

# **Overshoot Day Debate**

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# Objectives of energy policies

- 1. Ensure security of energy supplies**  
against exhaustion of resources, uncontrolled price raises and political turmoil
- 2. Reduce threats to global climate stability**  
through prevention of increasing release of CO<sub>2</sub> to the atmosphere and adaptation measures
- 3. Fight poverty in general (MDG) and energy poverty in particular**  
by supplying clean and sustainable energy at affordable prices, particularly to developing countries and rural populations

# **Main pathways of energy policies**

## **1. Save energy**

by increasing efficiency of energy utilisation and reducing waste

## **2. Increase the use of renewable sources of energy**

by promoting solar, wind, hydro, biomass, geothermal sources of energy for heating, cooling, power generation and transport fuel

## **3. Improve the utilisation of fossil fuels**

by diffusing more efficient and cleaner technologies, including carbon capture and storage

# Energy Services

- We are not so much interested in energy itself, but rather in satisfying our needs that require energy – the so-called **energy services** - such as having comfortable living environment in our dwellings or offices, cooking or refrigerating our food, producing goods and services, transporting people and goods, using telecommunication etc. – all of which require energy.
- If we can obtain the same service using less energy, we shall be better off from the points of view of environment, climate, social issues and also from strictly economic considerations.

# Increasing energy efficiency

- Efficiency can be improved - and energy can thus be saved – in all types of energy utilisation, and, since energy is used in all human activities, essentially one can save energy in all human activities.
- Opportunities for saving energy are present (in order of priorities and scale):
  1. In the building sector (residential and business)
  2. In the transportation sector
  3. In the industrial sector  
(in the industrial sector, the most convenient interventions have already been introduced for purely economic reasons)

# The Negawatt debate

- In 1990, in a joint article in Scientific American, EPRI<sup>[1]</sup> and RMI<sup>[2]</sup> give their vision on the possibilities of savings and their related costs. They “agreed to disagree” in the same article. The lower curve is the one of RMI, the upper one that of EPRI. They represent the potential electricity savings (expressed in % of consumption in the US in 1990) versus the gross cost of a saved kWh. So the cost saving of a saved kWh is not yet subtracted.

<sup>[1]</sup> EPRI = the Electric Power Research Institute; this organisation manages the research programmes of the American utilities.

<sup>[2]</sup> RMI = Rocky Mountain Institute; the institute of Amory Lovins, which strongly emphasises energy savings, as a means to “sustainable” electricity provision.



