

## Task 30. Short Rotation Crops for Bioenergy Systems

The main objective of Task 30 is to acquire, synthesise and transfer theoretical and practical knowledge of sustainable short rotation biomass production systems for energy purposes and thereby to enhance market development and large-scale implementation in collaboration with the various sectors involved. Large-scale implementation and commercialisation of short rotation crops requires the joint input of politicians, researchers and industry. Task 30 not only provides a platform for the exchange of R&D-results but also for exchange of experience concerning political incentives and measures that are employed to regulate primary production and associated land-use issues.

Short rotation crops for energy are becoming increasingly important in many countries due to their efficient land use, possibilities for environmental control, and for additional benefits that these systems give rise to when implemented at various scales. Rapidly growing bioenergy markets are increasing the demands in both quantitative and qualitative terms on short rotation crops dedicated to bioenergy use as well as on short rotation production systems that generate residuals used for bioenergy. Internationalisation of these markets, as well as trade options with carbon dioxide quota are also urging countries which lack a substantial land base for biomass production to engage in biomass resource assessment issues.

Consequently, Task 30, which builds on the previous experience gained in Task 17, has a high number of countries that participate to communicate their national program's research and development achievements.

Participation 2002 (Country, National Team Leader, ExCo-member)

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The Operating Agent for Task 30 is the Swedish National Energy Administration, as represented by Dr. Björn Telenius. The Task Leader for Task 30 is Theo Verwijst from the Department of Short Rotation Forestry, Swedish University of Agricultural Sciences (SLU). Associate Task Leaders are Lynn Wright (USA) and Ian Nicolas (New Zealand) and Task Secretary is Stig Ledin, SLU, Sweden.

The biomass production systems of concern for Task 30 consist of fast-growing short-rotation forests (usually employing eucalypt, willow and poplar species), and ligno-cellulosic agricultural crops. These systems provide the major pathway to increase sustainable biomass production for energy. Pressure on valuable natural ecosystems can be decreased by the employment of short rotation crop systems, and they serve as alternative cropping systems for foresters and farmers in many parts of the world.

High priority areas for Task 30 are:

- Large-scale implementation of production systems for energy purposes.
- Economic externalities of short rotation cropping systems.
- Carbon management
- Nutrient- and water use efficiency of biomass production systems.
- Development of logistics to process SRC and agricultural crop residues.
- Applications combining biomass production and phytoremediation.
- Development of whole-chain assessment methods, e.g. LCA.
- Policy instruments (incentives, regulations, legislation) to boost bioenergy and assessment of their effectiveness.

A major Task focus is put on the integration of production- and environmental functions of short rotation biomass production systems. Due to the nutrient requirements of short-rotation systems, they form an important component of nutrient recycling in modern combi-farming systems and may be used to counteract eutrophication and many other negative impacts of human activity on the landscape. From a socio-economic and environmental point of view, such multi-purpose systems are superior to conventional biomass production systems, and constitute a fast growing proportion of the resource base, necessary for all the developments that IEA-Bioenergy is promoting.