AUSTRIAN ENERGY AGENCY

Austrian Energy Agency

Construction of power plants and(!) reduction of the energy demand

Guenter R. Simader

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- Examples for unbalanced energy policies
- Contributions of energy efficiency measures in energy policies
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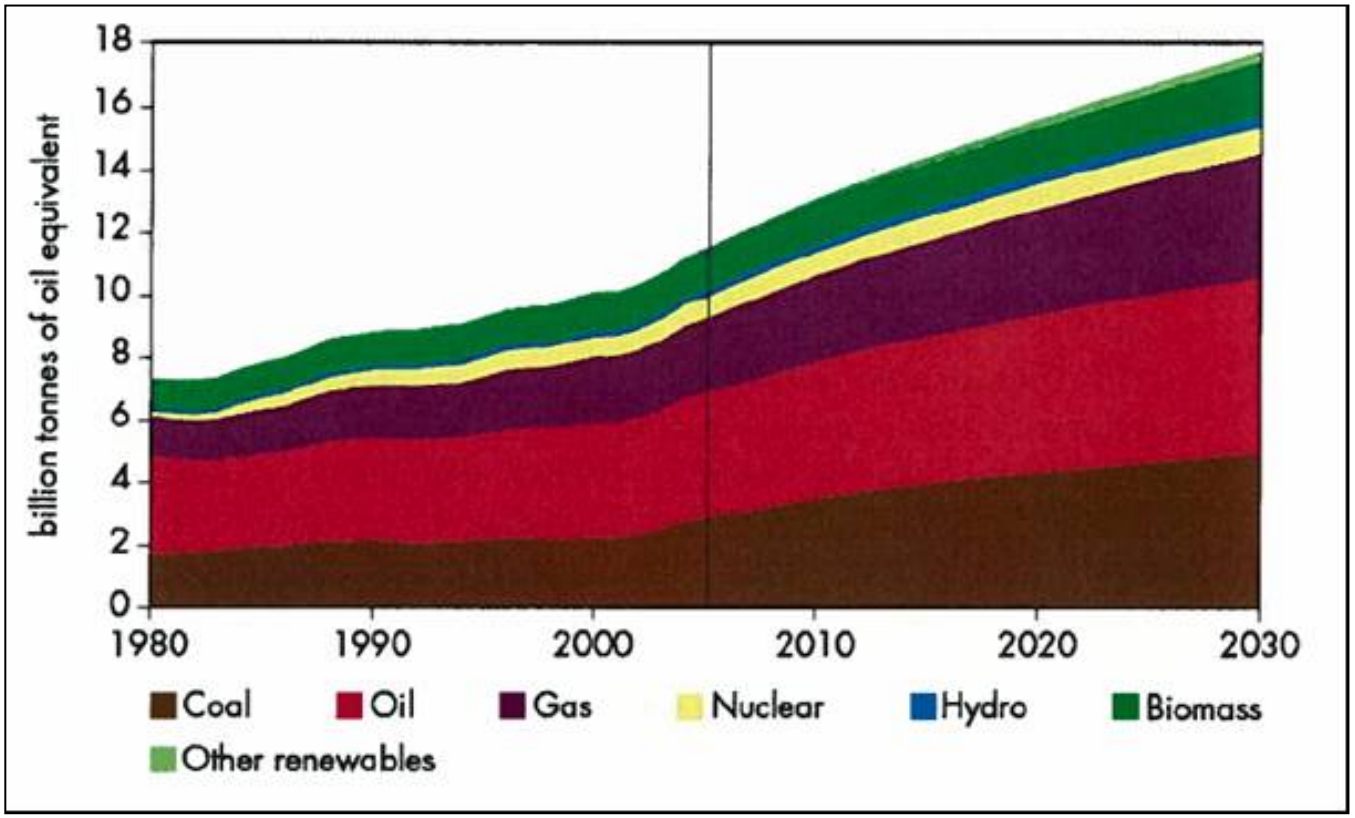
Three pillars of energy and environmental policies

- The major challenge of energy- and environmental policies is a balanced mix of measures (three pillars) concerning
  - Increasing the security of energy suppy
  - Increasing the competitiveness of our economy, and
  - Environmental protection and sustainable development
- Unfortunately these three policy pillars are not congruent, very often contrarity is given by implementing those measures.
- Although consensus exist in all political parties for increasing energy efficiency both in European and national policies the weighting of supply- and demand side measures is unequal (very often to the disadvantage of demand-side measures).

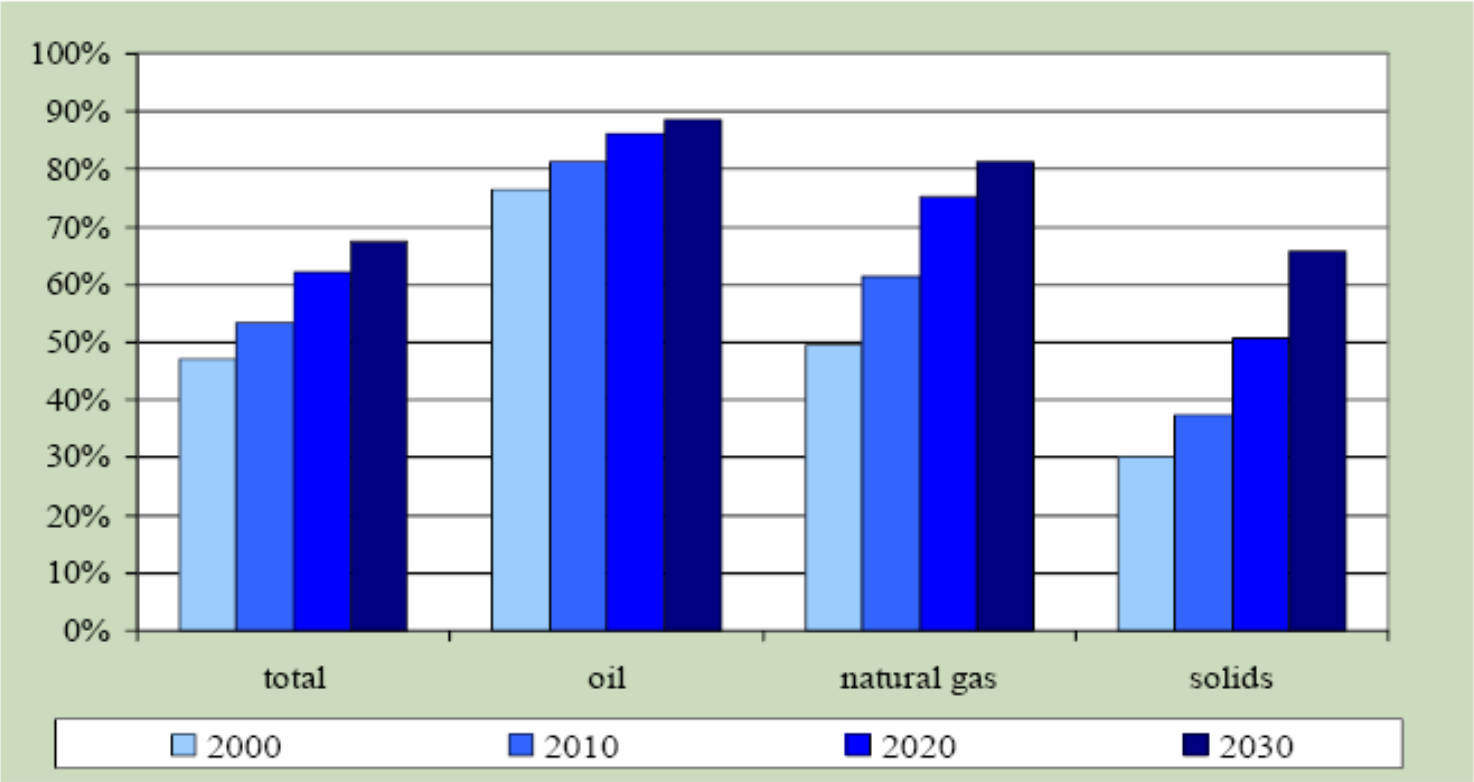
Looking ahead: World Primary Energy Demand - 1970 to 2030



Source: IEA

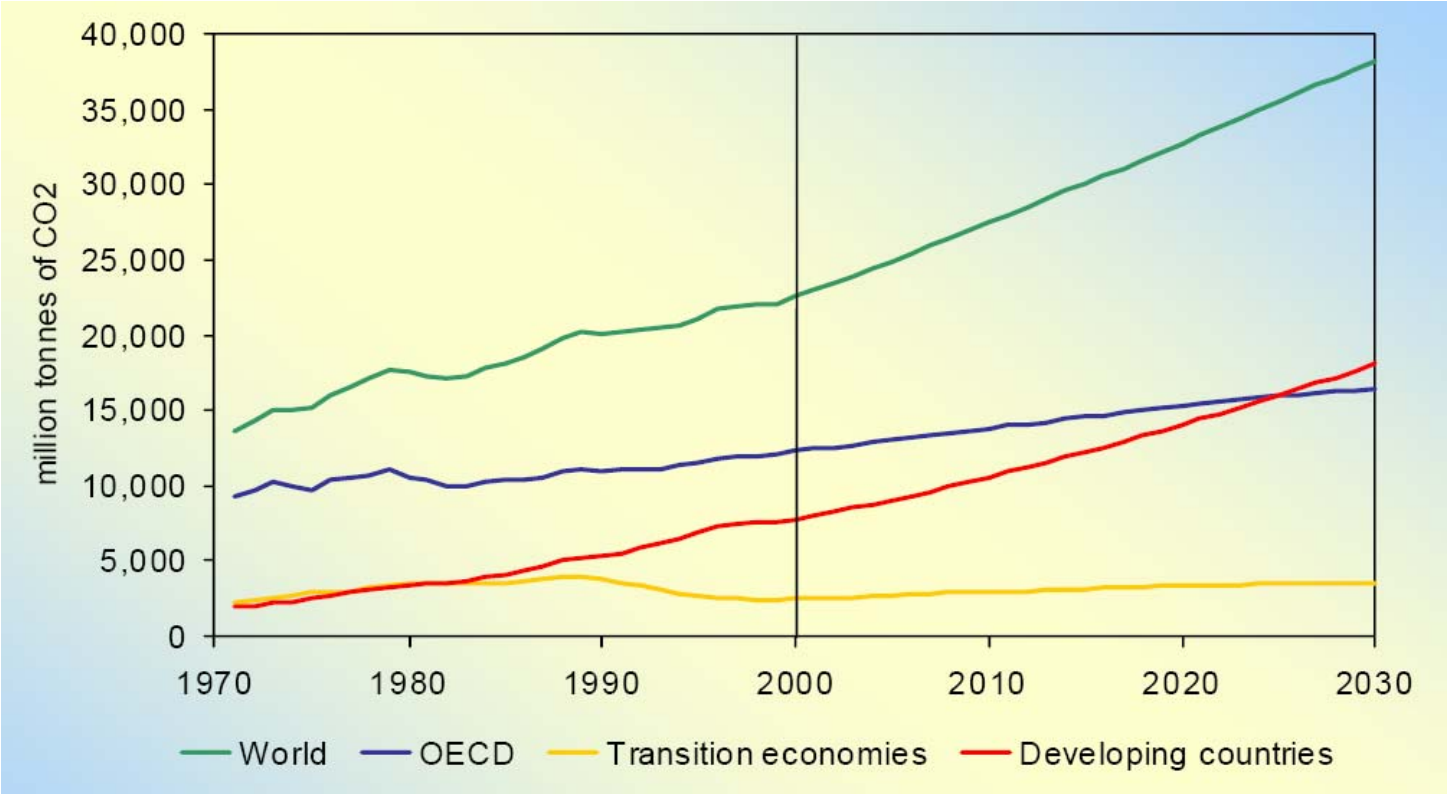
- **World energy demand is projected to grow by more than half (55 %) between 2005 and 2030**
- **Fossil fuels remain the dominant fuel of primary energy, accounting for 84 % of the overall increase of global demand between 2005 and 2030.**

Looking ahead: EU 25 import dependency (%)



Source: DG TRENI

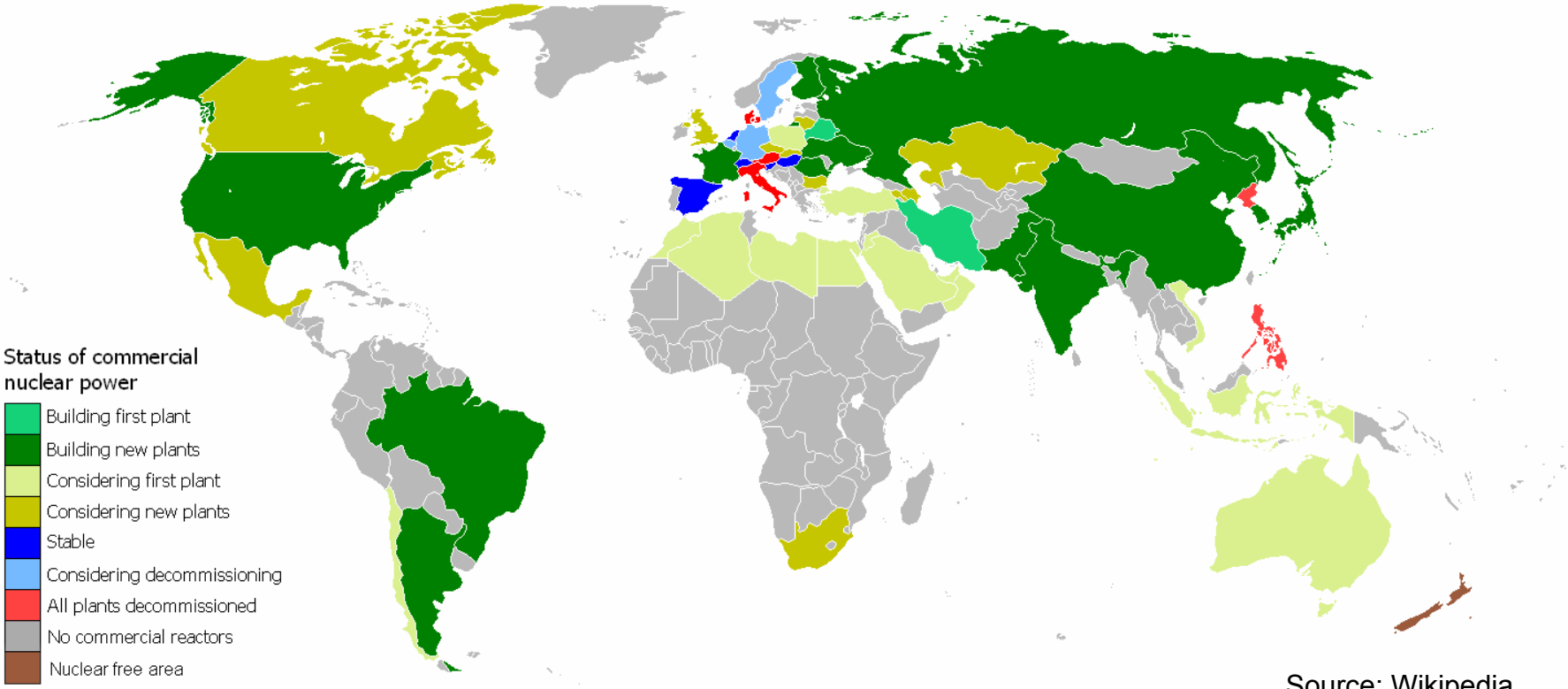
Energy-related CO2 emissions



Source: IEA

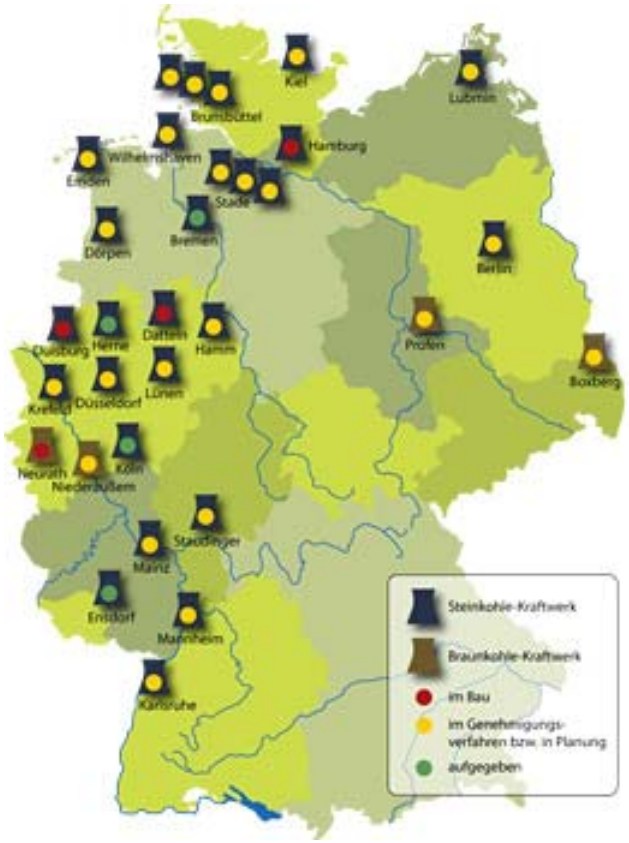
- World emissions increase by 1.8 % per year to 38 billion tonnes in 2030 – 70% above 2000 levels

Danger of unbalanced energy policies – Supply side example: Nuclear energy renaissance



Source: Wikipedia

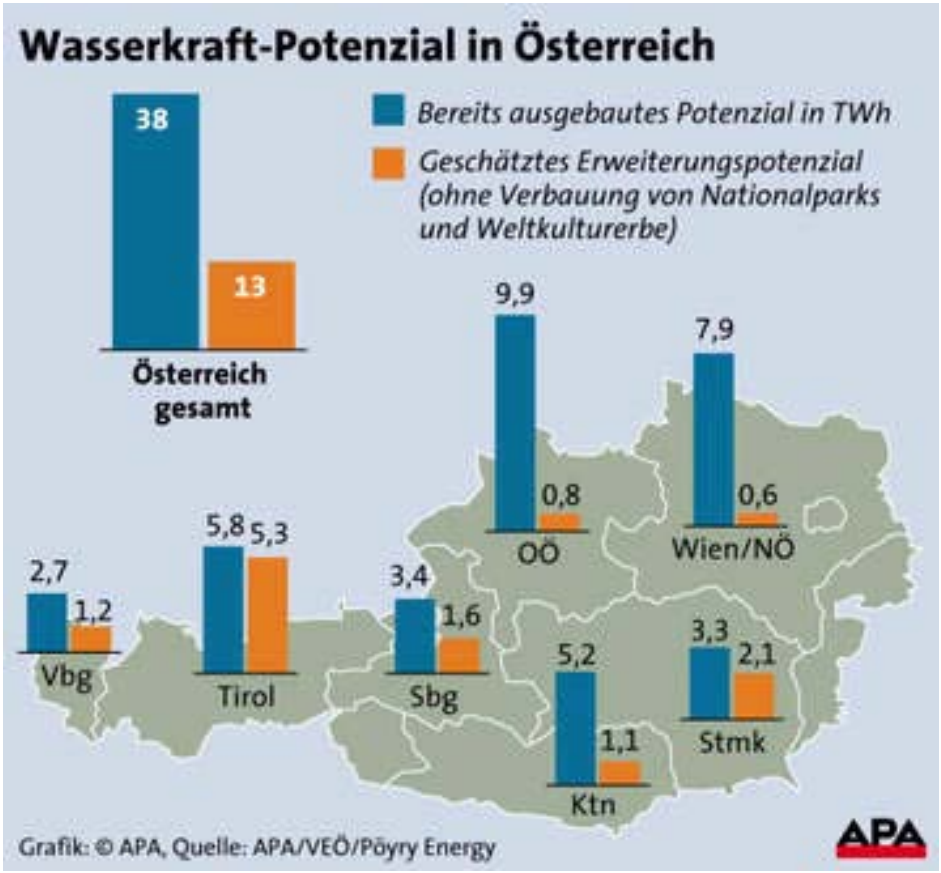
Danger of unbalanced energy policies – Supply side example: Coal energy renaissance



- Revival of coal power plants in Germany (and Europe)
  - Authorisation procedures of 19 new coal power plants
  - Concrete planning for 5 more plants
  - present state: 71 coal power plants > 100 MW)
- CCS („carbon capture and storage“) is over estimated concerning potential, costs and(!) sustainability.

Source: WWF

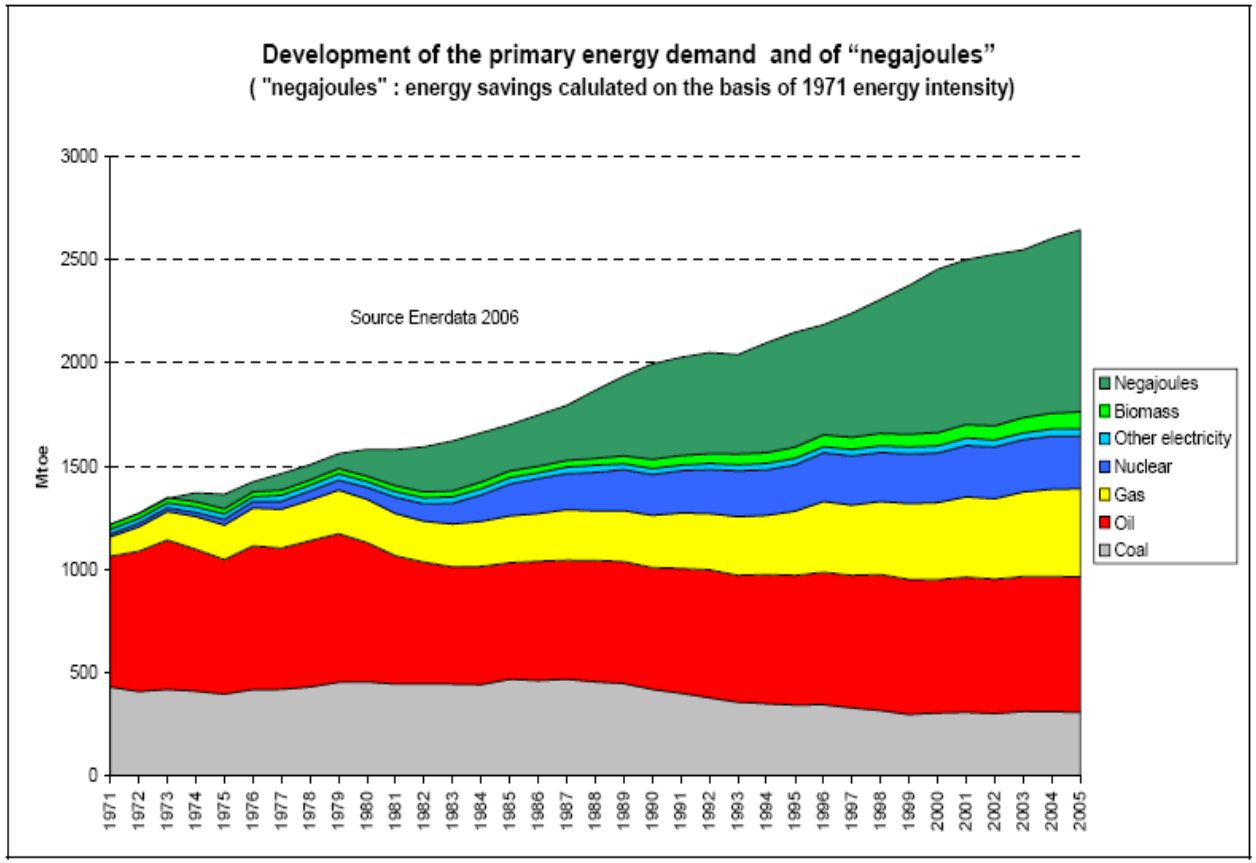
Austrian master plan for the construction of new hydro power plants



Krimmler Wasserfälle (AT) (Source: Wikipedia)

Kölnbreinsperre and Galgenbichl reservoir seen from Arlhöhe (Source: Wikipedia)

Balanced energy policies have to include strong(!) energy efficiency (EE) measures



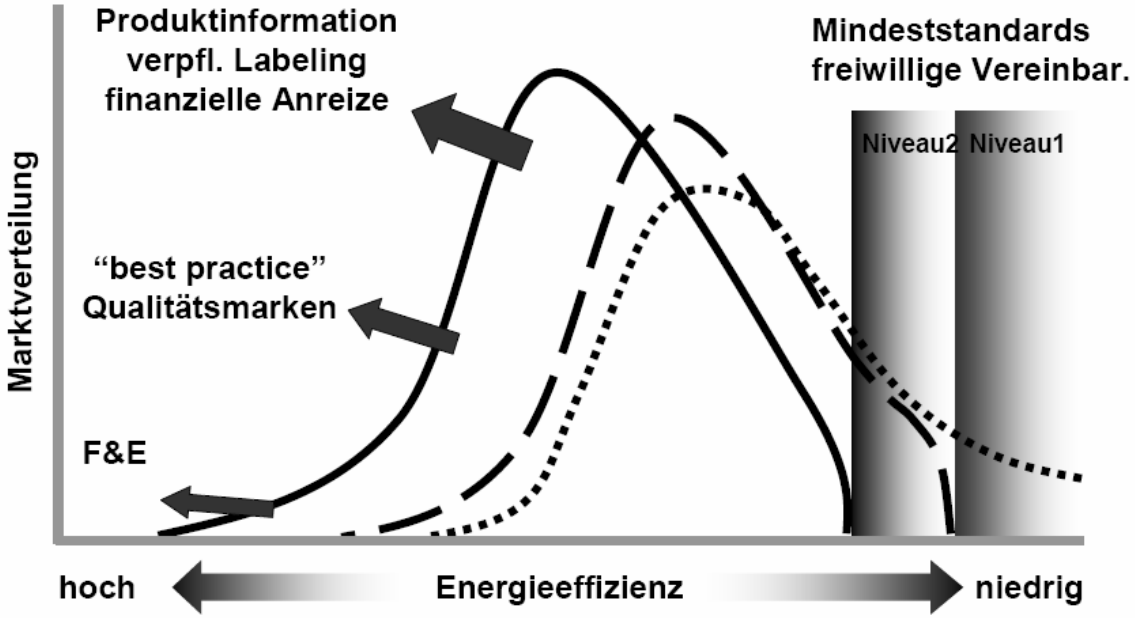
Source: Action Plan for Energy Efficiency: Realising the Potential (COM(2006)545)

- Negajoules instead of Megajoules
- EE Measures have to be implemented in order to achieve a decoupling of the energy demand from the economic development
- Activities from the past show strong evidence for investments in energy efficiency!

Stronger energy efficiency policies to be implemented (national, regional and local) – overview of measures

Regulation	Building Codes and Enforcement, Minimum Equipment Energy Performance Standards (MEEPS).
Information	General Information, Labelling, Energy Audits, Education and Training, Demonstration, Governing by Example.
Economic	Project and product-related Subsidies (rebates), Targeted Taxes, Tax Exemption, Tax Credits, Financing Guarantees, Third-Party Financing Facilities, Reduced-interest Loans, Bulk Purchasing, Technology Procurement, Grants, Certificate Trading systems.
Voluntary Agreements	Industrial Companies, Energy Production, Transformation and Distribution Companies, Commercial or Instittional Organisations.
Combinations	

Best successes by the combination of energy policies – example efficient energy using products (boilers)



- **Combination of minimum energy performance standards and labelling; cut-out worst – promote the best systems**

Ecodesign requirements for boilers – EUP directive (heating systems)

Für small boilers (≤ 70 kW)

- 01/01/2011 'specific efficiency' ≥ 56 % (HHV)
- 01/01/2013 'specific efficiency' ≥ 76 % (HHV)

Für larger boilers (≥ 70 kW)

- Ab 01/01/2011 'specific efficiency' ≥ 56 % (HHV)
- Ab 01/01/2013 'specific efficiency' ≥ 96 % (HHV)

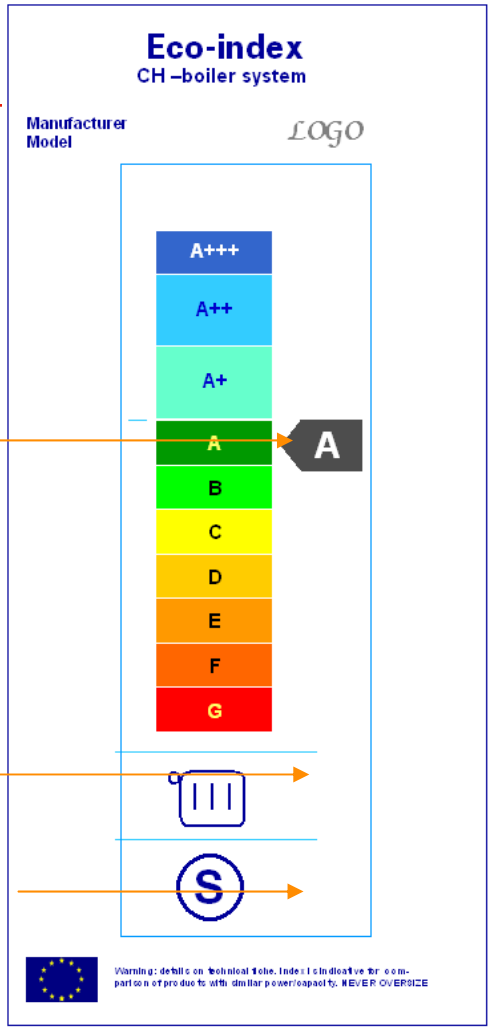
Emissions

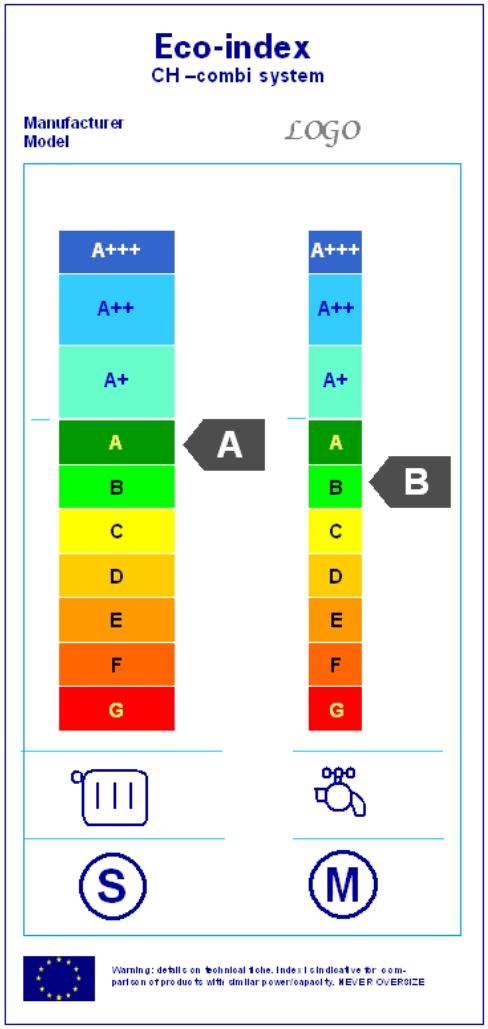
- NOx; 20 ppm,

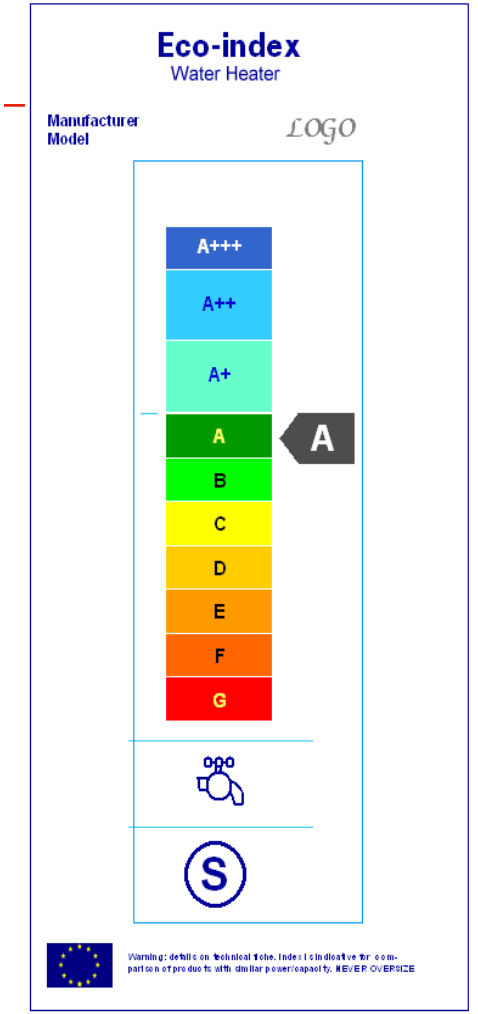
Labelling system already known from household appliances applied to other technologies and systems – example heating systems (boilers)

Function

Load profile







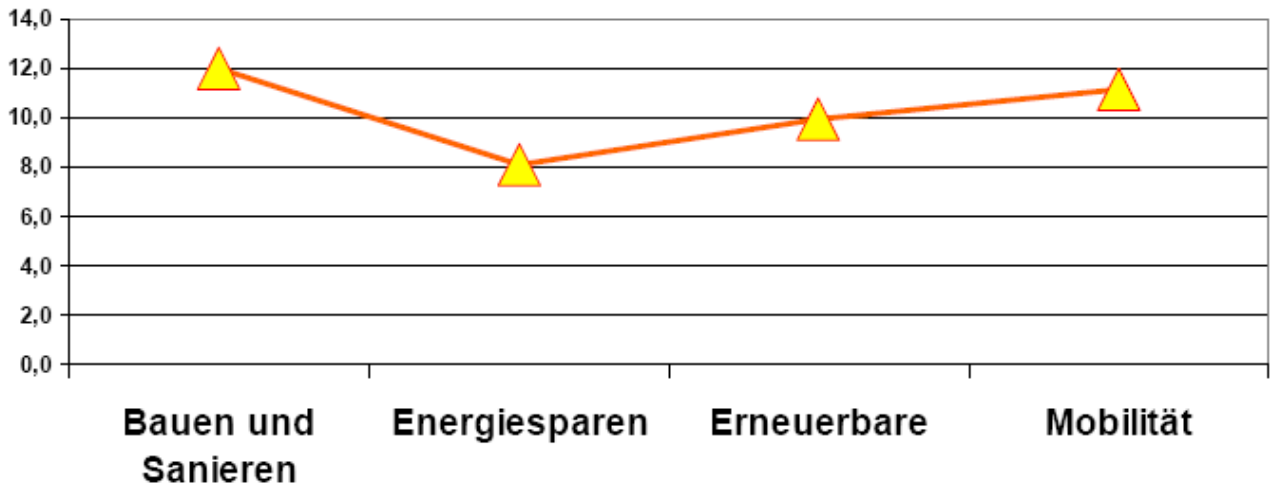
More investments in soft measures – the Austrian national climate protection programme „klima:aktiv“

- Goal: Supporting economic and regulatory instruments of the climate-policy – already in place on national, regional and local regions – by information, communication, dissemination activities and(!) by creating of new standards
- in order to influence „sustainable“ investment decisions achieving energy savings and savings in greenhouse gases!
- klima:aktiv initiative consists of 23 programmes in the areas
  - Energy efficiency / buildings
  - Renewable energy sources
  - mobility management / driving attitude
- Extended information under: www.klimaaktiv.at

Results of the Austrian national climate protection programme

- Implemented „sustainable“ mobility management in companies and municipalities show CO_2 savings of 85.000 t per year
- Renovation of buildings in the service sector (banks, insurance, administration, etc.) result in CO_2 savings of 60.000 t per year
- Optimisation of industrial processes achieve CO_2 savings of 40.000 t per year
- Additional initiated installation of thermal solar systems, heat pumps, biomass heating systems achieve around 200.000 t CO_2 savings per year
- Savings of 100.000 t CO_2 per year could be achieved by the renovation of more-family houses
- 16.500 t CO_2 savings per year could be achieved by the renovation of public buildings

Evaluation of klima:aktiv in 2008
(in total around 23 EURO / t CO_2)



Summary

- Projections of the future energy demand and energy related CO_2 emissions show major actions needed to decouple the future energy demand from the economic development, otherwise!
  - climate issues and problems in the security of energy supply provide a serious danger in our future
- Unbalanced energy efficiency measures have to be avoided; investments in the demand-side should receive similar investment volumes than in the supply-side
- Policy combinations of regulatory and information activities show best implementation results in energy- and climate policies!
- Investments in information transfer activities have to be increased by the public sector (market failure)
- Investments in soft-measures pay-off both in short- and long-term; furthermore these investments contribute significantly to the sustainable development in national, regional and local regions.