

ARBOR

Accelerating renewable energies through valorization of biogenic organic raw material



As we move closer toward the [EU's Energy 2020](#) deadline many countries must intensify their efforts in order to meet their targets. The region of North West Europe (NWE) shares a strong reliance on imported energy, but has the potential to move towards greater use of locally-sourced biomass. Luxembourg has set the national target of obtaining 4% of its energy from local renewable sources by 2020 and aims to generate 42% of its renewable electricity and 77% of its renewable heat and cold from biomass. Gathering actors from across NWE, ARBOR is a regionally focused project that aims to promote the development and use of biomass to aid the region in sustainably meeting its energy objectives for 2020.

Inspiration

Biomass-based energy from organic and agricultural waste, manure, low-impact energy crops or greenery cuttings allows for the reduction of CO₂ emissions and can be sourced locally, making it a promising alternative to energy from fossil fuels. In addition, it offers new possibilities for dealing with agricultural waste and provides added value to existing biomass waste flows that currently are neither recycled nor used for energy production. ARBOR is focused on improving the sourcing of biomass materials, the efficiency of biomass conversion via combustion or anaerobic digestion, and the assessment of regional capacities for biomass utilisation. Identifying local potential and delivering solutions with the lowest environmental impact and highest regional economic value in different contexts across NWE is the main aim of the project.

Innovation

The project encompasses practical pilots and demonstrations of different solutions for biomass generation and use. LIST's Environmental Research and Innovation (ERIN) department contributes to ARBOR with its experience and expertise in the area of biomass, gained through the past projects RUBIN, LUXCYCLE, and VALORBUES, as well as the ongoing project LUCAS. In cooperation with German partner IZES gGmbH, LIST is responsible for ARBOR's sustainability assessment, which includes the analysis of the environmental impacts (Life Cycle Assessment - LCA) and economic implications related to use of biomass in the region. Following this, and based on comparison of the political and legal framework on bioenergy utilisation, strategies for the transfer and implementation of pilot solutions to the different regional contexts will be developed.

Impact

The ARBOR project will increase the ability of countries in NWE to shift to biomass-based energy, supporting them in sustainably meeting their Energy 2020 targets and steering further towards greener energy in the long term. Cross-regional knowledge sharing and the development of a harmonised strategy on biomass-based renewable energy will help all areas of the region to take advantage of available technologies and resources. The results will be disseminated among stakeholders at local, regional and European level and will demonstrate the viability of the pilot solutions in different contexts throughout the region. Luxembourg will profit from knowledge and competence transfer within the ARBOR project, which will support the implementation of relevant biomass solutions locally.

Partners

FlandersBIO vzw (BE) , Ghent University (BE) , Inagro GmbH (DE) , POM West-Vlaanderen (BE) , VCM vzw (BE) , IZES gGmbH (DE) , University College Dublin (IE) , DLV Plant BV (NL) , Province of Utrecht (NL) , Wageningen University (NL) , Staffordshire University (UK) , Stoke-on-Trent City Council (UK)

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