FO:EFC/2010/2.3

E

February 2010

منظمة الأغذية والزراعة للأمم المتحدة | 联合国粮食及农业组织 | Food and Agriculture Organization of the United Nations | Organisation des Nations Unies pour l'alimentation et l'agriculture | Продовольственная и сельскохозяйственная организация Объединенных Наций | Organización de las Naciones Unidas para la Agricultura y la Alimentación

EUROPEAN FORESTRY COMMISSION

THIRTY-FIFTH SESSION

Lisbon, Portugal, 27-30 April 2010

WOOD ENERGY FOR EUROPE: STATUS AND OUTLOOK

1. This paper informs delegates attending the 35th Session of the European Forestry Commission (EFC) about the current status and potential future development of wood energy in the region and offers some possible guiding principles.

Recent policy decisions with long term impact on wood energy..... 2

Some measures and effects on wood energy..... 2

Current situation..... 3

Implications and challenges..... 3

Guiding principles for a sustainable use of modern wood energy..... 4

Questions..... 5

Recent policy decisions with long-term impact on wood energy

2. 2009 was an important year for setting the future agenda for the development of wood energy in member countries of the Commission. Wood is already the major source of renewable energy in the region. Increasingly, policy measures and decisions taken in sectors other than forestry have an impact on the forest sector.

3. The main drivers have been the commitments under the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol, as well as European Union (EU) and national commitments related to climate and energy. Policy developments in the energy sector intended to improve energy security, boost the share of renewable energy in meeting overall energy needs and to improve energy efficiency all foresee an enhanced role for wood. Sample policy measures within the EFC region appear below:

Sample policy measures and their effects on wood energy

	Measure	**Key objective/target**	**Driver(s)**	**Implication for wood energy**
EU27	Directive for the promotion of energy from renewable sources (RES)[1]	20% of gross energy consumption from renewable sources by 2020 plus 10% share of liquid fuels from RES	Climate change, energy supply security, rural development	Direct impact as Biomass Action Plans will be prepared by member states to comply with the Directive.
Baltic States	Closure of only nuclear power plant in the Baltic states	Substitute for nuclear power / decrease dependence on electricity imports	A condition of Lithuania's accession to the European Union.	Indirect impact, as RES will increase in importance
Belarus	Presidential decree	Energy security	Reduce dependence on gas and oil imports	Explicit mention of wood energy as an alternative
Croatia	Feed in tariffs	Increase share of RES in electricity generation	Energy supply security and climate change	Explicitly mentioned for different sizes of wood burning facilities
Italy and Sweden	Taxation of fossil fuels[2]	Reduce role of light heating oil and coal	Market prices	Indirect impact as this should make RES more competitive
Ukraine	Biomass action plan[3]	Facilitate use of biomass for energy production	Substitute for gas/ improved energy supply security	Explicit mention of wood energy

1 http://ec.europa.eu/energy/climate_actions/doc/2008_res_directive_en.pdf

2 http://timber.unece.org/fileadmin/DAM/publications/ECE_TIM_2009_PolicyForum_BackgroundPaper.pdf

3 http://www.biomass.kiev.ua/pdf/BAP_EN

Current situation

4. According to the Joint Wood Energy Enquiry 2007[4], wood energy use grew, annually, by 3.5% in recent years to account for 50 % of RES in the twelve European countries that responded to the enquiry. Private households are the biggest users of wood energy: a situation that is expected to continue[5]. In addition, the use of wood for commercial power and heat generation has developed strongly, showing annual growth of more than 18% between 2005 and 2007.

5. There is a marked change in the types of fuel used by private households, particularly in EU/European Free Trade Association (EFTA) countries, with "traditional" fuels, such as round and split logs losing market share to "modern" wood fuel such as wood chips (green or dry), wood pellets and briquettes. In 2008 alone wood pellet production capacity increased by 80%. There are now 640 wood pellet plants with an annual production capacity of 15 million metric tons[6]. In the same period, wood pellet consumption increased by over 30% to over 8 million metric tonnes[7]. The European Biomass Association (AEBIOM) estimates that existing political measures alone could see private households' consumption reaching 50 million metric tons of wood pellets by 2020, representing a sustained growth of 16.5% year on year.

6. Co-firing with biomass is also boosting demand for pellets and wood chips. The UK's Drax coal-fired power station aims to replace 10% of its coal consumption with biomass, requiring 1.5 million metric tons of pellets annually. These will be a mix of imported wood pellets and pellets derived from straw: wood is not the only source of biomass fuel.

7. Countries in Eastern Europe/Commonwealth of Independent States (CIS), notably Belarus and Ukraine[8], have launched ambitious national wood energy programmes with the objective of reducing reliance on imported fossil fuels. This includes modifying central district heating plants to burn wood chips from logging and wood processing.

8. The three Baltic States (Estonia, Latvia and Lithuania) are actively developing new wood-based heat/heat and power plants. The new member states of the European Union had agreed to close the Ignalina nuclear power plant in Lithuania by the end of 2009, potentially leaving an electricity supply deficit. These countries already export a major share of their logging residues to Sweden and the greatest share of their wood pellet production goes to central Europe.

Implications and challenges

9. Strong political support has seen wood energy markets continue to grow while the economic downturn has seen demand fall sharply for the products of other forest industries[9]. A reduced supply of sawmilling co-products has forced pellet producers in particular to look for alternative raw material, including lower quality industrial roundwood. Competition for raw material has produced higher prices in some areas. Higher raw material prices benefit forest owners and may well provide an incentive to harvest wood, boosting production and thereby

---

4 Joint Wood Energy Enquiry 2007 Background Data Analysis (http://timber.unece.org/fileadmin/DAM/meetings/jwee2-data-report-24march.pdf)

5 International Energy Agency, World Energy Outlook 2006

6 The production of one metric ton of wood pellets requires 2.14 m³ roundwood equivalents (JWEE 2007)

7 Of which about 1 million metric tons has been imported from outside EU/EFTA region (http://www.pelletsatlas.info/pelletsatlas_docs/showdoc.asp?id=091127142801&type=doc&pdf=true)

8 Ukraine Biomass Action Plan

9 Forest Products Annual Market Review, 2008-2009: 9.2.2.2 Economic crisis impacts on the wood energy market (http://timber.unece.org/fileadmin/DAM/publications/Final_FPAMR2009.pdf#page=121)

contributing positively to rural development. Higher prices also have an impact on other wood processors, for whom raw materials represent a significant proportion of final product costs. Short rotation plantations could be part of the solution to supply woody biomass in a cost-effective way.

10. An already well-established global trade in wood pellets, briquettes and chips can be expected to expand.[10] Large capacity wood- and co-fired power plants, which are under construction or already operational in several European countries, depend for their feedstock on imported wood pellets and chips, often transported by ship. Power plants that produce only electricity, resulting in much less than half the wood's energy content being harnessed, may be regarded as an underutilized opportunity.

11. Increased international trade in wood fuel may raise issues of legality and sustainability with impacts too on biodiversity and phytosanitary measures. Sustainability criteria and guidelines are being developed with stakeholders by the European Commission and in other fora such as the Roundtable for Sustainable Biofuels.[11]

12. In the traditional wood burning cultures of south east Europe, natural gas is displacing wood. This stems from the negative perception among consumers that wood is old-fashioned, inefficient and labour-intensive but also reflects the powerful political lobby of the gas sector. This runs counter to the impetus of policy measures in most other parts of the EFC region and is causing concern.

Guiding principles for sustainable use of modern wood energy

13. The following list summarises outcomes from a variety of workshops and policy discussions:

- wood fuel should be used locally, as much as possible, to limit carbon emissions from transport;
- using wood for energy should aim to recover the highest proportion of the energy content that is technically feasible;
- wood energy should be used to sustain rural economic development, creating a market for otherwise unmarketable wood (small size and/or low quality) e.g. cleaning and early thinning to improve stand structure and quality;
- strategies for the development of wood energy should take account of potential competition for raw materials and should favour wood energy in regions with few alternative market outlets;
- wood energy developments should allow for community involvement, as far as possible, including profit-sharing for community benefit; and
- policies should encourage the efficient use, re-use and recycling of wood fibres before finally being directed to energy generation.

[10] Bioenergy task 40 (http://www.bioenergytrade.org)

[11] http://cgse.epfl.ch/page65660-en.html

Questions

14. The Commission is invited to review and address the following questions during the session:

- how can countries best use wood for energy to secure a balance of economic, environmental and social benefits;
- does your country possess adequate and timely data about current and future wood energy sources, potential and uses and, if not, what measures are in place or planned to improve data;
- how can the highest levels of efficiency for both industrial and energy use be achieved;
- what steps are needed to improve cross-sectoral communication and cooperation between climate, energy and forestry sectors in your country; and
- what specifically could the FAO and UNECE do to help EFC members to address the above issues.