

# Local Pressures: from minus to plus

## Session 2 - IMPRINT+ Training course



IMPRIINT+



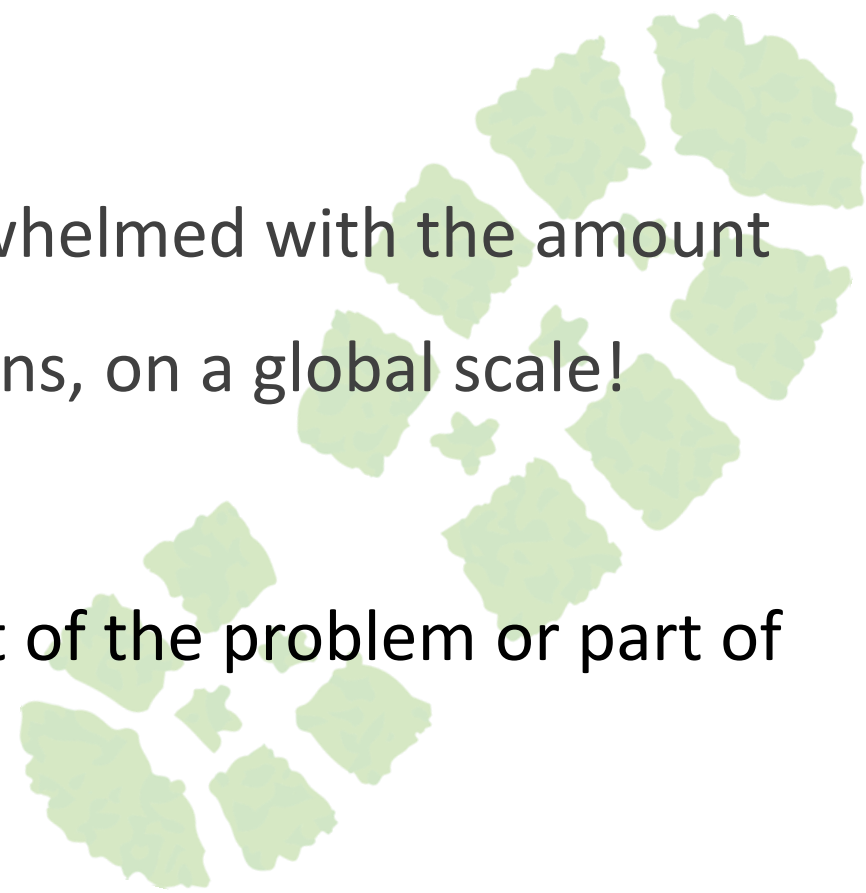
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You probably cannot change the world alone...

... and you are probably overwhelmed with the amount of problems asking for solutions, on a global scale!

But you can choose to be part of the problem or part of the solution...





### You can start by:

- Acting locally;
- Acting individually;
- Giving small steps;
- Changing habits;
- **Becoming the change you want to see in the planet!**



To succeed in raising awareness and *imprinting* a positive change, we must **raise awareness** about the **global** picture but **motivate** by focusing on the **local and individual dimension**.

These dimensions are the most likely to motivate and promote action by individuals or communities.

Suggestions of how you can take a step forward  
with simple changes in your daily life, relatively to:



- Energy and greenhouse gases;
- Transport;
- Food;
- Consumption and waste;
- Water;
- Buildings;



Energy is at the root of every human (or biological) activity. In the end, almost all the energy on Earth came from the sun... but humans are experts in finding “shortcuts”!



### ENERGY SOURCE

### POTENTIAL NEGATIVE ENVIRONMENTAL IMPACTS ON BIODIVERSITY



Low impact: habitat loss, fragmentation and land use change in large solar central over big extensions of land



Habitat fragmentation and destruction – road access  
construction/operation  
Bird and bat collisions – operation  
Moderate impacts on fauna and flora

### ENERGY SOURCE

### POTENTIAL NEGATIVE ENVIRONMENTAL IMPACTS ON BIODIVERSITY



**LARGE SCALE  
HYDRO-  
ELECTRIC**

Important land use change  
Habitat loss and fragmentation over large areas  
Changes in hydrology and micro-climate  
Serious impacts on flora and fauna.




**OIL, COAL,  
NATURAL  
GAS**

Air, water and soil pollution – extraction/mining/production  
Impacts on flora and fauna – extraction/mining  
Greenhouse gases emissions – production  
Land use changes – extraction/mining  
Fragmentation and habitat destruction – extraction/mining  
Risk of environmental contamination – spills and leaks during transport and operation



Energy use (and impact) is not uniform across sectors nor across countries!



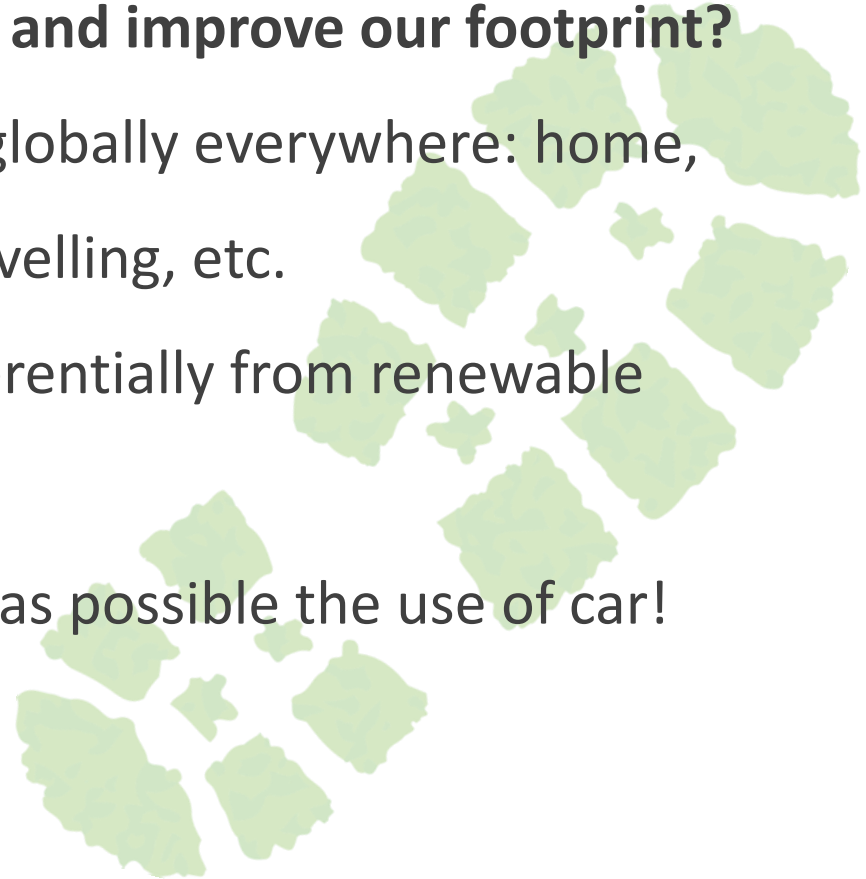
Sector	Italy	Spain	Portugal	EU 28
Industry	23,1 %	25,3 %	27,9 %	<b>33,2 %</b>
Transport	35,4 %	40,4 %	40,9 %	<b>25,9 %</b>
Households	26,1 %	18,6 %	18,3 %	<b>48,8 %</b>
Services	12,9 %	11,2 %	12,1 %	<b>13,3 %</b>
Agriculture & Fishing	2,4 %	3,5 %	2,7 %	<b>2,3 %</b>
Other	0,1 %	1,1 %	0,2 %	<b>0,5 %</b>

*Table 5 Final energy by sector in 2014 (European Commission 2015b)*



**So what is within our reach to reduce the global demand for energy and improve our footprint?**

- Use less energy globally everywhere: home, work, school, travelling, etc.
- Use energy preferentially from renewable sources!
- Reduce as much as possible the use of car!



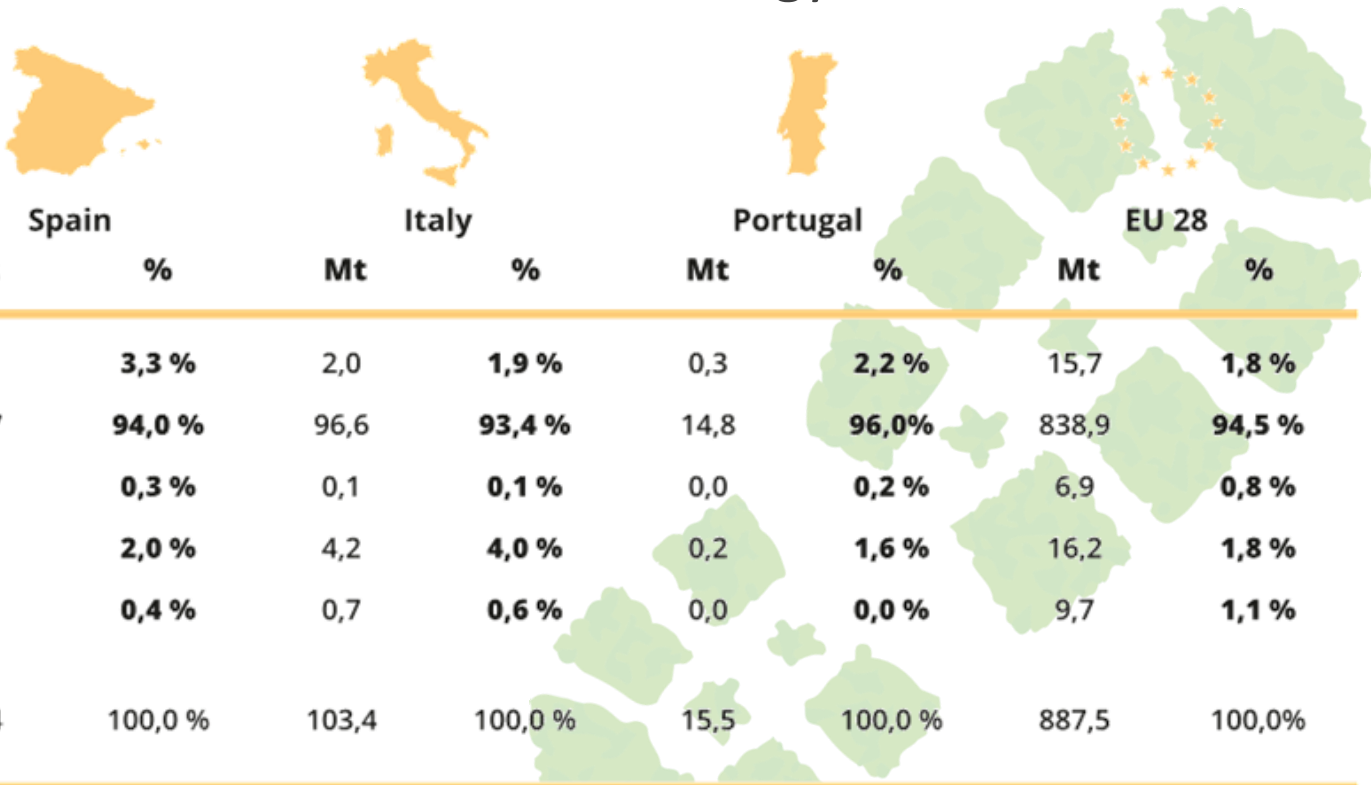


**So what is within our reach to reduce the global demand for energy and improve our footprint?**

- Make energy efficiency a key requirement when considering an electronic device or even a house!
- Reuse and buy second-hand! Avoid emissions from the production and distribution of new products.



As we have seen before, transport is (at least on a EU context) one of the sectors that consumes more energy.



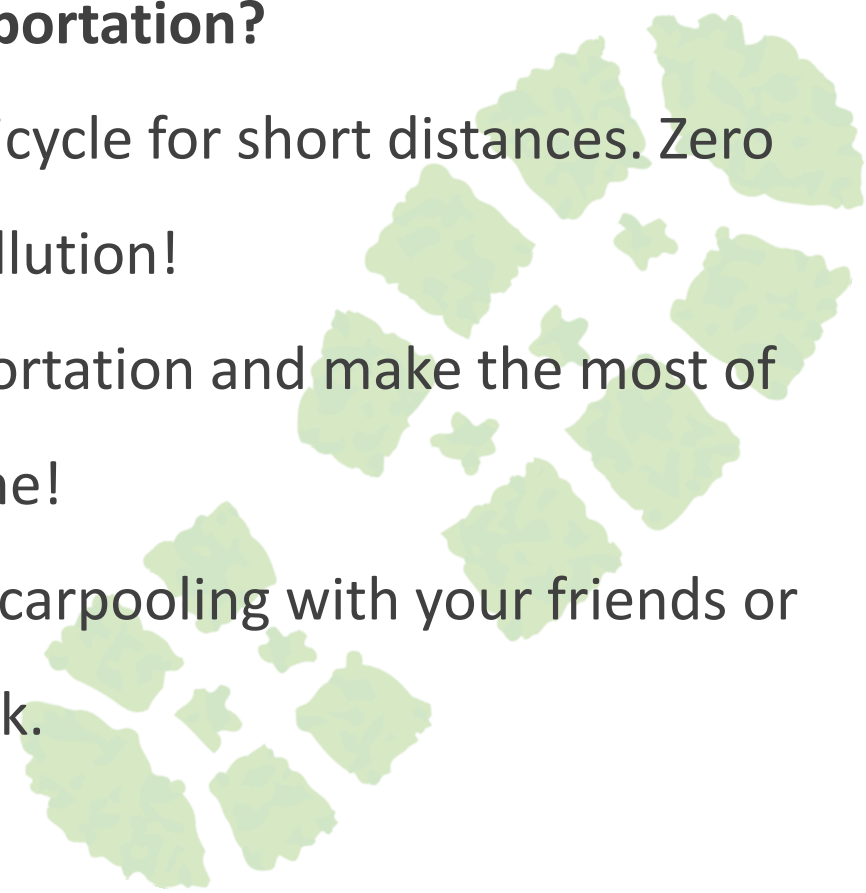
	Spain		Italy		Portugal		EU 28	
	Mt	%	Mt	%	Mt	%	Mt	%
Domestic aviation	2,7	3,3 %	2,0	1,9 %	0,3	2,2 %	15,7	1,8 %
Road transportation	74,7	94,0 %	96,6	93,4 %	14,8	96,0%	838,9	94,5 %
Railways	0,2	0,3 %	0,1	0,1 %	0,0	0,2 %	6,9	0,8 %
Domestic navigation	1,6	2,0 %	4,2	4,0 %	0,2	1,6 %	16,2	1,8 %
Other transportation	0,3	0,4 %	0,7	0,6 %	0,0	0,0 %	9,7	1,1 %
<b>TOTAL</b>	79,4	100,0 %	103,4	100,0 %	15,5	100,0 %	887,5	100,0%

Table 6: 2013 Transport GHG's Emissions (without LULUCF, with indirect CO<sub>2</sub>) (European Commission 2015b)



**So what can each one of us can do to reduce the energy cost of transportation?**

- Walk or use the bicycle for short distances. Zero carbon and air pollution!
- Use public transportation and make the most of your travelling time!
- Alternatively, use carpooling with your friends or colleges from work.







**So what can each one of us can do to reduce the energy cost of transportation?**

- If you're buying a car, make fuel efficiency and environmental performance a decisive feature to consider in the decision.
- Prefer electric cars and ground transportation (e.g. fast trains).
- Consider using video-conferencing as an alternative for work meetings.

### We are what we eat and what we eat is our planet! (or part of it!)



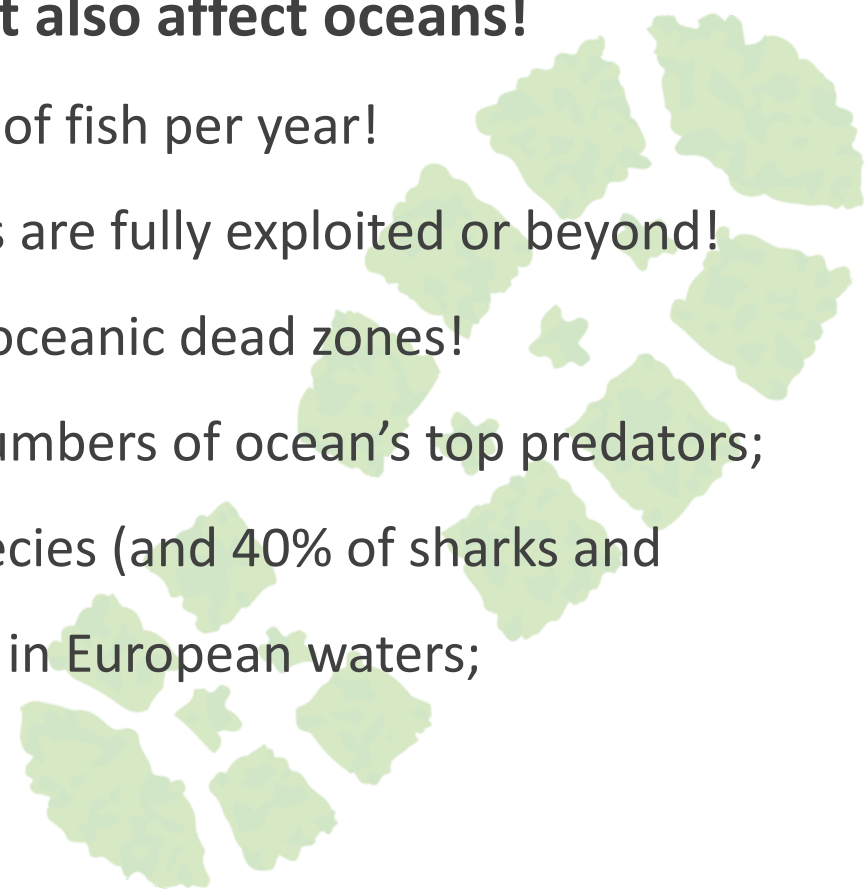
- Global food demand should increase by 50% by 2030.
- Biological diversity is fundamental for agriculture.  
About 7,000 plant species have been historically used by humans but only about 15 plant and 8 animal species supply 90% of the global demand for food.
- 52% of land used for agriculture worldwide is moderately or severely affected by land degradation and desertification.

Food production costs energy and different food items have different energy cost!

- In 2012, agriculture was responsible for more than 10% of total GHG emissions in the EU (Euractiv 2016).
- Each European consumes an average of 86kg of meat each year (Euractiv 2016).
- A vegetarian diet would save 1,230kg CO<sub>2</sub>e per person per year in comparison with high meat diet (Cassidy et al. 2013).
- A high meat diet (2,000kcal) produces 2.5 times as many GHG emissions as a vegan diet, and twice as many as a vegetarian diet (Cassidy et al. 2013).
- A high meat to a low meat diet would save 920kg CO<sub>2</sub>e/ per person annually (equivalent to a return flight from London to New York) (Cassidy et al. 2013).

### **Food costs are not only on land, but also affect oceans!**

- Each person eats on average 19.2kg of fish per year!
- Worldwide, about 75% of fish stocks are fully exploited or beyond!
- Eutrophication generated over 400 oceanic dead zones!
- Bycatch causes the death of large numbers of ocean's top predators;
- 7.5% of all European marine fish species (and 40% of sharks and rays) are threatened with extinction in European waters;





### So, is there a way to keep eating while saving the planet?

- Eat less meat, fish and dairy products.
- Incorporate several vegetarian meals each week.
- Eat local produced food and avoid buying food that travelled great distances to arrive to your kitchen.
- Eat seasonal fruit and vegetables.
- Look for ecolabels and prefer organic, sustainable produced food and fair trade certified.





### So, is there a way to keep eating while saving the planet?

- Buy at farmers markets or community supported agriculture. Prefer products from extensive agriculture.
- Avoid wasting food.
- Avoid processed food and don't eat fast food!
- Avoid products containing palm oil (or any other intensive and aggressive production);
- Make an organic vegetable garden!

**Before consider recycling, you should consider reducing!**

Consumption and associated waste have a cost to the planet



Excessive consumption is a global problem, but it is one that is highly asymmetric throughout the globe!

- Humans extract and use for the production of goods and services about 50% more 60 billion tons annually the amount of natural resources (biomass, minerals, metals, fossil fuels) than 30 years ago.
- Each person on the planet uses on average over 8 tons of natural resources per year or 22 kg per day.
- In Europe, in 2000, the average extraction of resources per capita was around 13 tons per year or 36 kg per day.

(Giljum et al. 2009)



### So how can we reduce my consumption/waste related footprint?

- Explore second-hand shops and flea markets.
- Don't throw away useful things: give them to friends, "freecycle" or sell them!
- Always avoid any over-packaged product and buy in bulk when possible.
- Prefer products made with recycled materials and reduce the consumption of new raw materials.



### So how can we reduce my consumption/waste related footprint?

- Prefer environmentally certified products.
- Save paper: use e-documents, reduce prints, etc.
- Use biodegradable and ecofriendly cleaning products.
- Use your consumer power! Make sustainable choices!
- Avoid products with excessive packaging, bottled water, etc.





**Water is a limited resource which tends to become more limited and asymmetrically distributed.**





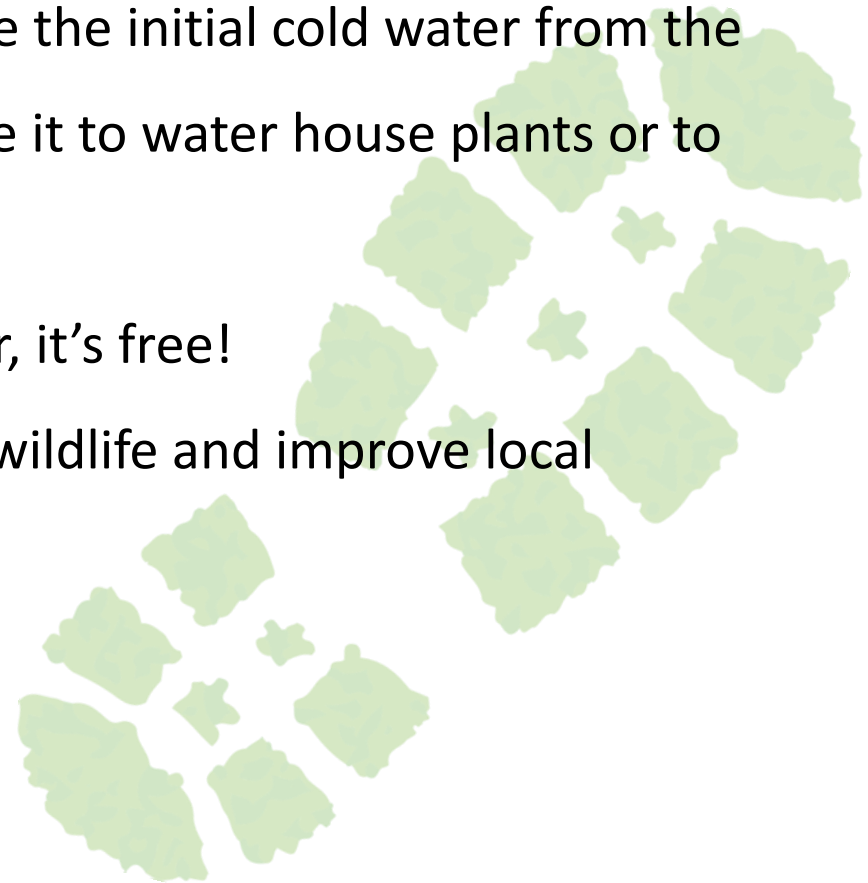
### And how can I reduce my water footprint?

- Reduce meat and dairy consumption. Animal food products have much higher water footprints than vegetables.
- Save water when brushing teeth, dishes or showering! Turn off the tap when not using it!
- Take short showers instead of a bath!
- Use low flow shower heads, faucets, and toilets.



### And how can I reduce my water footprint?

- Reuse water. Save the initial cold water from the shower and reuse it to water house plants or to flush the toilet!
- Collect rain water, it's free!
- Build a pond for wildlife and improve local biodiversity!



As you probably remember from a few slides ago, housing is one of the sectors with highest energy consumption.

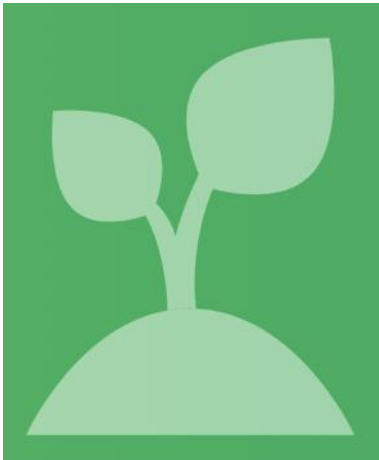




**So, how can we turn our houses more planet-friendly?**

- Insulate your home: windows, doors, walls, etc.
- Install solar, photovoltaic or wind energy.
- Consider energy performance and eco-friendly construction materials.
- Use energy efficient lighting and equipments.
- Turn off lights when not using and avoid stand-by modes in electronic devices.





### So, how can we turn our houses more planet-friendly?

- Always use a full load of washing machine and dishwasher.
- Reduce the heating in winter and cooling in summer.
- If your refrigerator/freezer is more than 20 years old, consider switching to a newer energy efficient model.
- Convert your backyard into a productive organic vegetable garden.

X ITALY

ECOLOGICAL FOOTPRINT  
PER CAPITA

**4.6**

GHA

BIOCAPACITY  
PER CAPITA

**1.1**

GHA

BIOCAPACITY  
CREDIT(+)/DEFICIT(-)

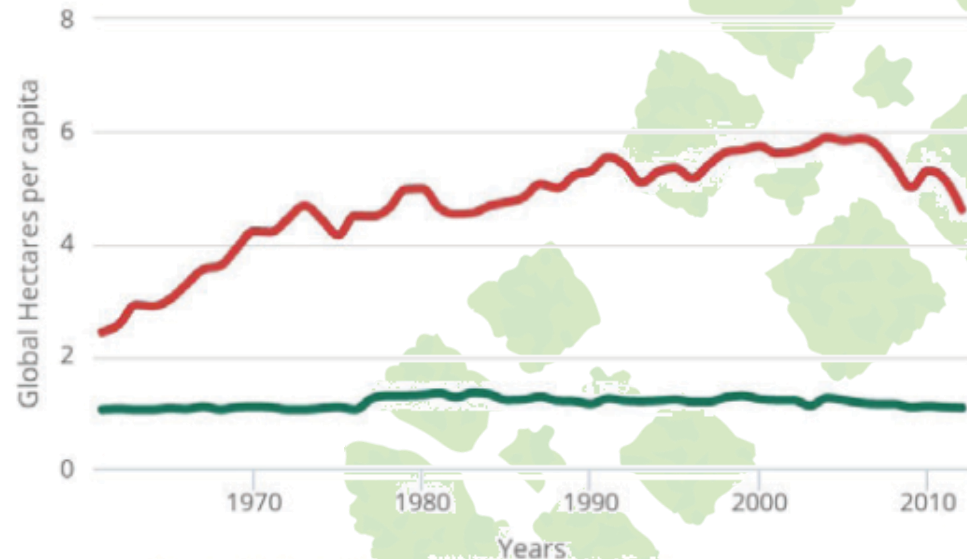
**-3.5**

GHA

ECOLOGICAL FOOTPRINT  
AND BIOCAPACITY  
FROM 1961 TO 2012

Ecological  
Footprint

Biocapacity



Data Sources: [National Footprint Accounts 2016 \(Data Year 2012\)](#); World Development Indicators, The World Bank (2016); U.N. Food and Agriculture Organization.

X

PORTUGAL

ECOLOGICAL FOOTPRINT  
PER CAPITA

**3.9**

GHA

BIOCAPACITY  
PER CAPITA

**1.5**

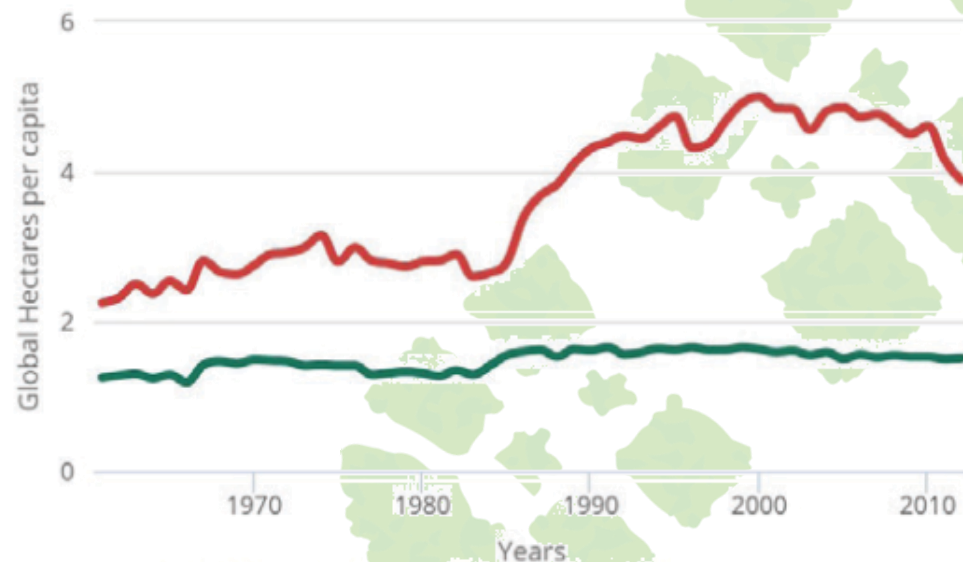
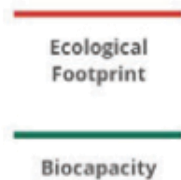
GHA

BIOCAPACITY  
CREDIT(+)/DEFICIT(-)

**-2.4**

GHA

ECOLOGICAL FOOTPRINT  
AND BIOCAPACITY  
FROM 1961 TO 2012



Data Sources: [National Footprint Accounts 2016 \(Data Year 2012\)](#); World Development Indicators, The World Bank (2016); U.N. Food and Agriculture Organization.



SPAIN

ECOLOGICAL FOOTPRINT  
PER CAPITA

**3.7**

GHA

BIOCAPACITY  
PER CAPITA

**1.3**

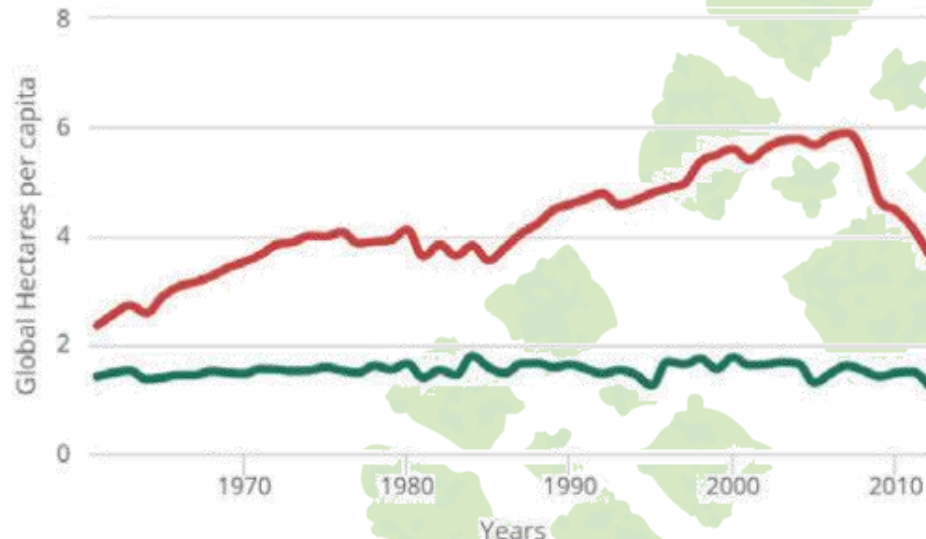
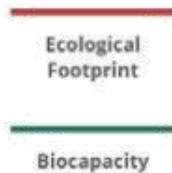
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BIOCAPACITY  
CREDIT(+)/DEFICIT(-)

**-2.4**

GHA

ECOLOGICAL FOOTPRINT  
AND BIOCAPACITY  
FROM 1961 TO 2012



Data Sources: [National Footprint Accounts 2016 \(Data Year 2012\)](#); World Development Indicators, The World Bank (2016); U.N. Food and Agriculture Organization.



IRELAND

POPULATION (2012)  
**4,576,000**

ECOLOGICAL FOOTPRINT  
PER CAPITA

**5.6**

GHA

BIOCAPACITY  
PER CAPITA

**3.7**

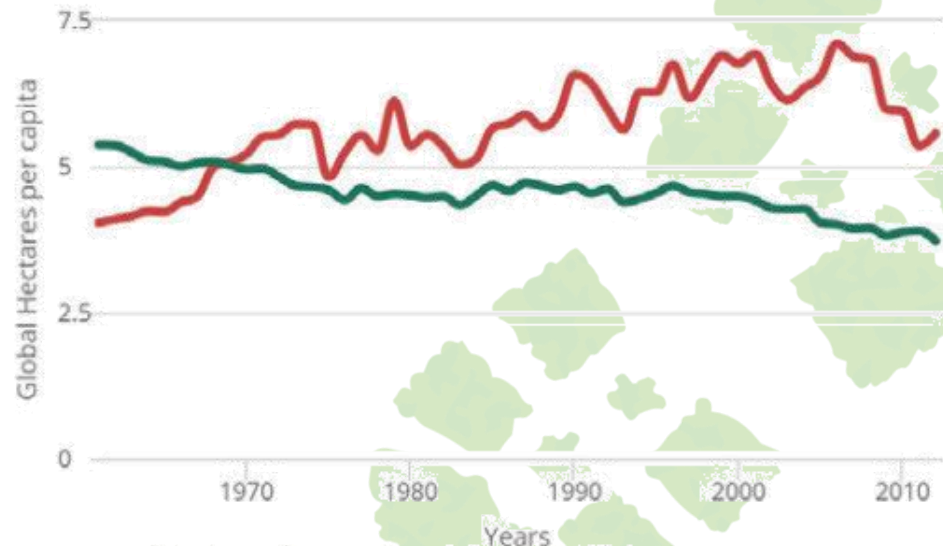
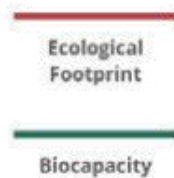
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BIOCAPACITY  
CREDIT(+)/DEFICIT(-)

**-1.8**

GHA

ECOLOGICAL FOOTPRINT  
AND BIOCAPACITY  
FROM 1961 TO 2012



Data Sources: [National Footprint Accounts 2016 \(Data Year 2012\)](#); World Development Indicators, The World Bank (2016); U.N. Food and Agriculture Organization.

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