

RES-e Regions: WP 4: Specific technology promotion

Technology selection for Slovenia: Wood biomass CHP

Background

Biomass is the most important renewable energy source in Slovenia. It represents one of the priority segments among other renewable energy sources (hydro energy, geothermal energy, solar energy, wind energy...) for acquiring electrical energy as well as heat since more than half of Slovenian territory is covered by forests. Usage of biomass in energy purposes is key meaning for reducing of greenhouse gas emissions, contributes to reduction of energy dependence, has synergy effect in other economic branches, contributes to development of local, regional and national economy and to efficient realization of contemporary environment politics in accordance with national program of environment protection and EU direction. Together with measures of efficient energy use, biomass utilization in energy purposes can represent alternative to fossil fuels.

Current situation

In Slovenia biomass has been used mostly for individual heating respectively in district heating systems. For electricity production it has been used only in few small systems.

For heating station Železniki "A study of feasibility of wood biomass cogeneration in heating station Železniki" is made, where planned spreading of network is already performing and proposals for reduction of temperature level of system is investigated. Decision about alternative (wood biomass boiler + steam turbine) is already accepted for system realization.

Barriers

- High investment costs for combined heat and power systems
- No established wood biomass market – 54 % of Slovenia is covered by forests; however biomass is not used systematically
- Lack of strong national point for support and promotion of energy activities in Slovenia
- Lack of strategy and political as well as legislative frame for promotion of energy from biomass projects
- Lack of information and awareness of local communities regarding social and environmental advantages of increasing biomass use as energy source
- Lack of information regarding possible sources of financing
- High costs for preparation of projects without assurance of acquisition of financing for their actual execution.

Opportunities

Available potential for biomass power stations is estimated on 40 MW. Due to very high investment costs for power stations is estimated that 8 to 10 MWe of such kind of power stations can be set up by the year 2010 in Slovenia. Here should be noted that heat power of such constructions is 2 to 3 times higher than electric, which means that 20 to 30 MW of heat users, which are located on forest territories of Slovenia, should be found.

Target Groups

The main target groups are:

- Producers and dealers of equipment for energy utilization of wood biomass
- Sawmills and wood remarking industry
- Companies for fuel supply, agricultural-forestry association
- Country population and population in the outskirts of the town
- Consumption associations respectively "green" consumers; competent for investments and maintenance in public sector.

Actions needed

The actions needed for decreasing the barriers and to stimulate the development of electricity production from biomass are:

- Media presentation and promotion of best practice examples
- Competition with a prize for energy the most "green" public institutions
- To issue regulation on certificate regarding origin of electrical energy from renewable energy sources
- Informing and increasing of awareness
- Subsidization of studies of feasibility of wood biomass cogeneration
- Subsidization of investments into cogeneration on basis of facilities for payment of CO₂ tax
- Development of financial mechanisms for investments into cogeneration on wood biomass
- Establishment of wood biomass market. Absence of wood biomass market is one of the main barriers for faster enforcement of biomass. Organized market will on the one hand assure fuel by competitive prices to biomass consumer and on the second hand assure possibility of offer or sale their product to biomass producers.