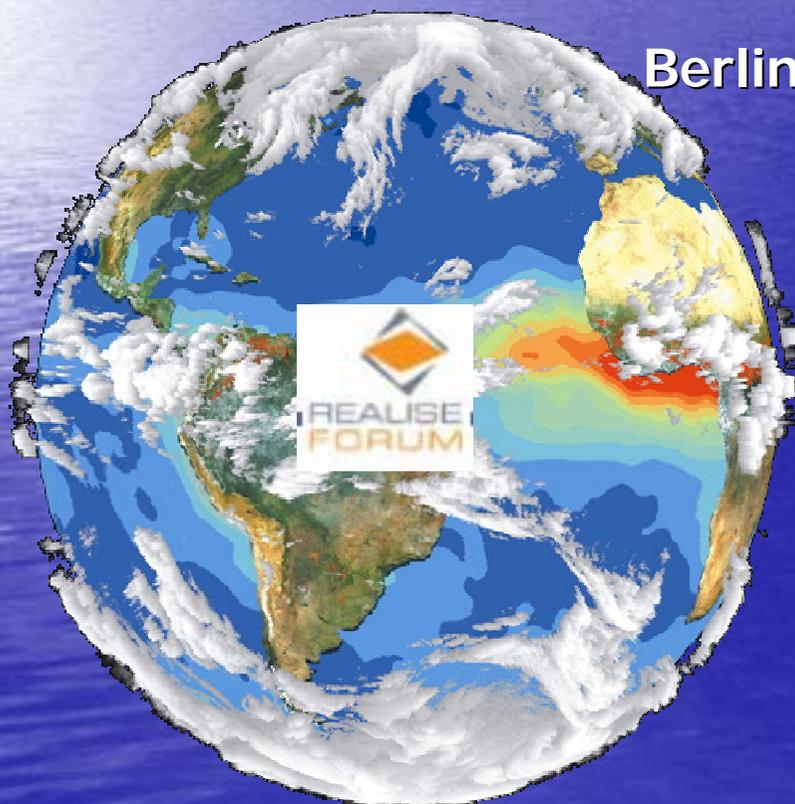


RENEWABLE ENERGY AND LIBERALISATION IN ELECTRICITY MARKETS: LESSONS AND RECOMMENDATIONS FOR POLICY

ATTAINING THE RES-E TARGET: ARE WE ON THE RIGHT TRACK?

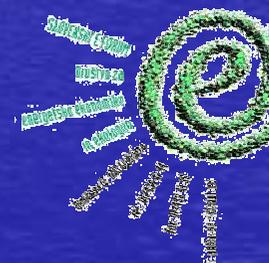
Berlin, November 2, 2006



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ELECTRICITY SYSTEM OF SLOVENIA



Electricity

Peak capacity	2,797 MW
- hydroelectric power	886 MW
- thermoelectric power	1,241 MW
- nuclear power	670 MW
Production of electricity	13,667 GWh
- hydroelectric power	3,036 GWh
- thermoelectric power	4,601 GWh
- nuclear power	5,613 GWh
- independent and qualified producers	417 GWh
Length of transmission network	2,534 km
- 400 kv	507 km
- 220 kv	328 km
- 110 kv	1,699 km
Length of distribution network	59,317 km
- 110 kv	793 km
- 35, 20 and 10 kv	15,851 km
- 0.4 kv	42,675 km
Consumption of electricity	12,389 GWh
- direct customers	2,775 GWh
- eligible customers	6,539 GWh
- tariff customers	3,075 GWh
Annual consumption per person	6,176 kWh
Average household consumption per month	314 kWh

Source: Companies' data



Structure of production sources for electricity in Slovenia for 2005 (Source: Energy Agency)

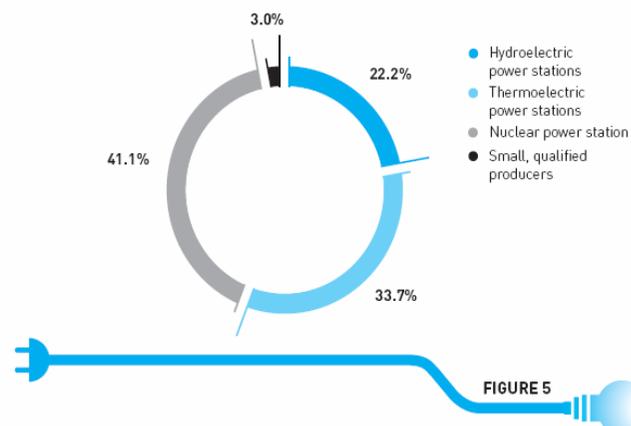


FIGURE 5

RES-E: are we on the right track?



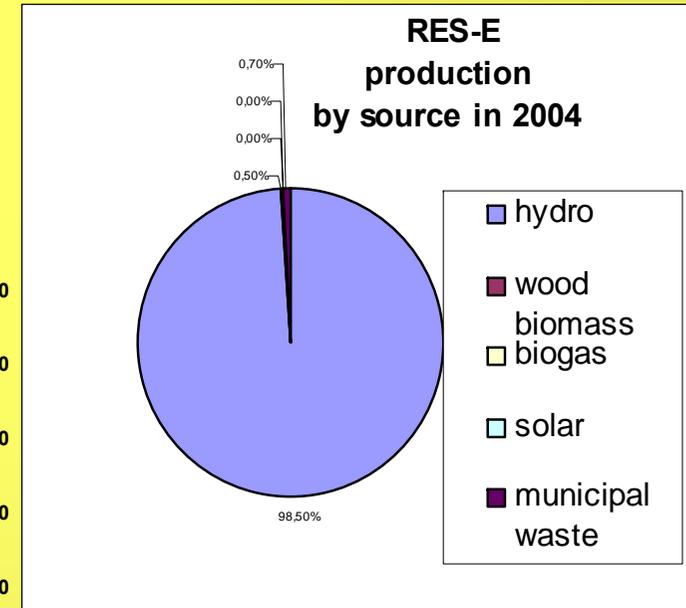
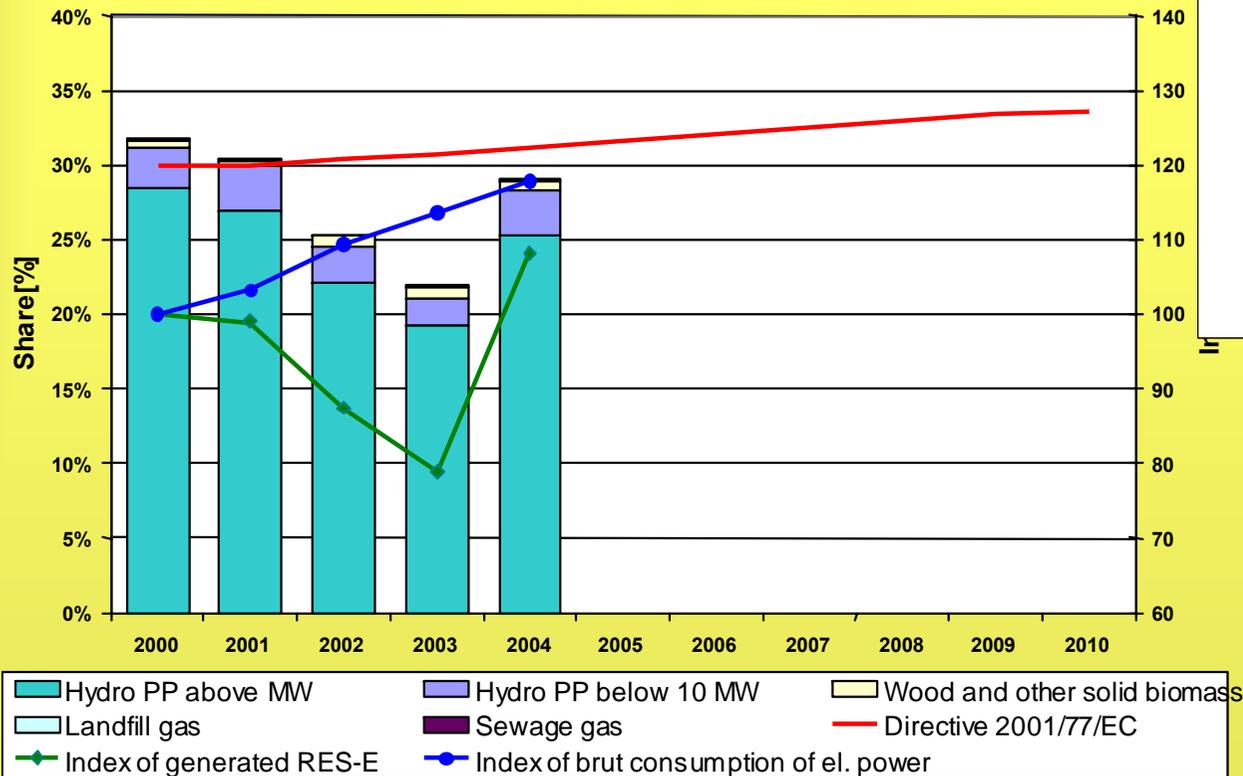
- In Slovenia we are **not** due to (1/2):
 - **Increasing electricity intensity** of the country's economy despite the fact that Slovenia is above EU average in terms of per capita consumption. Electricity consumption is in recent years growing approx. 1% faster than the GDP;
 - **Supply side oriented energy policy** based on domestic coal and nuclear revival (new NPP recently proposed within the set of "national development projects" as alternative to "sustainable energy programme and hydrogen economy"!!!);
 - **Electricity/energy prices policy** that is keeping prices low in order to meet inflation target and prevent revolt of small scale consumers/voters.
 - **Hesitating privatisation** of electricity sector and dominant role of politics in strategic decision making of electricity companies;

RES-E: are we on the right track?



- In Slovenia we are **not** due to (2/2):
 - The Government is **not considering RES-E target important**;
 - Large scale **RES-E projects might be in conflict with EU nature protection and biodiversity directives** and are facing NGO opposition partly because risks to biodiversity and landscape and partly because of exclusive governance and ignorance of state owned project holders.
 - Large set of **administrative and technical barriers** for distributed generation and respectively (to) high administrative and transaction costs for small and mid sized private projects.
 - **No demonstration projects** and few awareness raising support.

Share of RES-E in gross consumption of electric power in Slovenia



RES-E: are we on the right track?



- Positive signs (1/2) :
 - **Recent** (August 2006) **adjustments** of the in the year of 2004 introduced **feed in price/premium scheme** made RES-E investments in the country in general economically attractive;
 - **Accession to EU has a positive impacts** to increased exchange of information and know how, removal of barriers for capital investments and custom duties for technology transfer as well due to transmission of waste management and soil protection directives (relevant for biogas);
 - **Take of of new** (non hydro) **RES-E capacities** in 2006, especially in the field of PV and biogas;

RES-E: are we on the right track?

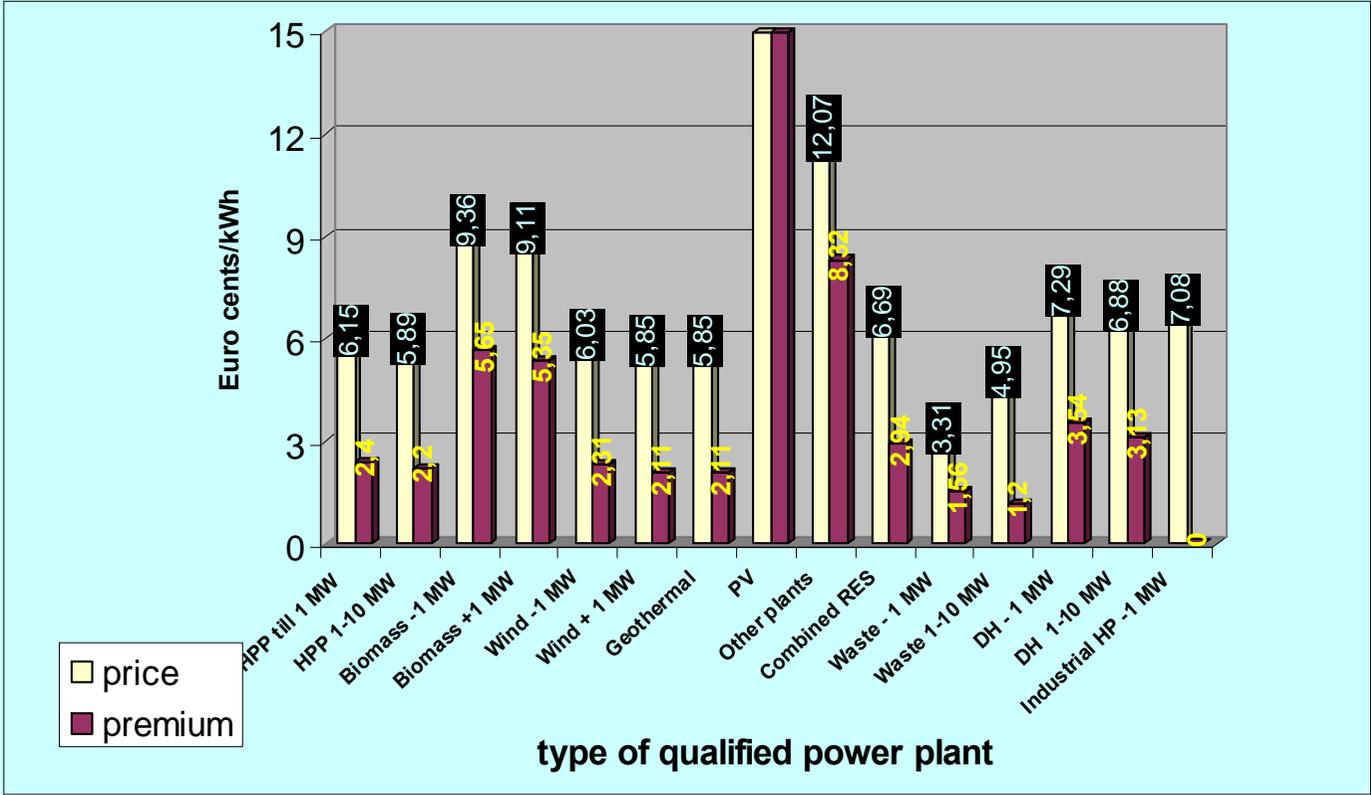


- Positive signs (2/2):
 - Most of RES-E generation in the country is since 2005 **RECSs certified**.
 - **“Green electricity” labels** are established both by (small scale) private generators as well as by state owned generation and distribution companies. It is a “niche market” but it shows signs of considerable dynamics.
 - Increased prices of electricity – at very first for mid-sized industrial consumers – and increased demand for »green electricity« opened space for **“pooling” of small scale qualified electric power generation** initiated by Istrabenz-Gorenje Sells of Electric Power – the largest new player in trading of electric power in the country.

FEED IN SUPPORT IN SLOVENIA



Feed in price/premium in
SLO - 2006



Biodiversity -Slovenia

Because of its geographic position, geology and climate Slovenia is very rich in biodiversity as well as in diversity of landscape types:

- Slovenia represents less than 0,004% of the entire Earth's surface and 0,014 of its land but it is home to above 1% of all known species and to more than 2% of all continental (land and freshwater) species.
- 4 out of 5 typical European landscape types can be found on about 20.000 sq. km of its surface.
- Slovenia is almost 60% covered by forests and is among pioneering countries in sustainable forestry.

Diversity of Slovenia



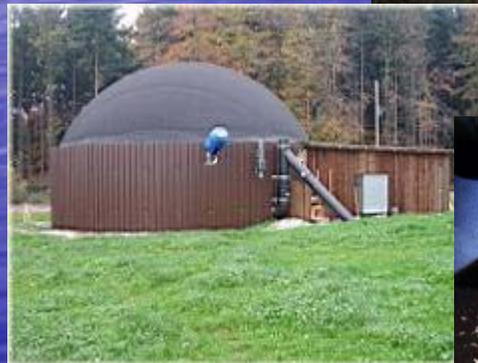
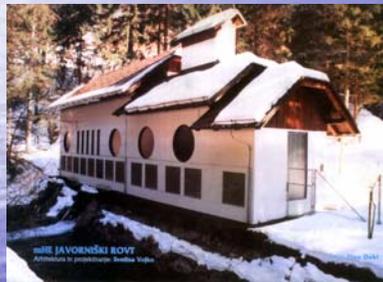
Volovja reber – disputed site of first planned large scale wind farm in Slovenia



RES-E diversity - Slovenia

- Currently 97% of RES-E in Slovenia is generated by hydro PP and approx. 90 % of total hydro generation is attributed to large hydro PP;
- Technical and economical viable potentials for RES-E generations are next to hydro power mainly in the field of (wood) biomass but also in the fields of solar, wind and geothermal energy.
- Hydro PP are modernising and expanding (lower Sava river basin HPP chain in construction, mid Sava in planning) thus the biggest challenge in RES-E generation in Slovenia is to widen its portfolio of renewable energy sources and technologies

RES-E DIVERSITY



REALISE FORUM SLOVENIA

DONORS & SPONSORS DIVERSITY

Intelligent Energy  Europe

Guess who is missing?



Termoelektrarna Toplarna Ljubljana, d.o.o.
1000 Ljubljana, Toplarniška 19, Slovenija



ELES GEN, D.O.O., CESTA 4. JULIJA 32, 8270 KRŠKO

RES-E: are we on the right track?



EU dimension (1/3)

- Removal of subsidies for fossil and nuclear electric power and internalisation of external costs on EU level is too slow, prices of electricity/energy are still too far from reflecting "environmental truth".
- The initial impulse of "the greening of the electric power sector" by **providing modern energy services at a reduced overall environmental footprint** might be lost.
- RES-E generation is within given circumstances in many cases **trapped into supply side focused coalitions of growth** and can be in many cases considered purely as "lipstick" to business as usual expansion of generation capacities.
- **How "green" is "green electricity"** will be obviously a challenge for legitimisation of RES-E at least for large scale and "wilderness" or traditional landscapes "consuming" RES-E projects.

RES-E: are we on the right track?



EU dimension (2/3)

- Overall expansion of transport, communication and energy infrastructure as well as certain large scale RES-E projects are representing **threat to traditional, non-industrialized/urbanised landscapes** that are gaining importance for “re-creation” of modern urban population.
- Growing need for “empty spaces” on the one side and their growing scarcity will more and more **limit availability of sites for large space consuming RES-E installations.**
- In spite of growing awareness that climate change is a big threat for extinction of many species the battle cry of nature and landscape conservationist **“Do not destroy the nature while trying to save the environment/climate”** will getting more and more echo in media and politics.

RES-E: are we on the right track?



EU dimension (3/3)

- Within discussion on RES-E in the EU a true nature of RES-E target is to often overlooked. Indicative RES-E targets for individual member states have been set on the level of respective **share of RES-E in final electricity consumption**. This of course means that **electricity efficiency** - and not only instalment of new RES-E capacities – also matters. Even more – it is **inevitable** for both realistic long term RES-E perspective and for legitimisation of many of RES-E projects.
- Recently (end of October 2006) announced **EC action plan on energy efficiency** should be used as a opportunity to bring in foreground potentials of hand by hand approach in addressing RES-E and end-use energy efficiency.
- Next slide is presenting a **good practice of hand in hand RES-E and EE approach** in providing sustainable energy services beyond energy supply markets.



.....Príme

MODEL RES-E PROJECT
www.prime-ecopower.net



REALISE
FORUM

Solar&Spar project at Willibrord High School in Emmerich (Germany)

Basic characteristics:

Social inovative Energy Performance Contract project – **60 % of investment raised by parents/citizens** - 50% reduction on heat and power demand by improved energy services trough RUE meassures plus CHP & 50 kW PV grid connected installation



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