Bioenergy Policy and Agricultural Development

Teagasc – IRBEA, National Bioenergy Conference 2010

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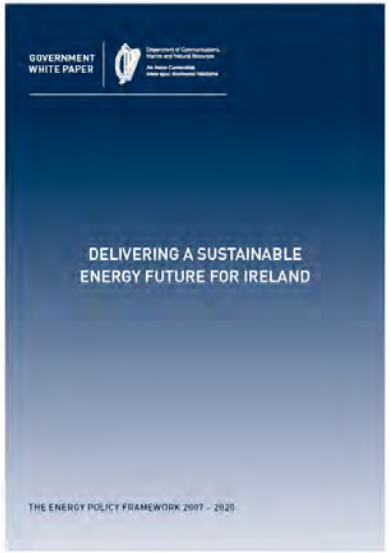
Policy background

- Bioenergy Action Plan 4th March 2007
- Energy White Paper 12th March 2007 (Policy Framework 2007 - 2020).
- National Climate Change Strategy 2007 – 2012 (April 2007)

White Paper Targets



- 12% renewable **heat** by 2020 (5% by 2010).
- 30% **co-firing** with biomass at the 3 peat power plants by 2015.
- 800 MW of **CHP** by 2020.
- 10% **transport** biofuels by 2020 (5.75% 2010).

Bioenergy Action Plan - Agriculture

- €6m energy crops
- EU energy payment €45/ha (2007-09)
- National top-up €80/ha (2007 – 09)
- €1.2m wood energy harvesting grant
- Encourage afforestation – FEPS
- Develop forest wood energy supply chain
- Fund research

Policy Background

- Renewable Energy Directive 2009/28/EC

  Replaced – 2001/77/EC & 2003/30EC

- Mandatory target EU 20% TFC 2020
- Irish Target 16% TFC
- Independent 10% target liquid biofuels

Renewable Energy Directive

- Obliges member states to submit National Action Plan.

Objectives of NAP:

- How much bioenergy will we aim to use?
- What biofuels will we produce?
- What technologies / feedstocks?
- What land resource?
- What support measures will we employ?

Future issues

- Imports
- Sustainability
- Security of supply
- Fluctuating prices

Action Plan objectives

- Provide an opportunity for native raw material producers and processors.
- Provide a platform for second-generation technologies.
- Minimise the cost to the exchequer
- Maximise energy security
- Maximise environmental & social benefits.
- To minimise any reduction in food production.

The Irish Land Resource 2009
Total Land Area 6.9m ha

Agricultural Area Farmed	4,261,100 ha
Crops	292,200 ha
Grassland	3,491,767 ha
Hill / Rough Land	487,247 ha
Forestry	730,500 ha

Crop	Area (ha)	Production (tonnes)
Potatoes	12,900	380,905
Barley	185,700	1,260,524
Wheat	82,600	728,573
Oats	19,800	125,878
Oilseed Rape	5,933	23,200
Hay	264,600	2,381,400
Grass Silage	1,211,200	26,084,100

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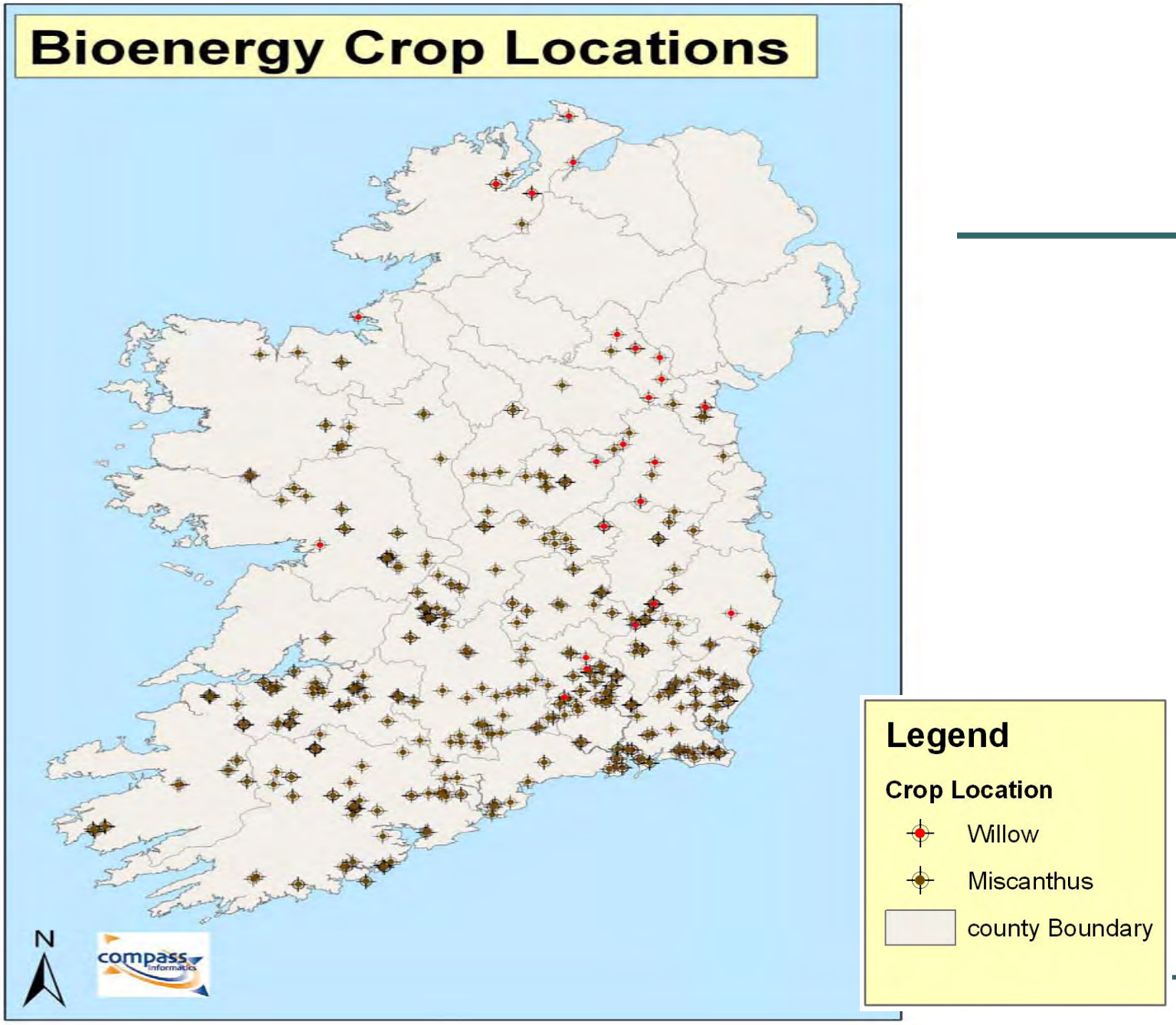
Bioenergy Crop Locations
N
compass informatics
Legend
Crop Location
Willow
Miscanthus
county Boundary

Current Development

- Solid Biofuels

  - Wood residues as fire-logs, chips, pellets and briquettes

  - Energy crops planted
- Five Small farm scale biogas plants
- Small amount of ethanol from whey
- Two biodiesel plants and four PPO crushing plants.

Historic support

- Short term support policy:
  - Biofuels MOTR
  - Greener Homes Scheme
  - Bioheat and Reheat Programmes
  - VRT rebate on FFV's and hybrids

Present issues

- Profitability for farmer and processor
- Existing supports do not bridge the gap between biofuels and fossil fuels
- Technological maturity is not an issue
- Environmental concerns – biofuels displacing natural vegetation in tropical countries
- Energy imports exceed the total value of agricultural production.

Pure Plant Oil (PPO)

- Excise relief – 7,000t PPO MOTR 2

  MOTR has capped PPO production

  Given good support policies 20,000t by 2020 would be a reasonable expectation

Biodiesel

- No need for engine modification
- Opens possibility for RVO & Tallow
- Larger Scale than PPO
- MOTR gave excise relief to four projects – only one is producing indigenously!

Barriers to PPO / Biodiesel

- MOTR for its duration
- Uncertainty of upcoming biofuel obligation.
- Lack of profitability for both farmer and processor.

What can be done?

- Obligation scheme sensitive to needs of small producers. (Certificate price?)
- Reduce rapeseed production costs
- Carbon tax can provide a boost for all biofuels.
- Swedish expanded VRT rebate scheme.

Ethanol

- Four proposals received MOTR excise relief (300 million litres)
- Most will be imported
- Ethanol needs to be large scale
- Long term support needed
- Constraint on use of bio-alcohol
- Obligation system sensitive to needs of producers needed.

Benefits of an ethanol plant

- Security of fuel supply
- Facilitate an eventual move to cellulosic ethanol plant.
- Could be accommodated with little or no expansion of the tillage area.

Solid biofuels

- Commercial heating (Chip)
- Residential market (Straw & Miscanthus briquette, pellets)

30% co-firing target

- Requires 600,000 t biomass
- Role for willow and miscanthus
- Refit / ROC's policy
- Long-term assurances needed

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Anaerobic digestion - CHP

- Anaerobic digestion is not economically viable.
- High rate of adoption is possible in pig sector
- Maize, Whole Crop Cereals, animal manures, Grass.

Possible NAP measures

- Native liquid biofuel to achieve 4% substitution.
- The above supported by a BOS sympathetic to small producers. Capital supports for ethanol plant.
- Production of 2.5 m tonnes of biomass for heat & electricity.
- Stimulated by REFIT or ROC's system, continuation of establishment grants, capital support for biomass infrastructure projects.

Conclusions

- Creative policy initiatives needed
- RED & White Paper require biomass in excess of what available.
- Indigenous production – benefits economy and environment
- Biofuels-small tillage base (FG)
- 10% of grassland to perennial energy crops brings us close to 2020 heat targets

Thank you for your attention!

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