

## REALISE FORUM – FIRST SLOVENE NATIONAL DESK

Institute Jozef Stefan – Energy Efficiency Centre,

Reaktorski center Brinje, Dol pri Ljubljani

May 26, 2005

### ABSTRACT

Participants: Mrs. Blanka Polh, *HSE (Holding of Slovene Power Plants)*; Mr. Ervin Seršen, *Javna agencija RS za energijo (Public agency of RS of energy)*; Mr. Milan Šturm, *Eco-consulting d.o.o.*; Mr. Bojan Kumer, Mr. Damir Lončar, Mr. Viktor Tajnšek, *Elektro Celje (Celje Region Power Distribution Utility)*; Mrs. Uršula Krisper, *Elektro Ljubljana (Ljubljana Region Power Distribution Utility)*; Mrs. Taja Cvetko, *Institute IREET*; Mr. Branko Fatur, Mr. Mihael G. Tomšič, Mr. Andrej Klemenc, *Slovenski E-Forum*; Mr. Marko Gospodjinački, *Ekowatt and ZDMHE (Small Hydro PP Association)*; Mr. Klemen Podjed, *Electras d.o.o.*; Mr. Fouad Al-Mansour, *IJS-CEU*; Mr. Andrej Hanžič, *Faculty of Computer and Information Science and Power Engineering of the University of Maribor*; Mr. Alojz Ivanušič, *Elektro Maribor (Maribor Region Power Distribution Utility)*

#### **A) Support scheme for RES electricity in Slovenia: characteristics, results and experiences**

**Feed in tariffs:** The support scheme that is currently in place in Slovenia (»feed in tariffs and premiums«) has significantly improved conditions for electricity generated from renewable sources (RES-E) in Slovenia since it guarantees purchase and price. Nevertheless the real value of sells is not preserved since the government is hesitating to adjust prices with the inflation thus the real value of feed in tariffs is actually decreasing. For generation of RES-E from some sources (small hydro PP, larger photovoltaic installations) the feed in tariff is not very attractive.

**Spatial planning and environmental legislation:** the framework conditions in the field of spatial planning are very demanding - at very first for wind and small HPP - since municipalities need to make adequate changes in their municipal spatial plans that later need to be confirmed by national spatial planning authorities (Ministry of Environment and Spatial Planning). Few advice and support is given by different spatial and environmental authorities during project preparation and licensing and there is lack of good practice. In addition small HPP are facing harshening of conditions with respect to (biological) minimal flow stream.

**Conflict position of market actors and the development of the market:** In further discussion the conflict positions of RES electricity from »system utilities« (Holding of Slovene Power Producers) and »independent producers« was identified. The later are complaining on annoying procedures, not defined or not respected timelines for allowances to access the public grid and are calling this »training in foiling the market« while the first are claiming to be handicapped by legal demand to provide system services from which independent producers are exempt. Further on it was stated that »market game« in the filed of electricity - despite quick development in certain segments of the market - is still in its initial

phase and under strong dominance of single large tenderer. Electricity market in Slovenia has not (yet) entered phase of developed liberalised market and in this respect Slovenia is much different from other countries covered by REALISE Forum project.

**Renewable Energy Certificates (RECs):** it is a voluntary system that is in principle OK but it is too expensive not only for independent producers but also for RES electricity generation utilities established by distribution companies. It proves however to be quite effective tool for Holding of Slovene Power Plants (HSE) to be entrusted by selling it “blue electricity” (electricity from larger HPP) commodity to their customers, mainly larger Slovene industrial companies with ambitions of “greening” their image on the market.

**Certification of origin and tracing system:** it is in development and it will be mandatory and regulated by independent regulator (Agency of Energy). Its advantage is that the customers will have more exact choice and information on the source of RES thus sellers will be challenged to provide more specialised products (electricity generated only from certain RES, RES electricity without certain, or RES electricity only from specific objects), on the other side however this might be very costly for the provider and might also lead toward confusion of the customers. In addition despite tracing system under control of independent regulator the system might face suspicion and mistrust due to low trust in public monitoring and regulating bodies in the country in general. Commodities that are targeting customer groups with similar values like products of organic farming has gained trust of consumers gradually by combination of self-control systems and public control systems as well as with clearly defined trademarks.

**Social capital and building of trust:** this issue has for a time being in Slovenia two aspects. First the customers need to be sure that the same renewable kWh will not be sold to different customers or to the same customer more times. The second issue is however what are the guarantees that profits raising from surplus charge on renewable origin of electricity will be invested as declared – namely for “sustainable RES electricity generation project”. Next to criteria that the source is renewable there are no any other criteria in place. This might lead to mistrust of those customers that are interested in buying “green electricity” but fears that new investment in RES electricity generating in Slovenia might result in projects that might be harmful to nature and landscape either because nature and landscape protection legislation is not adequate or is weak at implementation and might be biased by investors. There is a lot of uncertainty what are the customer’s expectation behind the “trade mark” of “renewable” respectively “green electricity” but it might be assumed that customers will be very much concerned with “fair trade” respectively with the fairness to the nature due to large but fragile biodiversity in Slovenia and discursive production of national identity. In addition we are facing the dilemma whether or not we can afford “fair trade” without having in place truly transparent and competitive market with electricity. In this context also the issue of “customers as sellers” seems to be relevant in building trust in (renewable) electricity market. In certain EU countries a positive image of renewable energy is in part also related to development of “buyer-seller” market where some visible and respected (public) institutions like schools, hospitals etc. appears as demonstration objects of new RES electricity generating (and/or CHP) technologies and as sellers of “green electricity” to the public good.

Last but not least one of most relevant issues of market regulation and environmental fairness is the issue of internalisation of external costs of centralised power systems versus distributed power systems. This issue is very relevant also within the context of regulation of negative impacts of trans European power trade on reliability of electricity supply in member states

and to the external costs of existing and new transmission grids. In Slovenia the public political discourse of necessity of new trans national grid connections is ignoring the need for necessary upgrading and improvements of distribution grid.

## **B) “Green electricity” in Slovenia. When “renewable” can also be considered as “green”?**

Whereas the first issue of trust could be in principle at very first solved by inclusion of representatives of environmental, nature protection and consumers non for profit NGOs in Public agency of RS of energy and in monitoring and supervision boards of investment funds for renewable energy at energy companies the second issue of trust is more complex and complicated. Due to large but fragile biodiversity and landscape diversity of a small country most abstract and simple criteria of “renewability” and “CO<sub>2</sub> neutrality” has minimal impact on social acceptance of RES electricity by environmental sensible customers in the country and because of low trust in the law this mistrust can only partially be diminished by respect of nature protection legislation. In addition public and media discourse on climate change is limited to dooming of the global warming whereas adaptation to climate change has priority over mitigation and the later is taken by political and economic elite as a task that needs to be done to fulfil international obligations of the state and not as an development opportunity. Media emphasised arguments of energy utilities that increasing consumption of electricity in the country can only be met by large investments in larger power plants is on the other side giving substance to the fears of influential nature protectionists that increased use of renewable energy in covering growing demand on electricity will not reduce but increase environmental footprint of (renewable) energy generation in the country. Manipulations with democratic procedure and miss respect of ethic of communication in a democratic society by some elected political representatives that are in favour of larger RES investments plans of state owned companies are additionally contributing to low public image of RES electricity. In this circumstances positive social learning and conflict solving processes that are needed for raising acceptance of new RES technologies are hardly making roots although new monitoring and reporting information technologies can for example enable design of sophisticated protection regimes that would reduce collision risks of migrating birds even when wind turbines would be installed within the corridors of migrating birds. Significant step forward could be however made if nature protection organizations would change their defensive approach in protecting nature – characterised by general scepticism and mistrust in RES and on coalition building based on fear - by an active approach in defining their own criteria, standards and procedures for “green electricity”, following the example of nature protection organization in Scandinavia and Hungary, for example.

## **C) Strategy for increasing share of RES electricity in Slovenija**

Why to increase the share of RES respectively RES-E at all? First question with respect to renewable energy in Slovenia in general is why to increase the share of RES in Slovenia at all, especially taking into account that both share of RES in primary energy balance (around 10%) and share of RES-E (around 30%) are far above EU 25 average? Only to fulfil yet another international voluntary commitment or to improve indeed the quality of life, the competitiveness of industry and economy, regional development as well as reliability and quality of energy services? If so then next to reduction of GHG emissions and increase of

energy generation outputs also the additional objectives and measurable indicators needs to be applied while speaking on contribution of RES and RES E to sustainable development. Rather than taken for granted the commitment of Slovenia to fulfil indicative target of increasing the share of renewable electricity from 29.9 % in the year of 2000 to 33.6% in the year of 2010 should be discussed within above mentioned context. The Dutch government has recently renounced the indicative target of increasing share of RES and emphasised need for improving energy efficiency. Contrary to the share of RES and RES-E which is well above EU average Slovenia is still below EU average with respect to both energy intensity as well as energy efficiency thus the increase of RES E make sense only if it goes hand in hand with improvements of energy efficiency and decrease of energy intensity. Internalisation of external costs of fossil energy can not be done by subsidizing of RES project but is in large part covered by commitment of reducing GHG emissions, i.e. by increasing costs of “GHG emission coupons” on the “carbon market”, respectively within the EU GHG trading scheme.

Increasing of share of RES and RES-E make sense and can be justified on the level of environmental/climate policy only in case when the decrease of emissions of GHG by RES projects is competitive with other options of GHG reduction (switch fuel, improved efficiency of energy generation, energy conservation, improved efficiency of energy services, buying of emission allowances etc.) taking into account of course also external costs. Alternatively RES-E should have strategic advantage when positive impacts on development of new efficient RES technologies, employment and regional development can be identified, measured and evaluated.

Most of the countries that also has feed in support schemes for RES E have used this as an instrument parallel with the other instruments of R&D policy and/or regional development policies for development or upgrade of new energy technologies, expansion of new high tech industrial branches and expansion of exports of high-tech RES technologies, project engineering and financial engineering services. Till the end of 1980ies Slovenia was competitive in R&D as well as in manufacturing of some RES and RES-E technologies, however in following decade the momentum was lost. Thus one needs to evaluate where are the competitive advantages and development niches for RES and RES-E R&D, industrial and servicing activities in Slovenia. Further on it would be needed to identify what are eligible and necessary support mechanism in the fields of R&D and industrial development policies that would next to feed in tariffs and reduced administrative transaction costs for advanced RES and RES-E project in Slovenia contribute to realistic perspective of increase of employment and added value in the field of RES and RES-E development, manufacturing, export etc. Feed in support schemes are indeed providing investors with reliable frameworks for calculating return rates and this is of course an advantage for technologies that are still bearing development costs and/or costs of social acceptance and excessive administrative transaction costs. On the other side next to owners of RES respectively RES E generating capacities the first beneficiaries are clearly the companies that are providing know how and equipment thus in case of zero or low share of domestic know how and equipment in terms of national economy simply means that positive transfers are placed out of national economy.

**New RES-E technologies that are relevant for Slovenia.** Following RES-E technologies seems to be at present most interesting for evaluation of their contribution to national environmental/climate, R&D, regional development etc. goals and objectives:

**Wood biomass:** co-combustion of wood in coal thermal plants, OHC process CHP, Stirling motor CHP;

**Biogas:** co-fermentation of bio-degradable wastes, agricultural products and wastes for increased production of biogas through anaerobic digestion; biogas fuelled CHP, micro-turbines; reduction of administrative complexity and uncertainty and reduction of transaction costs, introduction of differentiated feed in tariff according to the CHP electric output and/or source of digestion inputs;

**Wind energy:** non discriminatory access to the grid; nature protection aspects; potential of industrial cooperation in manufacturing of wind turbine components, enabling learning process in dealing with environmental impacts of (operating) wind turbines in the country;

**Solar energy:**

*PV* - standardised, simple and fast procedure for accessing the grid, integration of Slovene R&D activities in technology design and manufacturing activities;

*solar thermal power plants:* spatial installation and social acceptance

**Small Hydro:** simplified and fast administrative procedures for retrofitting small HPP on existing locations/sites (modernisation of operating plants), concessions for abandoned respectively non operating industrial small HPP (due to bankruptcy of industrial companies), support to export, especially support to development of Kyoto Clean Development Mechanism export options (primarily in SE Europe);

**Fossil fuel CHP with high fuel to energy ratio:** access to the grid, non-competitive feed in tariff in relation to (low) administrative electricity price for “captured customers”, non mandatory targets for “green” heat

Abstract prepared by:  
Andrej Klemenc

Ljubljana, June 6, 2005