Section header

Natural partners

AEBIOM’s Lara Mertens highlights the value of partnerships in developing industry-led bioenergy projects with a high benefit for society…

Combating climate change and ensuring the security of energy supply represent profound challenges for Europe. Adapting the current energy scenario into a truly sustainable one will require realising the full potential of renewable energy sources. Bioenergy is expected to contribute 56.5% of the gross energy production from renewable energy sources in 2020 and thereby constitutes a cornerstone of the EU’s transition to a low-carbon economy.

The vast majority of our energy is produced through the combustion of fossil fuels, such as oil, gas and coal – with a significant environmental impact in terms of greenhouse gas emissions. Today the social, environmental and economic costs of climate change highlight the urgency of moving towards a new and more sustainable energy scenario. Converting our energy sourcing from imported fossil resources to European domestic biomass will ensure security of supply and save money from import expenses, which will in turn be invested in our economy, creating welcome leverage effects.

Biomass is a decentralised market by nature, in terms of biomass production in forests and agriculture, but also in terms of use – in particular for the production of heat. The use of internal biomass resources will largely benefit producers of biomass in rural areas, generating new jobs and investments in rural economies. The bioenergy sector, therefore, entails the largest potential for job creation and rural development of all renewable energy sectors.

With the increasing use of biomass for energy purposes, new companies will be created over the whole value chain, generating jobs for biomass collection and treatment (crushing, drying, etc.), logistics, production of boilers and accessories (piping, software, etc.), installation and maintenance. In its Strategic Research and Innovation Agenda, the European Technology Platform on Renewable Heating and Cooling (RHC-Platform), an initiative officially endorsed by the European Commission since October 2008, estimated the turnover of the entire biomass heating and cooling sector in Europe (including services) at €200bn over the period 2014-20. Assuming that a €100,000 turnover generates one job, this would generate a total of two million jobs in 2020 in Europe.

Bioenergy will clearly play an essential role in the EU’s strategy to improve the security of the energy supply and to foster a competitive edge in the related highly innovative industries. To unlock its full potential, enhanced R&D and transnational cooperation are
needed to ensure resource-efficient and environmentally friendly technologies are delivered to the consumers in the short term at economically competitive prices, and to secure the sustainable mobilisation of European indigenous biomass resources. Substantial mobilisation of public and private funds, as well as support from the banking sector, will be crucial in delivering sustainable solutions to the market.

The RHC-Platform aims to play a decisive role in maximising synergies and strengthening efforts towards research, development and technological innovation, which will consolidate Europe’s leading position in the sector. The Biomass Panel of the RHC-Platform published its Strategic Research Priorities last April, identifying the R&D activities needed in all market segments (residential, non-residential and industrial) in the short term and in the medium term. The RHC-Platform is now entering the implementation phase, which aims at securing funding for innovative transnational bioenergy projects. Here, the RHC-Platform Biomass Panel has identified a number of bioenergy value chains, which deserve a particular R&D focus in the short term:

- Cost and energy efficient, environmentally friendly, small-scale combined, heat and power (CHP);
- High efficient biomass conversion systems for tri-generation (heating, cooling and power);
- Advanced biomass fuels – including thermally treated biomass and pyrolysis oil – replacing coal and fossil oil in CHP;
- High-efficient large-scale or industrial steam CHP with enhanced availability and increased high temperature heat potential.

To unlock public funding for R&D in these value chains, industry commitment is absolutely crucial. The challenge ahead is to substantiate the industrial readiness to involve public private partnerships in innovative R&D projects. Since 2008, the RHC-Platform has built up a strong network of industry and research stakeholders in the renewable heating and cooling sector. A competent structure managed by four associations – AEBIOM, EUREC, ESTIF and EGEC – is now in place and should be put to profit to demonstrate the industry’s willingness to engage in research and innovation in Europe.

1 www.rhc-platform.org/fileadmin/user_upload/members/RHC_SRA_0418_lowres.pdf
2 www.rhc-platform.org/fileadmin/Publications/Biomass_SRA.pdf

Science Omega Review comment: The International Energy Agency

An International Energy Agency (IEA)-led report released in May has highlighted the scale of meeting the joint challenges of reducing energy poverty and managing climate change. Published as part of the Sustainable Energy for All (SE4ALL) initiative, it has found that fossil fuels still account for more than 80% of the world’s energy mix and, in addition, a considerable proportion of the population still lives without access to electricity. This, the IEA suggests, places severe limitations on global economic development.

The Global Tracking Framework, a collaborative project led by the IEA and The World Bank, calculates the starting point against which the SE4ALL initiative can benchmark progress towards its three objectives: universal access to modern energy services, doubling the global rate of improvement in energy efficiency and doubling the share of renewable energy in the global energy mix, with the aim being to achieve all three by 2030.

Estimates from the framework indicate that, as of 2010, 17% of the global population did not have access to electricity, while 41% still relied on wood or other biomass to cook and heat their homes. Renewable energy accounted for less than 20% of global energy provision, whilst overall energy efficiency had only been seen to have improved by 1.3% on average annually since 1990.

“The Sustainable Energy for All initiative is a rallying cry to tackle the twin crises of energy poverty and climate change, and this Global Tracking Framework is an important first response,” said Maria van der Hoeven, Executive Director of the IEA and a member of the Advisory Board of the SE4ALL initiative. “By measuring the scale of the challenge, it provides a crucial reference against which the partners of the SE4ALL initiative, and all of us, can track progress towards building a cleaner energy system for all.”

Van der Hoeven has been keen to highlight that, despite ongoing efforts in recent years, the drive towards clean energy has slowed. She has called for a rapid expansion in low-carbon technologies and a move towards cleaner energy sources, along with greater international collaboration to ensure that the global energy supply is improved upon.

1 www.iea.org/newsroomandevents/pressreleases/2013/may/name,38448,en.html
2 www.huffingtonpost.com/maria-van-der-hoeven/the-push-for-clean-energy_b_3092291.html