

BCFN DOUBLE PYRAMID DATABASE

READING GUIDE

The following pages constitute a guide for consultation of the BCFN Double Pyramid Database.

This document represents an excerpt of the Chapter 4 of the Double Pyramid Technical Document.

For further details, please see the Double Pyramid Technical Document, Chapter 4 “Scientific Data Available”



SCIENTIFIC DATA AVAILABLE

THE DATABASE OF THE BCFN DOUBLE PYRAMID

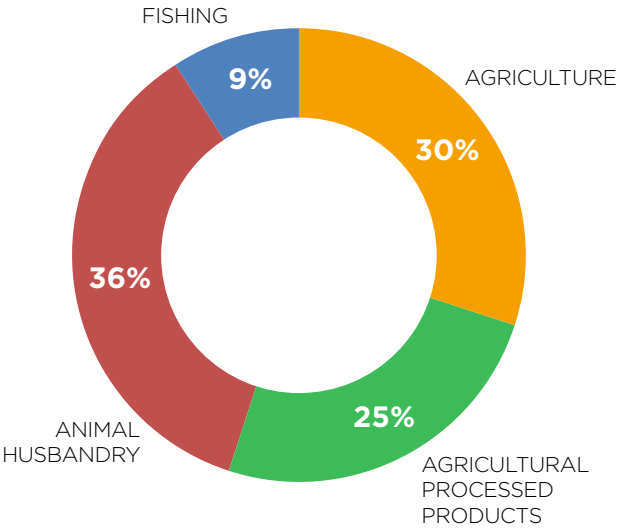
The BCFN Double Pyramid database (available only in English) was created in a Microsoft Excel® spreadsheet to make it easier for the user to consult using filters. The data items are organized into a table arranged in rows and columns: each row contains the impact

of a single food item from a single source, while each column contains an information field relating to that specific food. The following pages provide a detailed description of each field. The database was restructured in the 2013 edition of the Double Pyramid, so that certain additional information could be highlighted, as described in the sections below.

AGRICULTURE	Food crops (fruit, vegetables, potatoes, etc.)
AGRICULTURAL PROCESSED PRODUCTS	Food from processing of agricultural crops (pasta, bread, oil, etc.)
ANIMAL HUSBANDRY	Food from animal farming (meat, dairy goods, etc.)
FISHING	Food from fishery activity (fish)

Field: "Category"

The environmental information is presented by grouping foods according to a description of functional classification processes.



Distribution of data by food category

Field: "Typology"

For each of the above categories, foods were divided into typologies.

Some exceptions can be reported:

- The typology "Legumes" in the "Agricultural processed products" category represents "Soy Milk";
- The typologies "Flour", "Juice" and "Sugar" in the "Agricultural processed products" category are not

included in the calculation of the Double Pyramid average values (because they are not present in the nutritional guidelines) but are considered in the database, for seek of completeness;

- The typologies "Bread" and "Crackers" in the "Agricultural processed products" category are grouped together in the category "Bread" of the Double Pyramid;
- The typology "Sweets" in the "Animal husbandry" category represents "Ice Cream" and is not included in the calculation of the Double Pyramid average values (because it is not present in the nutritional guidelines) but is considered in the database for seek of completeness;
- The typologies "Cream", "Honey" and "Lamb" in the "Animal husbandry" category are not included in the calculation of the Double Pyramid average values (because they are not present in the nutritional guidelines) but are considered in the database for for seek of completeness;
- The typologies "Fish" and "Shellfish" in the "Fishing" category are grouped together in the category "Fish" of the Double Pyramid.

AGRICULTURE	AGRICULTURAL PROCESSED PRODUCTS	ANIMAL HUSBANDRY	FISHING
Cereals	Cookies	Beef meat	Fish
Dried Fruit	Bread	Butter	Shellfish
Fruit	Breakfast cereal	Cheese	-
Legumes	Crackers	Cream	-
Potatoes	Flour	Eggs	-
Vegetables	Juice	Honey	-
-	Legumes (Soy milk)	Lamb	-
-	Margarine	Milk	-
-	Oil	Pork	-
-	Pasta	Poultry	-
-	Sugar	Sweets (Ice cream)	-
-	Sweets	Yogurt	-

Field: "Food"

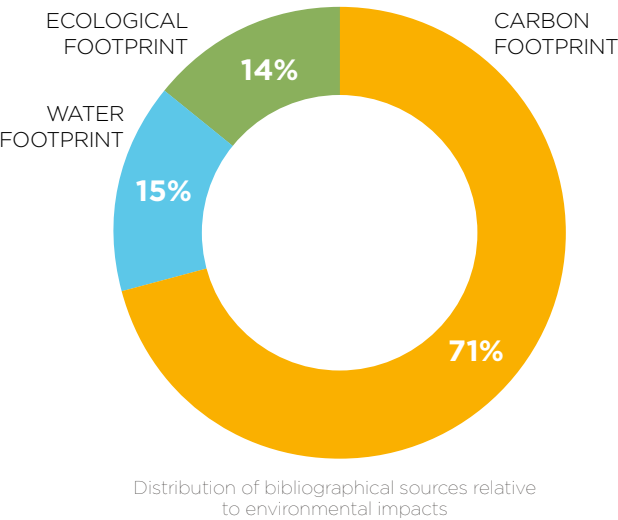
This column contains the name of the food.

Fields: “Carbon Footprint”; “Water Footprint”; “Ecological Footprint”

The values of environmental indicators are always related to one litre or kilogram of food. In the event that the source of the data refers to a different functional unit, the BCFN working group listed the value as a unit of weight or volume to increase comparability with other data. Unfortunately, the individual indicator values for each source analyzed are not always available for all foods. Furthermore, it was noted that the percentile distribution of the number of studies per environmental indicator is not uniform: most of the bibliographic sources used refer first to the Carbon Footprint, then to the Water Footprint, and, finally, to the Ecological Footprint, which may be due to a number of reasons. The first reason is that the Carbon Footprint is the indicator which has “historically” been most commonly adopted by researchers; specifically, it is the one for which most consolidated and scientifically widespread calculation standards exist. A second reason is linked to the increasing number of reports and articles focusing on the concept of greenhouse gas emissions.

Field: “Type of source”

The information used to calculate the averages of the environmental indicators is derived from publications and databases that are most commonly consulted when performing life cycle analyses. The main sources of data are set forth below.



Field: “Full Reference”

This field lists the sources of the data.

Field: “System boundaries”

All information used in the construction of the environmental pyramids refers to publications produced using the LCA method. It is important to emphasize that this work does not strive to provide values valid in every situation, but organizes the data available into an environmental pyramid.

TYPE OF SOURCE	REFERENCE	RELIABILITY
LCA database	EcolInvent	Public information, used by professionals. Quality can be variable; generally, the information is not specific to a manufacturer but generalized to the product at hand.
	LCA food	
	Water Footprint Network	
	Ecological Footprint Network	
Verified publication	EPD™ Climate Declaration™	Information validated by third party. It may be specific to a single manufacturer.
Scientific publication – executive summary – working paper – presentation	Complete list in bibliography	Information on a scientific work validated by a head reviewer. Product-specific but generally reliable in terms of quality.
Internal elaboration	-	Processing executed specifically for this work. Since it is minimized as far as possible and uses only public data, it proves less reliable than the other sources cited.

For this reason, we opted to account for data contained in publications regardless of system boundaries that were not perfectly homogeneous or clearly identified, ensuring however that the data did not significantly affect the final result. Data with clearly inadequate system boundaries has not been taken into account.

To facilitate consultation of the database section related to system boundaries, seven stages in the life cycle of products have been considered:

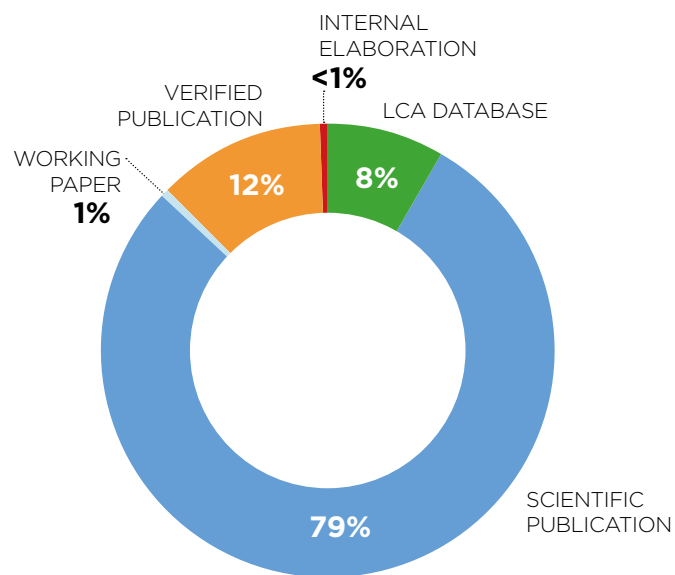
- Crop;
- Farm process;
- Industrial process;

- Transport and storage;
- Consumption;
- Final disposal.

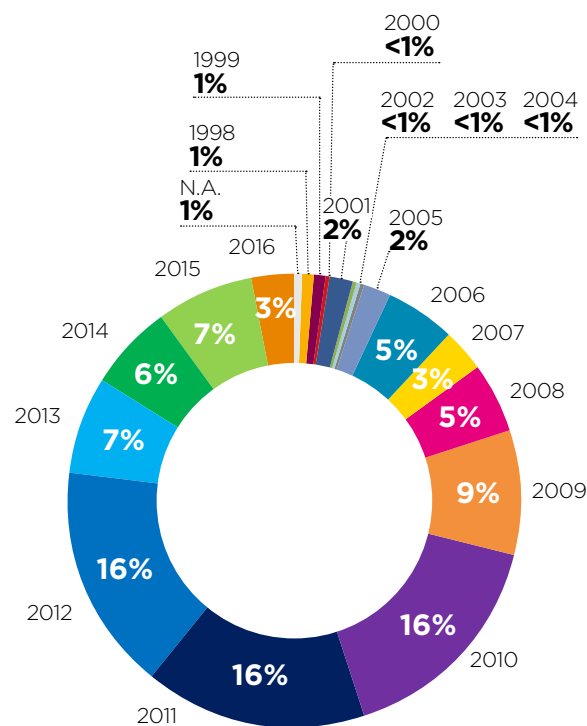
A dash indicates that the phase is not included within the boundaries of the system. The message NOT AVAILABLE indicates that the system boundaries have not been declared. Additional details are provided within the cell if the phase is included within the boundaries of the system.

Field: "Publication Date"

This field was adopted in the 2013 edition and indicates the date of publication of the study. This information helps the reader assess how contemporary the data is, and then try to update the oldest material. Almost 80% of the studies are "new", or have been published in the last seven years (since 2009).



Distribution of data by source type

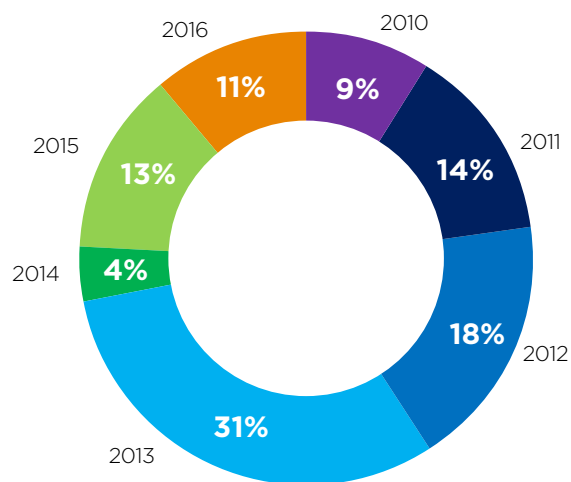


Distribution of data by publication date

Field: "Double Pyramid Edition"

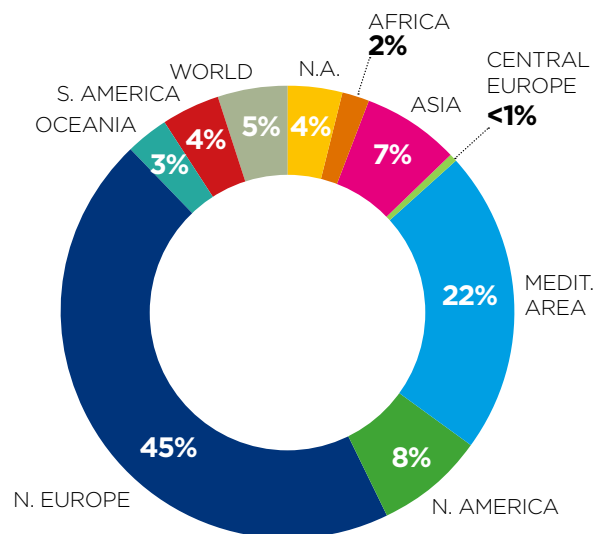
This field reveals the year in which the data was included in the Double Pyramid calculation. A subsequent "not used" entry means that the data was not considered for the year in question but was, however, included or retained in the database for the sake of completeness.

There are several reasons for which a value may not have been used. In some cases, the working group decided not to consider data due to failure to conform to the rules of construction of the database (system boundaries, functional unit, data transparency, publication updates etc.). Other data



Distribution of data by year of use in the Double Pyramid document

items are not used because they have been replaced by updated information (e.g. the EPD data, which is often revised every year) or with data that is more representative of the average (e.g. for the WFN data, all the data available for the same food in several countries is shown in the database, but for the Double Pyramid only the world average value has been considered).



Distribution of data by area of origin

Fields: "Country"; "Region"

This column indicates the country of food production to which the data refers. The countries were then classified into seven areas bearing similar territorial and climatic conditions, indicated in the "Area" column that made its debut in the 2013 edition. This classification proved helpful for data elaboration, making it possible to determine whether the impact of a food changes in relation to its area of provenance.

Field: "Note"

This field (adopted in the 2013 edition) indicates any notes relevant to the data, mainly regarding the characteristics of the functional unit or production system.

In order to elaborate data with a greater level of detail, these have been reorganized according to specific characteristics that may weigh strongly on the final impact of the food.

The main features referred to are:

- Organic;
- Integrated agriculture;
- Greenhouse;
- Frozen;
- Farmed/Wild (referred to fish).