



Euro & Promos

2017

ENVIRONMENTAL PRODUCT DECLARATION

Hospital site cleaning system



EPD®

PCR 2011:03 - v. 2.0 Professional cleaning services for building

Code UN CPC: 853

Geographical scope: Europa

EPD registration number: S-P-01407

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Programme operator: EPD International AB

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1 EURO & PROMOS PRESENTATION

Euro & Promos FM S.p.A. or Euro&Promos is based in Udine and was established in 2007 following the merger of two important cooperatives that had already been operating in the same sector for some time, Eurocoop Soc.Coop., and Promos-San Giacomo Soc.Coop., Euro&Promos is divided into the Cleaning, Culture and Logistic Divisions.



Fig 1 Euro&Promos Headquarters at Udine

More specifically, today Euro&Promos FM offers services in the following areas:

CLEANING (BUSINESS LINE PUBLIC)

- Civil and industrial cleaning;
- Environmental sanitation;
- Hospital cleaning, including room sterilisation;
- Specialist cleaning for food industries;
- Cleaning of industrial plants.

LOGISTICS (BUSINESS LINE PUBLIC)

- Bulk, bagged and palletted goods handling;
- Computerised warehouse management;
- Groupage transport, bulk materials, liquids, reusable materials.

ECOLOGY (ENVIRONMENT SERVICE)

- Collection and transport of own waste (cat. 2-bis);
- Disinfestation and rodent extermination;
- Maintenance of green areas.

INFORMATION AND RELATIONS (BUSINESS LINE CULTURES)

- Reception, front desk, porter,
- Library services, archiving services;
- Data entry services, postal services .

FOOD & BEVERAGE (FOOD SERVICE)

- Corporate canteen management;
- Management of school canteens and kitchens;
- Preparation and distribution of fresh/hot meals.

Euro&Promos offers high quality services guaranteed by its Quality Management System certificated in accordance with UNI EN ISO 9001:2015, and its Environmental Management System certificated in accordance with UNI EN ISO 14001:2015. In December 2008 it also obtained the OHSAS 18001 certificate, and in the same year it obtained the SA8000 certificate, which was subsequently updated in 2014.

With a view to growth and continuous improvement, Euro & Promos FM S.p.A. has decided to obtain EMAS registration of all its activities EMAS.

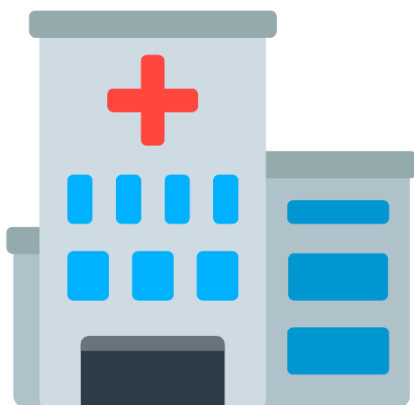
The first EMAS registration was for civil, industrial and sanitary cleaning services, as well as disinfection and rodent extermination activities coordinated by the headquarters in Via Antonio Zanussi, Udine, at the sites of clients.

In 2018, the EMAS certification was extended to include logistics handling and the Duino sawmill.

1 DESCRIPTION OF THE SITE IN QUESTION

The following LCA study is the result of the data collection carried out at the San Donà di Piave Hospital located in the province of Venice. The hospital is a small facility in which Euro&Promos has been carrying out environmental sanitation services on a daily basis since August 2013. The facility to be studied was chosen according to the type of service provided, which includes daily and periodic cleaning activities depending on the areas and departments. La struttura ospedaliera è costituita da 31.545 m² orizzontali e da 7.355 m² verticali. The vertical surface represents 19% of the total clean surface, which is why it is excluded from the study.

31.545 m² Horizontal surfaces



If the vertical surfaces reached the 20% share they would also have been included in the reporting, as foreseen by PCR 2011:03 v. 2. The area considered within the study for the normalization of calculations is equal to the rate represented by the horizontal surface.

In the study were not considered ancillary services to the cleaning service itself (supply of Cartamani, toilet paper, bath soaps and garbage bags)

2 SERVICE DESCRIPTION

Euro&Promos provides environmental sanitation services at the facility in question, where it handles the sanitation and disinfection of surface areas. Planned and standardised operations are carried out at different operating frequencies depending on the departments to be treated (high-risk area, laboratories, operating theatres, resuscitation and inpatients).

The ordinary cleaning of sanitary areas includes manual operations supported by simple equipment and machines. Low hazard ready-to-use or water-dilutable cleaners are used. The cloths used for manual cleaning are pre-treated during washing cycles, guaranteeing the best possible dilution of the products and the best possible service.

The equipment located inside the hospital includes washing machines, dryers, liquid vacuum cleaners, vacuum cleaners, single disc machines, trolleys and racks, for: a total power of 42 kW.

Euro&Promos does not handle the disposal of dangerous products as it is not part of the services offered.

3 DECLARATION OF ENVIRONMENTAL PERFORMANCE

3.1 Methodology

The LCA study was carried out using SimaPro 8.5 software, using the 2013 EPD method with GWP of the 2013 IPCC. In addition, it was conducted in accordance with the General Programme Instructions for Environmental Product Declarations ver. 3.0, of the PCR 2011:03 ver. 2.0, of standards ISO 14025:2010 (Environmental labels and declarations - Type III environmental declarations - Principles and procedures) and 14040 : 2006 (Environmental management - Life Cycle Assessment - Principles and frame work).

The data used to carry out the analysis includes site-specific data, collected directly from the San Donà di Piave hospital, and generic data (selected generic and other generic data) on the production of electricity, materials and transport, derived from the Ecoinvent 3.4 and ELCD databases, integrated into the SimaPro 8.5 software.

All the data used refers to 2017, the year in which the service was provided. The data was also collected by filling in questionnaires submitted to the operating personnel at the San Donà di Piave hospital. The data relating to the trolleys used by Euro&Promos for cleaning purposes was acquired by the associated EPD drawn up and validated by the company FALPI (year 2018, registration number: S – P 00153).

In the absence of selected data only, other generic data was used, which, as required by the reference PCRs, contribute less than 10% of the overall environmental impact

3.2 Declared unit



1 m² di superficie orizzontale
pulito lungo l'arco di un anno

The declared unit is 1 m² of horizontal surface area kept clean over a period of one year; therefore, all the results in Chapter 4 refer to this 1 m² horizontal surface area.

3.3 Time representativeness



2017

All site-specific data was collected at the San Donà di Piave hospital and refers to the service provided in 2017.

3.4 System boundaries

The system boundaries analysed correspond to those indicated by the reference PCR 2011:03 version 2.0 Professional cleaning services for buildings shown in Figure 2.

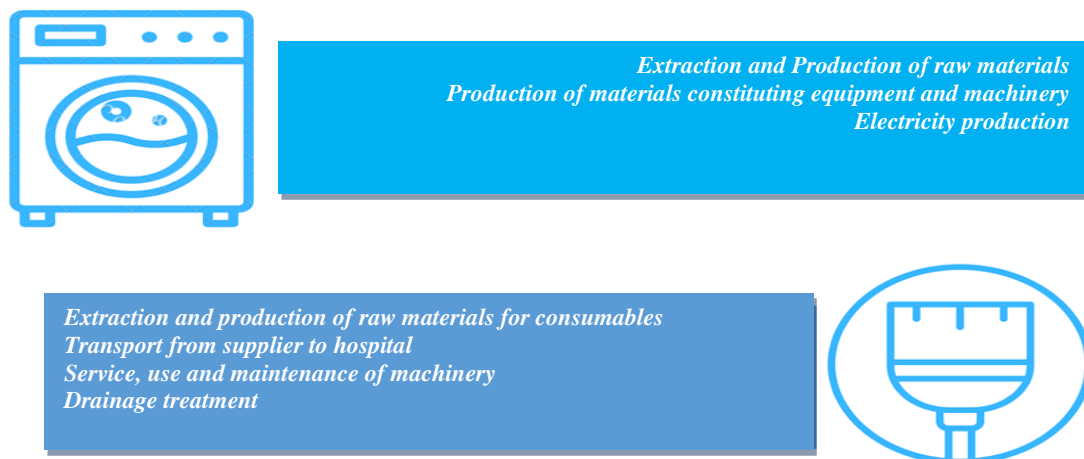


Figure 2 System under study boundaries

The processes to be considered for the assessment of the life cycle of the service provided are divided as follows:

UPSTREAM PROCESSES:

- extraction and production of the raw materials necessary to manufacture the machinery and equipment (washing machines, vacuum cleaners, trolleys, etc.) and the relative energy consumption necessary to produce the materials;

CORE PROCESSES

- the extraction and production of raw materials necessary to make consumables , such as detergents, gloves, cloths, etc.;
- The transport of products (detergents, gloves, cloths, etc.) to the hospital;
- the use of machinery during the provision of services, in terms of electricity and water consumption;
- maintenance, in terms of replaced parts to maintain the efficiency of the service provided;
- wastewater treatment.

The transport of persons and machinery permanently located within the hospital has been excluded. The downstream process of the service provided has been excluded as provided by the reference PCR.

4 ENVIRONMENTAL PERFORMANCE

The LCA study was carried out using SimaPro 8.5 software, using the 2013 EPD method with GWP of the 2013 IPCC.

Tab 1 Associated potential impacts per horizontal m2 kept clean over one year

Potential environmental impacts				
Impact category	Unit	Total	Upstream	Core Module
Acidification	Kg SO ₂ eq	0.00564	0.000398	0.005242
Eutrophication	Kg PO ₄₃₋ eq	0.00099	0.00017	0.00082
Greenhouse gas emissions;	Kg CO ₂ eq	1.26959	0.06275	1.20684
Photochemical oxidation	Kg C ₂ H ₄ eq	0.00035	2.30289E-05	0.00033

Tab 2 Associated consumption of non-renewable resources per horizontal m2 kept clean over one year

Non-renewable resources				
	Unit	Total	Upstream	Core
Energy Use		0.181	0.011	0.170
Oil		0.066	0.002	0.063
Natural Gas		0.043	0.001	0.042
Coal	Kg	0.073	0.007	0.065
Uranium		2.93E-05	2.78E-05	1,46E-06
Secondary		6.06E-06	6.06E-06	-
Materials		1.018	0.037	0.982
Rock		0.664	0.006	0.657
Oxygen	Kg	0.1737	0.0004	0.1733
Gravel		0.055	0.012	0.043
Other		0.126	0.018	0.108
Secondary		-	-	-

Tab 3 Associated consumption of renewable resources per horizontal m2 kept clean over one year

Renewable Resources				
	Unit	Total	Upstream	Core
Energy Use		1.684	0.025	1.658
Hydroelectric		1.289	0.023	1.266
Geothermal		0.282	0.0002	0.282
Wind energy	MJ	0.087	0.002	0.085
Solar		0.026	0.000	0.026
Recovered energy flows		-	-	-
Energy Use	Kg	0.593	0.011	0.582

Biomass		0.593	0.011	0.582
Materials		0.0093	0.0004	0.0089
Wood	Kg	0.0093	0.0004	0.0089
Other		1.90203E-08	1.90203E-08	-
Water consumption	L	114	7.35	106.65

Tabella 4 Waste generation per horizontal m2 kept clean over one year

Other indicators				
	Unit	Total	Upstream	Core
Waste	Kg			
Hazardous		-	-	-
Non-hazardous waste		0.141	0.0001	0.141
Radioactive		-	-	-
Use of toxic substances in the cleaning process		-	-	-
Direct use of electricity in the core	KWh/year	33,170		
Emission factor	KgCO₂eq/kWh	0.00377		

The cleaning service does not require the use of hazardous substances, therefore the result associated with this indicator is 0.

For the impact analysis deriving from the consumption of electricity, it was not possible to find the specific data on the energy mix of the facility in question. Therefore, as required by the PCR, a process contained in the ELCD database was used for its modellisation.

The waste produced by the cleaning service consists of the primary or secondary packaging of the consumables used in the cleaning, classified as Municipal Solid Waste (MSW) and managed by the hospital itself. End-of-life data is based on recycling, incineration and landfill scenarios extrapolated from the Municipal Waste Report 2017 - Packaging Waste Section - of ISPRA (Istituto Superiore per la Protezione e Ricerca Ambientale [Italian Institute for Environmental Protection and Research]) and relates to the year 2016.

4.1 INTERPRETATION OF RESULTS

On the basis of the results contained in the tables in Chapter 5, the final considerations are:

- The core phase, i.e., the provision of the actual service, is characterised by the highest incidence for all impact categories. Therefore, the provision of the cleaning service is more impacting than the production of the equipment and machinery supporting the cleaning service. This result is due to the fact that the various equipment has a long service life, which results in a reduction in the total environmental impact over the several years of use.
- Analysing the individual processes, it can be seen that electricity consumption is the most common item in all impact categories, with the exception of eutrophication. The consumption of electricity is due to the use of equipment necessary to carry out the cleaning service. The service provided by Euro&Promos at the San Donà di Piave hospital is characterised by a considerable number of items of equipment and, in the case of washing machines, by their sometimes less than efficient use.
- The other more incident processes are: the production of chemicals used in the cleaning phase, the consumables and the disposal of waste produced.
- Analysing energy consumption, resource consumption and water consumption, it can be seen that the core phase is the most incident phase.

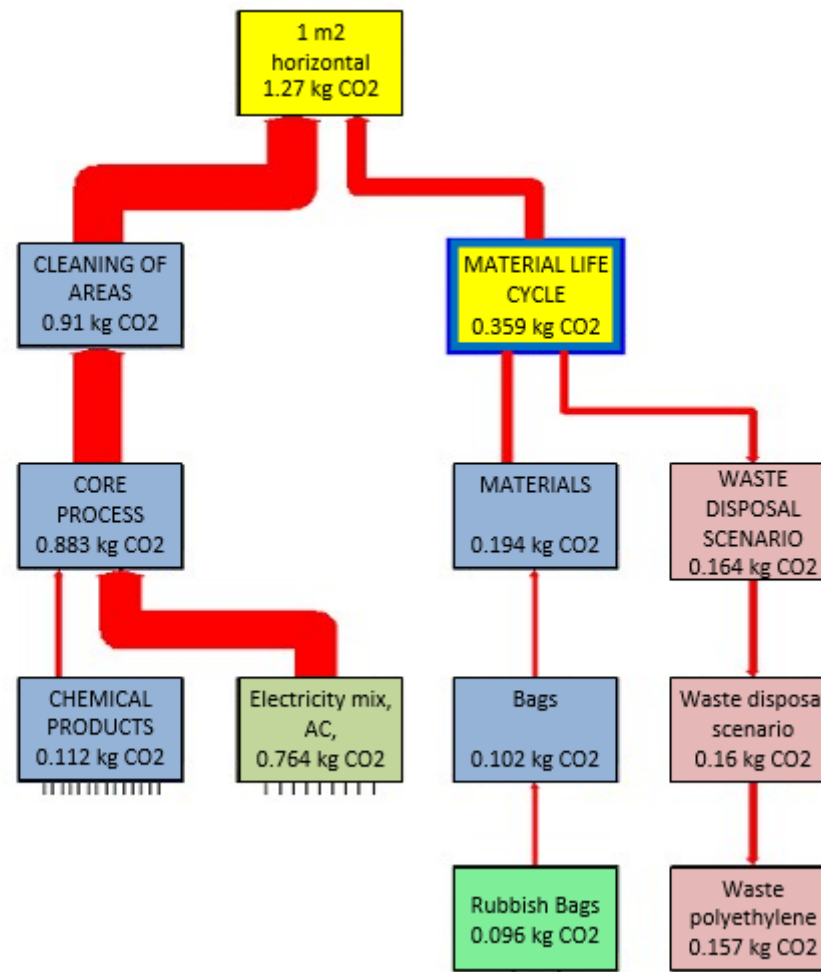


Fig 1 *Absolute contribution to greenhouse gas emissions of the various processes considered in the life cycle (cut-off 5%)*

5 OTHER INFORMATION

5.1 End of Life

The reference PCR states that processes downstream of the cleaning service are optional as the boundaries of the LCA study are defined *from the cradle to the gate* corresponding to the site where the cleaning service is performed (par. 3.2.3 - PCR ver. 2.0). Downstream processes are the end-of-life stage of the service life of the equipment and machinery used by the cleaning service. In 2017, Euro&Promos did not dispose of any equipment or machinery. If this had happened, they would have been sent to the company's headquarters and here they would have been repaired or sent for disposal.

Euro&Promos' main supplier of cleaning equipment and materials has been certified as a Plastics Second Life Mix eco product since 2012. The supplier's products used by the cleaning service with the above characteristics and used by Euro&Promos are the Vega and Morgan trolleys. This certification confirms that 30% of the polypropylene in the trolley comes from a mixture of materials obtained from sorted waste collection. In addition, the rubbish bags used are made of 80% recycled plastic.

6 INFORMATION E RIFERENCES

The EPD owner has the sole ownership, liability, and responsibility for the flooring EPD. EPDs within the same product category but from different programmes may not be comparable. Further information on this environmental product declaration is available on the website of the International EPD Cooperation – IEC: www.environdec.com.

Valid until: 09/04/2022

Product Category Rules (PCR): PCR 2011:03 – Professional Cleaning services for buildings, version 2.0

PCR review condotta da: *The Technical Committee of the International EPD® System - info@environdec.com*

Independent third-party verification of the declaration and data, according to UNI EN ISO 14025: 2010

☐ EPD process certification ☒ EPD verification

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Bibliography and web references

- Product Category Rules 2011: 03 (versione 2.0) - " Professional cleaning services for buildings ", UN CPC 853
- General Programme Instructions for the International EPD system - versione 2.5
- Analisi del Ciclo di Vita (LCA) applicata al sistema di pulizie del cantiere ospedaliero, Rev. 2 del 24/12/2018 di Euro&Promos
- Standards: UNI EN ISO 14040 - UNI EN ISO 14044 - UNI EN ISO 14025
- Progetto SimaPro 8.5
- Database: Ecoinvent 3.4 ed ELCD
- Dichiarazione Ambientale di Prodotto, S – P – 00153, Rev. 15 del (11/07/2018)
- Rapporto Rifiuti Urbani 2017, ISPRA [*Urban Waste Report*]
- Centro di Coordinamento RAEE [WEEE Coordination Centre] (www.cdcaee.it)

Environmental Product Declaration



Euro & Promos