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COMMITTEE ON SUSTAINABLE ENERGY

Steering Committee of the Energy Efficiency 21 Project

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**WOOD ENERGY: MODERN AND SUSTAINABLE HEAT AND POWER FROM
WOODY BIOMASS IN SOUTH-EASTERN EUROPE**

Note by the secretariat

I. INTRODUCTION

1. In accordance with the Project Plan 2009-2012 for the Energy Efficiency 21 (EE21) Project (ECE/ENERGY/2009/8), the United Nations Economic Commission for Europe (UNECE) has been working on developing a project proposal for the Modern and sustainable heat and power from woody biomass in South-Eastern Europe project. This note by the secretariat presents the current status of the project proposal. The description of the project is contained in the Annex.

II. BACKGROUND

2. Wood remains the prime source of energy in many areas of the world, notably in developing countries. However, even in Europe, it accounts for well over half of all renewable energy consumption. In the last five years, the developed world has woken up to the potential that wood offers, not just as a raw material for wood processing industries but also as a domestic source of renewable and climate neutral energy. Modern wood energy is far removed from a layperson's popular view of wood as dirty, old-fashioned and labour-intensive energy source. At the same time, wood is losing ground to fossil fuels, especially natural gas, in the traditional wood-burning cultures

of South-Eastern Europe, even though this contradicts the policy impetus provided by the European Union (EU) directives on renewable energy.

3. Against this background, the United Nations Economic Commission for Europe/Food and Agriculture Organization of the United Nations (UNECE/FAO) Timber Section, in cooperation with the UNECE Sustainable Energy Division has developed a project proposal “Modern and sustainable heat and power from woody biomass in South-Eastern Europe.” Its aim is to raise awareness of the role that modern wood energy could play in replacing coal and heavy fuel oil as a source of energy for district heating systems and, in the process, to identify municipalities that could benefit from switching from fossil fuels to wood. Once candidate municipalities have been identified, it is hoped that funding will be secured to help construct pilot schemes in the countries of the western Balkans that could then serve as demonstration sites for other municipalities.

4. This note by the secretariat provides an update to the Steering Group of the EE21 Project on the current status of this project proposal. It invites members of the Steering Group to promote awareness of the proposal using established networks in the UNECE region and in the South-Eastern Europe sub-region to help identify potential supporting institutions for the project and additional partners in the countries of South-Eastern Europe.

III. UNECE/FAO TIMBER SECTION EXPERTISE IN WOOD ENERGY

5. Lack of reliable data on wood energy use and consumption has been a hindrance to policy development. The UNECE/FAO Timber Section, which implements a joint UNECE/FAO programme of work on timber and forestry, is recognized in the Pan-European region as the authoritative source of the best available data on wood used for energy, specifically in terms of how much wood is used, how it is used and who uses it. This has been achieved through close collaboration with partners such as the International Energy Agency (IEA), various Directorates General of the European Commission (EU), the FAO Headquarters in Rome, Eurostat, the Austrian Energy Agency, and the University of Hamburg. As the lead partner, the UNECE/FAO Timber Section has coordinated the development of a methodology for collecting data about wood energy. Based on this methodology, member countries have submitted their data via a questionnaire in a process called the Joint Wood Energy Enquiry (JWEE).

6. The first enquiry was conducted in 2006, with some surprising results. For instance, France reported that the volume of wood used for energy was almost five times higher than had been reported previously in official statistics: the bulk of it is used by households. Germany relied heavily on post-consumer recovered wood for energy production. However, the real significance of the JWEE was that it brought together a group of organizations that have continued to work together, under the leadership of UNECE/FAO, to improve understanding of the significance and potential of wood energy through data collection and discussion. The JWEE was repeated in 2008 and is expected to be repeated in two-year cycles (the next JWEE due in 2010), to measure a rapid development in this field. Data coverage for the countries of Eastern Europe, Caucasus and Central Asia (EECCA) remains weak but coverage is improving steadily.

7. In an effort to counteract outdated perceptions and to present an accurate picture of modern wood energy, the Timber Section conducted awareness-raising regional workshops in Serbia (2007 and 2008); Romania (2008); Latvia (2009) and Croatia (2009). A workshop for EECCA countries, to be organized jointly with FAO (Budapest office) and the Government of

Belarus is planned to take place in Minsk in June 2010. These workshops have improved knowledge and understanding among the energy and forestry communities of the actions required to overcome obstacles to promoting the development of wood energy throughout the region, where feasible and appropriate.

IV. CURRENT SITUATION WITH REGARD TO THE EE21 PROJECT AND PLANNED FUTURE ACTIVITIES

8. The workshop “Policy Options for Wood Energy” in Dubrovnik, Croatia in November 2009 included a presentation on the project proposal “Modern and sustainable heat and power from woody biomass in South-Eastern Europe”, which attracted considerable interest from the participants. Contact has been made with the Ministry of Regional Development, Forestry and Water Management of Croatia and the North-West Croatia Regional Energy Agency, which expressed their significant interest in the project proposal and willingness to become a project partner in the country. Other potential partners have been identified in Bosnia and Herzegovina and in the former Yugoslav Republic of Macedonia.

9. Efforts to identify potential supporting institutions and to raise funds for the project have been initiated. As of early 2010, no potential donor has been identified to support the project on a bilateral basis. Research of websites, such as the Swedish International Agency for Development Cooperation (SIDA) and development agencies of other countries, has so far failed to reveal a close match between their priorities for assistance in South-Eastern Europe and the objectives of the project proposal.

10. The UNECE/FAO Timber Section intends to continue exploring possibilities for bilateral support to implement the project as well as examining other avenues for funding support. Among the possible supporting institutions to be approached is the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH Open Regional Fund for Renewable Energy and Energy Efficiency. The objective of this Fund is to make energy supply and consumption in South-Eastern Europe more sustainable through more efficient energy utilisation and the growing use of renewable energies.

11. On a multilateral level, there may be a potential fit between this project and the programme priorities of the Global Environment Facility (GEF) on renewable energy: these include removing barriers to renewable energy markets and capacity building for understanding and using technologies. In addition, the GEF promotes energy efficiency by removing barriers to the large-scale application, implementation, and dissemination of cost-effective, energy-efficient technologies and practices, including the lack of policies conducive to support this, as well as inadequate information and awareness, and insufficient access to financing. Other possible venues for support that should be explored are the Sustainable Energy Initiative of the European Bank for Reconstruction and Development (EBRD) and the New Energy Future of the United Nations Foundation.

12. Members of the Steering Committee of the EE21 Project are invited to take note of the status of this proposal which was approved at the previous session of the Steering Committee and included in the Project Plan 2009-2012 for the Energy Efficiency 21 (EE21) Project (ECE/ENERGY/2009/8) and are encouraged to propose their suggestions on other possible sources of funding, possibly including EE21 members, and potential supporting institutions.

ANNEX

Activity (project) title:	Modern and sustainable heat and power from woody biomass in South-Eastern Europe
Countries:	Countries in the western Balkans
Duration:	24 months
Estimated Budget:	€450,000
Executing Agency:	UNECE/FAO Timber Section, Geneva
Starting Date:	September 2008

Objective: The goal of the project is to demonstrate the feasibility of converting municipal heat and power systems in the western Balkans to woody biomass from local renewable sources by raising awareness at the policy level and by preparing detailed project proposals for one or two municipalities in each of the participating countries.

Brief Description: The western Balkans have a valuable and expanding forest resource, which could provide significant volumes of renewable energy. However, most citizens, even in rural areas, are dependent on imported fossil fuels. One solution is to convert district heat and energy systems of municipalities in forested areas to modern wood burning.

When used in an energy and material efficient way, using a modern burning facility, drawing on wood from sustainably managed forests, wood energy is considered as almost climate neutral. In addition to the energy efficiency, increased energy security and lower fuel costs, especially when the municipality is also the forest owner, these projects could generate additional income from credits for avoided CO₂ emissions and create additional local employment.

Woody biomass is one of the most important renewable energy sources in the UNECE region and may see strong growth in coming years. However, wood energy is often negatively perceived as the fuel of the poor because of its labour intensity, often old-fashioned burning facilities and the connected indoor and outdoor air pollution by small particles emissions. Modern burning facilities can effectively convert woody biomass to energy whilst minimizing particle emissions.

Many cities and municipalities already possess central heating networks requiring refurbishment, which could be converted relatively cheaply to woody biomass. Furthermore, the municipalities often own (or have guaranteed access to) abundant local wood resources.

Next Steps:

- (a) Set up a network of interested municipalities in the countries of the region;
- (b) Organize reconnaissance expert missions to the pilot areas to assess the market for woody energy, to collect positive examples for wood energy projects implementation and to prepare regional feasibility reports including business case relevant data;

(c) Organize a subregional workshop for policymakers representing energy and forestry areas from target countries to raise awareness and to showcase examples where heat and power providers successfully switched to woody biomass;

(d) Prepare project proposals to convert municipalities (one or two per participating country) from heat and power systems based on fossil fuels to systems based on sustainable woody biomass;

(e) Organize a final conference to present pilot project proposals and lessons learned to the policymakers and potential investors.

Following the proposal of the UNECE/FAO Timber Section, the nineteenth session of the Steering Committee of the EE21 Project held in May 2008 “requested the secretariat, in cooperation with the UNECE/FAO Timber Section, to develop a subregional project of Energy Efficiency 21 addressing wood energy and other bio-fuels with a geographic focus on the western Balkans” (ECE/ENERGY/WP.4/2008/3, para. 24 (i)).

The Timber Section sees strong synergies in bundling the common efforts in close cooperation between the different sectors (energy, forestry, investment) and levels (international, national, communal/local). It would involve partners from both energy and forest agencies to develop and implement this project. Cooperating partners of the EE21 Project networks are requested to consider funding of this project.
