
Environmental report 2006

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1. Introduction

Proecological activities undertaken by our company are covered by Environmental Policy of ORLEN based on execution of sustainable development with full respect for the natural environment.

The basic directions of our activities in 2006 included:

- Nature-friendly production, that is, with respect for effective environmental standards and ecological safety,
- Responsibility for ecological parameters of products launched on the market,
- restitution of endangered elements of environment.

We are proud of the fact that many years of consequence in execution of environmental tasks, accompanied by continuous growth of production, allowed to

meet standards of environmental quality and to respect ecological standards defined in permissions which we obtained.

It should be emphasised that in 2006 investments in environment-related tasks only in ORLEN Production Plant accounted for 37% of total investment expenses of the Company.

In the result of investments which we carry we have reached a very high level of quality of fuels whose exploitation brings measurable results for the environment. At the same time, thanks to such activities as modernisation of installations, air-tightening of a series of storage centres and fuel stations, emission of contamination for warehouse-cum-distribution part of ORLEN has considerably decreased. We have performed over 600 environmental tasks on ORLEN fuel stations, in warehouse centres and separate plants. We have adapted the existing structures and built new ones fully provided with ecological equipment and security system against penetration of contamination to the environment.

2006 was also another period of execution of tasks resulting from Integrated Permission obtained a year before, confirming application of BAT (Best Available Techniques) and meeting environmental standards outside areas to which we have legal right.

New projects to protect natural environment undertaken by us in 2006 are not only the effect of compliance of ORLEN operations with legal regulations of the European Union implemented by Polish law but, first of all, own initiative to obtain maximally possible ecological neutrality of the Company. It is worth stressing that our refinery and heat power station installations together with six companies from ORLEN Group participate in the Community system of trade in rights in carbon dioxide emissions.

Chapter II

Environmental policy

Aware of the influence of activity of Polski Koncern Naftowy ORLEN S.A. on the environment, we declare systematic adjustment of methods of planning and process execution to the requirements of the permanent and sustainable development through integrated treatment of the process of prevention of contamination and of that of environmental protection.

To this objective we subordinate Company strategy translated into existing and future development programs and into other activities executed on the basis of the implemented Environmental Management System according to the requirements of the standard PN – EN ISO 14001:2005. We undertake to implement it in other units of the Company on the domestic market and to create an integrated Management System.

We declare that our efforts will aim at meeting the following environmental aims:

- 1) Assure integrated prevention and monitoring of contamination emitted to air, water and soil and produced waste so as to guarantee a high level of

environmental protection as a whole, following also the rule of sustainable growth,

- 2) Reaching the level of full compliance with effective law and ecological standards and other applicable requirements,
- 3) Application of best available techniques (BAT) for new and modernised structures,
- 4) Undertaking preventive activities in relation to serious industrial breakdowns,
- 5) Assurance of acoustic protection of area and premises around the production plant in Płock covered by such protection,
- 6) Optimisation of environmental parameters of produced fuels through application of low-sulphur content components and of biofuels,
- 7) Minimisation of the risk of spreading of contamination in soil and water and their effect on human health and life,
- 8) Assurance of access to information on Company influence on the environment to all interested persons,
- 9) Increasing environmental awareness of the personnel,
- 10) Continuation of the program 'Responsible Care',
- 11) Continuous improvement of Environmental Management System and its integration with the Quality Management System in order to create one effective Management System guaranteeing constant decrease of the negative impact on the environment in all domains of activity of our Company.

In October 2006 we had an audit to recertify the Environmental Management System. The aim of the audit was to assess consistence of the Management System with the requirements of the standard PN-EN ISO 14 001:2005. In result of the audit BVQI issued a new certificate of the Environmental Management System.

Our goal is to reach maximally possible ecological neutrality of the production plant in Płock and other organisation units of the Company on the domestic market and for their direct environment with simultaneous minimisation of the impact on the environment resulting from use of products produced by us.

Chapter III

We invest in the environment

Investments in tasks connected with environmental protection in refinery-cum-petroleum complex of ORLEN in Płock in 2006 were PLN **150 M** (PLN150 486 556.49). Their importance shows in the fact that they made up **37.02%** of all outlays borne on investments in Płock in 2006.

The project of hydrodesulphuring of cracked petroleum is one of most important proecological undertakings which we finished in 2006. The direct and considerable ecological effect of that undertaking is lowering of sulphur content in petrols produced by ORLEN. In practice, this means **1500 tonnes** of sulphur less annually (in result of desulphuring) and a decrease of emission of sulphur dioxide to the atmosphere from car engines by circa **3,000 tonnes annually**.

Moreover, in 2006 in the refinery-cum-petrochemical complex in Płock we did a series of investments limiting the impact of our company on particular environmental components.

The most important among these are:

- modernisation of sewer networks
- modernisation of condensate treatment station,
- construction of a centre of liquid sediment utilisation (stage I)
- construction of a system for Hydrrefining of Diesel Oil from HOG system *Hydrodesulphuring of Soft Asphalt),
- adjustment of HON VI system (Hydrodesulphuring of Diesel Oil) for production of diesel oil with sulphur content below 10 ppm,
- construction of HON VII system,

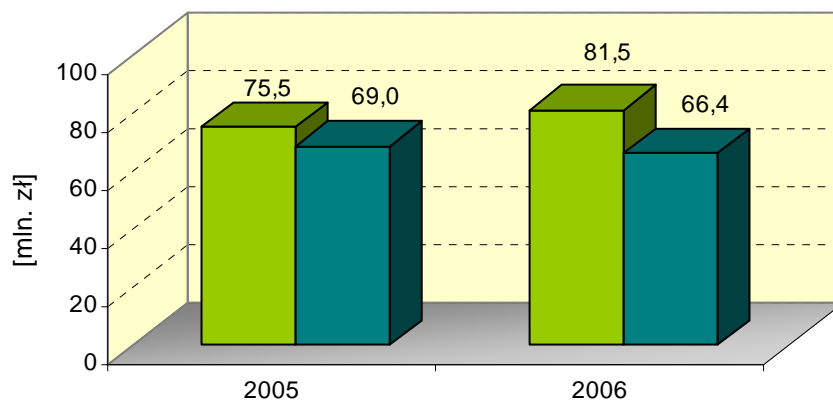
On ORLEN petrol stations, in warehouse bases and separate plants Regional Organisation Units (RJO) we performed **603** environmental tasks. Financial outlays for these projects were higher **by 8%** in comparison with 2005 and were almost **PLN 81.5 million**.

Proecological investments on ORLEN fuel stations were related, first of all, to further adaptation of premises to effective regulations and construction of new ones, fully furnished with ecological facilities like sewers, separators, water-tightness system and other protection against penetration of contamination to the environment like water-tightness, double wall tanks.

The most important undertakings related to environmental protection executed in warehouse bases, fuel stations and plants – separate (in RJO) in 2006 are:

- modernisation of Warehouse Bases in: Sokółka and Gutków
- finishing of water-tightness of Warehouse Bases in Gdańsk, Lublin, Szczecin, Nowa Sól and Wrocław,
- construction on new premises of **48 fuel stations** fully supplied with ecological plant and security against penetration of contamination to the environment
- complex modernisation of **76 fuel stations**
- test of water-tightness of tanks on fuel stations and their laminating,
- renovation of wastewater treatment facilities,
- recultivation of soil-cum-water environment on fuel stations and warehouse bases,
- assessment of situation of soil-cum-water environment on bases and fuel stations,
- analyses of wastewater and water from piezometers,
- cleaning of separators and tanks,
- maintenance of water-tightness systems on fuel stations.

Chart – Total outlays for environmental tasks on RJO premises in 2005-2006.



- nakłady na przedsięwzięcia z zakresu ochrony środowiska ogółem
- nakłady na inwestycje ochrony środowiska

nakłady na przedsięwzięcia= total investment in environmental protection undertakings

nakłady na inwestycje= investments in environmental projects

Chapter IV Responsible Care

Since 1997 we participate in the international proenvironmental program 'Responsible Care' which was initiated by the Canadian Association of Chemical Industry. The program is co-created and executed by chemical companies from all over the world who produce together over 85% of global chemical production. Practically all important chemical companies and corporations from the Old Continent participate in the program.

In Poland Polish Chamber of Chemical Industry supervises directly execution of the program 'Responsible Care' and the Chapter of the Program supervises on its behalf the content of activities undertaken under the program.

During the last nine years of active participation in the program 'Responsible Care' ORLEN, in accordance with its idea, has aimed at continuous improvement of its activity under so called HSE triad: Health, Safety, Environment.

To meet the obligations we undertook in 2006 we undertook to execute 25 tasks in areas of HSE triad:

- environmental protection (13 tasks: 9 executed; 4 in execution),
- improvement of process safety and work safety (6 tasks: 3 executed, 3 in execution),
- in relation to health protection and health prevention (5 tasks – all executed),
- under execution is also the tasks from category others, related to ecological education, which is executed during consecutive years of duration of the Program.

The program 'Responsible Care' is executed also by companies from Group ORLEN:

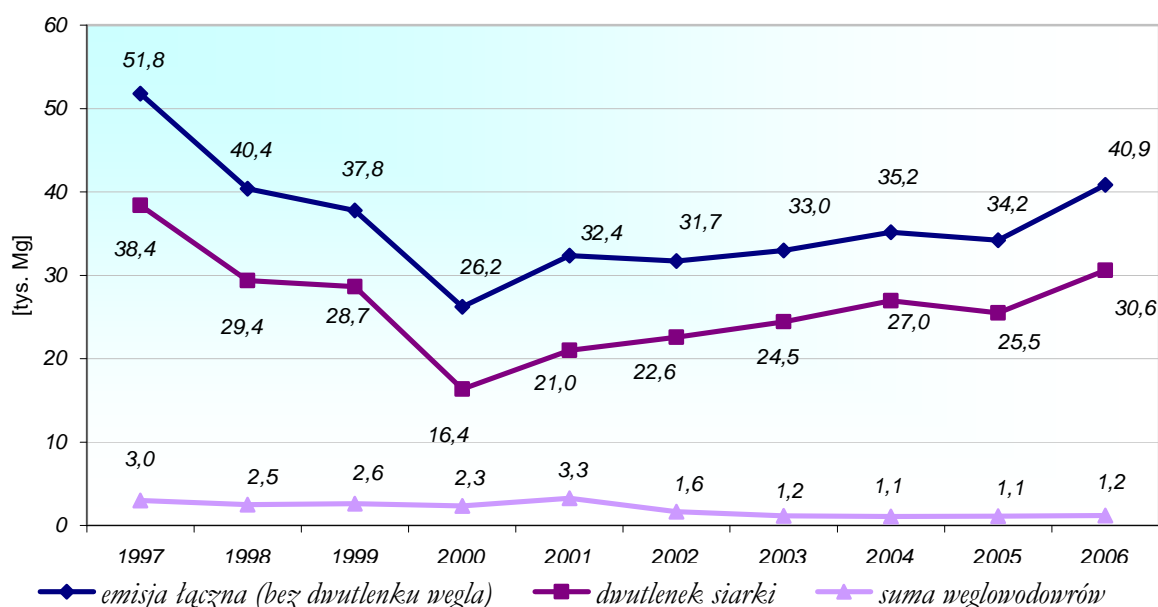
- ANWIL S.A.
- Inowrocławskie Kopalnie Soli SOLINO S.A.
- Basell Orlen Polyolefins Sp. z o. o.
- ORLEN Asfalt Sp. z o. o.
- ORLEN Eko Sp. z o. o.

Chapter V

Air protection

In 2006 we did not infringe any of permitted standards of emission to atmosphere. Below is presented emission of characteristic substances to air for refinery-cum-petrochemical complex ORLEN in Płock:

Emission of main pollutants in production plant in Płock in 1997 – 2006



emisja łączna= total emission (without carbon dioxide)

dwutlenek siarki= sulphur dioxide

suma węglowodorów = total hydrocarbons

A decrease of CO emission was recorded thanks to an improvement of control processes and an increase of emissions to air of substances which are products of fuel combustion (SO₂, NO, CO₂, sum of hydrocarbons) which resulted from:

- An increase by more than 1 million tonnes of the quantity of petroleum processed in 2006 (in comparison with 2005)
- Development of 5 furnaces and full-time operation of intensified Olefin II system,
- An increase of the quantity of steam and energy produced in the Heat and Power Plant for new systems,

- An increase of emission of dusts from fuel combustion caused by an increase of steam production in Heat-cum-Power Plant,

PKN ORLEN S.A. participates in the system of trade in rights to emission carbon dioxide. This system covers some sources of emission of carbon dioxide defined in the permission given to ORLEN.

Number of rights to CO₂ emission verified in 2005 and 2006*

system	mean annual allocation of rights	verified rights for 2005
Heat and power plant	3 169 500	2 998 337
Refinery	2 547 700	2 452 541

**1 allocation corresponds to emission of 1 Mg CO₂*

Information on trade in CO₂ emissions in ORLEN Capital Group is provided in chapter XVII of the report.

Impact of activity of warehouse bases and fuel stations of PKN ORLEN S.A. on particular components of the environment

Warehouse activity and distribution of ORLEN influence the natural environment (air and soil-cum-water environment) but thanks to our consequent activities negative impact decreases virtually every year. At present, there is a process of technical adaptation of both fuel stations and warehouse bases to technical requirements assuring environmental protection and there is recultivation of soil-cum-water environment. New and modernised fuel stations fully meet technical requirements related to environmental protection and assure its protection. Some structures (that is, fuel stations, warehouse bases or separate plants) are liquidated or sold and soil-cum-water environment is recultivated in the event of contamination.

In warehouse bases and fuel stations many activities are undertaken to protect atmosphere air; these include:

- Decrease emission to air of substances created in the process of distribution and storage of engine petrols through water-tightening of warehouse bases and construction of systems to recover petrol fumes,
- Decrease emission to air of substances created from combustion of fuel in boiler houses through a change of, among others, the heating agent to low-sulphur heating oil or gas and installation of energy-saving furnaces,
- Decrease emission to air of substances created during combustion of fuels in car engines through launching of environment-friendly fuels.

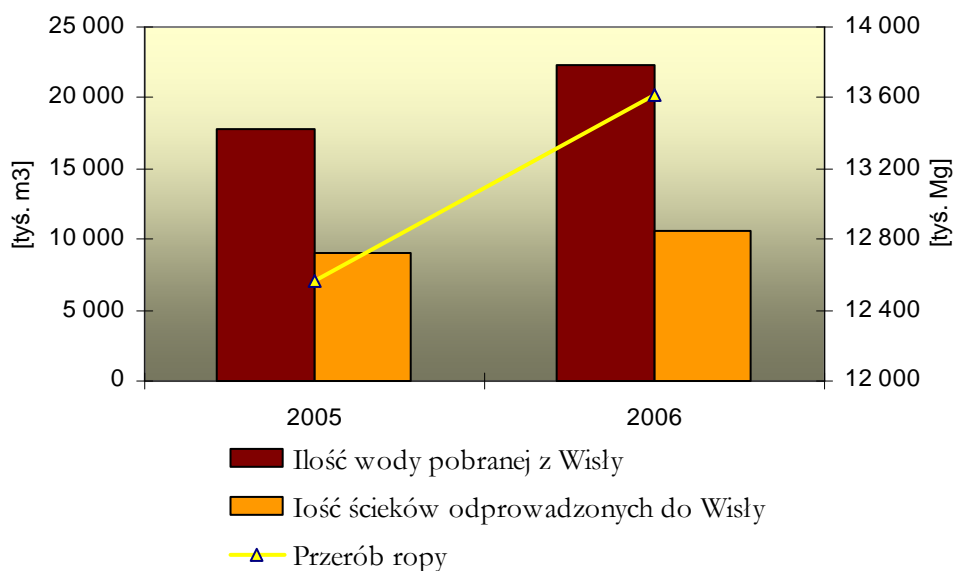
In 2006 Province Environmental Protection Inspectorates controlled **121** premises in Regional Organisation Units of ORLEN (103 fuel stations, 13 warehouse bases and 5 Separate Property plants). No decision to cease activity was issued in relation to any of these premises.

Chapter VI

Water intake and sewage discharge

In 2006 there was an increase by circa 25% of water abstraction from the Vistula River. Bigger demand for water resulted both from an increase of production capacity of ORLEN system after reconstruction and modernisations (e.g. first full year of operation of Olefin II system after revamping) and construction of new systems for companies located on the premises of the refinery-cum-petrochemical complex in Płock (e.g. first full year of operation of new systems Basell Orlen Polyolefins, that is, PE III and PP III). The amount of water abstraction from the Vistula River was also influenced by an exceptionally sweltering summer which directly translated into a considerable growth of demand for supplementary water for cooling systems.

Quantity of abstracted water and quantity of discharged wastewater from the Vistula River versus processed petroleum in years 2005 - 2006

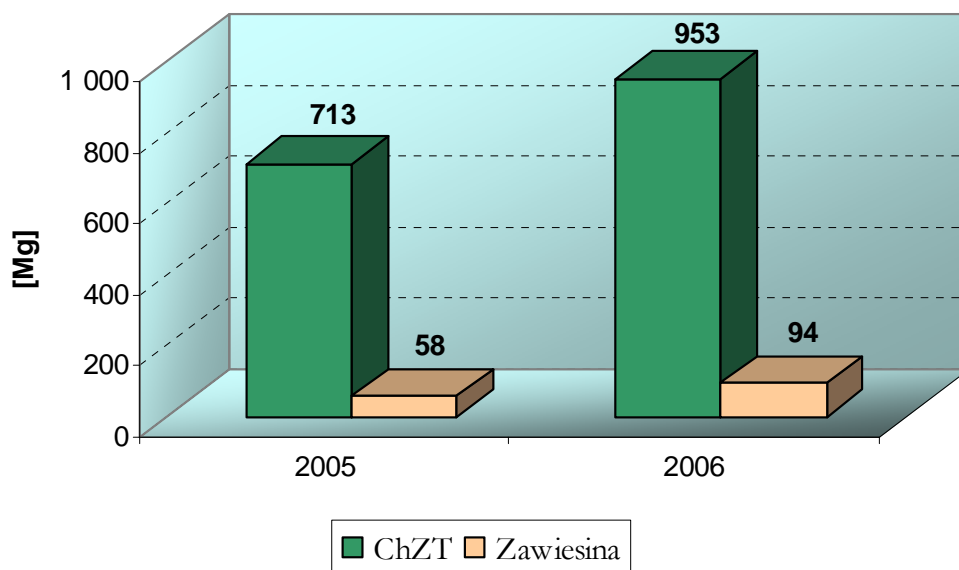


ilość wody = quantity of water abstracted from the Vistula River

ilość ścieków= quantity of wastewater discharged to the Vistula River

przerób= petroleum processing

Loads of contamination in treated wastewater discharged to the Vistula River



ChZT= COD
Zawiesina= suspension

Regular and complex controls carried out in 2006 by Province Environmental Protection Inspectorate both in Wastewater Department and in Water Production Department and controls of sewage discharged to the Vistula River proved that ORLEN complies with legal requirements for water and wastewater management.

Chapter VII

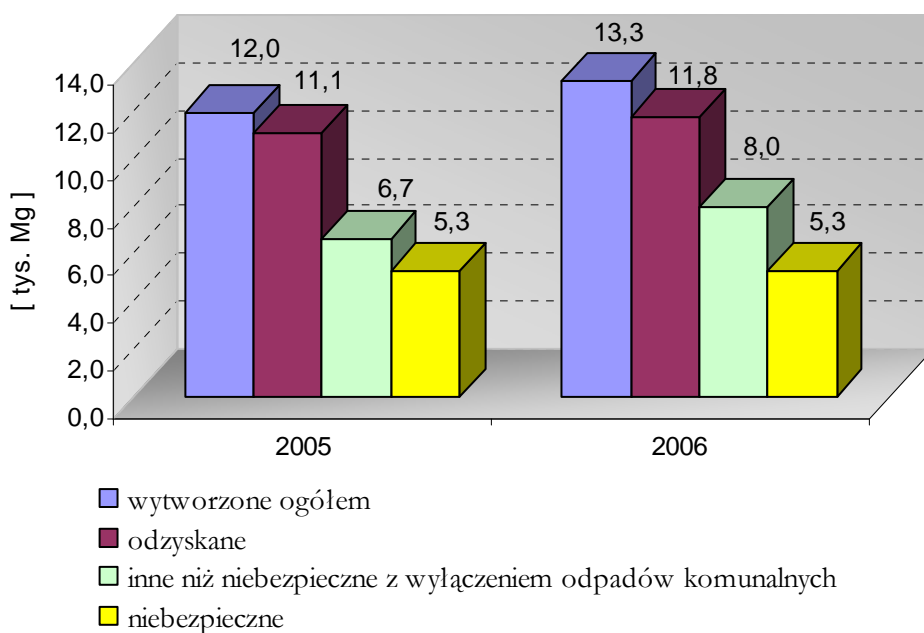
Waste management

Wide scope of investments and modernisation of existing production systems on the premises of refinery-cum-petrochemical complex of ORLEN in Płock contributed to an increase in 2006 of the quantity of waste produced by us. Production of 1.3 thousand Mg waste more than in 2005 is caused mostly by a bigger amount of steel and cast iron scrap coming from dismantling of systems.

It should be emphasised that every year ORLEN recovers more and more waste. We recover iron sulphate which we use to produce a solution to treat water. In 2006 we recovered 0.2 thousand Mg of that waste.

We also collect waste in warehouses in accordance with the obtained permission. In 2006 we collected about 0.6 thousand Mg waste in total, which came mostly from companies which operate on the premises of the refinery-cum-petrochemical complex of ORLEN in Płock.

Quantity of waste produced in 2005 – 2006



wytworzone og = produced in total

odzyskane = recovered

inne niż niebezpieczne = other than dangerous excluding municipal waste

niebezp = dangerous

tys. = thousand

Chapter VIII

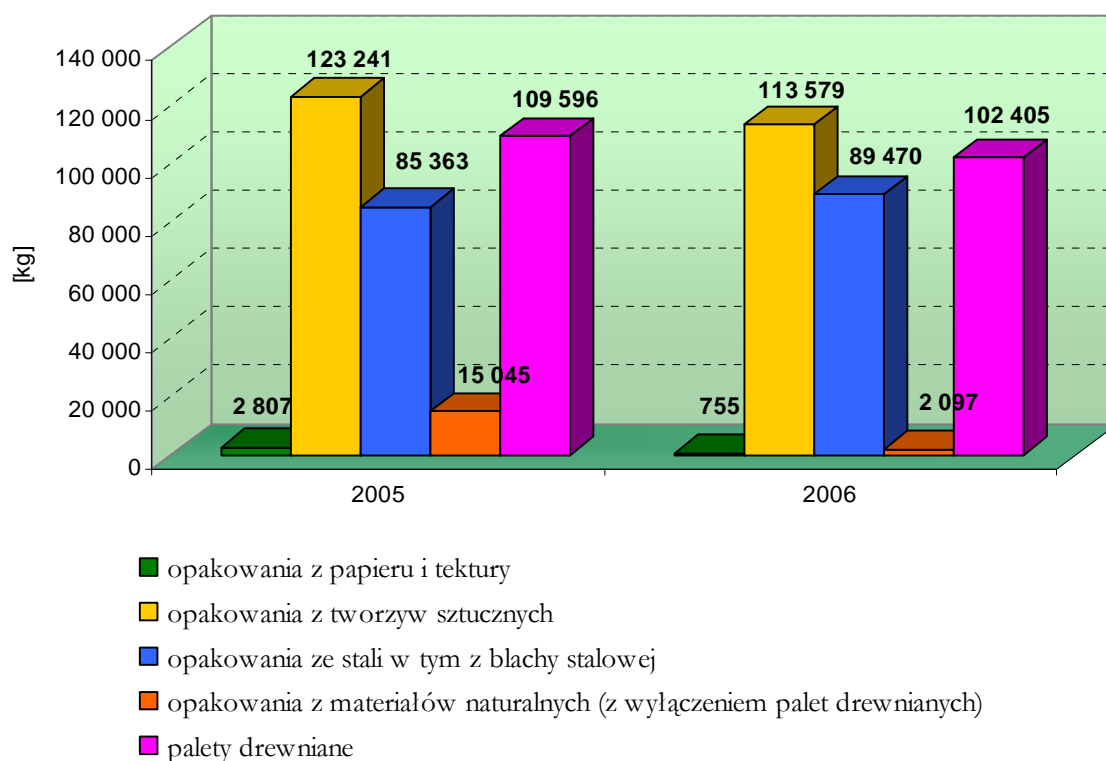
Recycling – package management

In 2006 ORLEN launched on the Polish market five types of packages:

- plastic,
- paper and cardboard,
- natural materials,
- steel (including steel sheet),
- and wooden pallets.

It is worth mentioning that the quantity of packages introduced by us on the market has decreased significantly: by 73% for paper and cardboard packages, by 83% for packages from natural materials, by 8% in relation to plastic packages and by 7% for wooden pallets. Only the number of steel packages increased (only by 5%) including steel sheet packages.

Comparison of the weight of packages introduced on the domestic market in years 2005 and 2006



opakowania z papieru= paper and cardboard packages

opakowania z tworzyw=plastic packages

opakowania ze stali= steel packages including steel sheet

opakowania z mat nat= natural material packages (except from wooden palettes)

palety drew= wooden palettes

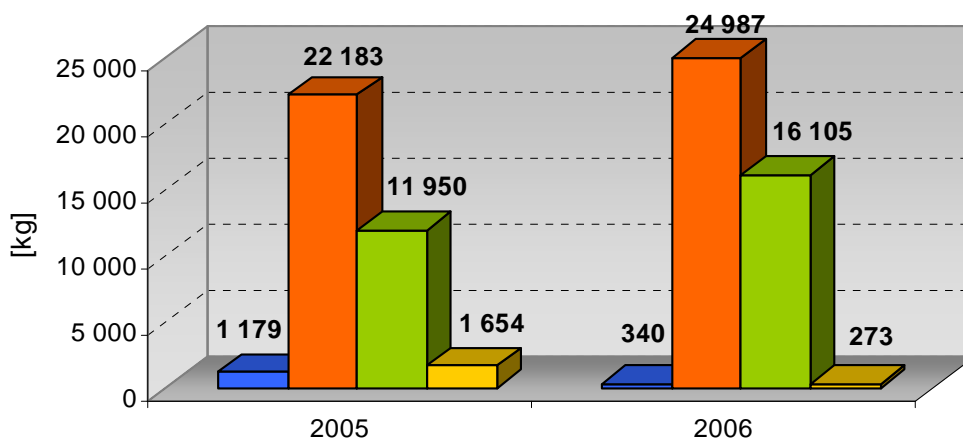
In accordance with new legal provisions (effective since January 2006) companies which introduce packages on the domestic market are obliged to reach 43% of recovery of all types of packages (including wooden palettes).

ORLEN has met all legal obligations and has met both general level of recovery and detailed required levels of recycling for particular groups of packages.

In 2006 we have recycled:

- 18% of plastic packages
- 42% of paper and cardboard packages
- 11% of natural material packages
- 14% of steel packages (including steel sheet)
- 43% for all types of packages (including wooden palettes)

Comparison of the weight of packages recycled in 2005 and 2006.



- opakowania z papieru i tektury
- opakowania z tworzyw sztucznych
- opakowania ze stali w tym z blachy stalowej
- opakowania z materiałów naturalnych (z wyłączeniem palet drewnianych)

opakowania z papieru= paper and cardboard packages

opakowania z tworzyw=plastic packages

opakowania ze stali= steel packages including steel sheet

opakowania z mat nat= natural material packages (except from wooden palletes)

Chapter IX

Noise

The refinery-cum-petrochemical complex in Płock is a source of noise emitted to the environment. On the basis of measurements of the level of noise around our company it was concluded that the level of noise is increased periodically. In 2006 we installed three stations for continuous monitoring of noise close to the refinery-cum-petrochemical complex of ORLEN. Measurements are taken at the height 4.0m and the registered parameters are collected at one minute intervals.

The analysis of our measurements indicates that mostly road noise influences the noise level during the day (notable increases during transport peaks) and at night – operation of the production part of our company and of systems situated on the premises of ORLEN and belonging to Companies from ORLEN Group and other companies.

To minimise the inconvenience made by the noise in 2006 we finished execution of the following tasks:

- on the premises of Catalytic Cracking II 3 pieces of control valves for steam were replaced and partly steam pipeline insulation,
- on the premises of Claus and Hydrosulfreen systems 2 blowers were installed with power supply and control,
- on the premises of Aroma Extraction system during section standstill engines and ventilators for air coolers were replaced,
- on the premises of Olefin II system noise silencers were installed for drainage to steam system for turbines,

-
- on the premises of Reforming V system systems of liquid control on air cooler ventilators was built.

Chapter X

Water-cum-soil environment

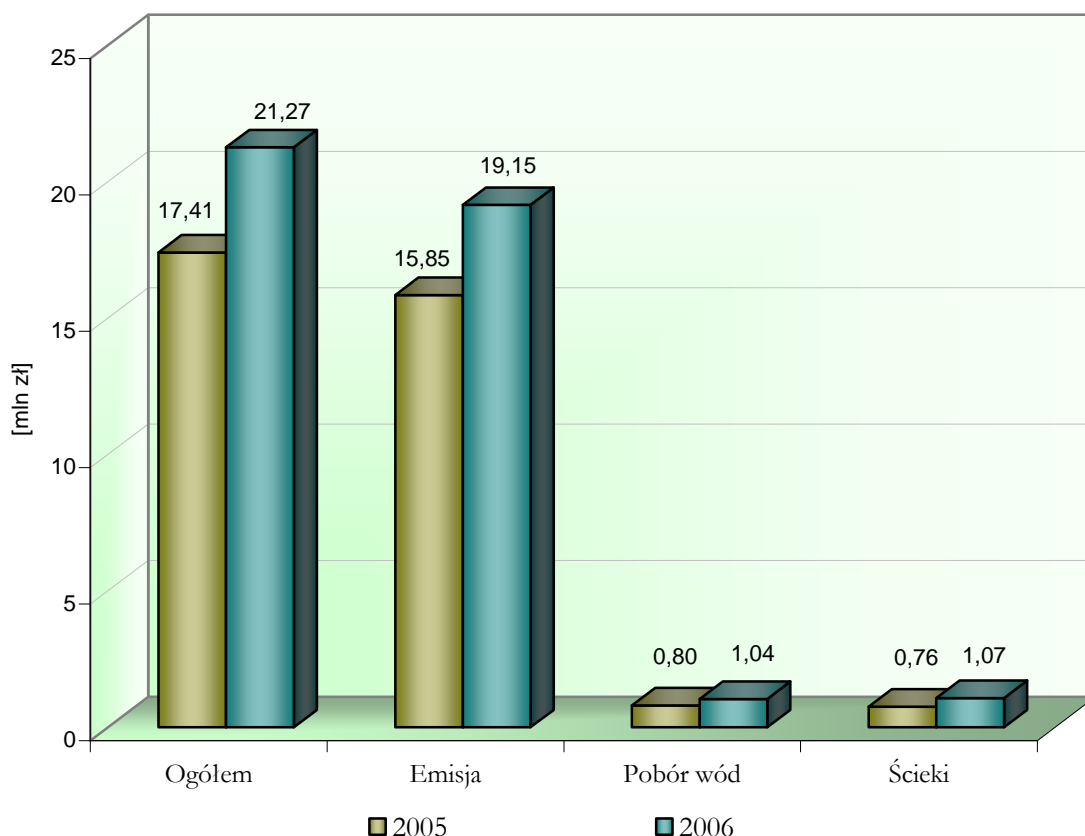
In accordance with the obligation resulting from the integrated permit obtained for our refinery-cum-petrochemical complex in Płock, in 2006 we continued in ORLEN recultivation works involving bailing of petroleum-derivative products and monitoring. It is worth mentioning that in result of intensification of bailing in 2006 **406 504 dm³** of petroleum products were bailed, that is, by 28 524 dm³ more than in the previous year. A high influence on so good results had very favourable environmental conditions, that is, low level of underground water table which accelerated the process of release of hydrocarbons deposited in the rock mass. Systematic observations and measurements (including monitoring of underground water) allow to state that the spots of petroleum products existing on the premises of refinery-cum-petrochemical complex of ORLEN, located on the water table of groundwater do not spread and do not pose danger to human health.

Chapter XI

Charges for use of environment in PKN ORLEN S.A.

In result of bigger processing of petroleum and start-up of new systems on the premises of the production plant in Płock as well as with other operators who get power from Company Heat and Power Plant, charges for use of environment in the refinery-cum-petrochemical complex in Płock increased in 2006. The biggest share, that is, about 97% in environmental charges in 2006 constituted charges for emission of gases and dusts to the atmosphere.

Charges for use of environment in Płock plant in years 2005 – 2006



ogółem=total

emisja=emission

pobór wody= water abstraction

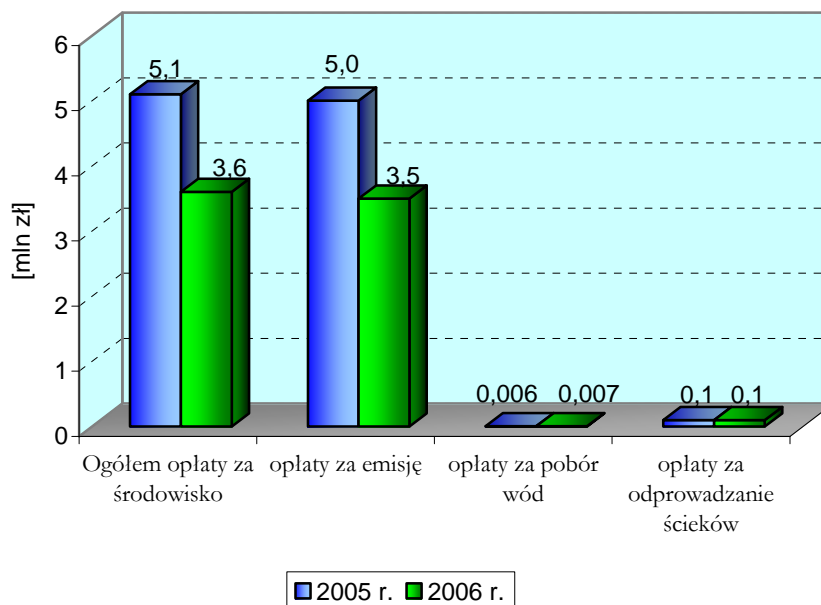
ścieki=wastewater

mln zł= million PLN

It should be stressed that in 2006 there was a considerable decrease of charges for use of environment in relation to emission in Regional Organisation Units of our company. It resulted from such activities as:

- finishing of water-tightening of **7 warehouse bases** (in Gutków, Sokółka, Gdańsk, Lublin, Szczecin, Nowa Sól, Wrocław)
- water-tightening of **159 subsequent fuel stations**,
- decrease of the number of structures (in result of sales or liquidation of some structures).

Total charges for use of the environment in Regional Organisation Units of Polski Koncern Naftowy ORLEN S.A. in years 2005 – 2006.



.ogółem opłaty= total environmental charges

opłaty za emisję= emission charges

opłaty za pobór= water abstraction charges

opłaty za odprowadzanie= wastewater discharge charges

Chapter XII

Restitution of peregrine falcon

We have been co-operating for the fifth year with the Association for Wild Animals SOKÓŁ which reconstructs the domestic population of peregrine falcon through settlement of birds in the environment which creates good conditions for their existence.

Presence of peregrine falcons within our refinery-cum-petrochemical complex in Płock is observed during the whole year which involves, among other, a review of breeding shelters, making film and photographic documentation and ringing of nestlings.

In 2006 in the breeding shelter installed on the chimney of the company Heat and Power Plant, three nestlings of peregrine falcon were born (2 female and 1 male) who were ringed with ornithological rings (DA 13192 and DA 13193) and with observation rings (3M, 3N).

We are proud of the fact that since 1999 (time of placement of breeding shelters on ORLEN premises in Płock) 14 nestlings of peregrine falcon were born there.

Birds about three weeks and a half old.



Chapter XIII

Pure fuels - proecological effects in relation to fuel production

Constant investment and modernisation of refinery-cum-petrochemical complex, technological progress, construction and rendering production systems operational and other ecological activities of ORLEN make fuels from Płock meet the highest EU quality standards and be environment-friendly.

All our petrols contain the highest quality package of purifying additives – a detergent additive which guarantees meeting the highest purity criteria of engine valves defined in the World Fuel Card. All our diesel oils are protected against microbiological contamination thanks to special additives.

Petrols

Engine petrols produced by ORLEN in 2006 included:

- * Eurosuper 95
- * Super Plus 98
- * VERVA 98

Petrol Eurosuper 95 is a mix of hydrocarbons obtained from petroleum processing. This is the basic type of petrol offered on the domestic market. Presence of purest components like ether, alkylate and isomerizate guarantees the required octane number at decreased content of aromatic hydrocarbons, benzene and sulphur.

Petrol Super Plus 98 is a sublimated mix of hydrocarbons obtained from petroleum processing. The specifics of applied components assures the required octane number at decreased content of aromatic hydrocarbons, benzene and sulphur whose level often did not exceed even 10 ppm.

VERVA 98 is a petrol without sulphur which assures high effectiveness and durability of catalyst. A decrease of sulphur content below 10 mg/kg guarantees assurance of considerably less corrosive environment in the engine power supply system,

petroleum combustion and fumes discharge system. It prolongs life of fume catalyst. It assures reduction of hydrocarbons CH and CO in fumes. The combustion process of petroleum VERVA 98 in an engine is additionally improved by application of a specially chosen and optimally dosed package of cleaning additives (detergents), assuring maintenance of cleanliness of the inlet system and even guaranteeing elimination of sediments created during application of fuel of unknown origin and without detergents. It has anticorrosive and antioxidating properties which protect fuel against degradation during storage.

Production of most noble ecological components of petrols in years 2004 – 2006 [Mg]

Component Type	Year		
	2004	2005	2006
MTBE	38 171	2 258	0
ETBE	47 685	89 767	101 496
Alkylate	94 595	112 525	126 515
Isomerizate	452 559	492 528	362 940

Diesel oils

From the beginning of 2005 we began production of Diesel oil at quality which will be required by provisions of EU law only in 4 years. In 2006 ORLEN produced the following types of diesel oil:

- City Diesel Oil Super
- Ekodiesel Ultra

All Diesel oils produced by us contain less than 0.001% of sulphur.

City Diesel Oil Super is a fuel produced only in few European countries under the trade name City Diesel. This fuel was launched on the domestic market already in 1994 and since then ORLEN is its only producer in Poland. The product meets quality requirements: sulphur content is decreased to 10 ppm, content of aromatic multiring hydrocarbons – to 5% (*m/m*). The product contains a package of purifying additives which improves usable properties of fuel providing it with suitable cleaning, anticorrosive, antioxidating properties and good lubricating properties. Similarly to other diesel oils, this fuel is protected against microbiological contamination.

City Diesel Oil Super is used in land transport in city, in agglomerations, big cities and ecological protection zones.

Ekodiesel Ultra is the highest quality fuel meeting the strictest quality and ecological requirements imposed on fuels for diesel engines in the EU. The most important attributes of this fuel in comparison with diesel oil produced by now are trace content of sulphur (below 10 ppm for Ultra), lowered content of aromatic hydrocarbons, increased from 49 to 51 the value of cetane number, better operating properties in winter and high level of microbiological purity.

Assortment and quality of diesel oils

n o.	Assortment	Sulphur content weight %		
		2004	2005	2006
1.	Ekodiesel Plus 50	0.002	0.0007	0.0026
2.	Ekodiesel Ultra ^{*)}	0.0006	0.0007	0.00075
3.	City Diesel Oil Standard 25	0.0016	0.00045	-
4.	City Diesel Oil Super	0.0005	0.00045	0.00036

^{*)} including diesel oil Verva.

Heating oils (heat oils)

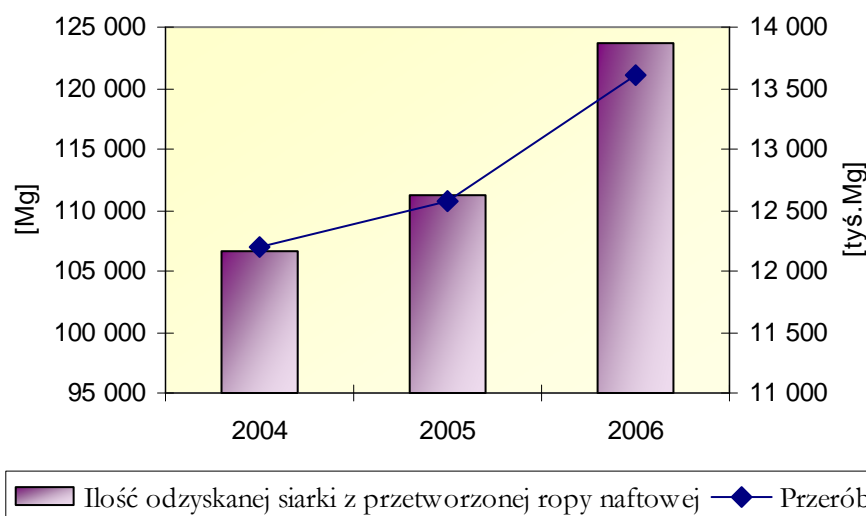
Light heating oil Ekoterm Plus is modern and safe to operate source of energy which is the highest quality product which meets world standards both in relation to operating standards and environmental protection requirements. It is characterised by low sulphur content (0.20%), low viscosity, low flow temperature (below -20°C) and high caloric value.

Assortment and quality of heating oil

n o.	Assortment	Sulphur content weight %		
		2004	2005	2006
1.	Light heating oil Ekoterm Plus	0.1	0.056	0.117
2.	Heating oil C-3	1.91	1.91	1.79
3.	Heating oil for technological furnaces	0.14	0.16	0.166
4.	Light heating oil to store in soil cavities	0.002	-	-

It should be emphasised that in the recent years we have recovered more and more sulphur which results from deepening of petroleum processing in ORLEN, further purification of products and an increase of petroleum processing.

Amount of sulphur recovered from processed crude oil in relation to crude oil processing



ilość= quantity of sulphur recaptured from processed petroleum
przerób= petroleum processing
tyś Mg=thousand Mg

Chapter XIV

'Green Police' – Company Ecological Inspection

In 2006 Company Ecological Inspection recorded 377 applications in total out of which the decisive majority (285) were planned activities and the remaining were chance events and interventions.

The events of which it was informed included: system standstill for renovation, blowing, rinsing and steaming of pipelines, tanks, devices, columns, decoking and cleaning of furnaces, dewatering of slope tanks, regeneration of catalysts, adjustment of safety valves, discharge of the condensate to sewers.

Chance events were connected with system blackouts, increased discharge of gases to torches, furnace extinguishing, leakage created in result of lack of water-tightness of pipelines, devices and accessories, asphalt leakage to tray during filling of tank trucks.

During the whole 2006 the Green Police recorded 18 interventions from inhabitants of Płock and internal calls from ORLEN employees. Notifications related mostly to smell inconveniences and were specially checked and investigated by Company Ecological Inspection. In the area of existence of inconveniences concentration of contamination was measured and actions were undertaken to identify sources of the problems. A review of meteorological situation and of concentration of contamination in automatic air monitoring stations was done as well.

Chapter XV

Green ORLEN Group

Proecological activities in companies of ORLEN Group in 2006

Formal-cum-legal situation

All companies in ORLEN Group have regularised formal-cum-legal status in relation to environmental protection, that is, waste production, wastewater discharge, abstraction of surface water, etc.

In accordance with *the Decision of the Minister of Environment of 26 July 2002 on types of systems which might cause considerable contamination of particular natural elements or of the environment as a whole* (the Journal of Laws 122, item 1055) the following companies from the Capital Group have obtained the integrated permission:

- ORLEN Oil Sp. z o.o.
- ORLEN Asphalt Sp. z o.o.
- ORLEN Eko Sp. z o.o.
- Basell ORLEN Polyolefins Sp. z o.o.
 - for systems: Polyethylene I, II and III,
 - for systems: Polypropylene I, II and III.
- ANWIL S.A.
 - to run systems which make up polyvinyl chloride complex,
 - to run the system of fuel combustion in Heat and Power Plant operated in the Energy Complex,
 - to run systems which make up the Fertiliser Complex.
- Refinery Trzebinia S.A.
 - for biodiesel system,
 - for paraffin hydrorefinery system.
- Kerosene Refinery Jedlicze S.A.
 - to run Used Oil Regeneration system,
 - for Raf Energia Sp. z o.o. to run an Heat and Power Plant,
 - for Raf Ekologia Sp. z o.o. to run Waste Incineration Plant system.

In accordance with the act Environmental Protection Law (the Journal of Laws, 06.129.902 as amended), some companies belonging to Capital Group were classified as plants with increased or high risk of occurrence of industrial breakdown. Therefore, they are obliged to have a safety report. Such reports, approved by respective Fire Brigade are in possession of:

- Refinery Trzebinia S.A.
- Basell ORLEN Polyolefins Sp. z o.o.
- ORLEN Oil Sp. z o.o.
- Inowrocław Soil Mines SOLINO S.A.
- ANWIL S.A.
- Kerosene Refinery Jedlicze S.A.

ANWIL S.A. and Refinery Trzebinia S.A. have also a Program to Prevent Breakdowns and an Internal Operating-cum-Rescue Plan.

Chapter XVI

Ecology in ORLEN group, that is, tasks in environmental protection and their effects

In 2006 ORLEN Group executed many proecological projects and activities which had direct impact on natural environment.

The most important included:

Refinery Trzebinia S.A.

- **Construction of wastewater treatment plant for biodiesel system**

The goal of the task is protection of soil-cum-water environment through construction of a wastewater plant from which wastewater will be preliminary treated to the level allowing to discharge it to the next structures of the wastewater plant. Commencement of construction of the wastewater treatment plant is planned for 2007.

- **Construction of umbrella roofs** to create a stand for microbiological treatment of soil. Construction of two umbrella roofs is planned on the premises of the wastewater treatment plant with total cubage 7 020 m³ and area 1 080 m². An increase of the area through laying of additional umbrella roofs shall shorten time of removal of petroleum-derivative substances from soil and, by that, an increase of processing capacity.

Refinery Trzebinia S.A., on the basis of a complex proecological program, has executed consequently for years projects and done modernisation aiming at an improvement of environment and its protection.

ORLEN Asphalt Sp. z o.o.

- Replacement of tank truck dosers – in result emission of bad smell to atmosphere will decrease,
- replacement of cooling boxes on periodical oxidising – elimination of leakage to soil.

ORLEN Eko Sp. z o.o.

- purchase of the system to condense wastewater sediment, executed under the task 'Modernisation of sediment management system in Water-cum-Wastewater Plant of Production Plant of PKN ORLEN S.A.'
- choice in a public tender of a constructor for the system for thermal processing of dangerous waste,
- winning non-returnable financial support for execution of the project 'Purchase of fluidal furnaces to obtain an integrated permission'.

ORLEN Oil Sp. z o.o.

- choice and application of new environment-friendly technologies – the Company as one of the leading oil companies in Poland launched in the offer of Platinum oils products for engines which meet Euro4 requirements. Oils for passenger cars and delivery cars meet requirements Euro4 and most rigorous quality specifications of car producers (Mercedes-Benz, Volkswagen, Volvo, MAN), as well as the requirements of ACEA 2004 classification.

Basell Orlen Polyolefins Sp. z o.o.

- limitation of unorganised emission of aliphatic hydrocarbons from PE2 by 10% in relation to 2005 – in result emission decreased by 39%.

Inowrocław Salt Mines „Solino” S.A.

- Renovation of saline pipeline (Salt Mine and PMRiP „Góra” – Chemical Plant „Zachem” Bydgoszcz) 285 m long.
- Dismantling of a reinforced concrete tank, a railway transport building and a workshop building on the premises of Salt Packaging Department,
- Purchase of a system for wastewater treatment for Salt Mine „Mogilno”,
- Replacement of sanitary wastewater tank on the premises of Water Pumping Station Wójcin,
- Renovation of cyclones that stop salt dust on the premises Of Salt Packaging Department.

ANWIL S.A.

- Modernisation of the turbine of synthesis gas compressor on A line ammonia resulting in a decrease of gas use through a limitation of use of high-pressure steam
- Construction of a steam boiler 0.3 MPa in fume utilisation section on line A ammonia in whose result the use of gas decreased through creation additionally of low-pressure steam
- Modernisation of the drinking water pipeline through replacement and water-tightening of the oldest sections of drinking water system.

Kerosene Refinery Jedlicze S.A.

- Commencement of construction of a system for solvent production on the basis of Pentana system – the planned project involves management of sulphated petroleum fractions rich in aromatic hydrocarbons and heterocyclic nitrogen compounds. The new system will produce environmental-friendly products.
- The process of securing tanks and antisplit trays against penetration of petroleum products to soil and groundwater. In 2006 four storage tanks were completely modernised. Respective securities for tanks and antisplit trays were executed and a system of leakage signalling was started.
- The method of wastewater intake from waste combustion plant was changed. The project allowed to fully control the discharged wastewater in relation to quality and quantity and the possibility to direct it to preliminary treatment.

Chapter XVII**Share of businesses from ORLEN Group in national system of trade in CO₂ emissions.**

In accordance with the Act of 22 December 2004 on trade in rights to emission to air of glasshouse gases and other substances, the following systems are covered by the CO₂ emission trade system:

- PKN ORLEN S.A.

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- Heat and Power Plant
 - Refinery
 - ANWIL S.A.
 - Heat and Power Plant
 - ORLEN Asphalt
 - Refinery system
 - Kerosene Refinery Jedlicze S.A.
 - Refinery system
 - Refinery Trzebinia S.A.
 - Refinery system
- The company has an account in National Register of Authorisations to emissions.
- RAFENERGIA Sp. z o. o. - Jedlicze
 - Heat and Power Plant
 - ENERGOMEDIA Sp. z o. o. - Trzebinia
 - Heat and Power Plant

All the above systems obtained permissions for participation in the system of trade in emission rights in which the method of carbon dioxide emission monitoring was defined. The report as of 31 December of the previous year is the basis for settlement of received rights and it is verifiable by an authorised verifier. After a verification of annual reports 2005 none of the systems was short of rights.

Chapter XVIII

Awards and certificates

ORLEN Oil Sp. z o.o.

- Innovativeness Certificate 2005 – placement of the Company by the International Scientific network on the list of 500 domestic companies whose business is directed at development and innovativeness,
- I place in the category 'Best product' on IV Automotive Fair: Auto Show 2006 for engine oil Platinum Max Energy Euro4 5W/30,
- The award 'Product of the year 2006' on XIII International Fair 'Fuel station 2006' given for engine oil Platinum Max Energy Euro4 5W/30,
- Title Grand Prix XI of International Fair of Kerosene and Gas Industry 'Nafta i Gaz 2006' for the line of oils Platinum for modern engines meeting the standard Euro4.

ORLEN Eko Sp. z o.o.

- In January 2006 the Company received the certificate BVQI Polska related to consistence of environmental management with the standard ISO 14001:2004.

Inowrocław Salt Mines „Solino” S.A.

- The Company has a certified Environment Management System according to the standard DIN EN ISO 14001:1996.

Refinery Trzebinia S.A.

- On 18 and 19 October 2006 an audit to recertify the Quality management System was carried out and it was recommended to issue the certificate. The certificate covers: design, production and sales of liquid fuels, biocomponents and liquid biofuels, kerosene products and other petroleum-derivative and chemical products. The certificate is valid till 20 August 2009.

- The company has a certificate which confirms consistence of the Environment management System with the requirements of the standard ISO 14001. For the Capital Group of Refinery Trzebinia S.A. this is the second certificate in this domain whose validity expired in January 2007. Therefore in the second half of 2007 a recertifying audit will be held.

Basell Orlen Polyolefins Sp. z o.o.

- In 2006 BOP participated in national competition under the auspices of the Ministry of Environmental Protection 'Company close to the environment' and obtained the title 'Company close to the environment'.
- The Company received the Integrated Management System Certificate (ZSZ), consistent with world standard ISO 9001:2000, ISO 14001:2004, PN-N-18001:2004, OHSAS 18001:1999 (quality, environment, safety and occupational health). In March 2006 during an audit carried in BOP auditors from BVQI did positive verification of consistence of the implemented Environment Management System with the new edition of the standard ISO 14001:2004 and confirmed suitable implementation and operation of the Quality Management and Work Safety System in changed working conditions after start-up of new systems.