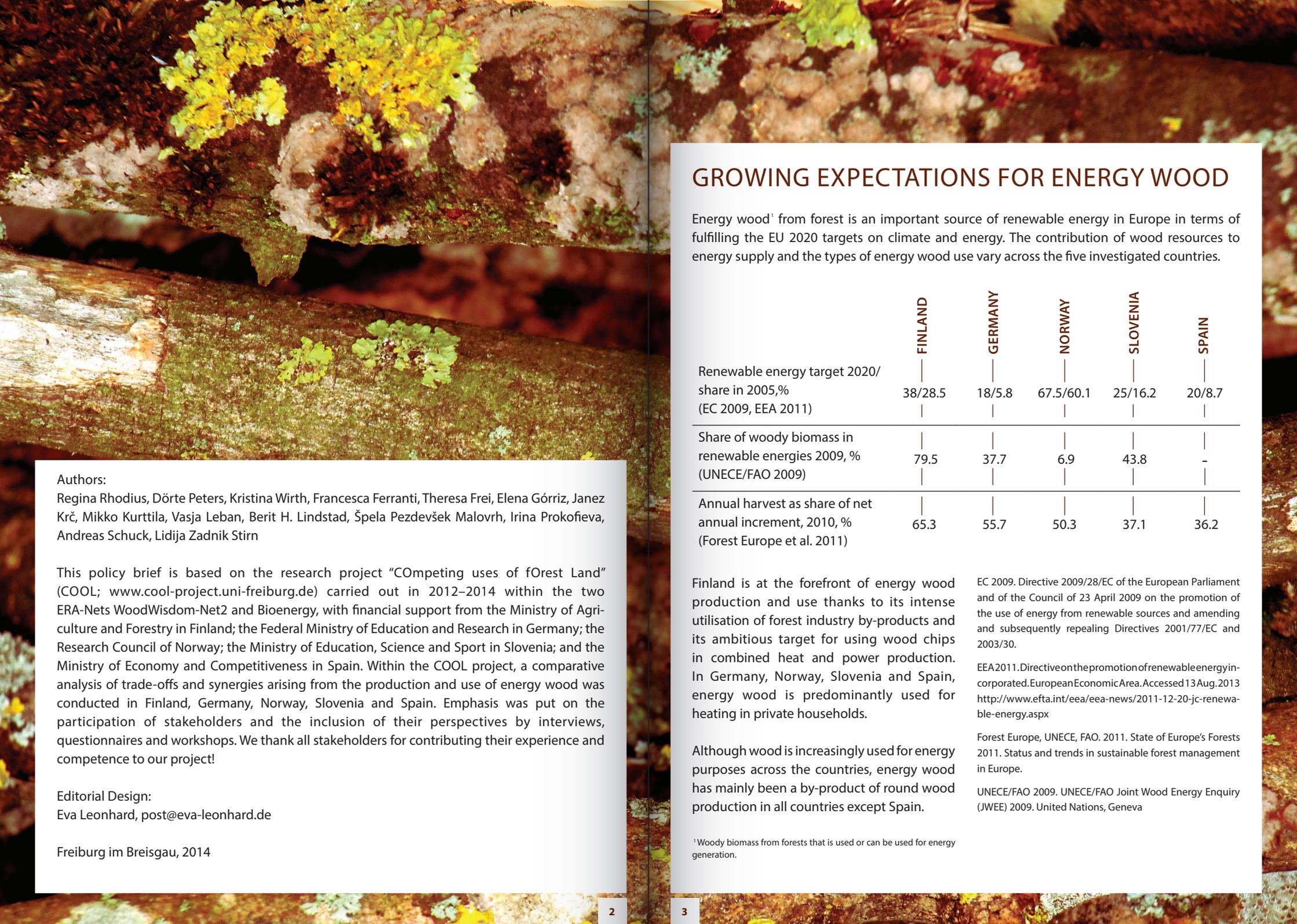




## **COOL PROJECT**

### **MORE FODDER FOR THE OVEN?**

Dealing with forest related conflicts arising from the production and use of energy wood in Europe: national stakeholder perspectives



## GROWING EXPECTATIONS FOR ENERGY WOOD

Energy wood<sup>1</sup> from forest is an important source of renewable energy in Europe in terms of fulfilling the EU 2020 targets on climate and energy. The contribution of wood resources to energy supply and the types of energy wood use vary across the five investigated countries.

	FINLAND	GERMANY	NORWAY	SLOVENIA	SPAIN
Renewable energy target 2020/ share in 2005,% (EC 2009, EEA 2011)	38/28.5	18/5.8	67.5/60.1	25/16.2	20/8.7
Share of woody biomass in renewable energies 2009, % (UNECE/FAO 2009)	79.5	37.7	6.9	43.8	-
Annual harvest as share of net annual increment, 2010, % (Forest Europe et al. 2011)	65.3	55.7	50.3	37.1	36.2

### Authors:

Regina Rhodius, Dörte Peters, Kristina Wirth, Francesca Ferranti, Theresa Frei, Elena Górriz, Janez Krč, Mikko Kurttila, Vasja Leban, Berit H. Lindstad, Špela Pezdevšek Malovrh, Irina Prokofieva, Andreas Schuck, Lidija Zadnik Stirn

This policy brief is based on the research project “COmpeting uses of fOrest Land” (COOL; [www.cool-project.uni-freiburg.de](http://www.cool-project.uni-freiburg.de)) carried out in 2012–2014 within the two ERA-Nets WoodWisdom-Net2 and Bioenergy, with financial support from the Ministry of Agriculture and Forestry in Finland; the Federal Ministry of Education and Research in Germany; the Research Council of Norway; the Ministry of Education, Science and Sport in Slovenia; and the Ministry of Economy and Competitiveness in Spain. Within the COOL project, a comparative analysis of trade-offs and synergies arising from the production and use of energy wood was conducted in Finland, Germany, Norway, Slovenia and Spain. Emphasis was put on the participation of stakeholders and the inclusion of their perspectives by interviews, questionnaires and workshops. We thank all stakeholders for contributing their experience and competence to our project!

### Editorial Design:

Eva Leonhard, [post@eva-leonhard.de](mailto:post@eva-leonhard.de)

Freiburg im Breisgau, 2014

Finland is at the forefront of energy wood production and use thanks to its intense utilisation of forest industry by-products and its ambitious target for using wood chips in combined heat and power production. In Germany, Norway, Slovenia and Spain, energy wood is predominantly used for heating in private households.

Although wood is increasingly used for energy purposes across the countries, energy wood has mainly been a by-product of round wood production in all countries except Spain.

EC 2009. Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30.

EEA 2011. Directive on the promotion of renewable energy incorporated. European Economic Area. Accessed 13 Aug. 2013 <http://www.efta.int/eea/eea-news/2011-12-20-jc-renewable-energy.aspx>

Forest Europe, UNECE, FAO. 2011. State of Europe's Forests 2011. Status and trends in sustainable forest management in Europe.

UNECE/FAO 2009. UNECE/FAO Joint Wood Energy Enquiry (JWEE) 2009. United Nations, Geneva

<sup>1</sup>Woody biomass from forests that is used or can be used for energy generation.



## NATIONAL POLICY RESPONSES

EU policies such as the EU Renewable Energy Directive have a considerable influence on national energy wood policies in the five countries, whereas linkages with other sectors vary across countries: National policies tend to enact elements from different EU policies and tailor them to various domestic circumstances thereby resulting in particular national policy solutions (e.g synergies between the fire prevention and energy wood policies in Spain).

Across the countries, national energy wood strategies underline the great potential of synergising energy wood production and use with job creation and economic prosperity in the forest sector. National strategies also envisage potential trade-offs with biodiversity conservation.

All five countries support renewable energy sources with policies that indirectly target energy wood demand, e.g. feed-in tariffs. Except for Germany, all countries additionally apply supply-side measures to create incentives for production of energy wood (e.g. for thinnings, technical equipment). It is worth noting that Germany has a substantial supply of energy wood despite the absence of supply side measures. This underlines the fact that there is no one-size-fits-all solution to promote the production and use of energy wood.

## STRENGTHS AND OPPORTUNITIES

### LARGE WOOD RESERVES

Stakeholders in Finland, Norway, Spain, and to a lesser degree in Germany and Slovenia highlight the vast amount of wood resources available for energy wood use. They also note the potential to increase the use of wood given that the increment of the growing stock is higher than the removal rates.

### TECHNOLOGY FOR EFFICIENT ENERGY WOOD USE

German and Slovenian stakeholders value existing scientific and technological know-how relating to the use of energy wood and, like Norwegian stakeholders, applaud new technologies to promote more efficient use of energy wood. Stakeholders from all countries recognise emerging opportunities to develop more energy efficient technologies and technically improved products. Slovenian stakeholders highlight the potential negative impacts of new technologies on forest ecosystems.

## CHALLENGES AND POLICY RECOMMENDATIONS

### STRENGTHEN THE POLITICAL FRAMEWORK

Stakeholders from all countries cite misguided or absent policy measures as a main factor hindering the promotion of energy wood production and use. Regarding future developments of the political framework, Finnish stakeholders stress that ad-hoc policy is de-incentivising investments in the energy wood sector. In Germany, Norway and Slovenia, stakeholders expect the political focus on renewable energies, especially on efficiency (Germany) or self-supply (Slovenia), to increase. Spanish stakeholders criticise the general lack of political interest in renewable energies and budget cuts as well as the lack of a transparent framework for the “energetic crops” (Spain is the only country reducing feed-in tariffs during recent years due to the economic crisis). Thus, stakeholders in all countries are convinced that long-term political will and stable incentives are essential to meet the EU 2020 targets.

### MOBILISE WOOD RESOURCES

Stakeholders from all countries identify mobilising wood resources for energy as a major challenge. They name constraining factors such as low profitability (Finland, Norway), difficult forest ownership structures (Finland, Slovenia), insufficient data on the rates of felling (Germany) and accessibility of forests (Spain). In order to address these

constraints, stakeholders support the following forest management options: enhanced thinning in young and middle-aged forest stands (Finland, Slovenia, Spain), increased harvest of low profitability forests and short-rotation coppice (Germany, Spain), increased use of logging residues (all countries) and that of industrial wood for energy due to a possible decrease in its production capacity (Finland, Spain).

### MANAGE COMPETITION FOR WOOD

Stakeholders in all countries are concerned that competition for wood between material and energetic uses as well as competition between different wood-based industries will have significant effects on energy wood production. Although energy wood production could benefit from the decreasing capacity of pulpwood industries, some stakeholders fear that future harvesting levels would be decisive for the availability of the by-product energy wood (Finland, Norway, Slovenia). Therefore, decreasing domestic wood use (Finland, Norway, Slovenia) and insufficient harvest levels in private forests (Slovenia) could lead to a decrease in energy wood production and use. Some German stakeholders point at discrimination of other wood related industries by subsidies, causing market distortions towards energy wood production and use.

### PRESERVE ECOSYSTEM SERVICES

Stakeholders in all countries perceive possible trade-offs between energy wood production and ecological values emerging from forest ecosystem services; synergies play a less important role and mainly refer to biomass extraction in protected areas. In particular, existing and potential trade-offs with biodiversity conservation are highlighted. Increasing future production of energy wood may put sustainability strains on ecosystems (Germany), and fuel competition for forest land (Germany, Slovenia), thus placing forest biodiversity at risk.

### ADDRESS UNCERTAINTIES REGARDING CLIMATE CHANGE

In all countries, stakeholder perceptions about the implications of energy wood production and use on climate change mitigation vary as much as the scientific findings used to support them. On the one hand, energy wood is ascribed a great significance to mitigate climate change and reduce dependency on fossil fuels. International agreements on climate change mitigation are thus perceived as the strongest political drivers of energy wood production and use. On the other hand, many stakeholders state that different forest management practices, technologies and assortments used make it more complex to evaluate the carbon balance of energy wood. For instance, some German stakeholders claim that the material use of wood and its associated carbon storage contributes more to reducing greenhouse gas levels than energy wood use and that long transport distances render carbon neutrality unattainable.

### RAISE PUBLIC AWARENESS

Stakeholders across all countries point to the lack of sufficient public awareness about environmental effects of energy wood use and the importance of saving energy. German stakeholders link this observation with the public perception that burning wood is ecologically friendly given that wood is a renewable resource. Slovenian stakeholders refer to the inefficient use of wood in private households. In the case that energy wood use would increase in future, Finnish stakeholders expect an increase in energy self-sufficiency. In Germany and Slovenia, stakeholders predict that saving energy and more efficient use of wood will become more important. In Spain, an increasingly prominent paradigm within the forestry sector, which highlights using energy wood to prevent wildfires, is taking hold among policy-makers and energy consumers.

