Danish Industry Agreement on Biomass Sustainability

Michael Persson
DI Bioenergy – Danish Bioenergy Association

AEBIOM Bioenergy Conference
4.-5. May 2015, Brussels, Belgium
Agenda

• DI Bioenergy – Danish Bioenergy Association
• Danish climate policy and bioenergy market
• Danish industry agreement on biomass sustainability
• Conclusion
DI Bioenergy
Danish Bioenergy Association

• The political voice of the Danish bioenergy industry, working for:
  • optimal regulatory environment for the bioenergy industry
  • strengthening the business of its members
  • incentives for demonstration of new biobased solutions, and
  • cohesion and visibility for bioenergy and the bioenergy industry

• Members include technology producers and suppliers, consulting engineers, utilities and developers.

• Members activities include combustion as well as uses such as biofuels, biogas and biorefining

• DI Bioenergy is an industry association within the Confederation of Danish Industry
Ambitious Danish energy policy

• Based on energy agreements in parliament adopted by vast parliamentary majority, lasting usually two terms

• Instruments a mix of non-financial regulation and agreements as well as taxes and subsidies

• Latest agreement from 2012 includes a vision of a fossil fuel independent energy system by 2050. In addition the government has a goal of fossil fuel independent electricity and heating already by 2035

• Biomass benefits from subsidies and is not subject to energy tax and CO2 tax
Consumption of Renewable Energy

Source: Danish Energy Agency
Growing Imports of Renewable Energy

Source: Danish Energy Agency
Minister of energy urges industry to enter a voluntary agreement

“There should be no doubt that it [biomass] benefits the climate, when we switch from coal to biomass. Therefore, I urge the industry to enter into a voluntary agreement to purchase only biomass produced sustainably

…If the industry does not enter into a voluntary agreement, we will ensure the sustainability of the biomass through legislation. Biomass has many advantages as a fuel, but it is necessary that we have high standards for the biomass we use“

Minister for Climate, Energy and Building Rasmus Helveg Petersen at the presentation of the bioenergy analysis

The Danish Energy Agency presented an analysis concerning the use of bioenergy in Denmark in May 2014 pointing out the risk of negative climate effects in the longer run without global regulation of the use of biomass for energy.
Industry response: The voluntary industry approach

Industry agreement presented to the Danish climate and energy minister by heads of Danish Energy Association and District Heating Association 5. December 2014
The Industry Agreement

• Based on the most stringent legislation currently in place:
  • UK Timber Standard for Heat & Electricity: Woodfuel used under the Renewable Heat Incentive and Renewables Obligation
  • Reflects the contents of the Danish Ministry of Environment’s Guidelines on securing sustainable timber in public procurement of goods and services
  • Forest Europe’s criteria for sustainable forest management

• It applies to all power and heat plants using wood chips or pellets, but
• Documentation requirements only applies to plants above 20 MW
• Percentage of feedstock documented: 40% in 2016, 60% in 2017, 75% in 2018, full implementation in 2019
• Evaluation in 2018
Criteria for Sustainable Forestry

The Industry Agreement contains the following requirements:

1. Legality of forest management
2. Protection of the forest eco-system
3. Forest productivity and ability to contribute to the global carbon cycle shall be maintained
4. Forests must be healthy and well managed
5. Biodiversity must be maintained and sensitive areas protected
6. Social and workers rights must be respected
Criteria for CO2 emission from the biomass value chain

Biomass may only be used where the CO2 emission from the value chain do not exceed the applicable limits:

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2020</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU reduction recommendation</td>
<td>70 %</td>
<td>72 %</td>
<td>75 %</td>
</tr>
<tr>
<td>(2015)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UK reduction recommendation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(2020/2025)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absolute limit (electricity)*</td>
<td>201 kg/MWh</td>
<td>187 kg/MWh</td>
<td>167 kg/MWh</td>
</tr>
<tr>
<td>Absolute limit (heat)</td>
<td>86 kg/MWh</td>
<td>81 kg/MWh</td>
<td>72 kg/MWh</td>
</tr>
<tr>
<td>Absolute limit (power plant-</td>
<td>100 kg/MWh</td>
<td>94 kg/MWh</td>
<td>84 kg/MWh</td>
</tr>
<tr>
<td>ed heat)*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1 EU fossil fuel comparator: 670 kg/MWh (electricity), 335 kg/MWh (power planted heat)*, 288 kg/MWh (heat). All based on energy output.

Source: Commission staff working document: State of play on the sustainability of solid and gaseous biomass used for electricity, heating and cooling in the EU (*own estimate based on total combined heat and plant efficiency at a rate of 85%).
Criteria for indirect effects: Carbon cycle, forest carbon stock, ILUC, IWUC

The industry aims to not use biomass:

- where there regionally exists an actual alternative demand for high-value production (including the production of timber)
- which comes from trees that are grown on fertile soil, which has been unwisely converted from agriculture to forestry
- is to blame for deforestation in the region
- that negatively affects the quantity and quality of forest resources in the medium and long terms

No documentation requirements, as there is no standardised method. If standardised methods are developed, they shall be approved by the industry before inclusion in the documentation requirements.
Compliance

- Biomass sustainability must be documented through annual reporting on compliance - developed or verified by a third party.

- Requirements 1-6: Sustainable Biomass Partnership certification system can be used. OR certification schemes, which are widely used worldwide and are recognised as documentation of sustainability by the Danish Nature Agency may also be used. Today only FSC and PEFC are recognized.

- Requirement 7: Documentation by means of Biograce method.

- The annual report must be made available on the members' websites. The Danish Energy Association and the Danish District Heating Association will additionally link to the annual reports on their respective websites.
Largest biomass users, DONG and HOFOR, to use SBP for compliance

- Not dependent on, but acknowledges FSC and PEFC
- Risk-based approach to certification
- Better suited for smaller forest owners
- Include GHG data for calculation of emission
- Applicable for pellets and soon also chips
- Cost-effective
- Trustworthy

Founded by EU energy companies using biomass for energy representing 70% of EU market for pellets
Conclusion

• Denmark will substantially increase the use of imported wood pellets and chips

• The industry recognise the need for biomass sustainability and would have preferred EU-wide criteria, but in their absence…

• Danish heat and power plants developed an industry agreement

• Can be implemented fast and without a large administrative set-up

• Possible because of mutual trust and tradition for voluntary agreements in the energy industry in Denmark