Best practices for Renewable Incentives

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EREF - The independent RES producers' voice in Europe

- EREF is the umbrella organisation of national European associations covering all renewable energy sources
- EREF is the Renewable Energy Independent Producer's Voice
- EREF' goal: to create market environment in Europe which actively encourages independent power production
- The Portuguese Renewable Energies Association APREN – Associação Portuguesa de Produtores Independentes de Energia Eléctrica de Fontes Renováveis is active member in EREF and António Sa da Costa is as board member the guarantor that the Voice of Portugal is heard in EREF

Pre-Conditions for RES uptake

- Change in Paradigm: individual responsibility for own energy supply, as local and decentralised as possible
- Households and private sector in general should primarily produce their own heat and electricity from RES sources in an efficient environment
- Combination with drastic change in consumption pattern and increase in efficiency
- Political commitment beyond ideologies and short term thinking to go for strong national RES
- Clear instruments, targets for rapid uptake and enforcement
- High level of market penetration by Independent RES Power Production
- Swift abatement of open and hidden harmful subsidies to incumbent industry
- As long as one or more of these conditions are not met – counterbalance is necessity

EC Tools for RES encouragement so far:

- Directive 2001/77/EC on the promotion of RES in the internal energy market
- Directive 2004/8/EC on the promotion of cogeneration
- Directive 2003/30/EC on the promotion of biofuels, in coordination with
- Directive 2003/96/EC on the restructuring of framework directives for taxation on energy products and electricity

The EU world beyond 2010

- Spring Council 2007 - Agreement on a binding target for 2020 to reach at least a 20% share of renewable energies (RES) in overall **energy** consumption and a minimum share of 10% for biofuels in each member state. Goal of 20 % increase in energy efficiency in Europe
- European Commission revising current legal framework for RES and elaborating a proposal for an overall framework RES 2020 directive.
- Overall comprehensive Directive for all renewable energies and efficiency
- Estimated to be published only in November 2007 as draft proposal

RES Industry has to work hard in 2007 and 2008

- Strong arguments needed in direct contacts with EU Commission, European Parliament and MS to achieve
- Obligatory, mandatory targets for all EU Member States and all sectors (transport, electricity, heating) in order to reach a level of minimum 20 % RES share in the energy sector in 2020
- heating and cooling from renewables must finally get its place in the European and national support policies
- Clear rules for priority grid access for renewable energy for the whole Europe to be harmonised
- Europe and EU 27 have to ensure investor's confidence for long term planning and growth in this industry
- Strong call and actions for elimination of harmful subsidies to incumbent nuclear and coal sector

Major conditions for a successful comprehensive renewable energy directive

- Incorporate the main strong and positive elements of current Directives for Electricity and Biofuel in order to breaks and frictions.
- National overall targets and respective growth strategies on a sectoral basis
- Member states to present regular interim reports on reaching the national overall and sectoral targets.
- A general priority regulation for renewable energies.
- Safeguarding of successful support instruments to be chosen by member states,
- Harmonised guarantees of origin,
- Removal of legal barriers especially for planning, authorisation and grid connection regulations.
- Legal framework for heating and cooling from renewable sources.
- Biofuel development with sustainability criteria

Some words on Emission Trading

- It is undeniable that there are many committed people in EU and National administration, politics and NGOs aiming for an improved and efficient European Emission trading scheme – in line with current and future Kyoto obligations and own commitment
- But slow progress, enormous obstacles, over-allocation, grandfathering, complicated structure and slow enforcement on MS level do not lead to real progress
- As long as this is not improving and clear evidence is given, Emission trading remains third in line, after energy efficiency and after renewable energy support policy

EU EmissionTrading FACTS

- The Kyoto Protocol demands that the European Union cut CO2 emissions by 8 percent between 1990 and 2012, that means over a period of 22 years.
- The new adopted climate protection goal require the EU to cut emissions by a further 12 percent between 2012 and 2020, i.e. within only eight years.
- By the beginning of 2007, the EU-25 only managed to achieve approx. 1.0 percent of the 8 percent reduction agreed in Kyoto.
- This means in just 4.5 years Europe has to achieve further 7 %
- This means EU-ETS was a complete failure so far

Emission and Renewables

- Renewables’ growth lead to concrete measurable and identifiable GHG decrease:
- Example Germany - Avoided CO2-Emission: 97-100 Mio. tons (86 Mio. Tons in ’05)
- Combined with efficiency and CO2 taxation this is <u>the strong Trio</u> for sustainability
- European Commission is divided:
- DG Tren still strong supporter for dominant role of Renewables
- DG ENV sees Renewables in our view too much as secondary objective and tool:

Quote from ppt from DG ENV Jan 07):

BART István László

- “Most important policy tool: the EU ETS
  - EU ETS is both a reduction tool on its own and as a driver for other market based instruments (like JI/CDM)
  - EU ETS is cost-effective
  - EU ETS acts as a motor for technology transfer
- Other policies
  - 20% target by 2020 on energy efficiency
  - 20% target by 2020 targets on renewable energy
  - Proposal to limit specific car emissions
  - Increased research efforts in energy”

RES Support mechanisms in EU 27

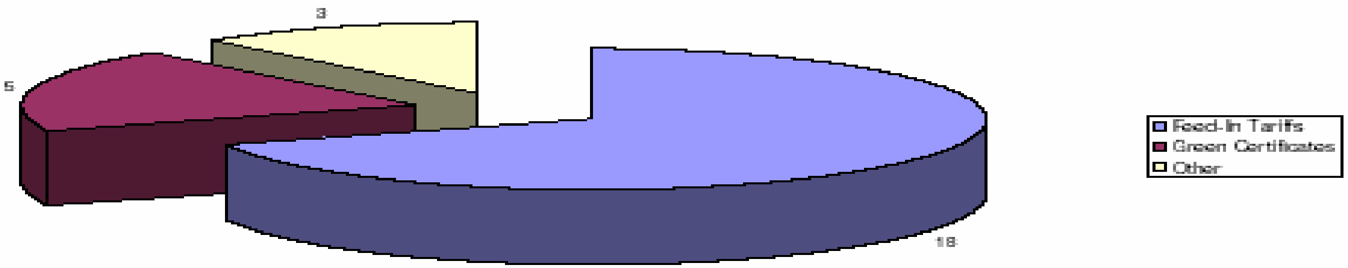
- Fixed feed-in tariffs RE FIT
- Green certificate obligations
- Tendering schemes
- Tax incentives
- Investment grants

Majority is clearly “feed-in”

Part I: RES-electricity EU Frameworks & Prices

Graphic 1 Comparison between different support schemes in EU Member States

RES support schemes in EU Member States *



- Feed-in Tariffs: Austria, Cyprus, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Ireland, Lithuania, Luxembourg, Netherlands, Portugal, Slovak republic, Slovenia, Spain.
- Green Certificates: Belgium, Great Britain, Italy, Poland, Sweden
- Tax subsidies: Finland, Latvia, Malta*

Source: EREF RES – Price Report 2006/2007

“Feed in” as major instrument

- The by far most successful system is the well tailored feed-in system in Europe, as especially in Spain and in Germany
- Quota and certificate trading have not delivered so far and are too expensive and limit growth of RES
- Any new directive from Europe for renewable energies has to acknowledge and to ensure the successful mechanisms
- Time is not ripe for one harmonised support mechanism in Europe
- But there are elements which should be harmonised: Grid access, certificate of origin, cross border entrance in the respective system

Commission analysis: Best notes for RE-FIT

- COM(2005) 627: Feed-in is "cheaper and more effective"
- Reasons in view of Commission: Feed-In
  - more investment security
  - differentiates between technologies
    - > less windfall profits
    - > promotion of mid- and long term technologies
    - Chance for new comers and new technologies
- Logic calls for RE FIT as only applicable system in case of future harmonisation

Feed in more efficient and competitive than existing Quota schemes

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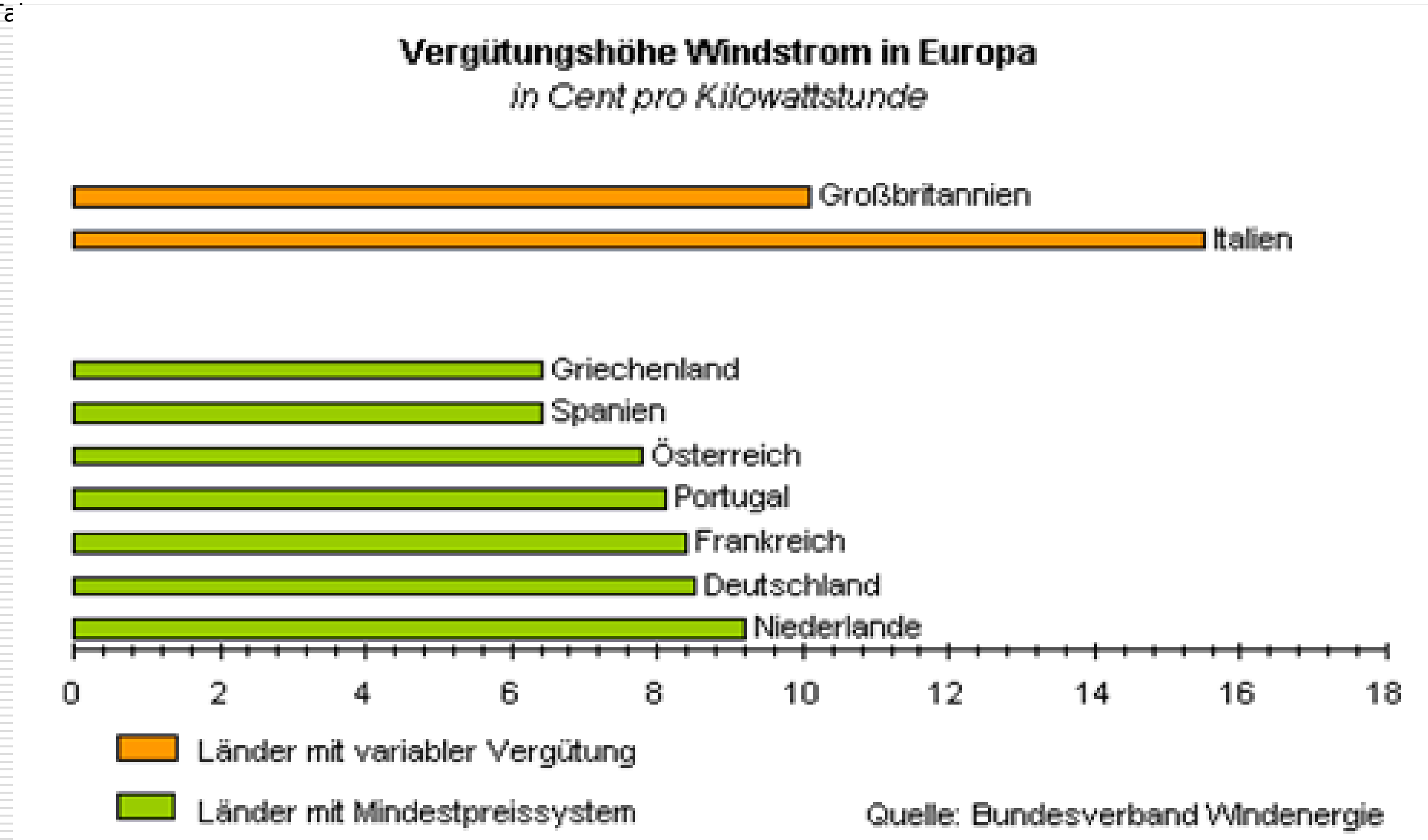
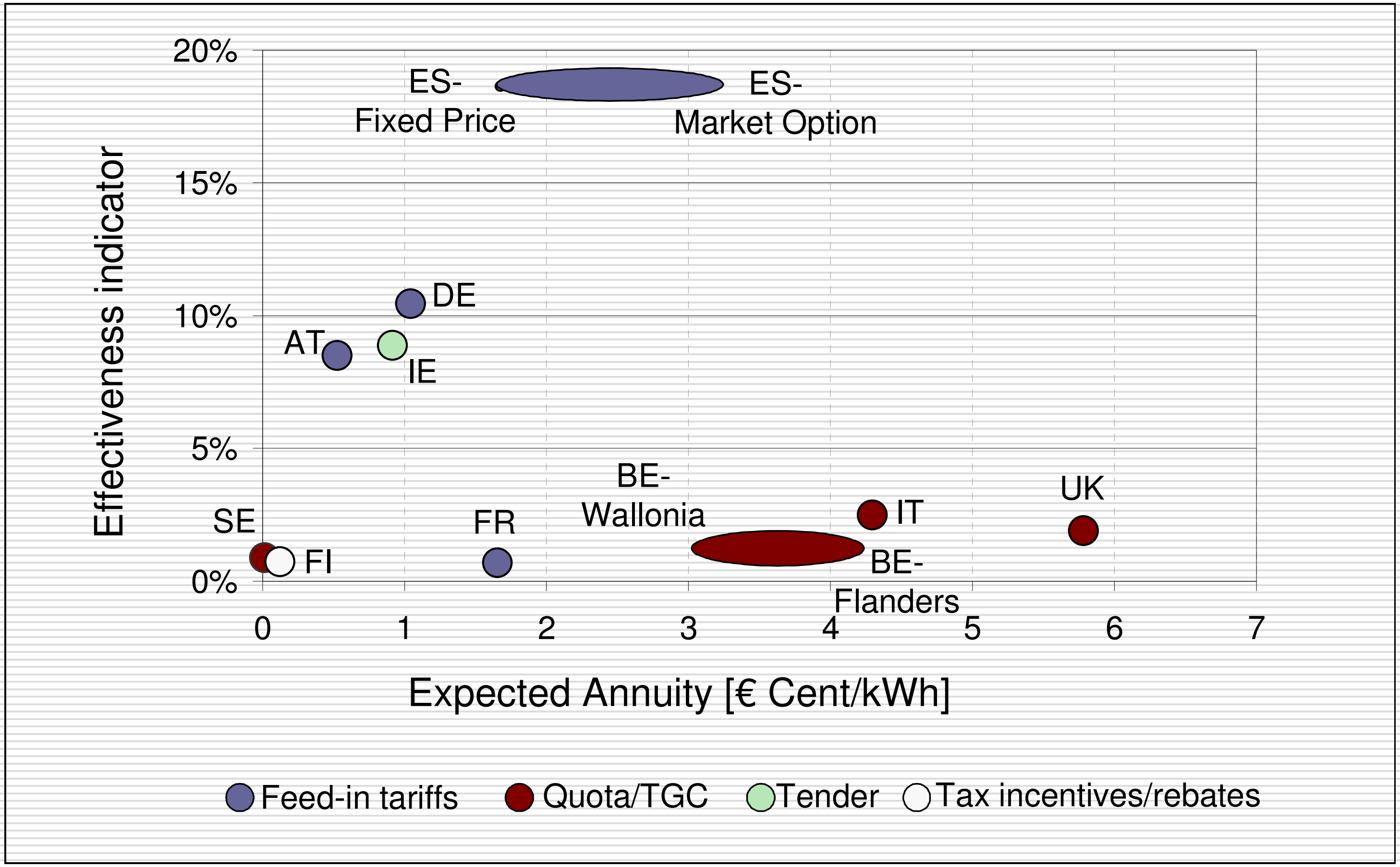


Commission‵s Analysis (COM(2005) 627)



Reflection of RES part of electricity price in 2005 – Example Germany

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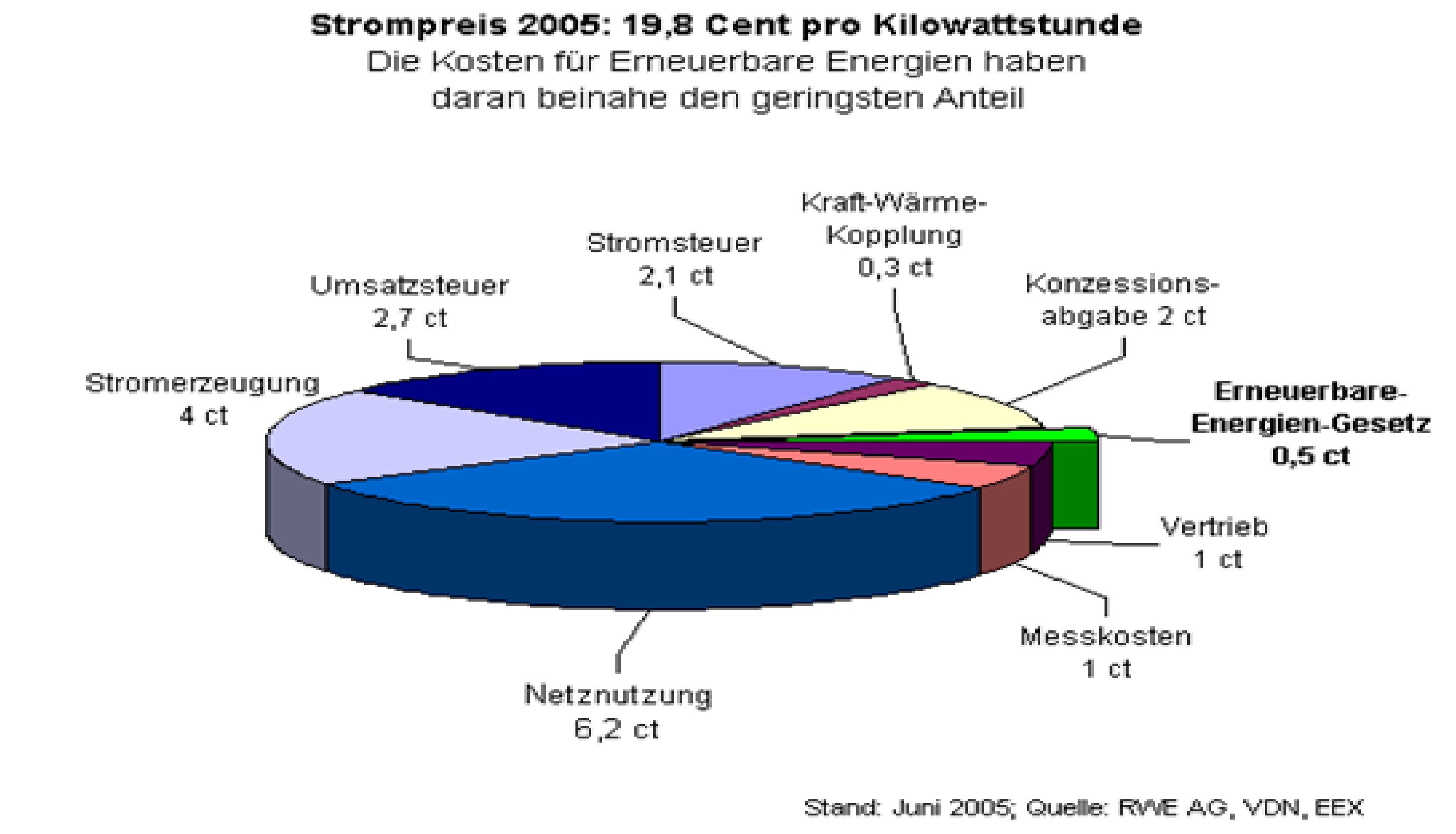


Efficiency criteria

- Art. 4 RES – E : support should be effective, simple and efficient esp. in terms of costs
- Feed-in systems are comparatively easy to handle, whilst quota systems create a lot of administrative effort. The fulfilment of the quota obligations needs to be controlled, certificate-trading needs a structure, possible penalties need to be enforced.
- Regarding consumers' costs, experience shows that the price in quota systems are not lower but positive effect in price curve comes from rapid uptake in feed-in countries: In 2003, in Italy, the price per kWh electricity generated by wind turbines was 13,0 Ct (UK: 9,6 Ct), whilst it was only 6,6 – 8,8 Ct in Germany (Spain: 6,4 Ct).
  Fouquet/Grotz/Sawin/Vassilakos "Reflections on a possible unified EU Financial Support Scheme for Renewable Energy Systems" (Brussels and Washington, DC, 2005), p. 15.

Any Harmonisation of support Mechanisms must ensure proportionality

- Must be “appropriate to ensure achievement of the intended aim and must not go beyond what is necessary in order to achieve that aim” *ECJ Case C-6/98 ARD vs Pro 7, paragraph 51, referring to cases: , Case C-288/89 Collectieve Antennevoorziening Gouda and Others vs. Commissariaat voor de Media, paragraph 15, and Case C-384/93 Alpine Investments v Minister van Financiën [1995], paragraph 45*

Future sharing – some figures

- 2004 2,2 bio. Euro RES incentive added to consumption price in Germany. Consumer pay approx. 0,5 Cent per kWh for „future-sharing" by increased use of RES
- Average household with electricity consumption of 3.500 kWh per year pays less than 1,50 Euro per month.

Improvement of Feed-In

- Not all feed-in systems are structured well enough and not all are embedded in an efficient planning environment
- The successful feed-in countries are the ones which help Europe to come closer to its Kyoto and RES targets – without them the situation would be quite disastrous on Europe's promises

Feed-In Alliance

- The Spanish German Initiative on a feed-in MS alliance should be strengthened and vividly supported by RES Industry and MS in Europe

Strong RES policy needs sectoral targets

- To tap the full potential of RES in EU-27
- To continue good policies (never chagne a winning team) to give smart copy tools for those MS which are just starting
- To decrease costs of all RES technologies and increase economy of scale
- To maintain and ensure investor‵s confidence
- To phase out oligopolistic structure of industry in energy with increased IPP
- To fulfill Lisbon agenda and trigger regional development across EU

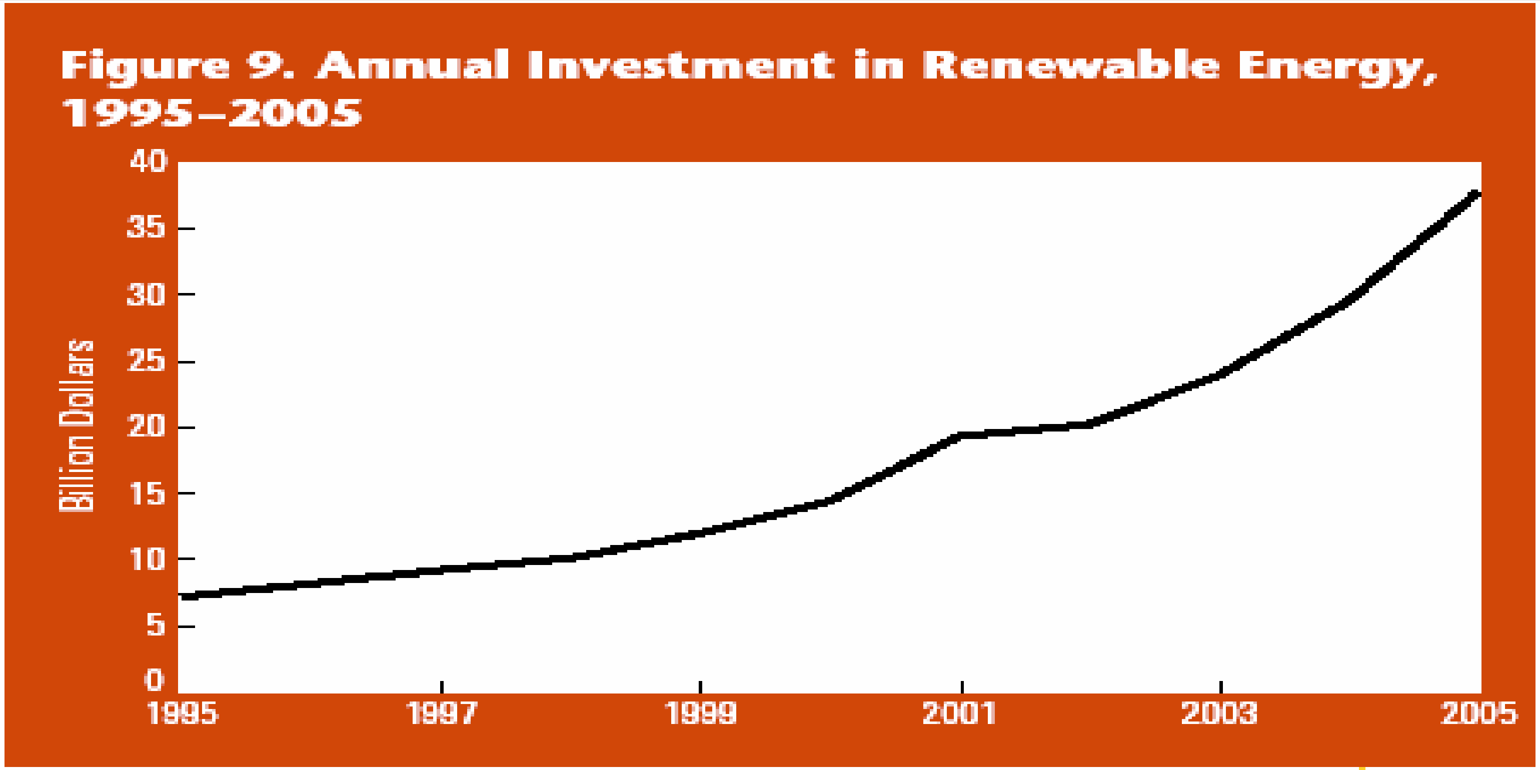
Renewable industry became a force

- Investment in new renewable energy in 2005 was worldwide $38 billion, up from $30 billion in 2004.
- Germany and China were investment leaders, with about $7 billion each, followed by the United States, Spain, Japan, and India.
- Overall:

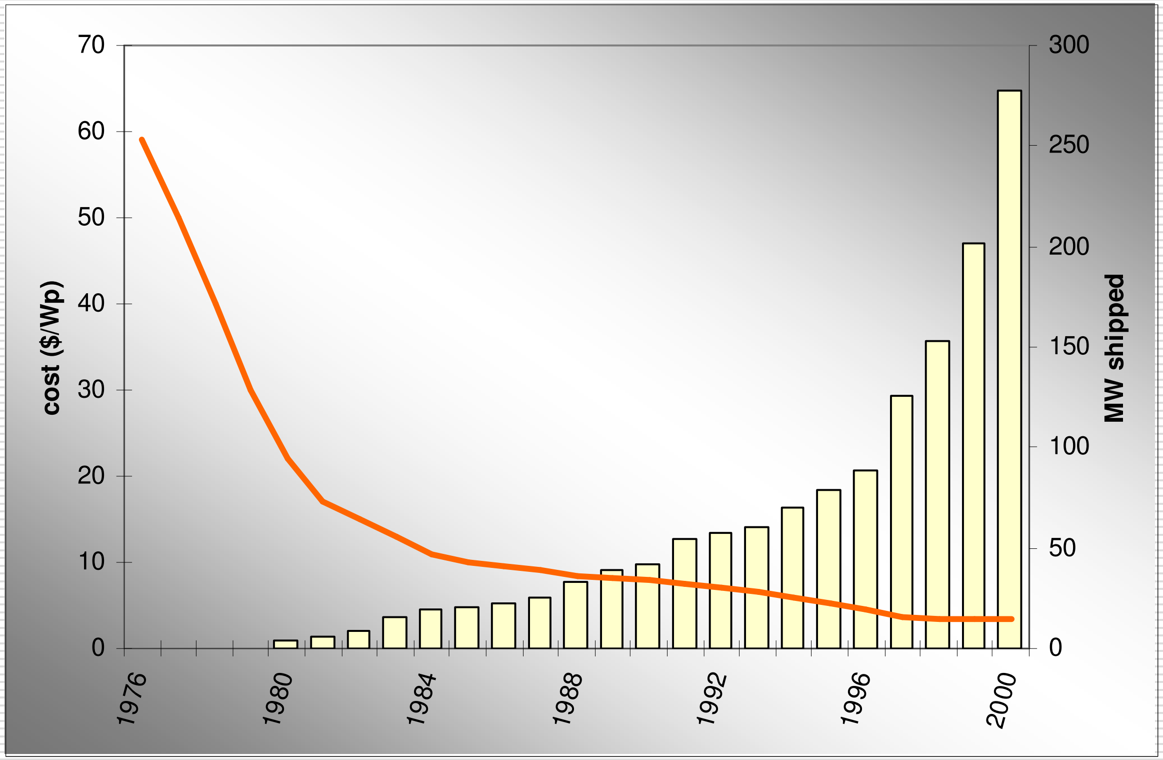
1. Wind power reached 59 GW.
2. Biomass power production doubled in many countries.
3. Biodiesel - 85 percent increase in overall annual prod.
4. Grid-connected solar PV -55 percent increase in existing capacity
5. Solar hot water existing capacity grew by 23 percent in China alone and reached record levels across Europe as well.

Source: REN 21, Renewable Global Status Report 2006

What is at stake?
(see: RES 21 /2006 Update)



Cost digression in all RES sectors - example PV



***Source**: Solar Generation (Greenpeace – EPIA)*

PV/Solar in Germany for example

- 2005- PV installation: 1.500 MW
- Cost reduction since 1995: 50%
- Investment in 2005 in PV: 3.75 bio €
- Employment: 42.500 (PV and Solar Thermal)

European success in RES is still too much in the hands of very few committed MS

- **Positive Example – Germany**:
- 2007: **12,5 % target for 2010 already reached**
- 2006 : 4,7 % share of RES in primary energy consumption
- **Planning:**
- 2020: 16 % RES in prim. Energy consumpt.
- 2030: Share of RES in electr. supply 45 % and by
- 2050: 77 % feasible

- Source: (German Ministry of the Environment, BMU, Press Service 055/07, 27.02.2007; press declaration of 5th of July)

PV as astonishing concentration in a Northern Country – why?

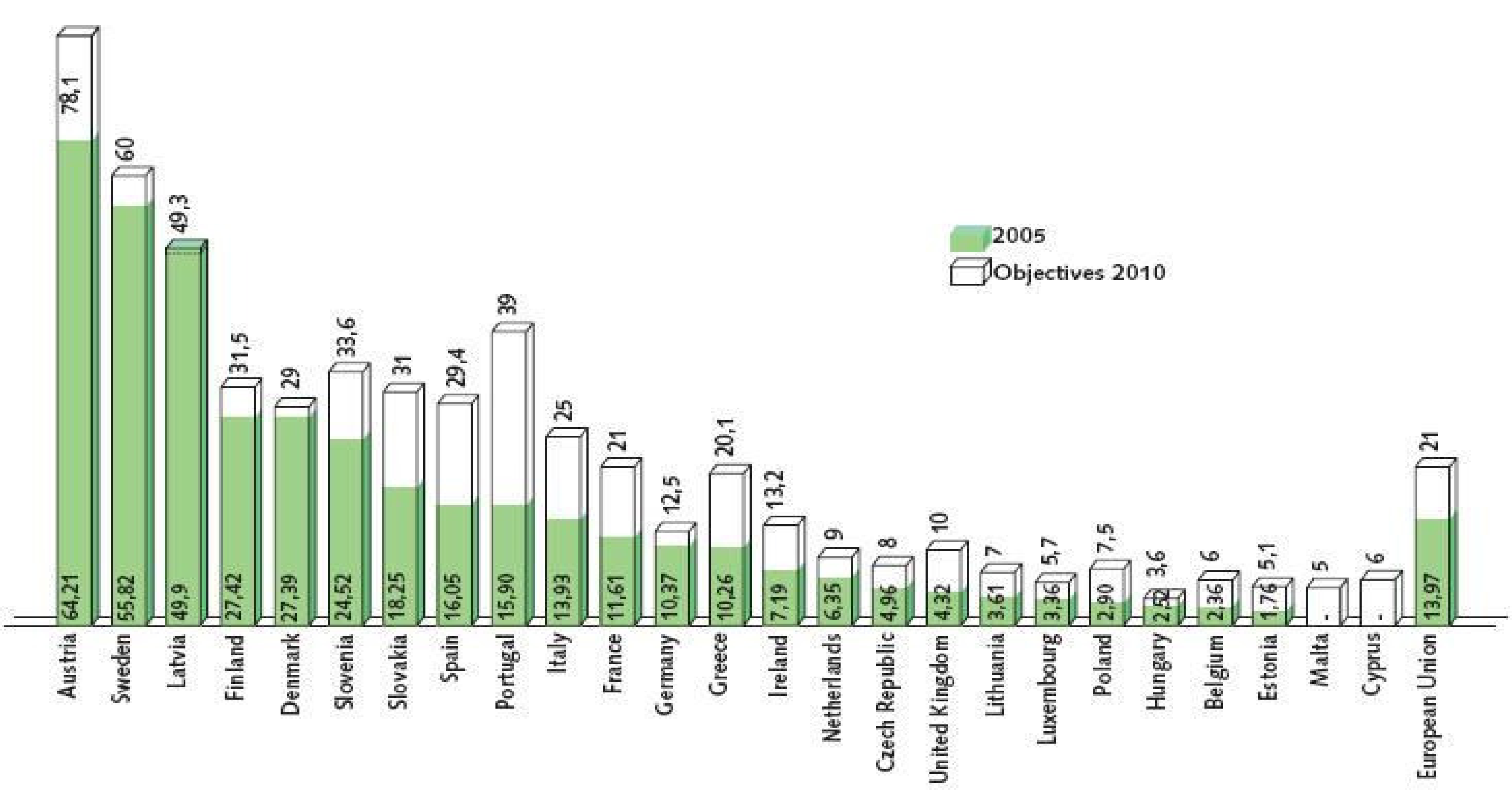
- Use of PV modules is still concentrated in a few Member States
- In the EU 27, end of 2006 3.419 Megawatt were installed.
- Additional capacity of 1.246 Megawatt was installed last year, more than 90 % in Germany.
- From this total figure of 1.246 new MW in 2006,
- Germany installed 1.153 MW alone,
- Spain 60,5 MW
- Italy 11,6 MW
- France 6,4 MW.
- Big chance for your region – untapped !
- See: press release of Observ'er from 26 June 2007

Economic value of RES in Germany in 2006

- 214.000 people working in RES (170000 in ’05)
- Avoided CO2-Emission: 97-100 Mio. tons (86 Mio. Tons in ’05)
- Gross Turnover: 21,6 bio. Euro (18,1)
- Split into:
- Turnover from new installation set up: 11,3 bio. Euro (10,3)
- Turnover from running of installations: 10,3 Mrd. Euro (7,8)

Portugal –a country for RES - on its way to meet the top ?

Source: state of renewable energies in Europe 2006 EurObserv’ER 2006,



Promotion of RES because of imbalance in the overall energy market

- The Energy market as such is still a myth, hampered especially by ever increasing oligopolies and harmful subsidies to the fossil and nuclear sector.
- Each of the European Commission's evaluation reports of the electricity market so far underlines that obstacles still prevail. An essential condition for the completion of the internal electricity market is non-discriminatory access to a transmission or distribution network; otherwise – the Directive 2003/54/EC states – competition will not work.

Major barriers

- **Failure of Governments to deliver**:
- Consequent action planning
- Administrative capability and coherence
- Public Information on RES
- Sticking to promises given
- Ability to agree to new, decentralised market structure
- Flexibility
- Market incentives
- Market Fairness

The grid issue: No progress without full ownership unbundling

- The EU Commission urges towards full ownership unbundling that utilities have no direct power on the grid
- Germany and France stop all progress in this direction so far
- Grid enforcement cannot happen if subject to main competitor’s decision and to pure return of investment strategies
- EREF will file complaint to Commission concerning non unbundling as we see violation of Directive 2001/77/EC and of internal market for energy Directive

Malfunctions of a “market”

- EC Commission attests “serious malfunctions in EU energy markets” (EC Commission MEMO/06/78 from February 2006)
- Harmful subsidies to the traditional fossil and nuclear sector amount to 250 billion US$ worldwide per year, representing “a substantial market distortion, discourage new entrants into the market, and undermine the pursuit of energy efficiency”. (*José Goldemberg, Thomas.B.Johansson, World Energy assessment, Overview 2004 Update (UNDP,2004, page 72)*)
- Barrier market - fails to focus and internalise all negative effects of conventional energy use into the price for electricity, so that the price for electricity on these markets are not cost related prices. (*Goldemberg, Johansson*)
- It is not the renewable energy which is too expensive but the traditional energy which is made to be too cheap.

Example: Subsidies to Nuclear

"More than half of the subsidies (in real terms) ever lavished on energy by OECD governments have gone to the nuclear industry." (The Economist, **Nuclear power Out of Chernobyl's shadow** May 6th 2004,from print edition)

Example US:

- Wind, solar and nuclear power got around \$150 billion in cumulative US Federal subsidies over roughly fifty years, some 95% of which supported nuclear power.
- Nuclear power received far higher levels of support per kilowatt-hour generated early in its history than did wind or solar.

Subsidies

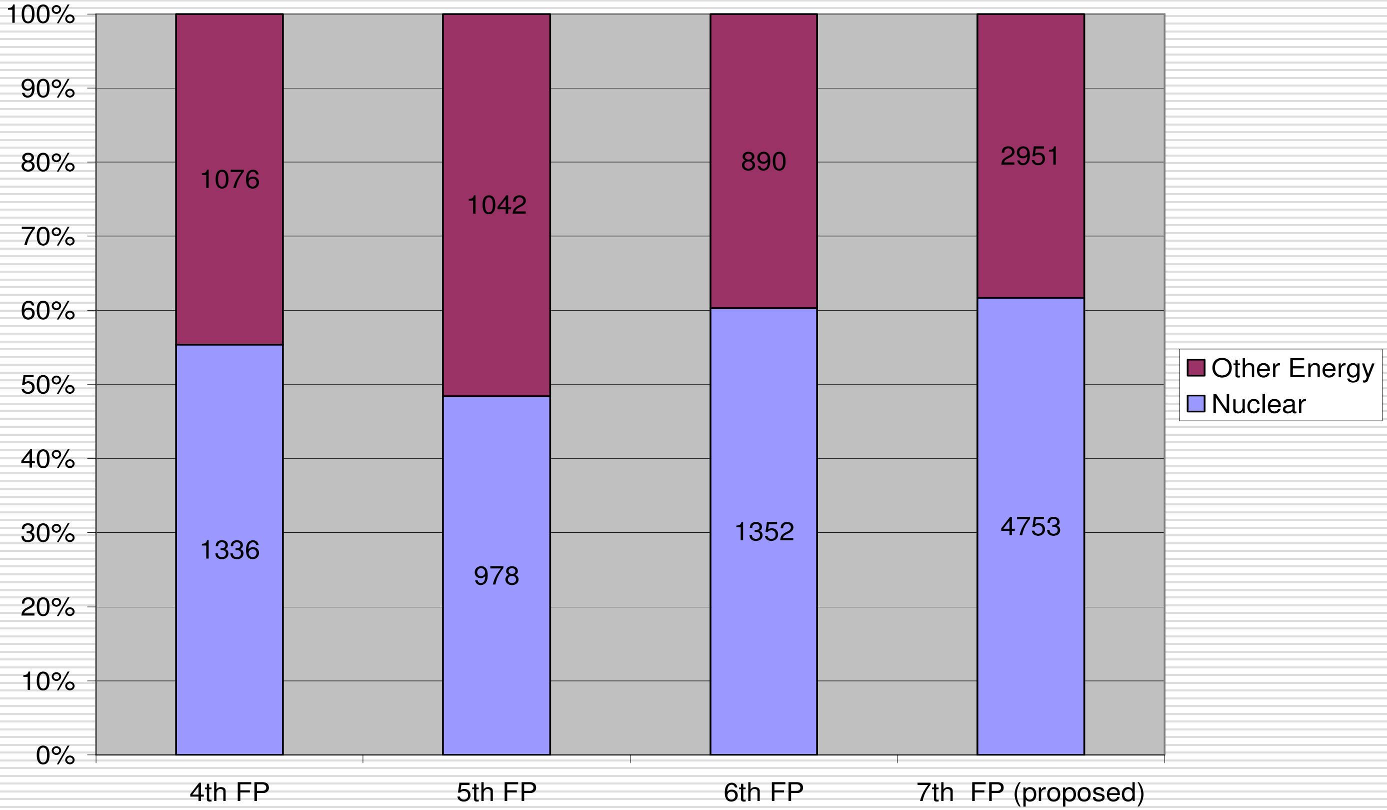
- Between 1947 and 1961: Commercial, fission-related nuclear power development received subsidies worth $15.30 per kWh.

This compares with

- subsidies worth $7.19/kWh for solar and
- 46¢/kWh for wind between 1975 and 1989.
- In their first 15 years, nuclear and wind technology produced comparable amount of energy (2.6 billion/Nucl. and 1.9 billion kilowatt-hours/wind), but the subsidy to nuclear outweighed that to wind by a factor of over 40, at $39.4 billion to $900 million.

(Source: **FEDERAL ENERGY SUBSIDIES: NOT ALL TECHNOLOGIES ARE CREATED EQUAL** *by Marshall Goldberg,* REPP, July 2000 • No. 11)

Comparison of Energy and Nuclear Research and Development Budgets



***Source**: Claude Turmes, 'Cordis and European Commission*

- Thank you very much for your attention !

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