





Profile

The Channel Tunnel, for which Eurotunnel holds the Concession until 2086, has boosted travel and commerce between the United Kingdom and the Continent.

Shuttles and trains using the Channel Tunnel are powered by electricity, making it the most environmentally friendly cross-Channel transport system.

Eurotunnel remains committed to sustainable development, particularly in the way it manages the environmental impact of its activities, aiming to build on its green credentials.





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Design and layout: Eurotunnel
Photo credits: Philippe Turpin, Eurotunnel



An Environmental Management System

An Environmental Management System based on the requirements of the ISO 14001 Standard

Environmental protection is one of the components of sustainable development. Eurotunnel ranks it on a par with safety as an absolute requirement for the Company.

The Environmental Management System (EMS) set up by Eurotunnel back in 2000 is based on the requirements of the ISO 14001 Standard. It is totally integrated into the Company's Quality Management System.

→ Safety, Security and Environment Committee (SSEC)

The **SSEC is located at the highest decision-making level within the Company**. It comprises the Company's Chairman and Chief Executive, 4 Directors, the Chief Operating Officer, Safety and Sustainable Development Director, Operations Director, Maintenance Director and representatives from the Divisions.

This Committee meets every three months to monitor the environment action plan and commitments on sustainable development as part of an ongoing improvement strategy.

→ Safety and Sustainable Development Directorate



The **Safety and Sustainable Development Directorate** is responsible for environmental policy implementation and monitoring, regulatory compliance and compliance with Sustainable Development commitments. It reports to the Chief Operating Officer.

The environment action plan is driven by surveillance audit findings, modifications required as a result of regulatory changes and by Management objectives.

Effective implementation of actions emanating from the internal audit programme is checked by the Assessment Manager to ensure continual improvement in the environmental management system.

Auditor competence is ensured by regular updating of their skills to keep pace with changes in the applicable standards and by regular internal audit practice.

The Safety and Sustainable Development Directorate is responsible not only for surveillance but also, and primarily, for providing support to operations to anticipate any slippage or lack of understanding that could have an environmental impact.



Monitored activities

Facilities registered for environmental protection purposes in France

Many activities on Eurotunnel's French Terminal are subject to the law on facilities registered for environmental protection purposes (ICPEs) (Law of 19th July 1976). Activities such as cooling, maintenance workshops, etc. require a **permit**, while use of abrasive materials, paint application, storage of flammable liquids, etc. require a **declaration**.

The ICPEs specify in detail for each activity what the operating conditions are as well as the Company's obligations regarding the prevention of risk and industrial pollution.

This classification requires Eurotunnel to undertake exhaustive monitoring and make declarations not specified in the legislation that applies to unregistered facilities (e.g. completing the European Pollutant Release and Transfer Register).

Application of the regulations is checked by government departments in France. Spot checks may be conducted by the ICPE inspectorate at any time.

↪ Coquelles Terminal

All the railway maintenance workshops used by Eurotunnel to ensure the operational quality of its rolling stock are also sited on the Coquelles Terminal, in addition to commercial and administrative activities.

The consolidated ICPE Prefectoral Order was issued in January 2006, following three years of preparation and submission (consultation with CHSCT, public enquiry, response to comments registered, etc.).

This Order brought together in a single document all the requirements that had been applicable to each new activity as it commenced on the Terminal.

In addition to the ICPE obligations, this document sets out the requirements of the authorities on more general matters such as water sampling and consumption, prevention of accidental pollution through the organisation of the water management

and collection system on the Terminal, discharge analysis and monitoring, waste management and noise prevention.

↪ Sangatte Site

The Sangatte plant contains the tunnel "utilities": cooling, ventilation and supplying the firefighting networks.

In 2008, after successful performance tests, Eurotunnel replaced the anti-corrosion product that it had been using in the tunnel cooling system, which was labelled toxic, by a more environmentally-friendly product.

DRIRE (the regional authority concerned with industry, research and the environment) has conducted a nationwide campaign inspecting cooling systems to check compliance with the new Decree n° 737-2007 of 7 May 2007 concerning certain refrigerants used in cooling and air-conditioning equipment. The DRIRE inspected the Tunnel cooling units and found no regulatory non-compliance.

The self-monitoring required under the Prefectoral Order for 2008 surface water and waste water discharge quality has been carried out.

The results are below the limits imposed.



UK Sites

In 2008, the Shakespeare Cliff site joined the Folkestone site in being registered as a hazardous waste producer.

On 6th April 2008, the 2000 Pollution Prevention and Control Regulations and 1994 Waste Management licences merged, becoming the Environmental Permitting Regulations 2007.

Eurotunnel has informed the Environment Agency of its activities exempt from environmental permits.



A seven-point commitment

A seven-point commitment to sustainable development

In accordance with its Safety, Health and Environment Policy, Eurotunnel formalised its sustainable development strategy by way of a seven-point commitment.

A "Planète gagnante" (Winning Planet) Partnership was signed with the French environment and energy management agency ADEME and the Nord-Pas-de-Calais Regional Council in September 2007.

This commitment has been communicated to staff and customers in order to raise awareness about Sustainable Development issues.

The seven points of this commitment are vital building blocks for the environment action programme.





1 - Review its "Carbon Footprint"

Review its Carbon Footprint and successfully implement a plan to reduce greenhouse gas emissions.

All manner of human activities generate greenhouse gas emissions. Eurotunnel wanted to be able to measure its carbon footprint, assessing the impact of its activity on climate change.

In 2007, Eurotunnel finalised its review of greenhouse gas emissions associated with its activities in the UK and France. Carbon footprinting was carried out using the Bilan Carbone method approved by the French environment and energy management agency ADEME.

This snapshot of emissions associated with Eurotunnel's activities has identified those which have the greatest impact so that a targeted emissions reduction programme could be developed for the most significant aspects.

Eurotunnel is currently still the only cross-Channel operator to have published its carbon footprint.

Eurotunnel's review of its carbon footprint was full and comprehensive.

It included the electricity required for traction power for Eurotunnel Shuttles, Eurostars and freight trains operating in the tunnel as well as the tunnel infrastructure, workshop activity, Diesel works locomotives, road vehicles used for employee travel, catering, etc.

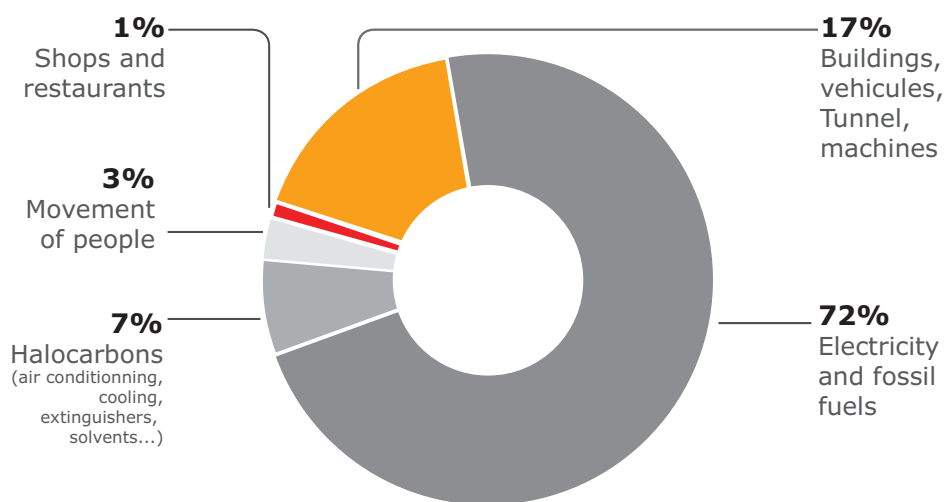
Eurotunnel's carbon footprint for 2006 was assessed at 85,184 metric tonnes of carbon equivalent (MtCe)¹, in a year in which 18.5 million tonnes of goods were carried through the Tunnel.

For comparison purposes, more than 30 million tonnes of goods entered and left Paris. Their transport generated over 1,750,000 MtCe, all transport modes combined².



CARBONE FOOTPRINT

Carbon survey: breakdown of emissions by area



¹ The carbon footprint is measured in MtCe (Metric Tonnes Carbon Equivalent).

For example, 1 kg of CO₂ contains 273g of carbon.

Therefore emitting one kilogram of CO₂ is the same as 273 grammes of carbon equivalent.

² Source: Maire de Paris

An effective reduction plan

Eurotunnel's main reason for calculating its carbon footprint was to **successfully implement a plan to reduce its greenhouse gas emissions.**

This reduction plan aims to achieve a significant reduction in emissions by prioritising action on the main sub-areas.

The 2008 target was to reduce Eurotunnel's carbon footprint from 85,000 MtCe to 41,660 MtCe. The greenhouse gas emissions reduction programme is progressing, although the reductions are less than forecast.

The result achieved in 2008 is 47,000 T, but the 41,660 T target is maintained for 2009.

➔ Action on the "energy" sub-area as the top priority

Catenary supplied solely by French electricity

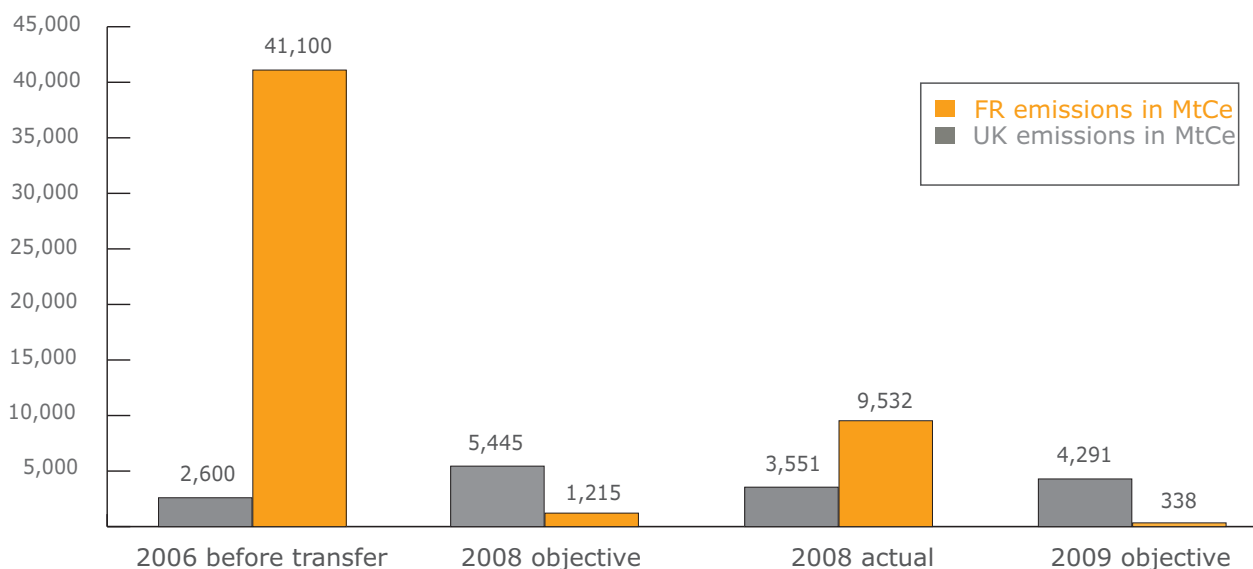
Because of the different method of electricity generation in the two countries, French electricity produces four times fewer greenhouse gas emissions than UK electricity.

Since the beginning of 2008, the entire FR and UK catenary has been supplied solely by the French electricity sub-station.

The transfer of power supply between the two sites occurred slightly later than planned, so although Eurotunnel has reduced its emissions associated with traction consumption, it has not met the initial target:



Changes in greenhouse gas emissions associated with electricity consumption for traction between 2006 and 2008 (including Alleux and Dollands Moor sub-stations)



➔ Action on the extinguishing system and the cooling systems

In addition to the new catenary power supply system, other initiatives are under way to further reduce greenhouse gas emissions associated with the company's activities:

The fire extinguishing systems in the associated installations on the two Terminals and on board the rolling stock use the gas Halon 1301 which is banned under the Montreal Protocol.

Certain critical users, such as the Channel Tunnel Operators, Air Force, etc. have been granted an exemption under European Council Regulation n°2037/2000 because they have not yet been able to find a gas that is at least as effective and packaged in containers small enough to suit the compact dimensions of the equipment involved.

However, we are continuing studies to identify a substitute product meeting environmental requirements and Eurotunnel's technical constraints for use on board its rolling stock.

In the case of the cooling systems, Eurotunnel is anticipating restrictions and, by 2015, a ban on the use of certain refrigerants such as R22 which is used in the Tunnel cooling systems, rolling stock air-conditioning units and air-conditioning in buildings.

A series of tests has been carried out to validate the effectiveness of other fluids and make the best choice.

A Halon committee, which includes the Sustainable Development Manager, meets quarterly to assess the progress of these projects and monitor Halon and refrigerant consumption:

- There were fewer releases in 2008 than in previous years,
- Refrigerant consumption has remained constant.

Greenhouse gas emissions corresponding to halocarbon releases were reduced to 2,700 MtCe in 2008, compared with 5,700 the previous year.



2 - Pursue its business strategy to reduce resources

Action on electricity consumption

Energy management is a key part of Eurotunnel's business strategy. Eurotunnel is continuing to focus its efforts on reducing its electricity consumption, especially since the benefits are not only financial but also environmental since **the new system supplying catenary power from France from 2008 will halve its total greenhouse gas emissions.**

Traction represents 75 to 80% of Eurotunnel's electricity consumption.

A special economic driving module has been included in the new design to replace the existing shuttle driver training simulator.

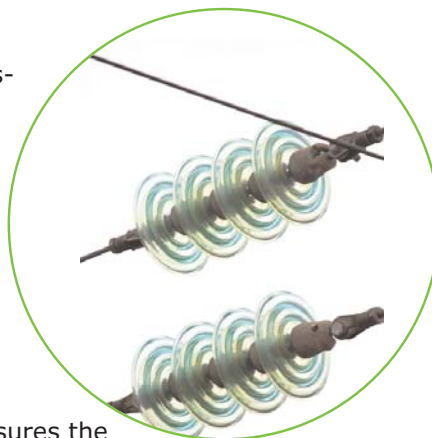
➔ Auxiliaries consumption

Energy saving initiatives on the auxiliaries continued in 2008:

- Insulation panels to partition off the long railway maintenance workshops so that only spaces occupied by personnel have to be heated.

- Presence detectors to control the lighting and heating in these maintenance buildings so that they are only switched on when personnel are present.

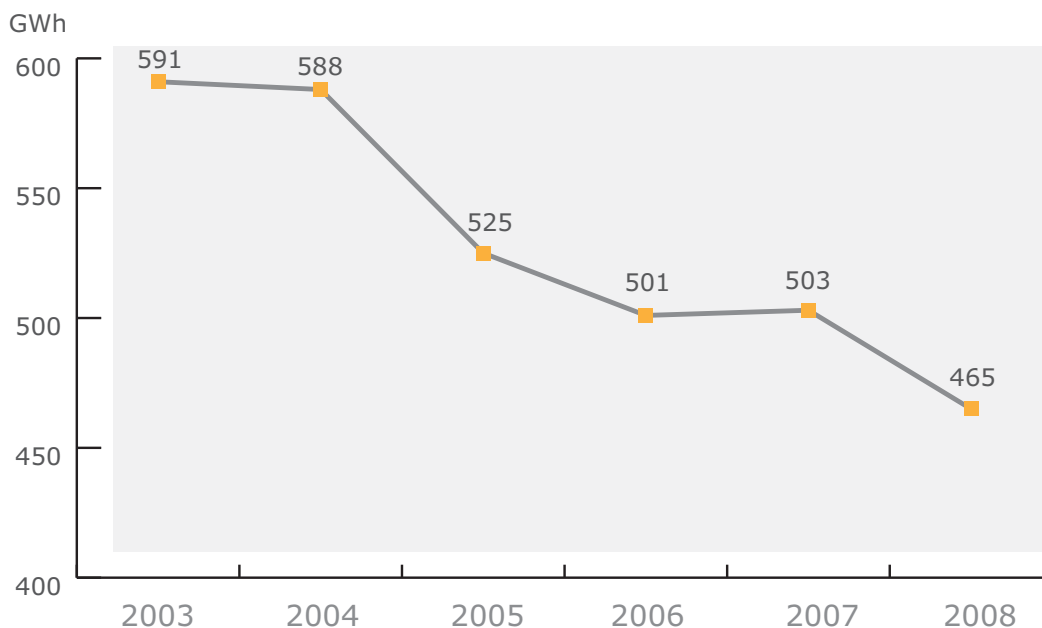
- Heating systems in the maintenance buildings automatically switch off when the doors are open.



- A unit measures the quality of the 25 kV and 21 kV internal power networks.

- Power consumption optimised by balancing operation of the French and UK cooling plants.

Electricity consumption FR - UK (Rail traction= 75 to 80%)



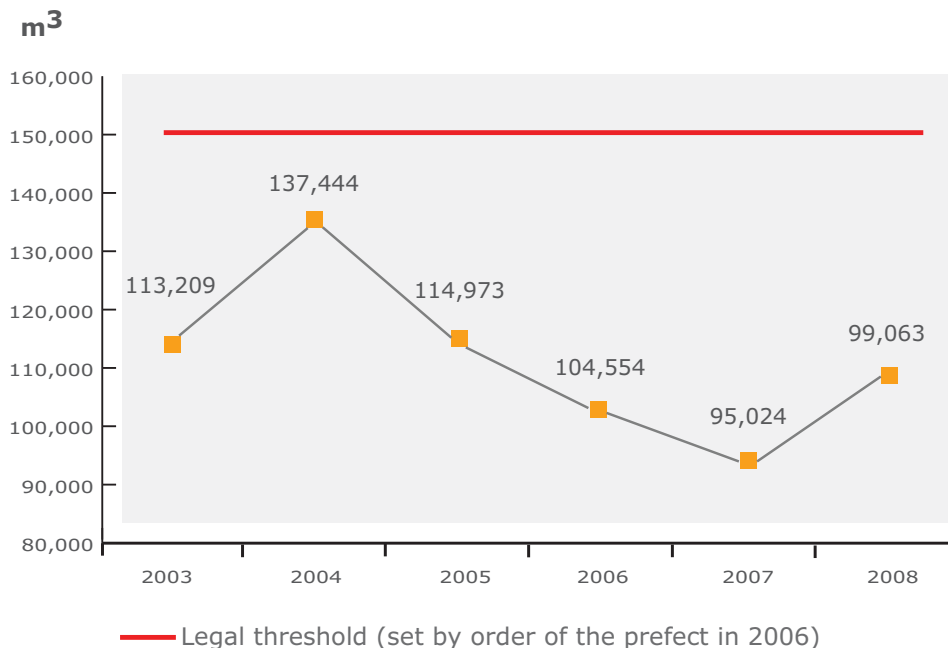
Action on water consumption

Eurotunnel has installed meters on its site to better control its water consumption. In 2008, these were fitted with transmitters to remotely monitor its biggest consumers. These meters will allow consumption trends by sector to be analysed in-house and any anomalies detected.

↪ Coquelles Site

The annual consumption permitted by Prefectoral Order for this site is 150,000 m³.

Coquelles Terminal drinking water consumption



In 2008, drinking water consumption on the Coquelles Terminal was 99,063 m³.

○ Use of underground water and lowering of the groundwater table

The transition between Terminal ground level and Tunnel portal meant having to excavate a cutting for the railway lines through the chalk grassland. To protect its rail infrastructures, Eurotunnel has to lower the groundwater table impregnating the rock.

In 2008, 1,264,549 m³ was pumped out on the Coquelles site. Of this, 32,627 m³ was recycled to supply the fire-fighting water reservoirs and the rest discharged into the natural environment.

○ Waste water treatment: purification plant

The urban biological purification plant built by Eurotunnel at Coquelles has a nominal capacity equivalent to a population of 13,500.

This plant treats the waste water from the Eurotunnel Terminal as well as some of the waste water from Coquelles and the nearby development area (Cité-Europe).

In 2008, Eurotunnel invested in a centrifuge to replace its filter press, reducing the quantity of water in the sludge obtained from biological treatment.

Because the more concentrated sludge obtained occupies a smaller volume, fewer trips by truck are required to transport it.

The residual sludge is used for agricultural purposes.



➔ **Sangatte Site**

The annual consumption authorised by Prefectoral Order for this site is 25,000 m³.

Drinking water consumption on the Sangatte site was 6,388 m³ in 2008.

The Sangatte site also receives water pumped out of the Tunnel which, after being analysed and found to be compliant, is discharged into the natural environment.

The water used to extinguish the September 2008 fire was held in the special lagoons at Sangatte. Analysis results showed that pollution removal could take place at the Coquelles water treatment station and the polluted water has gradually been transferred there.

In September, the volume of water treated at the treatment station following the fire was 23,846 m³.

➔ **Folkestone Site**

Drinking water consumption on the Coquelles Terminal was 103,295 m³ in 2008.

Surface water flows by gravity into the public sewage system.

Wastewater is discharged into the public purification plant serving Folkestone and Dover.

➔ **Shakespeare Cliff Site**

Potable water consumption on the Shakespeare Cliff site was 15,431 m³ in 2008.

➔ **Focus on water consumption in the UK and France cooling plants**

Optimising operation of the cooling plants has affected electricity consumption but also water consumption too. Since 2001, there has been a fivefold reduction in overall drinking water consumption in the cooling circuits. In 2008, overall consumption for Sangatte and Shakespeare Cliff cooling was 4,630 m³.





3 - Contribute to the development of renewable energies



After numerous administrative difficulties, Eurotunnel's wind farm project, ongoing since 2000, has finally come to fruition.

In 2008, Eurotunnel and its partner InnoVent submitted plans for a new, less ambitious version of the project, although still with three 800 kW wind turbines, and these were accepted by the authorities.

The project now has planning consent and the wind turbines, which can supply enough electricity to power the equivalent of 2,000 homes, are to be built in 2009.



4 - Inform our customers

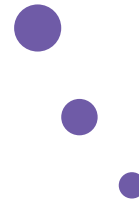
Inform and raise awareness about global warming and waste prevention among British and French customers.

During Sustainable Development Week from 1st to 7 April 2008, Eurotunnel raised awareness among over 200,000 passenger and truck shuttle customers of all nationalities to the importance of sustainable development issues and encouraged them to behave as eco-citizens.

Exhibitions were organised and set up in the two passenger terminal buildings on the UK and French Terminals during which leaflets were distributed highlighting actions that could be taken to preserve the environment: reducing water consumption, energy savings, promoting renewable energies, sorting waste and protecting biodiversity.

Eurotunnel's awareness campaign for sustainable development week featured on the French Ministry for Sustainable Development's website.

Exhibitions were also organised on the Passenger Terminals for Mobility Week and Waste Reduction Week.





5 - Develop selective waste collection

Develop selective waste collection to optimise sorting and encourage the recycling of its waste for materials or energy.

Waste management on the French Terminal

In parallel with raising awareness to reduce waste production, Eurotunnel is optimising sorting to encourage the recycling of its waste for materials or energy.

The waste collection centre on the site has been expanded and reconfigured to facilitate sorting.

A new software system is in the process of being deployed to optimise centralised waste management and allow all stakeholders to access the management system: Safety and Sustainable Development Directorate, waste management department, etc.

A new recycling flow was developed in 2008: green and compostable waste from the staff restaurants is transformed into compost by a specialist local firm.

150 tonnes of waste have been recycled to a new life cycle.



The recycling rate in France was 51% this year.

2,346 tonnes of ordinary industrial waste and 176 tonnes of special industrial waste was produced.



➔ Focus on the waste generated by the fire in September 2008.

Apart from the vehicles destroyed by the fire, the Tunnel repair works have generated over 2,500 tonnes of waste, more than 98.5% of which has been recycled.

The water treatment station removed all the pollution from the water used to extinguish the fire before it was discharged.



Waste management on the UK terminal



Eurotunnel has deployed a series of dedicated new containers on the UK Terminal for the selective sorting of waste in work areas and on the Passenger Terminal.

Recycling flows have been successfully introduced for plastic bottle and metal cans.

The recycling rate in the UK was 47% this year. 966 tonnes of ordinary industrial waste and 5 tonnes of special industrial waste was produced.

295,230 litres of liquid waste has undergone physico-chemical treatment and 18,168 litres of oily liquid waste has been recycled.



6 - Inform, promote actions, encourage ecological citizenship

Inform and raise awareness about sustainable development issues among the millions of its UK and French customers who use the Eurotunnel shuttles each year and its 2,360 employees.



Involving suppliers and subcontractors in this environmental initiative

Within the framework of its partnership with the French environment and energy management agency ADEME, Eurotunnel takes part in campaign weeks to raise public awareness:

- **National Sustainable Development Week**
(from 1 to 7 April 2008)



- **French Waste Reduction Week**
(22 to 30 November 2008)



- **European Mobility Week**
(16 to 22 September 2008)



Image Source:

<http://lewebpedagogique.com>

Inform employees

During these weeks, Eurotunnel raised awareness among its 2,360 employees and its sub-contractors to the importance of sustainable development issues and encouraged them to behave as eco-citizens.

Travelling exhibitions on actions that could be taken to protect the environment, such as reducing water consumption, energy savings, promoting renewable energies, sorting waste and protecting biodiversity, were staged at strategic locations within the Company:

- UK and FR maintenance area,
- UK and FR operations area,
- administration area.

All employees were able to find out about the detailed results of Eurotunnel's carbon footprint review, including the process, the results and the reduction plan.

External service providers provided specific technical competence in certain areas such as:

- Energy savings: a representative was on hand to answer employees' questions on the UK site and on the French site,
- Reduction: our waste recycling and reprocessing contractors were also present on both sites. Eurotunnel employees had the opportunity, for example, to find out about the benefits and methods used to recycle organic matter into compost.

A monthly e-gazette is issued to all staff on both the UK and French sites on a range of topics of current interest to the company, including Eurotunnel's environmental news. The subjects addressed in 2008 include:

- Recycling on the Folkestone terminal,
- Sustainable Development Week,
- Success of Sustainable Development Week,
- Publishing the Environment Report,
- New recyclable hand towels in the maintenance workshops,
- A fourth green flag for Samphire Hoe,
- Samphire Hoe attracts young and old,
- A Eurotunnel employee..... in the garden....





7 - Implement an ecology monitoring

Monitor the plant and animal species on its French and UK sites.



Conservatoire des Sites Naturels
du Nord et du Pas de Calais

Biodiversity in France

When the construction period finished in 1993, Eurotunnel handed over responsibility for monitoring the flora and fauna on the Coquelles Terminal to the Groupe Ornithologique et Naturaliste du Nord in order to better understand and preserve the natural environment and species it contains.

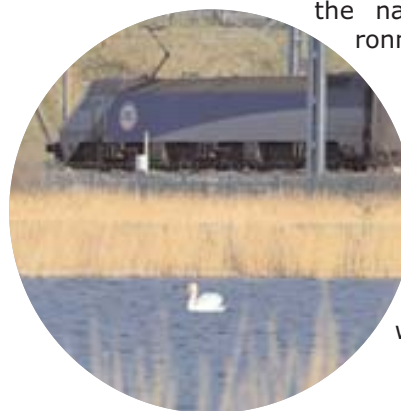


This monitoring has demonstrated the great heritage value of these sites.

As part of its Sustainable Development initiative, Eurotunnel accepted GON's proposal to involve the Conservatoire des sites Naturels du Nord et du Pas de Calais in developing a multi-year management plan. A broad-ranging agreement was signed in April 2007.

This agreement will make it possible to implement a proper strategy for managing and enhancing Eurotunnel's natural environment.

The first year has been spent updating the inventory. The second will be spent developing a multi-year management plan which will advise Eurotunnel on the steps that need to be taken to preserve species and the natural environment.



Eurotunnel will receive this multi-year management plan in early 2009 and will then de-

The Eurotunnel sites involved are the Jardins du Point du Jour, the loop wasteland and three lagoons.



→ Plant formations

The heritage assessment of the plant formations revealed that there were:

- 25 natural habitats identified on the site, including 11 of heritage interest
- originality and heritage issues on the site associated with the presence of sub-halophyte and/or semi-peaty plant formations

→ Flora

The flora inventory identified:

- 203 plant species between 2007 and 2008,
- 23 species of heritage interest, including:

Pyramidal Orchid,
Sea Clubrush,
Divided Sedge,
Purple Broomrape,
Southern Marsh Orchid,
Brackish Water Crowfoot.

→ Fauna

The information obtained from a compilation of the GON and CSN fauna inventories has identified:

. Avifaune

12 nesting species and 4 heritage overwintering species, including: the marsh harrier, bearded tit, lapwing and greylag goose.

. Odonates

4 heritage species but only the presence of the dainty damselfly and the hairy dragonfly was confirmed in 2007/2008.

. Orthoptera

2 heritage species.



Brackish water crowfoot
(vulnerable and very rare in the region)



Buckbean
(threatened with extinction and protection in the Region)



Early marsh orchid
(vulnerable and protected in the Region)



Bearded tit



Marsh harrier



Small red damselfly

Biodiversity in the UK

UK Site: management well rewarded

→ The Folkestone Downs

The Folkestone Downs, covering an area of some 48 hectares, are one of the largest remaining areas of ancient chalk grassland in Kent and form part of the Kent Downs Area of Outstanding Natural Beauty (AONB). They are also designated a Site of Special Scientific Interest (SSSI) on account of the many rare species of plants and wildlife they support.



Eurotunnel and the White Cliffs Countryside Project (WCCP) have restored and maximised the diversity of habitats on the site without detracting from its unique components.

Grazing cattle were introduced to control the coarse grasses, allowing the more delicate species to thrive.

WCCP keeps the area in good order with the help of volunteers and organises guided walks, wildlife conservation activities and "Green Gang" events for children.

These initiatives have led to an increase in the number of species of plants on the chalk downs, and particularly wild orchids such as *Ophrys apifera* (Bee Orchid), *Dactylorhiza maculata* (Spotted Orchid), *Ophrys fuciflora* (Late Spider Orchid), and butterflies such as *Lysandra bellargus* (Adonis Blue) and *Hesperia comma* (Silver-spotted Skipper).

Thirty-one different species of butterfly can now be seen on the Downs during the year, more than half the number of species in the UK, making the Kent Downs one of the best places in the country to observe meadow butterflies.

The new fences erected in 2008 have allowed the pasture areas to be extended to continue improving the ecological quality of the Downs.



○ Samphire Hoe

Samphire Hoe is a 30-hectare piece of land situated at the foot of the White Cliffs of Dover. It was created from approximately 5 million cubic metres of chalk marl excavated during the construction of the Channel Tunnel. The site is also managed by WCCP, assisted by many local volunteers. Over 110,00 visitors come to Samphire Hoe each year.

The site supports a rich biodiversity, including:

- about 200 plant species, the result of natural colonisation of the 31 original species,
- 12,000 orchids (compared with the 67 counted in 1998!)
- 27 butterfly species,
- about 175 species of moth, including 5 featured in the Biodiversity Action Plan,
- 13 species of dragonflies and damselflies.
- 203 bird species, 2 of which are listed in the Red Data Book.



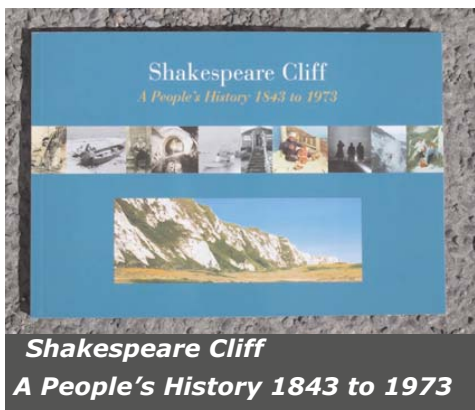
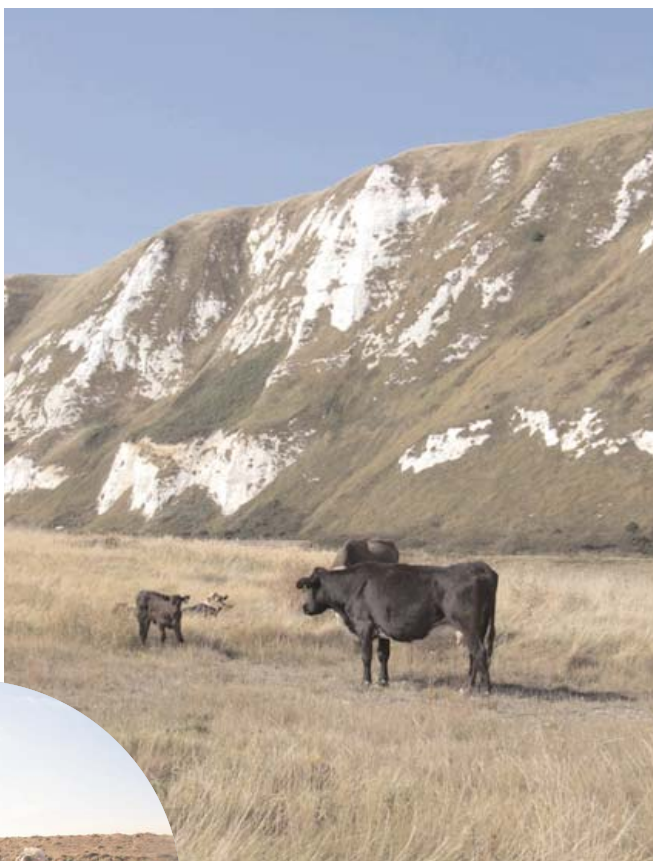


Introducing livestock at certain times of the year has improved plant biodiversity.

Temporary electric fences were used to make small enclosures.

In 2008, fences were erected to form two huge enclosures. Livestock (sheep and cattle) have been able to roam freely throughout the site for the first time.

2008 also saw the completion of a project financed by the Heritage Lottery Fund entitled "Shakespeare Cliff - A people's history", looking at local history from 1843 to 1973. The project has led to publication of a book which is on sale on the site and a memorial and information point have been created.



More information on the Samphire Hoe site can be found on the website: www.samphirehoe.com

➔ **Environmental awards**

The joint efforts of Eurotunnel and the White Cliffs Countryside Project have been recognised by awards many times over the years:

- Property Awards (Environment category) sponsored by Property Week,
- Environmental Awards for Kent Business (Site Management and Nature Conservation category) sponsored by Kent Country Council,
- National RICS Award for Countryside & Coastal Regeneration sponsored by the Royal Institute of Chartered Surveyors
- Site of Special Scientific Interest Award (SSSI) sponsored by English Nature
- En 2008, Samphire Hoe was awarded the Green Flag for the fourth year running in recognition of its high ecological quality.

