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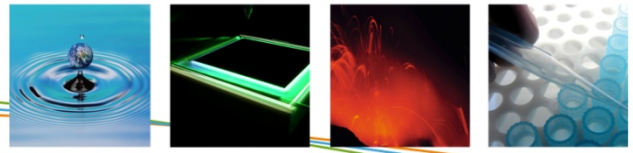

05/06/2011

Overview of existing legislation regulating the sustainable production and use of solid biomass for energy in the EU

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Background

- Renewable Energy Directive (2009/28/EC)
  - Sustainability requirements for biofuels (transport) and bio-liquids (electricity, heating and cooling) (Art 17-19)
  - Art 17(9): EC report & proposals by end 2009 on requirements for a sustainability scheme for energy uses of biomass, other than biofuels and bioliquids
- COM(2010)11: "Report on requirements for a sustainability scheme for solid and gaseous biomass used for generating electricity, heating and cooling"
  - ✓ no binding criteria at EU level
  - ✓ recommendations to Member States that do develop sustainability schemes (mainly for imports)
  - ✓ Report by 31 December 2011 "on whether national schemes have sufficiently addressed the sustainability related to the use of biomass from inside and outside the EU, whether these schemes have led to barriers to trade and barriers to the development of the bio-energy sector".

Overall goal of the BioBench study

(contract for DG ENER)

"To compare and contrast **national rules and regulation** related to biomass sustainability and to determine the **impact** of these rules on **biomass availability and cost**, with a view to determining whether there are impacts on **biomass trade** within the EU and to and from the EU."

- national rules and measures on the *economic*, *social* and *environmental* sustainability of biomass
- only rules affecting the use of **solid** and **gaseous biomass** (agri crops & residues, forestry, wood-processing industries, organic waste) **in electricity, heating and cooling**. Only rules and regulation additional to or stricter than European requirements. Rules implementing **EU law** should not be covered. Rules and regulations in **draft form** have to be considered.
- Timing: Sept 2010 – Dec 2011

Partners:

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Task overview

- Task 1: Take stock of all national, regional/local rules and regulations, on the sustainable use of solid and gaseous biomass used in electricity, heating and cooling

- Task 2: Compare and contrast national rules and regulations with each other and with the sustainability criteria recommended by the EC in COM(2010)11.

- Task 3: Evaluate the impacts of the rules/legislations

Inventory of national regulations (task 1)

Screening of 27 European Member State's legislations :

- energy, environment, agriculture and forestry
- for national (and regional) sustainability rules in relation to biomass for energy
- Focus: solid and gaseous biomass for stationary energy
- Only rules and regulation additional to or stricter than European requirements.

Not included:

- *regulations implementing EU law*
- *general agricultural or forestry principles, unless clear link with energy use*
- *voluntary standards*
- *actions plans if not concrete*

Classification of rules

1. **Biomass production**
2. **End use** (energy/efficiency requirements & emission limits)
3. Integrated assessment of the **biomass life cycle**
4. Other, with focus on **local aspects** (promotion of local biomass, protection of other economic sectors)

1. Rules on biomass production

a. Link to sustainable forestry management

Examples:

- Belgium: minimum requirements for wood pellets (draft)
  - Pellets need to be chemically untreated wood from forest with FSC, PEFC or similar label
- Hungary: Feed-in tariff
  - Woody biomass used for electricity production has to come from sustainable managed forests
- Slovenia: CHP support & renewable electricity support:
  - CHPs and power plants using woody biomass from forests with FSC, PEFC are entitled to 10 % higher referential costs
- France: Fonds "Chaleur renouvelable“
  - For forestry biomass, the good practice guide should be followed for leaving enough forest residues in the indicated forests
- Finland: Act on the Financing of Sustainable Forestry
  - Specific promotion of the utilization of wood felled in connection with the tending of young stands to be supplied for energy use in view of maintaining the biological diversity of forests
  - NREAP: Support for electricity production from wood chips and feed in tariff for CHP biogas plants is linked to the Forest Act => maintaining the biological diversity of the forest

1. Rules on biomass production

b. Agriculture / waste legislation

Examples:

- Ireland & UK energy crops schemes:
  - Subsidy schemes with specific conditions (land suitability) for energy crops like willow or miscanthus
- Netherlands: decree on the use of manure
  - Indicates when digestate of a digestor can be used as fertilizer (limitations to certain biomass inputs). Important impact on the potential feedstocks for biogas production.
- Netherlands: National Waste Management Plan
  - Defines criteria of biomass that are considered waste and for which stricter emission requirements apply. Important implications on the potential use of biomass for energy.

2. End use

Specific rules for energy efficiency & emission levels of biomass installations
(more than 60% of the selected regulations were focused on end use)

- Financial incentives under condition of minimum efficiency requirements and/or emission requirements
  - SDE incentives scheme in NL,
  - FR schemes for heat, CHP and renewable electricity,
  - …
- Technical requirements of installations,
  - AT, BE, DE requirements for small scale heating installations
  - …

3. Biomass lifecycle – integrated assessment

Rules that cover the **whole biomass chain** in an integrated way. These systems require auditing along the entire chain.

Examples

- Belgium – Green certificate system in Wallonia & Brussels
  - obligation for electr. suppliers through green cert. (combined for electricity & CHP)
  - basis for green certificates = **GHG savings** compared to best available technology (BAT) for electricity and heat production
    - Electricity : natural gas - fuelled STAG power plant (55% efficiency)
    - Heat : natural gas – fuelled boiler (90% efficiency)
    - Considered over the **fuel cycle**: 1. biomass production (harvesting, crushing, drying, etc.), 2. handling and transport, 3. combustion, 4. Waste treatments
    - 1 Green certificate ~ 456 kg CO_2-avoided

3. Biomass lifecycle – integrated assessment

Examples

- Belgium – Green power certificate system in Flanders
  - obligation for electricity suppliers (separate for electricity & CHP)
  - 1 GPC certificate based on electricity production from RES per MWh produced (exception since 2010: only ½ certificate per MWh co-firing)
  - net electricity production (MWh) => fossil energy needed for **biomass production & transport** is substracted, as well as **on-site electricity** need.
  - e.g. imported pellets by Electrabel: certificates for ~ 80% of MWh
- UK – Renewables Obligation (RO), 2011 update in preparation:
  - obligation for electricity suppliers
  - mandatory reporting consistent with the **RED** from 2011 (>50kW),
  - from April 2013 generators of 1MW and above will need to meet the sustainability criteria, incl. 60% GHG emission saving,
  - waste, biomass wholly derived from waste, landfill gas or sewage gas will not need to meet the sustainability criteria and will not need to report on sustainability;
- UK – Renewable Heat Incentive (RHI), 2011
  - >1MWth Heat plant will be require to mandatory report on Sustainability (~RED)

3. Biomass lifecycle – integrated assessment

related, but not linked to legislation

Norms

- NTA 8080 and 8081 (Dutch sustainability standard) (NL)
- CEN TC383 – prEN16214 (norm in development)
- ISO/PC 248 (norm in development)

Voluntary systems (company developments)

- Laborelec-SGS (BE)
- RWE-Essent Green Gold Label (NL)
- DRAX Power Limited (UK)

→ IWPB (Initiative for Wood Pellet Buyers)

4. Other: local aspects

a. Promotion of local biomass

- focus on technologies which use typically local biomass,
  - e.g. applied in CZ; DL; ES; PT
- favouring local biomass in subsidies or incentives.
  - Italy, Budget Law 2008 (Renewable Electricity):
    - Higher coefficients for Green Certificates for biomass supplied from local sources (< 70 km)
  - Austria, Environmental Measures Support Act:
    - Sustainability bonus for regional biomass
  - France, call for CHP or renewable heat projects:
    - bonus points for local biomass (transport distance) in the evaluation process for a winning project.

4. Other: local aspects

b. Protection of other economic sectors

Examples:

- Belgium, Flemish Green Power Certificates:
  - (regional) woody resources are not eligible for green certificates if they can be used by the wood processing industry,
  - biomass from waste not eligible if it can have a valorisation by recycling into materials, fodder, …
- Hungary, Feed-in Tariff
  - For waste declaration needed that it cannot be used from other purposes than fuel.
  - For other biomass proof that the biomass cannot be used for human food cons.
- Poland, draft decree on renewable electricity
  - Biomass share in electr. prod: min. ratio (increasing over time) for agri biomass to protect the economic sector relying on forest biomass and create opportunities for agriculture

Further work

Task 2:

- Comparison of country rules with each other, and with the COM(2010)11 recommendations
- Relevant voluntary systems

Task 3:

- Scenarios (Green-X)
  - 1. no criteria scenario (exclusion of sustainability criteria)
  - 2a. baseline scenario (sustainability criteria implemented on national level)
  - 2b. EU criteria scenario (common sustainability criteria in all member states)
- Cost-supply curves with - without sustainability criteria
- Model based assessment
- Complementary qualitative analysis

Thank you for listening!

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