jedlicze S.A.
 - Refinery installation
- Rafineria Trzebinia S.A.
 - Refinery installation
- RAFENERGIA Sp. z o.o. - Jedlicze
 - Heat and Power Generating Plant
- RAFENERGIA Sp. z o.o. - Trzebinia
 - Heat and Power Generating Plant

For all the aforementioned installations, applications were prepared for permissions to participate in the authorisation trade system and submitted to Provincial Offices. At the same time, works were conducted in order to prepare a CO2 emission monitoring methodology and the distribution of the national consignment to individual installations. On 27 December 2005 *the Ordinance of the Council of Ministers was published concerning the approval of the National Plan of Distribution of Authorisations to emit carbon dioxide for years 2005-2007 and the list of installations temporarily excluded from the European Community system of trading of emission authorisations from 1 January 2005 till 31 December 2007*. The number of authorisations for particular installations was specified in the a/m Ordinance.

Permissions for the year 2005 were not issued due to the lack of executive ordinances to the said Law, whereas reports for the year 2005 were prepared and verified in March 2006.

Awards, distinctions, certificates

Basell ORLEN Polyolefins won a prize in the 6th National Ecological Competition "Environment-Friendly" in the category "Environment-Friendly Company" under the honorary patronage of the President of Poland. This company undertakes a large number of projects aimed at taking care of the natural environment and promoting innovative and comprehensive ecological solutions.

In November 2005, auditors of BVQI Poland Sp. z o.o. carried out a certification audit of the Quality, Environment and OS&H Management System according to ISO standards 9001:2000, ISO 14001:2004, PN-N 18001:200. The audit was completed with the recommendation of BVQI auditors to grant a certificate in the field of waste management to the company.



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