

Food and beverage in the International EPD System – today and tomorrow

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EPD International AB

Proud Inventors of the PCR and EPD



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Agenda

1. What is an Environmental Product Declaration (EPD)?
2. What is EPD International?
3. Food and beverage in the International EPD® System

Environmental Product Declaration (EPD)

communicates *transparent, objective* and *comparable* information about the life-cycle environmental performance of one or several products

- Globally recognised communication format for type III (ISO 14025) environmental **declarations**
 - a **declaration** is neither a *label* nor a *claim* in ISO talk
 - In the EPD, you shall not benchmark performance: “*product X is better than product Y*”
- Voluntary
- Based on a *Life Cycle Assessment (LCA)*
- EPD, and underlying LCA, conducted according *Product Category Rules (PCRs)*
- EPD, and underlying LCA, are independently verified
- EPD registered with an EPD programme operator (e.g. *The International EPD System*)
- Mainly for business-to-business communication, but used in more and more contexts (more on later slide)

EPD development process

START
Select or develop PCR

STEP 1

STEP 2
Conduct LCA according PCR

STEP 3

Transfer LCA into EPD format

STEP 4

LCA/EPD verification

STEP 4
EPD certification and registration

The International EPD® System

- PCR Library
- PCR Development Process

- Single EPD
- Large scale EPDs:
 - LCA Tool
 - EPD Tool – Process Certification

- Independent Verifier
- Accredited Verification Body
 - EPD Tool

- .pdf a/o machine readable (.xml)

What is a PCR (Product Category Rules)?

- A document that provides rules, requirements, and guidelines for developing an EPD for a specific product category.
- A complement to the General Programme Instructions (GPI):
 - LCA calculation rules
 - EPD content
- We have about 130 valid PCRs in the International EPD System, whereof 25 are on food or beverage products, for example:
 - PCR 2022:07 Soft drinks
 - PCR 2021:05 Fish and fish products
 - PCR 2020:07 Arable and vegetable crops
 - PCR 2019:01 Fruits and nuts
 - PCR 2013:04 Grain mill products
- The PCRs are developed in an open, transparent and participatory process



Product Category Rules for more than 100 categories are available and ready to be used. Find them here. >>

Search the EPD Library

Filter

Product Category

PCR

Geographical scope

Validity

Only sector EPDs

[Search](#)

Showing the first 50 results

- | | | |
|---|--|--|
| <p>FOOD & BEVERAGES</p> <p>S-P-01150</p> <p>Barilla Pesti Rustic sauce</p> <p>Barilla G. e R. Fratelli</p> | <p>FOOD & BEVERAGES</p> <p>S-P-01151</p> <p>Barilla Pesto al basilico vegan</p> <p>Barilla G. e R. Fratelli</p> | <p>FOOD & BEVERAGES</p> <p>S-P-00494</p> <p>Barilla Pesto alla Genovese sauce</p> <p>Barilla G. e R. Fratelli</p> |
| <p>FOOD & BEVERAGES</p> <p>S-P-01563</p> <p>Barilla durum wheat semolina pasta with 100% Italian wheat</p> <p>Barilla G. e R. Fratelli</p> | <p>FOOD & BEVERAGES</p> <p>S-P-02176</p> <p>Barilla Emiliane Stuffed Pasta</p> <p>Barilla G. e R. Fratelli</p> | <p>FOOD & BEVERAGES</p> <p>S-P-07356</p> <p>LOGROS S.A. Beef Meat</p> <p>LOGROS S.A.</p> |

Barilla Pesti Rustici sauce



Product information

Barilla Pesti Rustici sauces are an original condiment with a rustic consistency that enhances the taste of your dishes. The vegetables, all Mediterranean, are roughly pounded to maintain an intense flavor and the bright colors of seasonal vegetables. A joy for bread and pasta. Pestati sauces are sold in package of 200 grams jar in three recipe: basil and zucchini, basil and olives, dried tomatoes and Mediterranean vegetables. The sauce may be heated up before the consumption.

For more information, please visit <https://www.banilla.com/it-it/ricerca-prodotti/sauce/qamma/pesti>

Detailed information

Registration number: S-P-01150

Status: Registered

Registration date: June 4, 2018

Version date: November 22, 2022

Valid until: June 29, 2025

Geographical scopes: Italy, Europe

Company information

Company Name: Barilla G. e R. Fratelli

Country: Italy

Contact: Laura.Marchelli@banilla.com

Website: <https://www.banillagroup.com/>

Download documents

[S-P-01150 EPD Pesti rustici sauce 2022.pdf](#)

Included products in this EPD

Use this QR code to link directly to this page



1. BRAND AND PRODUCT

THE BRAND BARILLA



The Barilla brand has its roots in a small bread and pasta store opened in Parma in 1877.

Today it is the number one pasta in Italy and around the world. Thanks to the best durum wheat and impressive modern technologies, Barilla supplies millions around the world with pasta that always cooks to a perfect al dente texture, as well as ready-to-eat pasta sauces.

Further information on [Barilla website](#).

THE PLANT AND THE PROCESS

Pesto sauces are produced in an owned plant located in Rubbiano (Italy), where the preparation is very close to what people would do at home.

The process starts from basil preparation (washing and drying); basil is then added to other ingredients and mixed.

Vegetables, all coming from Mediterranean areas, are roughly pounded to maintain an intense flavour and the bright colours of seasonal vegetables.

Pesti Rustici sauce undergoes a heat treatment to pasteurize the product while preserving flavour and taste as much as possible over time. The pasteurization treatment, coupled with the integrity of the container, allows us to avoid using any preservatives.

The product is sold in package of 200 grams jar, in four recipes: basil and zucchinis, dried tomatoes, Mediterranean vegetables, basil and olives. Sauce may be heated up before the consumption.

THE PRODUCT



NUTRITIONAL INFORMATION (per 100 g)					
		BASIL AND ZUCCHINIS	BASIL AND OLIVES	MEDITERRANEAN VEGETABLES	DRIED TOMATOES
Energy	kJ	802	874	752	727
	kcal	194	212	182	176
Fats of which saturated	grams	15.5	19	16	14.5
		1.4	1.8	1.4	1
Carbohydrates of which sugars	grams	9.9	6.1	6.9	7.9
		3.4	4.9	5.5	6.8
Fibres	grams	3.5	3.9	2.2	2.8
Proteins	grams	1.9	2.1	1.5	2
Salt	grams	1.65	1.95	1.65	1.55

3. ENVIRONMENTAL PERFORMANCE CALCULATION



The environmental performance of the product was calculated using the **LCA (life cycle analysis)** methodology, including the entire production chain, beginning with growing the vegetables up until delivery of the finished product to the shelf.

The study was conducted following the specific product rules (PCR) published by the EPD system: "CPC code 23995 – Sauce". The generic data contributes to the calculation of environmental impacts is lower than 10%.

DECLARED UNIT

Data are referred to **1 kg** of product plus the related packaging (the packaging is referred to the **200 g** format, reported to 1 kg of product).

SYSTEM BOUNDARIES

The processes constituting the analysed system were organized in upstream, core and downstream processes, in compliance with the requisites of the EPD system.

GEOGRAPHICAL SCOPE

The geographical scope of this EPD corresponds to the distribution area of the product; concerning Pesti Rustici sauces, they are sold mainly in European Countries including Italy; however some volumes are distributed also outside Europe.



4. RAW MATERIALS PRODUCTION



BASIL and BASIL SEMI-FINISHED PRODUCT

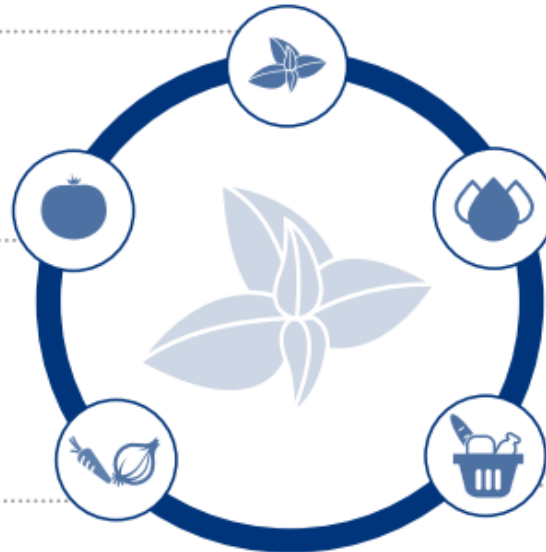
Impacts related to the basil cultivation and basil semi-finished product have been calculated on the basis of primary data collected from farmers. Information are related to 2020 crop.

TOMATO

Impacts related to the tomatoes cultivation have been calculated on the basis of primary data collected by farmers. The semifinished products are produced by suppliers, and the processes are modeled using primary data. Reference year 2019-2021.

VEGETABLES

Zucchini, pepper and onions data come from LCA database (Ecoinvent).



VEGETABLE OILS

Data for vegetable oil production come from secondary data (from Agrifootprint database and World Food LCA database).

OTHER INGREDIENTS

Data related to the sugar come from Barilla suppliers; data related to other raw materials have been collected by LCA database (mainly Ecoinvent).



9. ENVIRONMENTAL RESULTS

PESTO RUSTICO BASIL AND ZUCCHINI

POTENTIAL ENVIRONMENTAL IMPACTS data referred to 1 kg of product		UPSTREAM		CORE	DOWNSTREAM		TOTAL
		 Raw material production	 Packaging and auxiliary materials production	 Production	 Distribution up to shelf	 Primary packaging end of life	
GLOBAL WARMING POTENTIAL - GWP (g CO ₂ eq)	Fossil	7.51E+02	1.08E+03	3.42E+02	3.58E+02	8.49E-01	2.53E+03
	Biogenic	2.41E+01	5.73E+00	4.83E+00	7.37E-01	4.71E-01	3.59E+01
	Land use and land transformation	8.25E+01	1.68E+01	3.79E-03	3.48E-03	3.49E-04	9.93E+01
	Total	8.58E+02	1.10E+03	3.47E+02	3.59E+02	1.32E+00	2.67E+03
Acidification Potential - g SO ₂ eq.		1.12E+01	6.29E+00	1.06E+00	1.64E+00	6.23E-03	2.02E+01
Eutrophication Potential - g PO ₄ ³⁻ eq.		5.94E+00	1.00E+00	1.61E-01	1.97E-01	1.25E-03	7.30E+00
Photochemical Oxidant Formation Potential - g NMVOC eq.		3.61E+00	3.58E+00	1.18E+00	1.56E+00	6.53E-03	9.95E+00
Abiotic Depletion Potential - Elements g Sb eq.		1.85E-03	3.51E-02	8.14E-06	1.48E-05	7.13E-08	3.69E-02
Abiotic Depletion Potential - Fossil fuels - MJ, net calorific value		8.15E+00	1.46E+01	5.17E+00	4.87E+00	9.43E-03	3.28E+01
Water scarcity potential, m3 eq.		5.89E+00	9.40E-01	2.84E-01	-7.49E-04	2.21E-05	7.12E+00
WASTE PRODUCTION* data referred to 1 kg of product		UPSTREAM		CORE	DOWNSTREAM		TOTAL
		 Raw material production	 Packaging and auxiliary materials production	 Production	 Distribution up to shelf	 Primary packaging end of life	
Hazardous waste disposed		3.61E-04	2.79E-02	0.00E+00	0.00E+00	0.00E+00	2.8E-02
Non-Hazardous waste disposed		3.87E+00	2.56E+00	0.00E+00	0.00E+00	0.00E+00	6.4E+00
Radioactive waste disposed		3.94E-05	3.79E-05	4.25E-06	2.62E-06	1.07E-07	8.4E-05

The biogenic contribution to Global Warming Potential refers only to biogenic methane.
 The contribution given by biogenic CO₂ is equal to zero, since the absorbed amount is equal to the emitted biogenic CO₂ within the reference 100 years period.

* Only flows coming from processes under direct Barilla control were considered, if not associated to a treatment whose environmental impact is considered. Flows generated by secondary data were excluded (since already accounted for their environmental burden).

AUSTRALIA EPD
ENVIRONMENTAL PRODUCT DECLARATION

Environmental Product Declaration for Galvanizers Association of Australia: Hot Dip Galvanizing in Australia

In accordance with EN 15804, ISO 14025 and PCR 2011-16 V2.2
EPD registration number: S-P-01166
Date of issue: 26.09.2019
Valid until: 26.09.2024

EPD

Environmental Product Declaration

Product: EPD Original Alu
Manufacturer: EPD Original Alu
Product description: Downward opening Top-swing Window Alu
Manufacturer: AFH

Programme operator: EPD International AB
EPD registration number: S-P-02272
Publication date: 2021-04-30
Valid until: 2026-02-07

eka

Environmental Product Declaration

Product: EPD Original Alu
Manufacturer: EPD Original Alu
Product description: Downward opening Top-swing Window Alu
Manufacturer: AFH

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025, ISO 21930 and EN 15804+A2 for:

Supafil Cavity 033, Supafil Multifit

From **KNAUF INSULATION**

Programme operator: The International EPD System, www.environmental.org
EPD registration number: S-P-08192
Publication date: 2023-06-24
Validity date: 2027-06-24

Environmental Product Declaration for asphalt mixtures from Halimstad asphalt plant – Biskopstorp

Product description: Asphalt mixtures from Halimstad asphalt plant – Biskopstorp

Programme operator: EPD International AB
EPD registration number: S-P-02272
Publication date: 2021-04-30
Valid until: 2026-02-07

EPD

Environmental Product Declaration

Product: EPD Original Alu
Manufacturer: EPD Original Alu
Product description: Downward opening Top-swing Window Alu
Manufacturer: AFH

TENCATE protectivefabrics | made for life

STADLER

Environmental Product Declaration

In accordance with ISO 14025 for:

CALIK DENIM

from CALIK ECLR-OR 606 denim fabric

Registration number in The International EPD System: S-P-00967

Programme operator: EPD International AB
EPD registration number: S-P-02272
Publication date: 2021-04-30
Valid until: 2026-02-07

IBER

Environmental Product Declaration

Product: EPD Original Alu
Manufacturer: EPD Original Alu
Product description: Downward opening Top-swing Window Alu
Manufacturer: AFH

EPD

Environmental Product Declaration

Product: EPD Original Alu
Manufacturer: EPD Original Alu
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EPD

Environmental Product Declaration

Product: EPD Original Alu
Manufacturer: EPD Original Alu
Product description: Downward opening Top-swing Window Alu
Manufacturer: AFH

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 for:

CUMMAVER NETO

Registration number in The International EPD System: S-P-00967

Programme operator: EPD International AB
EPD registration number: S-P-02272
Publication date: 2021-04-30
Valid until: 2026-02-07

FRISTADS

Environmental Product Declaration

Product: EPD Original Alu
Manufacturer: EPD Original Alu
Product description: Downward opening Top-swing Window Alu
Manufacturer: AFH

EPD

Environmental Product Declaration

Product: EPD Original Alu
Manufacturer: EPD Original Alu
Product description: Downward opening Top-swing Window Alu
Manufacturer: AFH

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 for:

DAUN BUAH™ GRANULATED UREA

From PT Pupuk Kalimantan Timur

Programme operator: EPD International AB
EPD registration number: S-P-04553
Publication date: 2021-09-23
Valid until: 2026-09-22

Global 7500

Environmental Product Declaration

Product: EPD Original Alu
Manufacturer: EPD Original Alu
Product description: Downward opening Top-swing Window Alu
Manufacturer: AFH

Plastic

Environmental Product Declaration

Product: EPD Original Alu
Manufacturer: EPD Original Alu
Product description: Downward opening Top-swing Window Alu
Manufacturer: AFH

THRACE PACK EPD

STADLER

Leva Chair

From Foster + Partners

Programme operator: EPD International AB
EPD registration number: S-P-02272
Publication date: 2021-04-30
Valid until: 2026-02-07

Pangri

Classico e integrale

Dichiarazione Ambientale di Prodotto

Programme operator: EPD International AB
EPD registration number: S-P-02272
Publication date: 2021-04-30
Valid until: 2026-02-07

DAUN BUAH™ GRANULATED UREA

From PT Pupuk Kalimantan Timur

Programme operator: EPD International AB
EPD registration number: S-P-04553
Publication date: 2021-09-23
Valid until: 2026-09-22

Leva Chair

From Foster + Partners

Programme operator: EPD International AB
EPD registration number: S-P-02272
Publication date: 2021-04-30
Valid until: 2026-02-07

Environmental Product Declaration

In accordance with ISO 14025 for:

DAUN BUAH™ GRANULATED UREA

From PT Pupuk Kalimantan Timur

Programme operator: EPD International AB
EPD registration number: S-P-04553
Publication date: 2021-09-23
Valid until: 2026-09-22

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 for:

DAUN BUAH™ GRANULATED UREA

From PT Pupuk Kalimantan Timur

Programme operator: EPD International AB
EPD registration number: S-P-04553
Publication date: 2021-09-23
Valid until: 2026-09-22

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 for:

ECONAMID®

FL6 unfilled & reinforced

Programme operator: EPD International AB
EPD registration number: S-P-02272
Publication date: 2021-04-30
Valid until: 2026-02-07

Environmental Product Declaration

In accordance with ISO 14025 for:

DAUN BUAH™ GRANULATED UREA

From PT Pupuk Kalimantan Timur

Programme operator: EPD International AB
EPD registration number: S-P-04553
Publication date: 2021-09-23
Valid until: 2026-09-22

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 for:

DAUN BUAH™ GRANULATED UREA

From PT Pupuk Kalimantan Timur

Programme operator: EPD International AB
EPD registration number: S-P-04553
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EPD

Environmental Product Declaration

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Manufacturer: AFH

Why register an EPD?

External drivers

- Required by downstream companies
- Legal compliance
- Competitive edge in Green Public Procurement
- Compliance with certification schemes
- Etc.

Internal drivers

- Corporate sustainability goals
- Marketing
- Green product and process innovation
- Environmental Management Systems (EMS)
- Sustainable Supply Chain Management (SSCM)
- Etc.

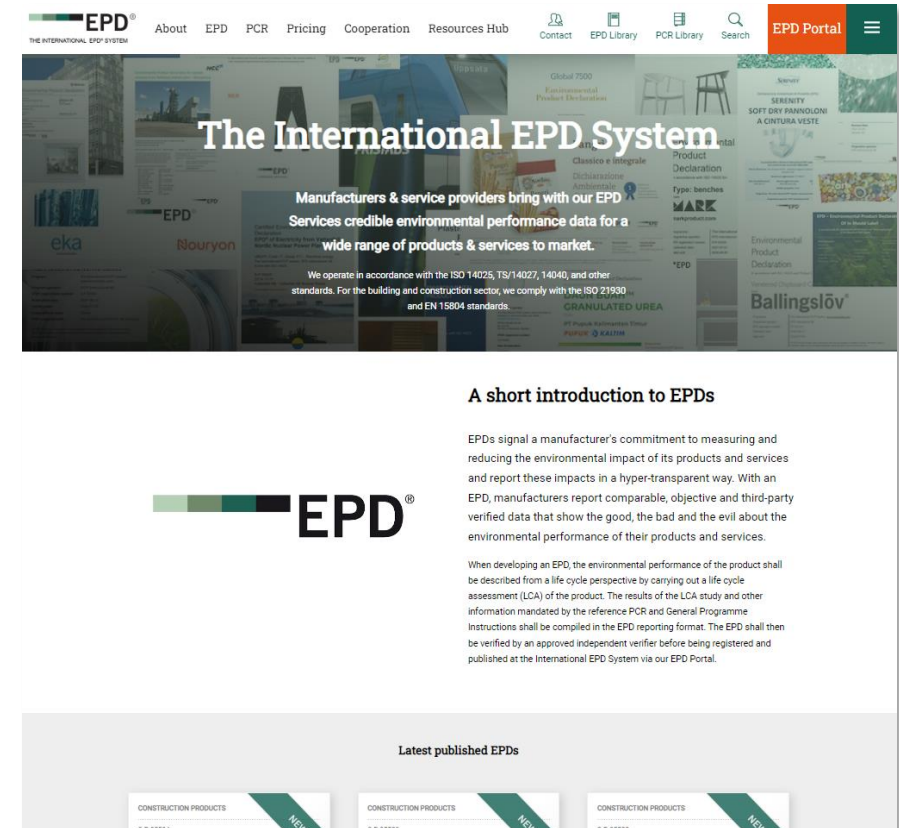
Agenda

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EPD International is an EPD programme operator

Our EPD programme is the International EPD System

- The first EPD programme in the world, founded in Sweden in 1997
- We are proud inventors of the EPD and the PCR
- Since 2014, a fully-owned subsidiary to the non-profit organization IVL Swedish Environmental Research Institute
- We offer registration and publication services for Environmental Product Declarations (EPD) according to ISO 14025 & EN 15804/ISO 21930 for construction products
- *We want to make quality EPD services as credible, accessible and affordable as possible.*
- *Any organization, no matter its size, location and industry has the right to publish EPDs in a sensible, simple and affordable way*



The screenshot shows the EPD International website. The top navigation bar includes links for About, EPD, PCR, Pricing, Cooperation, Resources Hub, Contact, EPD Library, PCR Library, Search, and EPD Portal. The main content area features a large banner with the text "The International EPD System" and "Manufacturers & service providers bring with our EPD Services credible environmental performance data for a wide range of products & services to market." Below this, it states: "We operate in accordance with the ISO 14025, TS/14027, 14040, and other standards. For the building and construction sector, we comply with the ISO 21930 and EN 15804 standards." The page also displays various EPD certificates for products like "GRANULATED UREA" and "Ballingslöv".

A short introduction to EPDs

EPDs signal a manufacturer's commitment to measuring and reducing the environmental impact of its products and services and report these impacts in a hyper-transparent way. With an EPD, manufacturers report comparable, objective and third-party verified data that show the good, the bad and the evil about the environmental performance of their products and services.

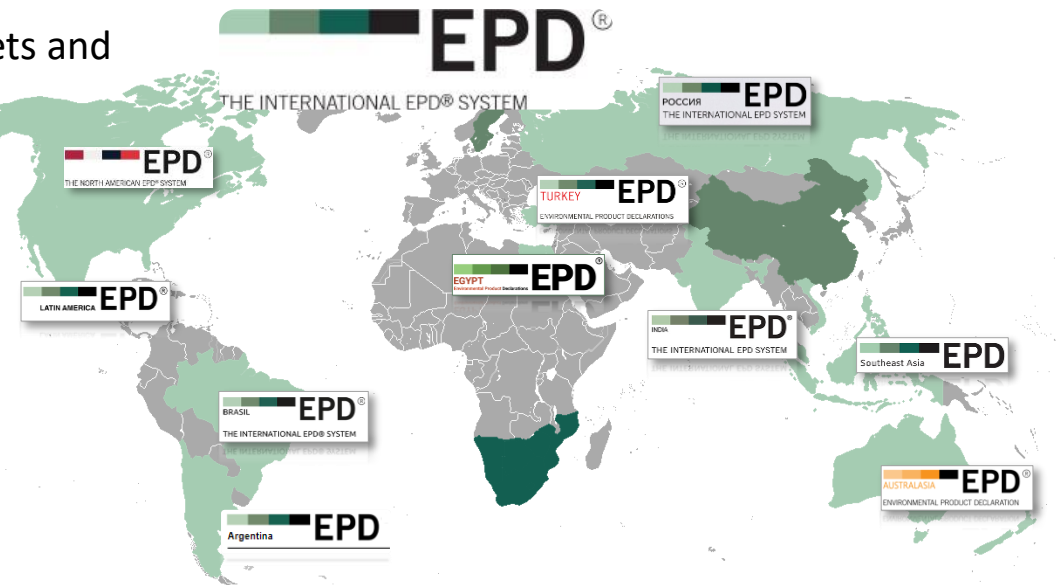
When developing an EPD, the environmental performance of the product shall be described from a life cycle perspective by carrying out a life cycle assessment (LCA) of the product. The results of the LCA study and other information mandated by the reference PCR and General Programme Instructions shall be compiled in the EPD reporting format. The EPD shall then be verified by an approved independent verifier before being registered and published at the International EPD System via our EPD Portal.

Latest published EPDs

CONSTRUCTION PRODUCTS	NEW
SE-03504	
SE-03503	
SE-03502	

Why EPD International?

- Global EPD Programme with licensees represented in all major markets and continents
- Pricing model allowing you to scale up EPD publication at fair cost
- PCRs considered best practice in the market, incl. largest PCR library
- PCRs for **ALL** product categories
- Global harmonization / standardization -> Aim: ONE PCR for all!
 - to minimize market trade barriers
 - to enable fair comparison of results in same product categories (globally)
- Offering digital solutions that will become absolute necessity to provide many high quality EPDs in a timely manner at competitive cost!



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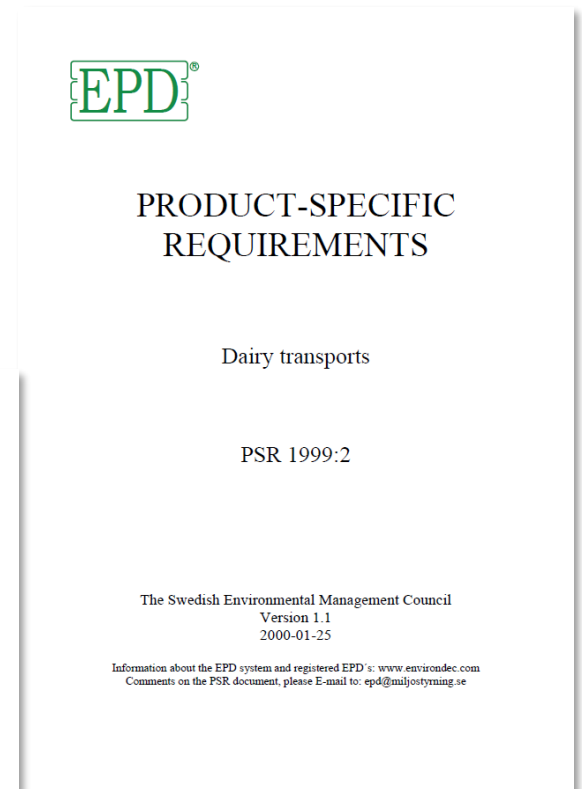
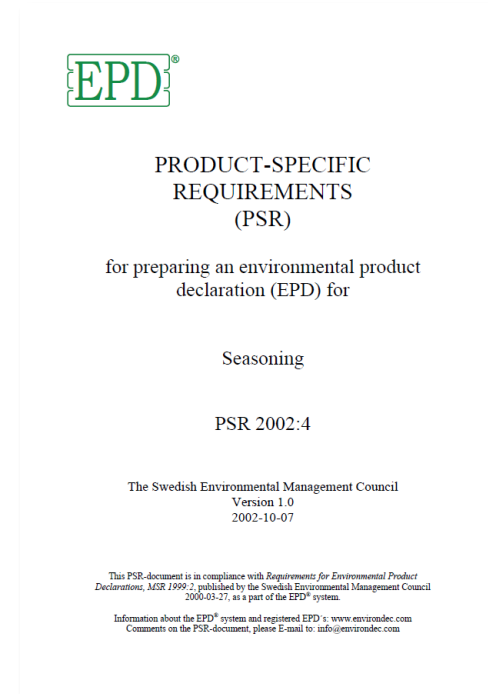
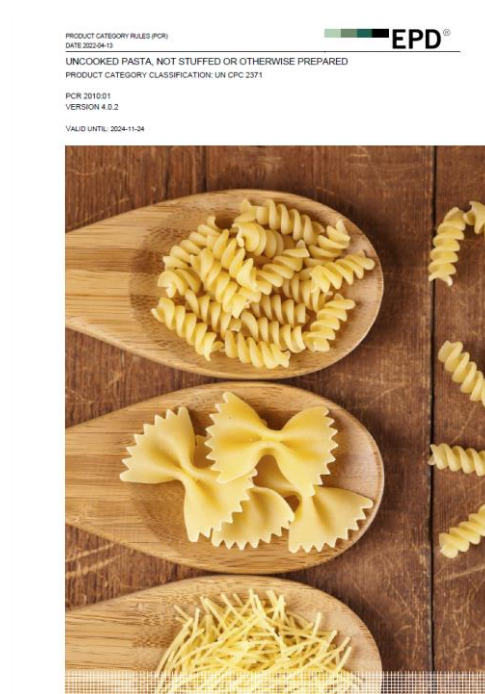
No. EPD registrations per sector (totals)

Valid EPDs per sector



History of food and beverages in the International EPD® System

- Our third PCR ever was **PCR 1999:02 Dairy transports**
- In 2002 our first PCR on a food product was released: **PCR 2002:04 Seasoning**
- Our oldest PCR of the sector that is still valid is **PCR 2010:01 Uncooked pasta, not stuffed or otherwise prepared**



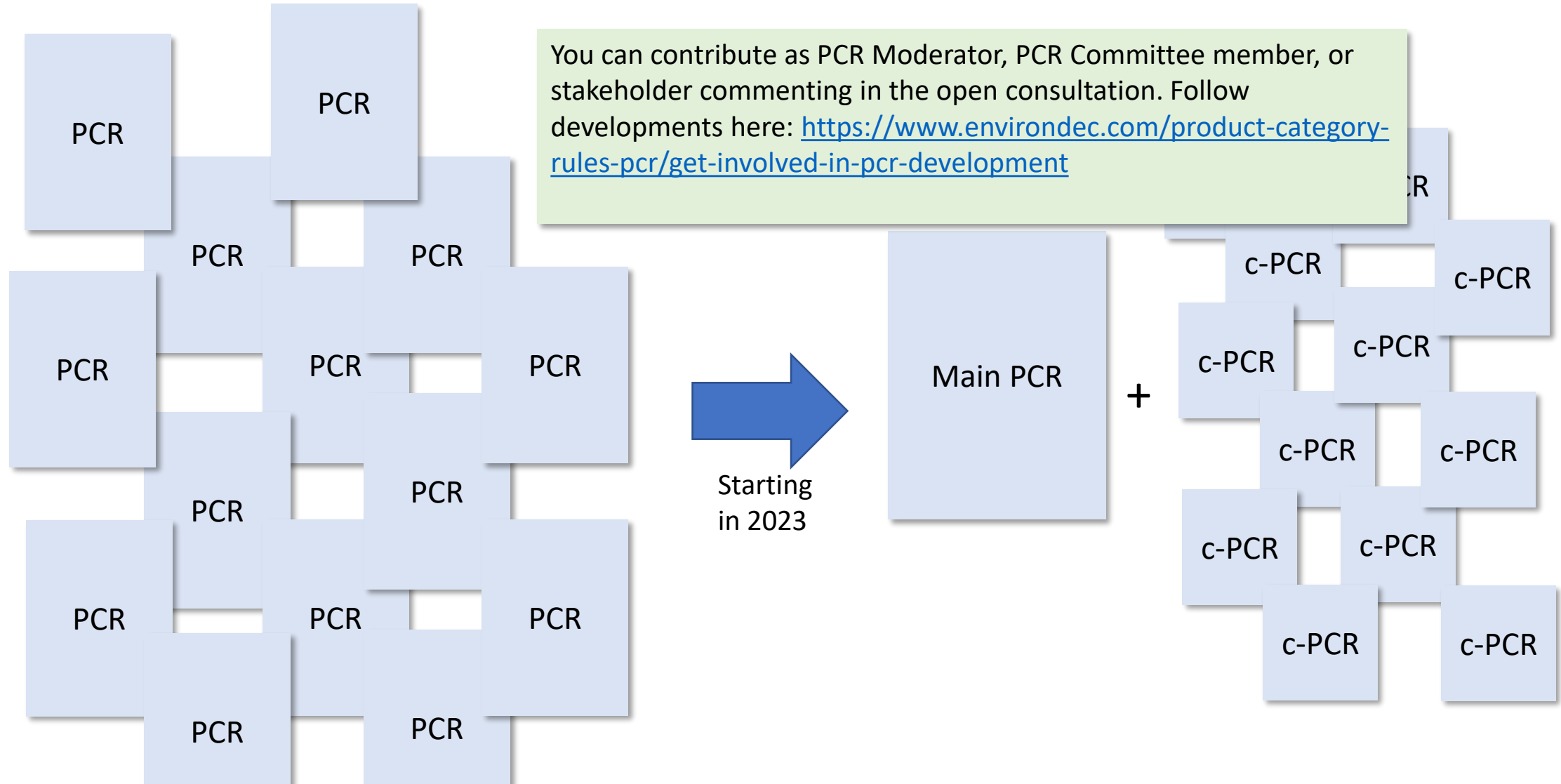
Food and beverages in the International EPD® System today

- 211 valid EPDs
- About 25 valid PCRs for food and beverage products
 - + other PCRs relevant to agrifood sector, such as:
 - PCR 2019:13 Packaging
 - PCR 2022:01 Tableware and kitchenware
- Three more PCRs under development:
 - Functional food ingredients
 - Soft drinks (published any day now)
 - Food and beverage products (main PCR)

Food and beverages in the International EPD[®] System in the future

- We see an **increased interest in** transparent, third-party verified environmental information – EPDs – from customers and legislators, in all sectors
- We are moving from many stand-alone PCRs to **one main PCR for food and beverage products**
 - Sets the **overall sector-wide rules** for all EPDs of food and beverage products (including upstream products)
 - Greater **harmonization** within the sector
 - **Easier** for EPD owners and EPD developers to handle and keep track of rules in one document
 - To be complemented by **complementary PCRs (c-PCRs)** for more specific product categories
 - c-PCRs to include complementing rules – for example on how to define the functional unit – and potential deviations from the main PCR
 - Existing stand-alone PCRs to be made into c-PCRs upon their next update
- Moderator for the main PCR is Bárbara Civit, UTN FRM – CONICET, Argentina
- PCR Committee includes UTN FRM CONICET, IndaCO2, Studio LCE, Contactica, TU Dublin, Greenticket, Livsmedelsakademin, MAPPING LCA, Agrifood LCA Laboratory, University of Milan
- Open consultation to start soon – then anyone can comment on the draft of this main PCR!

Moving from stand-alone PCRs to one main PCR + c-PCRs in the food and beverage sector





Thank you for listening



Gustav Sandin

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