

European Forward looking activities



SPREAD launching conference
The future of sustainable lifestyles and entrepreneurship
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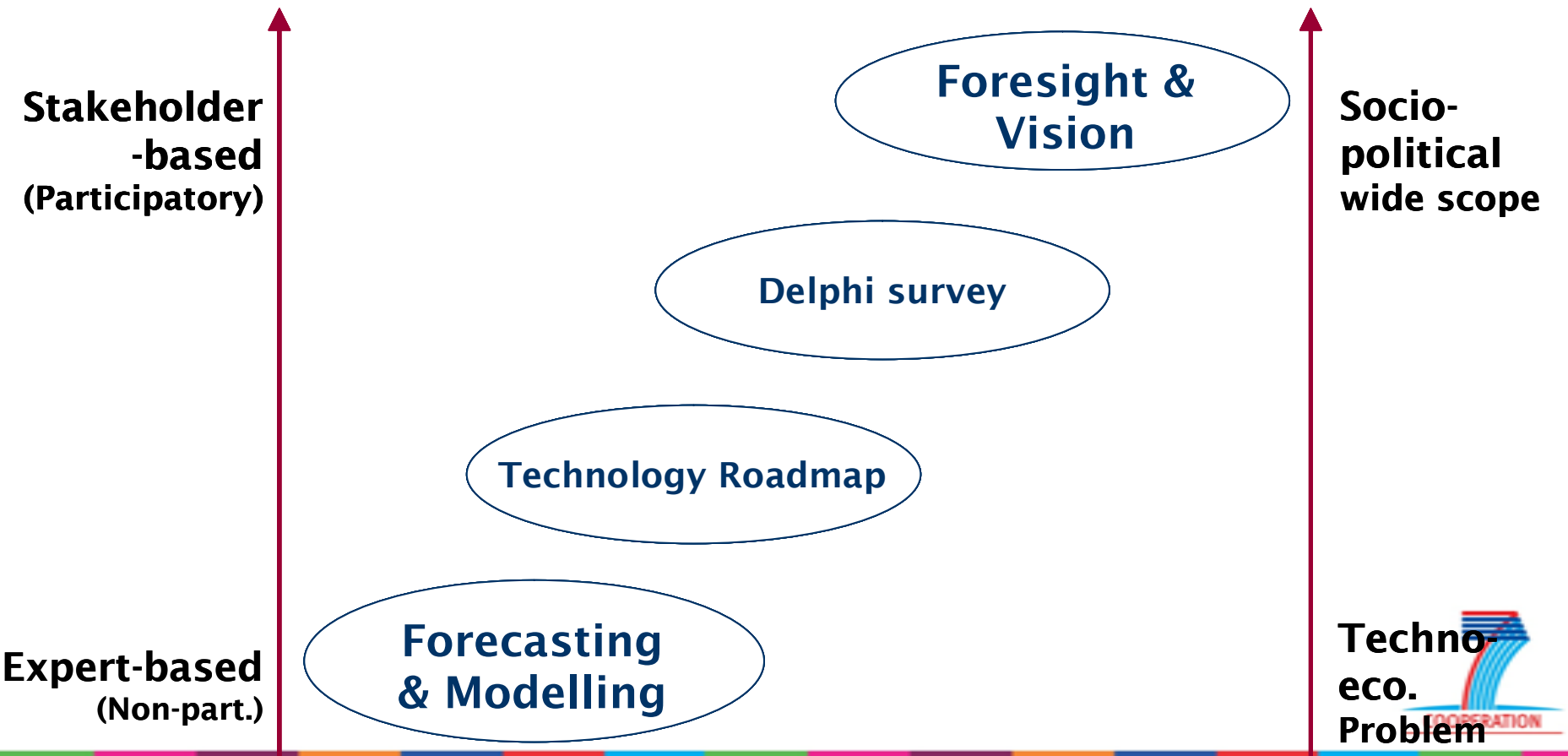
Lifestyles



A tentative definition of Forward Looking Activities

Using a combination of qualitative and quantitative methods, Forward looking is a sensitive exercise oriented towards the future at the junction of dream and reality aimed at shaping a more sustainable world

Methods: Qualitative and Quantitative



EU Forward Looking Activities

- **Foresight, Forecast, Horizon scanning, Technology Assessment, Impact Assessment, *Prospective***
- **A long tradition in the EU**
 - European Council: Gonzalez Report « Europe 2030 »
 - EP: Scientific Technology Options Assessment (STOA)
 - Council and Member States: Joint Programming (JPI)
 - European Commission:
 - FAST and *Cellule de Prospective*
 - Multiannual Financial Perspectives and long-term planning
 - Europe 2020, Roadmap to a low carbon economy in 2050, Transports 2050

Modesty is a must

- **Financial and economic crises**
- **Technological developments**
- **Social habits**
- **Political movements**
- **...**

Controversies on Forward Looking Activities

- **Baseline / Reference scenario?**
- **Objectivity and bias among experts?**
- **Clarity and opacity of models?**
- **Conventional thinking and beyond it?**
- **Over and sub simplification of complexity?**



Largest countries by 2025 (100 million or over)

- China (1453)
- India (1431)
- EU-27 (517)
- USA (358)
- Indonesia (263)
- Pakistan (246)
- Brazil (214)
- Nigeria (210)
- Bangladesh (195)
- Russia (132)
- Mexico (123)
- Japan (120)
- Ethiopia (119)
- Philippines (117)
- Egypt (105)
- **Not a *single* European country in this list**

Il n'y a plus que des petits pays en Europe, mais certains ne le savent pas (Paul-Henri Spaak)

Gonzalez Report “Europe 2030”

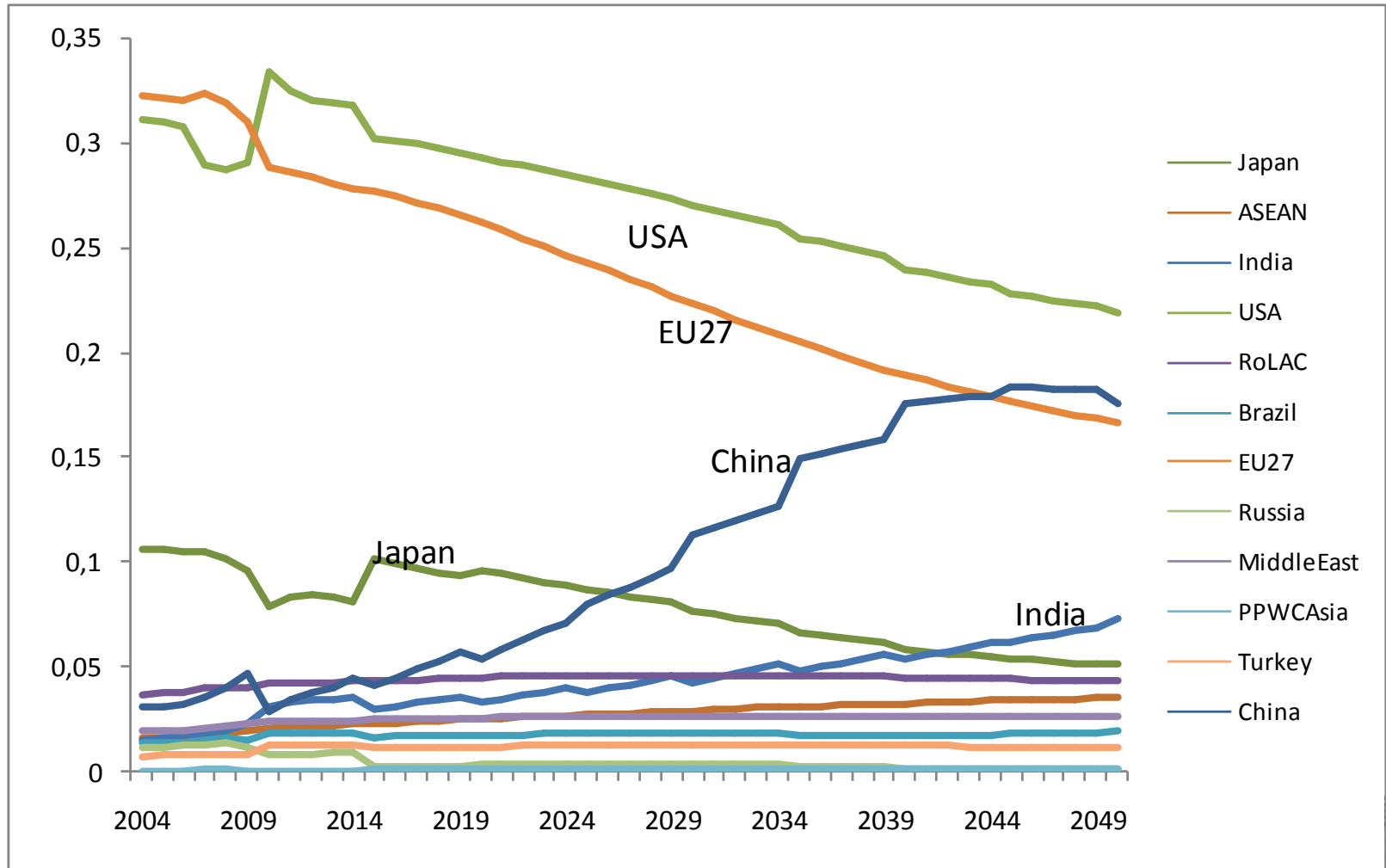


Europe is at a crossroads: either we keep and strengthen the role as one of the main global actors, or we become an “increasingly irrelevant outgrowth on the Asian continent”

Source: <http://www.flagslist.com/maps/Asia/asia-map.gif>



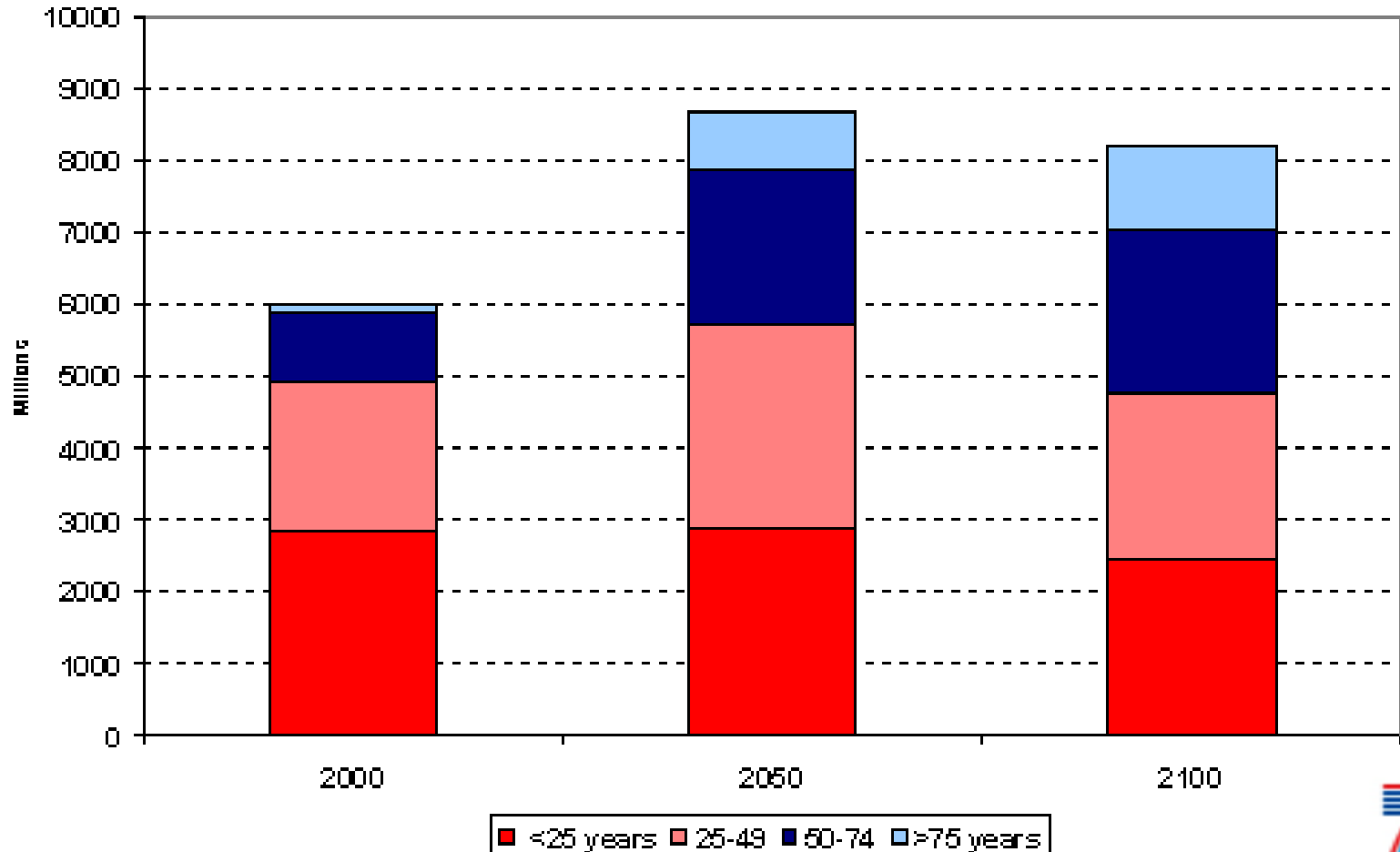
“Nobody cares” – Consumption share



Source: European Commission, DG RTD (Global Europe 2030/2050), MIRAGE model, L. Fontagné



World (ageing) population



Source: European Commission, DG RTD (VLEEM) and UN



Evolving regimes

- **1840-1914** Imperial liberalism
- **1914-1945** Mercantilism and war economy
- **1945-1980** State interventionism and socialism
- **1980-2008** Liberal capitalism
- **2008-...** State capitalism?

Some Weak signals and Wild cards

Global pandemics	Extensive democratization of Arab countries
Civil war in China or India	Post-human or “trans-humanism”
World economic collapse	Loss of satellite communication
Major intergenerational conflicts	Nuclear war in Middle-east
Massive climate migration	Sharia in Europe
Extreme right governments (Europe, USA)	End of capitalism and privacy

Source: European Commission, DG RTD, The World in 2025 and “Global Europe 2030/2050”



Europe 2020 Strategy

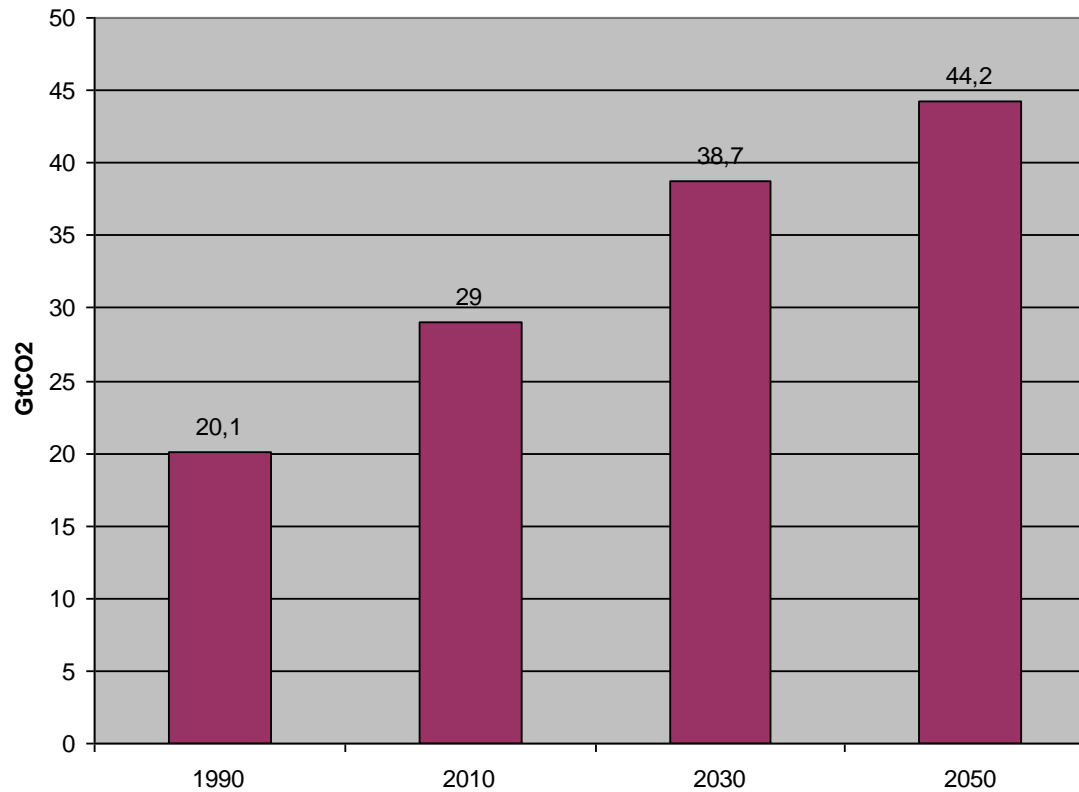
- **Smart sustainable and inclusive growth**
- **7 EU flagship initiatives including**
 - **Innovation Union – COM(2010)546**
 - **Resource efficient Europe – COM(2011)21**

Total Primary Energy Supply (TPES)

- **1970: 5000 Mtoe**
- **1990: 8000 Mtoe**
- **2010: 12000 Mtoe**
- **2030: ~ 17000 Mtoe**
- **What's next?**

World CO₂ emissions

The unsustainable Reference case



Source: European Commission, DG RTD (WETO), P. Criqui



EU Oil consumption and production



Source: Grande Reportagem

Energy by the end of the century

- Energy used for food will double
- Energy for thermal comfort and living-space heating and cooling will triple
- Energy for mobility will increase by a factor of five
- Energy for economic production will only increase moderately
- Energy for leisure and self-fulfilment (sports, cultural, social, and tourism activities) will have the fastest growth

Price of energy



\$30-150



\$200-350



\$200,000-300,000

Source: Energy-future.com

People

...with strong

- **Biospheric values** base their decisions to act on the costs and benefits for the ecosystem
- **Altruistic values** find understanding, appreciation, tolerance, and protection for the welfare of all people important
- **Hedonic values** find pleasure or gratification for oneself important
- **Egoistic values** find social status and prestige, control or dominance over people and resources important

Value matters

Biospheric and altruistic values: positively related to environmental beliefs and negatively related to energy use; can do something to combat climate change

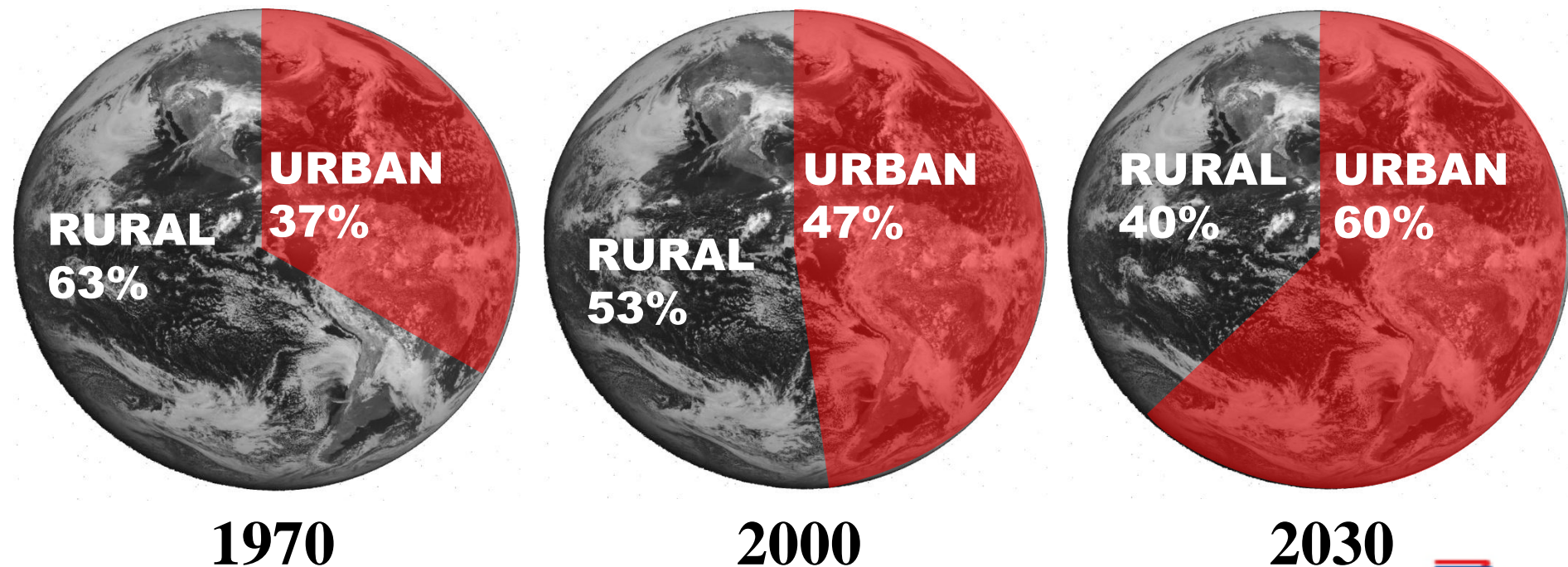
Effective policy message: **personal responsibility and effective ways to save energy**

Hedonic and egoistic values: eat more meat and shower more; have a less energy efficient driving style

Effective policy message: **cost-saving**



Urbanisation



Source: UN-HABITAT

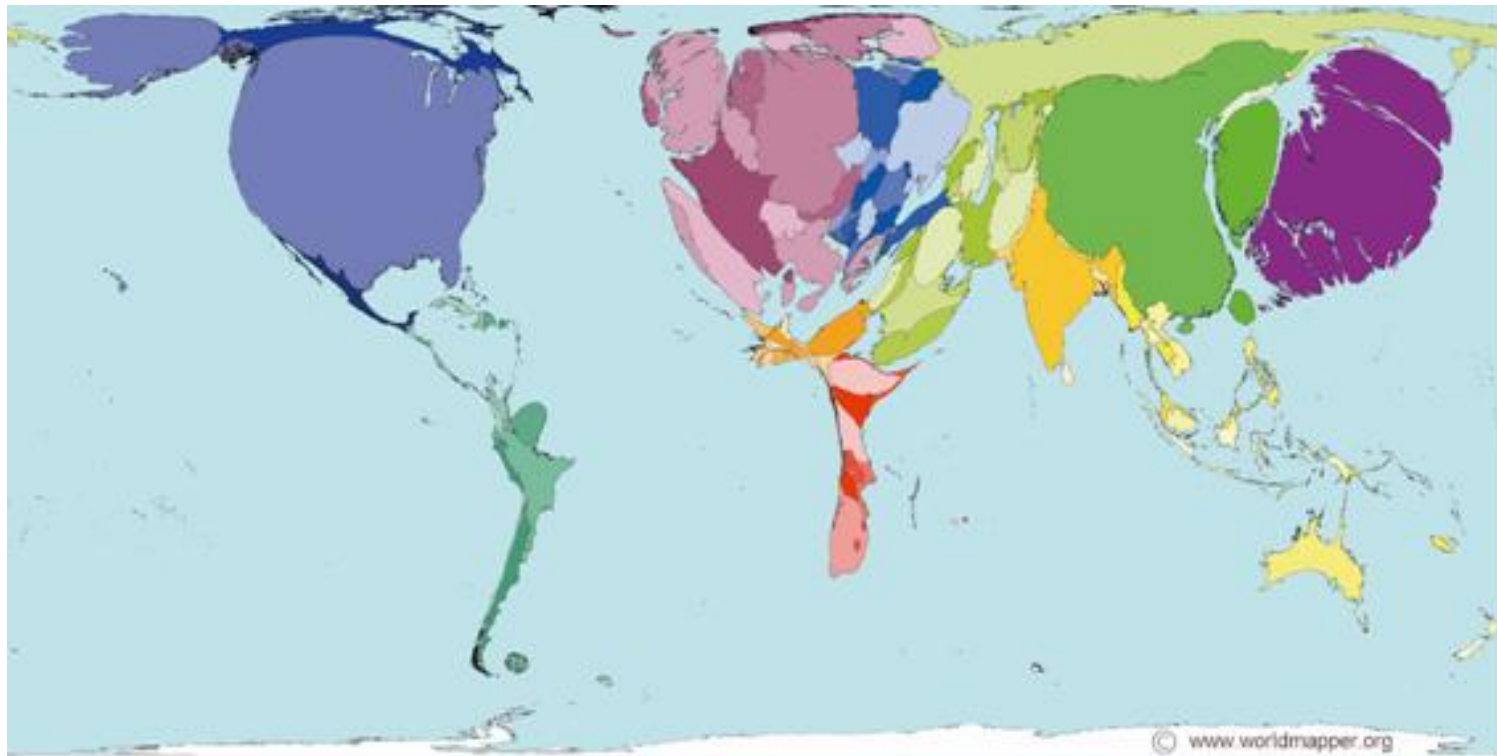


Innovation

- **Technological innovation**
But the value of manufactured products is increasingly based on intangibles
- **Social innovation and demand-side innovation**
Importance of customer's-employee interface, marketing and organisational innovation
- **Open innovation**
Firms do not develop innovation in a closed system
- **Global innovation**
Not only the production but also the innovation networks are now globalized



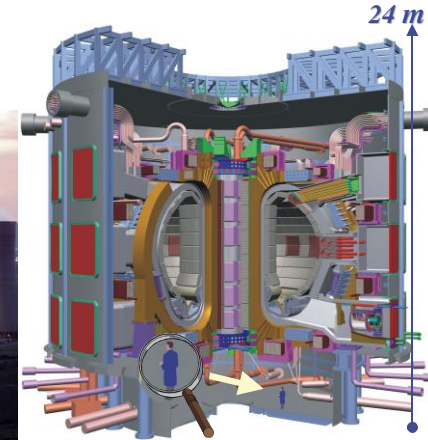
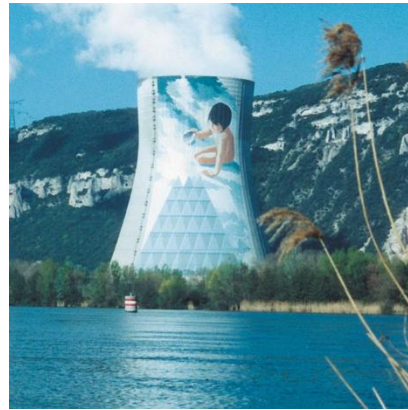
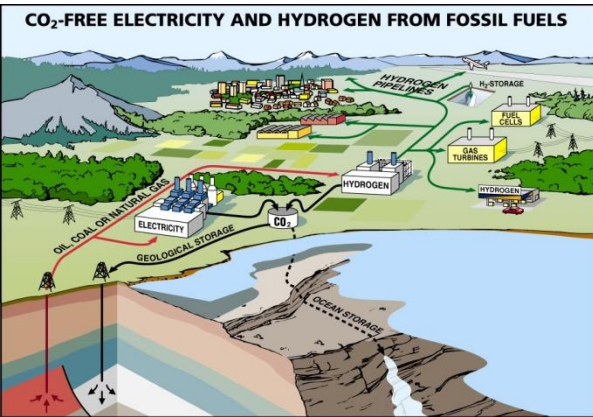
Numbers of people employed in research



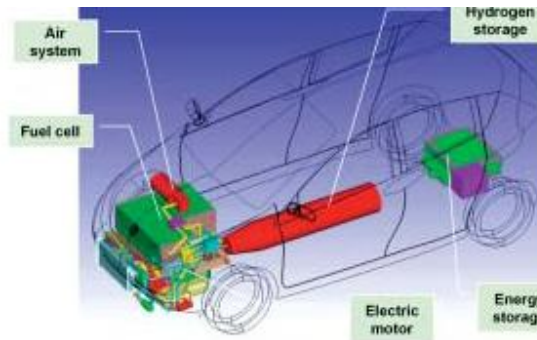
Source: SASI Group (University of Sheffield) and Mark Newman (University of Michigan)

Technology and Socio-economy

Centralized – cf. Megapoles



Decentralized – cf. Autonomy



EU binomial rethinking

- **Role of men and women**
- **Professional and private life**
- **Individual freedoms and collective responsibilities**
- **Economic growth and social well-being (Beyond GDP)**
- **Public and private sectors**
- **Manufacturing and services**
- **Man – Technology / Society - Science**
- **Ethics - Progress**
- **Faith - Reason**

The Power of Science

Economic research and European decision-making:
The case of energy and environment policies

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