

Figure 1: Main Direct Drivers of Change in Biodiversity and Ecosystems

| | | Habitat change | Climate change | Invasive species | Over-exploitation | Pollution (nitrogen, phosphorus) |
|--------------|--------------------------------|----------------|----------------|------------------|-------------------|----------------------------------|
| Forest | Boreal | | | | | |
| | Temperate | | | | | |
| | Tropical | | | | | |
| Dryland | Temperate grassland | | | | | |
| | Mediterranean | | | | | |
| | Tropical grassland and savanna | | | | | |
| | Desert | | | | | |
| Inland water | | | | | | |
| Coastal | | | | | | |
| Marine | | | | | | |
| Island | | | | | | |
| Mountain | | | | | | |
| Polar | | | | | | |

Driver's impact on biodiversity over the last century

| | |
|-----------|--|
| Low | |
| Moderate | |
| High | |
| Very high | |

Driver's current trends

| | |
|-----------------------------------|--|
| Decreasing impact | |
| Continuing impact | |
| Increasing impact | |
| Very rapid increase of the impact | |

Source: World Resources Institute, Opportunities and Challenges for Business and Industry (2005)

Figure 2: Impact of Increasing Greenhouse Gases

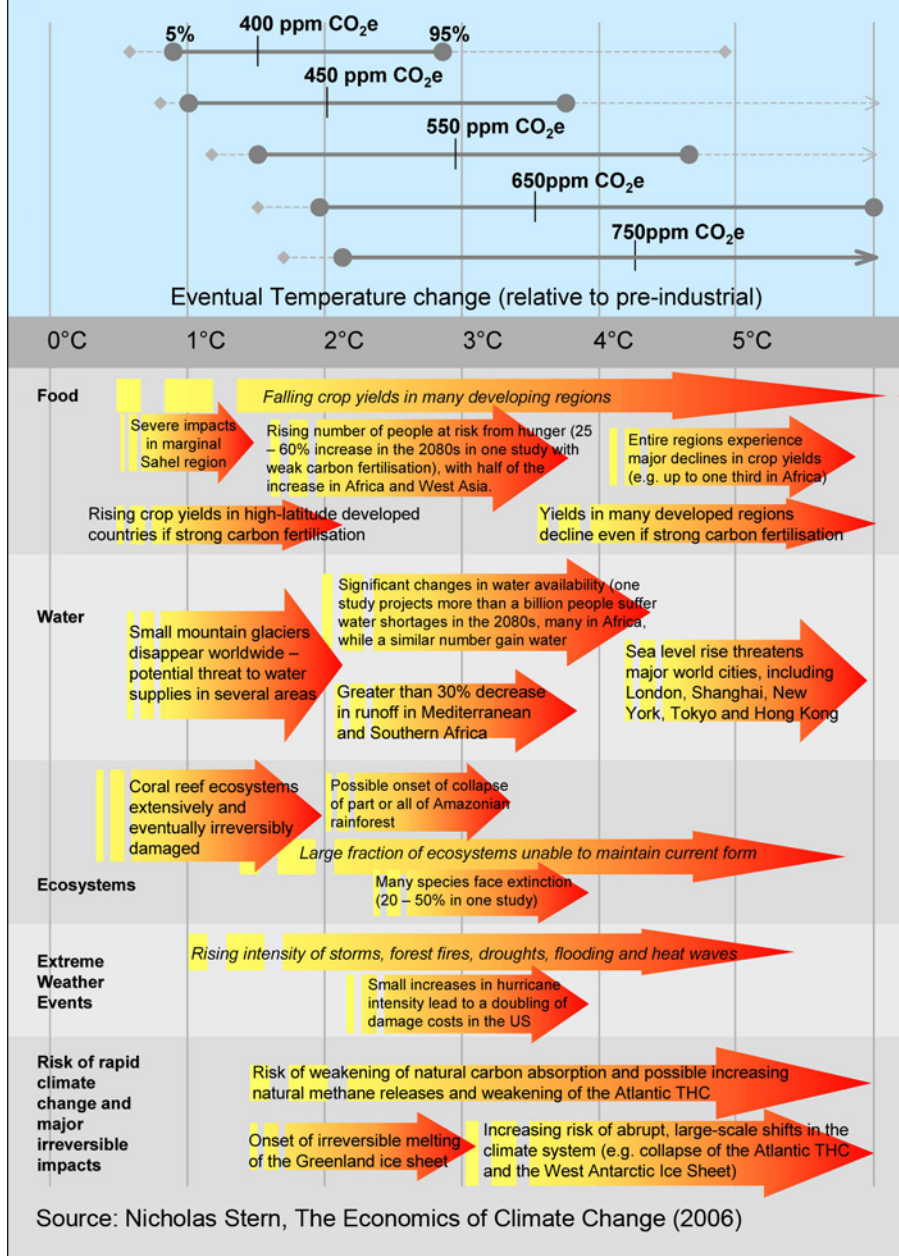
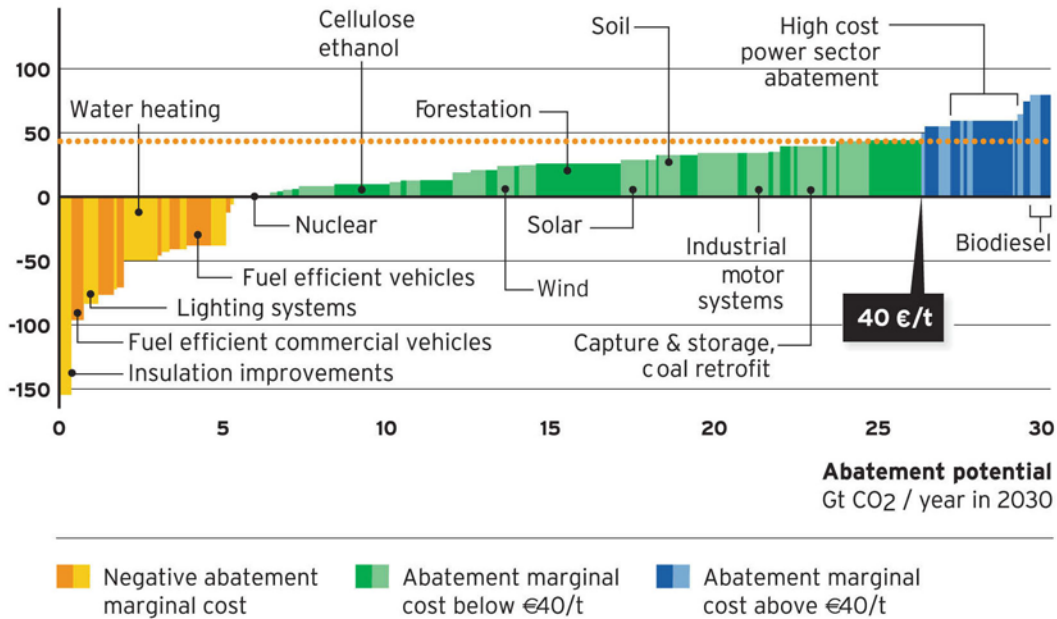


Figure 3: Marginal Cost of Abatement of Greenhouse Gas Emissions

GLOBAL COST CURVE

Marginal cost of abatement - examples

€/t CO₂



Abatement at zero or negative cost

There is significant potential already at a zero or even negative abatement cost. This potential can mostly be found in the buildings and transport sectors. The costs included here are basically costs relating to additional investments and changes in operation and maintenance costs. The negative abatement costs stem from the fact that the additional investment costs are more than compensated for by a decrease in the costs for energy. In addition to these costs, it is likely that there are transaction costs, as well as more intangible costs relating to how people perceive the services rendered from different appliances.

Abatement below € 40 per tonne

Many abatement opportunities could be realized given a long-term and stable international system with a price on carbon dioxide of maximum € 40 per tonne. The majority of these measures have an economic lifetime of more than 15 years, which makes long-term and stable system essential for the unlocking of this potential.

Abatement above € 40 per tonne

Vattenfall has mapped a selection of abatement opportunities at a cost above € 40 per tonne. Some of these opportunities may be realized primarily because of the existence of other types of regulations. There is also a possibility to reduce the costs of these measures in the longer run, but this may require targeted innovation support, e.g. in the form of subsidies.

Source: Vattenfall, Climate Map 2030 (2007)