

BIOMASS/BIOFUELS

Today's world is undeniably facing climate change. The dramatic consequences of the latter, when combined with the rising demand in food following the steepening of the population curve above all in developing countries, and with a global energy demand forecast to increase by 50% by 2025- hence two factors really not likely to improve the situation-, imply that we need to find measures to mitigate global warming, namely in reducing greenhouse gases (GHG) emissions.

The EU also has to decrease its energy dependency, namely through the diversification of fuel supply sources thanks to renewable energies. In addition, global production has been growing worldwide involving the increase of waste and by-products which need to be taken care of. Besides, it is important to diversify the agricultural market outlets as well as employment opportunities in rural areas in order to avoid abandonment of land, which is very detrimental for the environment.

The EU Commission has set up energy and climate change policy objectives: to reduce greenhouse gas emissions by 20% and ensure 20% of renewable energy sources in the EU energy mix; in order to reduce EU primary energy use by 20% by 2020. It would save the EU some € 100 billion and cut emissions by almost 800 million tonnes a year. To that end, there is a strong need to develop cost-effective low carbon technologies, including the use of biomass and sustainable biofuels.

ELO promotes sustainable agricultural non food production when it is implemented through good practices and agri-environmental measures which most of the time require incentives to help landowners and land managers to provide the environmental services that society expects from them.

With this mind, ELO organised and attended numerous conferences and events throughout the EU 27, such as the Sustainable Energy week that took place in Brussels, as well as meetings with MEPs, national and EU high-level officials, in order to explore partnership opportunities with ELO on this matter.

Biomass is all renewable raw material of plant or animal origin destined for non-food use, and can be considered as one of the most important renewable energy sources thanks to several benefits including large savings in GHG emissions. Its sustainable use is part of a virtuous circle that enables the efficient management of waste, supporting an **integrated approach**, and when produced locally allows minimising fossil fuel use in processing and fuel transport. It is nevertheless crucial to remember that biofuels widely vary in terms of their impact; it is hence necessary to monitor the whole life cycle of each type of biofuel, i.e how they are produced (intensive v. extensive production, use of fossil-based fertilisers, fossil fuels, etc.) and their impacts on soil, water resources, biodiversity etc. Energy Efficiency is a key word: 2nd (and 3rd) generation biofuels have a bigger potential than 1st generation crops, which are limited and can compete directly with food production, even though they prepare the way for the next generations. However these new alternative materials are faced with the technical challenges of being converted into high-performance fuels and to ensuring that life-cycle CO₂ production is low, performance of the fuel is high and manufacture can be commercially viable. In addition, they are expensive to produce. More research and adequate policy and legal framework are needed, as well as deeper involvement of the decisions makers and of the investors. ELO and the RISE Foundation jointly organised in January 2008 a Seminar entitled "Food, Feed and Bioenergy: Priorities and Dilemmas" where ELO Consultative Committee Chairman and RISE Foundation CEO Corrado PIRZIO-BIROLI delivered a key note address explaining that escalating prices and environmental degradation are signs that the population explosion, urbanization, economic development and that changes in consumption patterns are progressively causing food, feed and energy shortages, and leading the world towards eventual environmental collapse. Food-, energy- and environmental security have

3 MAIN TYPES OF BIOMASS

- **Agricultural resources** (flax, rape, chicory, beet-root, perennial grasses, miscanthus, etc)
- **Forestry resources** (forest residues, wood industry sub-products, very-short-rotation coppices) see **ELO's EUROFORENET programme and the new MAKE IT BE programme (see forestry leaflet).**
- **Waste** (manure, agro-alimentary industries, etc)

USES

- Biomass for **heat**
- Biomass for **transport fuels** (biodiesel form oilseed rape, bioethanol from wheat, sugar beet..., ETBE, etc)
- Biomass for **electricity.**
- **New products** from Biomass research (biochemicals, solvents, biopolymers, biolubricants, biomaterials, etc)
- Building materials.

PROCESSES

combustion, gasification, cogeneration, biomethanisation, plant chemistry, etc

become major policy challenges for our planet and its people, and biofuels influences all of them. The conclusion of the Seminar highlighted that the development of sustainability criteria and carbon certification is necessary in order to provide the framework for decisions as to which plants and what production methods provide an acceptable net contribution to GHG reduction and should therefore play a part in target implementation.

EU SUPPORT FOR BIOENERGY:

The use of biomass for energy receives support from the **Common Agricultural Policy** through the CAP reform (decoupled income support, energy crops on set-aside areas, energy crop premium, sugar reform – with sugar beet for ethanol eligible under both regimes, exempt from quotas, etc), from the **Rural development Regulation (2007-2013)** with its set of measures in support of renewable energy (e.g. biomass supply chains, processing capacity, bioenergy installations, including energy use of forest material), and from funds dedicated to **Research through technology Platforms** (industry-led co-operation to develop Strategic Research Agendas (SRAs) which set R&D goals and priorities such as forest-based Sector Technology Platform (www.forestplatform.com); biofuels Technology Platform (www.biofuelstp.eu), plants for the future (www.epsoweb.org), sustainable Chemistry (www.suschem.org) and the **7th RTD framework programme** as well as **Intelligent Energy for Europe**.

For ELO, the key question for Europe is whether it is justified to establish strict biofuels targets - such as the 10% obligation of transport fuel by 2020 as advocated by the Commission in the EU Climate and Energy Package- and provide incentives for biofuels to enable an emerging industry. Biofuels are a key part of our current and future energy mix. Diversification into biofuels can bring many benefits with it, especially as technology and research allow increasing use of second (and beyond) generation sources. It can lead to a **win-win situation** which could be beneficial universally for the rural world, governments, the environment and investors. However, it is important to ensure that any action taken is properly researched, targets are realistic and, most of all, sustainable. In making these decisions, ethical and political issues, in relation to food security and the competition between food and fuel must be carefully considered, as well as the geopolitical consequences and impacts on the developing world.

In addition, ELO, strongly concerned by the **irreversible effect** of intensive energy crops production caused by massive deforestation in third countries such as Brazil, would welcome the **creation of certificates** to ensure that biomass imported from such countries respect environmental standards, such as cross-compliance requirements. It could also avoid the risk of distortion of competition for EU farmers, who have to respect these requirements to receive their direct payments.



MAIN EU LEGISLATION REGULATING THE USE OF BIOMASS/BIOFUELS:

- Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources in the internal electricity market
- Directive 2002/91/EC on the energy performance of buildings
- Directive 2003/30/EC on the promotion of the use of biofuels or other renewable fuels for transport
- Directive 2003/87/EC on a scheme for greenhouse gas emission allowance trading within the Community
- Directive 2004/8/EC on the promotion of cogeneration based on a useful heat demand in the internal energy market
- EU Biomass Action Plan 7/12/2005: COM(2005) 628 final
- EU Strategy for Biofuels 8/02/2006: COM(2006) 34 final-adopted by Council 8/06/2006
- EU Forest Action Plan 15/6/2006 (COM(2006)302 final)
- Proposal to revise Directive 98/70/EC relating to the quality of petrol and diesel fuels and amending Council Directive 93/12/EC, 31 January 2007
- Communication Towards a low carbon future – A European Strategic Energy Technology Plan Com(2007) 0723

In 2008:

23 January: "Climate and Energy package" including a new approach to actively promote renewable targets, again including binding national targets.

- Proposal for a Directive of the EP and of the Council on the promotion of the use of energy from renewable sources {COM(2008) 30 final}