



What is at stake?

**Biocapacity and
Sustainability**

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Biosphere

“Earth’s environment has been a source of resources as well as a stable life support system that has allowed human civilisations to develop and flourish*.

* “Global Change and the Earth System – A Planet Under Pressure”, IGBP, 2004.



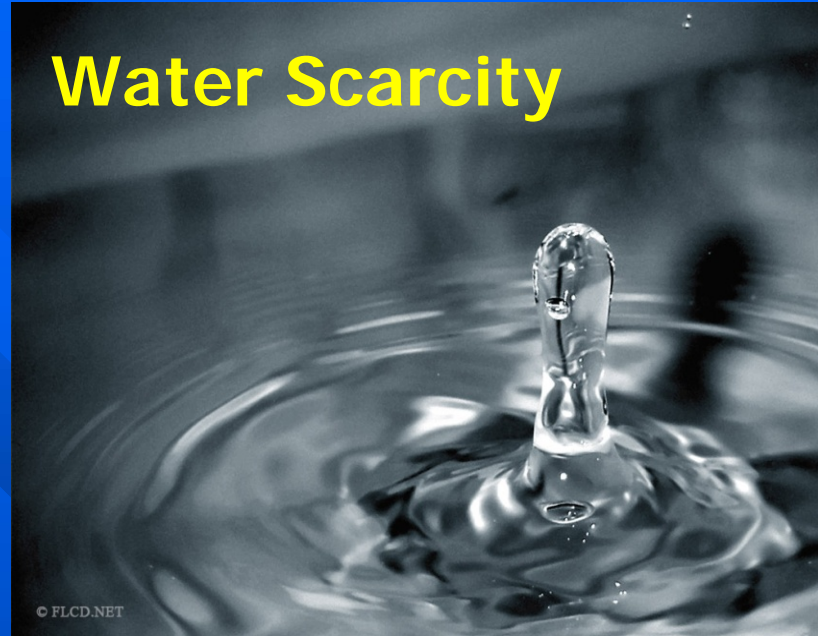
Transformation of the **BIOSPHERE** during the last 100 years:

- **Human population: soared from 1,5 to 6.1 billion;**
- **Economic activity: increased 10-fold between 1950 and 2000;**
- **Most of the world's fisheries: over exploited;**
- **40% of the known oil reserves were exhausted;**

Global problems we are facing now



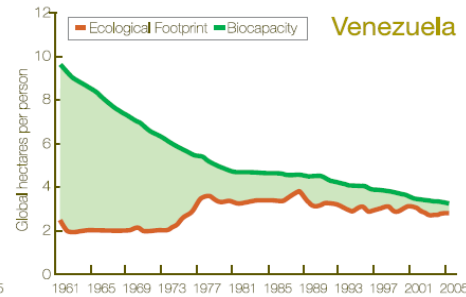
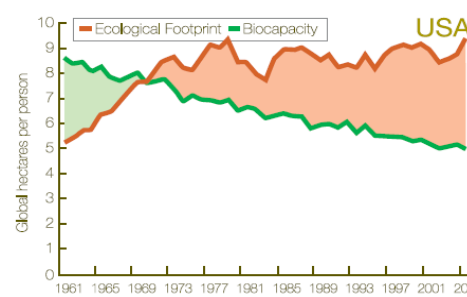
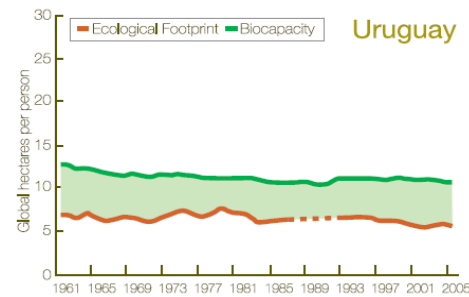
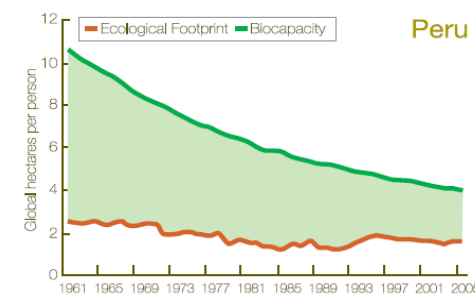
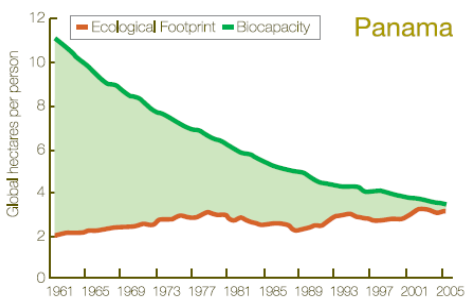
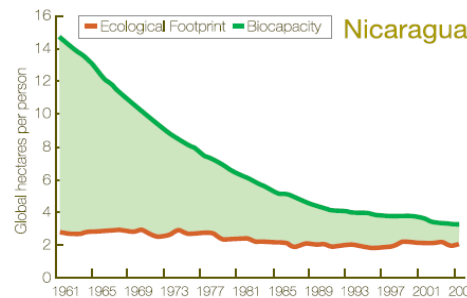
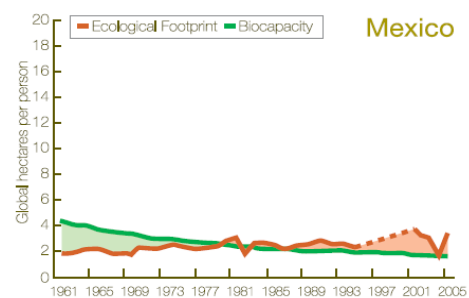
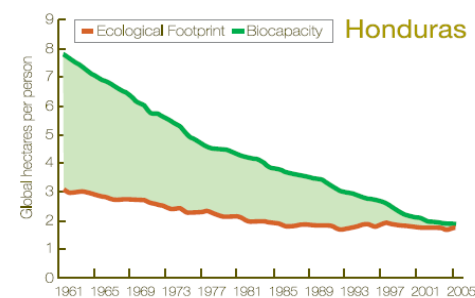
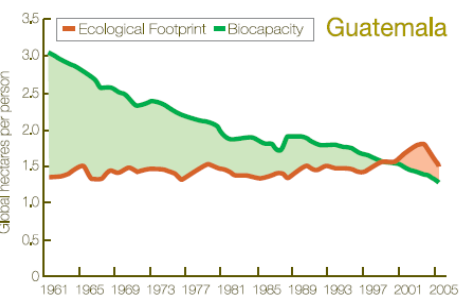
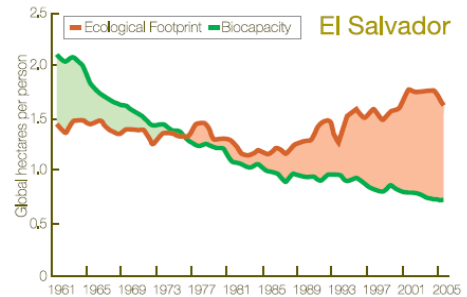
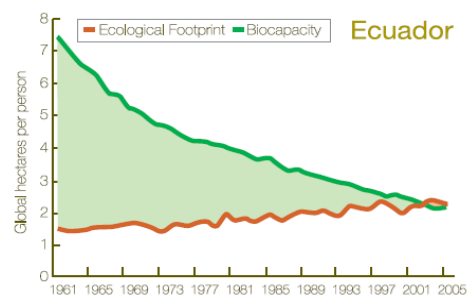
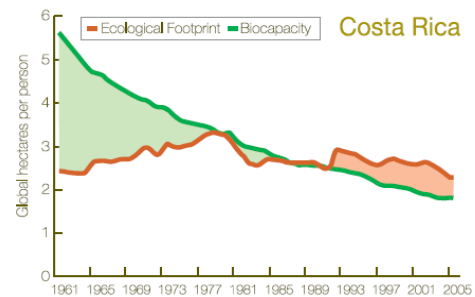
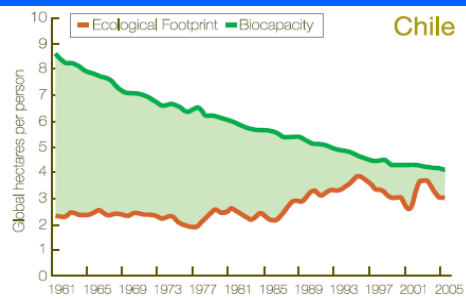
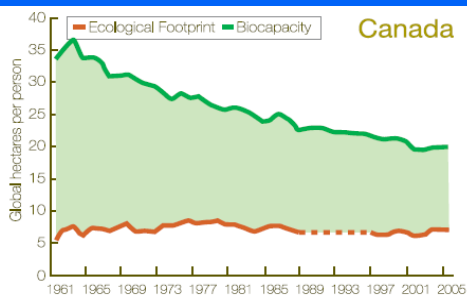
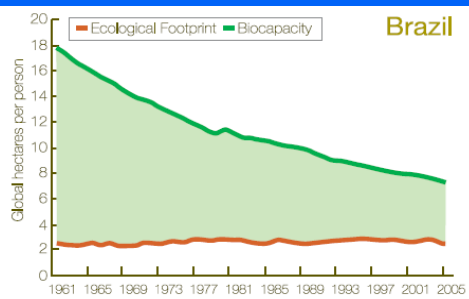
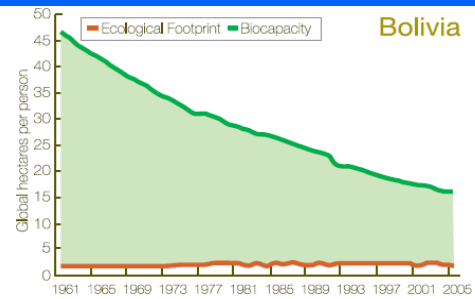
**Global
Warming**



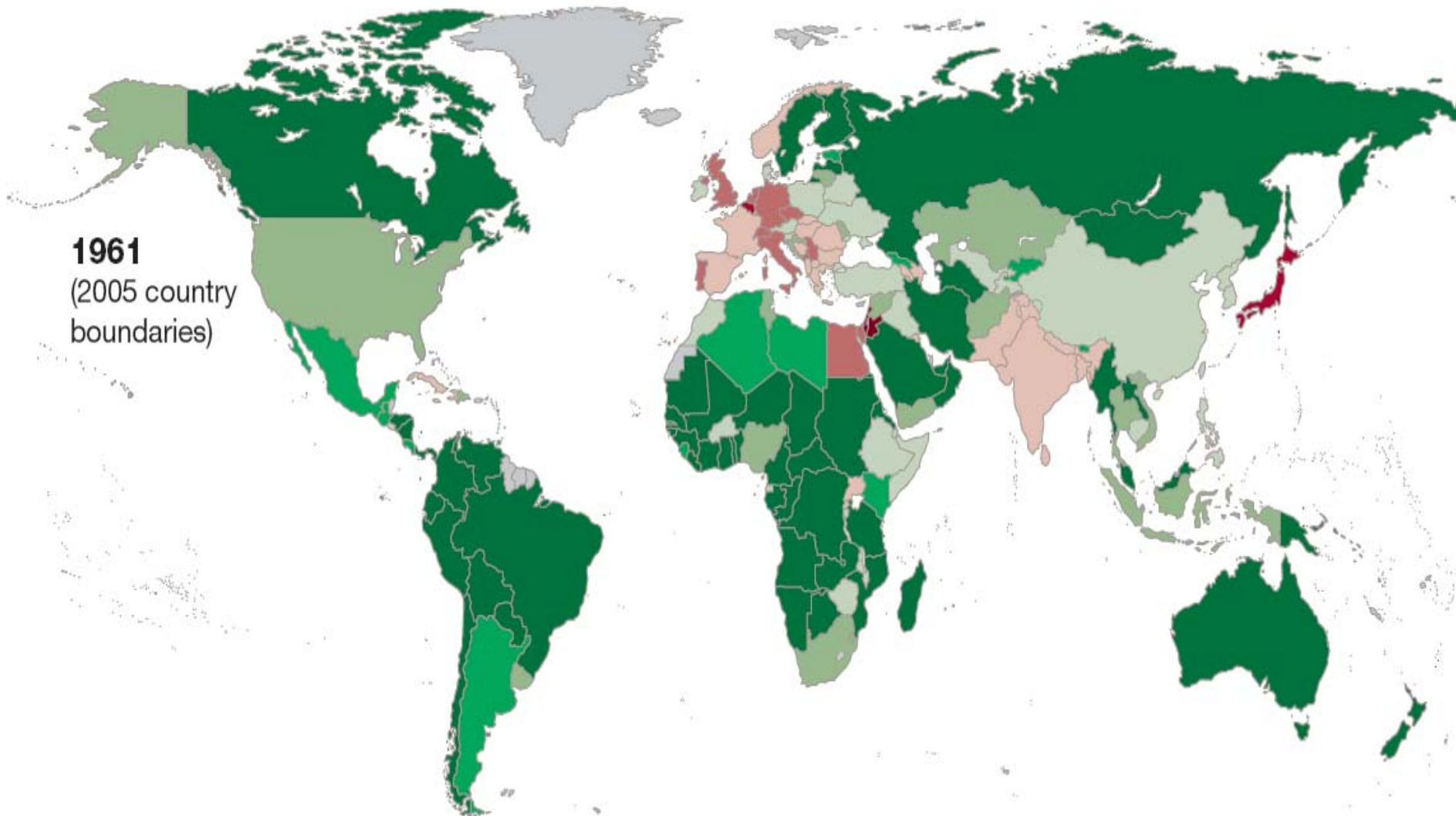
Water Scarcity



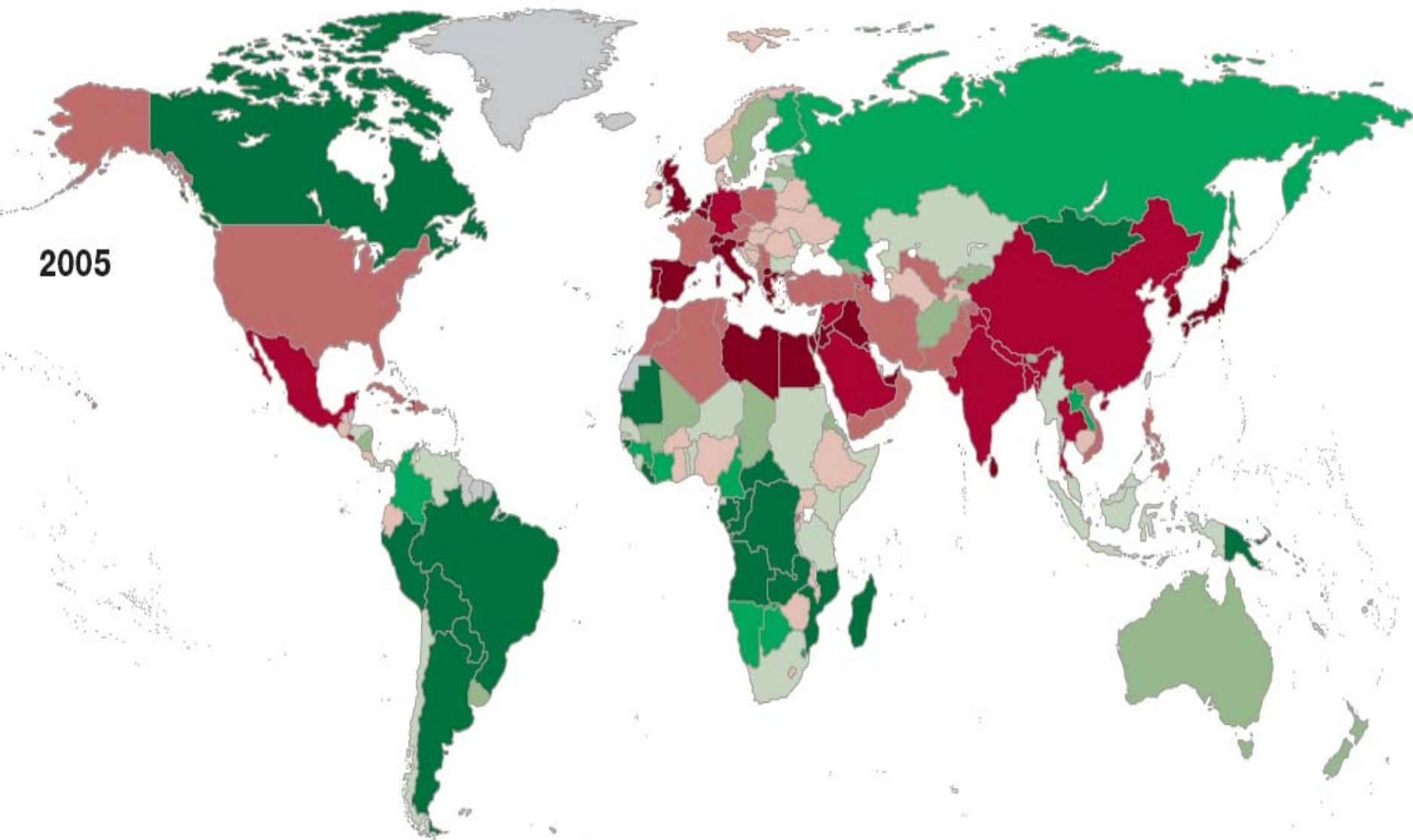
**Energy
Oil scarcity**



Ecological Creditors and Ecological Debtors



Ecological Creditors and Ecological Debtors



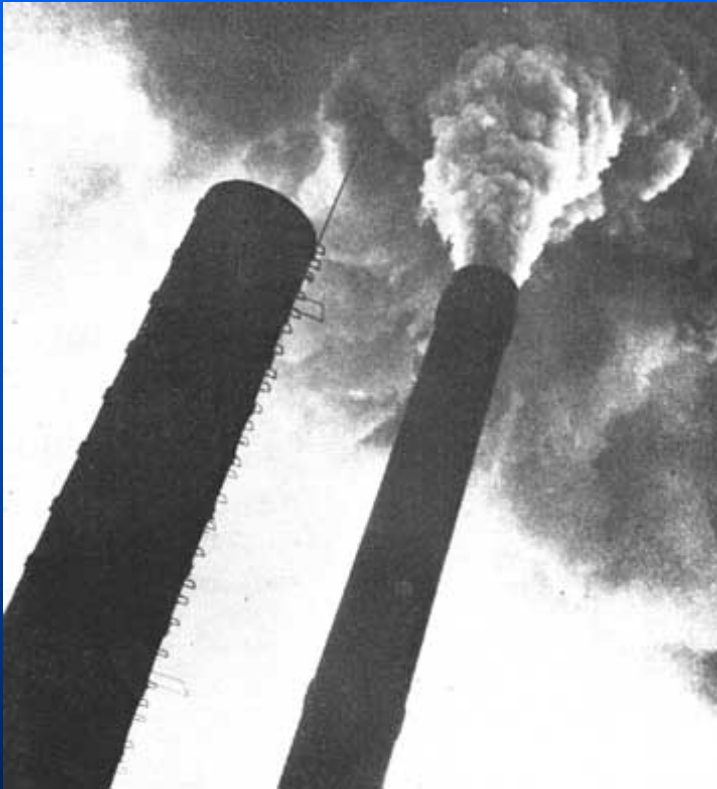
Three Main Challenges to achieve Sustainable Development



**We must
guarantee
the availability of
natural resources**

- First Report of the Club of Rome, *Limits to Growth*, 1972.

Three Main Challenges to achieve Sustainable Development



We should not exceed the limits of the biosphere to recycle and absorb residues and pollution.

Three Main Challenges to achieve Sustainable Development



**We must
reduce poverty
worldwide**

**French Navy intercepts 300 illegal Immigrants
in the Mediterranean (22 September 2008)**

Sustainable Development

- /// Meeting the needs of the present without compromising the ability of future generations to meet their own needs.
- /// Living within the earth's carrying capacity (availability of natural resources and limits to absorb residues and pollution).
- /// Reducing poverty.

Actions needed:

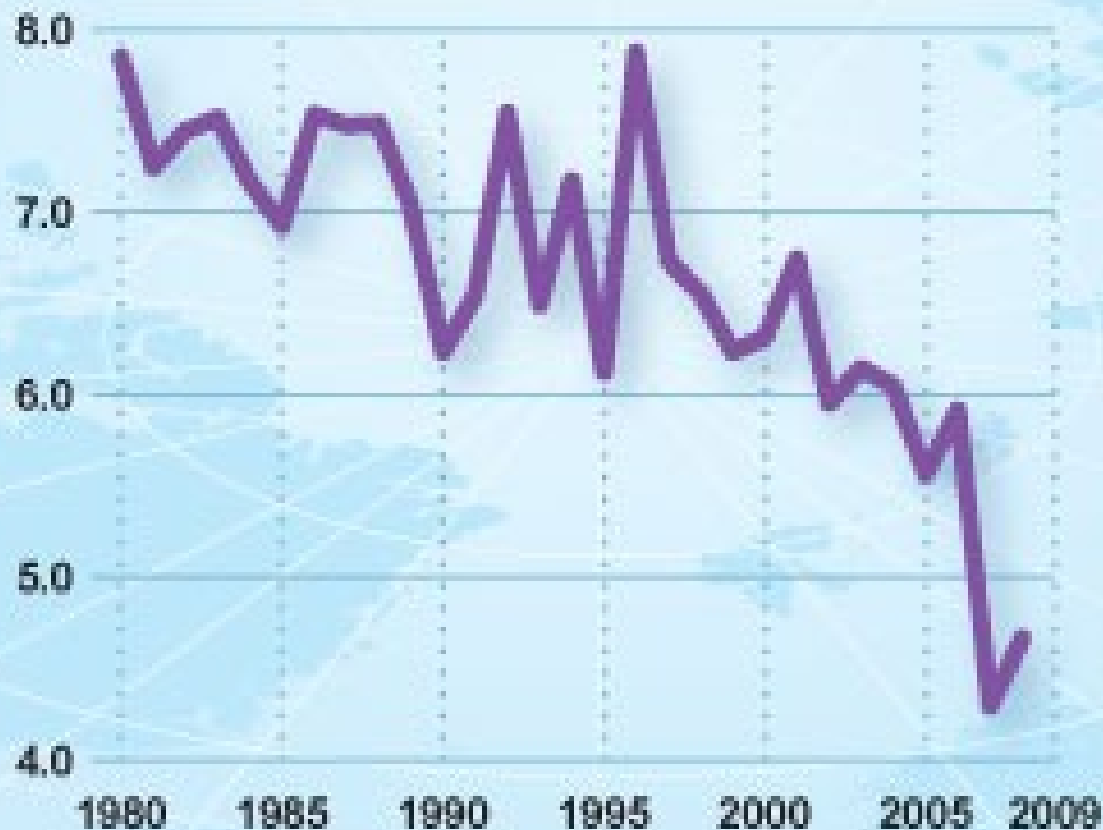
- Stabilization of the population.**
- Higher level of education worldwide.**
- Replacement of GDP as indicator of development.**
- Environmental Tax reforms.**

New challenge:

- Low carbon economy.**
- Business as “unusual”: innovation and creativity.**
- The World will be different in the next decades.**

ARCTIC SEA-ICE COVER

Northern hemisphere summer sea-ice minimum
(millions of square kilometres)



Source: NOAA

Polar Bears



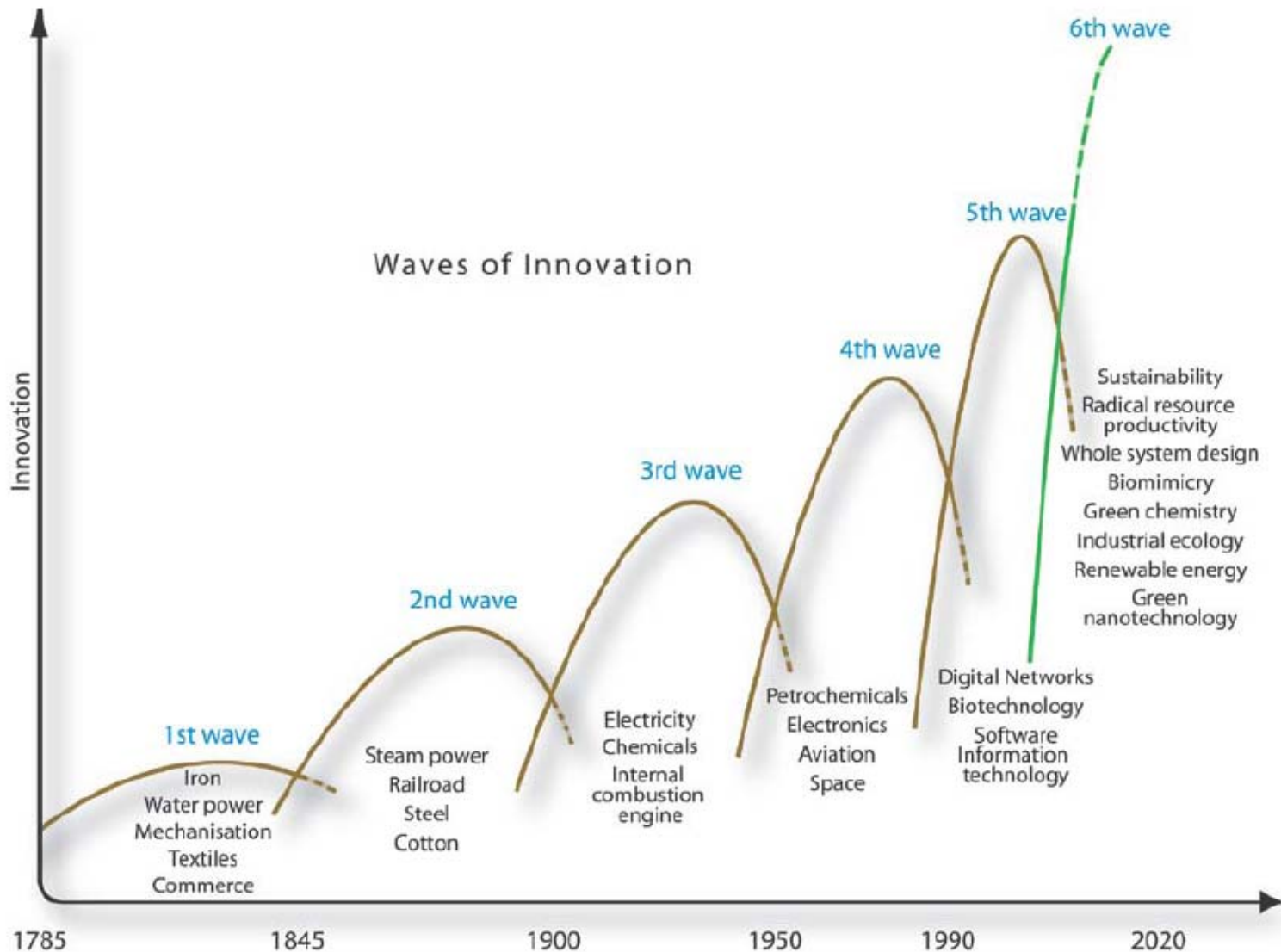


Figure 4 *Waves of Innovation*

Source: Courtesy of The Natural Edge Project¹⁹

Sustainable Transportation?



Thanks.

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