

Forestry and the Green Economy

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Outline

- Policy drivers – global, Europe, Ireland
- Current status of forestry and bioenergy production
- Forest policy development in Ireland
- Forest sector mitigation roles
 - The Durban rules
 - Optimal mitigation wood flow
- The future of forestry – important issues
- Research needs

Policy drivers

- United Nations Framework Convention on Climate Change
 - LULUCF
 - REDD+
 - Kyoto, Durban
- Europe
 - European Commission's LULUCF proposal
 - EU Timber Regulation (part of FLEGT)
- National
 - REFIT 3
 - Food Harvest 2020

Current forest estate and renewable energy

- Forest cover 752,000 ha, or nearly 11% of total land area. This compares to a European average of c. 40%
- In 2010, 2.88 million m³ of roundwood was harvested
- In 2010, 32% of the roundwood harvested was used for the production of bioenergy
- Since 2006, the use of wood bioenergy has resulted in a total emissions saving of 2.03 million tonnes of CO₂
- Wood production to double over the next two decades

Use of forest-based biomass for energy production (2008-2010)

Category	End use	2008	2009	2010
		000 m ³ overbark		
Firewood	Domestic heating	171	184	199
Roundwood chipped in forest	Commercial heating	63	53	39
Short rotation coppice (SRC)	Commercial heating	1	4	1
Wood pellets & briquettes	Domestic /commercial heating	82	110	121
Charcoal	Domestic use	2	2	2
Wood biomass energy use by the energy & forest products industry	Process drying/heating / combined heat & power	384	438	554
Total		703	791	916
Percentage forest industry use		55%	55%	60%

Source: *Woodflow and forest-based biomass energy use on the island of Ireland (2010)* – COFORD Connects Processing/Products No 27

Forest policy development

- The main focus underpinning forest policy was initially to ensure a consistent, continuous supply of roundwood to the wood processing industry
- There has been an increasing emphasis on the environmental and societal benefits associated with forestry
- More recently, the focus has extended to encompass renewable energy policies and measures, and climate change mitigation and adaptation

Forest sector mitigation roles

- Sequestration of carbon in the forest ecosystem – trees, deadwood, litter, roots and soil
- Locking carbon up in long-lived wood products that substitute for fossil fuel intensive materials
- Production of energy from wood biomass

Different policy drivers have been directed to each role, resulting in inefficient trade-offs and/or perverse incentives

New rules set at Durban should provide a better basis for cost-effective mitigation

The Durban rules

- Extend the mandatory nature of forest carbon accounting to all managed forests
- Reward activities that will result in increased sequestration levels
- Strengthen the environmental integrity of the use of forest-based biomass
- Provide, for the first time, an accounting framework which recognises the life span of wood products

Optimal mitigation wood flow

1. Generate the maximum possible increment in the forest that is sustainable
2. This increment should be utilised through wood harvesting
3. The harvested wood should be processed in accordance with the principle of cascade use:
 - production of long-lived products substituting for fossil fuel intensive materials
 - re-use, recycled and, finally, used for bioenergy
4. Harvested wood that is not suitable for the production of long-lived materials should be used for energy generation (e.g. harvest residue)

The future of forestry: important issues

- Appropriate level of afforestation
- Efficient and economic management of the forest estate
- Silviculture and forest management systems
- Cost-effective mobilisation of timber from the forest estate
- The sustainability of harvest residue and stump removal
- Optimal wood flows
- Sustained provision of public goods
- Forest protection and health
- Governing legislation

Research needs

- Factors affecting the afforestation programme (environmental constraints, socio-economic factors, grant schemes)
- Silviculture and integrated forest management systems, incorporating cascade utilisation of wood and life cycle analysis of wood products
- Carbon and GHG dynamics associated with land-use change and in the full range of forest types and for all management systems
- Forest-based biomass supply chain technologies and economics
- Sustainability of removal and certification of harvesting residues and stumps
- Bio-refinery, biochar and other, new ways to use wood
- Forest adaptation to ensure a sustained provision of public goods under climate change

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