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Data collection for post consumer wood in the Netherlands

Nico A. Leek, consultant wood market

Categories of potential energy wood

- Post consumer wood

- Industrial wood residues

- Forest and landscape residues

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Definition post consumer wood

Post consumer wood or used wood is wood that is disposed at the end of its lifecycle.

- Don´t say waste wood

- Parts of used wood are contaminated

- "Produced" in: building/construction sector, various industrial production sectors, offices, shops, services sector and private households

Classification of post-consumer wood

- **A-quality** wood: clean wood

- **B-quality** wood: slightly contaminated, e.g. with paints, glues and coatings

- **C-quality** wood: hazardous wood waste contaminated with heavy metals, fire retardants and wood preservatives

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Market structure pc wood 1

Primary disposers:

- Municipal waste depots for households and small enterprises

- Industrial waste: packaging materials and residues from (wood) processing

- Construction and demolition waste: wood is separated for direct re-use (beams and boards) and in A/B wood containers

Market structure pc wood 2

Collectors:

- 50% collected by regional container transport companies

- 50% collected by bigger, often international waste companies

- Waste collection is mainly private

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Market structure pc wood 3

Sorting, processing and trading companies:

- They are the crucial players in the pc wood supply chain

- Final sorting and processing (shredders) is done at regional central pc wood yards

- Changes in waste-land: bigger and more international

Market structure pc wood 4

End-users:

- Particleboard industry in Belgium, Germany and Italy (A wood)

- Energy industry in NL and abroad (special Germany) (B wood)

- Wood product industry: producers of pressed wood pallet parts, wood pellets and briquettes and wood composites (A wood)

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Data collection pc wood in NL

Probos started already in **1990** with the first inventory on post consumer wood and industrial wood residues for the Ministry of Environment. Repeated in **1993**

In **1997** and **2000** we did studies for a Dutch Energy Company

Our last study was done in the EU project BioXchange (data for **2003**) together with Univ. of Hamburg and SkogForsk

2007 ????

Great need for data

- Post consumer wood market non-transparent and complex (disposal of waste costs money).

- The woody biomass energy market is a new one and is strongly developing. Especially the big international traders have their own interests.

- The demand side of the energy market is eager to get reliable market information on the supply of woody biomass.

- The EU goal (20% RE) asks for continuous monitoring in the member states.

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How to collect data?

A. *Estimation* of pc wood 'produced' by different primary disposer groups.

B. *Inquiry with questionnaires* in the waste industry.

C. *Monitoring* the input of different biomass products in the RE production facilities.

A. Estimation 1

Estimate and calculate the quantity of pc wood from primary disposer groups based on previous studies, literature sources, available statistics and completed by best expert guesses:

- *Private households*:
  collected in municipal waste yards (excl. prunings from gardens); annual pc wood per citizen about 19 kg

- *Industrial producers*:
  statistics about process waste and packaging materials from (woodworking) industry (joinery, furniture)

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A. Estimation 2

- *Construction and demolition:*
  In NL 90% of demolition waste is re-used;
  waste statistics; estimation wood fraction: 1.9%

- *Offices, shops and services:*
  The Environmental Agency: 4.3% of the total amount of
  waste is wood, most packaging materials

B. Questionnaires 1

In the Netherlands:

- biomass *up-stream* a lot of small container companies;
  down-stream less bigger waste(wood) handling
  companies

- in 2003 23 questionnaires were send to the most
  important wood handling companies with a response of
  17

- characteristics of the research organisation:
  a. well known by the companies (in the first inquiry in
     2000 Probos had individual company contacts)
  b. the organisation must be reliable and experienced
     (Probos is experienced with collecting and
     publishing statistical data)

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B. Questionnaires 2

In Germany:

1. The University of Hamburg started a very basic survey in 2002 to identify the complete population of pc wood disposing companies.

2. Questionnaires were send to all companies

Result:

- High quality market information on the origin and trade flows inside the pc wood chain

- A very valuable database for new inventories

- But time consuming

C. Monitoring

Since 1990 the Dutch Statistical Office monitors the share of renewables in the total energy consumption
% RE: 1990: 0.7% (18 PJ)

2006: 2.8% (90 PJ)

These figures are based on the contribution of different RE categories.

Improved monitoring will present better information on the input of A, B and C wood for energy production (private and industry).

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Availability pc wood in NL, kton (2003)

	Total	Export	Consumption
A wood	495	280	215
B wood	705	655	50
C wood	50	35	15
Total	1,250	970	280

Export pc wood, kton (2003)

Export country	Particleboard industry	Energy industry
Germany	168	353
Belgium	148	0
Sweden	0	48
Italy	250	0
Total	566	401

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Conclusion

For reliable market information on pc wood:

- You need to know the market structure in your country

- You have to realize that there could be an overlap between pc wood and industrial wood residues

- The best way: send questionnaires to the (most important) companies in the pc wood chain and add as much available information as possible (preferable statistics).

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