

The Global Energy Picture, INFORSE's Visions and EU policy

By Gunnar Boye Olesen
International Network for Sustainable Energy
Skopje, November 29, 2007



- ❖ A network of 70 NGOs including Eco-sense and Proaktiva
- ❖ Formed in 1992 together with global INFORSE
- ❖ Develop sustainable energy visions
- ❖ Follows EU energy and climate policies
- ❖ Sustainable energy education, training, and promotion

See
www.inforse.org/europe



Man-made Climate Change is our largest global risk today — and is mainly Caused by Energy

The world energy supply and use:

- ❖ Causes about 60% of man-made climate change
- ❖ Is also beyond environmental limits of radioactivity, acidification, resource depletion, and others.
- ❖ Does not provide basic energy needs as light and healthy cooking facilities to 1/4 of the world's population



Global Warming

Global warming above 1.5-2.5°C is likely to cause extinction of 20-30% of species and major changes in ecosystems (IPCC4, WG2, summary)

- ❖ Global warming will cause a warmer and dryer climate in large parts of Southern Europe
- ❖ We must stop global emissions increase 2015 and start reductions to keep global temperature increase to 2 °C (IPCC)
- ❖ EU has 2°C target for global warming

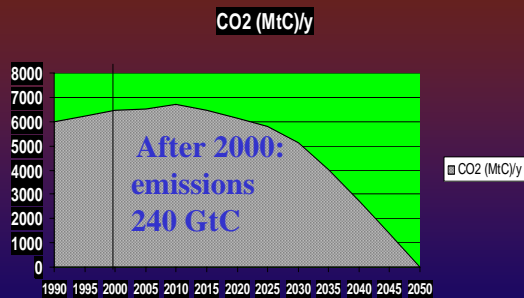


Fossil and Nuclear Limits

- ❖ Uranium supply, 37% from storages, agreement to use Russian storages ends in 2013, record price in 2007
- ❖ Oil consumption is peaking and production is stable in spite of high demands and high prices, record price in 2007
- ❖ Gas will peak before 2030
- ❖ Coal can increase until around 2030 but will then also decrease

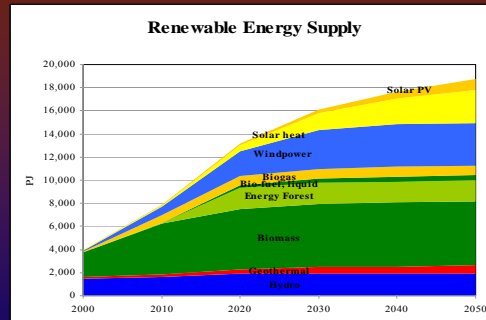
Conclusions by the Energy Watch Group, Germany,
www.energywatchgroup.org

A Global Sustainable Scenario by INFORSE



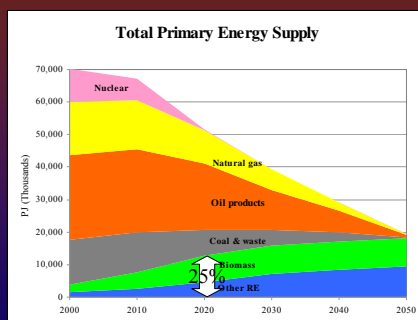
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INFORSE's EU-27 Vision



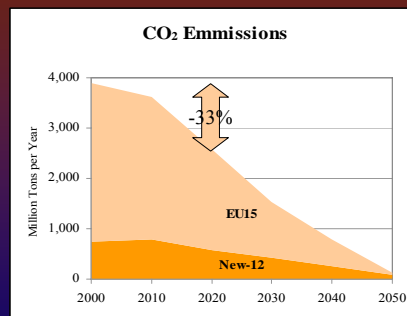
Preliminary version – March 2007

INFORSE's EU-27 Vision



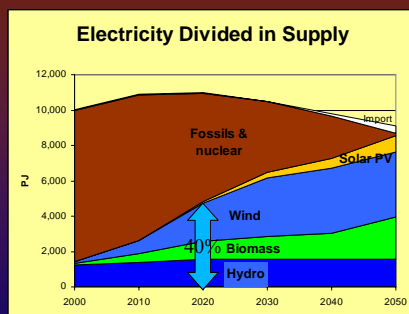
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INFORSE's EU-27 Vision



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Preliminary version – March 2007

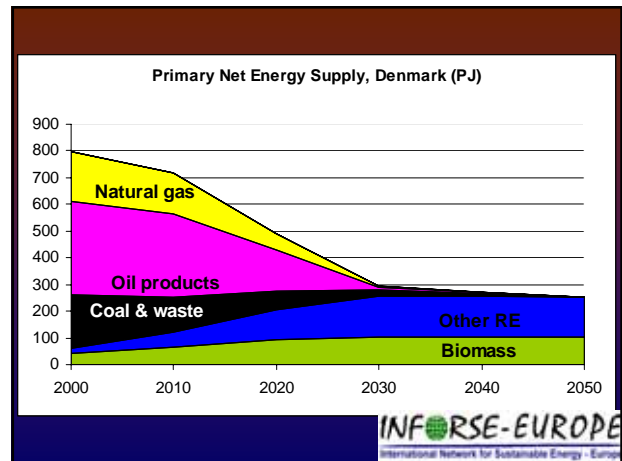
Energy Demand

- ❖ Factor 4 of energy efficiency increase is possible for most types of equipment and processes
- ❖ Most energy consuming equipment will be replaced many times before 2050: new generations of equipment should maximize efficiency. Technology learning drives prices down.
- ❖ One exception is houses. In EU houses could use only 1/7 of today's heat demand in 2050. For the vision is proposed 1.7%p.a. specific reduction.
- ❖ For transport is expected increase in efficiency from today's 15-20% to 50%, and re-gain "break energy":
- ❖ Energy service demand will increase, 0-100%
- ❖ -33% in car use in EU-15, but + 100% in Lithuania

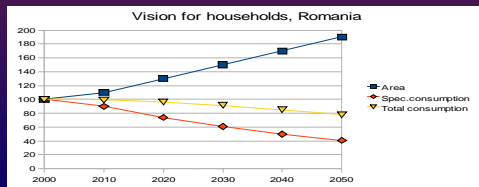
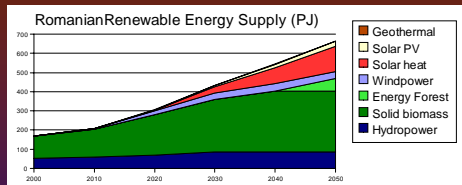
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Vision for Denmark (OVE'05)

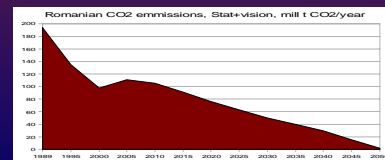
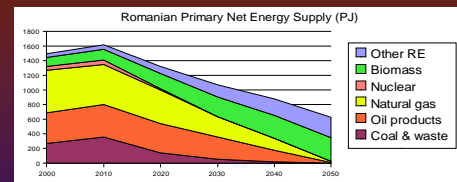
- ❖ Strong growth in windpower until 2030
- ❖ Half specific building consumption 2005-2025
- ❖ Flexible electricity use: heat pumps and hydrogen
- ❖ Sustainable transport system by 2030 (33% reduction in car use)
- ❖ el-storages from 2030



Vision for Romania



Vision Results, Romania

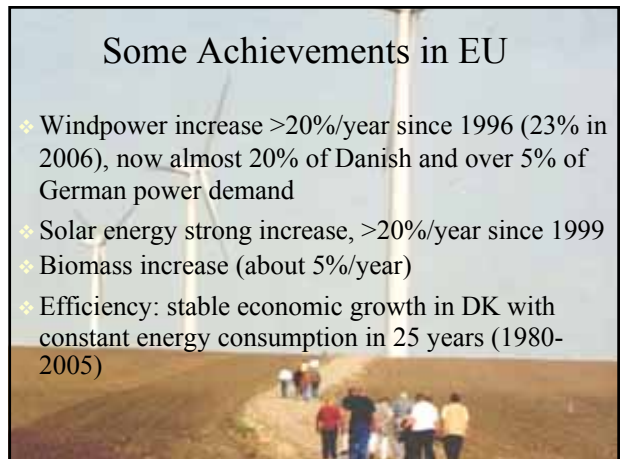


Effects of Renewables & Efficiency

- ❖ Reduces greenhouse gas emissions
- ❖ Reduces imports (except expensive import equipm.)
- ❖ Reduces pollution (except for inefficient biomass, some biofuels)
- ❖ Increases employment, mostly:
 - ❖ Better houses: almost always
 - ❖ Solar heating: when build in the country
 - ❖ Efficient equipment: when cost-effective
 - ❖ Windpower: with some production in country
 - ❖ Biomass: when biomass is available in country

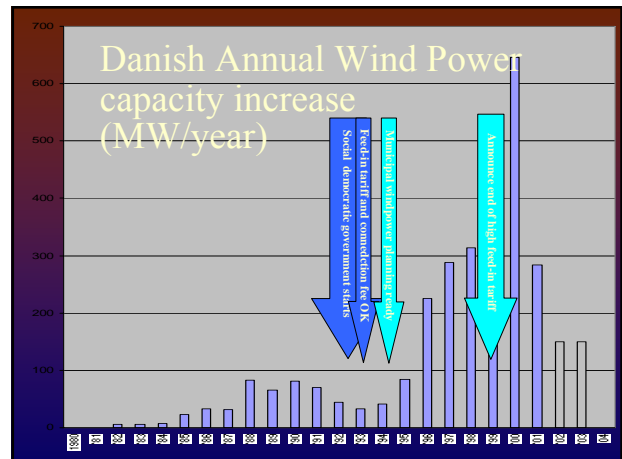
Some Achievements in EU

- ❖ Windpower increase >20%/year since 1996 (23% in 2006), now almost 20% of Danish and over 5% of German power demand
- ❖ Solar energy strong increase, >20%/year since 1999
- ❖ Biomass increase (about 5%/year)
- ❖ Efficiency: stable economic growth in DK with constant energy consumption in 25 years (1980-2005)



Policies for Renewable Energy

- ❖ Right to sell to power to electric grid (EU-directive)
- ❖ Connection at fair price and without administrative burdens (EU directive)
- ❖ Fixed price for 20 years (feed-in tariff) basis for success (Germany, Spain and others)
- ❖ Net-metering for household installations (DK, etc.)
- ❖ Investment subsidies to start markets(all, temp)
- ❖ Low-interest loans(Germany, DK, etc)
- ❖ Demand for solar heating in new houses (Spain)
- ❖ Targets (for renewable electricity, transport)
- ❖ Local ownership (DK windpower, district heat.)



Policies for Energy Efficiency

- ❖ Building regulation for new & renovated buildings (EU directive of building performance)
- ❖ Energy efficiency labels (EU SAVE directive)
- ❖ Energy efficiency minimum standards (codesign directive)
- ❖ Low interest loans (German KfW, Danish municipal guarantees)
- ❖ Subsidies
- ❖ Campaigns, expert information, demonstration

New EU Energy Policy

- ❖ Limit global warming to 2°C
- ❖ Make Europe less dependant of imports
- ❖ 20% energy efficiency increase 2005-2020
- ❖ 20% renewable energy by 2020 (INFORSE: 25%)
- ❖ 10% biofuels in transport by 2020 (INFORSE demands sustainability and change to target for sustainable transport)
- ❖ Revised emissions trading
- ❖ New directives in preparation (INFORSE demands that feed-in tariffs becomes central for RES)

Thank you



Biomass, Sustainable in EU (PJ)

