CARE AND INNOVATION

Environmental care and economics can act in unison. Namely, with the aim of reducing harmful emissions, introducing energy-efficient solutions and preserving the natural environment. In this way Petrol creates added value. As an energy group, we are open to ideas, decisive in the implementation of environmental improvements, and, above all, responsible to our shareholders, customers, employees and partners, society, future generations, and the planet on which we live. Go through the following pages and make a critical assessment yourself.
December 2007

**Fairtrade also at Petrol service stations**
In co-operation with the Umanotera foundation and in line with its sustainable development strategy, Petrol introduced a series of products bearing the international Fairtrade symbol. This is based on more equal global trade relations and ensures better conditions for producers from smaller communities in third world countries.

**Ljubljana technological park opens**
On December 7, 2007 the doors opened to what is probably the largest regional technological incubator for small and medium-sized companies in Slovenia. A high level of energy independence and savings of the companies of the park is ensured by a modern trigeneration power plant – a project planned by Petrol’s experts. It will help reduce CO₂ emissions by more than 76 tons per year.

November 2007

**Petrol Energetika receives the »Environment friendly company award«**
The newspaper Finance, the Environmental Agency of the RS and the Environmental Fund of the RS awarded a subsidiary of the Petrol Group the most prestigious Slovenian award for environmental excellence. Petrol Energetika from Ravne na Koroškem was the winner among small companies due to its environmental innovations and comprehensive solutions – regional projects of environmental management and efficient energy use.

October 2007

**Petrol receives the »Blue Flower award«**
This prestigious award was presented by the Croatian Tourist Association to Petrol’s service station in Galižana near Pulj. The award is used for assessing and rewarding the tidiness of cities and their tourist-friendly range of services. Petrol ranked first among service stations.

September 2007

**The establishment of the gas supply network in the Ljubljana vicinity continues – Komenda is next**
Petrol signed a concession agreement with the local community, based on which it will construct a gas supply infrastructure in the area of the Komenda Municipality and provide the local citizens with an uninterrupted natural gas supply over the next 35 years. After Mengeš, Trzin, Domžale and Vodice in the near vicinity of Ljubljana, it is now Komenda’s turn. The first phase has been successfully completed by the end of the year, whereas the entire project will result in the rounding out of the energy service range in the region by the end of 2009. By then, Komenda will have at its disposal 25 kilometres of gas supply network into which Petrol Plin will invest EUR 1.7 million in the coming years.
CLEANER PRIMA HEATING OIL ON THE MARKET
Petrol expanded its service range by introducing heating oil of improved quality, which contributes to the greater efficiency and durability of heating systems. This oil improves protection, boosts the purification effect, increases the reliability of operation, and cuts maintenance costs. Owing to lower emissions, mainly of carbon monoxide, it is also friendlier to the environment. When the new PRIMA heating oil started being marketed, the company donated 7,000 litres of this environment friendly and efficient fuel to the Braslovče Primary School.

PETROL AND PINUS BEGIN CO-OPERATION IN THE PRODUCTION OF BIOFUELS
On April 23 the two companies signed an agreement on business co-operation in the production and marketing of biodiesel. The agreement entails a joint venture – the construction of a new plant at Rače near Maribor with an annual capacity of about 43,000 tons. Petrol thus gained a major domestic supplier of biofuels that supports its strategy aimed at expanding the range of more environment friendly motor fuels.

FIRST AUTOGAS VEHICLES IN PETROL'S FLEET
In the scope of the intensive marketing of cleaner energy sources in transport (LPG), Petrol decided to serve as an example. In April 2007, Petrol, in co-operation with Avto Triglav, introduced six vehicles running on liquefied petroleum gas into its projected environment friendly company fleet. Petrol plans to upgrade 30 service stations in Slovenia with an autogas module – the fuel contributing to an additional 15% decrease in carbon dioxide and a 50% reduction in carbon monoxide.

NATURAL GAS IN SLOVENSKA BISTRICA
Based on the tender, contract award and contract signing, Petrol Plin will supply gas to the entire municipality. The project has been successfully progressing in three phases – comprising more than 45 planned kilometres of network and 1,500 connections for users. The last third of the network and supply to the city is scheduled to be completed by the end of 2008.

PETROL AND THE BREŽICE GENERAL HOSPITAL – PIONEER PUBLIC AND PRIVATE ENERGY PARTNERSHIP
The Brežice General Hospital is the first public health care institution which will exceed the goal set in the Resolution on the Efficient Use of Energy, i.e. a 15% increase in energy efficiency by 2010, owing to contractually guaranteed energy savings. Petrol guaranteed the Hospital a 25% savings and an annual decrease in carbon dioxide emissions by more than 350 tons as a result of the renovation project and the introduction of the energy power plant.

PETROL PRIMADIESEL – »OUT OF RESPECT FOR NATURE«
In accordance with its sustainable development strategy, Petrol introduced a high-quality, more environment friendly diesel fuel of a new generation. The customers’ response is very positive and its consumption is persistently growing. According to tests, Petrol Primadiesel has an optimal impact on the capacity and functioning of engines, it has an improved purification effect and better anticorrosion capacities, and, above all, it burdens the environment less.
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### ABOUT PETROL

**Who we are and what we do**

Petrol is a regional energy group operating in seven countries and employing 2,966 people. It professionally covers four areas:

**Oil activity**
- a network of 380 petrol service stations with additional range of products
- 5 large depots and wholesale
- delivery of heating oil, heat for the home - delivered to the door-step

**Gas**
- concessions, construction of the network and distribution
- retail supply of natural and liquified petroleum gas
- traffic solutions: supplying gas to vehicles

**Electricity and efficient energy use**
- efficient energy use projects for companies and local communities
- cogeneration and trigeneration
- introduction of alternative sources

**Environmental activity**
- planning, construction and management of environment friendly municipal systems
- water circle: water supply, processing, wastewater treatment and distribution
- systems for the collection and processing of waste, both hazardous and non-hazardous
- reduction of emissions: air, water, soil

### CERTIFICATES AND AWARDS

Petrol Energetika, a member of the Petrol Group, received the “2007 Environment Friendly Company Award”, presented by the newspaper Finance, the Environmental Agency of the RS and the Environmental Fund of the RS, for continuous improvement of environmental results and solutions. These include projects for the cogeneration of power and heat through the optimisation of district heating systems, comprehensive water supply and wastewater treatment plants, the fulfilment of conditions for the environmentally safe operation of companies, and participation in the Meža River purification project. More at [www.petrol-energetika.si](http://www.petrol-energetika.si)
Petrol service stations
165,000
concessions for gas supply
24
gas tanks for the sale of liquefied petroleum gas
1,759
more than
2,000,000
tons of oil products, or approximately one ton per capita, sold annually in Slovenia

Petrol is the protector of the turtle Caretta Caretta, which visits our sea every year.
LETTER FROM THE PRESIDENT OF THE MANAGEMENT BOARD

Lower emissions, comprehensive solutions and efficient energy use

The climate has been changing before our very eyes. Environmental protection has become a social and economic priority, but too often it is all words and no action. Awareness is the starting point. However, the actual introduction of cleaner solutions which preserve the environment is a good start. Such is the story of Petrol.

Energy business is faced with a great challenge. How to maintain competitiveness and a reliable supply in the face of increasing demand, and how to successfully introduce more environment friendly and energy efficient solutions? Petrol’s care for the environment and innovativeness are merged on three levels.

First of all, by the gradual but decisive introduction of cleaner process technologies, through which we have minimised our environmental impact in recent years. Secondly, by monitoring, developing innovations and undertaking pilot projects. Finally, by market-attractive environmental projects – from comprehensive water-circle supply and waste management to efficient energy use projects aimed at companies, public institutions and local communities. The last among them was, for example, the trigeneration energy management system of the Ljubljana Technological Park (see page 61).

Companies are aware that they need to redefine their development options, taking into account sustainable development. The projects, by means of which we improve our attitude towards the environment and decrease our environmental impact, can represent a sound business opportunity. Petrol has identified this opportunity and established new business pillars and solutions whose return ever more justifies the trust they enjoy.

Petrol did not become environmentally conscious yesterday. The system of separate collection of potentially hazardous waste was established in 1996, and the system for collecting and recycling of non-hazardous waste in 2001. We decreased our emissions of volatile substances at service stations and fuel depots to almost zero. Moreover, we built and now manage several wastewater treatment plants – large for local communities, for instance the Municipality of Murska Sobota, and small biological ones at all service stations where the local sewage system is inadequate. We are aware that in addition to cleaner resources, namely natural gas and LPG, and alternative renewable solutions, the short-term energy future depends mainly on the efficient use of energy. The latter represents the greatest energy reserve and also a strategic investment. We are aware of this and we act accordingly.

In recent years we have taken a crucial step from the environmental and energy optimisation of our activities to the successful marketing of our environmental services to public institutions and industry. Integral energy and environmental solutions will also provide stable development of the Group in the coming years and diminish the impact of negative turbulence in the global oil markets.

The in-house motto is: “This has been taken care of, so let’s move on.” The goal of Petrol’s energy activity is straightforward: reduction of pollution and more efficient use of energy sources – be it in personal vehicles, households, the public sector or industry. Years ago we started at our doorstep. Today we are environmentally active in the market.

Financial indicators, the opinions of partners, shareholders’ trust and demanding customers in my opinion prove that we are on the right track. That is no more and no less than a good start.

I hope the report will help you assess the efficiency of Petrol in coping with the environmental challenges of today and developing cleaner energy solutions for tomorrow. We always keep an ear open to your good ideas.

Marko Kryžanowski
President of the Management Board
“Nature remains a model of efficient energy use which we try to mimic more closely every year.”
The share of small biological wastewater treatment plants has been increasing
Increase in the percentage of Petrol Group facilities equipped with a small biological wastewater treatment plant
due to an inadequate or non-existing sewage system.

Reduction in emissions due to the reconstruction of storage tanks
Annual emissions of volatile organic compounds before and after the reconstruction of liquid fuel depots.
Our respect for nature ...

Maximum permitted sulphur content in fuel in the 2000-2010 period

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<tr>
<td>Petrol</td>
<td>0.05% m/m</td>
<td>0.015% m/m</td>
<td>0.005% m/m</td>
<td>0.005% m/m</td>
<td>0.001% m/m</td>
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<tr>
<td>Diesel</td>
<td>0.05% m/m</td>
<td>0.035% m/m</td>
<td>0.005% m/m</td>
<td>0.005% m/m</td>
<td>0.001% m/m</td>
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<tr>
<td>Heating gas oil, Extra Light/EL</td>
<td>0.20% m/m</td>
<td>0.20% m/m</td>
<td>0.20% m/m</td>
<td>0.10% m/m</td>
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Improved prevention owing to new oil and water separators
Ratio between traditional and new oil and water separators (SIST EN 858-1 and 2) at service stations.

Source: Petrol TRKV

Maximum permitted sulphur content in fuel in the 2000-2010 period

Source: Petrol Laboratory
WHAT IS PETROL TODAY? AN OIL TRADING COMPANY, ENERGY COMPANY, OR GREEN ENERGY GROUP?

Petrol is an energy company. More specifically, the leading Slovenian energy company, with a comprehensive range of energy-ecology products and services.

WHAT IS THE COMPANY’S MISSION?

The Company’s mission is known – to provide a reliable, efficient and environment friendly supply to consumers in Slovenia and in the markets of South-Eastern Europe. The existing 381 service stations of the Petrol Group offer drivers everything they need for a safe and comfortable journey. An efficient distribution network provides households with heat for the home – delivered to the doorstep. To be and to create as an energy expert is a special form of responsibility in these times characterised by major energy and climate changes. Petrol feels responsible to its customers, shareholders, employees and partners, and mainly to the environment and future generations. This is our basic ethical principle. We are becoming more responsible by better understanding the problems, respecting the world surrounding us, being open, and seeking solutions jointly.

WHERE HAS PETROL MADE THE GREATEST PROGRESS IN RECENT YEARS, ENVIRONMENTALLY SPEAKING?

Petrol intensively started supplying more environment friendly energy sources to the market. These include electricity, natural gas, liquefied petroleum gas, etc. For Petrol, social responsibility entails active participation in projects geared at wastewater treatment and efficient energy use. In this respect I am referring to, for instance, more energy-efficient boiler rooms in hospitals and other public institutions, trigeneration projects, improved wastewater quality, reduced emissions, and upgrading of the system for managing non-hazardous and hazardous waste. Equally important are the processes for reducing emissions of volatile hydrocarbons.

One more thing should be mentioned. In recent years Petrol has made great progress at its service stations and fuel depots. Namely, by the introduction of new technologies for storing and selling fuel
and systems for the closed bottom loading of storage tanks and road tankers. In addition, we installed state-of-the-art systems and devices for the treatment of technological and municipal wastewater. The popular expert term referring to this process is BAT – Best Available Technique and represents a commitment to the systematic introduction of the best available technologies. We are also developing a project for an energy self-sufficient service station. In short, a lot of good is happening under the surface.

**WHAT WERE PETROL’S TURNING POINTS IN THE LAST THREE YEARS FROM AN ENVIRONMENTAL PERSPECTIVE? WERE THERE ANY BOOSTS THAT MADE THE COMPANY FOCUS MORE ON THE CREATION OF ADDED VALUE ACCORDING TO THE PRINCIPLES OF SUSTAINABLE DEVELOPMENT?**

There were quite a few. First of all, fuels were adjusted to conform to more stringent environmental legal requirements pertaining to the content of sulphur, aromatic substances and similar. This was followed by the introduction of biofuels. Petrol has included biodiesel into its range of products since 2004. Naturally, we must not forget the constant improvement of the quality of the existing fuels, which are therefore more friendly to the environment.

Let me give you three examples. The content of sulphur in unleaded “Super plus 98” petrol was reduced to 10 mg/kg. This means that this fuel is now one of the so-called “sulphur-free fuels” and allows for the maximum effect of modern exhaust cleaning devices. Of importance was also the introduction of “Primadiesel”, the new, improved, above-standard diesel fuel, which is an upgrade of the earlier “Eurodiesel”. Better combustion and engine efficiency leads to lower emissions of hazardous substances into the environment as well as reduced fuel consumption.

All these novelties help decrease environmental burdens. They are also elements of a greater story of strategic decision implementation. Over the last three years Petrol finally formed the intention to develop new business pillars, such as the sale of electricity and gas, and new environmental activities to contribute to sustainable development of the society in all its markets.

**RAY ANDERSON** SAYS: “THE LARGEST, RICHEST, STRONGEST, BOLDEST AND THE MOST INFLUENTIAL INSTITUTION IN THE WORLD IS THE BUSINESS INSTITUTION WITHIN INDUSTRY – THE CORPORATION. TODAY IT ALSO REPRESENTS A TOOL OF DESTRUCTION. IT HAS TO CHANGE.” WHAT DO SUSTAINABLE DEVELOPMENT AND RESPONSIBLE THINKING MEAN FOR PETROL?

When Petrol committed itself to sustainable development, it ensured itself long-term development in the market and survival of the company. Without the changes imposed by the commitment to sustainable development, we can simply no longer imagine the development of an energy company in the future.

**HOW DOES PETROL PLAN TO CO-ORDINATE INNOVATIVENESS, COMPETITIVENESS AND ENVIRONMENTAL RESPONSIBILITY IN THE FUTURE?**

In the future, Petrol will be competitive in all markets only if its products and services are environment friendly. Energy and oil activity, which have traditionally not been environment friendly, will be transformed only by investing in innovativeness, new business models, and by seeking solutions acceptable in the society of the future.

**WHAT IS YOUR ENVIRONMENTAL VISION?**

Operating without negative impacts on the environment.

---

**Responsibility** means better understanding the problems, respecting the world surrounding us, and seeking solutions jointly.

An equivalent innovation was the introduction of “PRIMA” heating oil, providing even more optimal functioning of heating systems and consequently reducing consumption.

1 Note – Founder and Chairman of Interface, the first American multinational which already in the mid 1990s set a final goal of the entirely sustainable production of carpeting and zero environmental footprint.
companies and local communities in the search for solutions providing a more efficient use of energy and wastewater treatment as well as in the transition to a comprehensive supply of cleaner and more efficient primary energy sources, for instance natural gas.

**WHAT ARE THE EFFICIENT ENERGY USE PROJECTS, AND HOW DO THEY FUNCTION? HOW MUCH CAN THE EFFICIENT ENERGY USE OF A COMPANY OR A PUBLIC INSTITUTION IMPROVE?**

We offer companies and local communities a comprehensive solution for their environmental problems; we come up with a technical solution, realise the capital investment, manage the plants, and supply the energy source. The infrastructure of a company or local community is thus managed by Petrol’s experts at an equal or lower cost. The savings considerably differ from one project to another, depending on the existing infrastructure, the technological solution, and numerous other factors. Using a proper approach, the efficiency of energy sources can be increased from somewhat more than 40% up to a good 80%.

**HOW DO YOU PERCEIVE THE FINANCIAL ACHIEVEMENTS OF PETROL FROM AN ENVIRONMENTAL PERSPECTIVE? WHAT ARE, FOR INSTANCE, THE STRUCTURE AND GROWTH OF THE SHARE OF ENVIRONMENTAL ENERGY CAPITAL INVESTMENTS?**

Petrol’s many years of gradual and targeted investments in its facilities and environmental activity started yielding results in recent years. They are reflected in smaller costs arising from the fulfilment and implementation of the government’s requirements and the EU’s legal requirements. Good results are the consequence of newly built systems and the wastewater treatment plant, waste management, the latest technological equipment for the storage and transport of fuels, etc. If Petrol had not done so, it would have to, owing to the short deadlines for the implementation of legal requirements, make immediate heavy capital investments to eliminate its deficiencies and adjust to the requirements imposed by the standards and legislation. Just as an example: Petrol’s costs of waste management were reduced between 10% and 15% in the 2003–2006 period.

**SINCE WHEN HAS PETROL BEEN SYSTEMATICALLY STRIVING FOR THE COMPLETE ELIMINATION, SYSTEMATIC COLLECTION AND RECYCLING OF WASTE? WHAT SPECIFICALLY DOES THAT ENTAIL AT A SERVICE STATION?**

Petrol introduced the systematic separate collection of waste that is potentially hazardous for the environment already in 1996. As regards non-

**Environmental** prepared and managed.

hazardous waste management, Petrol started setting up its own system in 2001. Since 2003, it has provided, in conjunction with the company Slopak, the suitable acceptance, processing and recycling of separately collected fractions of packaging waste resulting from our activity. Specifically, this ensures an overview of collected quantities, lower costs, and, last but not least, income from the proper separation and handover of packaging waste. Such waste is used as a secondary raw material in further processes.


The secrets involved in the management of an environment friendly service station would perhaps be better revealed by the recipient of the “Blue Flower Award”, Mr. Ignac Rupar, CEO of Petrol Trgovina Zagreb company, the dedicated employees of this company, and Igor Irgolič, Vice-President of the Management Board. I can only say that I am happy and proud that our joint efforts were rewarded. As for the award presented by the newspaper Finance to Petrol Energetika, Ravne, d.o.o., I can say it is not a coincidence. The company’s environmental policy serves as an example to the Group and represents a basis for the permanent improvement of environmental results as well as a model implementation of the stringent requirements imposed by environmental standards.
ARE ALTERNATIVE AND CLEANER ENERGY SOLUTIONS BECOMING PROFITABLE? WHAT IS YOUR MESSAGE TO SHAREHOLDERS AND PARTNERS WHO ARE STILL SCEPTICAL ABOUT THEM?

Of course. Environmental projects can be profitable if suitably prepared and managed. Petrol always pursues both objectives, namely the provision of a service suitable for its customers and meeting all its customers’ expectations, as well as the financial objective. These are attractive and lucrative projects. You just have to know how to go about them.

WHAT HAVE YOU BEEN MOST PLEASED ABOUT IN RECENT YEARS AS REGARDS THE ENVIRONMENT?

The committed and serious attitude of Petrol towards environmental questions and issues, along with the willingness of our top management and employees to become actively involved in the improvement of the environmental situation.

WHAT HAS PUT YOU IN A BAD MOOD OR PERHAPS EVEN ANGERED YOU?

Perhaps the insufficient inclusion of experienced environmental experts from the corporate sector by the government in the formulation of legislative proposals, strategic goals and tactical proposals of solutions. We all should co-operate more closely.

HOW DO YOU PERCEIVE REGIONAL ENERGY PROBLEMS AND THE WORRYING GLOBAL ENVIRONMENTAL TRENDS, AND PETROL’S ROLE IN SOLVING THEM?

Petrol is aware of these problems and has decided to actively help solve them, since we believe that the environmental activity is a major business opportunity. We greatly participate in the production of new energy sources as well as in the development of energy-saving processes and will continue to do so. We also see business opportunities in waste processing, the production of energy from waste, wastewater treatment processes, and the drinking water supply.

CAN YOU STATE IN FIGURES HOW EFFICIENT AND ENVIRONMENT FRIENDLY THE NEW GENERATION OF FUELS OFFERED BY THE PETROL GROUP IS?

Since 2005, all of Petrol’s motor fuels have fulfilled the requirement of a sulphur content below or equal to 50 mg/kg. We are already preparing for the next big step, namely the transition to so-called “sulphur-free” fuels, which means that the sulphur content will be no more than maximum 10 mg/kg. That will happen in 2009, and it is an extremely important and demanding project. In the heating-oil segment, we will already in 2008 reduce the sulphur content from the present 2,000 mg/kg to 1,000 mg/kg maximum.

IS THE WORLD LOOKING FOR ENVIRONMENTAL SOLUTIONS? WHERE DO PETROL AND ITS SOLUTIONS FIT IN?

Petrol realises that the future of the oil and energy business is strongly linked with the search for solutions to protect the environment. In all segments of its activities, Petrol takes an active part in the efforts to develop new technological solutions. We are participating in the construction of a biodiesel production plant, are helping rehabilitate locations polluted in the past, including the clean-up of the waste acid sludge landfill at Pesniški Dvor, and introducing some projects on a trial basis, e.g. a solar power plant, and are actively monitoring the development of new generations of alternative fuels.

IS THERE STILL TIME TO AVOID A CLIMATE CRISIS?

We have much less time than we think. We have to take determined and proactive actions! If we are all aware of this, our path to the future will be optimistic. Hope dies last.
Borders exist only in the mind and in nature

For a modern energy company focused on the future, everything starts with the environment. The chain of energy transformations starts and ends in natural processes. All of man’s activities ultimately impact the biosphere. The prudence of economic development is measured by the quantity of harmful traces left to future generations. Environmental care is the central guidance of our long-term energy strategy.

In the Petrol Group environmental care entails three issues. The introduction of environment friendly technological processes, the development and promotion of renewable energy sources, and the co-establishment of environment protection programmes. The Group provides environmental care within all its activities – at service stations, in the storage, transport and management of energy sources, and in the introduction of new energy projects and services (see the informative graph on page 40). Of strategic importance is co-operation in priority national environmental capital investments and the establishment of a suitable environmental infrastructure.
The introduction of new solutions is our main concern. Petrol is introducing new ways of managing traditional and alternative energy sources. We promote the use of environment friendly energy sources as well as the development of new, more environment friendly processes of their production. In the 2005–2007 period, the Group again took part in, conducted or provided financial support to projects that consolidate care for the environment and harmony, as well as environmental technological projects aimed at the development of people-friendly and environment friendly technologies (more at www.petrol.si/ekologija).

In the 2005–2007 period, we intensified co-operation with the national, scientific and research institutions. There is a proportionate connection between the success in and actual introduction of environmental improvements and the success in introduction of such improvements within the company. As a result, several projects were carried out for training and informing our employees, customers, suppliers and other partners about the requirements of our environmental standards and sustainable development policies. The Group considered them when developing our business processes, new products and services.

Petrol is a group of energy companies. That is why we have to set up stringent environmental requirements and for this reason we ensure high compliance with the legislation on environmental protection and the handling of hazardous substances and chemicals. Improved fire safety, compliance with inspection control, and other aspects make Petrol one of the companies projecting and setting environmental trends. Above all, we constantly provide for legislative compliance, operational transparency and accountability, prompt management of changes, and an open approach when seeking new solutions.

In 1999, Petrol established a register of environmental aspects and specifically defined the environmental risks arising from all its business activities – service stations, oil products depots, transport, and office activities. On the basis of existing and potential environmental impacts, we are constantly implementing programmes to reduce them. The environmental management system also meets all the requirements of the ISO 14001 international standard and was certified with the international certification agency Bureau Veritas Certification in 2000. Until the end of 2007 we fulfilled all project goals and complied with legal frameworks pertaining to sustainable and environmentally conscious operations, which is why no new aspects have been added to the register.
ACCOMPLISHMENT OF ENVIRONMENTAL GOALS AND PROJECTS

99% of planned improvements were realised

Ideas are born every day. While having a chat at tea, sketching at a meeting, observing nature in silence, examining technological innovations, or making a simple visit to a service station. We only have to keep an ear open.

If ideas are financially feasible and represent a possibility for Petrol to improve its environmental performance, we transform them into specific projects down to the very last detail. These are then presented, assessed, and, in a suitable format, adopted at the meeting of the Management Board. On this basis, annual planning and investment planning are carried out.

In the 2005–2007 period, environment protection projects continued and were realised as planned. Treatment plants for municipal and domestic waters were restored by the Petrol Group in line with the indicators and recommendations given in the studies previously conducted by our expert departments. Instead of reconstructing some inadequate classical systems, we tried to provide as many connections with the public sewage network as possible. In want of other options, we constructed a modern, typified small biological wastewater treatment plant. The systematic and responsible achievement of the set goals is proven by figures. In the three-year period, 99% of planned environmental projects have been realised.

Strict implementation of environmental standards and goals is the responsibility of all the employees of Petrol. The Management Board guarantees such strict implementation.
Reducing our emissions so we can breathe better air

Prevention and reduction of emissions – volatile hydrocarbons. Because of transport, incomplete combustion in car engines, and evaporation during the pumping and storing of fuels, this issue still represents one of Petrol’s main concerns with regard to the improvement of air quality. By introducing new bottom-loading technologies, more efficient means of transport, and the use of biofuels, Petrol’s operations contributed to better air quality.

The care devoted to air quality by the Petrol Group is connected mainly with its efforts to decrease emissions of volatile hydrocarbons (see the Eco Glossary at the end of this report). Volatile hydrocarbons arise from the Company’s activity mostly due to transport and the incomplete combustion of fuel in car engines, and in part also because of evaporation during the pumping and storing of fuels. The process for reducing emissions of volatile hydrocarbons is therefore carried out wherever an active energy group is functioning – in all key links of the oil products distribution chain: storage, transport and sales.

Closed fuel pumping systems aimed at reducing emissions installed at all Petrol service stations since 2006

Closed fuel dispensing systems (Level-1) were installed at all Petrol service stations already at the end of 2006. Besides lower emissions of volatile hydrocarbons, this represents a significant improvement as regards the uninterrupted servicing of our customers. In line with the new legislation from 2004, fuel may be delivered during the working hours of a service station without special authorisations, if a service station has a Level-1 closed system for the dispensing of fuels. Since the traffic arrangement does not yet permit a service station to operate during the filling of underground tanks, a suitable regime is planned to be established.

Good bye, vapours

A closed, more environment friendly system of fuel pumping, providing for less evaporation of volatile hydrocarbons, has been used by Petrol at all its service stations since 2006.
feel
How does more environment friendly fuel handling take place at Petrol depots?
A closed system of fuel pumping that minimises evaporation has been installed at all Petrol depots where volatile hydrocarbons (petrol) are kept and pumped.

The next stage of environmental technological improvements related to the dispensing of fuels at service stations is the dispensing of fuels to car tanks within a closed system with vapour recovery (VR). It is called Level-2. By the end of 2007, about one in three Petrol service stations (or 134 out of 381) had been fitted with Level-2, although this is not required by law and represents an above-average emission standard.
Number of Petrol service stations by fuel dispenser type and Level-2 dispensing system, representing an emission and legal standard above average

<table>
<thead>
<tr>
<th>Manufacturer and type of fuel dispenser</th>
<th>Total number of service stations</th>
<th>Number of service stations not fitted with VR (Level-2)</th>
<th>Number of service stations fitted with VR (Level-2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TUBS MEBA - Zagreb</td>
<td>158</td>
<td>158</td>
<td>0</td>
</tr>
<tr>
<td>Salzkotten</td>
<td>125</td>
<td>89</td>
<td>66</td>
</tr>
<tr>
<td>Tokheim</td>
<td>98</td>
<td>0</td>
<td>68</td>
</tr>
<tr>
<td>Total</td>
<td>381</td>
<td>247</td>
<td>134</td>
</tr>
</tbody>
</table>

All service stations fitted with the more recent Tokheim fuel dispensers are now equipped with the vapour recovery system (Level-2), which represents a guideline and exceeds the standard in air emission reduction. Out of 125 stations with Salzkotten equipment, the said VR system is installed at 66. Installation of the latest environmental technological solutions is planned at all reconstructed and newly constructed stations.

**Reconstruction and the introduction of closed pumping systems in fuel depots led to a 95% decrease in annual emissions.**

The last three years brought about important technological updates and even more environment safety and friendly fuel storage. By the end of 2006, Petrol thus fully reconstructed its liquid fuel depots at the Zalog, Rače and Sermin fuel storage facilities. All of the renovated tanks are now equipped with internal floating membranes that prevent the evaporation of stored fuel. Fixed, self-sustaining aluminium domes provide additional protection from snow, rain and hail. All three depots include vapour recovery units (VRU), while the tanks’ walls are painted with reflective white paint preventing the heating of fuels and thus lowering emissions. The renovation of the above-ground storage tanks represents a significant environmental improvement, because new technological solutions almost entirely prevent the evaporation of hydrocarbons. By such renovation of the above-ground tanks at our liquid fuel depots, Petrol cut its annual vapour emissions by more than 95%.

**Reduction in emissions due to the reconstruction of storage depots**

Annual emissions of volatile organic compounds before and after the renovation of liquid fuel terminals.
WATER

Saving, collecting, cleaning, recovering

While performing our activities, we come across different categories of water, but we pursue a single goal: what we receive from nature we must ultimately return to nature. Clean and as intact as possible. Every drop is precious. The long-term environmental vision as regards water is crystal clear – drinking water must be used for drinking only. Petrol is striving to achieve this.

The performance of Petrol’s activities involves three categories of wastewater – domestic, rainwater and industrial water. For years we have been successfully restricting the uneconomical use of drinking, domestic and industrial water. By cleaning wastewater using wastewater treatment plants, we make sure that treated water fully complies with all environmental regulations and standards. Rainwater is discharged via technologically sophisticated collection systems, and the content of emissions is also successfully decreased in industrial wastewater owing to purification by means of state-of-the-art oil and water separators. Petrol’s contribution to cleaner water has been even greater in recent years, as we are taking part in major projects and ensure the greater quality of water especially by constructing and managing plants for the treatment of municipal wastewater.

Upgrades and savings arising from environmental prevention regarding water – reconstructions and newly installed oil and water separators

By the end of 2007, Petrol had successfully accomplished reconstruction of 65 outdated and inadequate oil and water separators (in the 2005–2007 period) and replaced them with new-generation separators. In recent years we thus improved the quality of treated wastewater, which is indirectly the first consequence of more suitable oil and water separators and treatment plants. At present, more than 98% from all controlled plants’ effluents are adequate; these plants are intended for wastewater treatment. The introduction of new and suitable water treatment technology also brings economic and energy savings. At new equipment – oil and water separators – the monitoring of wastewater is being abolished, resulting in proportionate savings in the maintenance and control of the separators. On account of more advanced technology and the quality of plants and installed components, e.g. coalescent – self-cleaning plates, further savings in maintenance are expected in 2008. A thorough cleaning of oil and water separators was introduced three years ago. It is conducted every second year of operation because of the advanced technology and quality of the devices. Until 2005, however, old, technologically inadequate devices had to be thoroughly cleaned several times a year or at least on an annual basis. In addition to the positive environmental and economic effects, the processes of renovation and innovation are also carried out with the aim of complying with legal requirements. Since 1998, oil and water separators fulfilling the technical standards of the European Directive and Slovenian legislation¹ have been installed in all of Petrol’s newly constructed facilities.

¹ European Directive 78/659/EEC and the SIST EN 858-1 and SIST EN 858-2 standards prescribed by the Slovenian legislation.

Today

more than 98% of all controlled wastewater treatment plants’ effluents are adequate.
BREATHE
Improved prevention owing to new oil and water separators
Ratio between traditional and new oil and water separators (SIST EN 858-1 and 2) at service stations

We install small wastewater treatment plants
Most municipal wastewater is discharged from facilities into sewage systems. At locations where the local sewage systems do not enable the adequate discharge and treatment of municipal wastewater, Petrol fitted its facilities with typified small biological treatment plants. By the end of 2007, a good fifth of all service stations located where the local sewage system is inadequate were equipped with such plants.

The share of small biological wastewater treatment plants has been increasing
Increase in the percentage of Petrol Group facilities equipped with a small biological wastewater treatment plant due to an inadequate or non-existing sewage system.
Rainwater in principle does not represent a burden on the environment. The efficient management of rainwater is achieved by the introduction of established methods of collection and discharge into streams or rivers which sink in the Karst underground. It is important to use modern, high-quality materials; namely we installed HDPE discharge pipes with welded seams, constructed impermeable concrete platforms for fuel dispensing, drive-on and handling, and provided for quality roadside sewage shafts.

Petrol also achieved sustainable development in rainwater management. This involves the construction or renovation of facilities based on plans focusing exclusively on such system solutions that provide for the safe, efficient, technically perfect and environment friendly management of rainwater.
Petrol does not hide its environmental visions. In the near future we plan to establish an energy-self-sufficient service station where drinking water will be used only for drinking. For all other purposes, e.g. watering the green areas or flushing the toilet, we will use rainwater or purified water from a wastewater treatment plant. A pilot project is in the design stage.

Fresh water is one of the most precious renewable natural resources and has no substitute. It is necessary for our existence and comfort. Huge amounts of drinking water are used in agriculture for irrigation and in industry for production, mining and waste removal. From the perspective of sustainable development, the provision of a sufficient quantity of water that is of adequate quality is the highest priority of society. That is something we are willing and determined to achieve within the scope of Petrol’s business activities.
Fresh water is one of the most precious renewable natural resources and has no substitute.

**Green service station as a self-sufficient alternative in terms of energy and water**

The future plans of Petrol are based on its existing knowledge and many years of experience. The focus is on care for the environment and sustainable development, which on the level of a service-station range means only one thing: green. This entails the construction and reconstruction of existing locations to make them energy-self-sufficient by use of alternative sources and by ensuring the micro-consumption of drinking water. The motivation stems from three aspects: efficiency due to the maximum reduction of utility service costs and zero consumption of electricity from the regional network, technologically and financially optimal and feasible investments, and further fulfilment of the Company’s moral environmental commitment with non-existent negative impact.

Petrol’s green service station is currently in the concept design phase. It represents the start of perhaps one of the most important pilot projects of the Company. It also embodies the vision of environmental care, economy and quality of choice functioning as one.
SOIL

Willingness, responsibility and high technology

In the energy and oil business, the environment must be taken seriously. Our business entails activities where the awareness of potential negative impacts on the soil is of particular importance. With knowledge and responsible actions, we prevent the possibilities and circumstances that would lead to environmental accidents. Decades of preventive scenarios, the introduction of safe storage technologies, professional training, and co-operation have led to a high level of environmental safety which is checked on a daily basis.

Among Petrol’s activities, the greatest threat of soil pollution is represented by the potential spillage of oil products. That is why we pay special attention to preventive measures in the storage and transport of fuels. The efficiency of preventive measures is based on the continuous professional training of the staff handling the fuels, the quality construction of fuel depots, and the provision of optimal safety during transport.

99% of single-wall underground storage tanks were replaced by double-wall tanks to ensure greater safety

A higher level of environmental protection requires the introduction of technological innovations. A good example is the “zero leakage possibility” tank, which has in recent years been a logical component of the standard Petrol service station. These are double-wall underground tanks.

The new generation of double-wall tanks is even safer and more durable. They are made of materials which are permanently resistant to oil products and, owing to their construction, resistant to earthquakes. They are equipped with inter-wall leak control systems. Leakage control applies the latest technology, which is based on constant air pressure between the two walls. In the event of leakage, a light and sound signal warns the employees on the selling premises. All of Petrol’s facilities constructed after 1993 or fully renovated are fitted with such double-wall tanks. At the end of 2006, 98% of Petrol’s service stations were equipped with double-wall tanks, and at the end of last year more than 99%.

A similar prevention system was introduced for the above-ground storage tanks at Zalog, Rače and Sermin, and some tanks at the Lendava storage facility. All feature double bottoms with leakage control. Some are also placed inside steel leak pans and fitted with meters for the remote reading of fuel level and temperature.

In 2007, single-wall tanks were successfully replaced with double-wall tanks in the framework of the construction of substitute facilities or reconstruction of service stations at all locations where such replacement was planned.

Increase in the share of service stations equipped with double-wall fuel tanks
Systemic prevention involving double-wall tanks and double bottoms was successfully introduced at all service stations and storage facilities.
WASTE MANAGEMENT

Reducing the trace without burdening the environment

Professional and economic waste management is financially reasonable and a completely routine element of Petrol’s environmental responsibility. It includes systematic collection, separation, temporary storage and permanent disposal.

Systemic, responsible waste management is an everyday and natural task at Petrol. It all starts with responsibility, energy awareness and consistent compliance with legal provisions. Therefore, Petrol entrusts waste removal and disposal only to those institutions and companies who have the relevant licences and references for such activity. The criterion is simple – waste is disposed of in a manner that does not burden the environment. We encourage our business partners and customers to do the same.

In the last three years, Petrol dealt with and recorded 25 different types of waste. Waste is mostly generated by the activities of service stations and fuel depots. We provide our contractual partners – car workshops with safe waste disposal in the scope of the Petrol2Eko project (more information at www.petrol.si/ekologija/petrol2eko).

Every year, Petrol produces a report on the generation of all waste. The largest quantity of waste is that of collected and removed sludge waste from oil and water separators. In 2006, the collected sludge weighed 1,065 tons, whereas septic tank sludge that was collected weighed 500 tons. In the same year, Petrol collected 655 tons of sludge from treatment plants and 548 tons of paper packaging.

Temporary collection and systemic disposal of hazardous waste since 1996

Special attention is devoted to waste which can be harmful to the environment or people’s health. Petrol has been separately collecting and providing for the safe, systemic removal and disposal of such waste since 1996. Systematic collection, separation, temporary storage and permanent disposal are conducted in strict observance of all the latest legislative provisions. The removal and disposal of collected potentially hazardous waste is carried out exclusively by organisations holding the relevant authorisations of the Environmental Agency of the RS within the Ministry of the Environment and Spatial Planning.

Types and quantities of collected hazardous waste at Petrol service stations, in tons.

Source: Petrol TRKV

1,065 tons of sludge collected in 2006
Safe disposal of 25 recorded types of waste generated at service stations and fuel depots.
How the system of separate collection of waste packaging and municipal waste functions – co-operation with the company Slopak

In order to improve environmental performance and business transparency, Petrol has established an economic system for collecting municipal waste and waste packaging, subject to expert supervision, which ensures that waste paper and plastic packaging is dealt with as prescribed. Both the quantity and method of waste collection are thoroughly recorded, which provides for a constant overview and supervision of the system’s functioning.

In line with the Decree on the Management of Packaging and Packaging Waste, Petrol arranged for the acceptance, processing and recycling of separately collected fractions of packaging waste at all its locations. That is why, in 2003, Petrol joined the system of the packaging waste management company Slopak (www.slopak.si). As a result, in terms of the environment, it is more efficient as a trader, packager of its in-house brand, and importer. According to the legislation, we provide and carry out the regular, continuous and prescribed treatment of packaging waste arising from our activities or generated by our customers.

At every service station there are special typified waste containers installed for the separate collection of packaging waste, paper and plastic. As of 2004, all newly constructed or reconstructed facilities are fitted with suitable special containers for the collection of hazardous and non-hazardous waste. Petrol devotes additional attention to providing containers for mixed municipal waste at service stations that are of optimal size and meet the legislative requirements. All employees have been trained and properly instructed on this issue. Every new idea is precious. In this way we promote and pursue the right approach as well as build an attitude towards the separate collection and treatment of all types of waste encountered by our employees, our customers and the public.

The goals which Petrol aims to achieve by setting up a more extensive system of separate waste collection are environmental compatibility and economy. Namely, such a system allows for optimal economy owing to reduced collection costs and, above all, environmental efficiency on account of its minimised environmental impacts. Its functioning is comprehensive, covering both quality control within the entire collection, sorting and processing chain, and the environmentally acceptable final disposal of waste packaging and other municipal waste at Petrol locations.

Every service station has special typified waste containers installed for the separate collection of packaging waste, paper and plastic. Since 2004, there have also been separate containers for hazardous and non-hazardous waste.

Waste separation in figures
Changes in the quantity of mixed municipal waste upon the introduction of the system for the separate collection of waste packaging at Petrol service stations, in tons.

Source: Petrol TRKV
Reducing waste from the cleaning of storage tanks

Petrol systematically monitors and improves its methods for cleaning above-ground and underground tanks. Positive environmental results were achieved by suitable control of these processes and the modernisation of the cleaning technology and waste processing. As a consequence, the quantity of special/hazardous waste created during tank cleaning has been significantly and proportionately reduced.

Service stations include »ecological points«

All Petrol service stations are currently equipped with special containers for collecting hazardous waste – waste oils, oily packaging, oily and greasy rags, and used absorbent materials. A good 98% of service stations also feature containers for the collection of used vehicle batteries. For several years there have been special ecological containers with environmental first-aid kits installed at all service stations and fuel depots. These include all of the equipment necessary for taking action in case of a small-scale fuel spillage. Facilities for the temporary or provisional collection and storage of special waste are today available at more than half of Petrol’s service stations.
Strategic connections with suppliers and customers

Petrol promotes expertise and improves efficiency. Therefore, we strive to include business partners in the process of collecting, storing and processing hazardous waste. As far as the separate collection of packaging waste is concerned, this means that we will, in co-operation with the company Slopak, devote even more energy to having as many suppliers as possible participating in the expanded system of separate collection of packaging waste. Naturally, motivation plays an important role in the transition to greener forms of activities. Therefore, for several years we have been providing major customers with the free removal and expert disposal of used motor and mineral oils and oily packaging. In addition, at points of sale, we inform all other customers about the possibility of delivering used oil and about the method of collecting and handling hazardous waste. Partners’ positive responses, the utmost importance of responsibility, and the improvement of the natural environment’s quality lead to a logical conclusion – Petrol will continue with the organised collection of waste purchased at its points of sale.

Rationalisation leads to cost-cutting and a reduced quantity of waste

Over the last three years the system of hazardous waste management was implemented as planned and helped Petrol achieve its set goals. The quantity of hazardous waste packaging decreased by approximately 10–15%. This was due to the fact that employees at service stations separately collected hazardous packaging waste in a more conscientious and controlled manner. Already in 2004, Petrol signed an agreement with the company Slopak on payment for the service of separate collection of packaging waste. On the basis of this agreement, Slopak pays Petrol monthly for the service of separate collection of packaging waste. The agreement refers to the collected quantity of plastic and paper packaging, which must be properly separated in suitable containers, cleaned, ready for transport, and accompanied by evidence sheets. Petrol systematically reduces costs and rationalises operations. Rationalisation entails decreasing the quantity of waste and the resulting reduction in environmental taxes. In recent years, such positive guidelines have also been pursued as regards mixed municipal waste. We have dealt with the matter systematically at some tens service stations. The goal? To reduce the quantity of waste compared to figures recorded in the past years. We cut down the volume, replaced containers for municipal waste with smaller ones, and pick up waste less often. The price for the collection and removal of waste depends on the size of the container. This determined approach to reducing the payable municipal waste quantity by means of introducing parallel systems of separate collection has since 2005 led to a more than 10% drop in the charges for municipal waste. Even though the number of service stations rose by approximately 50 between 2002 and 2007, the quantity of mixed municipal waste did not increase considerably. The quantity of plastic, paper and cardboard packaging collected at service stations depends on the volume of sold products with such packaging and the additional range of products. The quantity of collected waste oils was slightly lower due to fewer oil changes at service stations. A decrease was also seen in the volume of oily plastic packaging, resulting from the more consistent collection and separation of such waste at service stations. Furthermore, the amount of used vehicle batteries collected is lower, because the service of battery replacement is carried out less frequently at Petrol service stations.
COMPLIANCE WITH LEGAL AND OTHER REQUIREMENTS

From the new Act to successful adjustments

Environment Protection Act. Decree on the Prevention of Major Accidents. New European classifications. Three examples of efficient compliance with the requirements and guidelines. Petrol devotes special attention to those that directly apply to its activity.

The crucial legislative change in environmental protection and policy is the new amended Environmental Protection Act passed in 2006. Also important were the amendments and the adoption of new implementing regulations on waste, and a special role was played by the Decree on the Prevention of Major Accidents and the Mitigation of their Consequences. The impeccable and supervised systemic prevention of accidents is one of the most important preventive activities of groups such as Petrol.

The Decree on the Prevention of Major Accidents legally refers to the management of safety and security policy at six fuel and liquefied petroleum gas depots (LPG − see the Eco Glossary at the end of this report). In case of a major accident involving hazardous substances, the Lendava, Rače and Štore storage facilities are treated as major environmental risks, whereas the Zalog, Celje and Sežana storage facilities represent minor risks. Some legislative changes related to the prevention of major accidents and the mitigation of their consequences were introduced already in 2005 and continued in 2006. They brought about minor supplements, adjustments and guidance on the prevention of major accidents. Since the Petrol Group had even prior to that complied with and met high environmental standards, the environment-related legislative changes did not have a material impact on

The processes of adjustment and the obtaining of environmental protection permits progressed as planned.

the two decrees, Petrol d.d., Ljubljana was obligated − as the manager − to submit within the legally prescribed period written applications for acquiring all environmental protection permits for facilities that pose a major or minor environmental risk. These facilities include wastewater treatment plants with a capacity of over 250 PE (see Eco Glossary) and fuel storage facilities with a drainage surface covering more than three hectares.

The next step is to obtain the permits. Petrol has to obtain environment protection permits for all the said facilities and locations by the deadlines set by the law. Petrol has been already realising this task.

The harmonisation with the adopted legislation within the Company and all processes for acquiring the environment protection permits were in line with the plans in 2006. Thus, in 2007, all obligations to obtain the relevant permits were met within the prescribed legal deadlines.

1 Decree on the Management of Packaging and Packaging Waste and Decree on the Management of Waste Electrical and Electronic Equipment.

2 Fuel storage facilities and LPG depots were classified according to the new regulation and the European Directive SEVESO II.
PETROL’S ENVIRONMENTAL CARE – ENVIRONMENT FRIENDLY TECHNOLOGIES, SOLUTIONS AND SERVICES

How green are our service stations

Environmental care starts at the service station. From safe construction and double-wall underground tanks through the systemic collection and sorting of safe and hazardous waste to a range of more environment friendly fuels. Some processes are hidden from sight.

ECOLOGICAL POINT
Separate collection of hazardous and non-hazardous waste. Petrol also provides it to its partners.

ENVIRONMENTALLY SAFER TRANSPORT
Every vehicle’s standard equipment includes a set of tools for intervention in case of a small-scale spillage.

CLOSED FUEL DISPENSING SYSTEM
The Level-1 system reduces the evaporation of volatile hydrocarbons by up to 99%. Since 2006, it has been installed at all Petrol service stations. About one in three Petrol service stations are fitted with a Level-2 closed fuel dispensing system with vapour recirculation, which is not prescribed by the law and represents a system above the environmental standard.
ENERGY-EFFICIENT CAR WASH
Only 10–30 l of water is used per wash. Approximately 80% of the water is recycled.

CLEANER AND MORE EFFICIENT FUELS - SMALLER BURDEN ON THE ENVIRONMENT
Petrol Primadiesel and upgraded Super Plus 98 are the two most recent and environment friendly innovations of Petrol for passenger and cargo vehicles.

GREATER ENVIRONMENTAL AWARENESS AND KNOWLEDGE OF EMPLOYEES
Among other things, this includes systematic planning and learning, professional implementation, and supervision of all technological processes. Petrol’s partners and outsourcers actively participate in its system of responsible environmental management.

ENVIRONMENT FRIENDLY ABSORBENT MATERIALS
They are meant for removing smaller spillages of oil products.

OIL, GREASE AND WATER SEPARATOR (EN 858-1)
outflow of purified industrial wastewater
industrial water inflow
layer of separated oils and oil products
automated inflow stop valve
coalescent packings
compact leakproof sink

TYPIFIED BIOLOGICAL WASTEWATER TREATMENT PLANT
1 PRIMARY PRELIMINARY PURIFICATION PHASE
2 TRICKLING FILTER - BIOLOGICAL PHASE
3 SUBSEQUENT PURIFICATION PHASE
PROTECTING THE ENVIRONMENT DURING STORAGE, TRANSPORT AND PUMPING

Reliable supply and environmental care in fuel depots

Unconditional provision of the highest safety level is the basis. It is combined with the introduction of only those solutions which reduce the activity’s environmental impact. From the recovery of vapours in gas tanks (guaranteeing zero emissions into the air) to the multi-level safety of above-ground tanks.

CLOSED BOTTOM-LOADING SYSTEM AT THE CAR TANKERS FILLING PLANT PREVENTS EVAPORATION
Gas vapours from the tanker are first collected in a gas tank via a suction pipe. They then return from the gas tank in liquid form (as fuel) to a suitable tank via the vapour recovery unit for vapour liquefaction.

SYSTEM FOR THE LIQUEFACTION OF COLLECTED VAPOURS
The Vapour Recovery Unit (VRU) operates together with a gas tank. It is designed for recovering vapours from the tanker and railway fuel pumping station.

RAILWAY FUEL PUMPING STATION
Comprehensive safety in the loading and unloading of fuel via railway tankers is ensured by a modern, secure and technologically advanced railway fuel pumping station.
WATER PUMPING FACILITY WITH FIRE WATER TANK
It assures a sufficient amount of water in case of fire.

GAS TANKS FOR COLLECTING VAPOURS
They provide zero emissions into the air and temporary storage of fuels in a gaseous state.

ABOVE-GROUND FUEL TANKS
Double bottom and steel leak pan, floating membrane that prevents evaporation and fixed dome protects against weather impacts – from sun to hail.

OIL AND WATER SEPARATOR
It is upgraded with a safety mechanism for the automatic closing of outflow in the event of an uncontrolled fuel spillage and with special coalescent lamellar separators for more efficient separation of mineral oils from the water.
WHERE AND HOW WE OPERATE – ENVIRONMENTAL SERVICES AND EFFICIENT USE OF ENERGY

The environment can improve

Knowledge, experience and new ideas are introduced by solutions related to the water circle, the more efficient use of energy, waste management, the testing of alternative sources, and participation in regional environmental projects.

Petrol - what and where

Water circle – wastewater treatment
Murska Sobota central municipal wastewater treatment plant
Mežica
Maribor (Aquasystems, d.o.o.)

Participation in environmental projects
Clean-up of the waste acid sludge landfill at Pesniški Dvor

Efficient energy use
Ravne closed industrial zone
Unior Zreče
Martex
Brežice General Hospital
Begunje Psychiatric Hospital
Hutter residential building, Maribor
Ulica Staneta Rozmania and Cvetkova ulica, Murska Sobota

Trigeneration systems
Ljubljana Technological Park

Pilot projects
Solar power plant, Koper Service Station
Hydrogen technology

Natural gas supply
Slovenska Bistrica (in progress)
Komenda (in progress)

Water circle services: collection and treatment of wastewater
Central wastewater treatment plants for municipal water and rainwater. Participating in the plan and project launch, or even managing the project. Expansion to comprehensive water circle supply – including pumping, production and drinking water supply.

GAS STORAGE TANKS
For liquefied petroleum gas supply.

Efficient energy use in the public sector

WATER CIRCLE SERVICES: COLLECTION AND TREATMENT OF WASTEWATER
Efficient Energy Use for Companies and Local Communities
Joint boiler rooms for apartment buildings

Waste Management
Collection and recycling of hazardous and non-hazardous waste. Possible in connection with efficient energy use projects, where waste is used as a raw material for the production of primary energy through an environment friendly procedure.

Environmental Remediation
Planning, co-financing and expert support in implementation.
CHANGE
Petrol provides initiative and solutions

Understanding the needs of the customer and respecting nature. These are the fundamental ethical principles of Petrol. They are associated with knowledge, experience and solutions – in comprehensive environmental services such as the water circle, in energy services with a stress on the efficient use of energy, in the introduction of innovations related to fuels, in its participation in regional environmental projects, and in the exploration of and search for energy alternatives – also through pilot projects. Five small but determined steps within the Group’s operations.

In the past three years, Petrol encouraged a leap of thought and made it a reality. All knowledge was combined and integrated into comprehensive environmental and energy services. We successfully introduced alternative concepts of operation and co-operation with our partners, which proved effective as regards implementing energy ideas and environmental solutions on the market.

By pursuing strategic sustainable development guidelines, Petrol successfully carried out a number of efficient energy use projects for public institutions and companies. We guaranteed partners and customers actual savings and predetermined energy pricing models – and still can guarantee them. Trust and long-standing co-operation is built based on understanding, dialogue and a comprehensive service range.

Innovative approaches to fuels comply with and in some cases surpass the new environmental standards, bringing market success to new product brands. A good example is Petrol “Primadiesel”. Alternative and renewable energy sources have so far not received the proper incentives to make them competitive on the market. However, this will change. That is why we are already closely following and conducting tests of new energy alternatives as well as preparing methods for incorporating them into our business. An example of this is the pilot project Photovoltaic Cells at Service Stations, which will offer suitable financial estimates and valuable hands-on technological experience.
The environment is life

MEŽICA AND MURSKA SOBOTA CENTRAL WASTEWATER TREATMENT PLANTS

Central wastewater treatment plant projects for the treatment of municipal wastewater and rainwater.
• Operation started in 2005/2006, after trial period.
• Treatment capacity: 42,000 PE (Murska Sobota) and 4,000 PE (Mežica).
• The plants provide for the purification of water in municipalities populated by 20,000 people, the industrial area in Murska Sobota¹, and the 4,000 inhabitants in Mežica.
• Petrol performs the public utility service based on concession contracts.
• Contractor: Petrol

Water treatment for the local community

Care for clean water is a mission. That is how Petrol perceives it. Every day we provide for the smooth operation of municipal systems and supply energy to thousands of households.

The Murska Sobota central wastewater treatment plant provides for the treatment of municipal wastewater and rainwater in the catchment area of the Municipality of Murska Sobota. It is designed as a traditional biological wastewater treatment plant with simultaneous denitrification and aerobic sludge stabilisation. The treatment process includes preliminary mechanical treatment, biological treatment using chemical precipitation, additional purification with sand filters, and final sludge treatment and disposal.

Petrol also makes sure that the high standards and social requirements related to environmentally acceptable solutions are complied with in the design and implementation of municipal environmental projects. This is proven by independent monitoring of the legally set parameters at the outflow from the Murska Sobota central treatment plant. All recorded values are below the legal limits.

The Mežica treatment plant is the most recent municipal project and a low-capacity example of the Petrol Group’s good environmental practice. In the 2005–2007 period, the plant achieved the planned wastewater treatment effect according to the applicable regulations. It is managed by the subsidiary Petrol Energetika, d.o.o. from Ravne na Koroškem.

¹ For the companies Pomurka, Pomurske mlekarne, Inox and Agromerkur.
Murska Sobota central wastewater treatment plant

Removal of carbon compounds

Removal of nitrogen compounds

Source: Petrol
Mežica central wastewater treatment plant

Removal of carbon compounds

Chemical oxygen demand – COD, mg O₂/l

Removal of nitrogen compounds

Ammonium nitrogen, NH₄-N, mg N/l

Source: Petrol

Ammonium nitrogen, NH₄-N, (mg N/l)
**What is it and what is its significance for the environment**

- Central treatment plant project for the treatment of municipal wastewater and rainwater.
- A model of public-private partnership with the Municipality of Maribor.
- Achieving quality outflow parameters 95% of the time.
- Contractor: Aquasystems
- Partners: Petrol (26% stake), Suez Environment, Aqua.net, Degremont, Porr Infrastruktur, and Styron.

**MARIBOR CENTRAL WASTEWATER TREATMENT PLANT**

Due to its unique design based on public-private partnership, the project achieves above-average results with regard to technology and economic efficiency. In terms of achievements, the contractor and the plant stand out from the average environmental systems practice in Slovenia, especially as far as the public utility services of urban wastewater treatment are concerned. The factor of private capital is also important, as it provided knowledge, funds, supervision, and motivation for the establishment of suitable conditions enabling successful implementation and economically justified the conditions for the performance of the strategic environmental function of Maribor.

Petrol is a project partner with a holding representing a good quarter of equity. The fact that the outflow parameters related to wastewater treatment are complied with 95% of the time is an excellent achievement according to the EU classification of wastewater.
SOLAR POWER PLANT, KOPER

The photovoltaic system for generating electricity is finally becoming a serious energy alternative. It exploits a renewable source and does not pollute the environment. Its operation is quiet, it requires minimum maintenance, and needs no loading. That is why Petrol decided on a test introduction of such a system at a service station located in an area with an above-average number of sunny days.

The investment was carefully thought over and is realistic. Up to 36 kW of installed power can pay for itself, on average, in 15 years. The useful life of the basic components of the solar power plant is 20 years. After that, the modules will continue operating at an 80% capacity for another 10 years.

The most important are perhaps the non-financial benefits – environmental and social – brought by the project. They include the production of clean energy, the reduction of CO₂ emissions, professional first-hand evaluation of new technology, the greater value of the facility, and mainly the trust enjoyed by the public. If the pilot project is successful, Petrol plans to systematically set up this solution at all standard service stations located in a similar climate environments.
What is it and what is its significance for the environment

- Project for cleaning up the former disposal site of the Maribor mineral oil refinery.
- Project duration: 2005–2008, the clean-up started in December 2006 after the co-ordination of plans and the signing of contracts.
- The construction of the landfill oily acid water treatment plant and the plant for the cleaning and processing of the upper floating oil emulsion layer prevented the risk of spillage into Gačniški potok and the Pesnica River.
- Presumably, about 17,000 tons of waste acid sludge will be excavated and pre-processed, followed by the excavation of the polluted soil, the filling of the pit, and landscape-compatible replanting into a green field.
- Contractors: Gorenje and consortium members – Hidrooprema, Mueg GmbH, Kemis, and E-net Okolje.

PESNIŠKI DVOR NEAR MARIBOR

Clean-up of the waste acid sludge landfill, solution for the environmental burden

Petrol is striving to eliminate the consequences of former technological industrial processes, which today represent a great threat to the environment. The waste acid sludge landfill is one of them.

The disposal site has been built in line with the law. However, from today’s perspective it represents an environmental hazard. We are bringing the demanding project close to its final stage with the help of our partners and under the regular monitoring of the Institute of Public Health. There will be a sour aftertaste until this area is completely cleaned up, replanted and green. Just as it used to be. The project is scheduled to be completed by the end of 2008.

Waste acid sludge is a useless residue from a technological process involving the re-refining of used motor and industrial oils with sulphuric acid. The disposal site was set up in 1966 according to the regulations and permits applicable at that time. The refinery disposed of acid sludge there until 1983. abandoned since then, it has represented an environmental burden on the local community. That is why Petrol included the clean-up of the waste acid sludge landfill at Pesniški Dvor, which was conducted using funds from long-term environmental provisions, in its ecological rehabilitation programme. The waste acid sludge landfill in its specific condition represented a great potential risk for the environment and required remedial actions, among other things the construction of a treatment plant for the middle oily acid water layer and the processing of the floating waste oil emulsion upper layer to eliminate the danger of the landfill’s contents spilling into Gačniški potok and the Pesnica River.

In 2005, a contract was signed on the landfill’s remediation. The main investor is Petrol, the co-investor is the Ministry of Environment and Spatial Planning, and the main contractor is Gorenje, which has set up a consortium for the remediation project. The members of the consortium include Hidrooprema, Mueg GmbH (which has extensive experience with problematic remediation projects), Kemis (which deals with the export of the final remediation product – solidificate – to be destroyed abroad), and E-net okolje (a specialist in preparing environmental impact reports). The final remediation started in early December 2006 and is planned to be concluded by the end of 2008. Constant monitoring covers all its environmental impacts. The final replanting after filling the pit will comply with the standard defining environment friendly landscape interventions and will help restore the natural state of the area.
EFFICIENT USE OF ENERGY

Eight examples of good environmental practice

Energy. Economy. Ecology. Today these are the essence, test and fundamental criterion of the design and implementation of each new energy project of the Petrol Group. Each project must fulfil all three criteria. Below we briefly present eight examples from the past three years. They demonstrate how the understanding of the user’s needs, the market, and the environment can lead to environment friendly and energy-efficient solutions. Each one is a story of its own.

Today Petrol sells not only traditional energy sources, but also offers its customers energy solutions and comprehensive supply – from design to management. This includes heating, cooling and electricity. Modern trigeneration solutions all combined. Slovenia is lacking electricity production sources and this cannot be improved in a short period of time. Efficient energy use projects and electricity and heat cogeneration represent a short-term solution and a means to mitigate the region’s energy malnourishment. This means that adjustable solutions will be introduced. Such solutions can also be implemented quickly.

Petrol provides its customers more efficient energy use based on the TPF (Third Party Financing) concept. We offer what companies, the public sector or apartment communities need. We provide for customised solutions and introduce combinations of different technologies and energy sources, including renewables. The main advantages enjoyed by the customers due to such a project approach are a comprehensive energy solution (no need for them to invest their own funds) and contractually guaranteed results. In practice this means actual savings and pricing models related to supplied energy guaranteed by a contract. Indirectly, this leads to a cleaner environment.

Energy savings depend on several factors. One of them is the existing energy system at the customer’s facility. For the Brežice General Hospital, for instance, Petrol guarantees, based on a contract, a savings of 25% in primary energy.

All projects of the Petrol Group must meet the excellence requirements according to 3E criteria: energy, economy and ecology, or specifically – environmental acceptability. Energy adequacy refers to the use of optimal technological solutions and energy sources that are the most suitable for the customer. Economy simply means that the selected technology, design and energy return of a specific solution must be economical. They must provide for energy at a suitable price in the long run. Environmental compatibility constitutes the long-term adequacy of energy supply based on sustainable development principles – having a minimum impact on the environment.

The public sector represents a huge potential as regards energy savings. This is the case mainly owing to a technologically obsolete and energy-wasting infrastructure. On account of the electricity price increases in 2007 and early 2008, and the announced higher government grants for the promotion of cogeneration units, the interest of the corporate sector is slowly growing.

Perhaps the total reduction in greenhouse gas emissions and total annual energy savings arising from the efficient use of energy, measured in tens of thousands of megawatt hours of primary energy, do not yet seem as impressive as their annual growth. The latter approached 50% last year. In this way Petrol proves that decisive environmental business strategies are also feasible opportunities. The examples speak for themselves.
Today

Petrol does not sell traditional energy sources, but offers its customers energy efficient solutions and comprehensive supply – from design to management.
The Unior project represents one of the first projects of cogeneration and efficient energy use commissioned by an external customer. The CHP unit supplies heat energy to the district heating system of Zreče and provides heat for warming the Terme Zreče pools. Through this implemented project, Petrol is successfully realising its primary goal: contractually guaranteed energy savings. In addition, the efficiency of cogeneration contributed to better air quality and the conservation of the natural environment, as the emissions of one of the main atmospheric pollutants (carbon dioxide) were reduced.

**What is it and what is its significance for the environment**

- Cogeneration of heat and electricity project for the more efficient use of primary resources.
- Established in 2005
- Production in 2007: 3,300 MWh of electricity and 5,500 MWh of heat.
- Energy savings in 2007: 3,469 MWh of primary energy.
- Reduction in CO₂ emissions in 2007: 698,000 tons compared to traditional separate production.
- Contractors: Petrol and Unior

**Efficient cogeneration of different forms of energy contributes to cleaner air and the conservation of the natural environment.**
Comparison of CO₂ emissions generated during cogeneration and in the separate production of electricity and heat energy

Source: Petrol Energy Department (SE)

Production of electricity and heat energy compared to gas consumption in 2007

Source: Petrol Energy Department (SE)
CHP MARTEX, VOLČJA DRAGA

The Martex project is an example of good practice and co-operation with the aim of more efficient energy use in industrial production processes. These processes represent a great potential for energy savings and more environmentally acceptable solutions. Petrol has been conducting this project on behalf of Martex in conjunction with its partner, E3. After the careful examination of alternatives and the customer’s decision, the project solution was prepared based on the primary energy source of natural gas.

**What is it and what is its significance for the environment**

- Cogeneration of electricity and heat project for more efficient use of primary sources in industrial production; heat is used in the production of ceramic tiles.
- Established in 2005
- Production in 2007: 4,133 MWh of electricity and 5,663 MWh of heat.
- Reduction in CO₂ emissions in 2007: 784 tons compared to traditional separate production.
- Contractors: Petrol and E3, d.o.o.

**Production of electricity and heat energy compared to gas consumption in 2007**

**Comparison of CO₂ emissions generated during cogeneration and in the separate production of electricity and heating energy**

Source: Petrol SE
LJUBLJANA TECHNOLOGICAL PARK

Exceptional power generation facility in technological terms, supplying a hi-tech centre

The appeal and complexity of the challenge were intertwined in the design of optimal energy support to probably the most promising Slovenian companies in terms of development. The solution created by Petrol’s experts provides companies and institutions which are members of the technological incubator complete independence as well as uninterrupted supply to the major consumers even in the case of an entire power grid failure.

Reliability of an economical, and environment friendly solution was linked with independent energy self-sufficiency.

The year 2007 saw the start of operations of a power generation facility which represents one of the most modern efficient energy use solutions within the Group and on the market. As always, the needs of the customer (Ljubljana Technological Park) were put first. This park provides the basic conditions for the development of hi-tech companies. Petrol linked a reliable, economical, and environment friendly solution with independent energy self-sufficiency.

The preliminary results reveal that the plans were accurate. An additional advantage of the project is the transparency and openness of contractual co-operation. As a result, energy upgrading is possible, as is a modular add-on in the form of a similar power generation facility in case the technological park expands. Reliable supply, guaranteed savings, and a suitable price for energy, along with the flexibility of the contractual solution for comprehensive energy supply, represent a good foundation for a long-term environmental partnership. Automated management, remote control, and energy bookkeeping provide for simple use and transparency.

What is it and what is its significance for the environment

❄ Modern power generation project combining different trigeneration technologies for the production of power, heating and cooling.
❄ The efficient energy use system is a modern trigeneration unit – simultaneous power, heating and cooling generation by means of absorbers.
❄ The power generation facility comprises natural gas boilers, compressors, cooling towers, a remote control system, energy bookkeeping, and other accessory infrastructure.
❄ Established in 2007
❄ Planned annual production: 2,500 MWh of electricity, 2,800 MWh of heating energy and 2,200 MWh of cooling energy.
❄ Planned annual savings in primary energy: 1,458 MWh
❄ Reduction in CO₂ emissions: 76 tons annually
❄ Contractor: Petrol
Total CO$_2$ reduction from the three CHP projects

![Reduction in CO$_2$ emissions (CO$_2$ tons/year)](chart1)

Source: Petrol SE

Total electricity produced by the three CHP projects

![Production of electricity (MWh)](chart2)

Source: Petrol SE
Total CO₂ savings from the three efficient energy use projects

Total savings in primary energy from the three efficient energy use projects
A 25% decrease in energy consumption, equal comfort of patients, and greater reliability of the heating energy supply.

A 25% savings in primary energy compared to the previous system and a priceless experience as this was the first such co-operation with the public sector. These are only two of the reasons for satisfaction and the welcoming of new challenges.

At the Brežice General Hospital, Petrol introduced the first, turning-point example of good efficient energy use practice in the public sector under a contract on comprehensive energy supply and guaranteed savings owing to the introduction of a cleaner energy source.

This was an extremely valuable experience as well as a reference energy project of this type in Slovenia. Petrol took on the project after winning a public tender.

The project included supervision, the adjustment of previously prepared projects, financing, and the reconstruction of the system generating heating energy. As a result, the primary source of energy was used more efficiently, and natural gas, as a cleaner energy source, replaced heating oil.

Due to greater energy efficiency and the transition to a cleaner energy source, the year 2007 witnessed a decrease in CO₂ emissions in the amount of 357 tons.

Based on the contract, Petrol undertook to bring the Hospital a 25% savings in the consumption of primary energy, with patient and staff comfort staying on the same level.
BEGUNJE PSYCHIATRIC HOSPITAL

This was the second efficient energy use project in the public sector carried out by the Petrol Group. It comprised a series of interventions and optimisations in view of the client’s wishes. These included the replacement of two hot-water boilers, a steam generator, and the system for providing hot water (which meets environmental requirements) with automation and regulation. Uninterrupted supply was one of the implementation requirements. The working environment of the hospital warrants special flexibility and consideration. Efficient support and fulfilment of the needs of humanitarian institutions and people in need of help give special satisfaction to the experts from the Petrol Group.

HUTTER RESIDENTIAL BUILDING, MARIBOR

The investments were realised based on a contract on the comprehensive supply of energy. They represent a reference solution for the significant mitigation of a generic problem associated with apartment buildings – energy waste, unreliable supply, and high costs. Efficiency improved owing to the replacement of the worn-out heating infrastructure and the introduction of suitable controls. Consequently, consumption of the primary energy source (extra-light heating oil) and greenhouse gas emissions decreased by 25%.

POWER GENERATION FACILITY OF THE ASSOCIATION OF OWNERS OF CONDOMINIUMS AND BUSINESS PREMISES AT ULICA STANETA ROZMANA AND CVETKOVA ULICA, MURSKA SOBOTA

The new common boiler room project in Murska Sobota was implemented in a very short time. On the basis of the concluded contract on the comprehensive supply of energy, Petrol designed, financed and conducted the reconstruction of the outdated common boiler room, guaranteeing the client a 15% savings on its primary energy source – extra-light heating oil. The percentage of guaranteed savings is based on the selected technology solution, reference consumption, and reference temperature deficit. Both the contract on comprehensive supply and the guarantee provide an opportunity for better business co-operation and the acceptance of the project by the local community and its inhabitants.
COGENERATION IN RAVNE NA KOROŠKEM

First and largest cogeneration project

At the then Energetika Ravne in 1999, Petrol carried out a CHP project, which is in thermodynamic terms the most efficient method of fossil fuel use. In October 1998 we signed a contract with Eta Energieservice GmbH on the operating lease of the system for a period of 10 years or 60,000 operating hours.

At first, we studied the set-up of a CHP system with a gas turbine and utiliser, but it later turned out that given the conditions in the Company, a CHP with gas engines would be more suitable and profitable. Such a solution is more adaptable to changing loads. At the same time, it is more reliable, integration with the existing system is simpler, and the maintenance costs are lower.

Gas modules are included in the boiler room system of the existing district heating installation for the production of hot water for Ravne and the companies in the closed industrial zone of the Ravne Ironworks.

- Project of cogeneration of heat and electricity for more efficient use of primary sources; waste heat in the cogeneration process is used for the district heating of Ravne and the companies in the closed industrial zone of the Ravne Ironworks.
- Established in 1999
- Production in 2007 (as qualified power plant): 35,959 MWh of electricity and 35,723 MWh of heat. In the summer, an additional 6,289 MWh of electricity and 662 MWh of heating power was produced.
- Primary energy savings in 2007: 18.99%
- Reduction in CO₂ emissions in 2007: 4,247 tons compared to traditional separate production
- Contractors: Petrol Energetika, d.o.o., Eta Energieservice GmbH

❄ Project of cogeneration of heat and electricity for more efficient use of primary sources; waste heat in the cogeneration process is used for the district heating of Ravne and the companies in the closed industrial zone of the Ravne Ironworks.

❄ Established in 1999

❄ Production in 2007 (as qualified power plant): 35,959 MWh of electricity and 35,723 MWh of heat. In the summer, an additional 6,289 MWh of electricity and 662 MWh of heating power was produced.

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❄ Reduction in CO₂ emissions in 2007: 4,247 tons compared to traditional separate production

❄ Contractors: Petrol Energetika, d.o.o., Eta Energieservice GmbH
Production of electricity and heating energy compared to gas consumption

- Production of el. energy
- Sale of heating energy
- Consumption of natural gas

CO₂ emissions arising from cogeneration and separate production

- Separate production
- Cogeneration

Source: Petrol Energetika, Ravne
QUALITY AND INNOVATIONS IN FUELS

Nature has had enough

Petrol assures care and makes a contribution by providing quality fuels and innovations. Environmental requirements pose a challenge and are an obligation. The introduction of biofuels and higher quality are two steps in the right direction.

The consequences of man’s activity on our environment are increasingly noticeable, whereas the accumulated problems persistently penetrate the everyday operations of companies. Legal requirements are markedly more stringent, focusing on the reduction of risk to and harmful impacts on the environment. Companies dedicate ever more effort to find replacements, alternatives and improvements for the processes and products which may be harmful to the environment but cannot be fully avoided due to their importance.

Petrol actively participates in these efforts. Both in seeking and introducing more environmentally suitable solutions. We are well aware that the issue of suitable environmental protection is serious and for many years we have been devoting it our full attention. An energy company must operate so as to provide a reliable supply of key energy sources to the market and achieve a positive business result. Petrol, in addition to attaining these goals, demonstrates a high level of environmental awareness.

In recent years, Petrol has championed more environment friendly solutions by:

❄ providing fuels that comply to stricter legal environmental requirements which more and more restrict the content of elements harmful to the environment, for instance sulphur and aromatic substances;
❄ introducing biofuels; and
❄ introducing fuels of higher quality that are more environment friendly.

Sulphur content in fuels

Since 2005 all motor fuels of Petrol have fulfilled the requirement of sulphur content below or equal to 50 mg/kg (0.005% m/m). Petrol is already today preparing for the next big step in this direction. Namely, the transition to so-called sulphur-free fuel which will take place in 2009 and whereby the sulphur content will be limited to 10 mg/kg. This is a demanding project that comprises both the provision of suitable sources as well as the adjustment of the overall logistics of supply and sales. In the segment of extra-light heating oil, by the beginning of 2008 we had reduced the sulphur content from 2,000 mg/kg (0.2% m/m) to a maximum of 1,000 mg/kg.

Introducing solutions, replacements and improvements that are more suitable for the environment, and decrease emissions. For example, the content of sulphur in extra-light heating oil was reduced by half by the beginning of 2008.
Introduction of biofuels

In an effort to reduce global warming, biofuels are becoming one of the major energy substitutes for oil-based fuels. At present, biodiesel is still the most available and tested fuel of this type. Even though its production price is not yet completely competitive compared to fossil diesel, Petrol began including it in its service range already in 2004. The volume of biodiesel sales has been growing every year, however the objectives set in the Directive on the Promotion of the Use of Biofuels\(^1\) cannot be met.

The sale of biofuels, both in Slovenia and most countries of the EU, does not meet the expectations and requirements. The reasons lie in the non-competitiveness and high price of biofuels as well as the fact that obligations apply only to the fuel distributors and not the users. Biofuels would be used more extensively if “motivational elements” existed, making this type of fuel more interesting for a wider circle of users. Under the current conditions, fuel distributors are lacking the suitable and sufficiently efficient leverage to boost the sales of biofuels – a fact that Petrol’s experts have been pointing out for a number of years.

In spite of the conditions and facts presented above, Petrol has been intensively seeking new solutions to promote the use of biofuels and other alternative fuels. Already in 2008, Petrol plans to start introducing biofuels in the petrol segment. The most acceptable possibility is the mixing of bioethanol with unleaded 95-octane petrol.

Petrol is also entertaining the idea of introducing more radical forms of alternative fuels, such as natural gas (CNG) and hydrogen. As these are not widely used in Europe or the rest of the world, and are associated with heavy financial investments, Petrol wants to attract and include corporate partners and the relevant national institutions in these projects.

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Source: Petrol Laboratory

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Promotion of alternatives and biofuels

Biodiesel was included in Petrol’s product range in 2004. Sales have been on the rise ever since.

\(^1\) Directive 2003/30 EC.
IMPROVEMENTS IN FUELS

Petrol Primadiesel, prima heating oil, and cleaner Super Plus 98

We do not reduce negative impacts on the environment through restrictions alone. Since it is impossible to do without traditional fuels, we can help lessen their environmental burden by making specific improvements. Nature deserves it. In recent years, Petrol has launched quite a few novelties with a stress on more environment friendly solutions.

Unfortunately, it is not possible to reduce the negative impacts on the environment by restrictions and additional, more stringent requirements for the physical and chemical characteristics of fuels. Just like in everyday life, the characteristics of a product can also be improved by the use of suitable additives. These have to be tested and completely acceptable from the environmental aspect. They are added to fuels in very small quantities, but have a great effect. They increase the stability of fuels and influence the combustion processes in engines and furnaces. As a result, the efficiency of devices is greater and, accordingly, emissions of substances and compounds presenting a burden on the environment are smaller. All of the fuel novelties introduced by Petrol in recent years have a significant “environmental function”. At a time when buyers and producers put direct economic effects before other effects, the significance of these novelties is even greater. They bring savings to users and considerably contribute to a lower burden on our living environment. Fossil fuels, which we are vitally dependent on, cannot be considered environment friendly as such. However, they can be influenced so that they represent a smaller burden on the environment.

What are they and what is their significance for the environment

- “Super Plus 98” unleaded motor petrol
  98-octane petrol – sulphur content reduced to 10 mg/kg maximum.
  Environmental impacts: Owing to its lower sulphur content, this fuel is classified among the so-called “sulphur-free fuels” which enable optimal and efficient functioning of the modern exhaust purification devices installed on vehicles.

- “Primadiesel” is a completely improved above-standard diesel fuel, an upgrade of the conventional “Eurodiesel”.
  Environmental impacts: It contains an efficient multipurpose package of additives that improve combustion and engine efficiency, consequently reducing the consumption of fuel and decreasing the emission of harmful substances into the environment. Its use provides for better protection and purity of the combustion chamber and fuel injection system, which makes the effects even more noticeable when used regularly.

- “Prima” heating oil is a new, above-standard extra-light heating gas oil. Improvements made using an efficient range of add-ons are primarily geared at boosting the reliability and efficiency of systems operating on heating oil.
  Environmental impacts: Greater energy efficiency improves the efficiency of a device. All this has a favourable impact on fuel consumption and decreases the emission of harmful substances into the environment as a result of fuel combustion. As there are less residues and deposits in the system, the probability of stoppages, repairs needed and re-setting of burners is lower. Moreover, the fuel is more resistant to ageing, resulting in a smaller quantity of sediment and waste and consequently longer periods in between tank cleanings. Residue after cleaning is a dangerous type of waste and a potential hazard for the environment if spilled or not handled securely as prescribed, meaning safely disposed of.
Welcome to the central Slovenian Oil Laboratory

Research, development and testing of oil and related products in the Petrol Group are for the most part connected with the Petrol Oil Laboratory. After several years of professional training of in-house staff and gaining experience in oil activity and technical diagnostics, the scope of work and activities of the laboratory has been constantly expanding. The reputation won by the laboratory in this period ranks it among the central and most highly respected oil control institutions of its kind. In Slovenia and the wider region.

The laboratory is named after Petrol, but it is an independent control institution. It renders comprehensive laboratory services both to the parent company and external clients. For this purpose it gained accreditation years ago, which represents an additional guarantee of quality and impartiality of services to all users.

The basic mission of the Petrol Laboratory is the provision of comprehensive and highly professional services in oil products and related areas. These include testing, preparation of independent expert opinions, advising, and research. The tests and analyses comprise a wide range of oil products¹, lubricants² and chemical products³. The tests and analyses are conducted based on the internationally recognised standard methods – SIST, EN, ISO, ASTM and DIN – prescribed by national, international and other standard and technical regulations.

In 2004, the Petrol Laboratory expanded its testing and research programme by introducing new forms of alternative fuels with a stress on biofuels. This coincided with Petrol’s decision to start integrating more biofuels into its sales range more intensively. Since then, research and testing have also covered end products such as biodiesel and bioethanol, as well as the raw materials needed for their production.

This is a very important but less researched issue, related specifically to more extensive social efforts to reduce the environmental burden arising from fuels.

¹ Fuels.
² Motor, industrial, transformer and waste oils, and heat and grease transfer oils.
³ Oil solvents, brake and cooling fluids, paraffin, and vehicle treatment agents.
Accreditation is important especially for those users of laboratory services whose testing is subject to legal regulations. This includes the quality control of liquid fuels. The accreditation confirming compliance with the SIST EN 45001 standard was acquired by the Petrol Laboratory as the first chemical laboratory in Slovenia already in 1998. The last in the series of accreditations was the 2006 accreditation document testifying that the laboratory meets the requirements of the SIST EN ISO/IEC 17025:2005 standard.

Accreditation ensures that the testing results of oil products, fuels, lubricants, solvents and chemical products conducted by the Petrol Laboratory are internationally traceable and thus valid. The Petrol Laboratory is at present accredited for 71 testing methods. It is authorised and recognised as a qualified laboratory for testing methods aimed at determining the environmental and other characteristics of petrol, diesel and heating oil.

The Environmental Agency at the Ministry of the Environment and Spatial Planning issued the Petrol Laboratory an authorisation until 2010 to assess hazardous waste and the implementation of the process including the sampling, chemical analysis and measurement of other characteristics of hazardous waste. This is only one of the activities through which the Petrol Laboratory provides for professional excellence in environmental research.
ENVIRONMENT FRIENDLY PLANS THAT WILL MAKE A DIFFERENCE (AND ARE OF STRATEGIC IMPORTANCE FOR NATURE AND US)

GRADUAL EXPANSION OF ENVIRONMENTAL ACTIVITY
We will strive to obtain concessions for constructing new or upgrading existing wastewater treatment plants. Wastewater treatment plants construction and management will be expanded so as to include the management of the entire water circle. As partners we will take part in alternative solutions for municipal waste management at incineration plants.

IMPLEMENTATION OF GREEN PILOT PROJECTS
In 2008/2009 we will implement pilot projects related to solar, wind and geothermal energy. Some are already in the first evaluation phase.

EXPANSION OF EFFICIENT ENERGY USE PROJECTS
Each year we will carry out up to two major projects in the industrial and public sectors and two minor boiler room renovation projects based on the principles of efficient energy use. At the same time, we plan to continue providing for cost optimisation of our ongoing efficient energy use (EEU) projects.

FURTHER ESTABLISHMENT OF THE AUTOGAS SALES NETWORK AT PETROL’S SERVICE STATIONS
In addition to providing an example by increasing the number of company vehicles operating on LPG (autogas), Petrol plans to upgrade 30 service stations with the gas sales module in the next two years.

COMPLETED CLEAN-UP OF THE WASTE ACID SLUDGE LANDFILL AT PEŠNIŠKI DVOR
By the end of 2008, the location where the clean-up of the acid sludge landfill near Maribor is being carried out will be restored to the original natural state.
Short Eco Glossary

ECOLOGY – The science of the environment.
EMISSIONS – The discharge of liquid, solid or gaseous substances into the environment. Noise, vibrations, radiation, heat and light.
VOLATILE HYDROCARBONS – The substances most often produced from oil. Petrol, special fuels, special solvents – xylene, toluene, benzene.
OIL AND WATER SEPARATOR – A facility or device for separating grease, oil or other floating substances from wastewater.
PE – Population equivalent – a unit of measurement of water load. It is equivalent to the pollution caused by one member of a population per day.
CHP – Cogeneration – the combined production of heat and power.
TRIGENERATION – Combined power, heating and cooling generation by means of an absorber.
EEE – Efficient energy use.
LIQUEFIED PETROLEUM GAS (LPG) – A family of light hydrocarbons; the most well known and used are propane and butane. It is produced during the processing of crude oil, at natural propane deposits, and by distillation from natural gas.
SULPHUR CONTENT (mg/kg) – Sulphur content in fuel.
NATURAL GAS – Gaseous fossil fuel. Its main component is methane; however, the composition depends on the deposit site. It can be found underground, usually where there is oil, and it is created in a similar way.
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