

LCA food conference Bari, 24/09/2010

### How we are using the Footprint Indicators

An overview of environmental indicators aimed to an easy life cycle assessment results presentation by an important food supplier

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### How we are using the Footprint Indicators

- 1. CSR Barilla KPI
- 2. BCFN Double Pyramid
- 3. Barilla EPD System: Pasta example
- 4. Durum Wheat LCA Analysis & Aureo Project
- 5. Italian interdisciplinary Durum Wheat Cultivation System LCA Analysis

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### **BARILLA Group**



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

*2010:* 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.





# Barilla CSR Project | BarillaCFN



### Life Cycle Studies in the past





### Life cycle studies in progress





## 1. CF, WF & EF adopted as CSR KPI



The **Carbon footprint** represents the total amount of greenhouse gases (GHG) produced to directly and indirectly support human activities, usually expressed in equivalent tons of  $CO_2$ .

The carbon footprint calculation have to follow a life cycle assessment approach, analysing every producing phases to evaluate each impact.



The **Water Footprint** measures the water consumption in terms of water volumes consumed (evaporated) and/or polluted per unit of time.

Water Footprint

(www.waterfootprint.org)



The **Ecological Footprint** is a measure of how much biologically productive land and water an individual, population or activity requires to produce all the resources it consumes and to absorb the waste it generates using prevailing technology and resource management practices.



#### BARILLA CENTER FOR FOOD NUTRITION

# 2. BCFN Double Pyramid

people, science, economy



#### **ENVIRONMENTAL PYRAMID**



#### The Result is the BCFN Double Pyramid

BCFN proposes the **Double Nutrition Pyramid** as a simple means of communicating the fact that foods highly recommended by the **Nutritional Guidelines** in terms of **greater consumption** tend to yield **least environmental impact**.

Studies show that the **Mediterranean diet** yields positive effects on both **health** and the **environment**.





#### The Double Pyramid: Why



The concept of the **Double** Pyramid has, for the first time, been incorporated into the **BCFN Paper** in order to provide a simple means of communicating the fact that foods highly recommended by the Nutritional Guidelines in terms of greater consumption (Mediterranean Diet) tend to yield least environmental impact.



### **Environmental Pyramid: Carbon Footprint**







### **Environmental Pyramid: Water Footprint**











## 3. Durum Wheat Pasta EPD







6,2 global m<sup>2</sup> per 500g of PASTA





# 4. Durum Wheat cultivation : EF & WF figures

#### Water Footprint





### 2010 Aureo project 1<sup>st</sup> phase: High Quality Durum Wheat from SW USA (Desert) to Southern Italy

During the 2010, more than 20.000 tons of durum wheat have been cultivated using new variety seeds called Aureo in the South Italy instead of in the SW USA Desert area

This project have also an environmental relevance some positive some negative:



WATER FOOTPRINT: - 20 million of m<sup>3</sup>



ECOLOGICAL FOOTPRINT: due to the lower yields, + 10.000 gha



CARBON FOOTPRINT: due for the lower yield, + 3.000 t of  $\rm{CO}_2$  equivalent



### 5. Durum Wheat Cropping System LCA Analysis





## The Best Choice is a Sustainable Choise



The best Durum wheat crop systems identified demonstrates that agronomic and environmental improvements can bring also an economic higher farmer's net income.



## 6. WASA EPD

Wasa Rågi Original		Raw materials cultivation	Milling	Bakery	Packaging	Distribution	From field to Distribution
I STATE	Ecological Footprint	7,7	< 0, 1	<b>Ø</b> ,3	1, 0	0,1	<b>9,1</b> global m²/kg
Ë	Carbon Footprint <sup>GWP</sup>	521	1	139	102	55	<b>817</b> g CO₂/kg
٢	Water Footprint	6 <b>0</b> 8	<0,1	3	3	< 0, 1	<b>614</b> liters/kg



### Thank you



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