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Boosting jobs and growth through sustainable and intelligent forestry

The creation of a pan-European information system will help unlock substantial forest resources in a more sustainable manner. This is the aim of the EU-funded SIMWOOD project, which is developing MOBILISER, a new online knowledge base that will spread integrated, transferable solutions and viable policies across Europe.

Europe has more than 117 million hectares of forest. However, sustainable utilisation — especially in privately owned woods — falls some way short of its potential. In addition, the ever-increasing demand for wood for material and energy applications is becoming more and more difficult to meet.

The four-year SIMWOOD[1] project was launched in November 2013 to address this issue, and to promote more efficient use of the available supply of wood. Initially, the project will record existing socio-economic, technical and ecological barriers to sustainable forestry. Through a series of pilot projects,

SIMWOOD will then test promising initiatives in close cooperation with local stakeholders. The MOBILISER online information system will help to evaluate the effect of these new approaches, and improve them as required.

Through MOBILISER, good practices and technologies, existing stakeholder initiatives and effective support programmes will be promoted and disseminated. An expert system will evaluate the impact of up-scaling solutions to the EU level. The system will also link to regional learning labs in order to foster greater participation in the scheme and enhanced forest governance.

The system will feature an intuitive, multilingual interface to maximise the uptake of integrated solutions by forest owners and other stakeholders across Europe and beyond. This will give the owners, foresters and SMEs access to information and recommendations that, until now, have been difficult to acquire.

Making better use of Europe's sustainable forestry resources could help boost jobs and growth. It is estimated that 853 million cubic metres (m³) of timber and 585 million m³ of wood for energy will be needed in 2030 — the provision of such **>**

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quantities represents both a challenge and an opportunity.

The timber industry in Europe alone currently totals around 600 000 companies, including sawmills and furniture manufacturers, employing 4 to 5 million workers and generating annual sales of EUR 550 billion. For the industry as a whole, a reliable local source of raw materials can guarantee stable growth.

The project, which will receive a total of EUR 5 990 311 in EU funding, involves 28 partners from Germany, Belgium, Finland, France, the United KIngdom, Ireland, the Netherlands, Portugal, Sweden, Slovenia and Spain. The consortium also includes two European research institutes — the Joint Research Centre (JRC) and the European Forest Institute (EFI). Their involvement will enable the project results to be widely disseminated, and will ensure that the cross-regional monitoring system will continue beyond the project's lifetime.

Overall, the project is expected to play a significant role in increasing supplies of wood, enhancing sustainable forest use and strengthening the forest-based sector as a key contributor to Europe's growing bioeconomy. SIMWOOD is scheduled for completion in October 2017.

The project is coordinated by the Bavarian State Institute of Forestry in Germany.

1   'Sustainable innovative mobilisation of wood'.

Cloud watching improves climate models

Clouds and cloud cover create a lot of uncertainty in climate models as their effects are difficult to quantify or predict. A new project is developing novel ways to measure clouds and their impact in an effort to overcome this uncertainty.

Recent studies of climate models have shown that clouds are introducing a large amount of uncertainty into Earth System Models (ESMs), the most common climate-change model. Without dependable cloud data, these models are vague and have low predictive power.

To address this problem, the EU is funding the project EUCLIPSE[1]. This study brings together meteorologists and climate-modelling experts.

The researchers aim to improve modelled cloud behaviour, to develop a way to measure the accuracy of cloud effects, and to better define the parameters of cloud processes in ESMs. Another part of the project will focus on how clouds react to climate change in the physical world.

EUCLIPSE has implemented the use of a new cloud simulator for ESMs that provides improved data for the modelling, as well as new evaluation tools to check the output of these models. The physical study of cloud formation and interaction has begun, and data from this study has reduced bias in the models used.

Future work will focus on creating standard diagnostics to evaluate the effect of clouds on climate models. The work done during EUCLIPSE will help to predict climate change more accurately as well as improve our understanding of the phenomenon.

The project is coordinated by the Royal Netherlands Meteorological Institute (KNMI) in the Netherlands.

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1   'EU cloud intercomparison, process study and evaluation project'.

Synergising eco-friendly pesticides

Biocides are chemicals commonly used in pesticides and wood protectors to protect against flies, cockroaches, termites, wood-rotting fungi and other pests. Globally, there are increasing concerns about the toxicity of the conventional biocides used and their effect on both the environment and human health.

The EU-backed BIMOSYN[1] project, involving academia and five small and medium-sized enterprises (SMEs), was initiated to address these concerns. Scientists investigated the use of promising plant extracts from antioxidant-type and medicinal-type plants in certain insecticides and fungicides. Their aim was to reduce the toxic chemical concentration while increasing their efficacy against pests.

Scientists were highly successful in their endeavours and several breakthroughs were achieved.

After screening a number of extracts, two compounds were shortlisted for use in wood protection and urban pesticide products. Tests were carried out to enhance synergy with selected chemicals and optimise the extract-to-biocide ratios.

Project partners successfully increased wood resistance against fungal degradation and xylophagous insects, such as termites and bark beetles, by using these extracts with wood protectors. Several insecticides combined with extracts showed better housefly control than insecticides alone.

After optimising the extraction process, project partners developed water-based biocide prototype formulations for urban pests