



Environmental  
Product  
Declaration

**ENVIRONMENTAL PRODUCT DECLARATION  
FOR THE LOGISTIC SERVICE APPLIED TO  
MEAL DELIVERING IN PUBLIC CATERING**



**Revision 2 of 04/03/2008  
Validation N. S-P-00111**

## COMPANY AND SERVICE OVERVIEW

### THE COMPANY

SOTRAL S.p.A. is a company from Piedmont, specialized in services of distributive logistics for goods addressed to public catering business, comprising all the services connecting meal production centres with the restaurants such as meal transport towards schools, hospitals, barracks etc... and also a whole series of activities upstream and downstream, according to sustainable development<sup>1</sup>.

The present Environmental Product Declaration EPD™, is addressed to all the stakeholders interested by environmental performances of the company, including the suppliers and above all the clients, mainly catering companies which benefit from the services of transport of goods for public catering performed by SOTRAL.

SOTRAL was founded in 1982 as a company specialized in services of logistic and distribution of food products. Firstly as SOTRAL S.r.l., it became SOTRAL S.p.A. in 2004. In 2003, the company has understood that environmental innovation could be a lever of competitiveness for its own business but also for all the Public catering supply chain. The company has adopted the Life Cycle Thinking philosophy (LCT), as a vision that permeates each activity it performs.

That's why, since 2003, SOTRAL has been investing a significant amount of its annual turnover (nearly 2.5%) for research and development activities to promote sustainability within catering services.

SOTRAL, in the course of the previous years, has given to itself a series of voluntary rules, that aim to continuous improvement of its own management system and of the services it offers: ISO 9001:2000 since 1998, ISO 14001:2004 since 2003, EPD™ since 2004, SA8000:2001 since 2005. The mission of SOTRAL is to "provide total quality services that meet customers needs, looking for their complete satisfaction and also to dynamise the market of all the services supporting public catering business". Such mission is fully integrated with the company policy as quality, environment and social responsibility are taken as milestones.

Since 2006, SOTRAL has joined the Global Compact, a project launched in 1999 by Kofi Annan, former Secretary of the United Nations to get involved and to support all companies that play an active role on the themes of human rights, work and environmental protection, and in the battle against corruption.

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<sup>1</sup> [www.sotral.it](http://www.sotral.it)

## SPECIALIZED SERVICES AND OPERATIVE SOLUTIONS

SOTRAL can rely on its high technical specialization for logistics, on a capillary presence on the territory, on an efficient and professional management; in 2007 SOTRAL has 15 employees and works with a team of about 220 members who use a fleet of vans with suitable equipment, according to HACCP rules.

The growth of the company is demonstrated by the continuous increase of the turnover, which is coupled with the extension of the geographical area where SOTRAL offers its activity (initially concentrated in Piedmont), including Lombardy (2001) then Liguria (2002), then Tuscany and Emilia Romagna (2006). In 2006 SOTRAL has transported about 11.200.000 kg of meals covering more than 4.500.000 km.

Today SOTRAL offers services according to two main axes:

1. Logistics, as main axis of development, including meal transport and the drawing up of feasibility studies and projects to optimize the distribution of foodstuff and meals;
2. Projects for the promotion of the sustainability in catering among which:
  - Layout of the waste separate collection in the canteens and transport for subsequent reuse/recycling of waste;
  - Design of platforms and management systems for waste produced during meal preparation and consumption;
  - Consulting and training on environmental topics for catering staff;
  - Environmental communication and education for children.

In 2005 SOTRAL has been awarded with the “Premio Impresa Ambiente” for its capacity to evolve from a transport company to a group of organization for logistics related to public catering, with a striking inclination for sustainable development of its own activities. Following the Premio Impresa Ambiente, SOTRAL has been automatically admitted to participate to the European Business Award for the Environment 2006 and has won the award, in the category of the best management.

Besides being one of the founder members of AssoSCAI, Association for the development of the environmental competitiveness of business, SOTRAL, works within a tight network of collaboration and exchange of know how based on the sharing of values: Environment Park SpA, Studio LCE, Slow Food, Ambiente e Territorio (Chamber of Commerce of Rome), Foundation Charles Leopold Mayer, European technological Platform “Food for Life”, Sustainable Food Laboratory and AlimenTerra, DG Environment of European Union, Global Compact.

Since 2007, the friendly environmental education booklet made for school children “il Pranzo Sostenibile a Scuola” (the Sustainable Meal at School) makes use of the collaboration with WWF, giving even more emphasis to the environment protection.

In 2005 is born the Consortium RISTECO, which SOTRAL is founder and fundamental member. RISTECO puts itself on the reference market as a start up incubator, among which around one hundred transport companies that promote sustainable development in modern catering. Through the large alliance network created by SOTRAL, and by RISTECO, at national and international level, the company is committed to perform research of innovative solutions to promote the eco-efficiency within public catering, also by using the levers of environmental communication and green marketing.

## ENVIRONMENTAL PERFORMANCE DECLARATION

The EPD is considered by SOTRAL as a tool to communicate its environmental performance to the stakeholders. The EPD represents the reference voluntary tool to certify the environmental quality of the main SOTRAL process, the “Logistic service applied to meal delivering in public catering”.

### METHODOLOGY

The environmental performance quantification has been done, according to the ‘Requirements for Environmental Product Declarations’ (MSR 1999:2), in conformity with the Life Cycle Assessment methodology ruled by the ISO international standard 14040 – 14044 series. LCA methodology allows to define environmental impacts of a product or a service in terms of resources consumption and emissions output, together with waste production, in a life cycle (‘cradle-to-grave’) perspective.

Used data refers to services provided in 2006 and that has been gathered in SOTRAL operative quarter. The study was also supported by Boustead Model data base.

Concerning the unit (functional unit) used to report results describing meal delivering service, the unit of ‘kg of transported meal’ has been chosen, considering with this expression *the transport of a Kg of aliment starting from the production centre to the distribution centres represented by school, company, hospital and army canteens*.

### SYSTEM BOUNDARIES AND PRINCIPAL HYPOTHESIS

The considered system has been evaluated starting from the maintenance and sanification of transport vehicles used for meal delivering to their final disposal, according to the scheme presented in Figure 1.

As vehicle maintenance is intended the normal activity concerning ordinary maintenance (i.e. tyre substitution, oil change, etc...), described in the vehicles maintenance books. Furthermore, considering that food transport is subordinated to a strict regulation on hygienic and security conditions (HACCP), a weekly ‘sanification’ activity, consisting in the loading space washing and disinfection with appropriate detergent, is hypothesized.

Concerning the use phase the study is based on annual data regarding the overall number of distributed meals and distance covered by SOTRAL vehicles<sup>2</sup>; in particular it is assumed the use of commercial vehicles fuelled with diesel oil and with emissions corresponding to European Directives limits regarding their homologation.

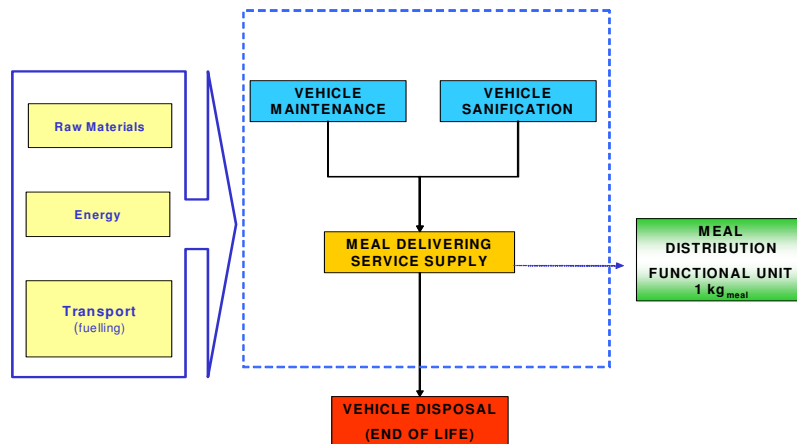


Figure 1 –SOTRAL service scheme with the principal activities included within the system boundaries. For the end of life phase only qualitative information has been provided

Concerning motor vehicles final disposal, the hypothesis is that the vehicle considered in this study shall be assigned to the destruction service that will operate the disassembling and the recycle of recoverable materials. It is possible to presume that the recycle can come up to 85% as foreseen by the European<sup>3</sup> Directive regarding vehicles end of life management.

## ENVIRONMENTAL PERFORMANCES

According to the EPD<sup>TM</sup> system regulations, the environmental performances hereafter presented are always referred to *1 Kg of transported meal*, in groups of information regarding natural resources consumption (energetic - Table 1 and not energetic - Table 2), polluting substances emissions and waste production.

<sup>2</sup> In the present declaration SOTRAL vehicles are referred to vehicles used for meal transport  
<sup>3</sup> Directive ELV 2000-53-CE.

**Table 1** – Energetic resources consumption deriving from catering service delivering

<b>Energetic resources consumption</b> Data in MJ/kg <sub>meal</sub>		<b>Data in kg of transported meal 2006</b>
<i>Renewable resources (hydroelectric)</i>		<i>0,002</i>
<i>Non renewable resources</i>	Carbon	0,005
	Oil	1,285
	Gas	0,392
	Nuclear resources	0,003
<i>Non renewable Resource Total</i>		<i>1,685</i>
<b>TOTAL ENERGETIC CONSUMPTION</b>		<b>1,687</b>
<i>Of which electric energy:</i>		<i>0,005</i>

**Table 2** – Non energetic resources consumption deriving from catering service delivering

<b>Non Energetic resources consumption</b> Data in MJ/kg <sub>meal</sub>		<b>Data in kg of transported meal 2006</b>
<i>Renewable resources</i>		<i>0,012</i>
<i>Non renewable resources</i>	Sodium chloride	0,155
	Iron	0,067
	Calcium carbonate	0,064
	Other resources	0,029
<i>Non renewable Resource Total</i>		<i>0,315</i>
<b>TOTAL RESOURCE CONSUMPTION</b>		<b>0,327</b>
<b>WATER CONSUMPTION</b>		<b>68</b>

Concerning pollutant emissions, the EPD™ system requests that they shall be presented in an ‘associated’ way, according to criteria and prescriptions presented by the system regulations (MSR) and to indicators referred to different environmental impacts typologies.

This classification results are reported in the following Table 3, where values are as usual referred to 1 Kg of transported meal.

**Table 3** – Potential contribution to the principal environmental impact from pollutant emissions generated within the logistic and distribution system adopted by SOTRAL. Data for Kg of transported meal

Indicator	Unit	Data in kg of transported meal 2006
Global Warming Potential	g CO <sub>2</sub>	121,87
Acidification Potential	mol H <sup>+</sup>	0,013
Eutrophication	g O <sub>2</sub>	2,66
Ozone Layer Depletion	g CFC11	0
Photochemical Ozone	g C <sub>2</sub> H <sub>4</sub>	0,237

Another important information on system environmental impact description is connected to waste production. Even if waste production does not arise from SOTRAL system analysis, the LCA approach allows to highlight and to quantify waste production in life cycle phases distant from the service supply one.

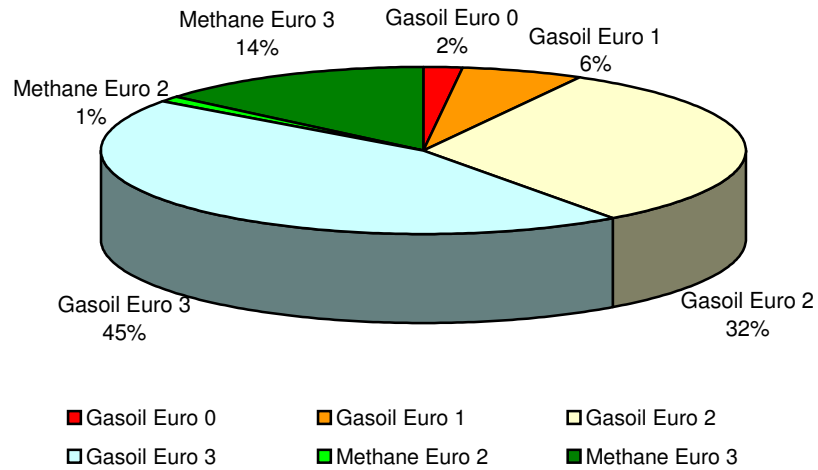
According to this approach, Table 4 presents overall waste production for *1 kg of transported meal* according to SOTRAL system.

**Table 4** – Overall production for meal distribution: most of waste are characterized by mineral refuse originated by raw material extraction necessary to vehicle and energy production

Waste production Data in kg/kgmeal	Datum per kg of transported meal 2006
Non hazardous waste	0,00129
Hazardous waste	0,00062
<b>WASTE TOTAL</b>	<b>0,00191</b>

Finally, it is interesting to provide some information about the SOTRAL vehicle fleet, in terms of emissions corresponding to European Directives limits regarding their homologation. Figure 2 displays this information.

Figure 2 – Composition of SOTRAL vehicles fleet in 2006 divided according to the level of emissions



The main improvement generated by using CH<sub>4</sub> fuelled vehicle is quantifiable showing data about direct (generated by vehicles) and indirect (mainly generated by fuel production) dust emission (Table 5).

**Table 5** – Dust emission generated by the system. Data in mg per kg of meal. Data about 2004 are reported for comparison and are referred to this composition of diesel vehicles: 16% Euro 0; 22% Euro 1; 39% Euro 2; 22% Euro 3

Dust emission [mg/kg meal]	Year 2004	Year 2005	Year 2006
Direct	91	65	57
Indirect	51	40	42
<i>Total</i>	<i>142</i>	<i>105</i>	<i>99</i>

## ANALYSIS OF DATA TO BE USED FOR CALCULATION MODEL

Data quality to be used in this kind of study is important for results quality evaluation. This is the reason why MSR 1999:2 establishes that most of used data shall be specific for the studied system. In this very case it is appropriate to observe that more than 90% of environmental impacts have been analysed using ‘specific’ data, as they mostly derive from fuel use.

## INFORMATION AND REFERENCES

### CORPORATE ENVIRONMENTAL POLICY

SOTRAL is certified ISO 9001 since 1998 (previously ISO 9002), ISO 14001 since September 2003 and in April 2005 has obtained SA 8000 certification. SOTRAL involvement and commitment is then significant, in order to get quality and environmental reduction associated to the offered service, as reminded in the quality and environment Policy: “[...] SOTRAL considers that its activities development shall be sustainable and environmentally sound, shall create opportunities for residents, collaborators and Corporate property and it shall be oriented towards constant improvement of activities and performances, maintaining a suitable balance among social, environmental and economic responsibility [...]”.

### SOTRAL ENVIRONMENTAL PROGRAMS<sup>4</sup>

To reduce the environmental burden generated by the service provided, and in a continuous improvement perspective, SOTRAL environmental programs foresee the achievement of the following objectives:

- To obtain additional improvements of the services design phase, to optimize the use of the available resources (vehicles) and, consequently, reducing air emissions (Km/meal ratio);
- To increase the number of methane-fuelled vehicles, compared with diesel-fuelled ones;
- To introduce the use of electric vehicles;
- To evaluate the possibility of install anti-particulate filters on diesel vehicles (Euro 3 vehicles);
- To research and implement lower environmental impact solutions for the sanification of the vehicles loading spaces;
- To research and implement innovative, non-toxic and recyclable/renewable materials for the vehicles insulation;
- To research and use ecologic tyres.

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<sup>4</sup> Extract from the Certified ISO 14001 Environmental Management System (certificate EMS 1081/S provided by RINA)

## SPECIFIC REFERENCE REQUIREMENTS

The study and the declaration have been prepared considering the PCR document for “*Logistic service applied to meal delivering in public catering*”; PCR 2005:15 of 29/12/2005.

## CONTACTS

More information on SOTRAL activity or on this environmental declaration are available at the Quality & Environment office, telephone number +39.011.728822, e-mail [info@sotral.com](mailto:info@sotral.com) or writing to SOTRAL – Corso Monte Cucco, 64 – 10141 Torino.

Otherwise it is possible to visit the web site [www.sotral.it](http://www.sotral.it).

Technical support to SOTRAL was given by Life Cycle Engineering, consultancy settled in Turin, Italy, whose information are available at [www.studiolce.it](http://www.studiolce.it).

## CERTIFICATION ORGANIZATION

This declaration and related LCA study were certified by RINA S.p.A. ([www.rina.it](http://www.rina.it)), accredited organism (SWEDAC n°1.812; SINCERT n°001H). according to guidelines MSR 1999:2 of EPD™ system. More information are available at [www.environdec.com](http://www.environdec.com).

## REFERENCES

- Life Cycle Assessment of the logistic service applied to meal delivering in public catering – Revision 2.2 of 19/07/06
- PCR 2005:15; PCR for Logistic service applied to meal delivering in catering (version 1.0 of 29/12/2005)

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