Sarroch Refinery
Environmental and Safety Report 2006

SARAS

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Index

Presentation

Saras' history shows, through the achievement of its objectives, its firm commitment to combining industrial development and environmental sustainability, while complying with the highest safety standards.

Today, with our listing on the stock exchange, we have taken on a further commitment: added to our primary social responsibility to the community of Sarroch and the whole of Sardinia, historic reference points for Saras, is our responsibility to investors.

This new commitment will form the basis of the future of the company, which is increasingly geared towards the achievement of excellence and value creation against a backdrop of environmental sustainability and respect for individuals.

In this context, the Environment and Safety Report represents an important channel of communication, which bears witness to the transparency with which Saras intends to deal with its stakeholders. It also represents the cornerstone of our commitment to disseminate timely information on the management of environmental and safety issues in the plant.

The document sets out in detail the current plant and machinery owned by the site, together with developments over the last five years: the main quantitative indicators show an encouraging trend of improvement, backed by a significant financial commitment.

The refinery's Environmental Report is the first step on the route to environmental certification, which will lead to the achievement in 2008 of our objective of gaining EMAS registration of the production site. EMAS represents a new long-term commitment, geared towards ongoing improvement, which, based on commitments made to the public, will enable the results to be audited and monitored jointly with the main supervisory authorities.
Saras wants to promote a way of working where safety and the environment will increasingly become an integral part of everyday operations, and where the development strategy and financial objectives must be pursued in accordance with these fundamental values.

We would like to thank everyone who, through their work and dedication, has enabled the company achieve these excellent results.

Dario Scaffardi
General Manager Saras S.p.A.


NGELO MORALI

The Sarroch site

The Sarroch plant and the Saras Group

Major production centre in the heart of the Mediterranean

In terms of its size and treatment capacity, Saras' Sarroch refinery is one of the most important refineries in Italy and Europe: it is one of the largest in the Mediterranean in terms of production capacity and second in terms of complexity among Europe's six "supersites," that is, large, highly complex plants integrated with petrochemical production.

The Sarroch refinery today accounts for approximately 15% of refining capacity in Italy, with an effective crude-processing capacity of 15 million tons (around 300,000 barrels/day); a catalytic conversion capacity of 9.6 million tons/year (FCC + 2 MHC) a thermal conversion capacity of 2.4 million tons, and an integrated gasification combined cycle plant (IGCC) with a capacity of 1.2 million tons per year, which is to all intents and purposes a conversion plant.

The Sarroch site is located approximately 20 km south of Cagliari, in an excellent geographical position offering strategic connection to both European and North African countries in the central-western Mediterranean area. At the same time, its close proximity to Polimeri Europa and Sasol Italy enables it to integrate its refining operations with petrochemical production.

Thanks to its large processing capacity and structural complexity, the Sarroch plant is a production hub in the Mediterranean, able to carry out both separation and conversion processes and to modulate the various phases of the production cycle on the basis of the characteristics of the crude oil to be processed, in order to obtain high-quality, commercial and environmental oil products.

The Saras Group

The Saras Group, established in 1962 by Angelo Moratti, is one of the leading operators in the refining of crude oil and sale of oil products in Italy and Europe. It operates in the following areas:

- the refining of crude oil and the sale and distribution of a wide range of oil products (including gasoline, gas oil, naphtha, diesel, LPG, aviation fuel) on the domestic and international markets;
- the generation and sale of power through Sarlux and Parchi Eolici Ulassai;
- IT services through Akhela, and industrial-engineering services and scientific research for the oil, petrochemical, energy and environmental sectors through Sartec.

The Group has 1,810 employees, and as of 31 December 2006, it reported EBITDA of EUR 411 million and net profit of EUR 395 million.
In light of its solid competitive base on international markets, Saras was listed on the Blue Chip segment of the Italian Stock Exchange in May 2006.

Group Companies

Saras SpA - controlled by Angelo Moratti Sapa - is the parent company, established in 1962 to carry out refining, and today owner of the Sarroch production plant. It holds shareholdings in a series of subsidiaries in Italy and abroad, briefly described below.

Arcola Petrolifera sells oil products on the domestic wholesale market, in Sardinia and through various bases located throughout northern and central Italy. The company also provides transit services to oil operators for retail and bunker activities from its logistics centre in Arcola (near La Spezia).

Sarlux was established to build and manage the refinery's IGCC (Integrated Gasification Combined Cycle) plant.

Saras Energia SA distributes oil products on the Spanish wholesale and retail markets.

Sardeolica (100%-owned by Parchi Eolici Ulassai) generates power from wind farms in the Sardinian region. Sardeolica built and manages a wind farm in the municipality of Ulassai (OG) with installed capacity of 72MW. The farm, which began operating in 2005, is one of the largest in Italy, and is an excellent addition to the region.

Akhela is an IT company with extensive experience in managing the Sarroch refinery's IT systems; it provides services and solutions in the information, communication and technology sectors related to logical security in IT environments, and to physical security in industrial environments; it offers consultancy for the reorganisation and rationalisation of IT infrastructure, develops cutting-edge tools and applications in the embedded sector for the automotive (engine management), audio processing and avionics industries.

Sartec-Saras Ricerche e Tecnologie offers industrial engineering and scientific research services nationally and internationally. It has set up a joint venture in China with a local partner, and has installed an environmental monitoring network in the city of Shou Zou in the Yangtze area. Sartec also designs, manufactures and implements modular package plants installed on skids to identify environmental emissions.

Development of the Refinery

Saras' history at Sarroch dates back to 1962, when Angelo Moratti identified it as a strategic location for an oil refinery.

Construction of the refinery plants began in 1963, starting with the first atmospheric distillation unit, the first three desulphurisation plants and the marine terminal. Refining activity began in 1965.
Over the years that followed, the Saras refinery acquired an increasingly important position in the Mediterranean basin, thanks to continual upgrades to its production facilities to keep up with market developments and guarantee constant improvements in its environmental performance in line with new regulations.

Until the end of the 1980s Saras mainly provided refining services for third parties, that is, it refined crude oil owned by other oil companies that turned the raw materials over to Saras to obtain oil products after processing; during that time, refining crude oil acquired directly by Saras was a secondary activity.

In the mid-1990s, following a significant downturn in demand for high-sulphur fuel oil, Saras launched a major industrial project: to build an integrated gasification combined cycle (IGCC) plant to generate electricity from a heavy fraction (TAR) derived from the refining process, using highly efficient technology with a very low environmental impact.

The project was carried out through Sarlux, 100%-owned by Saras, and today the Sarroch refinery is an energy pole that generates enough power to meet more than 30% of Sardinia's requirement; furthermore, the full integration of the oil production cycle with the power cycle allows for the complete conversion of raw materials into finished oil products and electricity.

In subsequent years, the company continued to invest in and update technology for its production plants and to improve the environmental impact of fuels, partly to comply with increasingly stringent quality standards established by regulations.
These initiatives led to a progressive reduction in the percentage of sulphur in the refinery's oil products and to an improvement in the quality of middle distillates and gasoline: between 1997 and 2001 investment of approximately EUR 1.2 billion was made to achieve these objectives.

In 2006 Saras began implementing an investment plan (2006-2009 plan) totalling EUR 600 million, with the objective of optimising operations at the Sarroch refinery; measures taken during that year led to an improvement in the plants' conversion capacity (that is, their ability to convert heavy distillates from refining into high-added value products such as gasoline and diesel fuel), thereby increasing the refinery's profitability.

As part of this programme, two maintenance operations are planned for 2007, one in the second quarter and the other in the fourth quarter.

In the second half of 2006, building work began on two new processing units that will enable the refinery to increasingly comply with directives on environmental performance:

- the new U800 desulphurising unit will come on stream from the second half of 2008 and will allow the refinery to produce solely high-quality gasoline, in line with European specifications which, as of 2009, will require sulphur content to be less than 10ppm;
- the TGT unit - a plant that treats gas outflows from sulphur recovery facilities - will also be operative in the second half of 2008, and will further reduce sulphur oxide emissions into the atmosphere.

As well as having a positive impact on production levels, the other projects in the 2006-2009 investment plan will maximize heavy crude oil processes and improve the plants' energy efficiency.

Sarroch refinery oil production

The Sarroch plant has a high output of medium products (gas oils) and light products (GPL, naphtha, gasoline), which in 2006 were 81% of total production, as shown in Graph 1.
The impressive production potential and skilful management of commercial activities have enabled the plant to maintain high production levels over the years, totalling an average of 14.3 million tons per year over the last five years.

Furthermore, the refinery's location proved strategically suited for supply of crude oil from North African countries and the entire Mediterranean area, as well as from the nearby Middle East. Supply diversity is possible due to the production cycle's flexibility and adaptability.

Table 1 below provides a breakdown of the origins of raw materials processed in 2006.

GRAPH 1 – REFINERY PRODUCTS IN 2006

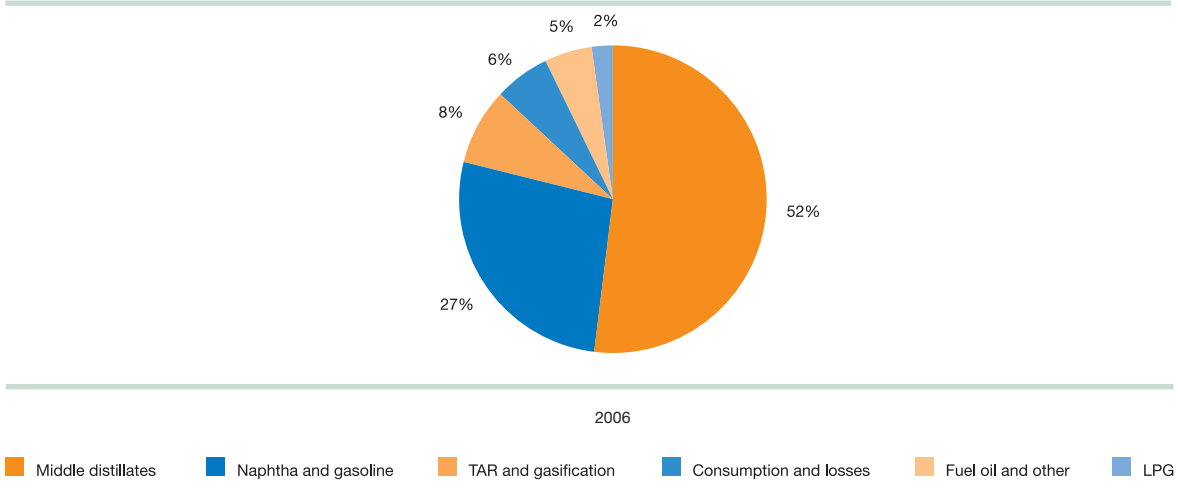


TABLE 1 – RAW MATERIAL PROCESSED BY THE SARROCH REFINERY: ORIGIN OF CRUDE OILS (DATA %)

Place of origin	2002	2003	2004	2005	2006
Africa	46	53	54	61	61
The Middle East	23	25	19	13	13
Former Soviet Union	14	10	11	8	6
Europe	17	12	16	18	20
Total	**100**	**100**	**100**	**100**	**100**

Refinery products are primarily, although not exclusively, destined for the central and western Mediterranean basin.

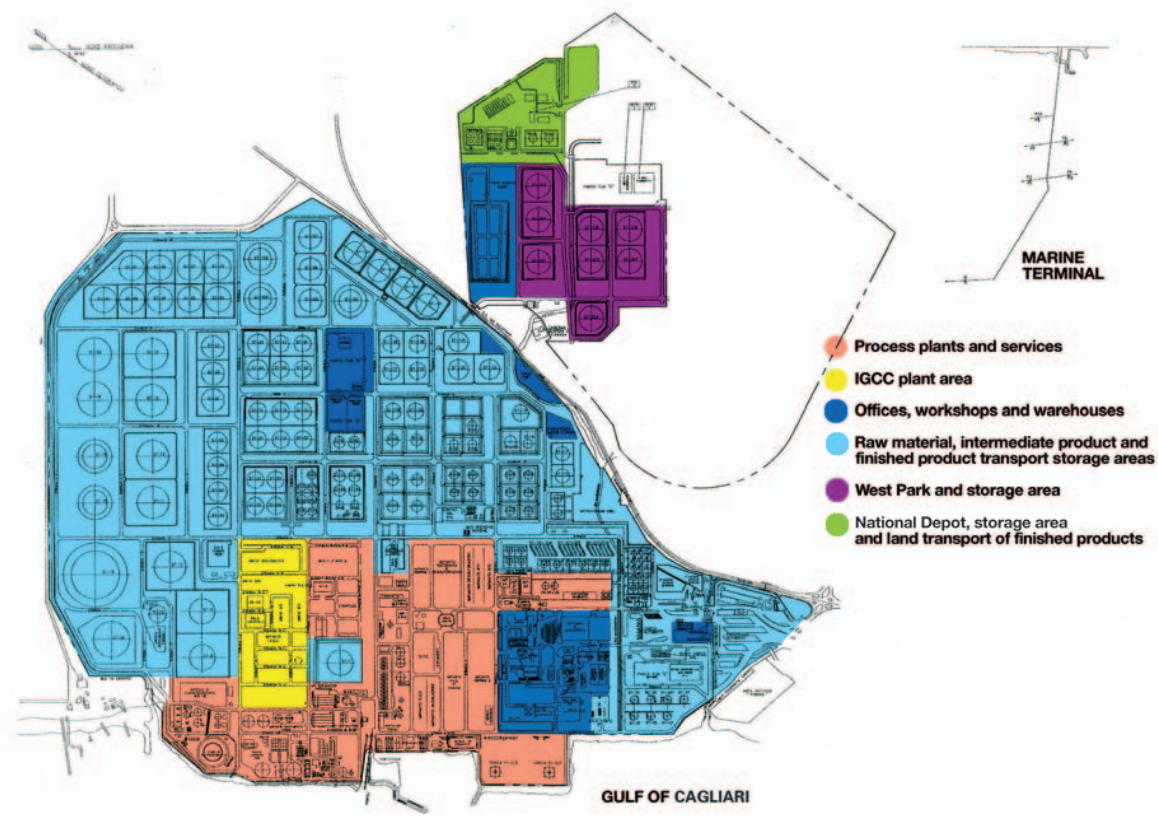
During the 2004-2006 period, almost a quarter of total production of oil products was absorbed by the regional market. Overall, in 2006, 9.2% of products were shipped in tanker trucks; approximately 12% through pipelines connecting the Saras refinery with the plants of Polimeri Europa, Sasol and the Sarlux IGCC, and the remaining 78.8% was shipped in oil tankers.

Plant description

From a functional viewpoint, the Sarroch plant can be divided into five distinct sections:

- the marine terminal;
- the production area;
- the storage area;
- the handling and shipping area;
- auxiliary services.

FIGURE 1 – GENERAL BLUEPRINT OF THE SARAS REFINERY



The marine terminal

The crude oil and feedstocks received and all products shipped to markets outside the region arrive and leave by sea. As we have already said, in the 2004-2006 period, an average of around 78% of all oil products dispatched from the site were transported by ship.
The marine terminal connected with the refinery has a 1,600m-long wharf and a fixed platform connected to it by a 1,200 m-piling.

The terminal has nine independent docking berths, seven of which are for shipping finished oil products and docking oil tankers of up to 65,000 tons dead weight capacity. There are also two other metal platforms which enable ships of up to 300,000 tons deadweight capacity to dock to discharge crude oil; all berths and platforms can operate simultaneously, thus reducing waiting times for roadsted ships.

The wharf has advanced monitoring systems to ensure maximum safety throughout manoeuvres, while the docking berths have safety systems installed that are activated during manoeuvres and docking, as well as systems connecting ships to loading/unloading lines to transfer raw materials and finished products to land.
Lastly, there is a control room at the head of the wharf, manned 24 hours a day, which maintains constant radio contact with the ships.

In order to be admitted to the Saras terminal all arriving ships must comply with safety standards conforming to internally-recognised criteria set down by the Saras Group; these requirements are screened before ships leave their ports of origin (see page 22).

The production area

The refinery's production area consists of numerous oil-processing plants, which can be divided into:

- *distillation plants,* that is, the atmospheric–distillation (topping) and vacuum-distillation units, which produce the primary fractions from crude oil;
- *residue and heavy-distillate conversion plants,* where conversion processes (transformation by means of chemical reactions) take place to produce medium-light fractions. Thermal or catalytic processes are used in the Visbreaking, Mild Hydrocracking 1 and 2 and Cracking units for this purpose;
- *light-distillate transformation plants,* which carry out the catalytic reforming of gasoline, transforming light–distillate fractions (naphtha) into high-octane components; hydrogen, used in desulphurisation treatments, is produced at the same time. Furthermore, the environmental characteristics and performance of gasolines are improved at the TAME plant, while the Alky plant improves their technical qualities;
- *middle-distillate treatment plants,* where middle distillates (kerosene and diesel) are treated with catalytic hydrogenation processes to remove sulphur and improve quality. The sulphur removed is recovered as sulphuric acid and transformed into solid sulphur (a commercial product).

The storage area

In addition to crude oil storage tanks, the refinery's storage area also includes tanks to store finished products.
In total there are 161 tanks located in the refinery and in the nearby National Fiscal Deposit (a deposit outside the refinery's bounded area, within which crude oil and feedstocks and finished products for which excise duties have not yet been paid are stored), with an overall capacity of approximately 3.8 million cubic metres.

The tanks are equipped with permanent fire-fighting equipment systems and containment basins of reinforced concrete or earthworks. For the storage of liquefied petroleum gas (LPG), since it is a gaseous product and therefore very volatile, in order to maximise safety, the fire-prevention system is controlled by a device that, depending on various factors (including wind direction), activates systems to prevent fires and contain any product leakage.
LPG tanks are also equipped with instruments that monitor for, and protect against, unexpected pressure surges.

The handling and shipping area

This is the area that includes all the equipment used to move products and raw materials internally between the various plants and storage areas, as well as for the loading of finished products and the delivery of crude oil and feedstocks. These facilities can be divided into three groups:

- lines and pumping systems;
- land-loading systems;
- measurement and additivation systems.

Auxiliary services

In addition to the plants described above, the plant has various equipment for the production cycle (power/steam supply, waste treatment, environmental services, etc.) and auxiliary services such as fire-prevention systems, an infirmary and a canteen.

The IT system also plays a fundamental role in plant management, collecting basic data and information, which it then processes and makes available in the appropriate form for the corporate services that use them.

The system, which is continuously updated with new technologies and adapted to the refinery's changing requirements, comprises calculators, communication networks, basic software and all the applications used by Saras staff on a daily basis for their work. The system architecture is based on three large IT areas:

- the IT production system;
- the IT management/administration system;
- the company intranet.

Power generation: the Sarlux IGCC plant

The IGCC plant, (*Integrated Gasification Combined Cycle*) totally integrated with the refinery's production processes, produces power, hydrogen and steam, as well as sulphur and metals concentrates, using the heavy components (TAR) derived from the refining process (the source assimilated to renewable sources).

The plant, owned by Sarlux and managed by Saras, is located within the refinery in an area previously occupied by storage tanks. In January 2001, after a one-year start-up phase, commercial activity began at the plant.

Through the gasification of approximately 150 tons/hour of TAR and using 165 tons/hour of oxygen, the Sarlux IGCC plant has a net nominal power of 551 MW with a maximum of 575 MW; it produces over four million MWh of electricity per year, providing over 30% of Sardinia's power requirement. It also produces 40,000 Nm^3/hour of hydrogen; 100 tons/hour of medium-pressure steam and 80 ton/hour of low-pressure steam; sulphur and 1,300 tons/year of metal concentrates rich in vanadium and nickel.

The feedstocks needed to run the IGCC plant - TAR and oxygen - are supplied to Sarlux respectively by the refinery and, under an exclusive agreement, the external supplier Air Liquide Italia, which produces oxygen at an air-fractioning plant located approximately 2.5 km from the Saras site.
Downstream from the production process, the power generated is sold to Italy's national grid operator, the GSE. The hydrogen and steam are used by the refinery in its production processes and to reduce the sulphur content of the products, thus reducing the energy required for the oil-processing cycle and consequently the associated atmospheric emissions. Lastly, the sulphur and metal concentrates are sold to industry.
In 2004-2006, the Sarlux IGCC plant provided the refinery with approximately 35% of the hydrogen it used in its production processes.

The Sarlux IGCC plant has three production lines, ensuring process continuity in power generation, and the production of hydrogen and steam.

Data recorded to date proves the validity of the plant processes and technology. The plant is extremely reliable (an average of more than 90%) and in 2006 registered a service factor of 92.5%, which was its best ever performance and an excellent result, which was possible also thanks to a procedure in place to assess, forecast and schedule all plant monitoring and maintenance operations.

This shows the IGCC has not only confirmed the performance forecast when it was designed, but that it has often far exceeded it. Its global yield has also been higher than the planned 51% expected of this technology, recognised as BAT (Best Available Technique) in the refining sector.

Gasification, combined cycle and cogeneration

The IGCC plant's production process can be divided into two main sections:

- **gasification**, in which heavy distillates from the refining process are transformed into an extremely clean synthesis gas (completely eliminating metals and sulphur and, as we said before, used for other external industrial purposes);
- **combined cycle cogeneration**, through which power is generated through the combustion of the synthesis gas in a turbine.

Gasification, which has been used in the chemical industry for decades, is a chemical transformation process that has important environmental and energy efficiency advantages compared to a production cycle based on direct combustion typical of traditional thermoelectric power stations.

Combined cycle cogeneration was developed in the 1980s, thanks to technological progress made with gas-operated turbines, includes all the operations required to produce several types of energy simultaneously (for example, electricity and thermal power in the form of steam) from a single source of energy. In the specific case of the IGCC, it is possible to combine hydrogen production in a further type of cogeneration. This technique was developed in the 1950s and became established in the 1960s thanks to its highly reliable and efficient nature.

Environmental and technological advantages of IGCC Plants

This type of plant offers particularly significant environmental and technological advantages These derive from the adoption of best available technologies, which allow for an efficiency factor – i.e. the ratio between energy produced and raw material used – that is one of the highest in the various production processes (greater than 50%, see Table 2) and extremely low emissions, with a performance better than the ENEL data used as a national average benchmark (Table 10, page 40).

TABLE 2 – EFFICIENCY COMPARISON OF POWER GENERATING PLANTS

Plant	Total global yield
Natural gas combined cycle	56÷57%
Natural gas conventional cycle (turbogas)	30÷35%
Conventional fuel oil cycle	35÷38%
IGCC Sarlux	51%

With the gasification plant coming on stream, the Sarroch refinery reduced emissions from the "refinery + IGCC" complex, compared to the previous situation.
This result is also due to a series of improvements made to the refinery's equipment, especially as concerns sulphur oxide emissions; furthermore, reduced fuel oil production has led to a fall in the number of ships crossing the Bay of Sarroch.

From a technological viewpoint, the main advantage of IGCC plants is the integration of the oil cycle with the electrical cycle. The overall processing cycle constitutes a complete circuit during which all incoming material is transformed into a finished product or power.
It should be noted that the Sarlux plant's water requirements - which are particularly high for large power plants - are met entirely with sea water, which is desalinated and then demineralised in specific Sarlux and Saras plant; it therefore does not effect Sardinia's water supplies.

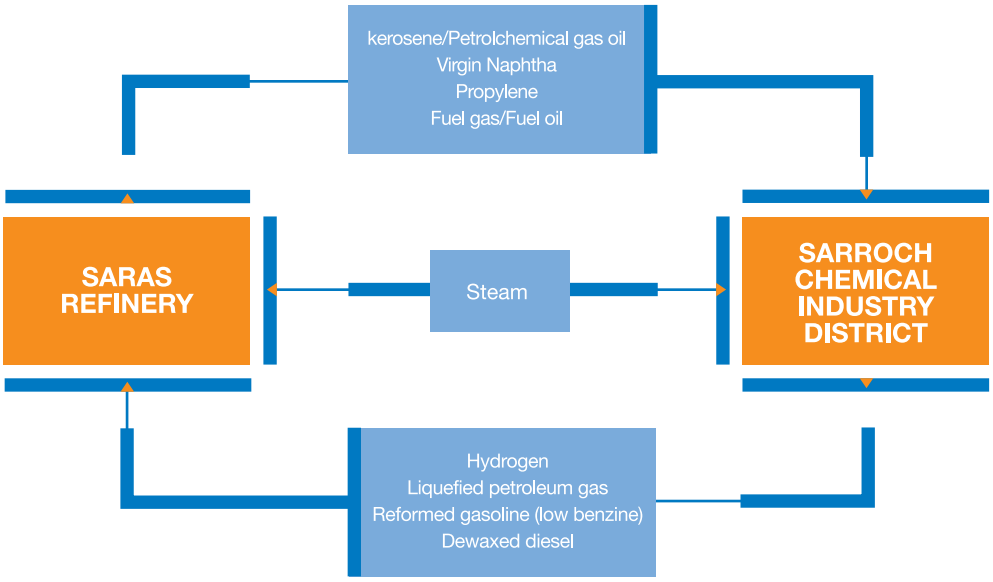
The refinery's place in the local environment

The area most affected by refinery operations from a socio-economic viewpoint covers four municipalities: Sarroch, Villa San Pietro, Pula and Capoterra, which form a fairly homogeneous area southwest of Cagliari. This region has two main economic activities: those that are part of the energy and petrochemical centre around Sarroch and the Macchiareddu industrial area, and those relating to the region's natural resources; agriculture, animal farming and tourism, especially in the Pula area.

The primacy Saras enjoys in terms of size and production capacity therefore has a significant impact on employment: since it began its operations, the refinery has increased its workforce from 100 to 1,172, divided between the Sarroch plant, which employs the majority (more than 90%) and its two offices in Rome and Milan. It also supports direct and indirect associated activity, which grew from approximately 2,000 units in the year 2000 to 6,300 units in 2005.

The refinery's production units are a major development driver for a group of companies and an entire industrial class, but also for the advanced tertiary sector, which can become involved in sophisticated production and technological processes. Note that the plant fills an important role as a supplier of fuel to almost all regional industries, and for the active synergies with the chemical companies operating in the area, with which many raw materials required for production are exchanged.

FIGURE 2 – SYNERGY BETWEEN THE SARAS REFINERY AND THE CHEMICAL INDUSTRY OPERATING NEARBY



Policies

Environmental management and protection of natural resources

Environmental certification

Saras has always paid attention to the various factors that impact on the environment related to the plant's activity, and in 2001, it implemented measures to obtain Environmental Management System (EMS) certification for the refinery in accordance with the International Standard ISO 14001.

First of all, on 23 May 2002, the company's Environmental Policy Declaration was officially released to all its staff. In the document, the company defined the guiding principles and commitments undertaken in order to guarantee that its operations become increasingly environmentally compatible.

The preparation of the Environmental Management System and the definition of procedures therein established a code of conduct for all company personnel and made each employee personally responsible for its implementation; subsequently, auditing activities were established to verify at regular intervals that divisions are applying EMS procedures correctly. Based on environmental analysis annual objectives for improvement are established together with the Management Committee and general management.

In June 2004 Saras obtained EMS approval according to the ISO 14001:1996 standard.
With the continual monitoring of the EMS system and its implementation, on 4 May 2006 a Revised version of the environmental policy (see page 19) was issued to all direct employees and contractors working at the refinery.
In May 2006 the refinery's EMS was approved pursuant to the updating of the ISO 14001:2004 standard (see page 21).

As provided for in the regulation, the certifying body Lloyd's Register Quality Assurance carries out an inspection at the plant every six months.

In 2005 audits integrated with the Quality and Assurance System for the prevention of major accidents were initiated for the purpose of standardise company auditing activities.

Continuing in this direction, the refinery's new objective is to obtain EMAS Registration for the site. EMAS is the European Eco-Management and Audit Standard (EC Regulation no. 761/2001). The procedure for EMAS Registration, due to be completed by 2008, includes the following activities, given that Saras has already obtained ISO 14001 certification:

- initiate a procedure to circulate information on the company's environmental performance to the public;
- continue to distribute data on environmental performance and safety measures relating to the surrounding region;
- increase the involvement of internal staff and contractors;
- the launch, in 2007, of verification procedures provided for in EMAS Regulation.

Quality certification

Before obtaining environmental certification, the Company took steps to adopt a Quality Management System (QMS), which defined procedures for managing a series of internal areas/processes in the refinery. Presently, the company activities in the following areas are certified according to the ISO 9001:2000 Quality Standard:

- *Product movement,* which entails the preparation of products according to customers' contractual specifications;
- *Shipping,* which regards the distribution by land and sea of products requested by customers;
- *Operative and medium-term scheduling,* which supervises the arrival of crude oil and feedstocks, their processing, and the preparation and dispatch of finished products requested by customers;
- *Engineering,* which designs new plants and makes improvements to existing plants;
- *Construction,* which builds new plants and modifies existing facilities.

Furthermore, the following processes, although not certified, are carried out within the QMS framework in accordance with Reference standard ISO 9001:2000 regulation and QMS procedures, to protect customers and the market in which Saras operates:

Saras Environmental Policy (Translation on page 76)

Saras SpA

POLITICA AMBIENTALE SARAS

La SARAS considera il rispetto e la salvaguardia dell'ambiente di primaria importanza per il conseguimento dei propri obiettivi di sviluppo e per una corretta integrazione delle proprie attività nel territorio in cui opera.

I criteri, che sono alla base della gestione delle attività di Saras, prevedono la valutazione preventiva delle possibili conseguenze ambientali di nuove attività e prodotti, l'adozione dei principi, degli standard e delle soluzioni di riferimento che sono quelle indicate nel "BREF per la raffinazione" (Best Available Techniques Reference documents - documento predisposto in applicazione alla direttiva 61/96/CE - Direttiva IPPC: Integrated Pollution Prevention and Control), la massima trasparenza e collaborazione con la collettività esterna e con le autorità, il coinvolgimento e la responsabilizzazione del proprio personale e di quanti accedono al sito sul tema della protezione ambientale.

Attraverso l'introduzione e il mantenimento del Sistema di Gestione Ambientale applicato alle attività di raffinazione e di produzione di energia elettrica nella Raffineria di Sarroch, SARAS vuole garantire un'efficiente e corretta gestione degli impianti e delle attività condotte in sito e conseguire, oltre al dovuto rispetto delle norme vigenti e delle altre prescrizioni sottoscritte dall'azienda, gli obiettivi di miglioramento continuo delle prestazioni ambientali e la prevenzione dell'inquinamento.

La Saras si impegna in particolare a:

- Proseguire nelle attività di riduzione delle emissioni in atmosfera, per garantire il minimo impatto sulla qualità dell'aria
- Proseguire l'attività di prevenzione dell'inquinamento del mare, agendo sui mezzi di trasporto via mare e sul sistema di trattamento degli scarichi idrici
- Minimizzare l'impiego di acqua dolce da fonti esterne
- Migliorare il ciclo di gestione dei rifiuti privilegiando il recupero
- Sviluppare il proprio sistema di monitoraggio delle emissioni e della qualità dell'ambiente
- Migliorare l'accessibilità e la fruibilità dei dati rilevati e degli studi effettuati
- Mitigare gli impatti derivanti dalle proprie attività percepibili dalla comunità circostante.

E' convinzione di Saras che il raggiungimento degli obiettivi di cui sopra sia possibile solo con il contributo attivo di tutto il personale, e su questi temi ha sviluppato un sistema di informazione e formazione continuo.

Ogni persona della Saras è direttamente responsabile, durante lo svolgimento delle proprie attività, dell'attuazione della politica ambientale e il comportamento coerente con queste tematiche è uno degli obiettivi individuali e di gruppo.

Gli organi direttivi sono i primi responsabili dell'attuazione di tale politica.

La Saras si è impegnata a diffondere la propria politica ambientale e sollecitarne l'applicazione anche da parte delle imprese appaltatrici, dei fornitori e di qualsiasi altra persona che lavora per conto dell'organizzazione, anche fornendo strumenti di formazione e informazione. La responsabilità, il comportamento e gli atteggiamenti nei confronti degli aspetti ambientali dei soggetti di cui sopra, sono elementi significativi di giudizio della qualità della prestazione resa e, su questi temi, gli stessi dovranno avviare una adeguata formazione e informazione.

La Saras si impegna ad assicurare le risorse umane e tecniche necessarie al raggiungimento e mantenimento della politica ambientale nel sito di Sarroch.

Sarroch, 4 maggio 2006

Saras S.p.A.
Il Direttore Generale

- *Reception,* which supervises the loading/unloading of products and crude oil and feedstocks at the marine terminal;
- *Analytical control* of production, by means of the chemical laboratory, which is responsible for verifying and monitoring the hydrocarbons produced;
- *Purchasing, Tenders and Materials Warehouse,* which issues and schedules orders for materials and tenders according to requests received, and selects and evaluates suppliers;
- *Human Resources and Organisation,* which ensures that employees meet company requirements, through careful staff selection and hiring, and the acquisition, development and transfer of professional expertise;
- *Supply and Trading,* which draws up contracts for the supply of crude oil and feedstocks (through both purchasing and processing contracts) and the sale of products;
- *Maintenance,* which is responsible for activities necessary to keep the infrastructure and equipment used to make the products ordered by customers functioning and running efficiently.

Air quality safeguards

The constant monitoring of air quality is a key element in a strong environmental protection policy. Over the years, Saras has therefore acquired the tools and adopted the management procedures to do so.

Air quality outside the Sarroch refinery (emissions) is checked by three monitoring networks, comprising a total of 14 stations of which four belong to Saras and six to Polimeri Europa, while the other four are managed by the Province of Cagliari (data on page 53).

The Saras network - managed with those of the local authorities and other companies in the region - provides data on changes in parameters relevant to air quality in real time, to ensure that pollution is kept below the minimum levels laid down by the laws in force and that immediate steps can be taken to counteract pollution when necessary.

Each of the four Saras stations (Villa d'Orri, Sarroch, Porto Foxi and National Deposit) is equipped with analysers that continuously gauge levels of the following pollutants in the air: SO_2, NO_2, CO, H_2S, PM10, ozone and hydrocarbons. The station located in the National Deposit area is also integrated with a weather station.
The Province of Cagliari network records average hourly concentrations of pollutants: SO_2, NO_2, dust, H_2S and PM10 in all the stations; ozone and benzene in three stations, and CO in one station.

A dedicated monitoring system constantly checks emissions from the IGCC plant for the following parameters: SO_x, NO_x, PTS, CO and smoke load, guaranteeing a high degree of reliability, as shown by the data availability index (the ratio between the analyser's operating hours and normal plant operating hours), which in 2006 was on average higher than 90%.

There is a similar system to monitor emissions from the refinery's centralised stack, which collects approximately 40% of total emissions (Topping 1 and thermoelectric plant, TES) and monitors the same parameters described above.

The remaining emissions are monitored periodically with samples taken manually.

Water quality safeguards

Aware of the problem of scarce water resources in the region, Saras adopted specific measures to reduce the use of primary water sources, by:

- procuring water from different sources;
- installing a first desalinator in 1994 with a capacity of 300 m^3/hr, followed by the installation of six desalination modules for the IGCC in 1999, with a total capacity of approximately 600 m^3/hr;
- implementing measures to maximise the recycling of purified water from the refining process, following improvements to the treatment process and increased filtering capacity.

The desalination plant allowed for a significant reduction in the use of fresh water from the CASIC water system (Cagliari Industrial Development Area Consortium, responsible for managing the water system in the Sarroch industrial area) without disrupting the marine ecosystem by the refinery.

ISO 14001:2004 Certification (Translation on page 77)

CERTIFICATO DI APPROVAZIONE

Si certifica che il Sistema di Gestione Ambientale di:

Saras S.p.A.
Strada Statale 195 Sulcitana - km. 19.500
Sarroch (CA)

è stato approvato dal Lloyd's Register Quality Assurance
per conformità alla seguente norma di Sistemi di Gestione Ambientale:

ISO 14001:2004
EN ISO 14001:2004
UNI EN ISO 14001:2004

Il Sistema di Gestione Ambientale si applica a:

Produzione di prodotti della raffinazione del petrolio, programmazione, preparazione e spedizione di prodotti finiti, produzione di energia elettrica. Gestione della progettazione, ingegnerizzazione e costruzione di impianti interni.

La validità di questo certificato è vincolata al certificato dello stesso numero che elenca le ubicazioni oggetto dell'approvazione.

Certificato di Approvazione N.: LRC 180526/14

Approvazione Originaria: 1 Giugno 2004
Certificato Attuale: 15 Maggio 2006
Scadenza Certificato: 1 Giugno 2007

Emesso da: Lloyd's Register Quality Assurance Italy S.r.l.

UKAS ENVIRONMENTAL MANAGEMENT
001

Questo documento è soggetto alle condizioni riportate sul retro
71 Fenchurch Street, London EC3M 4BS United Kingdom. Registration number 1879370
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L'uso del logo di accreditamento UKAS indica l'accreditamento relativo alle attività coperte dal Certificato do Accreditamento numero 001

In terms of water treatment systems, the refinery is equipped with a process-water purification (PWP) plant and a ballast water treatment (BWT) plant for oil tankers transporting crude and products to and from the refinery.

They were both built with the best technology available, and equipped with pollutant-monitoring systems; both process and ballast water are subject to an oil extraction process that separates hydrocarbon particles from the water, which is then treated. Furthermore, part of the water treated with the PWP system (approximately 350 m3/hr) is reused for industrial purposes in the refinery, thereby reducing the amount of water taken from primary sources such as the water system and the seawater desalination system.

Measures to protect the sea and coastline

Since the beginning of the 1990s Saras has launched various initiatives to protect the sea. The most significant are:

- the adoption of **"Saras Minimum Safety Criteria"** to screen and accept ships. This comprises a list of minimum safety requirements ships must have before they may be examined and authorised to operate at the Saras marine terminal;
- the implementation of the **Safety Service**, which involves the presence of qualified personnel on board ships during all operations to verify that equipment is adequate and used correctly in accordance with anti-pollution and safety regulations. This measure applies to all tankers that carry crude and fuel oil, which pose the greatest risks for the marine environment; an average of 350 ships are inspected every year;
- the implementation of the automatic **ESD system** (Emergency Shut Down), to prevent the spilling of products by automatically stopping the loading pumps and closing the interception valves of oil products in the event of a pressure surge;
- **a ban on the discharge of segregated ballast** (sea water that does not come into contact with oil products) into the sea at night applied to ships carrying particularly polluting and dirty products;
- an agreement with a specialised company for the continuous presence of anti-pollution staff and equipment.

Furthermore, the quality of the sea water before the refinery is tested twice a year (see page 60). In the event of a spill, equipment and means are available to deal quickly with the accident following procedures laid down in the Internal Emergency Plan, which includes the Marine Pollution-Prevention Plan (see page 30).

The Sarroch Refinery has four vessels that operate 24 hours a day: the "Nettuno", an anti-pollution motorboat equipped with systems to recover and store heavy hydrocarbons; the pilot boat, "Pegaso" to transport people and equipment and to assist in the positioning of floating booms; the "Proteo" and "Tripesce" to position floating booms and carry out operations in shallow water.

Another system guarantees the ability of the plant to respond immediately and fully to contain and remove any product spills, using the following equipment:

- three skimmers to collect product floating on the surface of the water with a recovery capacity of up to 27 m^3/hour;
- five floating tanks, each with 5m3 capacity, to collect any product recovered from the sea;
- three motor pumps to recover products with a capacity of up to 48 m^3/hr;
- 1,950 metres of floating booms to contain floating product, equipped with inflating systems (three compressors and two blowers);
- three radio buoys connected to the GPS system;
- absorbing systems.

Saras also chose to increase its use of double–hull ships to transport crude oil and oil products.

Currently, on the basis of international agreements, all ships transporting heavy crude oil and heavy fuel oil (high density) must have double hulls. In order to guarantee increasingly greater safety at sea, Saras committed to using at least 95% double-hull ships to carry light crude oil as well (low density, not bound by the aforementioned agreements) in 2006; it also decided on a target of at least 85% of double-hull ships to transport gasoline, kerosene and diesel oil.

A check of these commitments showed that 100% of the ships used to carry light crude oil were twin-hulled and 92.2% of ships used to transport gasoline, gas oils and kerosene were twin-hulled: therefore in 2007, with a view to constant improvement, goals of 97% was set for double-hull ships for crude oils and 90% for products.

To further guarantee protection of sea and coastline in the Bonifacio Straits, all leasing contracts stipulated by Saras for the supply of crude oil and feedstocks and products contain clauses prohibiting any ship from passing through this area, whether arriving at or departing from the Sarroch Plant.

TABLE 3 – COMMITMENTS AND RESULTS RELATING TO THE PROTECTION OF THE MARINE ENVIRONMENT FROM SHIPPING TRAFFIC – 2006

	Commitment for 2006	Result 2006	Commitment for 2007
Twin hull for light crude oil	At least 95%	100%	At least 97%
Gasoline/kerosene/fuel oil	At least 85%	92.2%	At least 90%

Waste management

Waste management at the Saras site (see data on page 58) focuses primarily on minimising waste production, and thus on a process of collection that recovers and then properly disposes of waste.

The first step involves the selection of waste products, the quantity and type of which are recorded. Procedures to recover or dispose of it are then followed, according to the characteristics of the waste, as determined by analyses carried out by specialist external laboratories in accordance with rules and regulations. There is a specific
internal procedure to deliver waste from different phases of the productive cycle to specialist waste treatment companies.

In 2006, the refinery, together with the Sarroch municipality, continued separated waste collection of glass, aluminium, paper and plastics from office and catering activities at the plant and sent 42.5 tons of paper, 3.8 tons of plastic and 3.9 tons of glass and aluminium to be recycled.

Noise monitoring

In 1999, Saras planned and implemented regular periodic controls of sound emissions into the surrounding environment, by means of phonometric investigations to establish the acoustic characteristics of the surrounding environment.

Checkpoints to measure noise levels were located along roads on the outskirts of town adjacent to the boundaries of the refinery, on roads leading to the city centre of Sarroch and in the city centre. These areas are marked on the aerial photographic map on page 24 (Figure 3).
Phonometric readings show that the refinery emits constant, steady noise with fluctuations of ± 2,5 dB around the average.

In the city centre the noise level fluctuates more markedly, as it is affected by noise from vehicular traffic and other noises unrelated to the refinery. Noise immission of L90 attributable to the plant, (excluding vehicular traffic noise) measured at night, is considerably less than the recordings taken in Sarroch city centre.

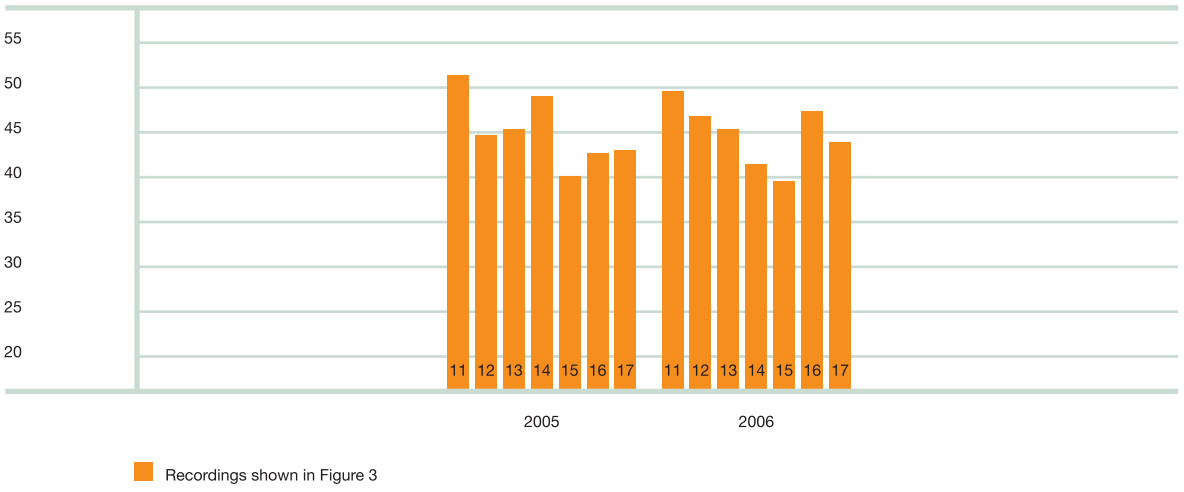
The latest measurement samples taken in 2006 confirm this trend as can be seen in Graphs 2 and 3, which show the values recorded in 2005 and 2006 at all the checkpoints in Sarroch city centre.

Saras did not only assess noise levels outside the Sarroch Plant. As part of a raft of measures to provide protection from physical agents, the company initiated a series of phonometric measurements, which will lead to a complete acoustic mapping of the area around the plant.

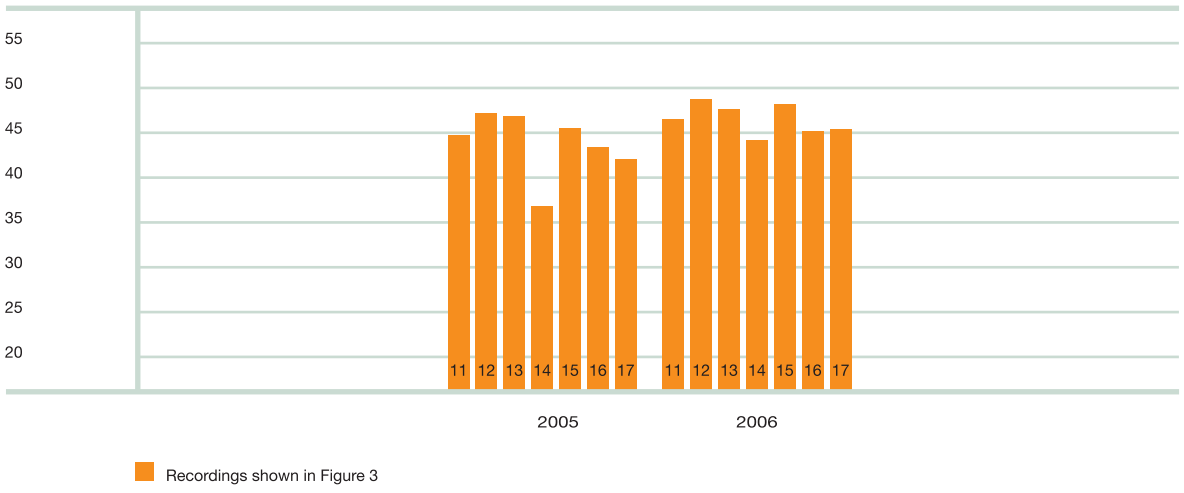
Mapping of the T2-V2 Plant has commenced with measurements of the noise level and the sound spectrum in the various operational areas and the checkpoints accessible by operators. This mapping has the following objectives:
- to precisely define the noise levels that workers are exposed to;
- to identify higher-risk areas and outline appropriate preventive measures;;
- to select ear protectors and identify measures to reduce loud noises at source.

FIGURE 3 – AERIAL MAP

GRAPH 2 – EXTERNAL ENVIRONMENTAL NOISE IMMISSION - LEVEL L90 - DAY (SARROCH CITY CENTRE)



GRAPH 3 – EXTERNAL ENVIRONMENTAL NOISE IMMISSION - LEVEL L90 - NiGHT (SARROCH CITY CENTRE)



An analysis of the phonometric data enabled the company to quantify the potential acoustic effects of the noise in the working environment under normal operational conditions.
In 2005, a sound-absorbent barrier was erected between the plant and Sarroch city centre, while in 2006 sound-absorbent barriers were also positioned in the plants, both to reduce the noise impact on the town and to reduce noise levels inside working areas.

Soil, subsoil and subterranean water

In compliance with the provisions of Ministerial Decree 471 of 25 October 1999 and subsequent amendments (regulations containing criteria, procedures and methods for the safety, reclamation and environmental restoration of polluted sites), Saras, in accordance with Article 9 of the Decree, presented the competent authorities with its Characterisation Plan on the state of the terrain and the layers of water beneath the refinery.

Subsequently, the company, in conjunction with the Italian Ministry for the Environment, Land and Sea, the Sardinian Region, the Province of Cagliari, the Local Health Authority and the Municipality of Sarroch, defined the procedures for implementing the Characterisation Plan, setting out a series of surveys to be carried out, and proposing the steps needed to protect the environment and safeguard public health.

In July 2004, work was begun to characterise the site using the following techniques:
- **surveys of the terrain** by extracting core samples from 5 to 10 metres deep to establish the subsoil stratigraphy, ascertain whether any contaminants are present and measure their concentrations;
- **piezometry**, special surveys of the terrain by extracting core samples from 10 to 20 metres deep that can monitor the surface layers of water. This type of survey not only takes a stratigraphy of the subsoil and its quality (as in the surveys), but also makes it possible to verify the condition of the water in the subsoil. Piezometry is carried out with a tube made of transparent glass inserted in the area where the water flows that periodically takes samples of water to check its quality;
- **gas surveys**, a technique to verify the presence of hydrocarbon gas in the soil interstices.

Following the completion of approximately 490 surveys, 109 piezometry readings and 500 gas survey checkpoints the following situations were recorded:
- results of the surveys of terrain beneath the refinery showed that the situation complied with the limits set out in regulations for industrial sites; only at some limited and non-adjacent points did concentrations of contaminants in the soil exceed the limit, which confirmed that these were isolated cases, rather than a widespread problem;
- water samples taken with piezometers identified a "supernatant" product (hydrocarbon phase) in certain clearly-defined areas floating above the groundwater, in the form of a thin layer in the soil interstices;
- the gas survey showed no gas present in the terrain.

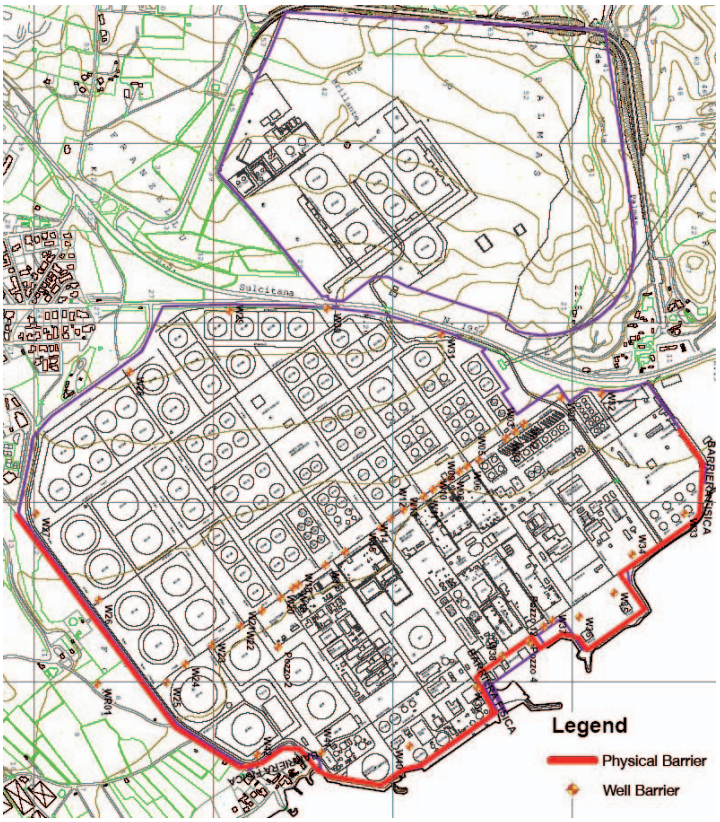
On the basis of the results described above, reclamation work was begun immediately (April 2005) to extract the supernatants from the contaminated piezometers (at 14 of the 90 checkpoints). At the same time studies into the design of a decontamination project started.

The project was submitted to the Ministry for the Environment, Land and Sea and, after appropriate amendments, was approved.
During the authorisation process, works commenced on the first phase of the proposed project: a dynamic barrier made up of wells to extract the groundwater and recover the supernatants.

The final project is for a combined system comprising a dynamic barrier along three axes and a physical barrier along the refinery's boundary on the sea side to the south, as shown in Figure 4 on pg. 26.

The physical barrier will confine the surface groundwater that flows slowly seawards, while the dynamic barrier (consisting of water-extracting wells) will keep the level of the groundwater constant while at the same time removing and recovering the supernatants. Investment of approximately EUR 15 million will be required to build this system. The dynamic barrier will be completed by 2007, while the physical barrier will take around 40 months to complete.

FIGURE 4 – LOCATION OF DYNAMIC AND PHYSICAL BARRIERS UNDER CONSTRUCTION



Measurement of electromagnetic pollution

In 2001, in order to determine the possible existence of risk situations, Saras launched a study to analyse and assess this phenomenon within and outside the refinery area.

The first phase of the study was completed in October 2001 with the aid of a rigorous measurement system. The results were completely satisfactory, confirming that the magnetic fields generated inside the plant are well within the legal limits established to protect the population. In addition, it was found that no such fields existed outside the company perimeter.

This study was followed by a further survey, completed in 2004, which assessed the exposure of workers to electromagnetic fields while working: in this case too, levels were much lower than those allowed by law.
A study will be carried out in 2007 to confirm the 2001 results and to assess the phenomenon outside the plant, followed later by another internal survey.

Improvements to internal and external visual impact

The company has also made a commitment to improve the plant's visual impact, which has been stepped up since 2000.
Particular attention has been focused on perception of the environment and structures as seen from both inside and outside the plant, with the aim of providing a pleasanter working environment and improving the refinery's relationship to its surroundings.

To achieve the first aim, the internal site was renovated involving improvements to spaces and structures, painting, upgrading of green areas, the installation of graphics to raise awareness about environmental protection and safety, and new signage. Also, several sculptures, created following suggestions from employees and external companies, and made of scrap metal and other materials used in plant operations, were installed.

Improvements were made to structures and spaces used as areas of direct contact with the outside, with green areas established between the plant and its surroundings.
In particular, the road junction on State Road 195 was rebuilt, the green areas in the parking area were improved and a green hill was built on the Sarroch side of the plant.

The green hill - recovered from part of the plant's storage area - allowed a strip of green with earth and trees to be created as a buffer between the plant and Sarroch.

Environmental training

In order to achieve ongoing improvements to the environment it is essential to provide continuous training to personnel, both to bring them up to date and to raise awareness of the importance of their individual roles.
This is particularly true in complex systems with over 1,000 employees, which is why Saras launched specific training courses relating to environmental protection as regards the activities carried out on the Sarroch site.

Following the environmental-awareness course for all direct staff at the refinery which formed the basis for a multimedia course in CD-Rom format to be used for self-instruction by staff working for contracting companies, specific courses on the treatment, recovery and reduction of waste water and atmospheric emissions were also launched.

In 2006, the training plan was expanded with in-depth sessions on atmospheric emissions. Thirty-two classroom-based training sessions were held (each lasting 2.5 hours) for both shift workers and day personnel.

In November 2006, a "Week for the Environment and Health" was organised, including conferences and debates held by refinery personnel and outside experts from the Province of Cagliari, the University of Cagliari, Legambiente and other specialist consultants.

In addition, specific training packages were designed for new staff and those changing their duties, as well as to constantly update all employees. Lastly, specific training courses were held for the group of environmental auditors.

Safety policy

The Safety Policy declaration

On the basis of increasingly stringent legislative guidelines for safety management in industrial activities, the protection of workers and the local area, Saras also began making ongoing improvements to standards and results, recognising that safety is of strategic value to its corporate activities.

In 1996, the first safety policy was drawn up (see next page) and on the basis of this policy Saras obtained positive results in the ongoing protection of workers and the surrounding area.

The Safety Management System for the prevention of major accidents

The principal objectives of Saras' commitment to safety management have always been prevention, as well as research into and development of the most effective methods of reducing the probability of accidents.
This approach was already in step with regulations established by Legislative Decree 334/99 (Seveso II), which defined a Safety Management System (SMS) for the prevention of major accidents.

In April 2000, acting promptly to implement these regulations, the company drew up the following documents and instruments to manage safety on the Sarroch site, which are periodically reviewed and updated:
- Major Accident Prevention Policy, issued in 2004 and revised in 2006 (see page 31);
- Safety Management System procedures;
- Safety Management System Manual.

The SMS for the prevention of major accidents is the logical development of the safety management instruments, defined in Presidential Decree 175/88 (Seveso I), which identified important safety standards in those industrial activities at a high risk of major accidents. The main management instruments referred to are:
- the Safety Report;
- the Internal Emergency Plan;
- the External Emergency Plan.

The Refinery's Safety Report

The Saras refinery drew up its first Safety Report (SR) in 1989 and since then, the document has been constantly updated to reflect all changes to the plant over the years, which had to be dovetailed to the existing system.

Currently, an analysis of possible accident scenarios excludes the possibility that they could have significant consequences outside the plant; if an accident did occur, it would be in the direction of State Route 195, an uninhabited area.

In drawing up the refinery's Safety Report (SR), the company carried out a detailed, in-depth analysis of its operations in relation to the risks associated with processing activities, materials used and all the procedures that enable a complicated system such as a refinery to operate.

In 2005, the Safety Report (SR) was revised and sent to the competent authorities in October. The review included a detailed analysis of the existing situation at the plant and its management: risk scenarios and hypothetical accidents were revised, together with the possible consequences to workers, both inside the plant and in the surrounding area.

The analysis was carried out with the active involvement of operational and service personnel (processes, maintenance, engineering, engineering maintenance etc.), each of whom contributed their expertise to assist in achieving the prevention targets.

The Safety Report is therefore a very useful means of anticipating risk situations and examining all possible measures to prevent their occurrence; at the same time it makes it enables the company to adopt technological

Saras Safety Policy (Translation on page 77)

POLITICA SARAS PER LA SICUREZZA

La SARAS si è assunta l'impegno di applicare i migliori standard nei propri settori di attività, allo scopo di curare al massimo la sicurezza di tutti i propri dipendenti.

Tutti i dipendenti 'SARAS sono responsabili dell'attuazione di questa politica e dovranno sempre operare in modo sicuro, per non causare infortuni a se stessi o ad altri.

Pertanto:

* La Società assegnerà alla SICUREZZA una importanza analoga alla produzione, alla qualità e ai costi. Essa crede fermamente che tutti gli infortuni possono essere prevenuti ed evitati, ed è direttamente coinvolta in questa azione a tutti i livelli di responsabilità.
* I Dirigenti ed i Supervisori metteranno a disposizione del personale programmi formativi e metodi di lavoro sicuri al fine di prevenire incidenti ed infortuni.
* Sarà costantemente ricordato che le persone costituiscono l'elemento essenziale della SICUREZZA; viene quindi richiesta la partecipazione attiva di tutti i dipendenti.
* La politica della SICUREZZA sarà diffusa ed attuata in tutta la Società e verrà rafforzata da controlli periodici per eliminare e prevenire situazioni di pericolo.
  Progressi nel raggiungimento di migliori standard di sicurezza saranno oggetto di opportuna divulgazione.

Distinti saluti.

Per il Consiglio di Amministrazione
Il Presidente

Dr. G.M. Moratti

Milano, 27 Aprile 1996

solutions and equipment and safety systems that guarantee an appropriate response to any accident, thereby minimising the consequences for people, the environment and structures.

In 2006, pursuant to Legislative Decree 238/2005, the safety report (SR) and the documents required for the external plan (the "Notice" and the "Information Sheet" for the population) were updated.

The Internal Emergency Plan

After defining the risk scenario for the internal plant area, the company, with the drafting of the Internal Emergency Plan (IEP), identified procedures to be adopted and appropriate conduct in the event of an accident in order to manage it with maximum efficiency and minimum consequences thanks to coordinated intervention.

The objective of the IEP is to trigger the best reaction from the company if it should be faced with an accident, in order to:
- prevent and limit damage to people and provide assistance to any injured people;
- control any accidents, limiting the extent of their effects;
- prevent and limit damage to the environment;
- prevent and limit damage to company property.

As mentioned on page 22, the IEP, which is regularly revised to take into account changes in operational and plant conditions, includes the Marine Pollution Prevention Plan, drawn up to deal with emergencies resulting from refinery discharges into the sea or critical events that might occur in the site's sea facilities.

Based on the provisions of the refinery's Safety Report, the IEP first of all defines the criteria for classifying a reportable accident, distinguishing between three types, or levels, of emergency (data on page 67):
- a limited emergency;
- a general emergency;
- a near accident.

A *"limited emergency"* occurs when the accident is limited to a well-defined plant area, normally without fire, that can be rapidly eliminated using only locally-available resources.
A *"general emergency"* is an accident that, due to its nature or because of particular environmental conditions, risks spreading to other parts of the plant or involving areas outside the refinery. Finally, *"near accidents"* are situations that could potentially have led to an accident, and it is important to analyse and assess them in order to continually improve site safety.

To ensure accident responses are timely and effective, the alarm and emergency-reporting procedures are of fundamental importance. They are intended to alert all company personnel concerned, depending on the type of accident. Finally, communication is of extreme importance in the plan, providing for clear, direct systems with which to inform those responsible for implementing the plan, those present in the plant, as well as external rescue forces (the carabinieri, fire fighters, etc.) and the general public.

Communication and reporting devices are widely distributed throughout the entire refinery (push-button fire alarms, telephones, both fixed and portable transceivers in various plant facilities and with key company personnel), enabling real-time mobilisation of personnel and equipment. Following a priority list, the refinery's Emergency Coordination Centre (see Figure 5 on page 32) distributes information and updates on the management of any accident management to the external bodies concerned. Depending on the type of accident, these will be:
- the Fire Department
- the Prefecture;
- nearby industrial sites.

Other local reference points are the Municipality of Sarroch, the Sarroch Carabinieri, the State Police and the Harbour Office. Continuous updates until the emergency has been completely resolved enable all external parties to manage communications to the local community in the best way possible.

Major accident prevention policy (Translation on page 78)

Saras SpA

POLITICA DI PREVENZIONE DEGLI INCIDENTI RILEVANTI

Nel quadro generale della propria politica in materia di Sicurezza, Salute e Ambiente il Gestore della Raffineria SARAS S.p.A. di Sarroch si impegna:

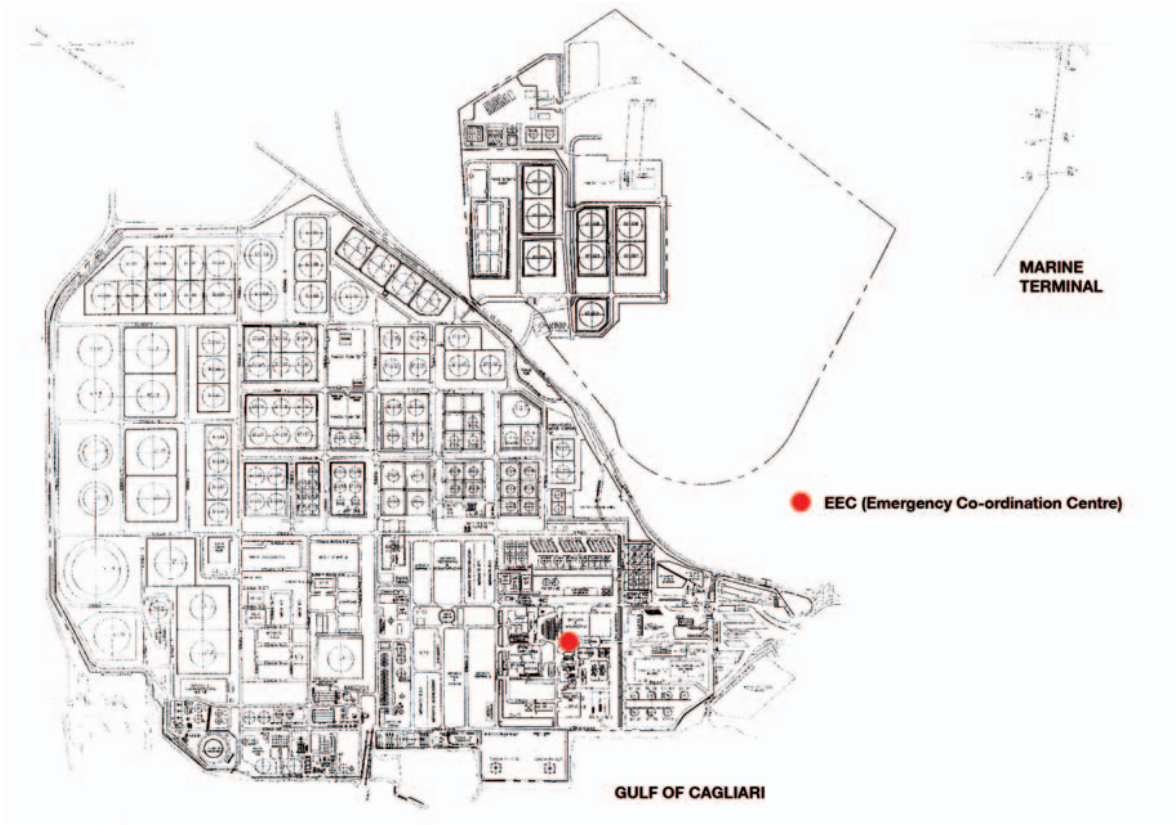
- a perseguire la massima sicurezza dei propri dipendenti e di ogni persona presente all'interno del Sito;
- a mettere in atto ogni azione ed iniziativa utile a prevenire incidenti rilevanti ed a ridurne al minimo le eventuali conseguenze per le persone, l'ambiente e le proprietà;
- a rispettare la specifica normativa nazionale in tema di controllo dei pericoli di incidente rilevante;
- a garantire il rispetto dei propri regolamenti, standard e procedure di sicurezza interni, periodicamente verificati, aggiornati ed adeguati ovunque ritenuto necessario per migliorare la prevenzione degli incidenti rilevanti;
- a promuovere il miglioramento continuo con l'utilizzo di nuovi e più avanzati standard di sicurezza;
- a garantire che tutti i dipendenti e il personale delle ditte d'appalto, nell'ambito delle proprie competenze ed attribuzioni, siano informati, formati e addestrati ad operare con piena cognizione dei rischi potenziali connessi con le attività, sia in condizioni operative ordinarie, anomale e in caso di emergenza;
- a diffondere la sua politica tra i fornitori, appaltatori e qualsiasi altra persona terza che acceda al Sito per motivi di lavoro;
- a diffondere la politica a tutti i dipendenti ed a coinvolgere attivamente nella Gestione della Sicurezza l'intera organizzazione del Sito, dirigenti, preposti, lavoratori e loro Rappresentanti per la Sicurezza, ciascuno nell'ambito delle proprie competenze ed attribuzioni;
- a valutare periodicamente i rischi di incidente rilevante connessi con la propria attività, individuando gli obiettivi di sicurezza e definendo i conseguenti programmi per il miglioramento continuo;
- ad assicurare il controllo di ogni eventuale emergenza, mediante l'attuazione degli specifici piani interni ed in stretto coordinamento con le autorità competenti, anche in relazione alle necessità di informazione della popolazione e per l'attuazione della Pianificazione Esterna di Emergenza;
- ad attuare il Sistema di Gestione della Sicurezza valutandone periodicamente l'efficacia e l'efficienza, e provvedendo alle necessarie revisioni ed aggiornamenti;
- a mantenere un rapporto di massima collaborazione e trasparenza con la collettività esterna e con le sue istituzioni.

Per il raggiungimento di quanto sopra esposto è necessario il contributo attivo di tutto il personale e l'attuazione della politica sarà uno degli obiettivi individuali e di gruppo.

Il Gestore

Sarroch, 5 aprile 2006

FIGURE 5 – LOCATION OF THE REFINERY'S EMERGENCY CO-ORDINATION CENTRE



The External Emergency Plan

The External Emergency Plan (EEP) is directly related to the Internal Emergency Plan; this document is co-ordinated by the Prefecture of Cagliari and was drawn up according to a preliminary procedure that involved numerous local bodies, representatives of the police and emergency forces, including the Region, the Province, the Municipality of Sarroch, the Fire Department and the Local Health Unit.

The Plan covers the industrial area of Sarroch and considers accidents that could potentially involve one of the sites in the area belonging to the various companies there (Saras, Polimeri Europa, Sasol Italy, ENI, Liquigas, Air Liquide Italia) that could cause external damage to plants.

In this case too, the starting point was the Safety Report (SR) of the various production sites and analysis of accidents that could occur; an analysis of the territory and its populated areas and infrastructure was essential to identifying the best accident management procedures.

Procedures for implementing and managing the Plan were defined, from the initial alarm to action by all the internal and external persons and bodies with different roles and responsibilities, including direct accident management inside the production site, accident control in the surrounding area, and information and assistance to citizens (roads, health services, media etc.).

The Prefecture, Police Headquarters, Fire Department, Highway Police, Carabinieri, Financial Police, Forest Rangers, Harbour Office, Local Health Authority, ARPA Sardinia, the Region, the Province, and the Municipality of Sarroch will all in their various ways be involved to ensure rapid and efficient management of an accident that could have repercussions outside production plants.

In order to constantly verify the efficacy of the Plan and its application, regular drills are held that include all the companies and all other responsible bodies. The EEP currently in force was last revised in September 2005.

The refinery's safety systems

The Sarroch plant has a complex safety system that can detect potentially dangerous situations immediately. The fire-fighting equipment consists of an extensive network that covers the entire plant area.

All the storage tanks are protected by fireproof cooling systems; the most critical of these are activated automatically when the tank overheats. Similar systems are installed on all the pressure tanks, LPG storage and loading equipment and any other piece of equipment for which a rise in temperature could compromise safety.

The refinery also has fast and easily manoeuvrable fire trucks carrying powder and foam extinguishers which can be operated quickly in emergencies and act as a backup to the installed systems. All the refinery's safety systems are regularly and carefully maintained, and all the safety equipment is regularly checked.

Health and Safety System

In 2006 Saras began developing a Health and Safety at Work System based on the OHSAS 18001 standard. This new system will enable the company to further improve the health and safety protection of workers.
The system will be integrated with the Safety Management System for the prevention of major accidents already in place, so as to achieve best results by exploiting synergies from the two systems.

Safety Training

Each individual's role is essential in order to achieve the objectives of increasing reliability and safety, so Saras attaches great importance to ongoing staff training, especially in safety matters.

The training programme is broken down into theory and practical sessions, and involves all personnel in different ways depending on their roles, for the whole of their time with the company. Furthermore, people assigned to the firefighting teams take part in a series of specific drills.

Overall, in 2006 more than 7,500 hours of safety and emergency training were given to personnel, with specific modules for new recruits and people changing jobs.
A hundred and forty-one courses were held, including classroom work and simulations in the field.

Employees of other companies that work with the refinery were required to take the safety training course in 2006 on entering the plant for the first time. The course was on computer and included a test, after which a further on-site test was given by the Prevention and Protection Department training leaders.

For some jobs courses were held on safety at the alkalisation plant, while other courses covered work permit procedures. Overall 2,421 personnel from external companies were involved in 4,259 hours of classroom training. To achieve ongoing improvements in safety, training is essential, and staff must be informed in particular of the important role played by each worker. Therefore Saras has developed a course on risk evaluation for each job, and on the company's Health and Safety System according to the OHSAS 18001 standard. The course began in 2006 and involved 180 workers in a total of 450 training hours; it will be completed in 2007. Special training modules for safety auditors were carried out as well.

Data

Production

The plant's energy balance

Energy arrives at the site in the form of raw materials (crude and semi-processed oil) and electricity (Table 4). Crude oil is used in refining - to obtain fuels for internal use and to run the IGCC - while the imported electricity is needed to complete energy requirements for processing.

The "refinery+IGCC plant" complex produces energy in the form of oil products - destined for daily use throughout the region and beyond - and electricity, from the thermoelectric plant and the IGCC plant (Table 5). Electricity generated by the thermoelectric plant is used internally for refining, while all power from the IGCC is put onto the national grid.

In 2006 the Sarroch plant recorded an energy requirement of 964,912 TOE; this figure includes losses.

TABLE 4 – ENERGY IN (TOE)

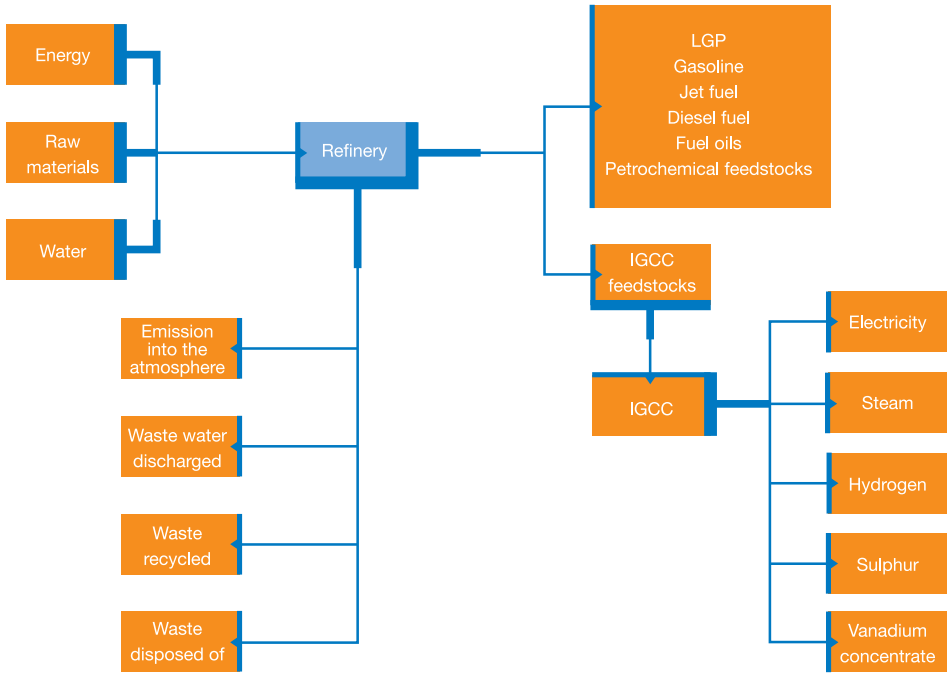
	2006
Crude and fuel oil	14,256,080
Power from external sources*	286,071
Total	**14,542,151**

* Converted into TOE using official AEG factors.

TABLE 5 – ENERGY OUT (TOE)

	2006
Finished products	12,722,075
Electricity to the grid	821,819
Fuel gas	69,873
Total	**13,613,767**

FIGURE 6 – THE SARROCH SITE: FLOW CHART



Refining

In 2006 the Saras refinery in Sarroch processed approximately 14.3 million tons (Mton) of raw materials (crude oil and feedstocks); in total, between 2002 and 2006 it processed 71.6 Mton of raw materials at an average of 14.31 Mton/year (Graph 4).

In the past few years more light products have been produced, with fuel oils being reduced to the minimum and heavy residues from refining (tar) being used to produce electricity.

In 2006 work on launching full production of diesel with a very low sulphur content was completed, while investment in producing low-sulphur gasoline started up. These standards of quality and environmental compatibility will not become binding until 2009, but Saras has already adopted them for part of its production.

GRAPH 4 – CRUDE PROCESSING (THOUSAND TONS/YEAR)

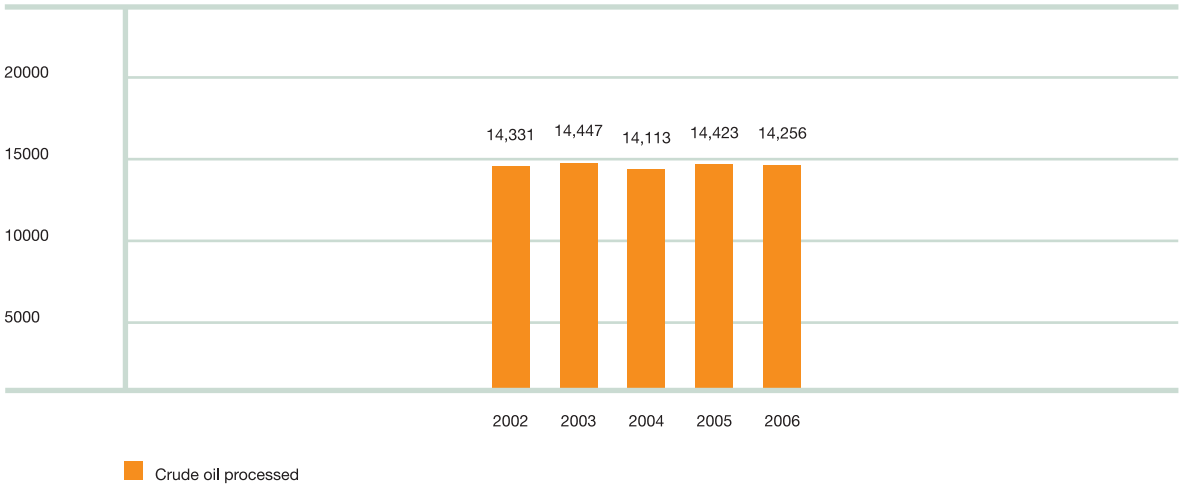


TABLE 6 – PRODUCTS FROM THE SARAS PLANT (TONS/YEAR)

	2002	2003	2004	2005	2006
LPG	385,000	471,000	360,000	363,000	341,000
Gasoline	2,951,000	2,967,000	2.890,000	3,036,000	2,945,000
Virgin Naphtha	931,000	1,111,000	789,000	873,000	936,000
Kerosene	553,000	546,000	290,000	449,000	388,000
Gasoil	6,136,000	6,192,000	6,174,000	6,423,000	6,713,000
Fuel oil	1,280,000	1,156,000	1,567,000	1,149,000	1,033,000
Vanadium concentrate	1,149	1,732	1,231	1,690	1,227
Electricity (TOE)	935,662	970,224	958,681	956,155	982,558
Sulphur	112,000	122,000	114,000	106,000	111,000

Environmental quality of products

Sulphur content is certainly one of the biggest factors in assessing the environmental quality of refinery products, and in recent years, regulations have been introduced to set limits. Low sulphur content ensures that fuel oils perform better during combustion and have less of an impact on the atmosphere.

The plant's sulphur balance (Figure 7) provides useful information about the amount of sulphur entering the refining cycle and how it is distributed on exit. The data show that the quantity of sulphur coming in with raw materials has been falling.

It is also interesting to note that from 2002 to 2006 the amount of sulphur in products entering the market was reduced (Graph 5), while the percentage of sulphur sold as a product increased (Graph 6). This indicates a steady improvement in desulphurisation capacity at the refinery, along with more efficiency as shown by lower levels of sulphur released into the atmosphere and a reduction in the quantity not accounted (which, depending on the year the measurement was taken, can also be negative).

FIGURE 7 – PLANT SULPHUR BALANCE: 2006

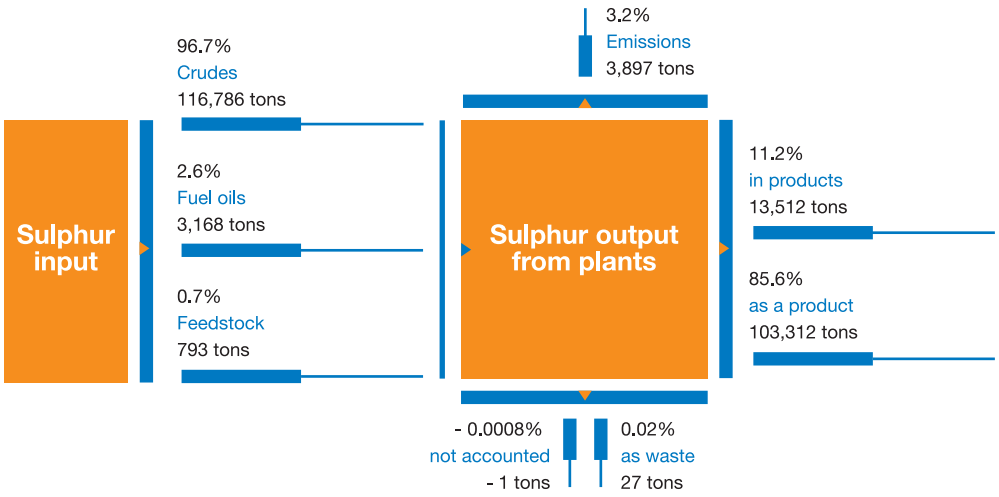
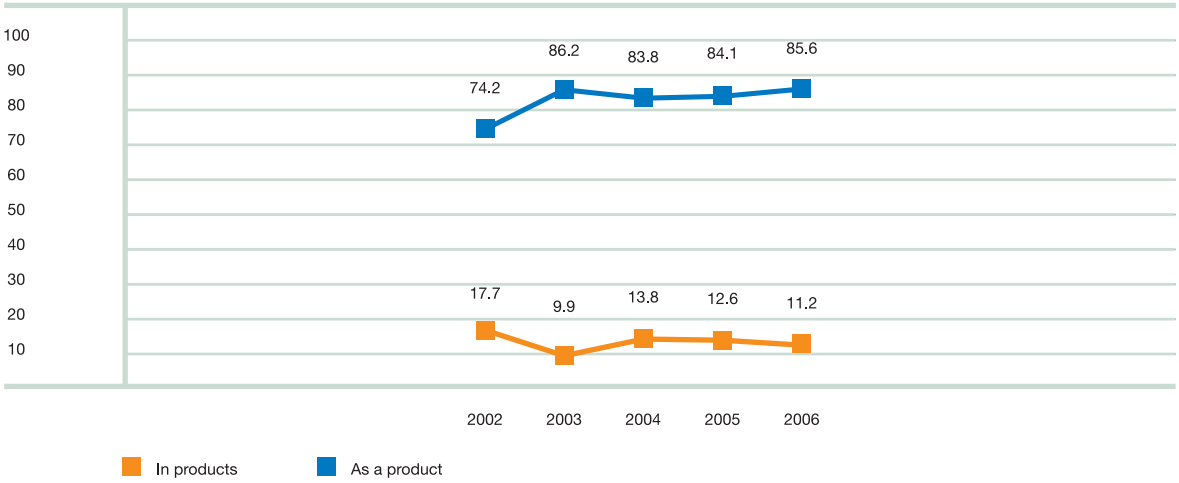


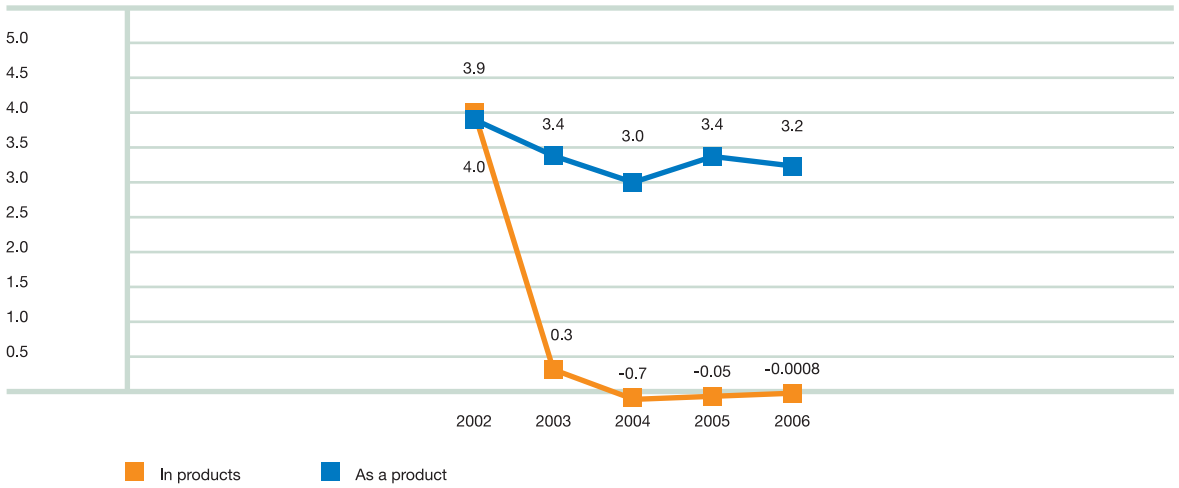
TABLE 7 – PLANT SULPHUR BALANCE

	2002		2003		2004		2005		2006	
	tons	% of total	tons	% of total	tons	% of total	tons	% of total	tons	% of total
Sulphur input										
Raw materials	150,352	100.0	144,502	100.0	135,801	100.0	125,952	100.0	120,747	100.0
Outgoing sulphur										
Emissions into atmosphere	5,833	3.9	4,845	3.4	4,091	3.0	4,250	3.37	3,897	3.2
In products	26,612	17.7	14,328	9.9	18,675	13.8	15,869	12.6	13,512	11.2
As pure sulphur	111,626	74.2	124,582	86.2	113,738	83.8	105,879	84.1	103,312	85.6
As waste	274	0.18	300	0.21	260	0.19	21	0.02	27	0.02
Quantity not accounted	6,006	4	447	0.3	-963	-0.7	-66	-0.05	-1	-0.0008

GRAPH 5 – OUTGOING SULPHUR (%)



GRAPH 6 – OTHER OUTGOING SULPHUR (%)



Electricity production

Since 2002 the IGCC plant has recorded an excellent generation performance, and in 2006 generated its largest ever quantity of electricity. Exchanges with the refinery have also improved, with a gradual increase in the production of hydrogen.

The following tables show the figures for 2006 and a comparison with the four previous years. Table 10 shows the main types of emissions from power generation (g/kWh): the comparison with the ENEL national figure taken as a reference shows the good performance of the Sarlux plant.

TABLE 8 – IGCC CONSUMPTION (TONS/YEAR)

	2002	2003	2004	2005	2006
TAR load	1,120,152	1,240,182	1,250,769	1,172,874	1,217,391
Syngas (from gasification)	3,428,818	3,806,573	3,768,059	3,827,000	3,943,410
Diesel	63,507	18,793	20,072	10,797	10,256
Power from external sources (MWh)	366,457	365,553	372,964	372,357	379,463

TABLE 9 – IGCC CONSUMPTION (TONS/YEAR)

	2002	2003	2004	2005	2006
Power (MWh)	4,253,009	4,410,201	4,357,642	4,346,187	4,473,702
Medium-pressure steam	702,158	732,632	623,804	695,994	688,413
Low-pressure steam	656,036	597,044	586,864	596,386	597,339
Hydrogen (kNm^3)	272,450	298,531	300,595	285,651	360,220
Sulphur	44,280	48,397	47,892	53,768	48,184
Vanadium concentrate	1,149	1,732	1,231	1,690	1,250

TABLE 10 – IGCC* ENVIRONMENTAL PERFORMANCE (G/KWH PRODUCED)

	Enel national data**	2003	2004	2005	2006
SO_2	0.93	0.07	0.10	0.07	0.07
NO_x	0.58	0.09	0.16	0.15	0.15

* Production of hydrogen, medium-pressure steam, low-pressure steam and sulphur taken into account.

** ENEL national production data as published on page 140 of the 2006 Sustainability Budget is used as a basis for comparison.

Environment

A picture of constant improvement

The following pages provide detailed up-to-date data on all environmental factors that, directly or indirectly affect the plant's internal and external environments. Some of these, such as atmospheric emissions or waste water, are more immediately obvious because they relate to the environment in which people live and work every day; others, such as power and water consumption or carbon dioxide (CO_2) emissions, refer to problems of more general concern and have a more global impact without significant direct effects on the local environment.

The graphs and tables below and the refinery figures show the relative contributions of the IGCC plant. As explained above, the plant is now a fully integrated part of the production cycle, and the performance data confirms that it has fulfilled all project expectations in terms of high productivity and low environmental impact in power generation.
The data, presented over a five-year period, paints a picture of general improvement, apart from small fluctuations that can occur from year to year due to external environmental factors (such as weather conditions) unrelated to refinery operations, works at the plant or extraordinary maintenance. The improvement seen is the result of the inclusion of the IGCC in plant operations and a series of other changes to the plant and management that have gradually equipped the refinery with more efficient technologies and resources to operate in a more environmentally-friendly manner.

A comparison between the last five years and the average performances of the 1990s reveals some striking differences: for example, sulphur dioxide (SO_2) emissions have been cut by around 50%.

2006: consolidation of positive results

To give a brief summary of the situation, which will help to clarify the large quantity of detailed information and data set out in the following pages, 2006 could be defined as a year in which Saras consolidated its management policy and the measures adopted to ensure the environmental sustainability of its operations in the region.
The Group's performance in 2006 also confirms the validity of management and technological decisions made in the past, which have now been rationalised and formalised in the Environmental Management System.

As regards transparency towards the region and full and prompt compliance with the law, the 2005 Environment and Safety Report for the site was distributed in 2006 to the region's institutions, politicians, technical supervisory bodies, industry associations, unions, environmental associations and the press. The document was also published on the company website.

INES (the National Inventory of Emissions and their Sources) was also regularly informed about the site's main environmental data. This information is submitted to the Italian Ministry for the Environment, Land and Sea, which forwards it to the European Commission. It is then entered on the European Pollutant Emission Register (EPER).
The declaration concerned levels of water and air emissions relating to various parameters typical of the activities carried out.

Energy consumption

The company has a major commitment to rationalising and optimising energy consumption, closely related to the plant's environmental performance, both now and in the future.

In the late 1970s and the early 1980s, Saras invested heavily in heat and power saving (energy conservation), in the wake of the energy crisis of the mid-1970s. Today, energy saving and efficiency are still strategic objectives relating to the improvement of the plant's overall environmental performance.

Table 11 and Graph 7, which show the consumption of liquid and gaseous fuels (the latter produced by the refinery) and the quantity of power from external sources, illustrate that energy consumption remained broadly sta-

ble over the period under review, with decreasing reliance on fuel oils in favour of gas produced by the plants, known as 'refinery gas' (fuel gas). This is a substitute for methane, a resource not available in Sardinia, which is not connected to the national gas grid.

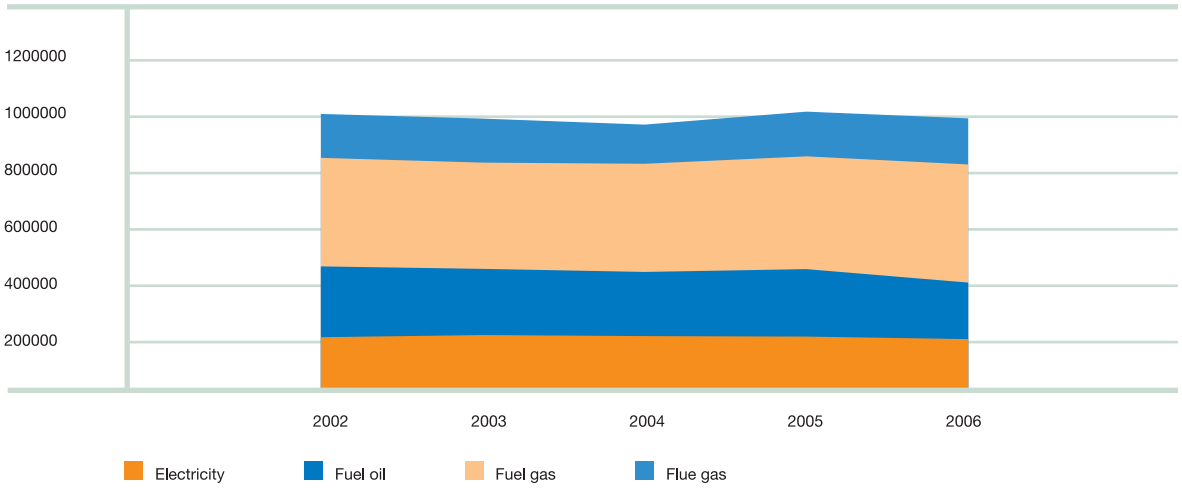
Table 12 on the next page shows the power requirement and indicates under 'Internal production' the quantity of power generated by the refinery's power plant, while external supply is provided by the national grid operator (GSE).

TABLE 11 – TOTAL ENERGY CONSUMPTION (REFINERY + IGCC; TOE)

	2002	2003	2004	2005	2006
Power	181,823	189,518	185,811	186,071	189,603
Fuel oil	248,732	232,358	225,309	237,435	198,546
Fuel Gas	381,192	373,181	379,849	389,156	414,855
Flue Gas*	154,263	154,572	137,521	156,955	161,908
Total	**966,013**	**949,629**	**928,490**	**969,617**	**964,912**

* Flow produced from FCC catalyser regeneration, and used to fuel the recovery boiler, known as the CO boiler.

GRAPH 7 – TOTAL ENERGY CONSUMPTION (REFINERY + IGCC PLANT; TOE)



GRAPH 8 – POWER REQUIREMENT AND SUPPLY (REFINERY + IGCC; FIGURE %)

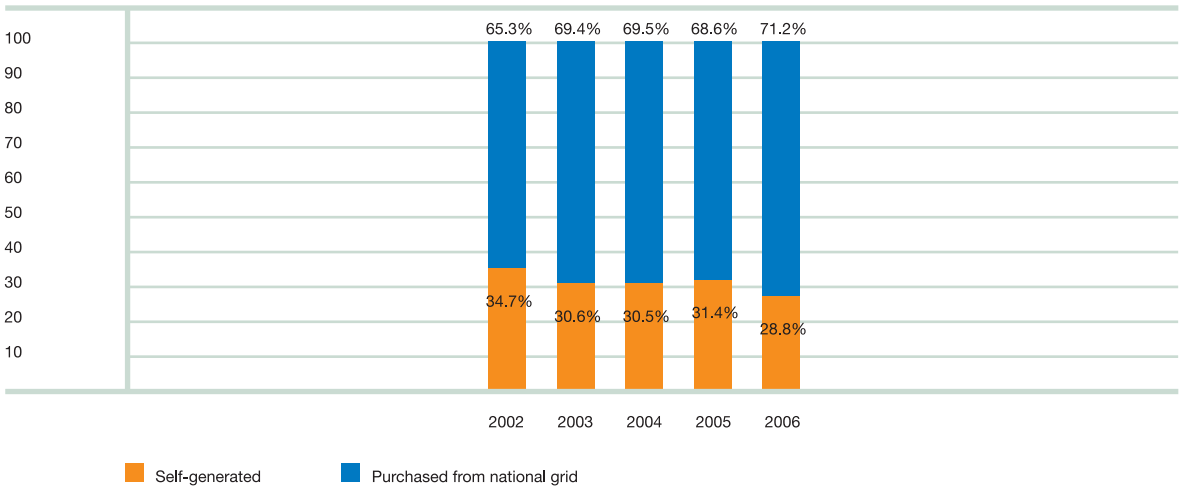


TABLE 12 – POWER REQUIREMENT AND SUPPLY (REFINERY + IGCC; MWH)

	2002	2003	2004	2005	2006
Total demand	1,139,325	1,141,519	1,119,418	1,122,363	1,104,148
Supply					
- from internal production*	395,672	349,128	341,529	351,995	318,438
- external	743,653	792,391	777,889	770,368	785,710

* Production by the refinery's thermoelectric plant; all IGCC plant output goes to the external grid.

Plant water consumption

Water is a precious resource for the Sarroch plant, and its use is constantly monitored in order to optimise consumption and to promote recovery and desalination, instead of using fresh water supplied by CASIC (the Consortium for the Cagliari Industrial Development Area), which manages the water supply to the Sarroch industrial region. The water used for industrial purposes mainly supplies the boilers that produce steam for technological use (steam stripping, heat exchangers and power generation), to supply the fire prevention system, to replace cooling cycle losses and for civil use.

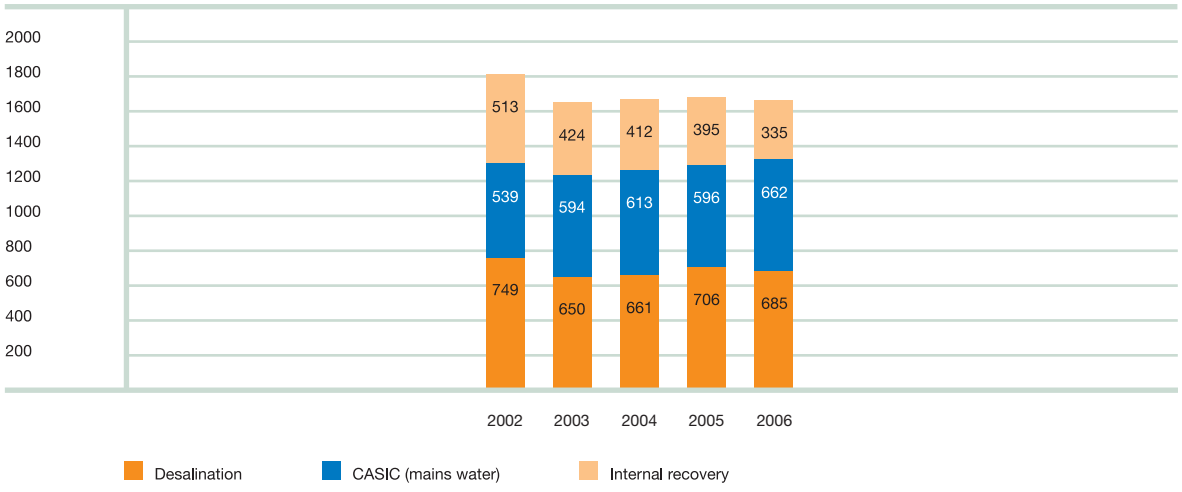
The water consumption data provided also includes the quantity required for the IGCC plant, which, however, does not affect the site's total fresh water requirement: for its own production, the IGCC plant exclusively uses water from dedicated desalinators and seawater, which is used in the cooling tower. The quantity of water used for refining remains broadly stable. Supply sources in 2006 were in line with previous years, as shown in Table 13 and Graph 9.

In the period under review, internal recovery met an average of approximately 25% of the total annual requirement, and desalination was the main source of supply, accounting for 40% of the total.
Desalinated and recovered water met approximately 61% of the requirement in 2006. This is a significant result for the plant, particularly since there is now an ongoing water crisis in Sardinia. It indicates that the best path to follow in future is the rationalisation of consumption and increased recycling.

TABLE 13 – TOTAL WATER CONSUMPTION PER SUPPLY SOURCE (REFINERY + IGCC; m³/HOUR)

	2002	2003	2004	2005	2006
Desalination	749	650	661	706	685
CASIC	539	594	613	596	662
Internal recovery	513	424	412	395	335
Total	**1,801**	**1,668**	**1,686**	**1,697**	**1,682**

GRAPH 9 – TOTAL WATER CONSUMPTION (REFINERY + IGCC; m³/HOUR)



Atmospheric emissions

Saras' commitment to reducing atmospheric emissions has seen it implement a series of initiatives over time intended to improve the plant and to define management procedures and systems that ensure its operations are environmentally compatible. These have reduced pollutant emissions, despite the increase in processing volumes and a more complex cycle.

Within this context, the gasification plant has made a substantial contribution to reducing atmospheric emissions, as described on page 14. Other major projects that have had the most positive effect on cutting atmospheric emissions include the increase in sulphur recovery from fuel gases and improvements in furnace combustion, partly through the replacement of boilers.

Another important measure was the reduction of emissions from various sources, by equipping floating-roof tanks with double-seal systems.

TABLE 14 – TOTAL ATMOSPHERIC EMISSIONS (000 TONS/YEAR)

	2002		2003		2004		2005		2006	
	Raff.	IGCC	Raff.	IGCC	Raff.	IGCC	Raff.	IGCC	Raff.	IGCC
SO_2	10,88	0,79	9,22	0,47	7,57	0,61	8,06	0,43	7,33	0,47
NO_x	4,03	0,93	4,16	0,59	3,43	0,99	3,96	0,93	3,80	0,98
Dust	0,49	0,002	0,47	0,008	0,52	0,020	0,53	0,007	0,45	0,003
CO	1,22	0,110	1,31	0,097	1,24	0,084	1,24	0,086	1,26	0,110
CO_2*	2.650	3.695	2.555	3.929	2.373	3.963	2.606	3.718	2.349	3.878

* According to the declaration pursuant to the Emissions Trading Directive.

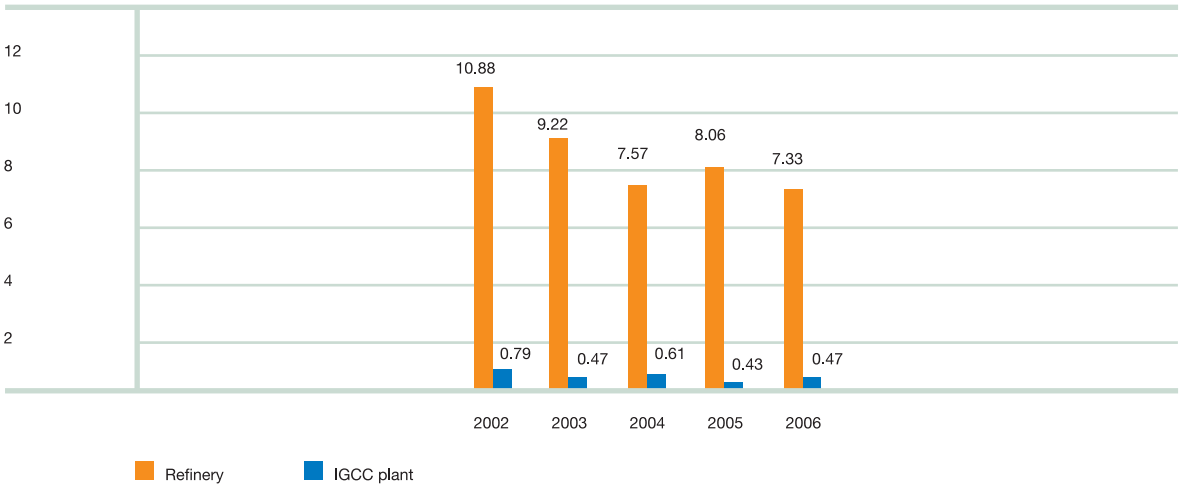
Sulphur dioxide (SO_2)

The site recorded its best year ever for total SO_2 emissions in 2006, confirming the downward trend that has been established for several years. This performance is due to constant improvements in the quality of the fuels used (fuel oil, fuel gas and flue gas), in which the sulphur content has been steadily reduced (see Graph 12).

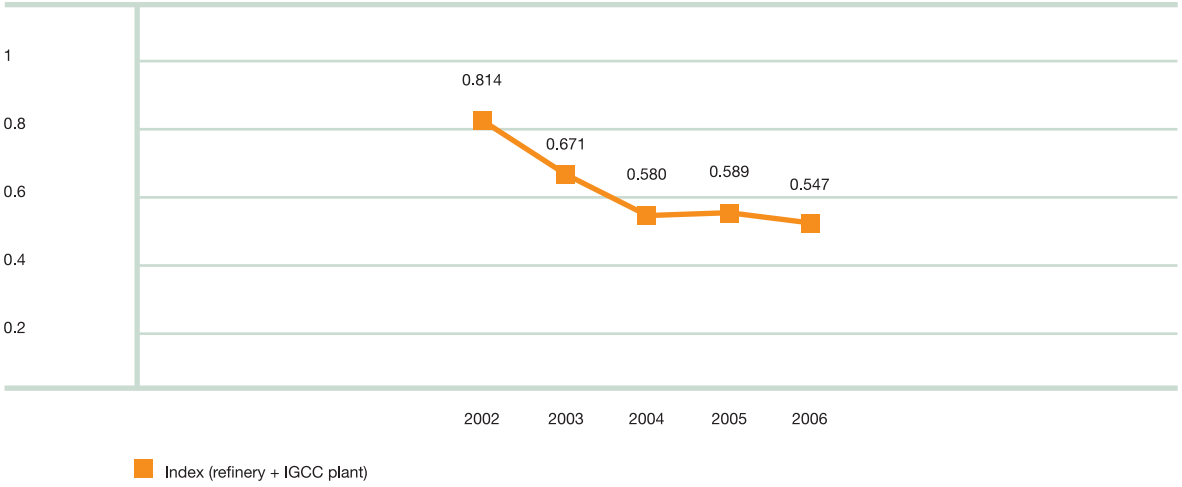
The emissions rate per ton of raw materials processed (Graph 11) shows a reduction, despite the fact that processing volumes were trending upwards, a clear sign that efficient action has been taken to improve processing performance. Compared with 2002, the refinery's SO_2 emissions were reduced by more than 30% in 2006. Since 2002, the contribution of the IGCC plant, when in full operation, has made a slightly reduced contribution, particularly in the last two years.

The 2006 figures, also confirmed by the monitoring of refinery stacks and of the IGCC, show that all the values recorded are well below the legal limits for the refinery (Graph 13) and those set when the IGCC plant was authorised (Graph 14).

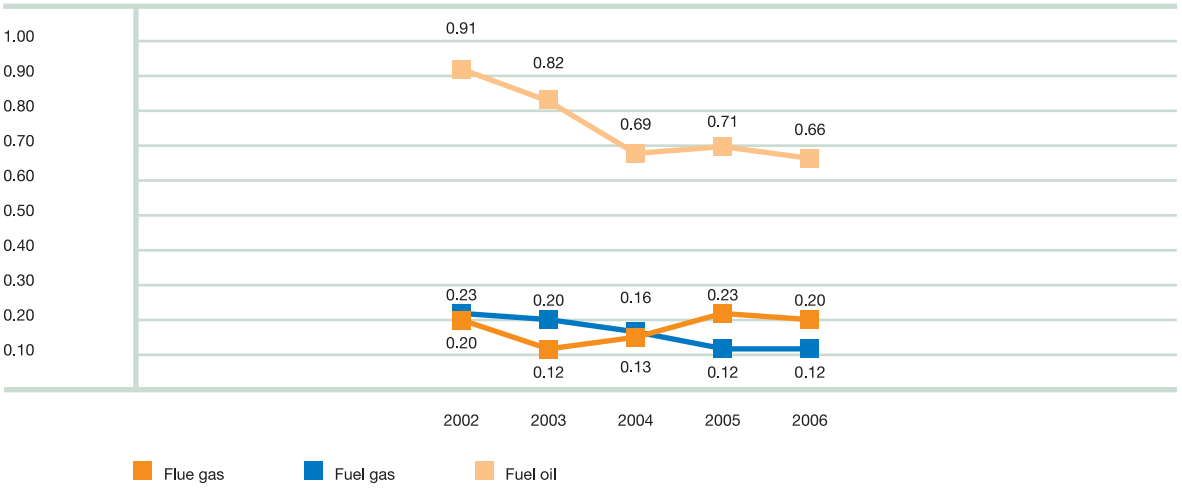
GRAPH 10 – SO_2 EMISSIONS (000 TON/YEAR)



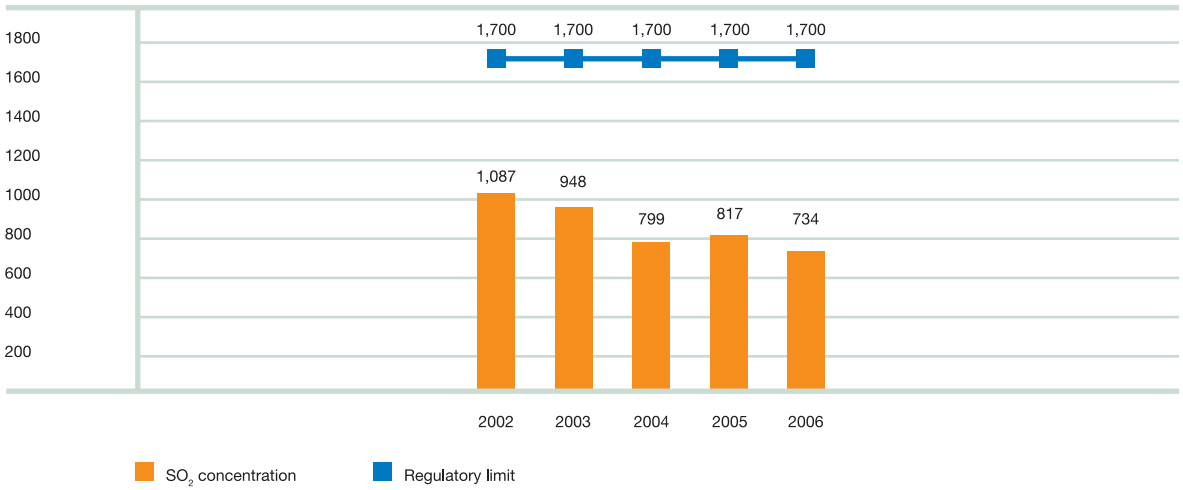
GRAPH 11 - SO_2 PRODUCTION INDEX (TONS OF SO_2/000 TONS OF MATERIALS PROCESSED)



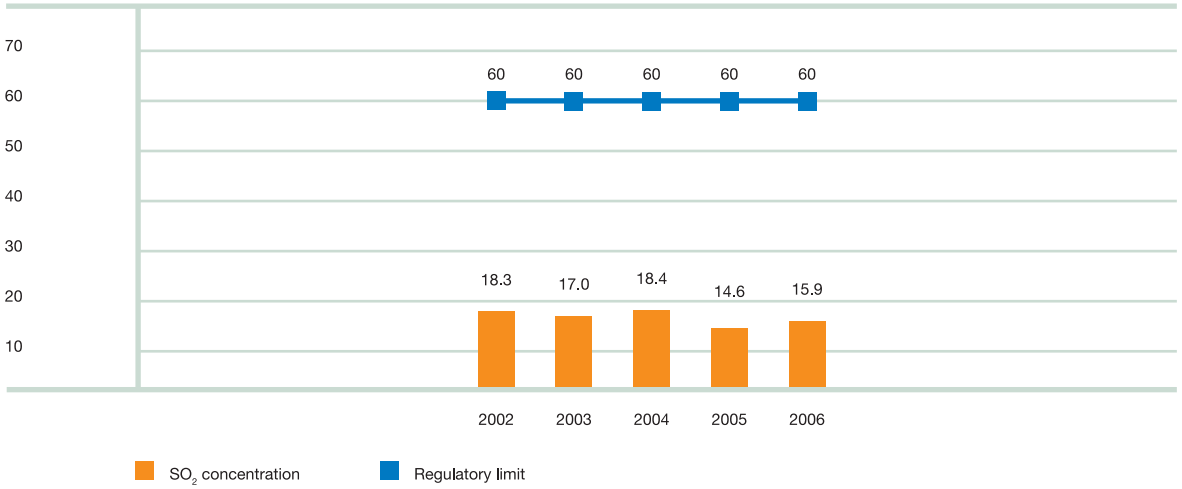
GRAPH 12 – SULPHUR CONTENT IN REFINERY FUELS (% SULPHUR – WEIGHT)



GRAPH 13 – CONCENTRATION OF SO_2 COMING FROM REFINERY STACKS (mg/Nm³)



GRAPH 14 – CONCENTRATION OF SO_2 COMING FROM IGCC PLANT STACK (mg/Nm³)

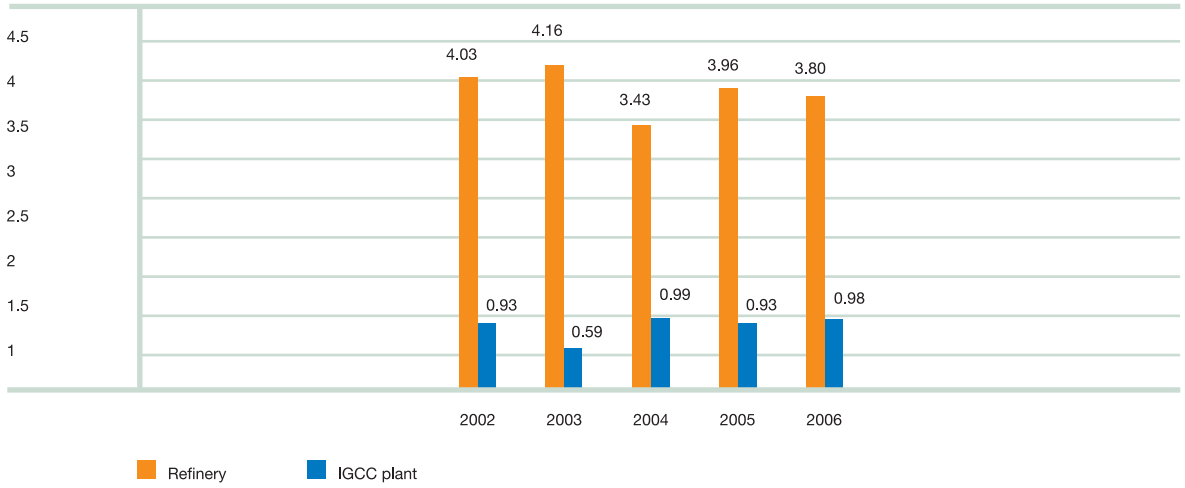


Nitrogen oxide (NO_x)

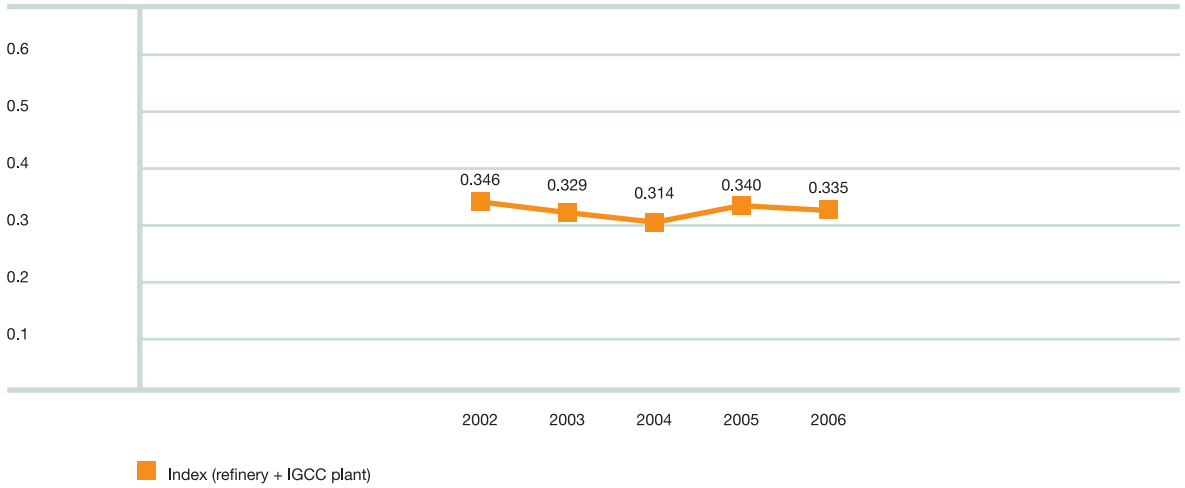
Overall, the Saras site has continued to contain its nitrogen oxide emissions. These are only marginally affected by fuel quality, and largely depend on combustion techniques, which in turn relate to structural factors such as burner type.

With the IGCC plant coming fully on stream, NO_x emissions remained broadly stable in 2002-2006 (see Graph 15). The index also shows that this reference parameter was largely stable (Graph 16).
Comparison of concentrations with regulatory limits confirms that the results are very positive and well below the limit (Graphs 17 and 18).

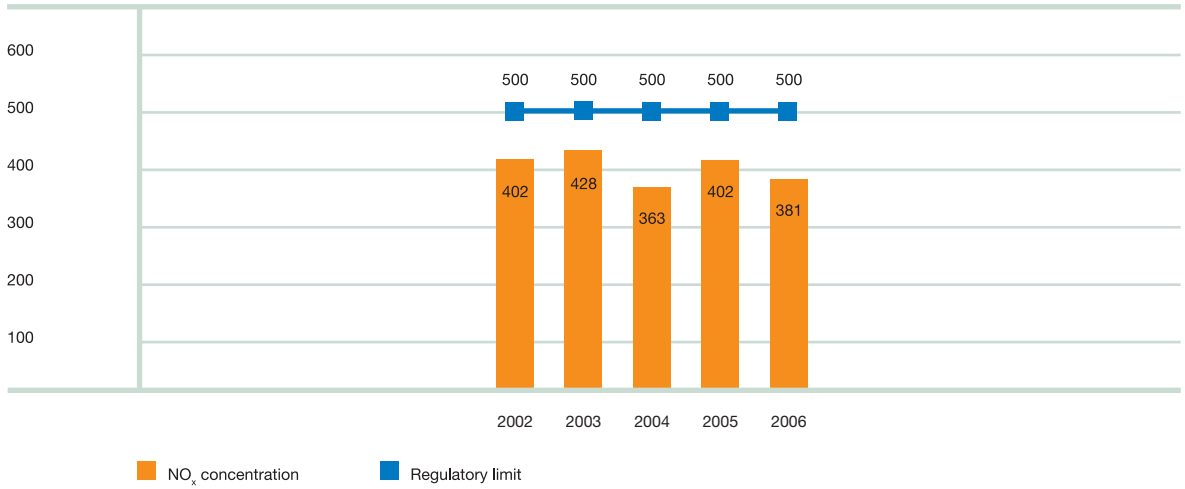
GRAPH 15 – NO_x EMISSIONS (000 TONS/YEAR)



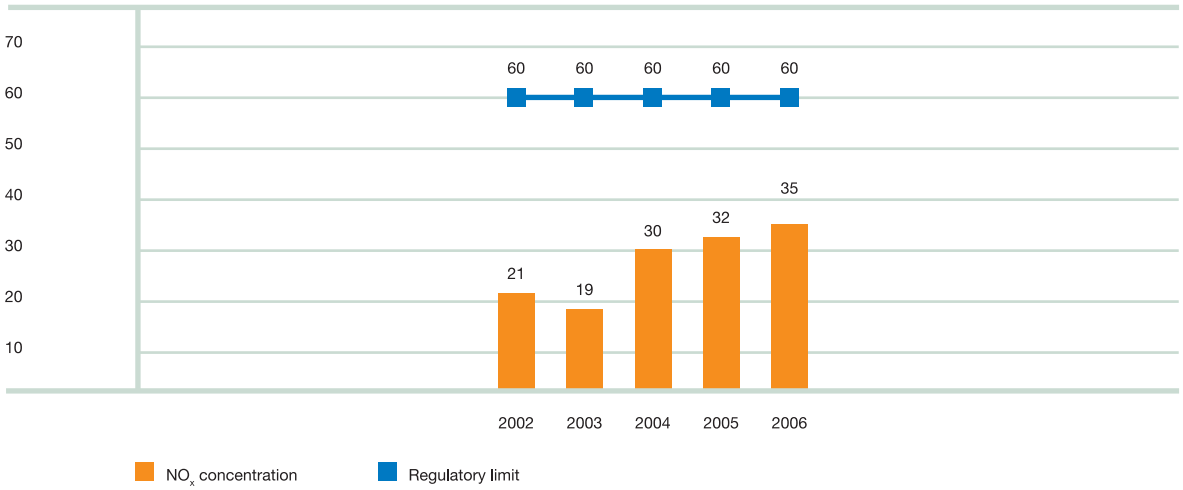
GRAPH 16 – NO_x PRODUCTION INDEX (TONS OF NO_x/000 TONS OF MATERIALS PROCESSED)



GRAPH 17 – CONCENTRATION OF NO_x COMING FROM REFINERY STACKS (mg/Nm^3)



GRAPH 18 – CONCENTRATION OF NO_x COMING FROM IGCC PLANT'S STACK (mg/Nm³)

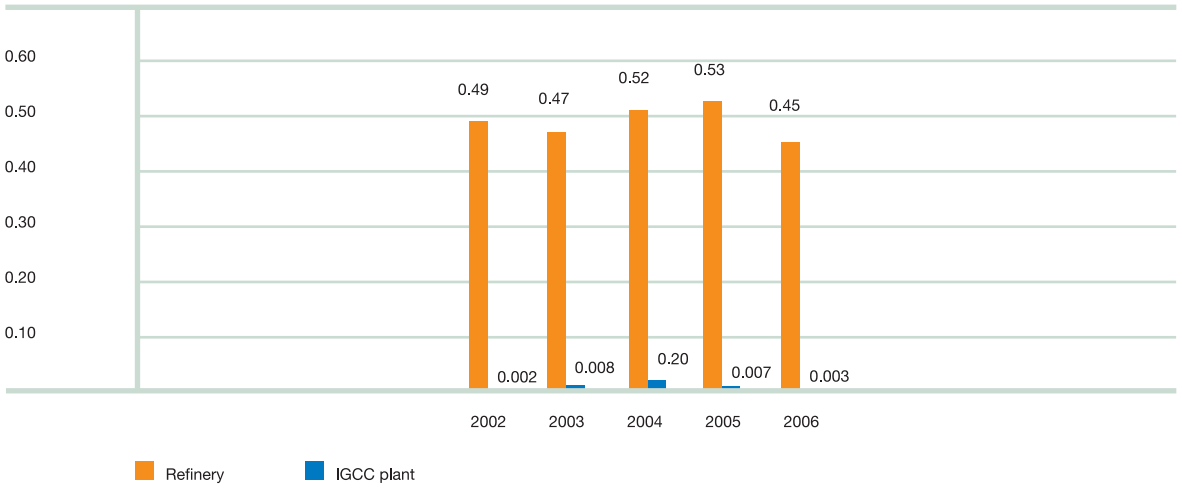


Dust

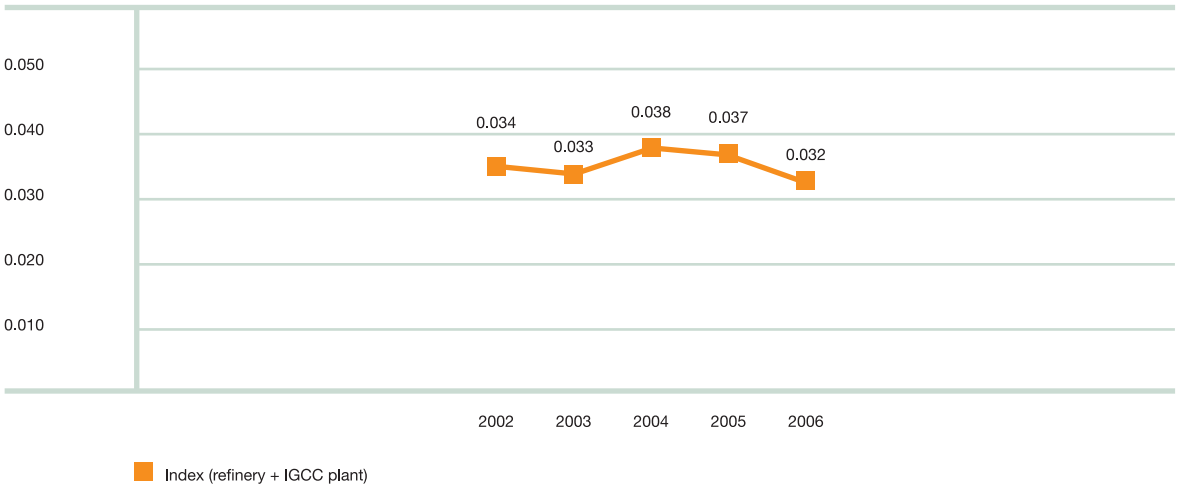
The refinery's exclusive use of fuel oil with low sulphur content since 2000 has kept dust emissions at limited levels, and consistently below legal limits (Graphs 21 and 22).

The positive performance of the IGCC plant, which has negligible dust emissions, fits perfectly in this framework, as evidenced in Graph 19, which shows total emissions. Overall, levels at the site have been largely constant (Graph 20).

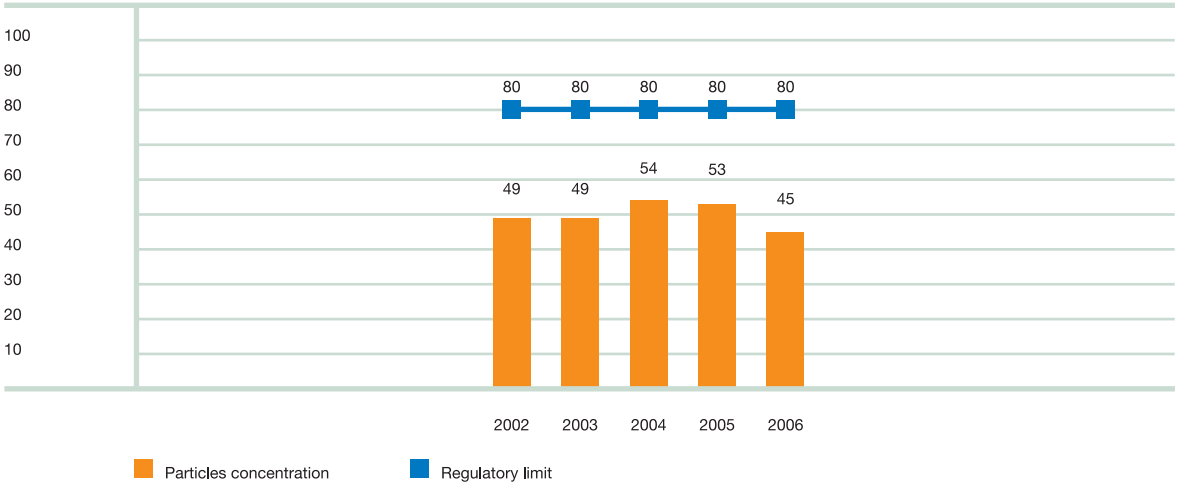
GRAPH 19 – PARTICLES EMISSIONS (000 TONS/YEAR)



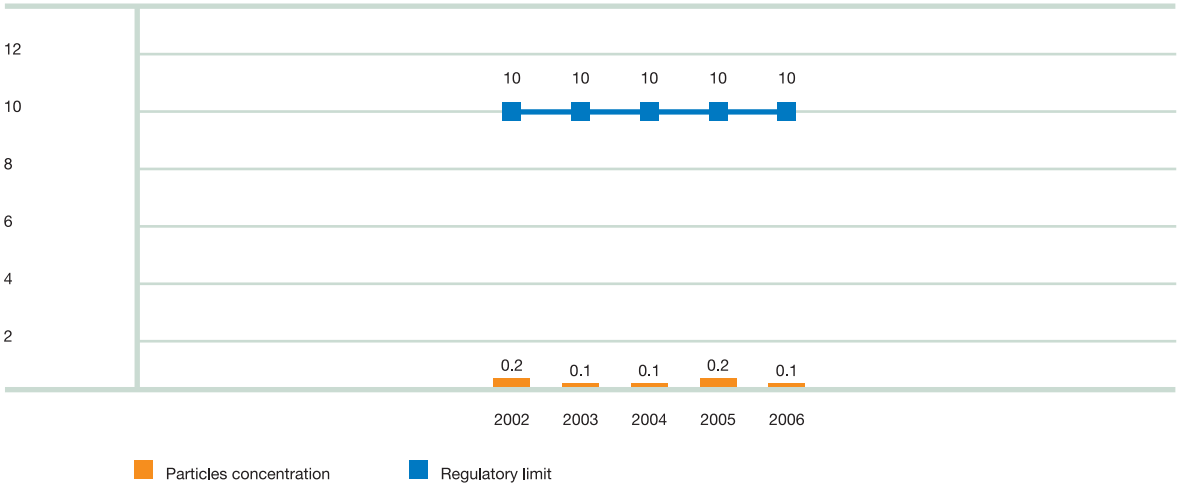
GRAPH 20 – PARTICLES PRODUCTION INDEX (TONS OF PARTICLES/000 TONS OF MATERIALS PROCESSED)



GRAPH 21 – CONCENTRATION OF PARTICLES COMING FROM REFINERY STACKS (mg/Nm³)



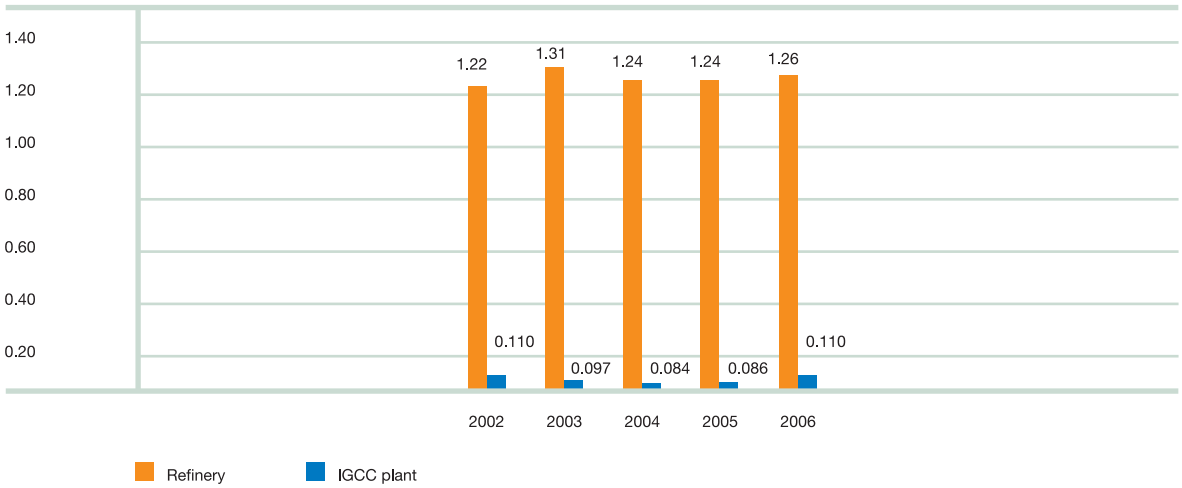
GRAPH 22 – CONCENTRATION OF PARTICLES COMING FROM IGCC PLANT STACK (mg/Nm³)



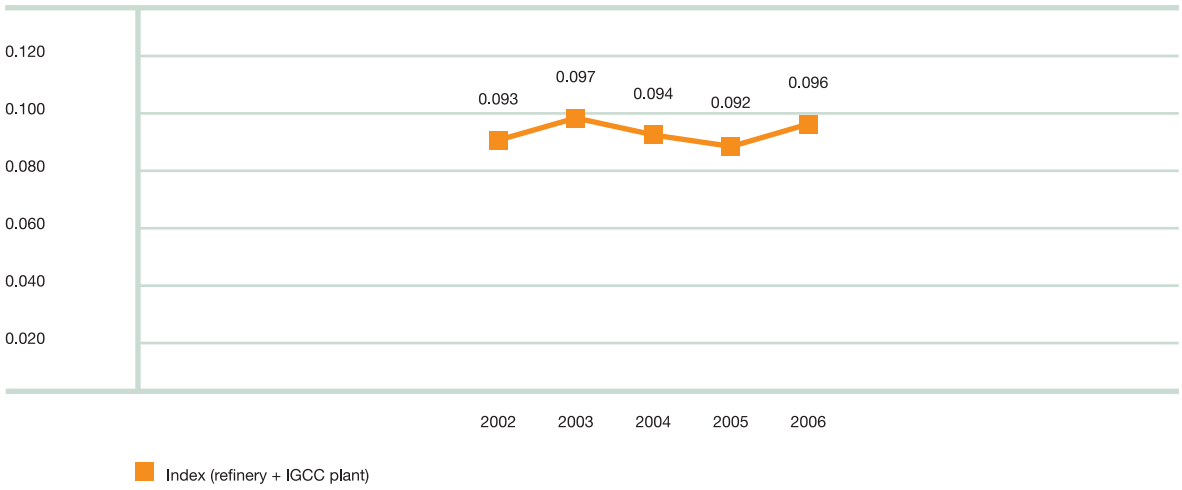
Carbon monoxide (CO)

Carbon monoxide emissions have also followed an almost constant trend (Graph 23). All the values recorded are well below the legal limits: specifically, the refinery's CO emission concentrations are around 50% of the limit (Graph 25), and emissions at the IGCC plant are about ten times lower than the benchmark limit (Graph 26).

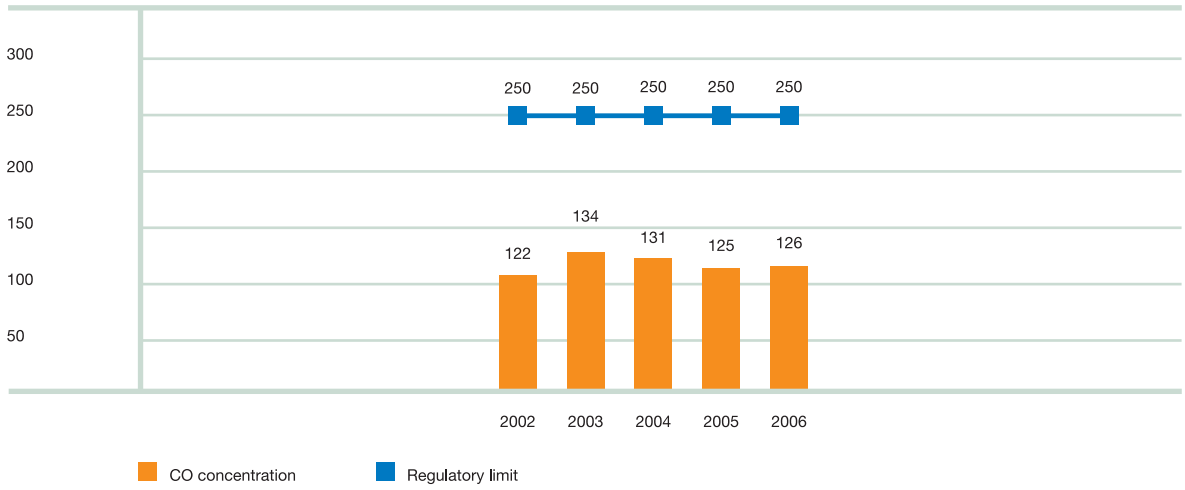
GRAPH 23 – CO EMISSIONS (000 TONS/YEAR)



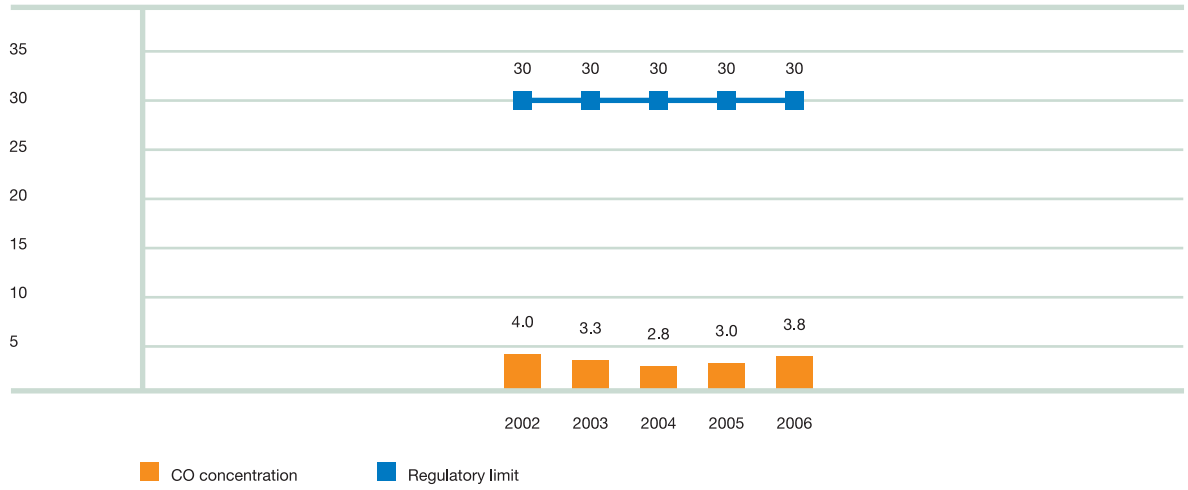
GRAPH 24 – CO PRODUCTION INDEX (TONS OF CO/000 TONS OF MATERIALS PROCESSED)



GRAPH 25 – CONCENTRATION OF CO COMING FROM REFINERY STACKS (mg/Nm³)



GRAPH 26 – CONCENTRATION OF CO COMING FROM IGCC PLANT STACK (mg/Nm³)



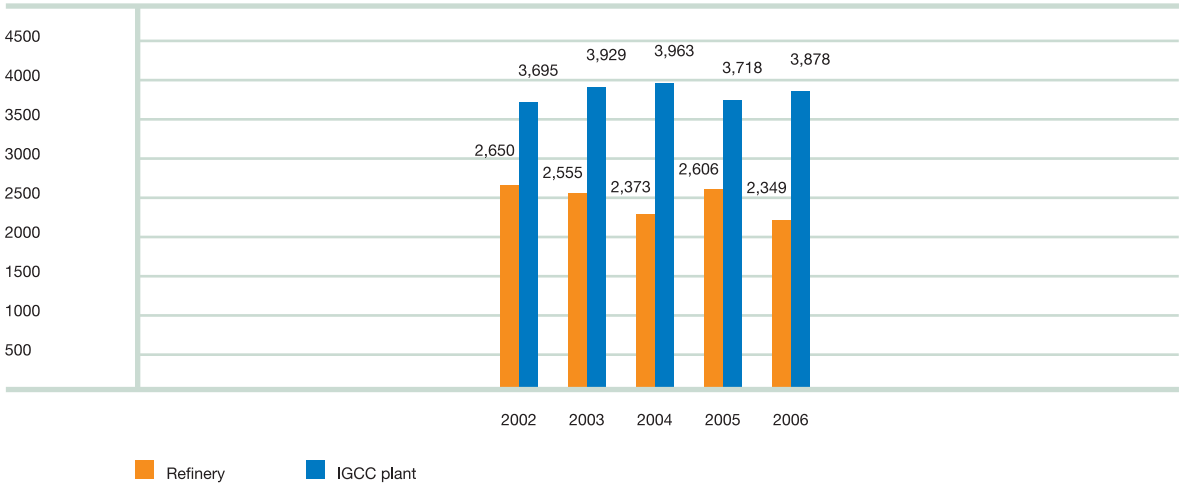
Carbon dioxide (CO_2)

Carbon dioxide (CO_2) emissions have no direct effect on air quality in the area surrounding the site but are connected to global phenomena (climate change). The main means of controlling these requires rational energy use and the adoption of efficient production systems that reduce quantities of CO_2.

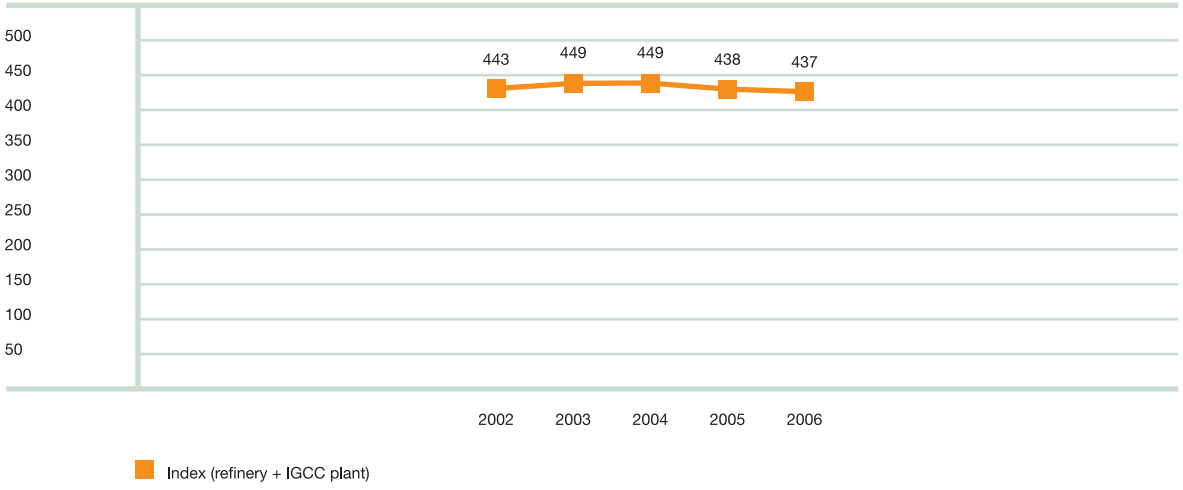
The site follows the trend seen in CO_2 emissions in the last five years, with slight fluctuations resulting, for example, from plant maintenance. In any event, the overall index with respect to materials processed has remained constant (Graph 28).

Unlike conventional production technologies, IGCC technology, recognised as the BAT (Best Available Technique) for the refining industry, ensures high enough yields (more than 51%) to allow for reduced fuel consumption, as shown in Table 2 on page 14.

GRAPH 27 – CO_2 EMISSIONS (000 TONS/YEAR)



GRAPH 28 – CO_2 PRODUCTION INDEX (TONS OF CO_2/000 TONS OF MATERIALS PROCESSED)



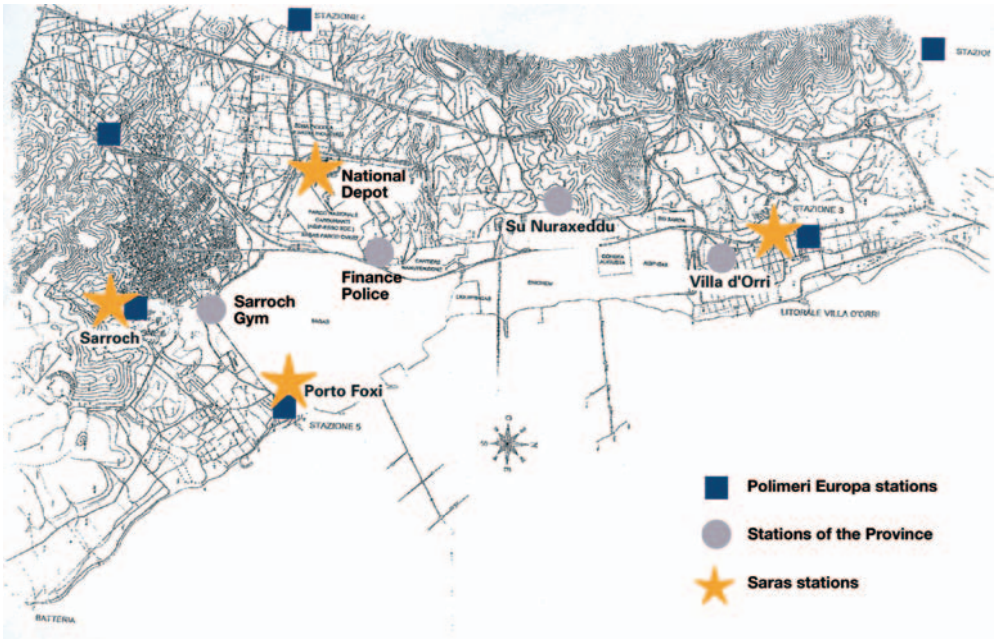
Air Quality

As already described on page 20, a three-level monitoring system constantly checks the main air quality parameters in the area around the Saras plant and more widely in the Sarroch industrial area (Figure 8).

The tables below show data on the concentrations of the main parameters as measured by the Saras control units, compared with the limits imposed by legislation in force.
As shown in Figure 8, the control units of the three-level monitoring system are located in compliance with the provisions of previous legislation (Presidential Decree 203/88).

Current legislation (Ministerial Decree 60 of 2 April 2002), on the other hand, require sampling points for the protection of human health to be located so as to "provide data on areas within zones and built-up areas which contain the highest levels to which the population is likely to be exposed, either directly or indirectly...". It is therefore necessary to relocate some monitoring stations to ensure adequate monitoring of air quality where the population is present or examine the performance of several monitoring stations.

FIGURE 8 – THE SARROCH INDUSTRIAL AREA CONTROL UNIT NETWORK



The data show that the quality standard is met for all the pollutants monitored; the values measured by the monitoring stations are all below emission limits (page 54, table 15).

This result is highly significant as it is closely connected with health and environmental quality of the region, which are ensured thanks to targeted maintenance engineering and to the management of the production process, which is constantly monitored against environmental performance.

TABLE 15 – MONITORING NETWORK DATA AND COMPARISON WITH LEGAL LIMITS PURSUANT TO MINISTERIAL DECREE 60/02 (µg/m³)

	Numero di superamenti							
SO_2	in excess of 1 hour limit**			in excess of 24 hour limit***			in excess of limit for ecosystems****	
	2004	2005	2006	2004	2005	2006	Limit value	2006
Villa d'Orri	5	0	0	0	0	0	20	0
Porto Foxi*	9	9	6	3	4	1		
Sarroch	0	4	8	0	0	0		
National storage facility	1	0	4	0	0	0		

* The Porto Foxi monitoring station is located in a zone designated for use as a "working area".

** 1 hour limit not to be exceeded more than 24 times per calendar year (380 µg/m³ in 2004; 350 µg/m³ in 2005; 350 µg/m³ in 2006.

*** 24 hour limit not to be exceeded more than 3 times per calendar year (125 µg/m³).

**** Limit for the protection of ecosystems.

NO_x	Number of times the 1 hour limit was exceeded*			2004		2005		2006	
	2004	2005	2006	Amount recorded***	Limit**	Amount recorded***	Limit**	Amount recorded***	Limit**
Villa d'Orri	4	0	0	8	52	9	50	4	48
Porto Foxi	0	0	0	13	52	5	50	10	48
Sarroch	0	0	0	6	52	6	50	7	48
National storage facility	0	0	0	5	52	6	50	8	48

* Hourly limit not to be exceeded more than 18 times per calendar year (260 µg/m³ in 2004; 250 µg/m³ in 2005; 240 µg/m³ in 2006).

** Annual limit.

*** Annual average on an hourly basis.

PM10	Number of times the 24 hour limit was exceeded*			2004		2005		2006	
	2004	2005	2006**	Amount recorded***	Limit	Amount recorded***	Limit	Amount recorded***	Limit
Villa d'Orri	6	2	-	21	41.6	22	40	-	28
Porto Foxi	8	6	4	21	41.6	26	40	19	28
Sarroch	4	3	0	23	41.6	24	40	24	28
National storage facility	4	0	-	21	41.6	16	40	-	28

* 24 hour limit not to be exceeded more than 35 times per calendar year (55 µg/m³ in 2004; 50 µg/m³ in 2005).

** 24 hour limit not to be exceeded more than 7 times per calendar year (70 µg/m³ in 2006).

*** Arithmetic mean of average concentrations over 24 hours during 1 year.

CO	Number of times the maximum daily average was exceeded*		
	2004	2005	2006
Villa d'Orri	0	0	0
Porto Foxi	0	0	0
Sarroch	0	0	0
National storage facility	0	0	0

* Maximum daily average over 8 hours (12 µg/m³ in 2004; 10 µg/m³ in 2005; 10 µg/m³ in 2006).

Waste water

Graph 29 shows the quantities of water discharged from the site. In 2002, the data were influenced by the ongoing drought, which provoked a severe reduction in the quantities of raw water available; it was therefore necessary to increase internal recycling to the limit values of salt concentrations in the cooling systems.
In 2003, a year in which there was plenty of rain, it was possible to re-establish the salt concentration values in the cooling circuits in line with normal operational levels, to increase flushing and therefore the amount of water discharged.

Lastly, from 2003 to 2006 the situation returned to normal with slight fluctuations linked to maintenance of the processing plants, a trend confirmed by the broadly stable index values in relation to production.
To measure the environmental quality of waste water, the COD (a general index of water quality), and the hydrocarbons (mineral oils), indicative of production, were adopted as references. (see Table 16).

In accordance with regulations established by the Province of Cagliari regarding the discharge of waste water into the sea, monthly samples are taken by an accredited external laboratory, and the results of the analyses are sent to the Province every four months.
Graphs 35 and 36 are based on these data (COD) and on information obtained from continuous hydrocarbon analysis, and show that all the concentration values measured during the period of time considered are constantly below the limits set out in existing legislation.

GRAPH 29 – TOTAL WATER DISCHARGE (m³/HOUR)

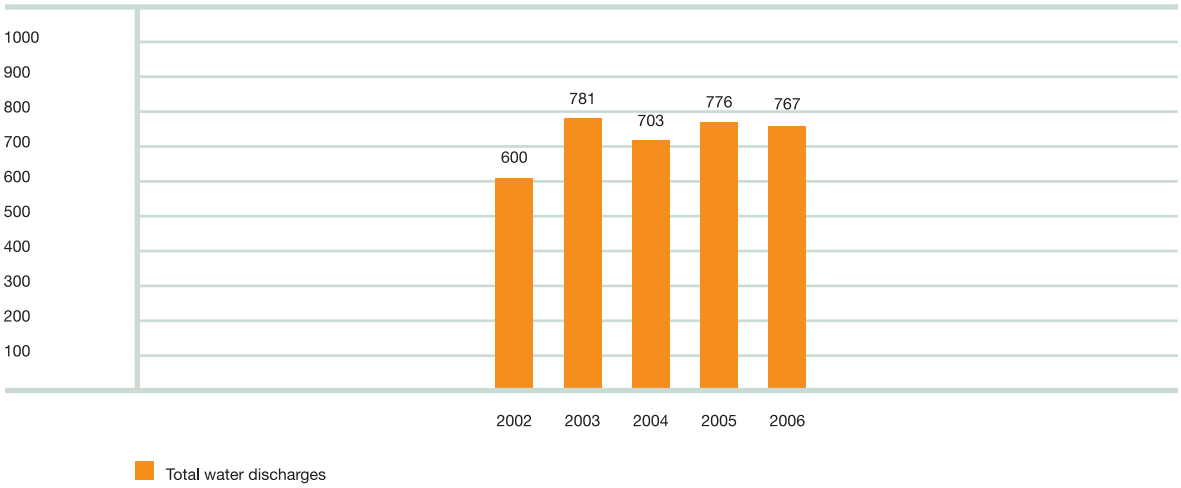
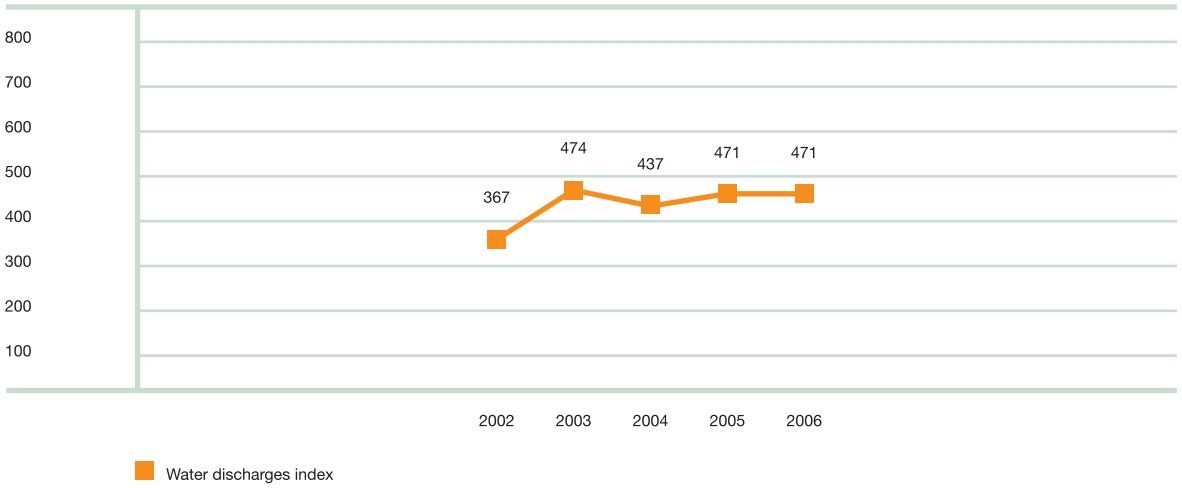


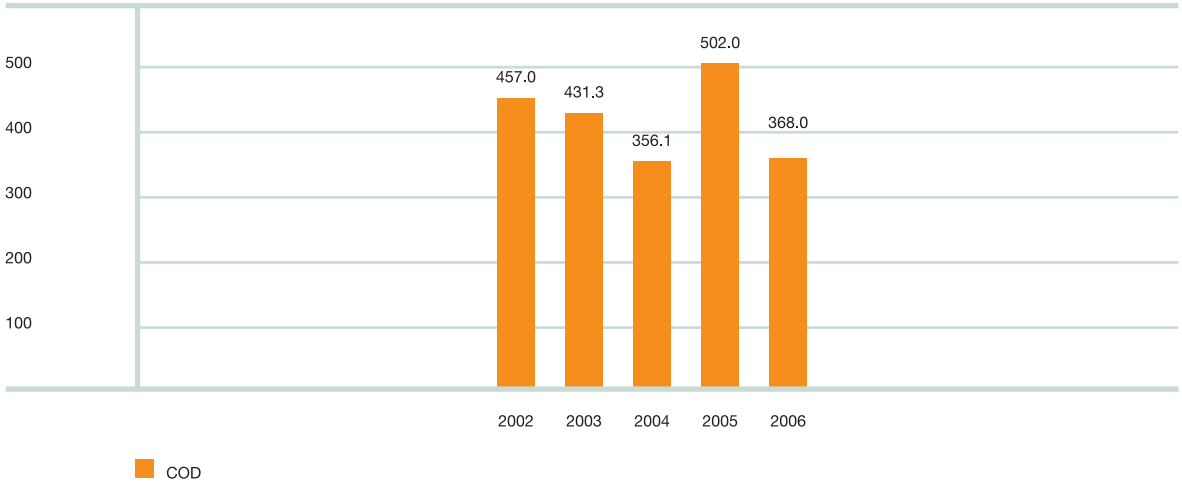
TABLE 16 – THE MAIN SUBSTANCES DETECTED (TONS/YEAR)

	2002	2003	2004	2005	2006
COD	457.0	431.3	356.1	502.0	368.0
Mineral oils	11.2	12.5	10.2	11.8	10.1

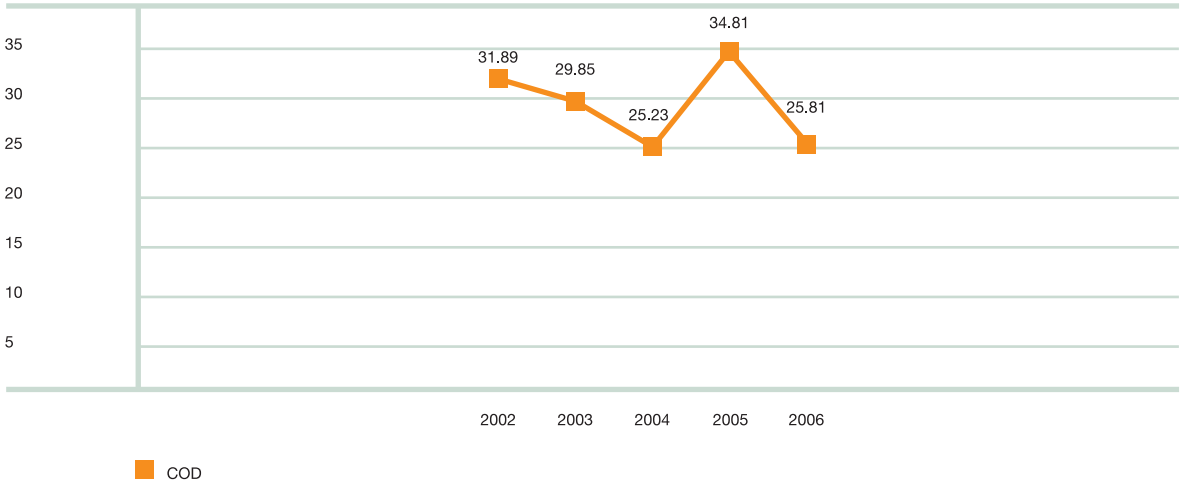
GRAPH 30 – INDEX OF TOTAL WATER DISCHARGES (m³/000TONS OF MATERIALS PRODUCED)



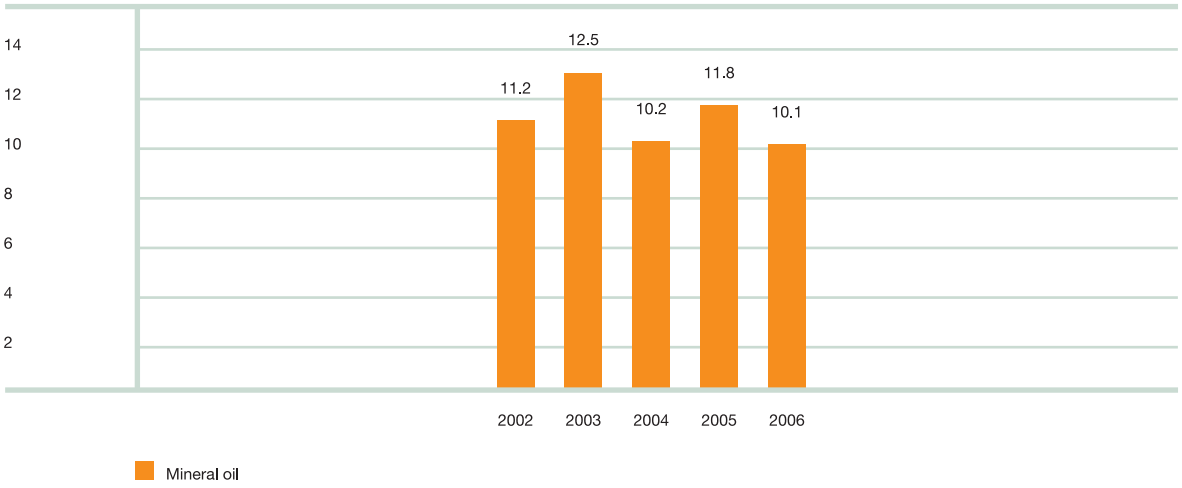
GRAPH 31 – COD EMISSIONS (TONS/YEAR)



GRAPH 32 – COD EMISSION INDEX (TONS/MILLION TONS OF MATERIALS PRODUCED)

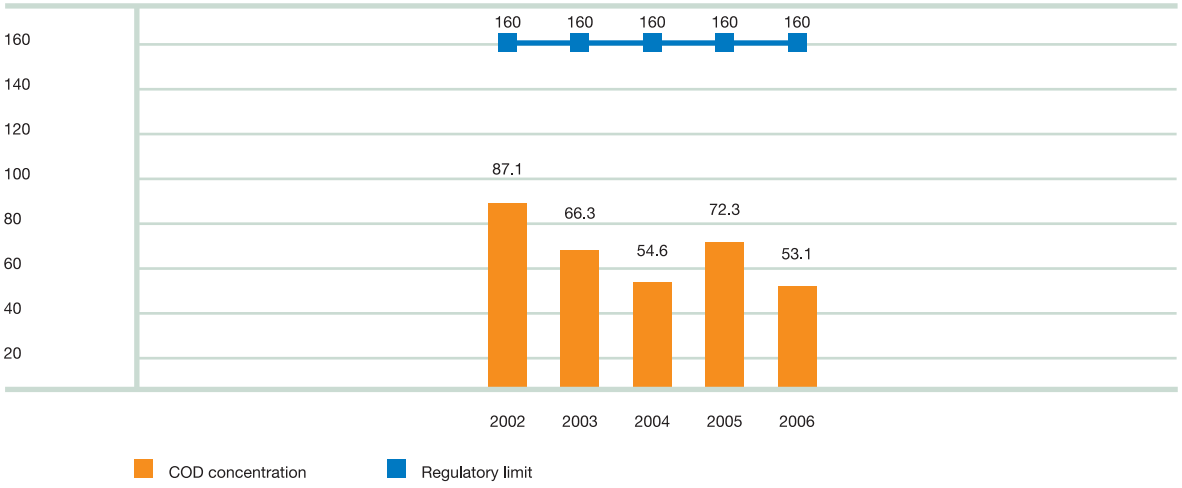


GRAPH 33 – MINERAL OIL EMISSIONS (TONS/YEAR)

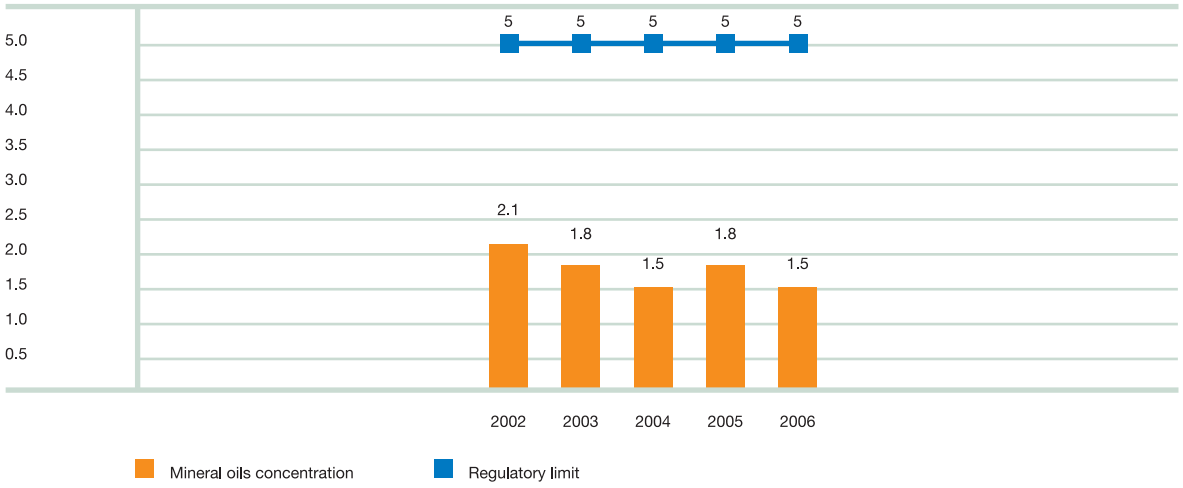


GRAPH 34 – MINERAL OIL EMISSION INDEX (TONS/MILLION TONS OF MATERIALS PRODUCED)

GRAPH 35 – COD CONCENTRATION AND COMPARISON WITH REGULATORY LIMIT (mg/l)



GRAPH 36 – MINERAL OIL CONCENTRATION AND COMPARISON WITH REGULATORY LIMIT (mg/l)



Waste

The refinery manages waste according to its objectives of minimising the quantity produced and to progressively increase the quantity recovered.
Total production in 2006 was broadly similar to that in previous years when work commenced on the removal of the top layer of soil in the reservoirs, necessary in order to lay a cement floors, in order to comply with environmental requirements for improved subsoil protection.

In 2006, around 13,600 tons of waste were recovered or recycled. This increase was due to sending used catalysts from the desulphurisation process to companies specialising in the recovery of metals (Co, Mo, Ni), while the increase in non-hazardous waste in the same period is due to the removal of earth banks from a containment basin protected by a polyethylene sheet.

Waste for chemical/physical treatment is processed on Saras's behalf by ECOTEC, a specialist company working within the plant. The company was selected and is continually monitored by the internal evaluation procedures of all the contractor companies used by Saras.
Treated waste is turned into 'non-hazardous' waste which can then be sent to landfill. In 2006, ECOTEC sent around 14,800 tons of waste that had been rendered inert to controlled landfill on behalf of Saras.

Separated waste collection from the office and canteen is carried out by agreement with the municipality of Sarroch. The following quantities of materials were sent for recycling:

- paper: 42.5 tons;
- plastic: 3.8 tons;
- glass and aluminium: 3.9 tons.

TABLE 17 – PLANT WASTE PRODUCTS (THOUSANDS OF TONS/YEAR)

	2002	2003	2004	2005	2006
Hazardous waste	30.6	37.3	47.5	50.9	35.6
Non-hazardous waste	9.8	6.9	10.5	9.4	22.3
Total	**40.4**	**44.2**	**58.0**	**60.3**	**57.8**

GRAPH 37 – PLANT REFUSE (THOUSANDS OF TONS/YEAR)

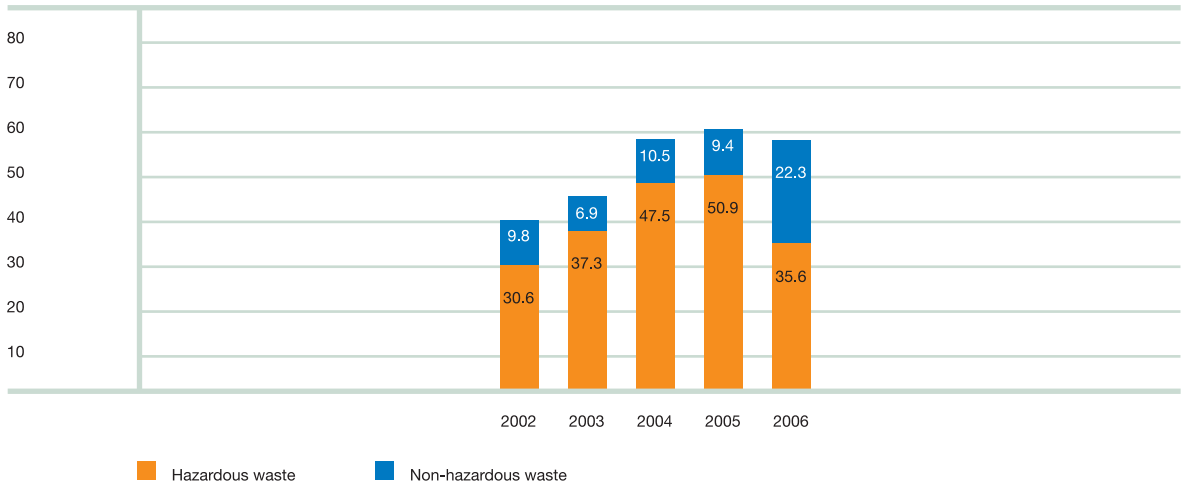


TABLE 18 – FINAL DESTINATION OF WASTE (THOUSANDS OF TONS/YEAR)

	2002	2003	2004	2005	2006
Landfill	1.31	6.14	11.75	5.09	15.04
Recovery	5.57	4.27	4.80	2.58	13.63
Incineration	0.37	0.37	0.41	0.37	0.37
Chemical/physical treatment	33.11	33.41	41.00	52.23	28.77
Total	**40.36**	**44.19**	**57.96**	**60.27**	**57.81**

GRAPH 38 – FINAL DESTINATION OF WASTE (AS A PERCENTAGE)

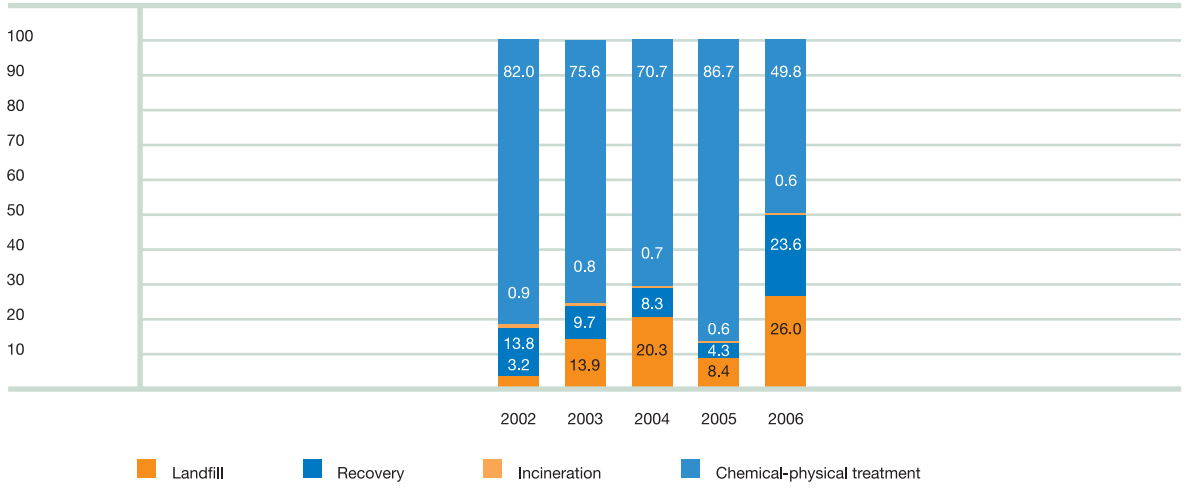


TABLE 19 – CHEMICAL/PHYSICAL TREATMENT OF WASTE - ECOTEC (THOUSANDS OF TONS/YEAR)

	2002	2003	2004	2005	2006
Chemical-physical treatment	33.11	33.41	41.00	52.23	28.77
of which:					
- Rendered inert and sent to landfill	14.08	18.96	21.67	24.54	14.83
- Internal recycling	19.04	14.45	19.33	27.69	13.94

Monitoring of the marine environment

For Saras, continual protection of the marine environment is an ongoing priority undertaking which is carried out, mainly by means of constant checking of the quality of waste water and by monitoring the environmental parameters of the marine environment on a six-monthly basis.

The area affected by the surveys is shown in Figure 9. Monitoring points where surface and underwater samples are taken have been identified within it.

These monitoring points, positioned along the five directions perpendicular to the coastline, remain constant, to allow for full comparability of results from the various surveys carried out over time. The constantly checked parameters make it possible to trace the trophic state of the water in front of the Sarroch plant. This is the main instrument used to evaluate the sea's state of health, shown by the data on the following characteristics:

- hydrology (transparency, temperature, salinity, dissolved oxygen, pH);
- nutrients (nitrogen compounds, phosphorus);
- state of vegetation (chlorophyll, phytoplankton, characteristics of the posidonia oceanica, macroalgae);
- state of fauna (zooplankton and fouling);
- monitoring of sedimented particles(sediment deposited during the study period) and surface sediment;
- monitoring of heavy metals in the above-mentioned sediment.

Table 20 summarises the results of the trophic state of the seawater on the basis of surveys of the quality of seawater in front of the refinery carried out over the last five years.
Assessment of the trophic state is given for both surface and bottom water.

FIGURE 9 – SEA WATER QUALITY SURVEY AREA

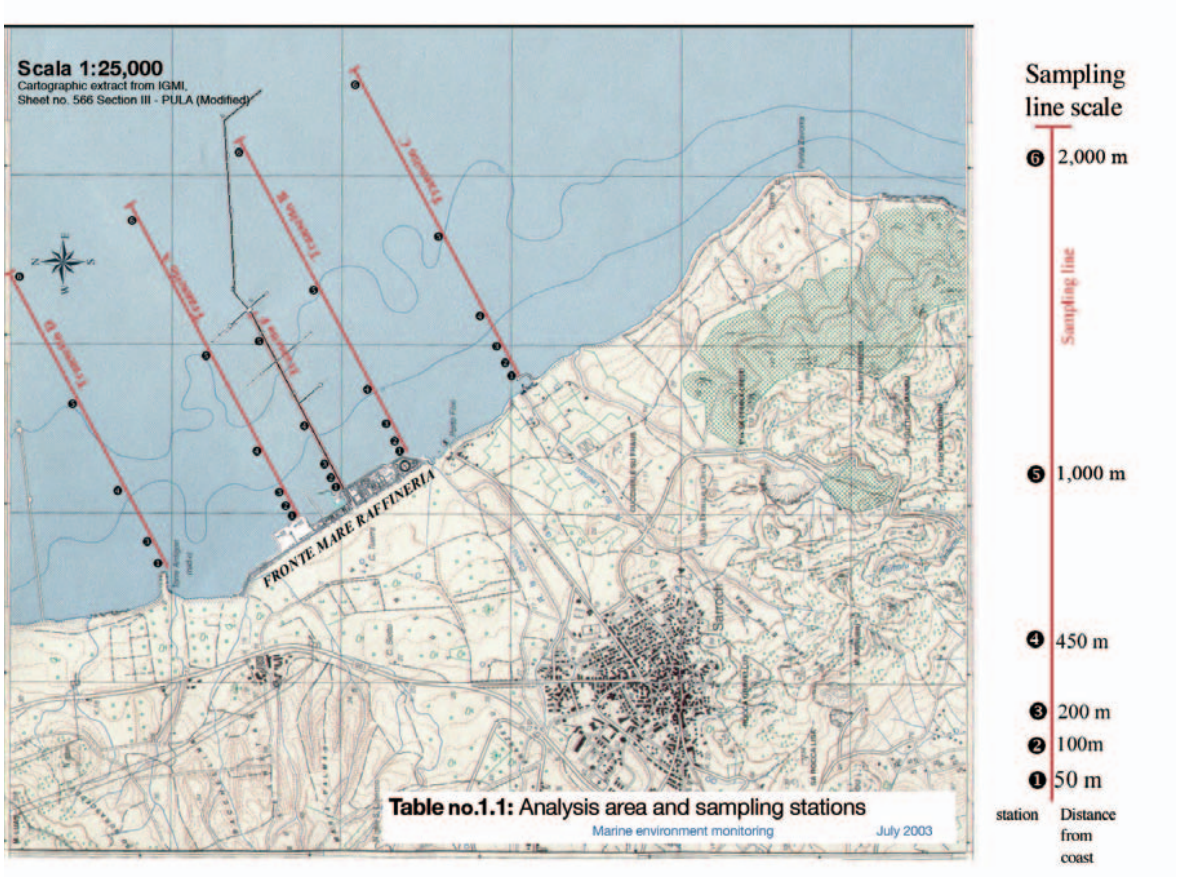


TABLE 20 – TROPHIC STATE OF SEA WATER IN FRONT OF THE PLANT (SURVEYS 2002-2006)

	surface water	bottom water
January 2002	high	high
July 2002	high	high
January 2003	good	high
July 2003	good	good
January 2004	good	good
July 2004	high	high
January 2005	good	good
July 2005	high	high
January 2006	**good**	**good**
July 2006	**high**	**high**

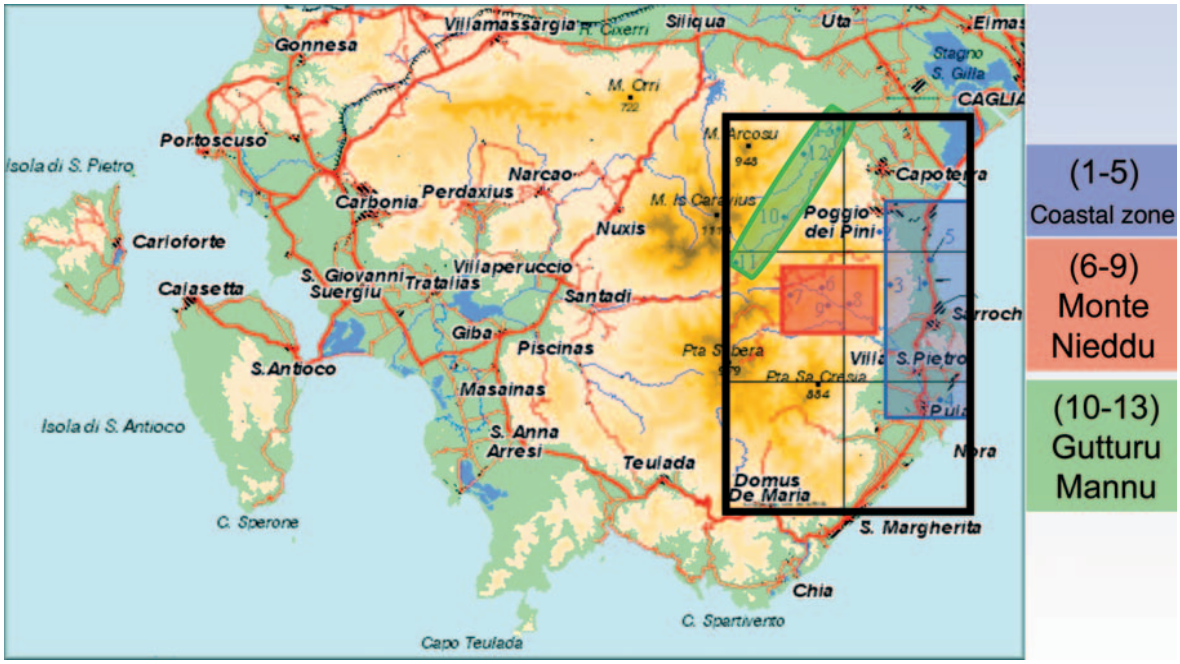
Vegetation biomonitoring

Another particularly significant aspect of environmental monitoring of the area where the Saras production site is located is vegetation biomonitoring, which is carried out in two main ways:

- monitoring the state of health of vegetation by a visual check of various plant species located in permanent quadrants, as shown in Figure 10;
- monitoring the bioaccumulation of pollutants using moss bags.

Moss bags are permeable bags containing mosses and liverworts that are particularly useful in showing the absorption of pollutants, positioned on vegetation in the areas under review and analysed after a set exposure time. According to the results of these field measurements, there is no critical threat to the state of health of the vegetation in the area considered.

FIGURE 10 – IDENTIFICATION OF VEGETATION BIOMONITORING AREAS



Investment in the environment

Saras's commitment to continually improving environmental performance can also be measured and evaluated in terms of the financial investment devoted to this purpose.

The data shown in Table 21 summarise the company's strong commitment on this front, with total investment of over EUR 27 million over the past 5 years.

In 2006, the main investments were:

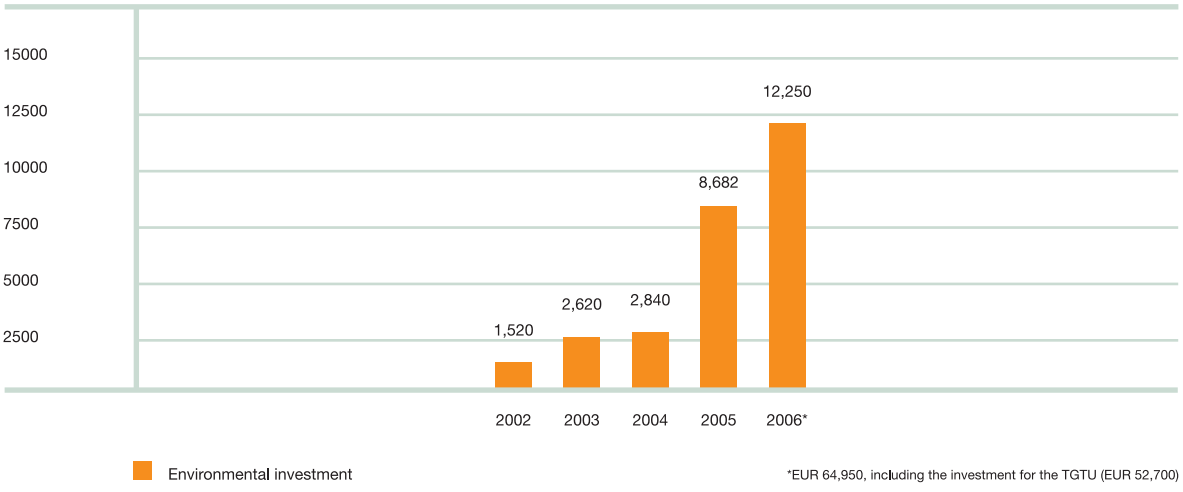
- purchase of burners for the RT2 facility to reduce NO_x;
- construction of the first part of the dynamic groundwater control barrier;
- action taken to reduce noise;
- ongoing installation of double seals on gasoline-handling pumps;
- ongoing tank and pipeway paving;
- ongoing installation of double bottoms in tanks.

Of particular importance was the commencement of works to build the treatment plant for tail gases emitted by the Claus units for reducing SO_2 emissions, which will require a total investment of over EUR 52 million from 2006-2008.

TABLE 21 – ENVIRONMENTAL INVESTMENT (EUR '000/YEAR)

	2002	2003	2004	2005	2006
Investment	1,520	2,620	2,840	8,682	12,250

GRAPH 39 – ENVIRONMENTAL INVESTMENT (EUR '000/YEAR)



Safety

Technology, investment, staff training

One of the company's priority objectives is to constantly foster a culture of safety, by creating working conditions appropriate to the needs of employees and in order to achieve a progressive reduction in the number of emergencies and accidents.
As is the case with other measurable objectives, such as product quality and the degree of competitiveness achieved, the promotion and maintenance of a good level of safety are shown in this part of the 2006 report using precise and detailed information.

In order to assess whether the choices made are taking the company in the right direction and to compare the work performed and the results achieved in this area with those of other organisations in the same sector, appropriately indexed data are necessary.

The rates considered confirm that a great deal of progress has been made in the continual improvement of employee safety, but also show that further improvement can still be made, mainly in relation to external enterprises working around the refinery.

The path chosen by Saras towards strengthening human, technical and financial resources for safety constitutes a solid base on which we are already building the results of tomorrow.

Accidents

Saras personnel. The accident record in 2006 shows the results of the major efforts made by the Management Committee in recent years. INAIL (the National Institute for Industrial Accident Insurance) frequency and severity rates showed that the rate remained stable and then reduced further, particularly compared to 2002, 2003 and 2004.

In 2006, this major commitment to monitoring operations in the management of contractors' activities and building sites continued, with the specific aim of raising the awareness of all workers on site about 'safety at work'. The causes of the accidents recorded, mainly connected to behavioural factors, confirm the need to continue to involve workers in 'safety at work' issues, among other things by an intensive training and information programme, in accordance with the principles established in the company's Safety Policy and Management System some time ago.

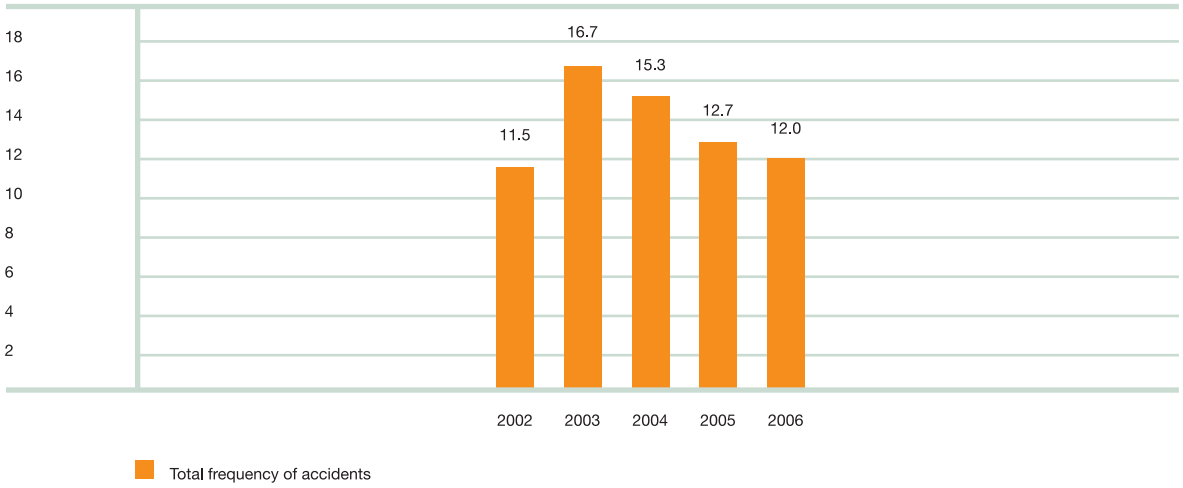
Statistically, in 2006 the **Total Frequency Rate** and the **INAIL Frequency Rate** confirmed the variation observed in 2005. The first (which shows the total number of incidents) went down from 15.3 to 12.0 over the past three years, while the second, which records accidents reported to the National Institute for Insurance against Accidents at Work, hence those with over 1 day's absence, dropped from 6.3 to 5.7 (Table 22).

Other particularly meaningful and useful reference parameters for analysing the situation are the accident severity rate, which shows the extent of the injury and refers to the number of days of sick leave due to the accident, and the average duration of the accident, which shows the average amount of injury sustained by the worker (Table 22). These rates also showed a reduction in 2006 when compared with 2005. In the past three years the accident severity rate has fallen by over 50% from 0.256 to 0.129 and 0.120, while the average duration dropped from 32.9 to 22.8 and 21.3.

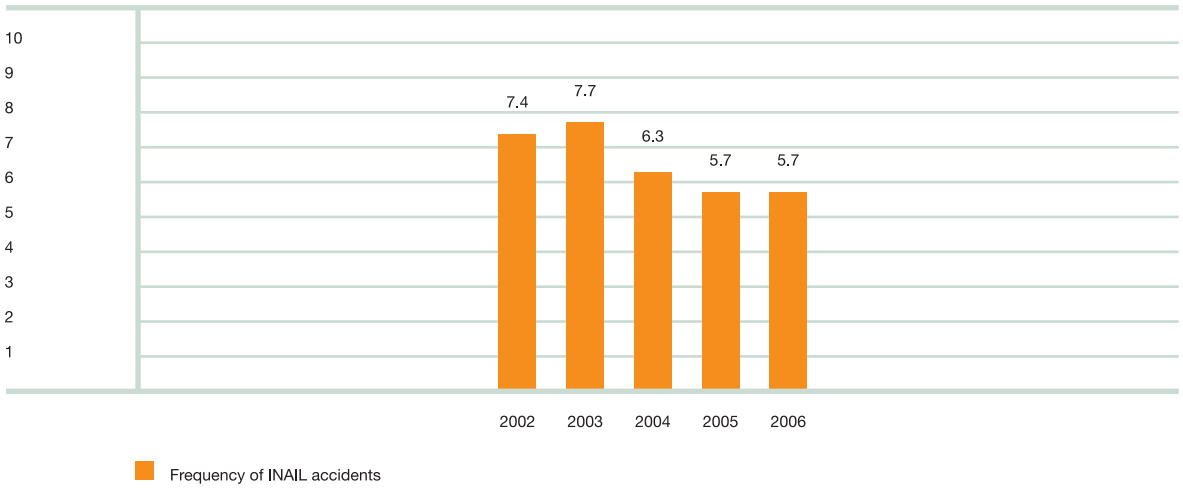
TABLE 22 – SARAS EMPLOYEES - ACCIDENT RATES

	2002	2003	2004	2005	2006
Total Frequency Rate	11.5	16.7	15.3	12.7	12.0
INAIL Frequency Rate	7.4	7.7	6.3	5.7	5.7
Severity Rate	0.332	0.367	0.256	0.129	0.120
Average duration	44.8	47.8	32.9	22.8	21.3

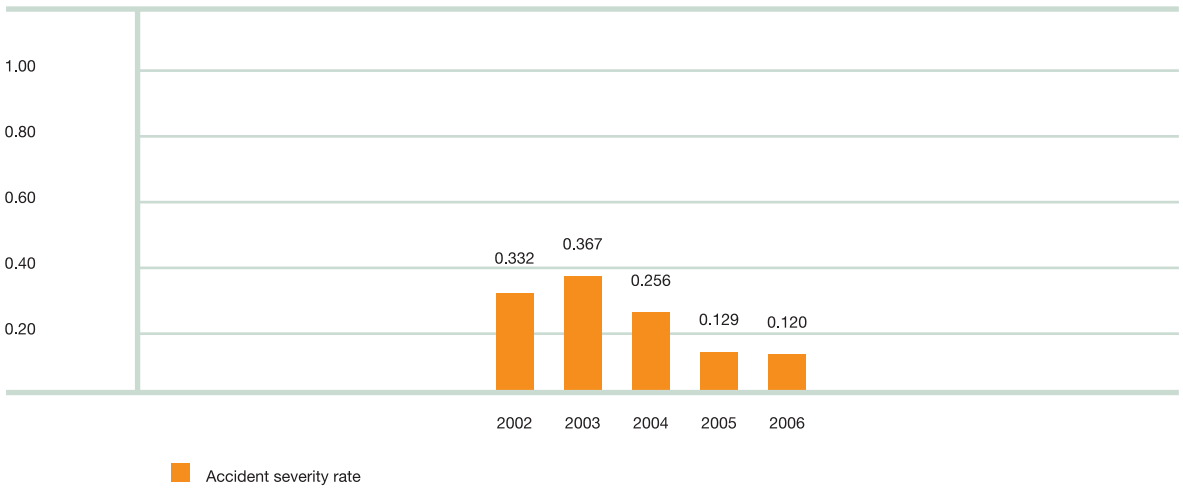
GRAPH 40 – SARAS EMPLOYEES – TOTAL FREQUENCY RATE



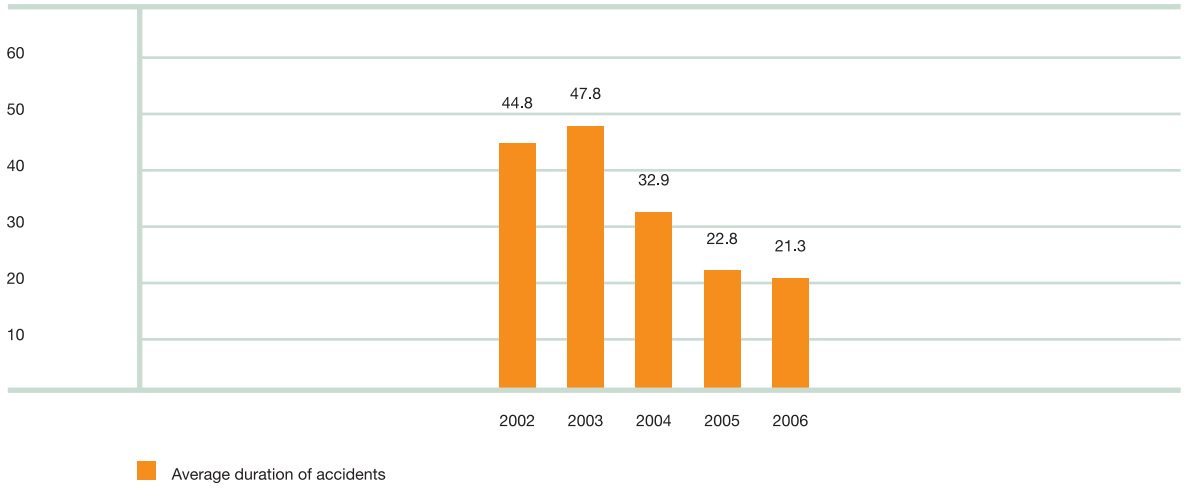
GRAPH 41 – SARAS EMPLOYEES – INAIL FREQUENCY RATE



GRAPH 42 – SARAS EMPLOYEES – ACCIDENT SEVERITY RATE



GRAPH 43 – SARAS EMPLOYEES – AVERAGE DURATION OF ACCIDENTS



External companies. The refinery also records and analyses data on accidents at work involving those employed by outside companies. This has been identified as an area for improvement, through training and motivational activities involving the companies themselves.

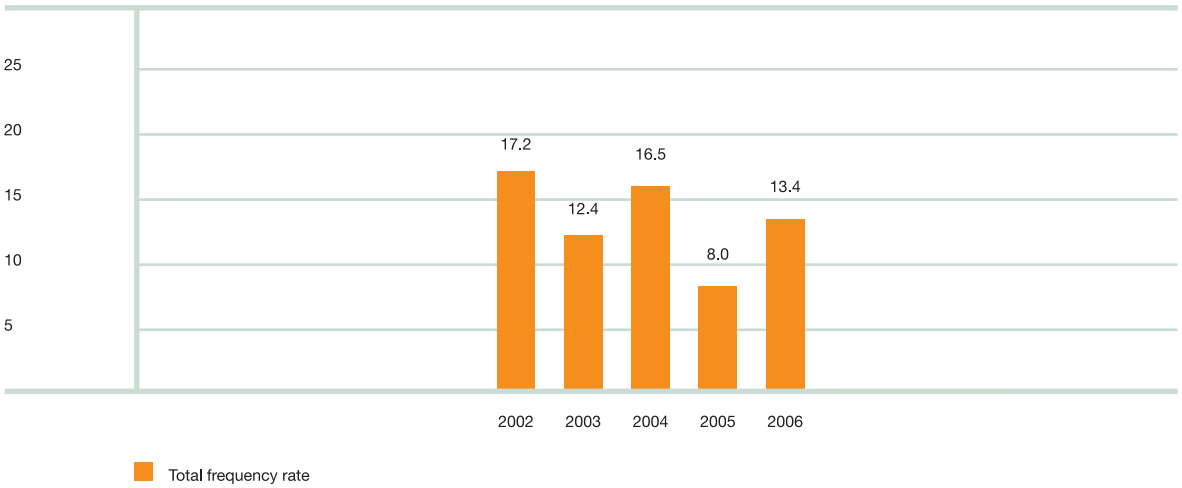
In 2006, total and INAIL frequency rates rose, but there was a net reduction in severity rates, which highlights the fall in the extent of injury, as confirmed by the average duration of accidents, which was 50% lower than the average for the previous years. This mainly results from work carried out with the Saras RLSA (Workers' Representatives for Safety and the Environment), with the Prevention and Protection Service involved the RSPP (Prevention and Protection Service Managers) and workers' safety representatives from contractors, taking forward the joint activities needed to achieve the goals that have been set.

In particular, a specific training programme was developed for staff employed by contractors. As part of this, the 'Zero Accidents Project' was also implemented, involving both workers employed by outside companies and Saras employees in a winning system.

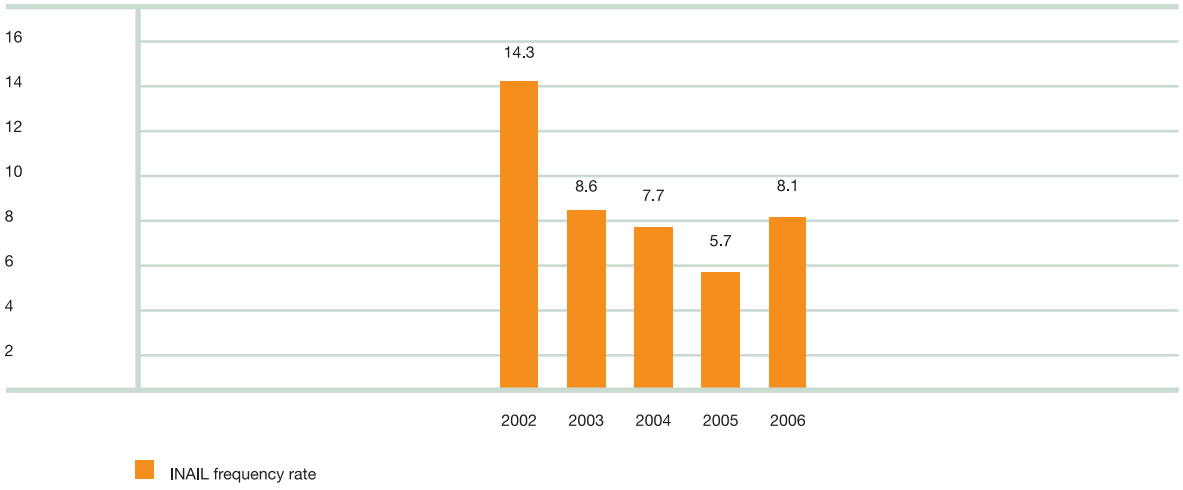
TABLE 23 – EXTERNAL COMPANIES' ACCIDENT RATES

	2002	2003	2004	2005	2006
Total Frequency Rate	17.2	12.4	16.5	8	13.4
INAIL Frequency Rate	14.3	8.6	7.7	5.7	8.1
Severity Rate	no data	0.418	0.216	0.221	0.170
Average duration of accidents	no data	48.5	27.9	38.7	15.6

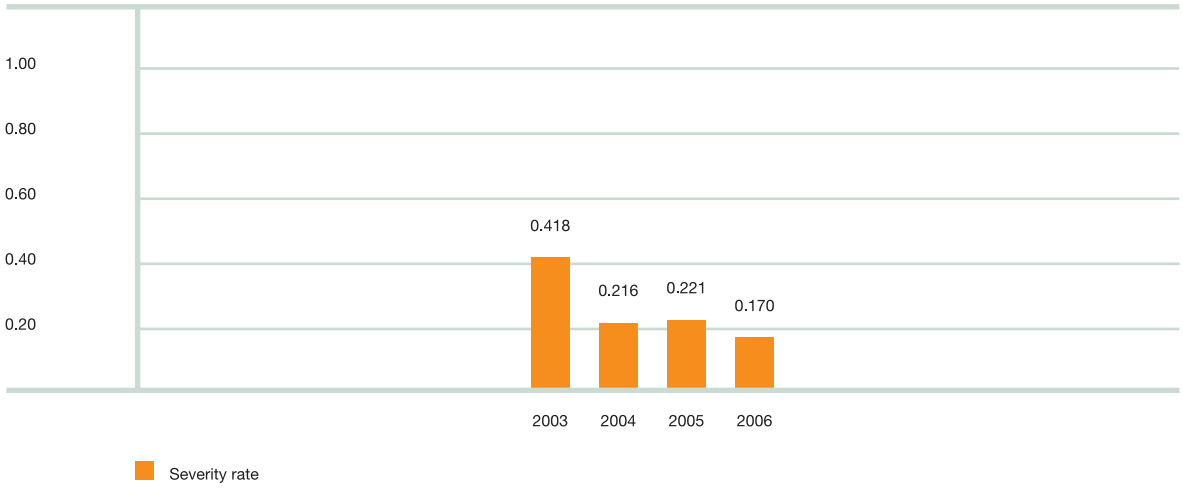
GRAPH 44 – EXTERNAL COMPANIES – TOTAL FREQUENCY RATE



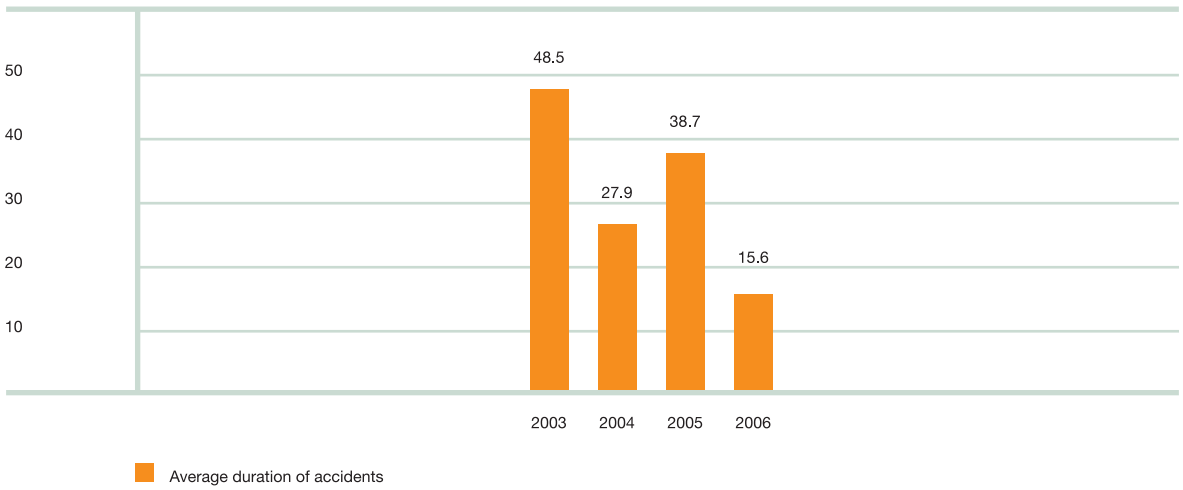
GRAPH 45 – EXTERNAL COMPANIES – TOTAL INAIL FREQUENCY RATE



GRAPH 46 – EXTERNAL COMPANIES – SEVERITY RATE



GRAPH 47 – EXTERNAL COMPANIES – AVERAGE DURATION OF ACCIDENTS



Emergencies

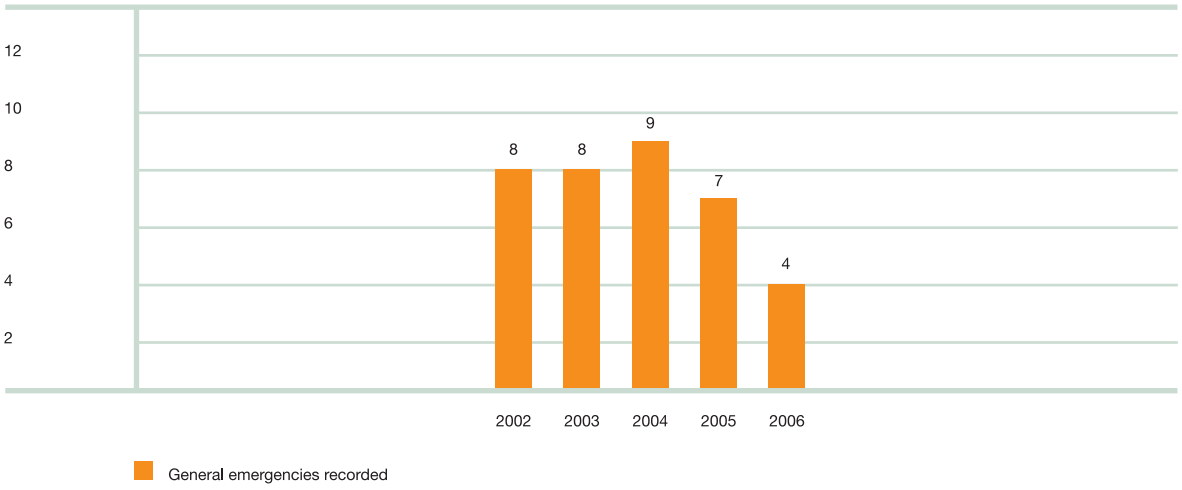
As shown in Table 24, the number of *'limited emergencies'* recorded in 2006 rose slightly compared with the last 2 years. However, there was a clear reduction in *'general emergencies'*, in 2006, which halved the consolidated trend of the previous four years.
An analysis of *'near accidents'* suffers from a lack of numbers, due to the low reporting of incidents. A huge effort is being made to increase reporting through an internal awareness programme aimed at Saras employees and the employees of contractor companies.

The graphs on pages 68 and 69 show the number of plant shutdowns following an emergency and the number of days of shutdown recorded in relation to this. Graphs 51 and 52 show that there was an improvement in 2006 compared with recent years. In particular, fewer general emergencies mean that the number of plant shutdowns is going down.

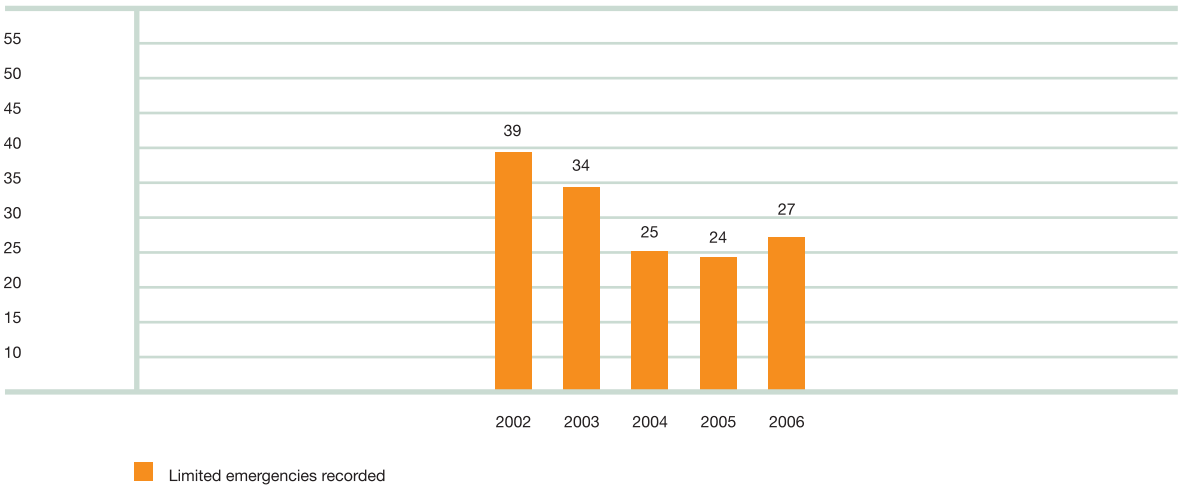
TABLE 24 – EMERGENCIES - INCIDENTS RECORDED

	2002	2003	2004	2005	2006
General emergencies	8	8	9	7	4
Limited emergencies	39	34	25	24	27
Near accidents	0	2	3	1	1

GRAPH 48 – GENERAL EMERGENCIES



GRAPH 49 – LIMITED EMERGENCIES



GRAPH 50 – NEAR ACCIDENTS

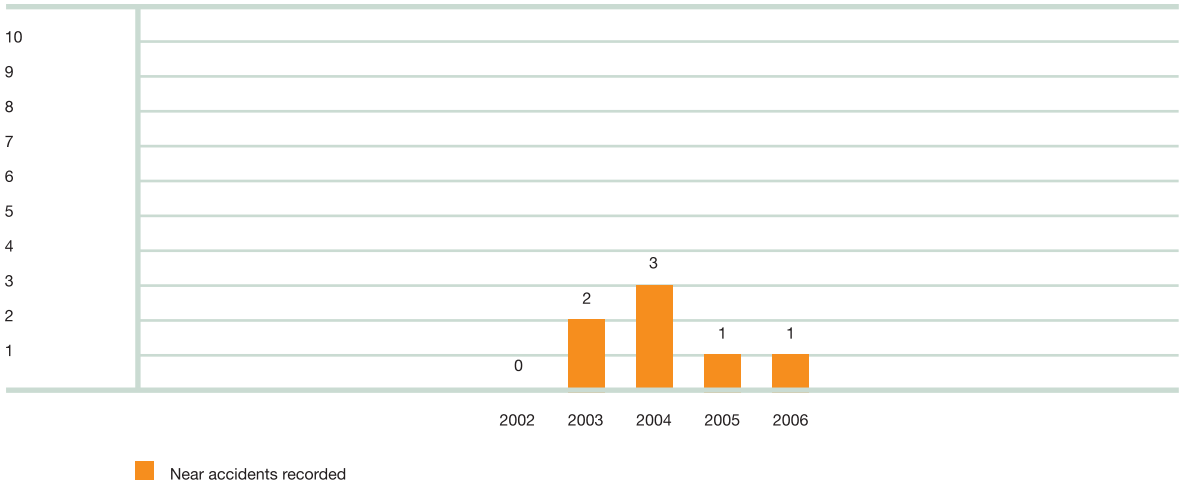
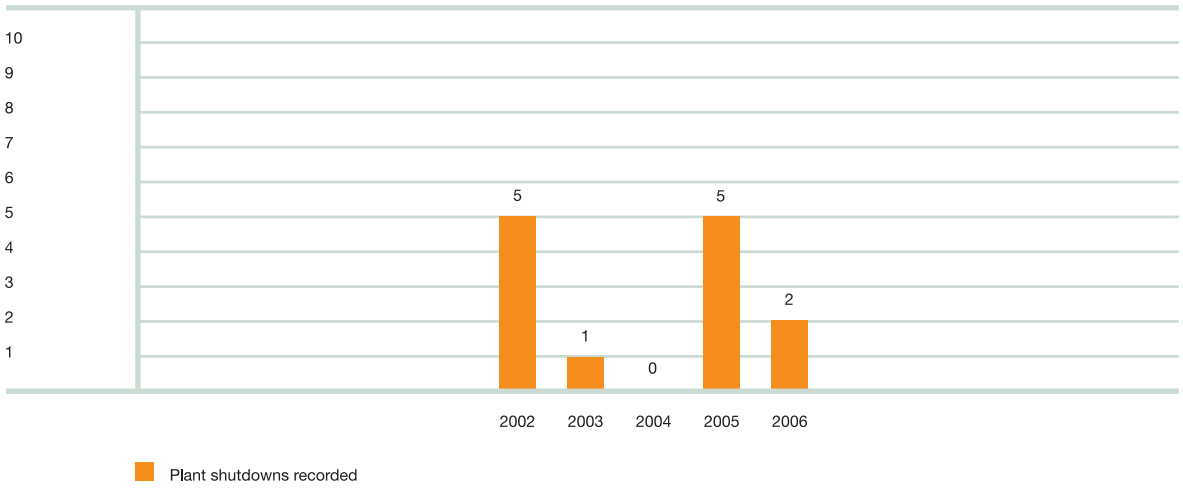


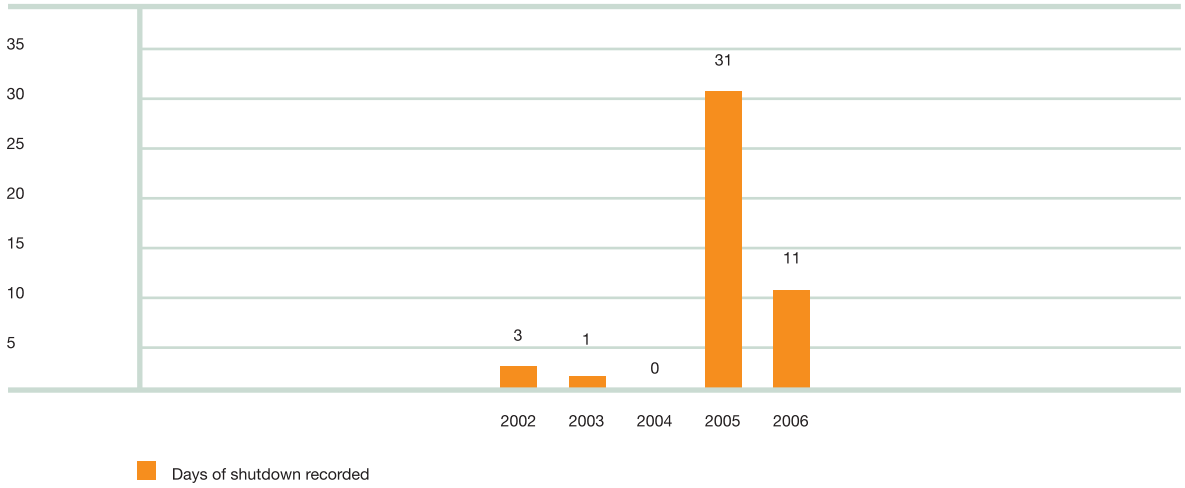
TABLE 25 – SHUTDOWNS

	2002	2003	2004	2005	2006
Plant shutdowns	5	1	0	5	2
Number of days of shutdown	3	1	0	31	11

GRAPH 51 – PLANT SHUTDOWNS



GRAPH 52 – DAYS OF SHUTDOWN



Investment in safety

Between 2002 and 2006 Saras invested over EUR 20 million in its policy and plans to continually raise safety levels at its refinery.

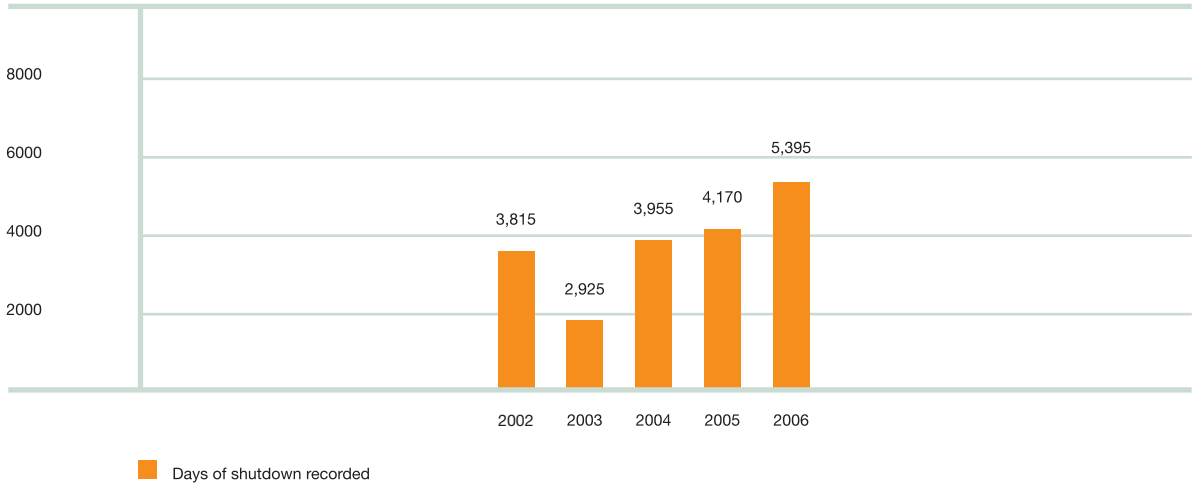
The main actions funded involved both the improvement of existing safety equipment, and changes to plant and product handling systems, as described below:

- installation of additional product-volume interception valves in the plants;
- replacement of glass 'Klingers' with magnetic ones in the processing equipment;
- upgrading of the fire prevention system and new equipment;
- upgrading of the fire-reporting system;
- improvement of monitoring systems (block alarms);
- upgrading of the fire protection systems of the structures (T2/ V2/ V1).

TABLE 26 – INVESTMENT INSAFETY (EUR '000/YEAR)

	2002	2003	2004	2005	2006
Investment	3,815	2,925	3,955	4,170	5,395

GRAPH 53 – INVESTMENT INSAFETY (EUR '000/YEAR)



Glossary

Glossary

Audit: word used in various contexts to mean 'check', 'review'. In the environmental management field it refers to a systematic, documented check to objectively assess an organisation's compliance with set environmental management criteria.

Ballast water: water deriving from the ballasting of empty ships with seawater.

CO (carbon monoxide): a gas produced by the incomplete combustion of fuels and fossil combustibles. The main source is gasoline engines not equipped with catalytic converters.

CO_2 (carbon dioxide): an odourless, colourless, tasteless gas produced following the processes of combustion, respiration and the decomposition of organic material. Its characteristics include the ability to absorb infrared radiation emitted by the Earth's surface, thereby contributing to the greenhouse effect.

COD (Chemical Oxygen Demand): the quantity of oxygen needed to oxidise the organic content of waste, including non-biodegradable matter.

Cogeneration: a process by which two different energy products, such as electricity and heat, can be generated together by a single plant designed as and when required, with high environmental efficiency.

Desulphurisation: process for treating oil fractions in order to reduce the sulphur content in refined products.

EMAS (EcoManagement and Audit Scheme): established by EEC regulation 1836/93, updated by EEC regulation 761/2001 (EMAS II), this is a voluntary tool intended to promote ongoing improvement in the environmental efficiency of industrial activities. The regulation provides that participating enterprises adopt environmental management systems at their production sites based on policies, programmes, procedures and objectives aimed at improving the environment, and that they publish an Environmental Declaration. For the purposes of registering a site in the register set up by the European Commission, this Environmental Declaration must be approved by an inspector accredited by an authorised national body. In Italy this body, operational since 1997, is the Ecolabel and Ecoaudit committee, and works with the technical support of APAT [Agency for Environmental Protection and Technical Services].

Emission: the discharge of any solid, liquid or gaseous substance into the ecosystem from a plant or any other source, which can have a direct or indirect effect on the environment. Emissions are measured at exit point.

Emissions Trading: the European Commission published the European Directive on Emissions Trading (Directive 2003/87/EC) on 13 October 2003. The key points established by the directive are as follows: from 1 January 2005 no plants falling within the scope of the directive can emit CO_2 (that is continue to operate) without appropriate authorisation; each year the managers of such plants must return emission allowances of CO_2 equal to those released into the atmosphere to the Competent National Authority; maximum CO_2 emission allowances have been set for each plant regulated by the directive; lastly, CO_2 emissions which have actually been released into the atmosphere are monitored in accordance with the requirements of the Competent National Authority and certified by an accredited inspector.

EPER (European Pollutant Emission Register): is the European register of polluting emissions set up by the European Commission with a decision adopted on 17 July 2000 (2000/479/EC) in accordance with Article 15 of European Council Directive 96/61/EC on Integrated Pollution Prevention and Control (IPPC).

Extrarete (wholesale): refers to the wholesale market in oil products sold to customers such as industries, consortiums and public bodies. For example, a light bulb might consume 0.1 KW (100 Watt). 1 MW is equal to 1,000 KW.

Frequency Rate: together with the severity rate, this is one of the typical performance indicators for health and safety in the workplace. With reference to a given period of time, it expresses the ratio of number of accidents occurred and number of hours worked (calculated using the formula: number of accidents x 1066/ hours worked).

Greenhouse effect: gradual increase in average atmospheric temperature as an effect of the increased concentration in the gases in the atmosphere. Substances that contribute significantly to the greenhouse effect (greenhouse gases) include chlorofluorocarbons (CFCs), carbon dioxide (CO_2), methane (CH_4), nitrogen oxides (NO) and sulphur hexafluoride (SF6).

GSE (Gestore dei Servizi Elettrici - Electrical Services Authority): a company established by Article 3 of Legislative Decree 79/99, and controlled by the Treasury, which provides incentives for the production of electricity from renewable and similar sources and is responsible for evaluating renewable energy plants and their power generation.

Immission: the release of a pollutant into the atmosphere or bodies of water and subsequent transfer into the environment. The concentration of the pollutant is measured at a distance from the point where it was emitted.

INAIL Frequency Rate: calculated taking into consideration the number of accidents reported by the company to the Istituto Nazionale Assicurazione contro gli Infortuni sul Lavoro [National Institute for Insurance against Accidents at Work] compared to the number of hours worked (calculated using the formula number of INAIL accidents x 10^{666}/ hours worked)..

INES (National Inventory of Emissions and their Sources): national register of emissions set up pursuant to Legislative Decree 372 of 4 August 1999 (implementing Directive 96/61/EC) and to decrees issued by the Ministry of the Environment on 23 November 2001 and 26 April 2002. It consists of information on emissions from industrial sites in Italy subject to IPPC regulations. The regulations provide for such companies to submit qualitative and quantitative data to APAT each year in relation to a set list of pollutants present in gaseous and aqueous sewage from their plants. This information is then submitted to the Ministry for the Environment for forwarding to the European Commission and inclusion in the EPER register.

IPPC (Integrated Pollution Prevention and Control): European Directive of 1996 relating to the reduction of pollution from the various places where it is emitted throughout the European Union, implemented in Italy by Legislative Decree 59/2005.

IRES: corporate income tax.

ISO (International Organization for Standardization): a Geneva-based non-governmental international organisation to which the standard-setting bodies of around 140 countries belong, responsible for examining, drafting and distributing to the international community standards relating mainly to environmental management (ISO 14000) and quality assurance (ISO 9000) for companies in all sectors. It is the first and most comprehensive report on water and air emissions from industrial establishments in the EU.

kWh (kilowatt-hour): unit of measurement of the power produced or consumed, equivalent to the energy produced by 1Kw in 1 hour.

Kyoto protocol: government agreement approved by the 'Conference of Parties' (Kyoto, 1-10 December 1997) containing the initial decisions on the operational implementation of some commitments (the most urgent priorities relating to certain sectors of national economies) of the UN-FCCC Convention (United Nations Framework Convention on Climate Change, approved in 1992 and ratified by Italy in 1994). The protocol commits industrialised countries and those with a transition economy (Eastern European countries) to make overall reductions by 2010 of 5% of the emission of greenhouse gases (carbon dioxide, methane, nitrogen oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride).

Major hazard: probability that an event linked to uncontrolled development of an industrial activity could give rise to serious danger, either immediate or in the future, for people and the environment.

Management System: the organisational structure, planning activities, responsibilities, procedures, practices, processes and resources to formulate, implement, obtain, re-examine and maintain control, where possible, over all an organisation's internal and external variables.

MW (Megawatt): a multiple of KW (Kilowatt), the unit of measure of the power of a power station generating electricity, i.e. its capacity to generate power. It also measures the power consumed by an item of electrical equipment.

MWh (megawatt-hour): unit of measurement of power produced or consumed, equal to 1 MW of power generated in one hour and equivalent to 1000 kWh.

NO_x (nitrogen oxides): gaseous compounds consisting of nitrogen and oxygen (NO, NO_2, etc.) normally released during the combustion of fossil fuels when free nitrogen (N_2) is oxidised. In the atmosphere they are the main agents responsible for causing photochemical smog and, after SO_2, the major cause of acid rain.

OHSAS (Occupational Health and Safety Assessment Series): regulations developed to replace the previous British Standard 8800 in order to meet the growing demand for a recognised standard on the organisation needed to manage health and safety. OHSAS 18001 certification was developed to be compatible with ISO 14001 and ISO 9001 and allow for the adoption of an Integrated Management System. Although not yet an international standard, OHSAS 18001 certification can be obtained following a similar procedure to that used for ISOs.

Piezometer: small diameter tube or well inserted into a body of water and used to measure, by means of the water level reached inside the tube, the level of piezometry (the line where points having a height equal to that of the body of water are located) at a set point.

ppm: unit of measurement of the concentration of a substance present in small quantities in a liquid or gas, corresponding to parts per million.

Reliability: the reliability of a device is defined as the probability that it will function correctly, for a specific period of time, under certain conditions.

Severity Rate: with reference to a given period of time, it expresses the ratio between the number of days of sick leave due to accidents and the number of hours worked (calculated using the formula: number of working days lost x 1066/ hours worked).

SO_2 (sulphur dioxide): a colourless gas with a pungent smell released when fossil fuels containing sulphur are burnt. In the atmosphere high concentrations of SO_2 are the main cause for the formation of acid rain.

TOE (Ton of Oil Equivalent): unit of measurement conventionally used to determine the energy contained in various sources taking into account their calorific potential.

TSPs (Total Suspended Particulates): comprising tiny solid particulates suspended in the air. It is mainly unburnt carbonaceous material able to absorb various types of compound onto its surface. Particulates with a diameter of less than 10 µ (1 µ = 1 millionth of a metre) can pass through the airways and penetrate the lungs, becoming a potential health risk depending on the substances involved.

Yield: the yield of a machine is defined as the ratio between the energy distributed (or generated) and the power absorbed (or consumed) at a given time. The greater the yield, the more efficient the machine is, and the lower the yield, the more energy the machine is wasting.

Translations

Saras Environmental Policy (page 19)

SARAS considers respect and protection of the environment to be of primary importance in the pursuit of its growth objectives and for the proper integration of its activities in the region in which it operates.

The criteria that provide the basis for the management of Saras' operations envisage the preventive evaluation of the possible environmental consequences of new activities and products; the adoption of the principles, standards and benchmark solutions indicated in the "Refinery BREF" (Best Available Techniques Reference documents), prepared in accordance with Directive 61/96/EC (the IPPC Directive – Integrated Pollution Prevention and Control); the utmost transparency and co-operation with the community at large and the authorities; and the involvement of, and creation of a sense of responsibility in, its staff and those entering the site concerning the issue of environmental protection.

Via the introduction and maintenance of the Environmental Management System applied to the refining and power generation activities of the Sarroch refinery, Saras intends to ensure efficient and proper management of the plants and on-site activities, and to achieve – also in compliance with current regulations – the objectives of continuous improvement in environmental performance and pollution prevention.

Saras specifically undertakes to:

- continue activities to reduce atmospheric emissions, to ensure they have a minimum impact on air quality
- continue activities to prevent sea pollution, taking action on seafaring cargo vessels and on the waste water treatment system
- minimise use of fresh water from external sources
- improve the waste management cycle, promoting recycling
- develop its own system for monitoring emissions and environment quality
- improve the accessibility and usability of data collected and studies carried out
- mitigate the impact of its activities perceivable by the surrounding community.

Saras firmly believes that achievement of the above objectives is possible only with the active contribution of all staff, and has developed a continuous information and training system with regard to these issues.

Each member of staff at Saras is directly responsible, during the performance of his/her activities, for implementing the environmental policy. Conduct consistent with these matters is one of our individual and group objectives. The management bodies are those, first and foremost, responsible for this policy.

Saras has undertaken to communicate its environmental policy to contractor companies, suppliers and any other person working on behalf of the company, and requests that is applied by these parties. Responsibility, conduct and attitudes to environmental issues are also significant factors in the assessment of the quality of service rendered by these parties, who should be provided with suitable training and information on these issues.

Saras undertakes to ensure the human and technical resources necessary to achieve and maintain the environmental policy at the Sarroch site.

Sarroch, 4 May 2006
General Manager

ISO 14001:2004 Certification (page 21)

CERTIFICATE OF APPROVAL

This is to certify that the Environmental Management System of:

Saras SpA
Strada Statale 195 Sulcitana - km 19.500
Sarroch (CA)

has been approved by Lloyd's Register Quality Assurance
to the following Environmental Management System Standard:

ISO 14001:2004
EN ISO: 14001: 2004
UNI EN ISO: 14001: 2004

The Environmental Management System is applicable to:

Production of refined oil products, planning, preparation and delivery of finished oil products, power generation. Design, engineering and construction of owned plants.

Approval
Certificate No: LRC 180526/14

Original Approval:	1 June 2004
Current Certificate:	15 May 2006
Certificate Expiry:	1 June 2007

Issued by: Lloyd's Register Quality Assurance Italy Srl

Saras Safety Policy (page 29)

SARAS has committed to applying the best standards in its sectors of activity, in order to dedicate the utmost attention to the safety of all its employees.

All Saras employees are responsible for implementing this policy and must always work safely, so as not to cause injuries to themselves or others.

Given this:

- The Company will assign to SAFETY an importance similar to that assigned to production, quality, and costs. It firmly believes that all accidents can be anticipated and prevented, and is directly involved in this action at all levels of responsibility.
- Managers and supervisors will provide staff with training programmes and safe methods of working in order to anticipate accidents.
- It will constantly be remembered that people are the key component of SAFETY - and therefore the active participation of all employees in the SAFETY policy is required.
- The SAFETY policy will be circulated and implemented throughout the Company and will be reinforced by regular checks to eliminate and anticipate dangerous situations.
- Progress made in achieving better standards of safety will be appropriately communicated.

On Behalf of the Board of Directors
G.M. Moratti
Chairman

Milan, 27 April 1996

Major Accident Prevention Policy (page 31)

Within the general framework of its safety, health and environmental policy, the manager of the Sarroch refinery owned by Saras SpA undertakes to:

- achieve the maximum safety of the refinery's employees and of every person within the site;
- implement all actions and initiatives necessary to prevent major accidents and to minimise any consequences of such accidents for people, the environment and property;
- observe national legislation governing risk management of major accidents;
- ensure compliance with the refinery's internal safety rules, standards and procedures, which are regularly checked, updated and amended where necessary to improve major accident prevention procedures;
- promote continuous improvement with the adoption of new and more advanced safety standards;
- ensure that all employees and contractors, within their remit, are trained to work with full awareness of the risks associated with their activities in both normal operating conditions and emergencies;
- issue the policy to suppliers, contractors and to any other third party entering the site for work reasons;
- circulate the policy to all employees and actively involve all staff at the site – managers, supervisors, workers and their safety representatives – in safety management procedures, within their remit;
- periodically review major accident risks connected with the refinery's activity, identifying safety objectives and developing programmes for continuous improvement;
- ensure that any emergency is controlled by the application of internal plans and in close co-operation with competent authorities, as well as informing local residents and implementing the External Emergency Plan;
- implement the Safety Management System, periodically reviewing its effectiveness and efficiency and making the necessary amendments and updates;
- maintain a close and transparent relationship with the external community and its institutions.

The active contribution of all staff is necessary to achieve the above, and implementation of the policy is enshrined in official individual and group targets.

Sarroch, 5 April 2006 The Manager

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