



## Barilla EPD Process System to increase reliability, comparability and communicability of LCA study

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**Barilla**  
The Italian Food Company. Since 1877.

1

Barilla Group & Life Cycle Assessment

2

Environmental product Declaration (EPD)

3

Barilla EPD Process System

# Barilla

The Italian Food Company. Since 1877.



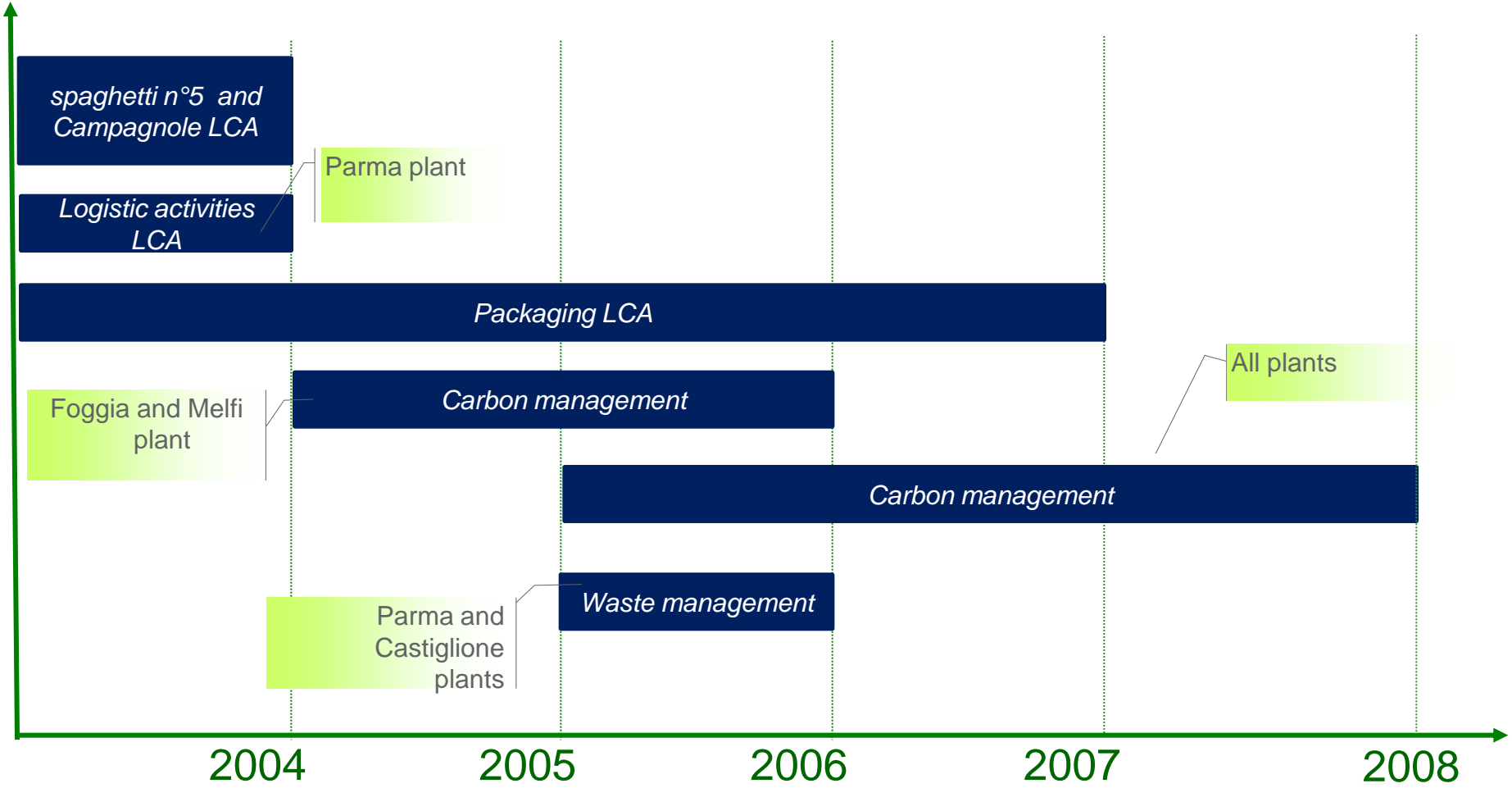
**1877:** Barilla's family begin the activities with a little pasta and bread shop in the center of PARMA

**2012:** BARILLA is one of the biggest Italians food player, the most sold world wide pasta brand, the biggest Italian's bakery, the third bakery in Europe.



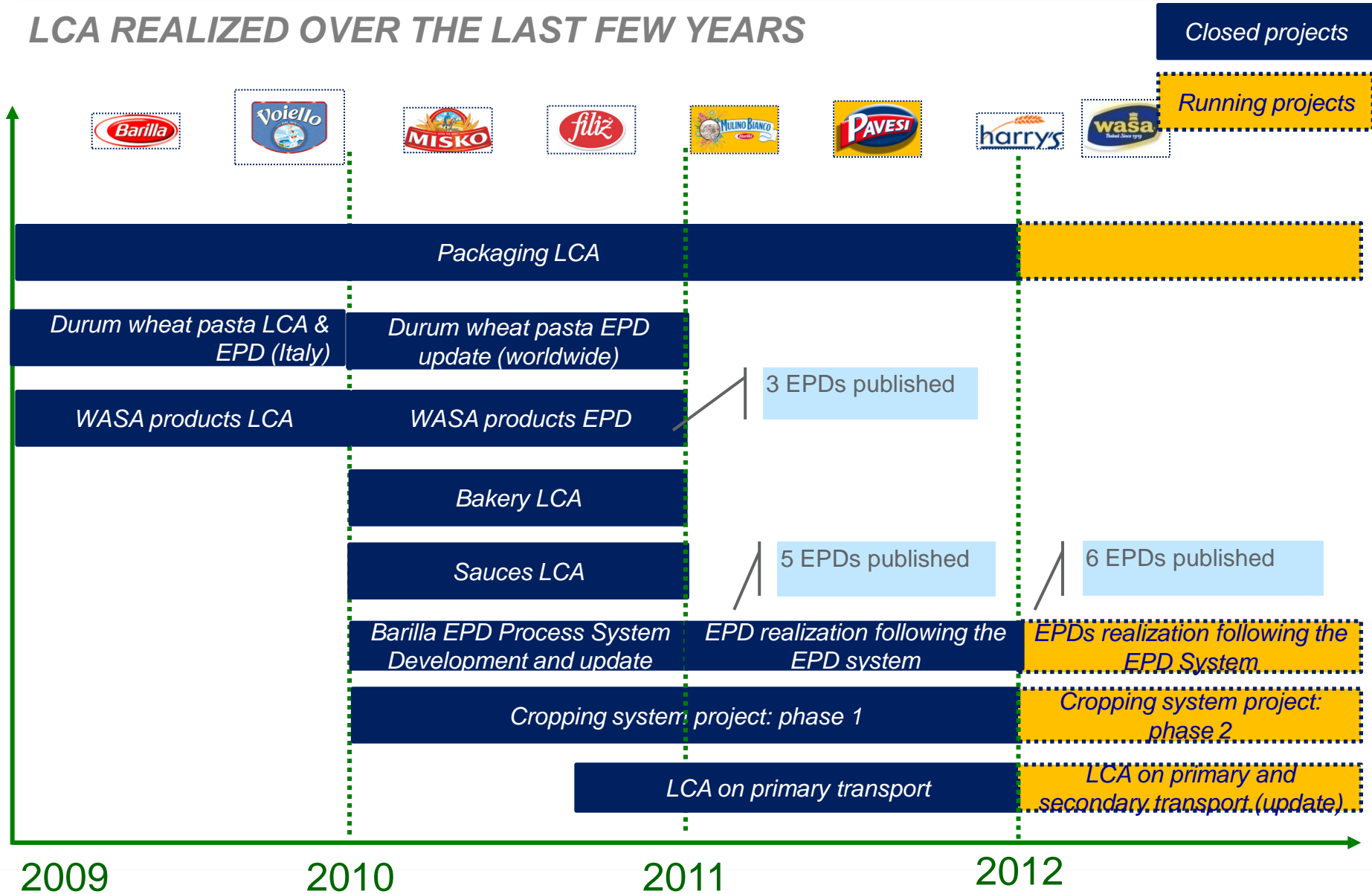
# 1 - Barilla Group & Life Cycle Assessment

LCA REALIZED DURING YEAR 2004 - 2008



# 1 - Barilla Group & Life Cycle Assessment

## LCA REALIZED OVER THE LAST FEW YEARS



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# 2 – Environmental Product Declaration (EPD)

What is an EPD (Environmental Product Declaration)?

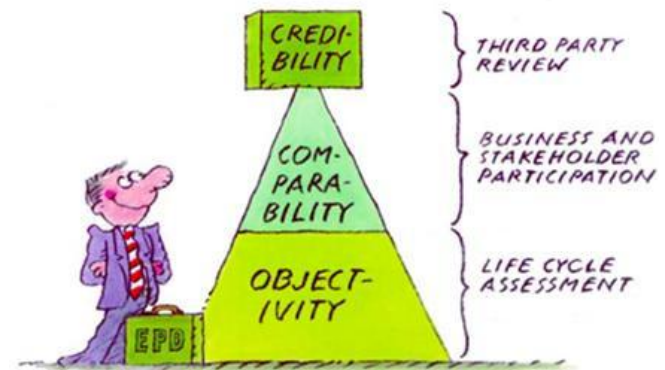
**Product Environmental label**, that provides information about product and company and **environmental performances**.

**EPD assures:**

**Objectivity** because **environmental performances** are calculated using the **scientific methodology** (Life Cycle Assessment)

**Comparability** among the same product group because its realization is based on the Product Category Rules – PCR

**Credibility** because it is verified by a third party



# 2 – Environmental Product Declaration (EPD)

EPD Certified & Published (21)

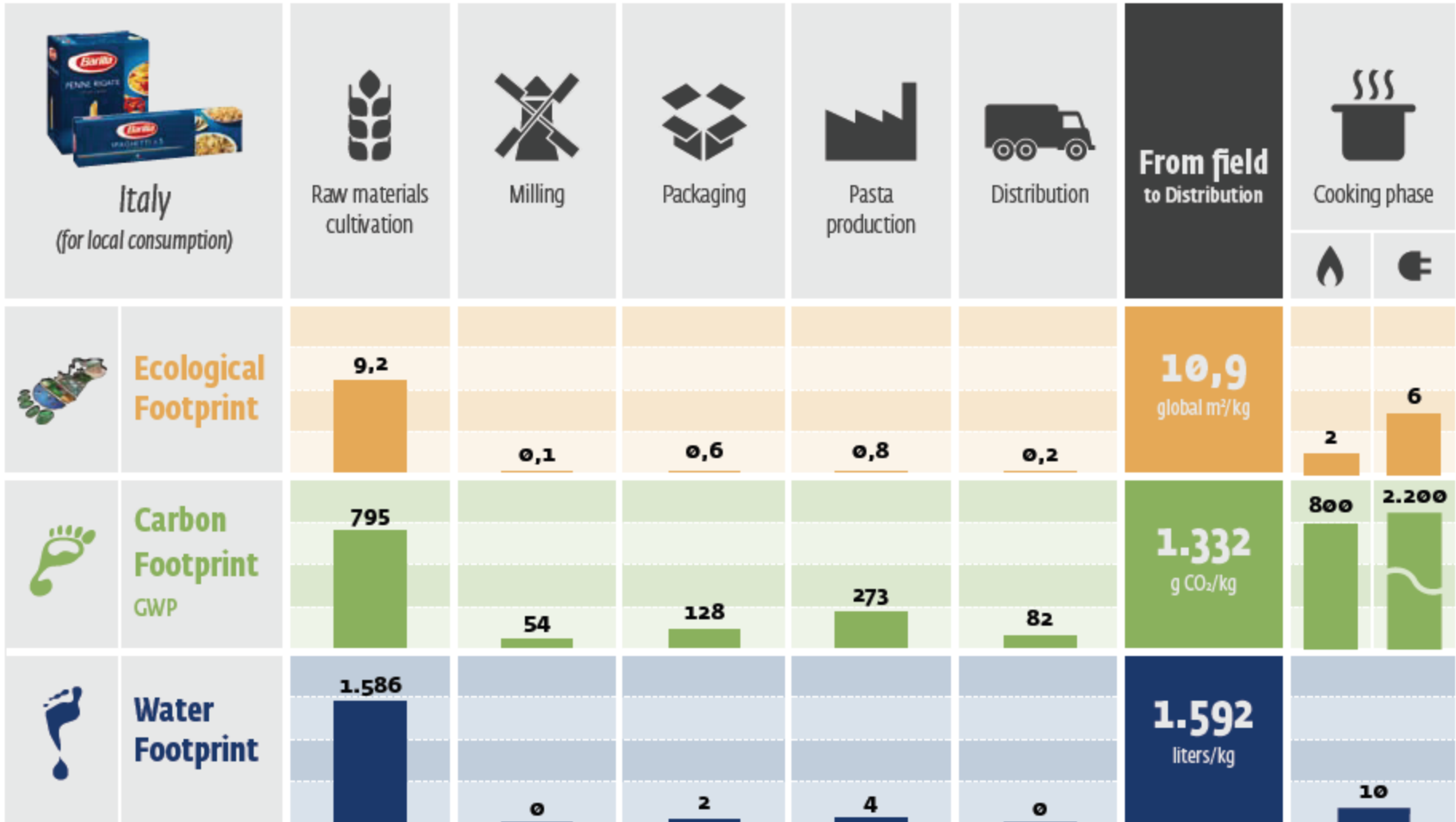
EPD in progress 2012



[www.environdec.com](http://www.environdec.com)



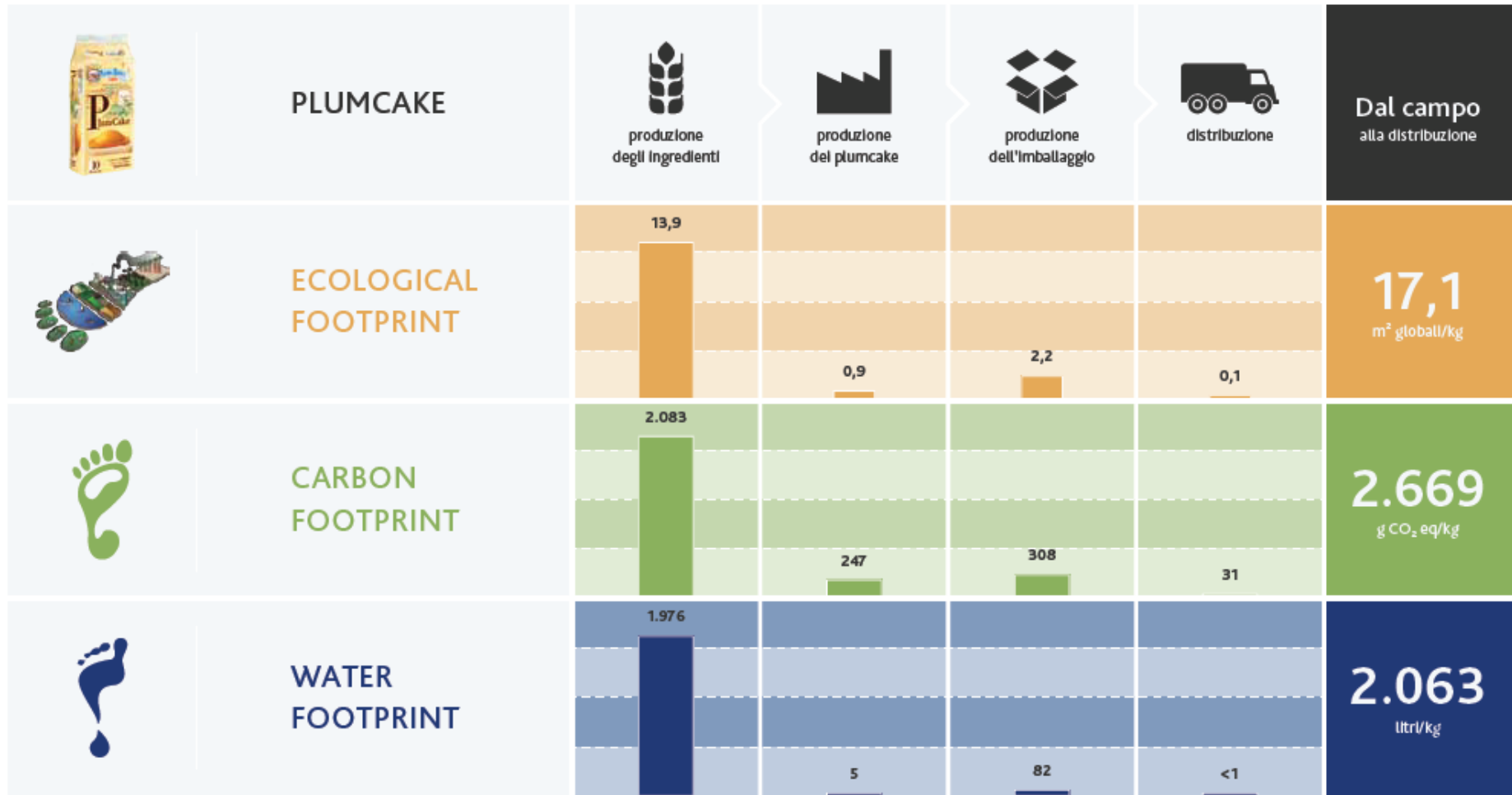
# 2 – Environmental Product Declaration (EPD)



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## PERFORMANCE AMBIENTALI DEL PRODOTTO

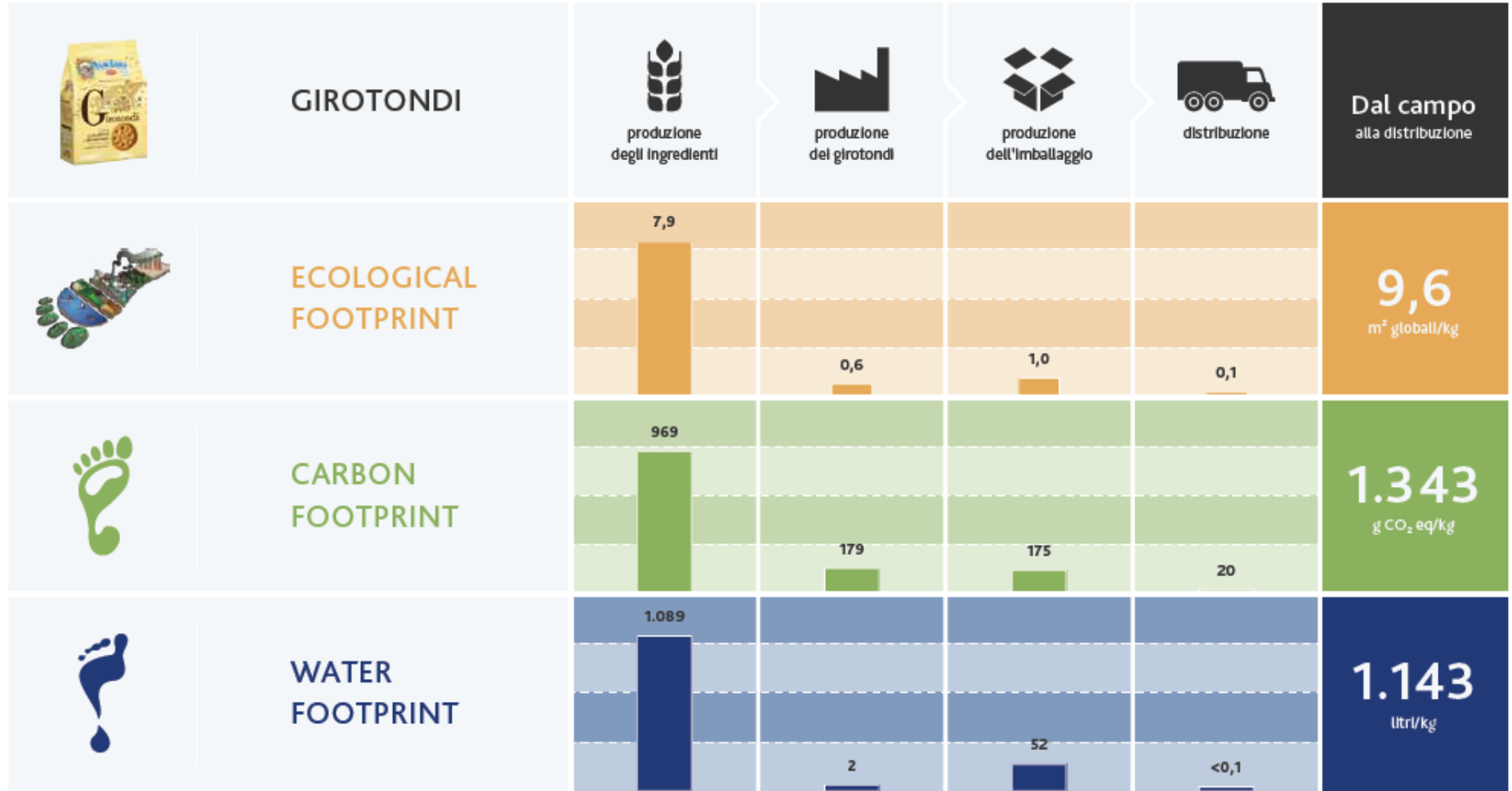
L'indicatore **carbon footprint**, insieme agli indicatori aggiuntivi **water footprint** ed **ecological footprint** sono di seguito riportati.



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## PERFORMANCE AMBIENTALI DEL PRODOTTO

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Barilla EPD Process System

1. Quick, simple and reliable analysis
2. Verified and certified results



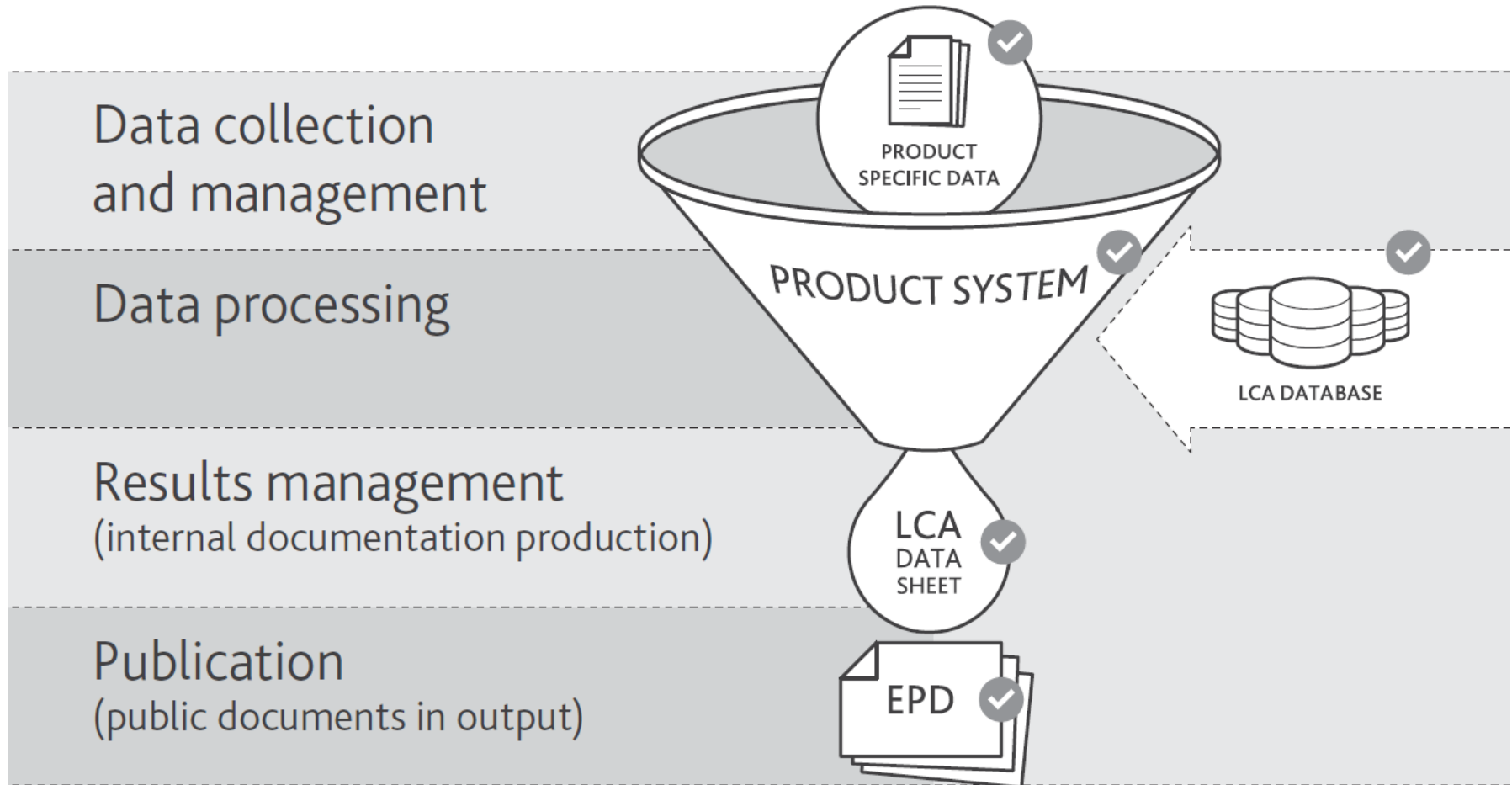
Vattenfall has had its EPD process certified.



VATTENFALL, BARILLA AND SAPI  
PIONEERING EPD PROCESS CERTIFICATION

# 3 – Barilla EPD Process System

## HOW DOES IT WORKS?



## *PROCESS OPERATIONS: THE PILLAR ELEMENTS*

The system framework is organized among the following main elements:

- The **LCA databases**, in which all the most important **raw materials, production plants, packaging materials** and other useful information are studied. The database **consists of a set of Data modules** containing all the information that are **internally verified**. The available information is ready to be used for the EPD purposes;
- The **Product system**, that represents the **product group model calculation tool**. The system includes few product systems based on the **specific PCR** (such as pasta, bakery, sauces). The product systems are internally verified and they are ready to be used for the EPD purposes;
- The **Product specific data**, related to the production of a particular product. They have to be collected for each EPD and include **product recipe, involved production plants, packaging list of bill, transport information**.

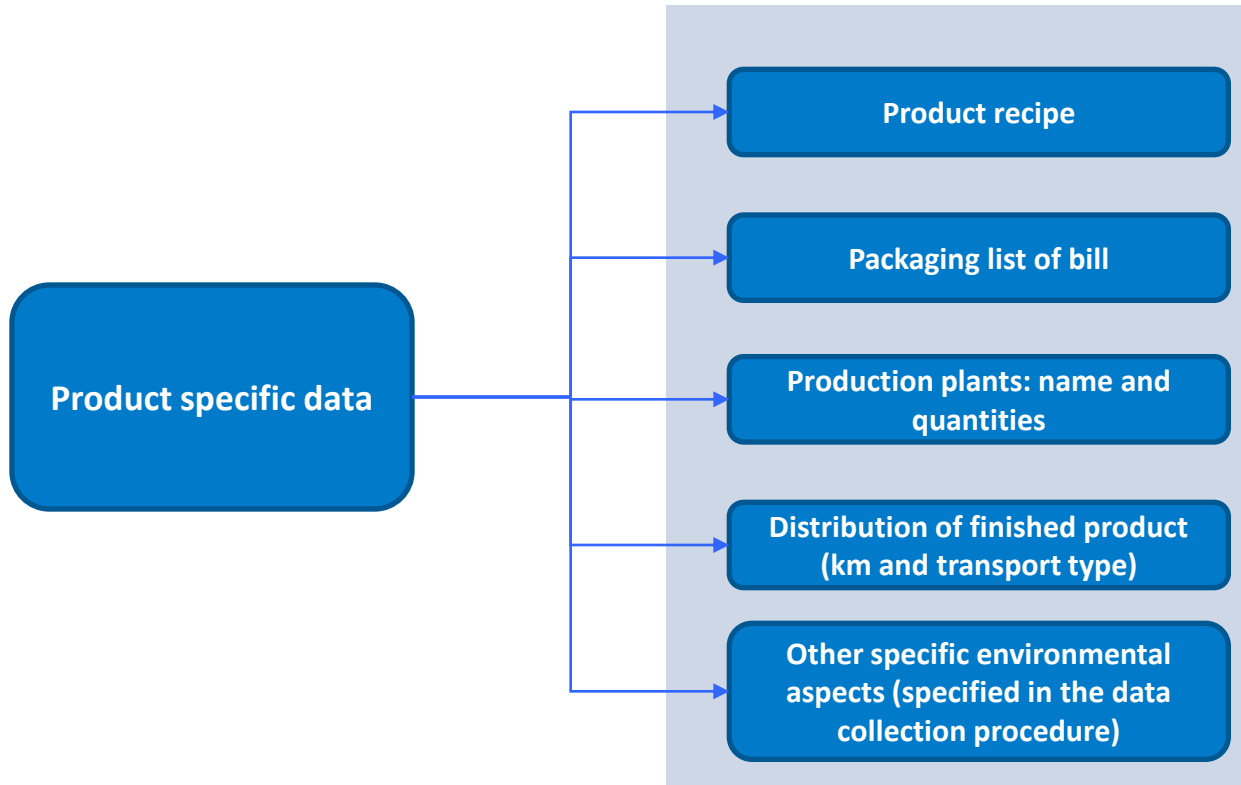
## LCA DATABASE FRAMEWORK

The database is organized among different data module groups.

<b>Raw materials</b>	information about the cultivation and the processes operation of the main raw materials used for the Barilla's product preparation. Example of these are durum and soft wheat, tomatoes, rye, sugar, palm oil, eggs, etc. These data are updated as soon as new information is available
<b>Plants</b>	information about the processes that take place in the Barilla's plant. These data are based on the data collection and they are updated every year.
<b>Electricity</b>	data about the energy mixes used in the countries in which the Barilla's plants are located. This database, that is updated every time new information is available, contains also data about the RECS certified energy
<b>Packaging</b>	data about materials used for the primary and secondary packaging used for the Barilla's products
<b>Transports</b>	data about the main way of transports used for the Barilla purposes
<b>Other</b>	data about other environmental aspects that are analyzed by mean of secondary data.



## PRODUCT SPECIFIC DATA

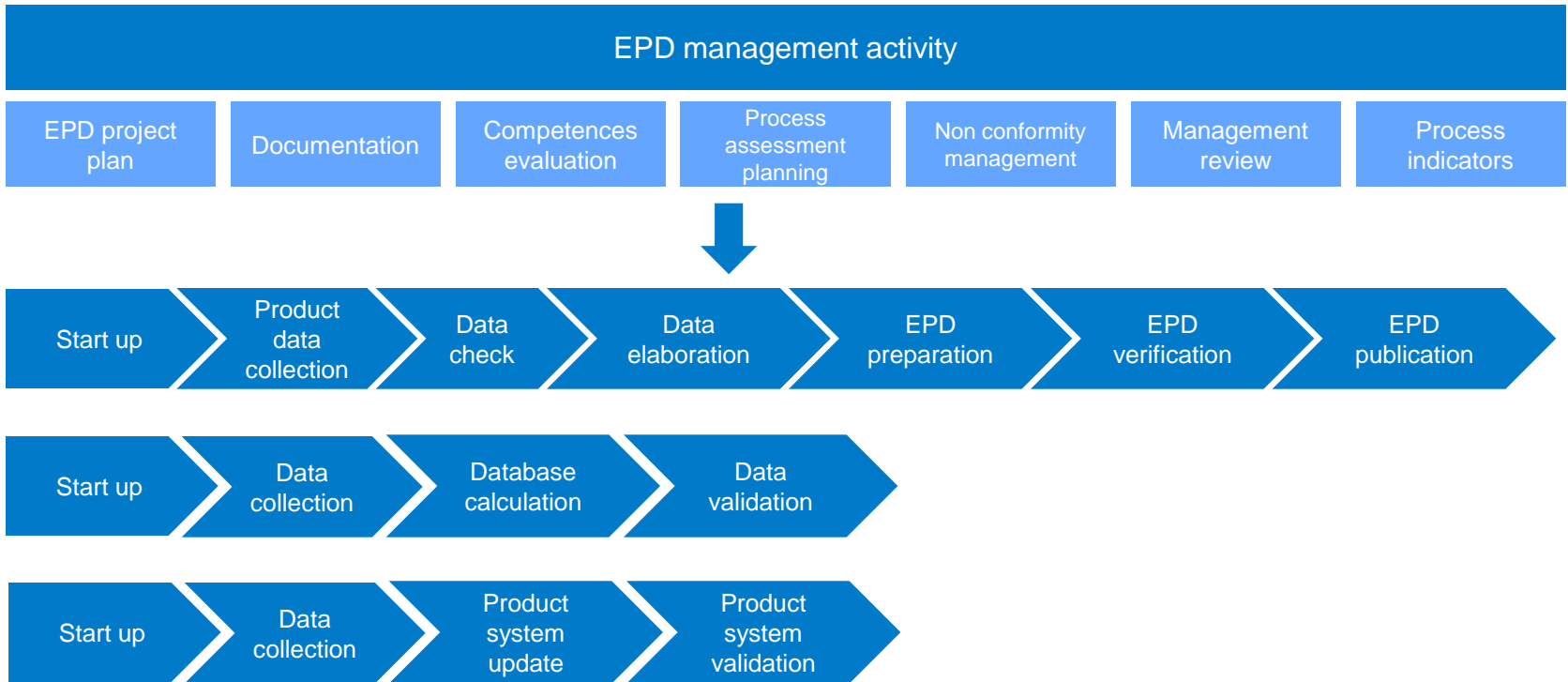


# 3 – Barilla EPD Process System

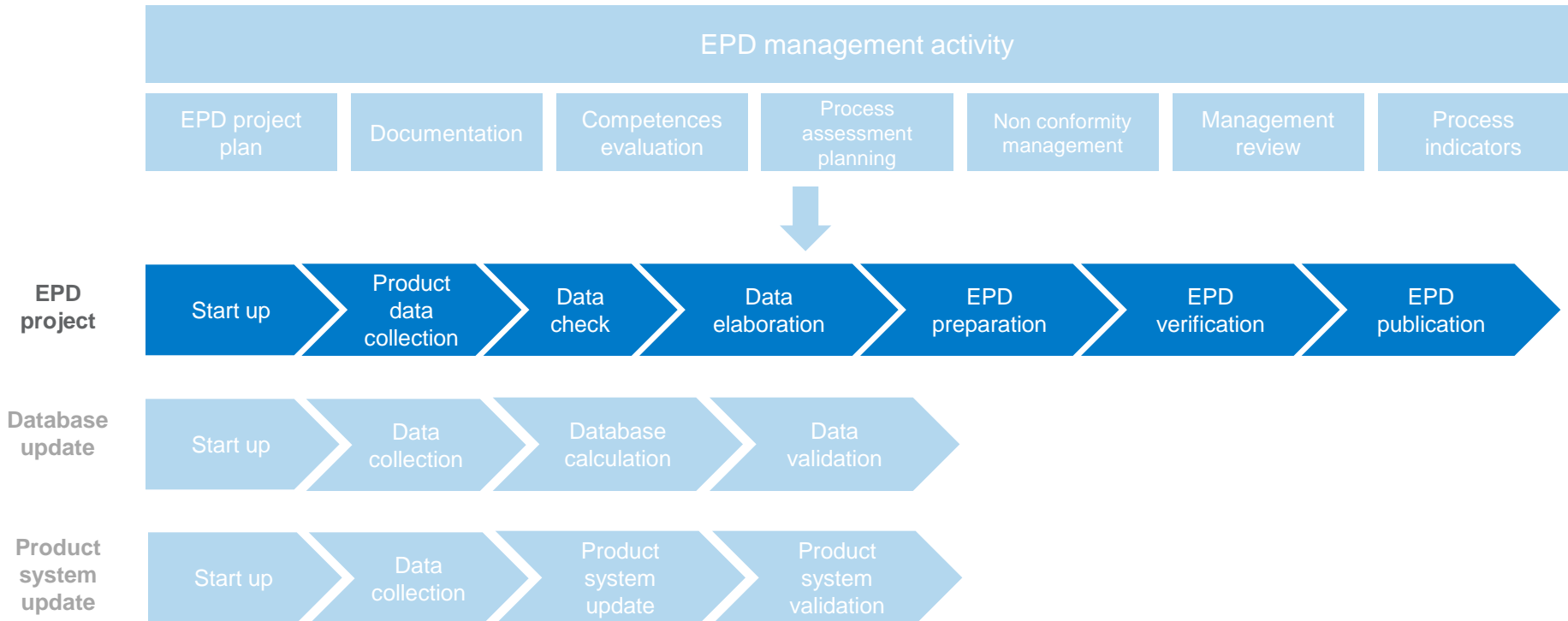
## AN EXAMPLE OF PRODUCT SYSTEM

	Product specific data		LCA database		Total
<b>Recipe</b>	Grams of ingredients per kg of product	X	Impacts per kg of ingredients	=	Impacts per kg of products due to the ingredients
					+
<b>Plants</b>	Plants in which the product is made and quantities	X	Impacts per kg of products made by the specific plants	=	Impacts per kg of products due to the production
					+
<b>Specific environmental aspects</b>	Natural gas for bakery	X	Impacts per Nm <sup>3</sup> of burned NG	=	Impacts per kg of products due to the bakery
					+
<b>Packaging list of bill</b>	Grams of materials per kg of product	X	Impacts per kg of packaging materials	=	Impacts per kg of products due to the packaging
					+
<b>Transportation</b>	Km covered by train, truck and ship	X	Impacts per km by train, truck and ship	=	Impacts per kg of products due to the transportation
					=
					<b>LCA results</b>
					<b>Impacts per kg of product</b>

## EPD PROCESS ACTIVITIES

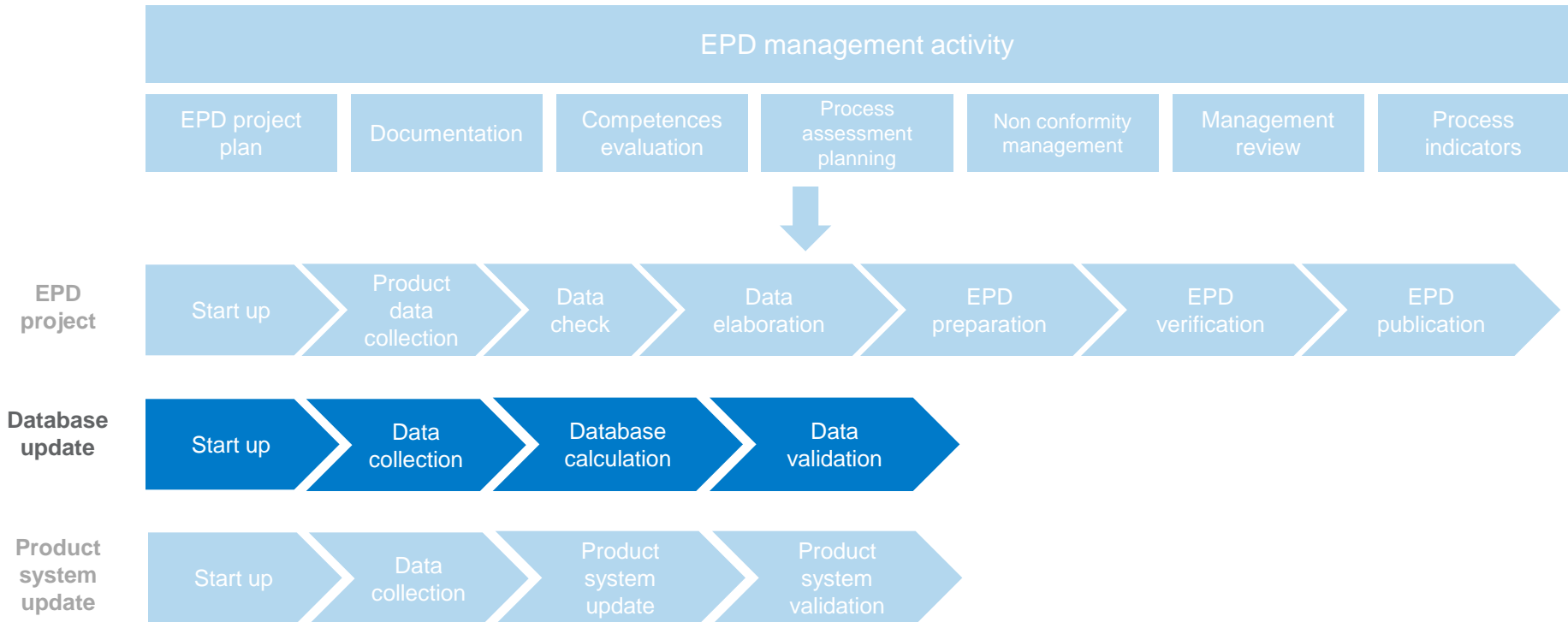


## EPD PROJECT



**EPD project process** aims at preparing the EPD document, ready for the publication

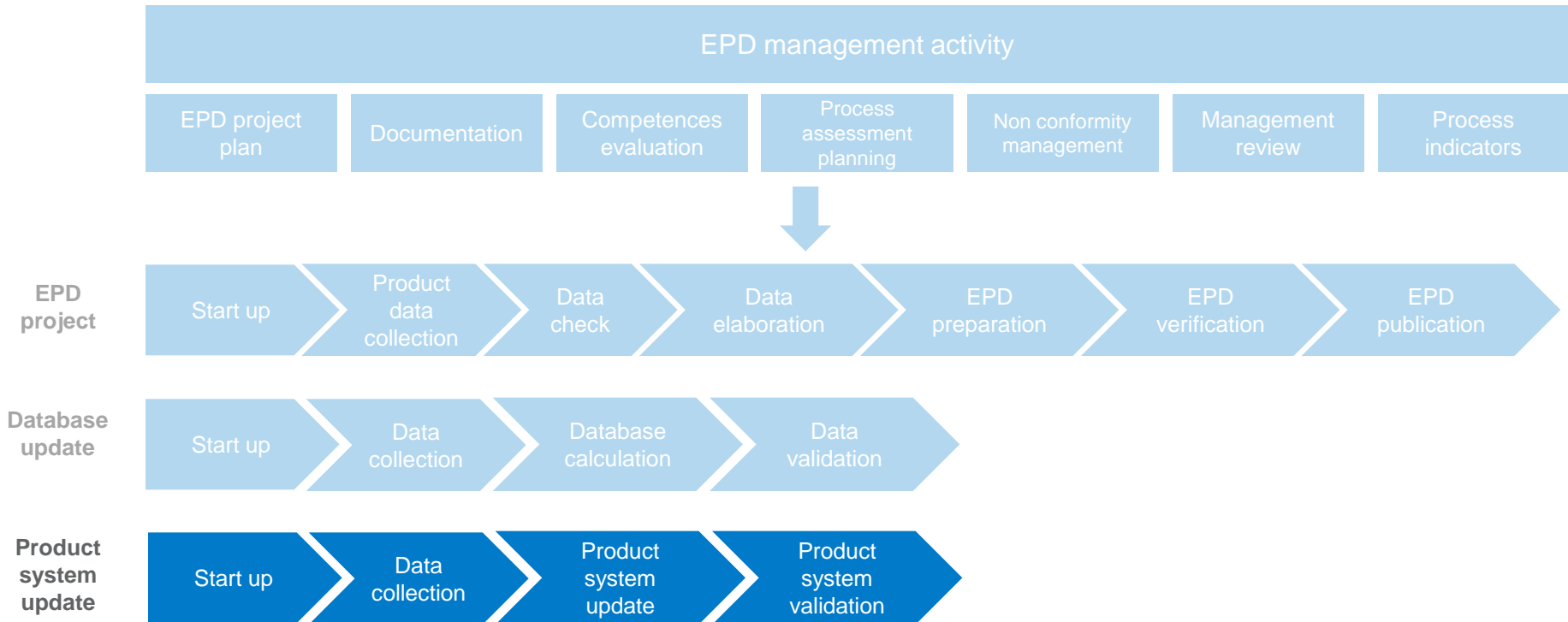
## DATABASE UPDATE



**Database update process** aims at keeping updated the Barilla's database.

It is performed each time the database need to be updated.

## PRODUCT SYSTEM UPDATE



### Product system update process aims at:

- Updating the existing product system each time there are significant changes
- Realizing the product system of a new product

## VERIFICATION LEVEL

The **reliability** of the EPDs is ensured by **several verification levels**:

- **Product System** and **LCA Database** verification is performed by the **Data Assessor**;
- **Product specific data, LCA data sheet** and **EPD Document** verification is performed by the **Data Assessor** per each EPD realized
- **EPD Process** verification by means of:
  - **internal audit**, performed by the **Process Assessor**
  - **external audit**, performed by a **Verification Body** (accredited body certified for audit of management systems)

## PROCESS INDICATORS

The **EPD process performances** are evaluated by mean of specific indicators that are recorded in the EPD process register.

INDICATORS	Unit	DESCRIPTION
Product volume covered by EPDs	%	Percentage of product volume covered by EPDs
Planned project	N°	Number of the EPD projects planned each year (one EPD project may have one or more products)
Open project	N°	Number of the EPD projects that are still open in a specific moment
Frozen Project	N°	Number of the EPD projects that are stopped because a database/data system update is running
Validated EPD	N°	Number of validated EPD (not all of them are published)
Published EPD	N°	Number of published EPDs available
Product System	N°	Number of product system available for all the Barilla products
Product System validated	%	Percentage of total product system validated and available for EPD realization
Product Volume covered by Product System	%	Percentage of product volume covered by Product System
Total module	N°	Total amount of the data modules that are needed for completing the EPD activities included in the running project.
Available data module	%	Percentage of the total data module available for EPD realization. It represents how much the data collection performance is completed.
Validated data module	%	Percentage of the total data module that are validated and ready for the EPD calculation. It represents the measure on how much the database is completed with validated information.



## PROCESS INDICATORS

INDICATORS	Unit	TIMING	DATA
Product volume covered by EPDs	%	year 2011	46%
Planned project	N°	year 2012	39
Open project	N°	Point at 31/08/2012	22
Frozen Project	N°	Point at 31/08/2012	6
Validated EPD	N°	Point at 31/08/2012	25
Published EPD	N°	Point at 31/08/2012	21
Product System	N°	Point at 31/08/2012	6
Product System validated	%	Point at 31/08/2012	67%
Product Volume covered by Product System	%	year 2011	99,7%
Total module	N°	Point at 31/08/2012	698
Available data module	%	Point at 31/08/2012	97%
Validated data module	%	Point at 31/08/2012	84%



**Thank you for your attention!**

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