

Submission to the Department of an Taoiseach as part of the public consultation based on the *Discussion document for the preparation of a National Policy Statement on the Bioeconomy*

Key points:

- **Forest biomass fuel** is a large resource, for large combustion plants.
- Nutrient impacts of biomass removal have been assessed by the ForSite project, and should not prevent development of the forest biomass industry. ucd.ie/forsite
- Clear price signals, by rebranding excise duties as carbon taxes (in whole, not just in part), plus **emissions-based carbon taxation**, are needed.

Does the broad definition outlined above adequately encompass the opportunities presented by the bioeconomy?

- Yes, with respect to forest biomass fuel.

The BioÉire project identified “forestry resources in decentralised heat generation” as a value chain with significant potential.

- Forest resources have the potential to contribute to firing in suitable large combustion plants, including power stations. Currently Edenderry has potential to cofire wood chips with peat and other biomass fuels.

- Use of forest harvest residues, in the form of whole-crown material or branches without foliage, conforms to the cascading principle, whereby higher-value products from main-stem logs are first extracted for maximum value, followed by lower-value biomass, including harvest residues normally left in the forest, but also orphan logs and sub-economic timber stacks that do not warrant a truck return.

How can a high-level policy statement on the bioeconomy assist in progressing the development of the priority value chains identified?

- A high-level statement can identify forest biomass produced during existing harvest operations as a large biomass resource, suitable for use in large combustion plants. Only by prioritising this resource at a high level can appropriate actions be taken to facilitate development of the industry, in investments in infrastructure, plant, and market development.

What lessons can Ireland take from the European approach, including to the Circular Economy?

- There is an urgent need to develop markets and competitiveness in the emerging forest biomass industry. While there should be continued investment in research, innovation and skills, there is now a need for reinforced policy coordination and stakeholder engagement.

Given the cross-sector nature of the bioeconomy, how can a national policy statement best support development?

It is stated that it is the Government's intent “to pursue a coordinated strategic approach that fully exploits the opportunities available and monitors and avoids unintended consequences”.

—Avoiding unsustainable nutrient losses and acidification through removal of nutrients in biomass harvesting is necessary. A first assessment of this potential, and a calculator to investigate it, have been provided through DAFM-funded research by the ForSite project. While there are uncertainties, this provides a means to direct biomass harvesting to those soil types most resilient under nutrient removals. <http://www.ucd.ie/forsite/>

—Monitoring to avoid unintended consequences should be done in synergy with similar monitoring of the effects of air pollution on forests and other terrestrial ecosystems, required under the revised National Emission Ceilings Directive, with responsibilities in DAFM and DCCA.

Can we identify a common set of principles, including in particular the application of the cascading principle, which will assist in the development of both the bioeconomy and circular economy?

—The Food First Principle is supported by using forest biomass as fuel, since neither food materials nor food-producing land are affected by using biomass from existing forests. Afforestation does remove food-producing land, at the least-productive end of the farming spectrum, which is a consideration.

—The Precautionary Principle is a strategy to cope with risk where knowledge is incomplete. The issue of nutrient loss in scenarios of increased forest biomass harvesting is such an area, where there is a new and emerging risk, but incomplete knowledge. The ForSite project has provided a basis for assessing this impact, albeit exploratory. The much greater, better-known and serious risk from climate change suggests that the risk of nutrient impact should not block the development of a biomass industry to replace fossil fuels with biomass fuels from forest harvest residues. Monitoring should be used to assess the impact as the industry develops.

—The Cascading Principle is supported by the harvest sequence in forests, where higher-value stem timber is first removed, with biomass for fuel sourced only from remaining materials. This includes branches, potentially foliage, and a population of orphan logs which are currently harvested but left to rot at roadside.

How can a national policy statement support local and regional cooperation around the use of renewable biological resources?

—Support for the emerging market in forest harvest residues is needed, with clear signals around the value of biofuel compared to fossil fuel.

—Direct penalties for emissions from fossil fuels are the strongest economic signal available to direct growth in the bioeconomy.

—Excise duty on fossil fuels should be rebranded as carbon tax. This is already the case for coal, gas and a proportion of mineral oils.

—The distinction in excise duties on mineral oils between those used as a propellant and not as a propellant should be removed, so the entire amount can be identified as a carbon tax.

- The reduced taxes for peat should be withdrawn, to align all carbon taxes on the basis of emissions, as a clear signal to drive reduced emissions.
- Tax on natural gas based on calorific output, whether net or gross, should be withdrawn, to be replaced with carbon tax based on emissions.
- Electricity tax should be withdrawn, to make clear the application of tax on the emissions of greenhouse gases from combustion of fossil-carbon fuels.
- While air travel taxes are no longer applied, this mechanism could be used to apply carbon tax, strictly on the basis of emissions, to air travel fuelled by fossil-carbon fuels, where the fuel has not attracted a carbon tax either in Ireland or elsewhere. We need a mechanism to ensure equitable and comprehensive carbon taxation of aviation.
- As for aviation, ships fuelled by fossil-carbon materials should be carbon-taxed here or somewhere; if they are not, then ships using Irish waters should be taxed locally based on emissions.
- The application of excise duty on “substitute fuels” whether used as a propellant or not should be withdrawn, in favour of taxation only on the basis of emissions.
- The provisions of the Finance Act 2016 amendments to excise law relating to reliefs for Mineral Oil Tax, Natural Gas Carbon Tax and Solid Fuel Carbon Tax for fuel used for High Efficiency Combined Heat and Power cogeneration should be withdrawn. Rather than reward more-efficient use of fossil fuels, measures should be based solely on emissions—this will also have the effect of promoting efficiency, while not obstructing the move away from fossil fuels.

How can waste policy, including an examination of the definition of waste, best support developments in the bio and wider circular economy?

- Forest harvest residues are not defined as waste. Sawmill residues are defined as waste, and are successfully used as biomass fuel on-site or in exchange among users.

How can we stimulate market demand for bioeconomy products? What is in it for the consumer?

- Market demand for forest biomass can only be generated by clear price signals. The emissions from fossil fuels must be taxed directly, with clear branding of the tax as carbon tax rather than excise tax (even if that is without any increase).

What is the most appropriate mechanism to coordinate development and monitor progress?

- National Forest Inventory should be expanded to record factors related to biomass harvesting, such as presence of windrows, removal of brash roads, removal of branchwood, and removal of foliage. This should include recording unsustainable practices, namely removal of stumps and forest floor.
- Forest Service periodic reporting should include aspects of biomass harvesting.
- Ecosystem effects of forest harvesting should be monitored through a programme of permanent plots and focussed surveys, in parallel to monitoring the effects of air pollution under the National Emission Ceilings Directive.