Wood Briquettes Certification in Germany

“ENplus-Briketts“

Jan Schlaffke, German Pellet Institute (DEPI)
Agenda

- Wood Briquettes - Market in Germany
- Product Standards for Wood Briquettes
- Certification scheme ENplus Wood Briquettes
Wood Briquettes

Market in Germany
Market situation:

• Small-scale production sites
  ➔ Complex efforts and high costs for audits

• A lot of Eastern European briquette producers selling in Western Europe
  ➔ Vast interest in certification scheme

• Packing unit tied to pallet
  ➔ Low influence of logistics on the quality of wood briquettes
Available wood briquette market information

Only few information about the briquette market in Germany available:

• 2 studies from Udo Mantau about wood briquettes as a sub item:
  → Consumption of energy wood in private households 2010 (2012)
  → Development of Turnover in the energetic consumption of wood in Germany 2000 till 2012 (2013)

• GFK Development of heaters-inventory and used fuel (2009)

DEPV/DEPI study:

• Survey of briquette producers in Germany and the major five export countries in Eastern Europe (LT, LV, PL, RU, UA)
• Results are expected in summer/autumn 2014
**Consumption of wood briquettes and pellets in Germany**

- Nearly 100% of the wood briquettes are consumed by households
- Use in fireplaces and as a substitute product for logs
- Average consumption per household: 1.1 t
- Consumption 2010 in total: 1.4 Mio. solid qm = 672,000 t briquettes
- Briquettes are a growing market with high potential
Development of turnover in Germany in million € without tax

(Source: Mantau 2013)
Wood Briquettes

Product Standards
What is a product standard?

- Defined requirements on product properties
- No third party control or certificate

What is certification?

- Requirements on product quality
- Requirements on internal quality management
- (Requirements on sustainability)
- Third party control and issue a certificate

E.g. EN 14961-3

E.g. ENplus
Quality Standards for Wood Briquettes

→ Product standard EN 14961-3
  (upcoming summer 2014: ISO 17225-3)

→ Quality assurance standard EN 15234-3

→ Multiple testing standards to analyse physical and chemical characteristics
### Product Standards for Wood Briquettes

<table>
<thead>
<tr>
<th>A1</th>
<th>A2</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Stemwood</td>
<td>• Whole trees without roots</td>
<td>• Forest, plantation and other virgin wood</td>
</tr>
<tr>
<td>• Chemically untreated wood residues</td>
<td>• Stemwood</td>
<td>• By-products and residues from wood</td>
</tr>
<tr>
<td></td>
<td>• Logging residues</td>
<td>processing industry</td>
</tr>
<tr>
<td></td>
<td>• Bark</td>
<td>• Used wood</td>
</tr>
<tr>
<td></td>
<td>• Chemically untreated wood residues</td>
<td></td>
</tr>
</tbody>
</table>

For **ENplus**-briquettes: only A1 and A2
<table>
<thead>
<tr>
<th>Property</th>
<th>Unit</th>
<th>Class A1</th>
<th>Class A2</th>
<th>Class B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimension</td>
<td>mm</td>
<td>Diameter, width and length obligatory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moisture</td>
<td>w-%</td>
<td>≤ 12</td>
<td>≤ 15</td>
<td></td>
</tr>
<tr>
<td>Ash</td>
<td>w-% 1)</td>
<td>≤ 0.7 (1.0)</td>
<td>≤ 1.5</td>
<td>≤ 3.0</td>
</tr>
<tr>
<td>Particle density</td>
<td>g/cm³</td>
<td>≥ 1.0</td>
<td>≥ 1.0 (0.9)</td>
<td>≥ 0.9</td>
</tr>
<tr>
<td>Additives</td>
<td>w-% 1)</td>
<td></td>
<td>≤ 2 2)</td>
<td></td>
</tr>
<tr>
<td>Fuel value</td>
<td>MJ/kg (kwh/kg)</td>
<td>≥ 15.5</td>
<td>≥ 15.3</td>
<td>≥ 14.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(≥ 4.3)</td>
<td>(≥ 4.25)</td>
<td>(≥ 4.15)</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>w-% 1)</td>
<td>≤ 0.3</td>
<td>≤ 0.5</td>
<td>≤ 1.0</td>
</tr>
<tr>
<td>Sulphur</td>
<td>w-% 1)</td>
<td>≤ 0.03 (0.04)</td>
<td>≤ 0.04 (0.05)</td>
<td></td>
</tr>
<tr>
<td>Chlorine</td>
<td>w-% 1)</td>
<td>≤ 0.02</td>
<td></td>
<td>≤ 0.03</td>
</tr>
</tbody>
</table>

1) dry; 2) type and amount to be stated

Numbers in red are the value for ISO 17225-3.
Product Standards for Wood Briquettes

Approved Briquette Shapes according to EN 14961-3:

- **A**: Cylinder with diameter $D$ and length $L_1$
- **B**: Cylinder with diameter $D$ and length $L_1$
- **C**: Hexagonal prism with diameter $D$ and length $L_1$
- **D**: Rectangular prism with dimensions $L_1 \times L_2 \times L_3$
- **E**: Cubic prism with dimensions $L_2 \times L_3 \times L_3$

Weitere Formen müssen angegeben werden.

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Wood Briquettes

*Certification Scheme ENplus Wood Briquettes*
A seal, that is established for premium wood pellets already

- High quality requirements
- Implementation of standard EN 14961-3
- Traceability by ID numbers
- Quality management across Europe
- Customer-oriented

A sign for high quality of solid biofuels!
Two ways to get certified:

→ Trader (distributor)
  • In discussion:
    a) Dedicated trader certification with sampling at the retail store;
    b) Group certification of trader and his noncertified supplier (producer) with random external inspection and regular internal inspection

→ Producer
  • Annual inspection of production site
  • Annual analysis of briquettes from production sites
Requirements for trader (distributor)

• Safety of transport and storage

• Safe and dry storage of pallettes

• Certified wood briquettes can only be sold when they were produced in a reported production site

• Traders who sell briquettes to final customers have to take care of quality ensuring storage
Requirements for producer

• Suitable technical equipment to produce high-quality wood briquettes

• Incoming goods inspection for raw material

• No use of contaminated raw material

• Internal quality management (incl. internal quality check: moisture and raw density at least every day)

• Check of weight of pacing unit (every 5th pallette, at least two times per shift an press)

• Quality manager responsible for product quality

• Requirements for packing and transportation (pallets must be secured with tension belts)
Documentation

→ *Data from trader*
  - Contact data of certified distributor
  - Traders and quantities of ordered briquettes
  - Data of briquette producer

→ *Data from producer*
  - Contact data of certified producer and production sites
  - Origin of raw material
  - Quality class and shape of certified wood briquettes
  - Information about raw materials warehouse
  - Number, type and output of presses
  - Description of production process
  - Dimensions and type of storage facilities

*Data transmitted for internal use of certification body only!*
Traceability – ID number on product information sheet

Example for an ID number – producer with annual audit

DE 003-1

Country code  Number of producer/trader  Number for each production site
Example for product information sheet

**Holzbriketts**

- Premium-Holzbriketts der Qualitätsklasse ENplus A1
- Aus naturbelassenen Holzspänen
- Garantierte Qualität
- Saubere Verbrennung

**10 kg**

Zum Zeitpunkt der Verpackung

Hergestellt durch:
Muster Holzhandel GmbH
Musterstraße 42
55555 Musterstadt

Hinweise:
- Briketts müssen trocken gelagert werden
- Verwendung nur in zugelassenen und geeigneten Feuerstätten.
- Die Bestimmungen der Ersten Verordnung zur Durchführung des Bundes-Immissionsschutzgesetzes (1. BImSchV) und die Hinweise des Feuerstättenproduzenten sind zu beachten.

Bei Beschwerden über die Qualität der Briketts wenden Sie sich bitte an die Deutsche Pelletinstitut GmbH [(info@depi.de)](mailto:info@depi.de) und bewahren Sie den Rest des angebrochenen Gebindes wasserdicht für eine eventuelle spätere Analyse auf.
**Licence fee**

Depends on number of presses and production capacity

- Capacity/press < 800 kg/h: Annual fee of 500 €/press
- Capacity/press > 800 kg/h: Annual fee of 700 €/press

Fee for certified distributors depends on the number of installed presses

**Costs for analysis**

For annual sampling and analysis

- Annual fee of 300 € for every certified unit
Certification Scheme ENplus Wood Briquettes

Current status of the development of the certification programme ENplus

- Work on defining certification requirements for distributors
- Finalisation of the ENplus Briquettes handbook
- Start of the new programme in summer 2014
- At the first stage it will start with certification pilots in Germany/Austria but could easily transferred to other countries in Europe
Open Points for discussion

Certification of traders

• What is the most practicable way for certification:
  • Group certification and sample check of the producers or
  • analysis of the wood briquettes from different producers at the trader’s site?
Thank you for your attention!

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It is a group certification

Certified producer A
Certified trader A
Certified producer B
Certified producer C
Certified trader B

DEPI: System holder and contact for certified group members

Certification body
Briquettes made a price jump in 2010 (cold winter).