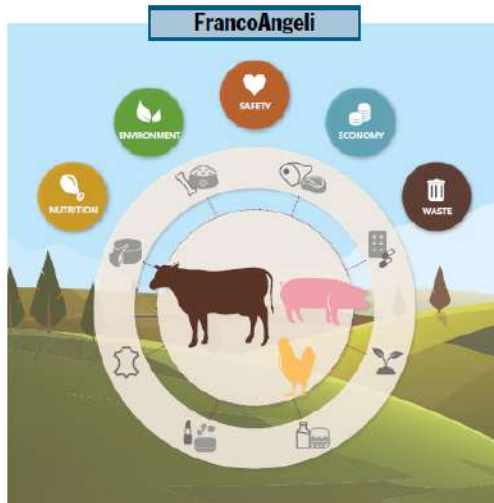


Elisabetta Bernardi, Ettore Capri,  
Giuseppe Pulina

## THE SUSTAINABILITY OF MEAT AND CURED MEATS IN ITALY

NUTRITION ASPECT, FOOD SAFETY, ENVIRONMENTAL IMPACT,  
ANIMAL WELFARE, CIRCULAR ECONOMY, NO WASTE



English version not available yet

# THE SUSTAINABILITY OF MEAT AND CURED MEATS IN ITALY

CARNI



Sostenibili

[www.carnisostenibili.it](http://www.carnisostenibili.it)

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## 5 PILLARS OF MEAT SUSTAINABILITY



The issue of sustainability has been organized in 5 arguments that require specific competences and different communicative approaches.

# ECONOMIC VALUE OF THE MEAT SECTOR IN ITALY

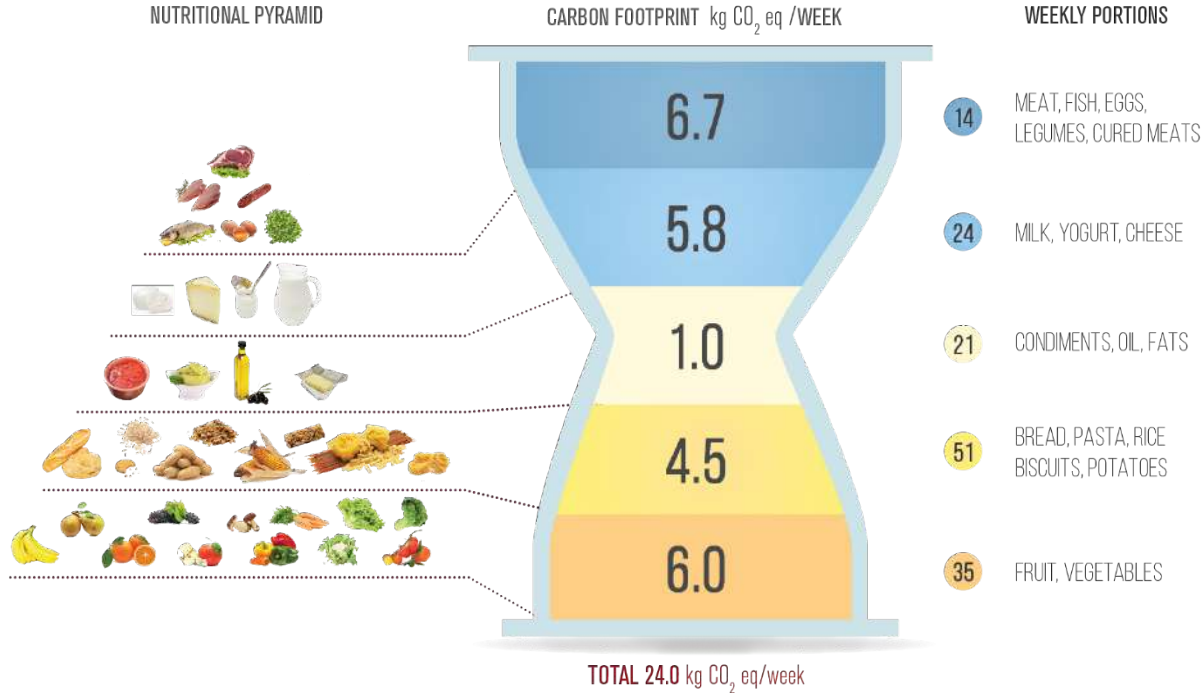
DATA IN BILLION € PER YEAR



# MEDITERRANEAN DIET: ALL THE FOODS, RIGHT QUANTITIES



# THE ENVIRONMENTAL HOURGLASS: SYMBOL OF THE PROJECT



The hourglass is symbol of balance. This is the main message of the project: if we follow a dietary pattern consistent with the principles of the Mediterranean diet, we protect both health and environment.

## HOW WAS IT BUILT

CARBON FOOTPRINT  
AND WATER FOOTPRINT  
OF 1 KG OF FOOD



IMPACT  
OF FOOD



SUGGESTIONS FROM  
NUTRITIONISTS FOR A  
BALANCED DIET



WEEKLY  
QUANTITIES SUGGESTED

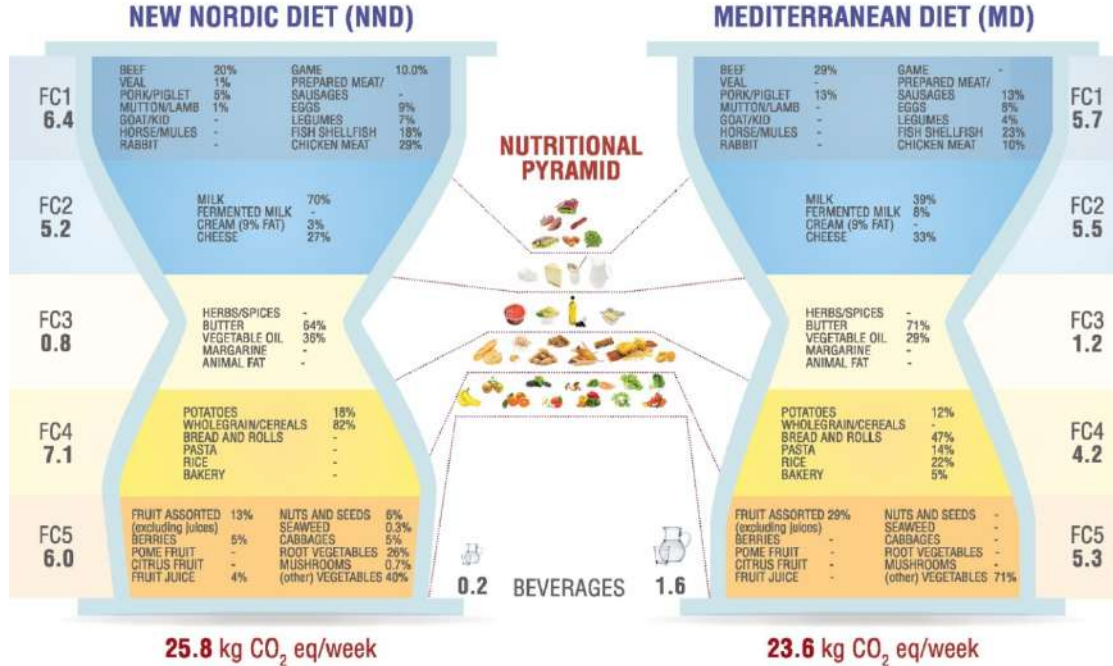


ENVIRONMENTAL  
HOURLASS



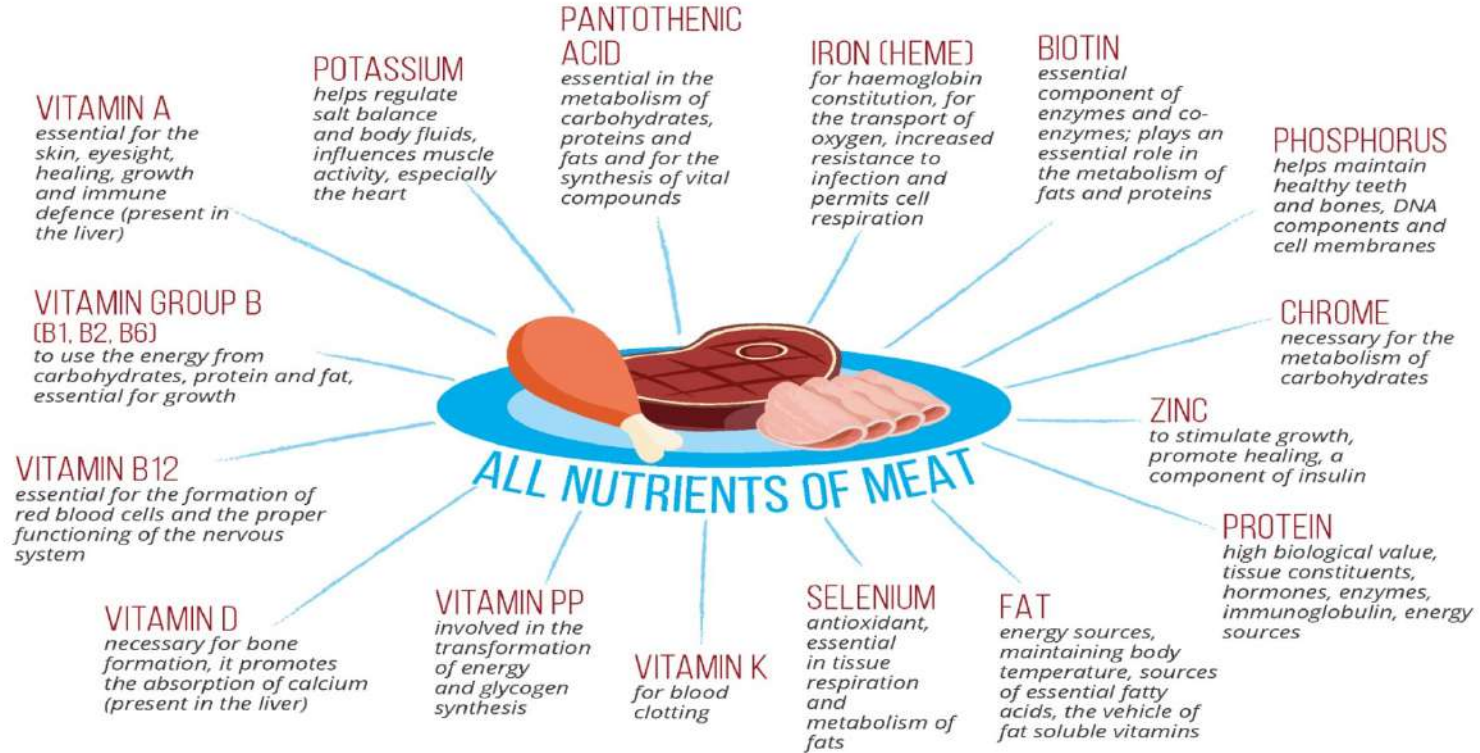
# ASSESSMENT OF DIET-RELATED GHGe USING HOURGLASS APPROACH

## WEEKLY GHG EMISSIONS



The Hourglass approach describe the weekly GHGe due to food consumption, corresponding to weekly recommended dietary intake. There are 2 dietary scenario taken into examination: Mediterranean Diet (MD) and New Nordic Diet (NND).

# NUTRIENTS OF MEAT



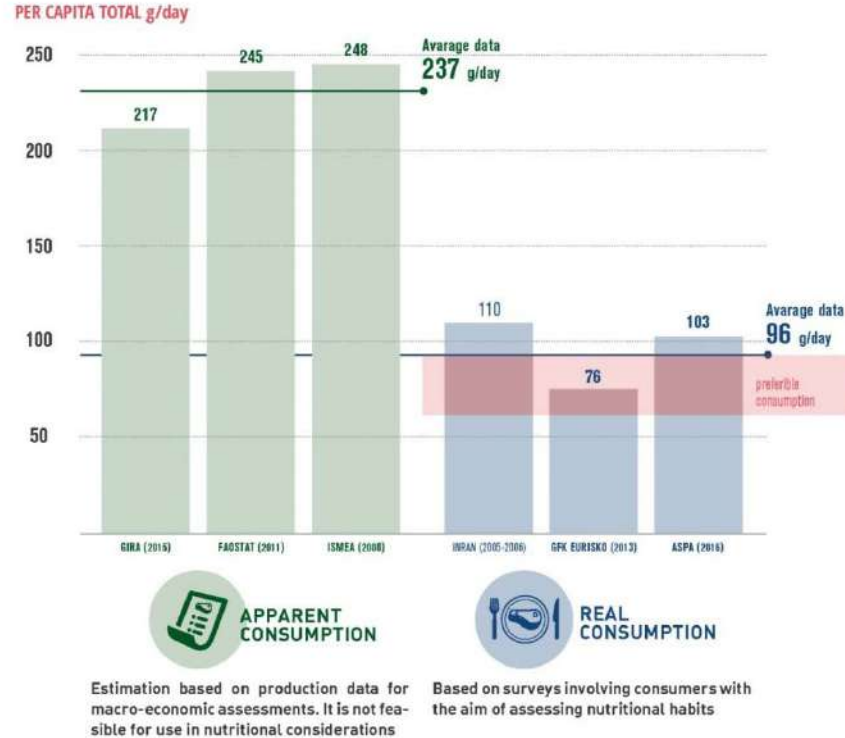


## FATS AND CHOLESTEROLS: A PROBLEM SOLVED

BEEF 	FATS (%)		REDUCTION
	1996	2007	
EYE ROUND	2.8	1.1	-61%
TENDERLOIN	5.0	2.2	-56%
STRIPLOIN	5.2	2.9	-44%

PORK 	FATS (%)		REDUCTION
	1993	2011	
BAKED HAM	14.7	7.6	-49%
HAM (San Daniele IGP)	23.0	18.6	-19%
MORTADELLA	28.1	25.0	-11%

# APPARENT CONSUMPTION VS REAL CONSUMPTION IN ITALY



# ANIMALS AND PLANTS: TWO SYSTEMS INTERLOCKED

## AGRICULTURAL PRODUCTION AND BREEDING

- agricultural waste:
  - compost production
  - co-generation energy
- manure:
  - organic fertiliser production
  - biogas

## DISTRIBUTION AND CONSUMPTION

- reducing packaging at product's expiry date
- recyclability of packaging through recycling

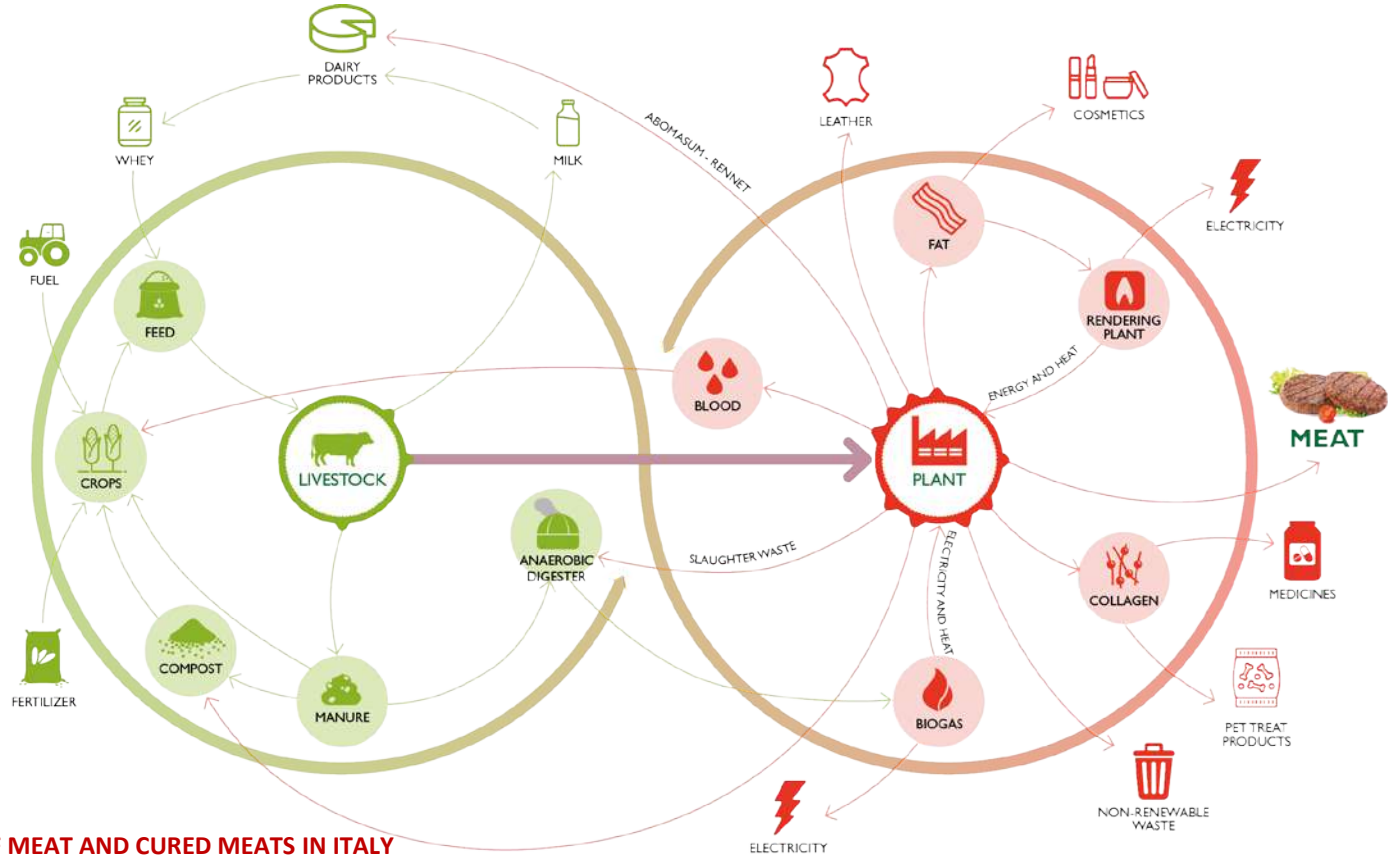


**"CIRCULAR ECONOMY"  
REGENERATING RESOURCES,  
CREATE ZERO WASTE**

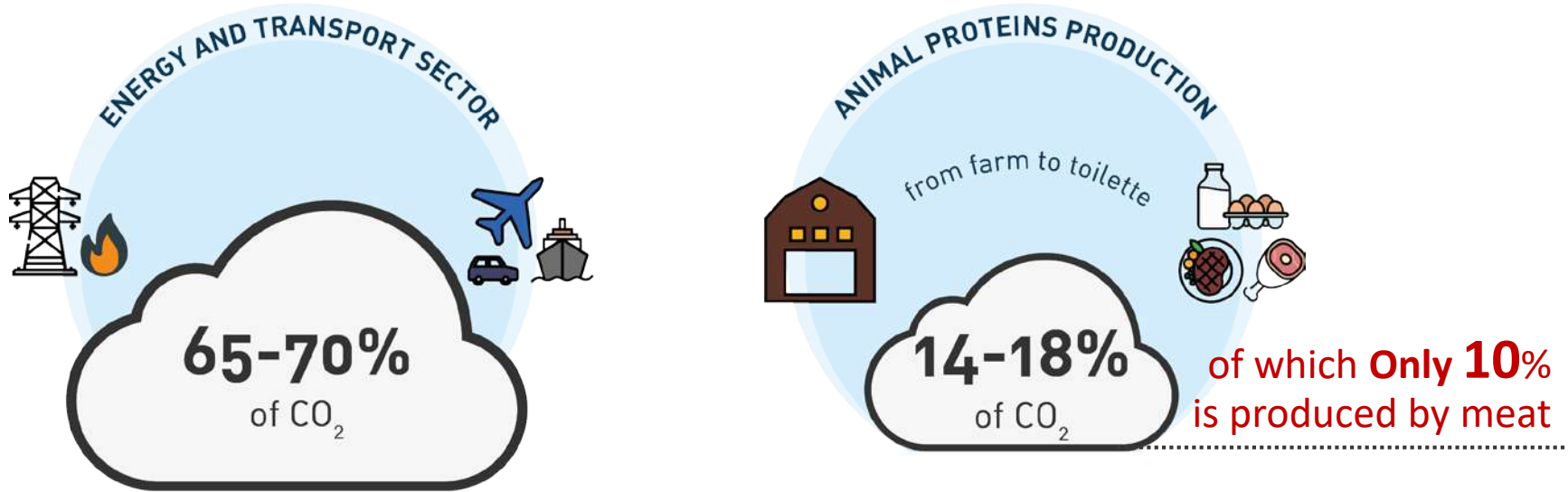
## INDUSTRIAL PRODUCTION

- recycling of industrial waste
- co-generation energy from biomass derived from waste products
- compost production from production waste
- transformation of by-products, bones and skins for food, pharmaceutical, animal feed and fertiliser industries

# THE CIRCULARITY OF THE COW-VEAL SUPPLY CHAIN

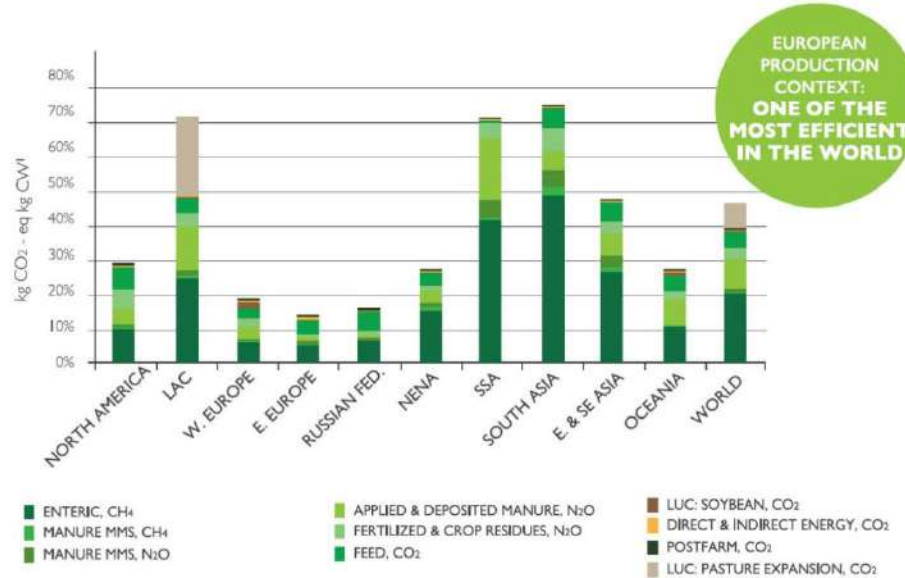


## EMISSIONS FROM LIVESTOCK PRODUCTION (MILK, MEAT, EGGS)



Fonte: FAO - [www.fao.org/livestock-environment/en/](http://www.fao.org/livestock-environment/en/)

# THE EMISSIONS OF CO<sub>2</sub> IN THE CATTLE FARMING IN THE WORLD



Fonte: FAO Greenhouse gas emission from ruminant supply chains – A global life cycle assessment tab. 1 lb



## REMAINING WATER FOOTPRINT OF THE MEAT IN ITALY

DATA litre/kg



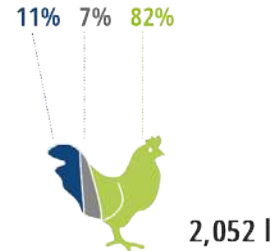
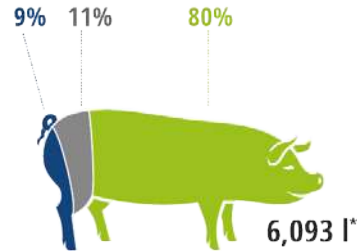
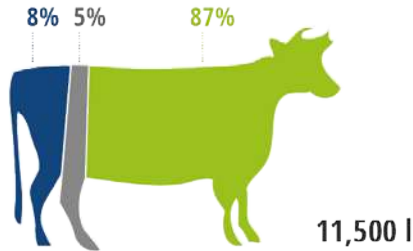
GREEN WATER



BLUE WATER



GREY WATER



The remaining water footprint is the sum of three elements, partly real (blue) and partly virtual (green and grey). The green water, namely the rainwater and naturally involved in the process of the crops' evapotranspiration, is the most significant and it doesn't affect the consumption of potable water.

Source: Mekonnen M.M., Hoekstra A.Y., 2010.

\*The figure refers to heavy pigs (160 kg, 9.11 months of age) while the most common pigs abroad weigh 80/100 kg (7.5 months)

## THE COMMITMENT OF LIVESTOCK SECTOR

THE LIVESTOCK SECTOR HAS MANY WAYS TO REDUCE THE ENVIRONMENTAL IMPACTS, ESPECIALLY FOR THE AGRICULTURAL AND BREEDING PHASES THAT HAVE THE HIGHER RELEVANCE.



PRODUCTION OF BIOGAS



SOLAR POWER



MANAGING MANURE



PRECISION AGRICULTURE

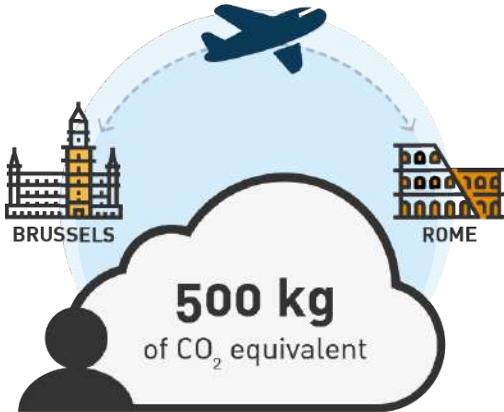


PROJECT CHANGE-R



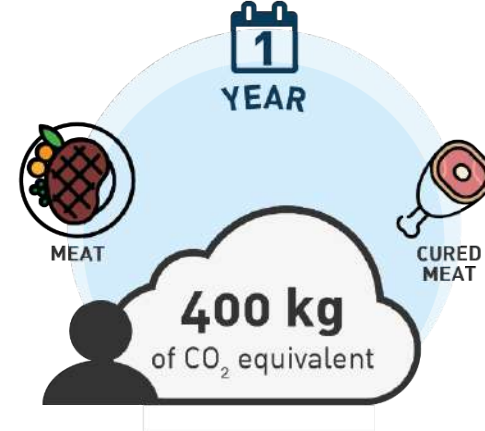
## THE IMPACT OF THE TRANSPORTS AND OF THE MEAT

a **return flight** from  
ROME to BRUSSELS  
produces almost  
500 kg of CO<sub>2</sub> equivalent  
per passenger



Source: *Ecopassenger.org*

A balanced consumption  
of MEAT produces  
**an annual emission** of almost  
400 kg of CO<sub>2</sub> equivalent  
per person



Source: *processing of data published on  
«La Sostenibilità delle carni e salumi in Italia»*