



Mobilising pruning residues to expand Europe's biomass market

Policy Implications

Currently, the European Union produces over 13 million tonnes of wood prunings per year, with only a marginal percentage used as a biomass fuel. The use of pruning biomass can be encouraged with a supportive European framework, including a robust biomass sustainability policy, a holistic bioeconomy approach, and through the expanded use of existing funding initiatives, tools and programmes.

In comparison to other biomass resources, such as lumber resources and energy crops, residual biomass from agriculture and other industries, have more limited sustainability concerns. Although forestry and milling wastes are already used for pellet and chip production, many agricultural residues remain outside of the scope of the bioenergy market, as a result of a number of technical, environmental, economic and knowledge barriers:

- **Policy blindness** - Prunings are treated as a typical biomass resource, meaning their specific characteristics are not recognised in energy and biomass policy, and that barriers to use are often unnecessarily put in place at regional, national and supranational levels.
- **Low awareness** – Farmers generally regard prunings as a waste, not a resource, and as such, their main concern is simply to get rid of them as quickly and as cheaply as possible.
- **Existing use** – Farmers who produce prunings already have practices for their use. Typically, prunings are shredded and left on the soil, acting as an organic fertiliser, or they are piled and burned at the side of the field. Whilst the former can have a positive impact for soil fertility (though it can also act as a disease vector), the latter adds no value. In the rare occasion that prunings are already used as an energy resource, they are generally used by the farmer as firewood for self-consumption.
- **Short distance, local value-chains** – Prunings are not suitable for large-scale value chains, or long-distance transportation. Agricultural residues are produced on a small scale, and are widely dispersed across multiple collection sites, so logistics and

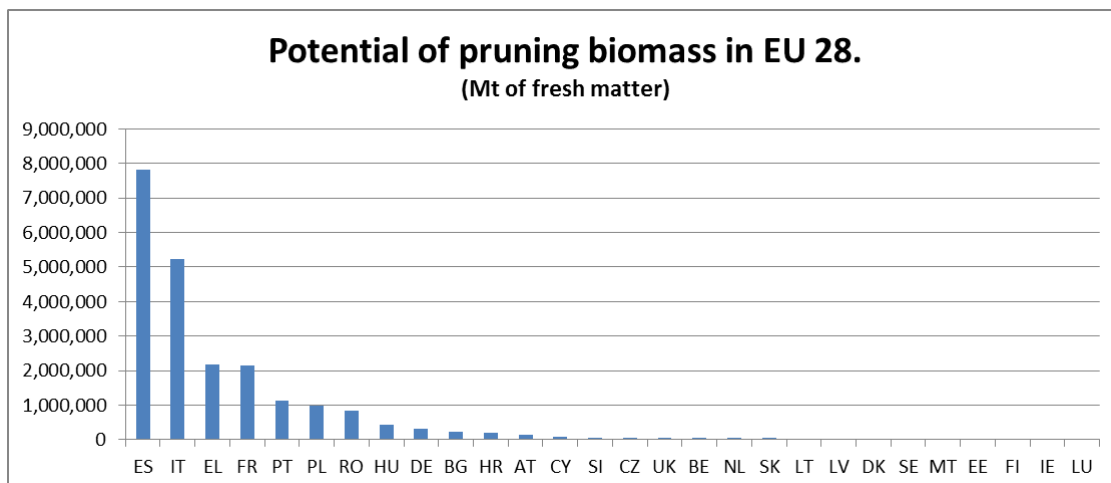
transportation costs can be high, limiting the economic potentials of using prunings to local markets. The biomass is mostly used locally, being transported short or medium distances (5 to 30 km) from site to end-user.

- **End-user scepticism** – Prunings are considered to be of low quality, and uncompetitive with existing biomass resources. End-users can be unwilling to divert from their existing biomass resources, or pay enough to cover the costs of collection, storage and delivery of the pruning biomass.
- **Lack of business models** – The labour intensity of pruning collection is a major problem in mobilisation, and production per hectare is uncertain and often low. The costs associated with pruning collection and management may be considered too high for what is often an annual activity, meaning that the costs of machinery and tools need to be covered in innovative business models that can share the costs amongst several collection sites.

Recommendations

- **Take account of the potential of prunings in European frameworks**

Renewable energy use is supported at the European level via the 2020 and upcoming 2030 Climate and Energy targets, and Member States will steer their sustainable energy development through National Renewable Energy Action Plans (NREAPs), which are open for amendment in 2020. Biomass will continue to play an extensive role in Europe, accounting currently for over 60% of renewable energy generation. Member States should be encouraged to consider their full pruning biomass potential, particularly Spain, Italy, Greece, France, Portugal and Poland.



- **Use biomass sustainability criteria to support use of ‘waste’ woods**

The European Commission should take the opportunity introduced by the 2030 Energy Framework to insist on biomass sustainability criteria based on Circular Economy and

Bioeconomy Cascading Use principles, to ensure that maximum value is extracted from the biomass resource, and that environmental costs are not externalised. This will support not only the sustainable use of existing biomass resources, but also encourage the use of lower-value and lower-quality biomass, such as prunings for energy, whilst also supporting the emergence of the bioeconomy and enabling rural development.

- **Introduce bans on the open-air burning of prunings**

The main driving force that determines whether burning or soil amendment is predominant is whether there is a regional or national ban on burning prunings in open-air fires. A ban on the burning of prunings would instead encourage that they are integrated into soil (with relevant disease countenance measures), or that they are used as a renewable energy resource.

- **Recognise specific characteristics of agrarian residues at all stages in the value chain**

Regulatory barriers at the EU level need to be removed, such as the eco-design requirements for small stoves (<50kw) and boilers (<500kw), which put stringent limits on emissions, making it likely that only A1 forestry chips and ENPLUS pellets will be able to be used.¹ This would significantly limit local markets for prunings, which are mainly used for small scale consumption. Whilst the regulations give exemptions for certain uses (such as air heating), and resources (such as mixed pellets of prunings and straw), this will continue to limit value chain creation. As the current alternative is open-air burning, with no social, economic or environmental benefits, policies should instead recognise agrarian residues as their own category of biomass, giving exemption for use at small scale.

- **Consider impact of GAECs on soil amendment**

Common Agricultural Policy Cross Compliance measures, particularly the Good Agricultural and Environmental Conditions (GAEC), place requirements on farmers to maintain good soil quality, and maintain soil organic matter levels through measures such as banning the burning of arable stubbles. In order to meet GAEC, farmers can be encouraged to use prunings as a soil amendment, even when there is no clear advantage in doing so, often also requiring additional pesticide use. In regions where the soil is of poor quality, it should be encouraged, but elsewhere the practice is a hindrance in the development of a pruning biomass market.

- **Advisory Services can highlight value chain potentials and advise on Cross Compliance**

The European Commission's Farm Advisory Services and the European Innovation Partnership on Agriculture (EIP-Agri) should promote the use of prunings as a biomass

¹ Regulation (EU) 2015/1185 of 24 April 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for solid fuel local space heaters.
Regulation (EU) 2015/1189 of 28 April 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for solid fuel boilers.

resource, giving guidance also on how to remain within Cross Compliance criteria and on the use of the EAFRD measures. These actors can rely on the best practices created by the EuroPruning project, make use of the value chain calculator created by the project, and use EuroPruning results as validation of the potentials of new value chains.

- **Make use of available funding to support value chain development**

Pruning value chains are inherently local, and as such, measures to encourage their development should occur at the regional level. This can be encouraged using the Regional Development Pillar of the CAP, and the European Agricultural Fund for Rural Development (EAFRD), which can fund knowledge transfer, training and skills acquisition; support non-agricultural activities for farm and business development; and promote co-operation amongst value chain actors for biomass provision and energy production. The EAFRD also funds basic services and village renewal in rural areas, which can be used for renewable energy infrastructures. Rural Development Plans can be amended by the relevant Managing Authorities.

- **Regional strategies are key to developing new value chains**

At the regional level, policy-makers need to consider every stage in the value chain, and recognise that every actor needs to benefit. It must also be recognised that, of course, not every region has sufficient resources for developing a market. Regions should be encouraged to perform resource assessments, and stakeholder mappings, to better understand their regional potentials. Bioenergy and pruning harvesting can be placed within a broader regional strategy for rural development, to highlight that benefits are regional and not only for the involved actors.

- **Support co-operative business models to share costs and risks**

For promoting business development, green public procurement can be a powerful economic tool, with public facilities making use of pruning biomass. Co-operative structures should be promoted as the most suitable for overcoming scale and investment barriers, with co-ownership of harvesting machineries, and storage and logistics platforms assisted by CAP Rural Development funding. Where a region does not have suitable end-users, collective end-use of prunings should be encouraged through community operated medium-, to large-scale applications in rural areas.

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