



Department  
of Energy &  
Climate Change

# UK Biomass Sustainability Criteria - an update

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# The UK Situation

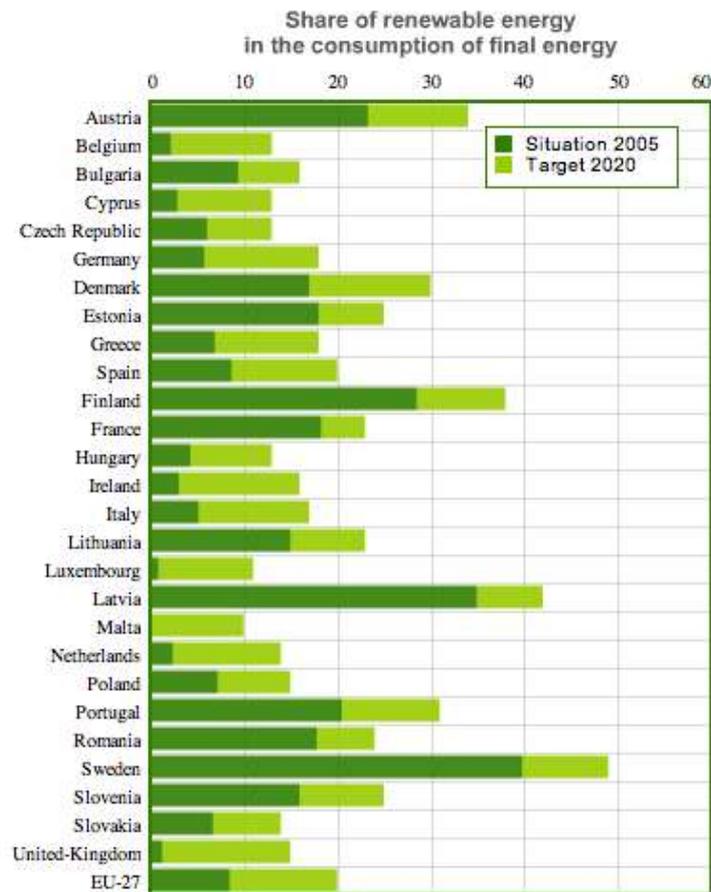


- Population of 63.7 million
- 244K square km – under ½ size of France
- 76% of land used for farming, just 12% forest
- 1986-1990 – UK energy market privatised
- ‘Dash For Gas’ decarbonises the UK electricity supply to 430 kg CO<sub>2</sub>/MWh
- Over 80% customers use UK grid gas for heating
- UK achieves large carbon reductions still with a **highly centralised** energy supply but **low renewables**
- Declining North Sea output means oil/gas imports are now increasing
- Coal power stations are due to close by 2015 – so energy security issues



# EU Renewable Energy Directive

Country		Share of renewable energy	
		2005	2020
AT	Austria	23.3	34.0
BE	Belgium	2.2	13.0
BG	Bulgaria	9.4	16.0
CY	Cyprus	2.9	13.0
CZ	Czech Republic	6.1	13.0
DE	Germany	5.8	18.0
DK	Denmark	17.0	30.0
EE	Estonia	18.0	25.0
EL	Greece	6.9	18.0
ES	Spain	8.7	20.0
FI	Finland	28.5	38.0
FR	France	18.3	23.0
HU	Hungary	4.3	13.0
IE	Ireland	3.1	16.0
IT	Italy	5.2	17.0
LT	Lithuania	15.0	23.0
LU	Luxembourg	0.9	11.0
LV	Latvia	34.9	42.0
MT	Malta	0.0	10.0
NL	Netherlands	2.4	14.0
PL	Poland	7.2	15.0
PT	Portugal	20.5	31.0
RO	Romania	17.8	24.0
SE	Sweden	39.8	49.0
SI	Slovenia	16.0	25.0
SK	Slovakia	6.7	14.0
UK	United Kingdom	1.3	15.0
<b>EU-27</b>	<b>EU 27</b>	<b>8.5</b>	<b>20.0</b>



# Bioenergy could deliver 50% RED target?



Co-fired as  
substitute for coal  
in a large power  
station



Biogas  
refined to  
biomethane  
for injection to



Combust  
in  
domestic



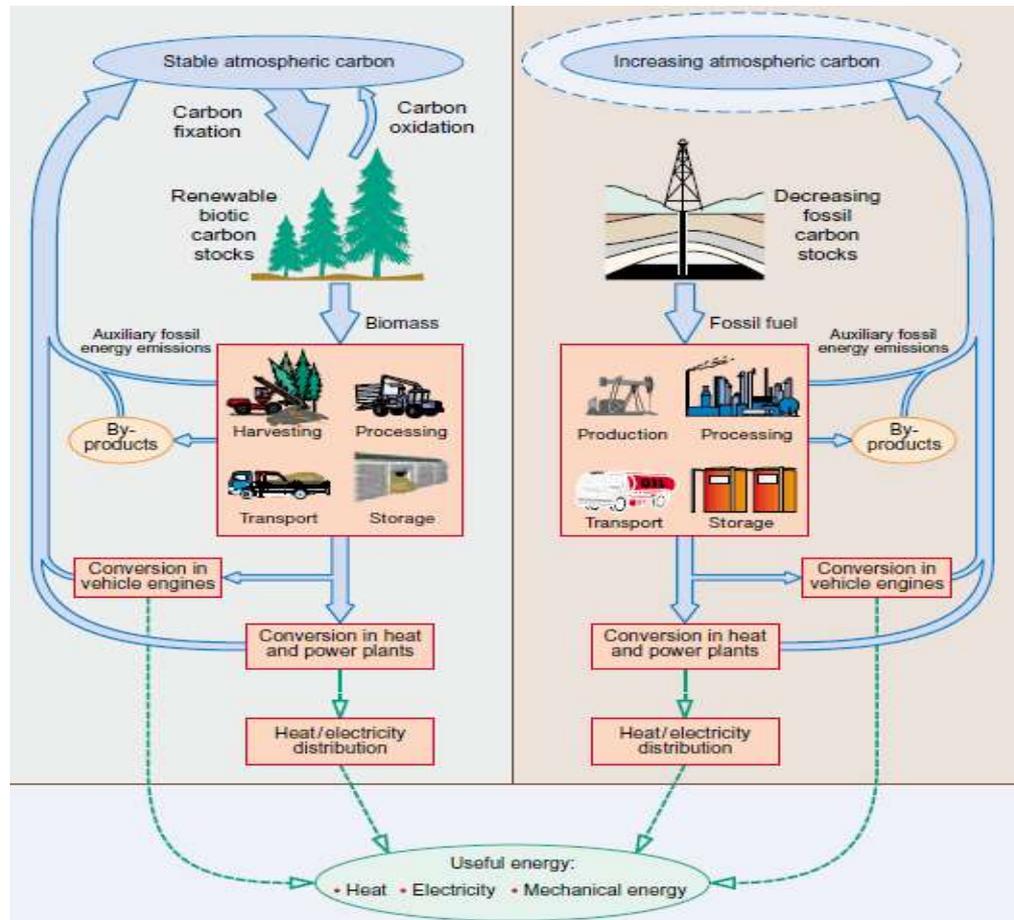
Sugar cane  
fermented  
for  
bioeth

- Hugely versatile - can provide base or peak load electricity; or controllable heat generation; or to make transport fuels
- Biomass power is 'dispatchable' – can be turned off & on, up & down, to match supply with demand; natural partner to wind and other variable sources
- Can be lower cost than other renewable power (or heat) sources, built on existing infrastructure and protect existing jobs
- Feedstocks can be sourced from a diverse range of plant and animal materials (domestic and imports)
- Greater diversity means greater security, particular when using domestic feedstocks including wastes
- Generates opportunities across supply-chain



# But there are risks to be managed...

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# UK Bioenergy Strategy



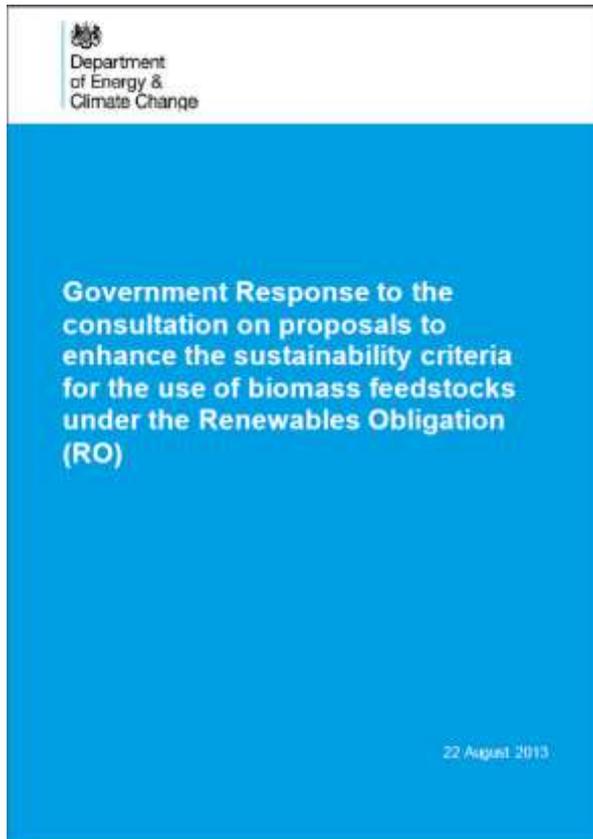
## **4 sustainability principles for bioenergy policy:**

- Genuine GHG savings compared to fossil use
- Cost effective in context of overall energy goals
- Maximise benefits; minimise costs across economy
- Monitor key impacts - food security & biodiversity

## **4 priority pathways for the use of biomass:**

- Uses of wastes for heat, electricity and CHP
- Use of biomass to replace existing coal power as a transitional pathway
- Use of biomass for heating – buildings & industry
- Development of advanced biofuels for transport

# Government Response on Criteria



## Published 22 August 2013

- Informed by the EU Renewable Energy Directive (RED) and the EU February 2010 report on the sustainability criteria for solid and gaseous biomass
- Five key elements:
  - GHG lifecycle emissions target will tighten in steps to ensure increased savings over time
  - New Sustainable Forest Management criteria based on UK Timber Procurement Policy
  - Independent assessment/audit requirement
  - Intention is for criteria to become mandatory from April 2015 (i.e. linked to support eligibility)
  - Provides investor certainty through policy of no further changes to 2027 for CfD and RO

# GHG Trajectories

## **New build dedicated biomass that is accredited on or after April 2013:**

- 240 kg CO<sub>2</sub>eq per MWh from 1 April 2014 to 31 March 2020
- 200 kg CO<sub>2</sub>eq per MWh from 1 April 2020 to 31 March 2025
- 180 kg CO<sub>2</sub>eq per MWh from 1 April 2025 to 31 March 2030

## **All other biomass (includes coal conversions and existing dedicated):**

- 285 kg CO<sub>2</sub>eq per MWh from 1 April 2014 to 31 March 2020
- then same trajectory as new-build i.e. 200 in 2020 & 180 in 2025

**Targets tougher than 285 will represent an annual average, subject to a ceiling for each individual consignment - 285 kg CO<sub>2</sub>eq per MWh to 2020, 270 kg CO<sub>2</sub>eq per MWh to 2025 and 260 kg CO<sub>2</sub>eq per MWh to March 2030**

# Improvements to GHG Calculator

## Top priorities are:

- Addition of default values for cultivation/harvesting for long rotation forestry
- Revision of establishment inputs for energy crops
- Energy demand for pelleting to including option of chipping/grinding at plant

## Medium priorities – will do as many as we can within the budget:

- Add default supply chains for specific countries/regions, for forest biomass to include Canada, South East US and Brazil.
- Add flags where stations above 1MW should use ‘actual’ data (i) type and amount of energy used in pelleting and (ii) transport distances
- Update default moisture content
- Automatic updates of drying energy inputs
- And others...





# Sustainable Forest Management

- New sustainable forest management criteria to be brought in for feedstocks made from virgin wood
- These criteria will be based on the UK Timber Procurement Policy (UK-TPP) principles for the public sector that cover key environmental and socio-economic issues for forestry, but will not be identical in all aspects; for example, use of a mass balance system will be allowed for non-certified wood
- Criteria can be met through certification – FSC or PEFC – or equivalent evidence
- These criteria will replace the requirement to report on performance/meet the RED land criteria for feedstocks made from virgin wood



# Equivalent evidence?

- Three checklists available from CPET website:
  1. Supply-chain – tracking from forest to pellet plant to generator (mass balance approach can be used)
  2. Legality – right to fell, complies with relevant laws & taxes/royalties & respects CITES (endangered species) requirements
  3. Sustainability – forest source information on sustainability – can be challenging to demonstrate & requires 3<sup>rd</sup> party verification
    - Locally applicable definition of sustainable forest required
    - Management plans?
    - Risk based verification?
    - Biodiversity / carbon stock regional assessments
    - Role of other schemes e.g. FSC controlled wood?
    - What is a region?

# EU developments



- On 20 September the Commission adopted a new EU Forest Strategy
- Forestry is a national competence, however, the EU has a long history of contributing through its policies to implementing sustainable forest management and to Member States' decisions on forests.
- The new Strategy "goes out of the forest", addressing aspects of the value chain i.e. goods and services, which influence forest management.
- Highlights that forests are not only important for rural development, but also for the environment – especially for biodiversity; for forest-based industries; bioenergy; and in the fight against climate change
- Underlines that forest-linked EU policies should fully be taken into account in national forest policies and calls for a Forest Information System to be set up and for Europe-wide harmonised information on forests to be collected.



# EU Forest Strategy – p8/17

## “ **Strategic orientations:**

The Commission will, together with Member States and stakeholders:

- Explore and promote the use of wood as a sustainable, renewable, climate and environment friendly raw material more fully without damaging the forests and their ecosystem services; assess the climate benefits of material and energy substitution by forest biomass and harvested wood products and the effect of incentives for using forest biomass in creating market distortions;

**- Develop objective, ambitious and demonstrable EU sustainable forest management criteria that can be applied in different policy contexts regardless of the end use of forest biomass, by the end of 2014.**

**Appropriate measures will be presented by the Commission;**

- Assess potential wood supply and facilitating increased sustainable wood mobilisation;

- .....”



## Next steps

- Drafting of the legislation (the RO Order 2014) now underway – covering changes to the reporting requirements such as GHG trajectories, sustainable forest management and the audit/assessment
- ROO 2014 will refer to a separate document setting out how the UK-TPP principles apply to woodfuel used under the RO; we intend this to be available for comment at end November
- Ofgem (the regulator) will update their current RO biomass sustainability reporting guidance for generators to reflect the changed criteria
- Improved supporting materials on the use of evidence to demonstrate that woodfuel is legal and sustainable will be developed for the UK CPET (Central Point of Expertise for Timber procurement) website
- Changed criteria are to be brought in on a reporting basis from April 2014, with intention for criteria to become mandatory from April 2015



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