

Branching out into new bioenergy supplies

August 4 2016

The EU EUROPRUNING project has implemented a true pruning-to-energy value chain by introducing new technology and by removing barriers to the use of agricultural residues as an energy resource.

Every year the EU produces over 13 million tonnes of agricultural prunings. Considering that prunings can serve as an excellent source of solid biofuel, these numbers are substantial. More importantly, if there was a coordinated logistics chain in place, farmers could sell their prunings to the biomass market for profit. But unfortunately, this is not the case. Instead of being seen as an [energy resource](#), prunings are treated as waste and thus either burnt or integrated back into the soil.

A pruning-to-bioenergy value chain

To overcome this challenge, the EUROPRUNING [project](#) began by developing innovative machinery and logistical tools to help farmers more easily convert their prunings into bioenergy supplies. Their work included solutions for all stages of the value chain, and led to an array of new methodologies and technologies. For example, it implemented an innovative methodology for sampling and testing a field's biomass properties, and issued guidelines and best practices for evaluating pruning residues. It produced numerous prototype agricultural machines including two new harvesting machines, a baler and a chipper, capable of collecting prunings from the soil and preparing them for transportation.

These machines are accompanied by a 'SmartBoxTool' and an ICT platform for optimising collection and delivery logistics, as well as

monitoring pruning quality. For example, when it comes to storage, the platform provides recommendations for how best to manage large storages of piled biomass. Once the prunings are ready for transport, a GIS-based decision-making tool allows logistic operators to reduce costs and optimise efficiency. The project also offers a truck-mounted GPS system to help drivers find storage and delivery points and calculate the best route between the two.

A new framework

Although this technological work has helped, researchers soon found that this alone was not enough, as non-technical barriers - including a lack of policy support - stood in the way. In other words, even though the innovation was there, the rules needed to catch up.

Armed with this knowledge, the project team set out to change the 'prunings as waste' mindset that was so common amongst both farmers and policymakers. It aimed to accomplish this at both the EU and Member State level.

At the EU level, the project focused on changing the Common Agricultural Policy's (CAP) approach to soil quality, which encouraged farmers to integrate prunings into the soil - even when there is no environmental benefit from doing so. Instead, the project shifted the CAP's focus towards converting prunings to bioenergy supplies. At the national level, the project worked to incorporate prunings into the National Renewable Energy Action Plans of the Member States.

Big benefits

The EUROPRUNING project has successfully contributed to the effort of making cost-effective and high-quality solid biofuels out of pruning

and wood residues, thus giving a boost to the biomass market's reach. Furthermore, project researchers believe that the implementation of their machinery, tools and procedures could lead to the creation of over 30 000 jobs in Europe - thus bringing many much-needed social and economic benefits to Europe's rural communities.

More information: For more information please see the EUROPRUNING project website: www.europruning.eu/

Provided by CORDIS

Citation: Branching out into new bioenergy supplies (2016, August 4) retrieved 25 April 2024 from <https://phys.org/news/2016-08-bioenergy.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.