Bioenergy in Norway, status and measures to secure fuel supply and demand. Country report, IEA T40 Oct. 04

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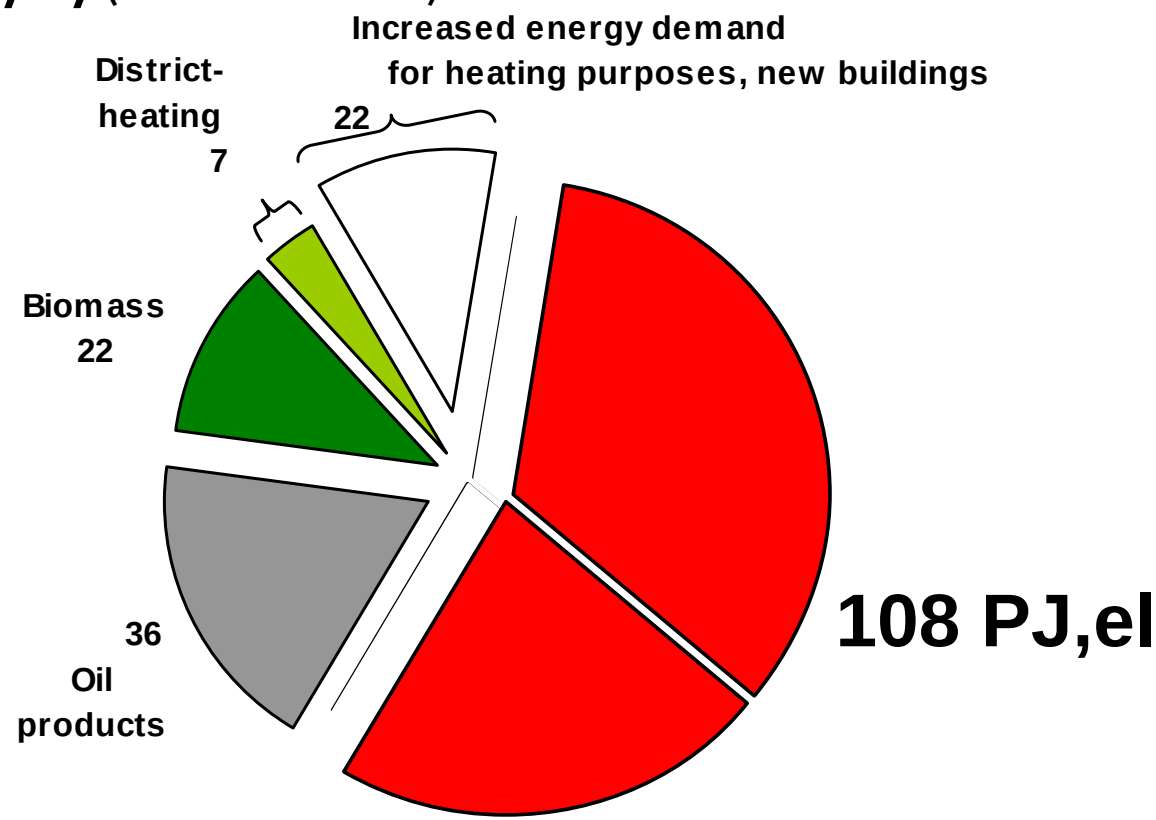
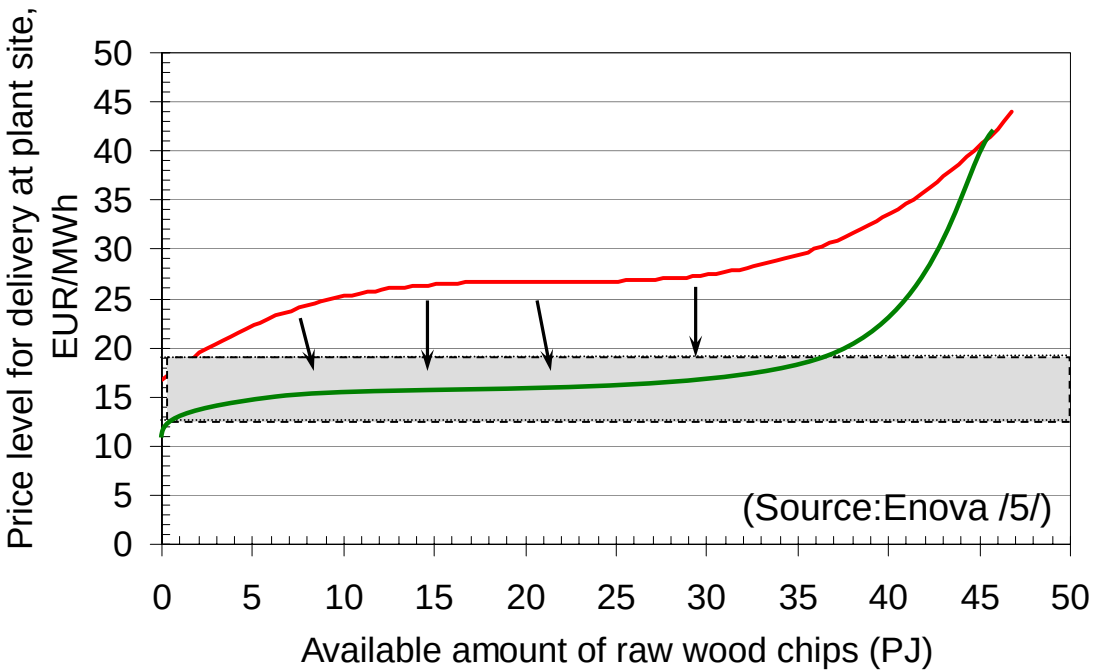
Present status

The Norwegian heat market
Heating of dwellings and urban business premises
2001 /1/, /2/ (all numbers in PJ)



Perspective 2010

Availability of raw wood chips as a function of price. /5/



Total market potential:

7 PJ waste

36 PJ biomass

Fuel prices in Eruope (Source: EUBionet)

Prognoses, realistic market potential /5/

5,4	PJ	Industry	(30%)
7,2	PJ	District heating	(40%)
5,4	PJ	Central heating systems	(30%)
18,0	PJ	Realistic market potential	

NB! The potential for traditional wood and pellet stoves is not included

Prioritised measures (cont.)

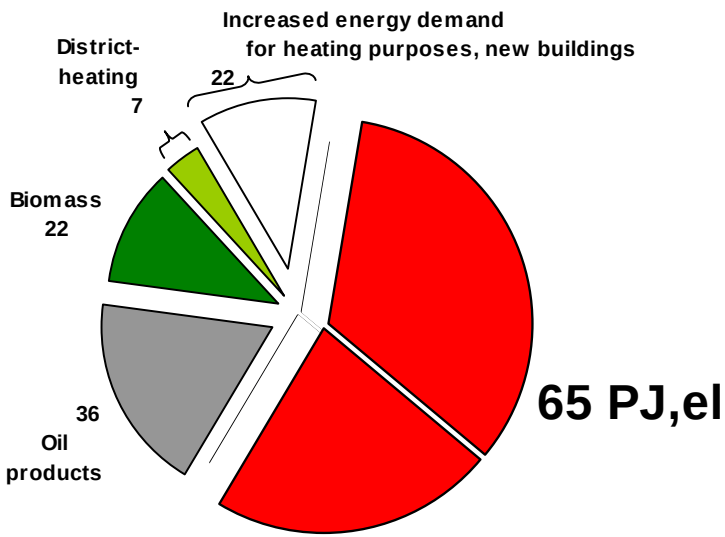
Type of projects

- Biofuel production.
  - Development in the future price levels for competing energy carriers is the single most important factor for fuel availability.
  - Obtaining a cost efficient value chain for the recovery of biomass for energy remains a main challenge.
  - Plants for industrial production of processed biofuels has a high priority.
- Bioenergy conversion
  - District heating installations.
  - District heating networks.
  - Central heating systems.

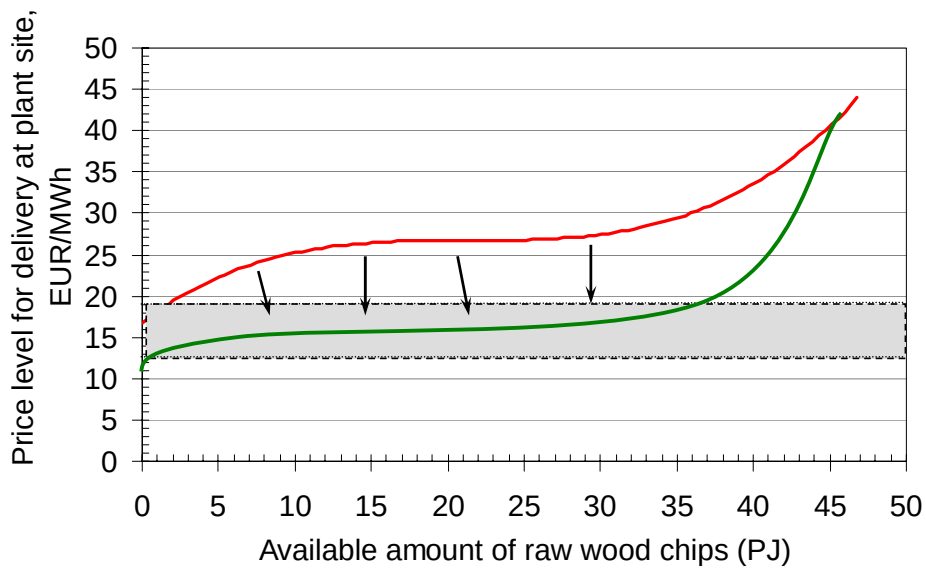
Conclusion

Norway, a rising bioenergy market, with

a considerable market potential



and a large unutilised potential of bioenergy



Conclusion

Professional and skilled companies / investors has a large potential in the Norwegian market for renewable energy.

- The Norwegian bioenergy market is young,
  - with limited experience and expertise
- However, the potential is significant and the activity increasing
- A more active government policy is seen
  - bioenergy is given high priority and
  - projects contributing to increased efficiency in the value chain for biofuels is given special attention.

Securing supply and demand

A more detaiiled descripetion and background material is to be found in references /6/, /7/ and /8/

- Norway supported the establishment of Task 40 and joined as participating country at the ExCo 52 meeting,
- Norway has accepted a proposal to focus its contribution through the following desirable tasks
  - Obtain overview of the market status and (possible) developments with respect to bio-energy and trade (assessment work; e.g. using equilibrium modelling).
  - Investigate and establish a solution for a sustainable, international logistic chain for biomass for energy purposes (incl. the marine leg)
- Norway strongly supports this conclusion and the actions taken to arrange the first Business Forum.

Biomass trade

– Securing supply and demand for the Norwegian heat market

- A “forprosjekt” completed in Sept. 04.
  - teamed with highly qualified Norwegian personnel, including forest owners, academic personnel, renewable heat companies and energy traders.
- Conclusion
  - 1st priority: Increased governmental support to stimulate market growth
  - Optimum logistics is a prerequisite for cost efficient trade
  - Development and implementation of fuel standards,
  - Increased market transparency and
  - An adequate and high competence level among market players
  - The interest for a market place is present.

Progress, cont.

Logistic[1] chain analyses

– A new project initiated and funded, with a broader perspective regarding trade and logistics

1. The terms logistics and logistic chain are in this context defined as to include transport, trading and sales related activities.

- The scope of work is defined as to:
  - review, consider and describe to conceptual design level a highly efficient and environmentally friendly logistic chain for transport of biomass from production sites to central storage facilities
  - evaluate the impact of market volume on logistic chain efficiency
  - evaluate the short and long term impact of potentially increased import on the Norwegian market
  - recommend how the subsequent phases of work for realization of demonstration(s) of the chain should be organized and carried out. Indicate expected schedules and budgets

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Thank you for your attention!

References

/1/ OED 2002, *Fakta 2002 Energi- og vassdragsvirksomheten i Norge*, 132s

/2/ Søgnen, O-G. (2003) *Enovas varmestudie 2003 – En betenkning om status og muligheter for bolig- og yrkesbyggmassen*, den 27. januar 2003. 15s

/3/ Data fra Statistisk Sentralbyrå (www.ssb.no)

/4/ Notat fra Norske Fjernvarmeforening (2002)

/5/ Enova (2003) *Heat assessment study 2003 – Fundamentals for the increased use of heat energy in the Norwegian energy system, Enova report 1:2003, 42p.*

/6/The Heat Assesment Study 2003 – Implementation of new renewable heat energy in the Norwegian energy system. Edited by Førde, M. and Klokk, S., Enova SF, Trondheim, March 2003, 34 p.

*/7/*Risnes, H., Iversen, V., Klokk S. and Førde M. (2003) *Implementation of new renewable energy in Norway – a focus on bioenergy.* Paper presented at the International Nordic Bioenergy 2003 conference, Jyväskylä, Finland,

*/8/*O. Hetland and B. Otterstad (2004) *"Biomass trade – Securing supply and demand for the Norwegian heat market. Is the knowledge and experiences from the liberalisation of the electricity marked in Norway in 1991 applicable for a commodity market for biomass for energy?"* Extended abstract presented at the IEA Bioenergy Task 40 – Business Forum, 28th-29th of October 2004, Rome