

Developments in biomass use, trade, policy and sustainability in the Netherlands

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Presentation overview

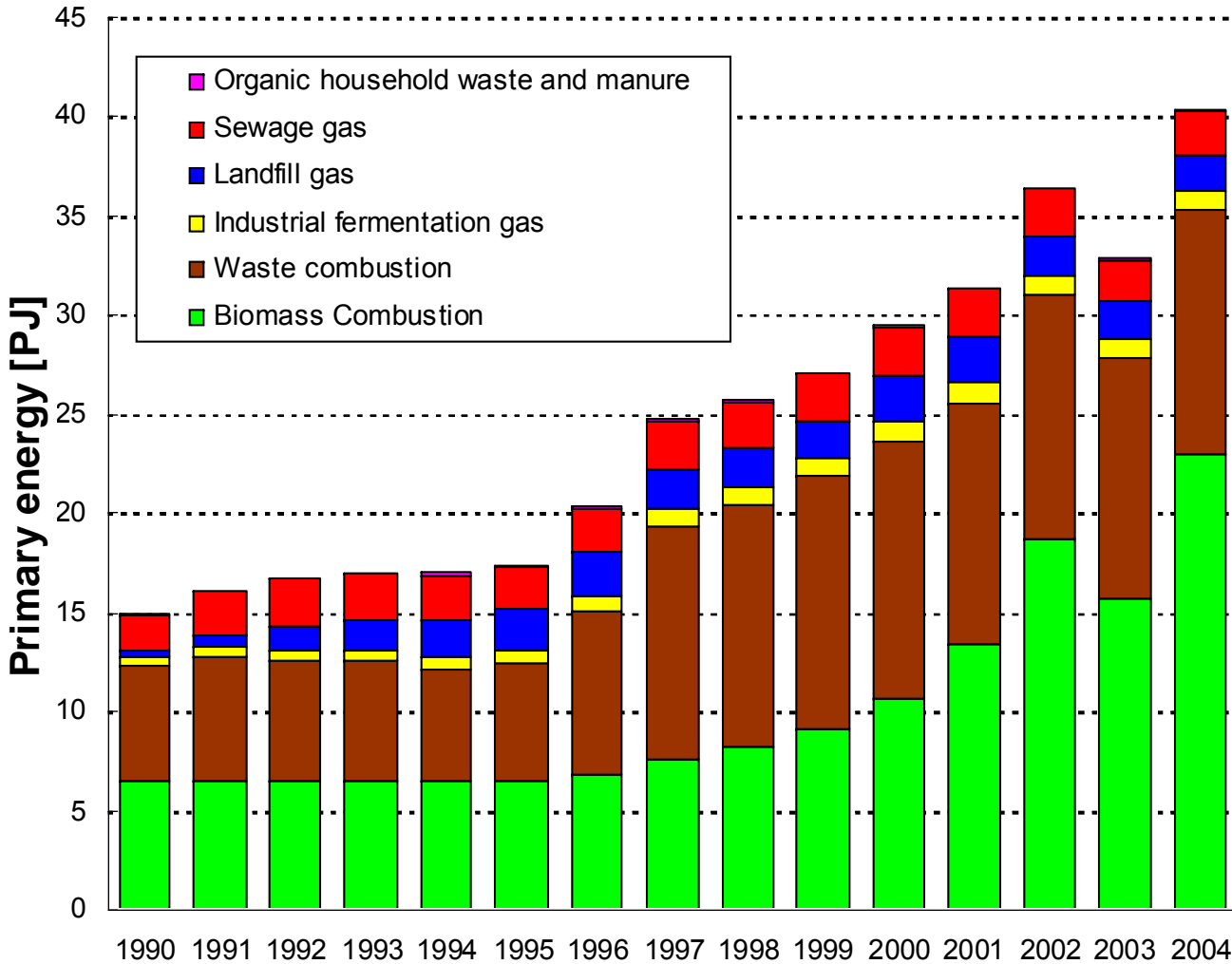
1. Biomass targets and ambitions in the Netherlands
2. ***The success story***.... Biomass use in NL
3. Overview of biomass trade (import, export and comparison with renewable electricity certificate trade)
4. ***The drivers behind import***... Policy and economics
5. ***And the barriers***... Issues around sustainable biomass import and recent governmental policy changes
6. Involvement in sustainability & concerns of Essent
7. Conclusions



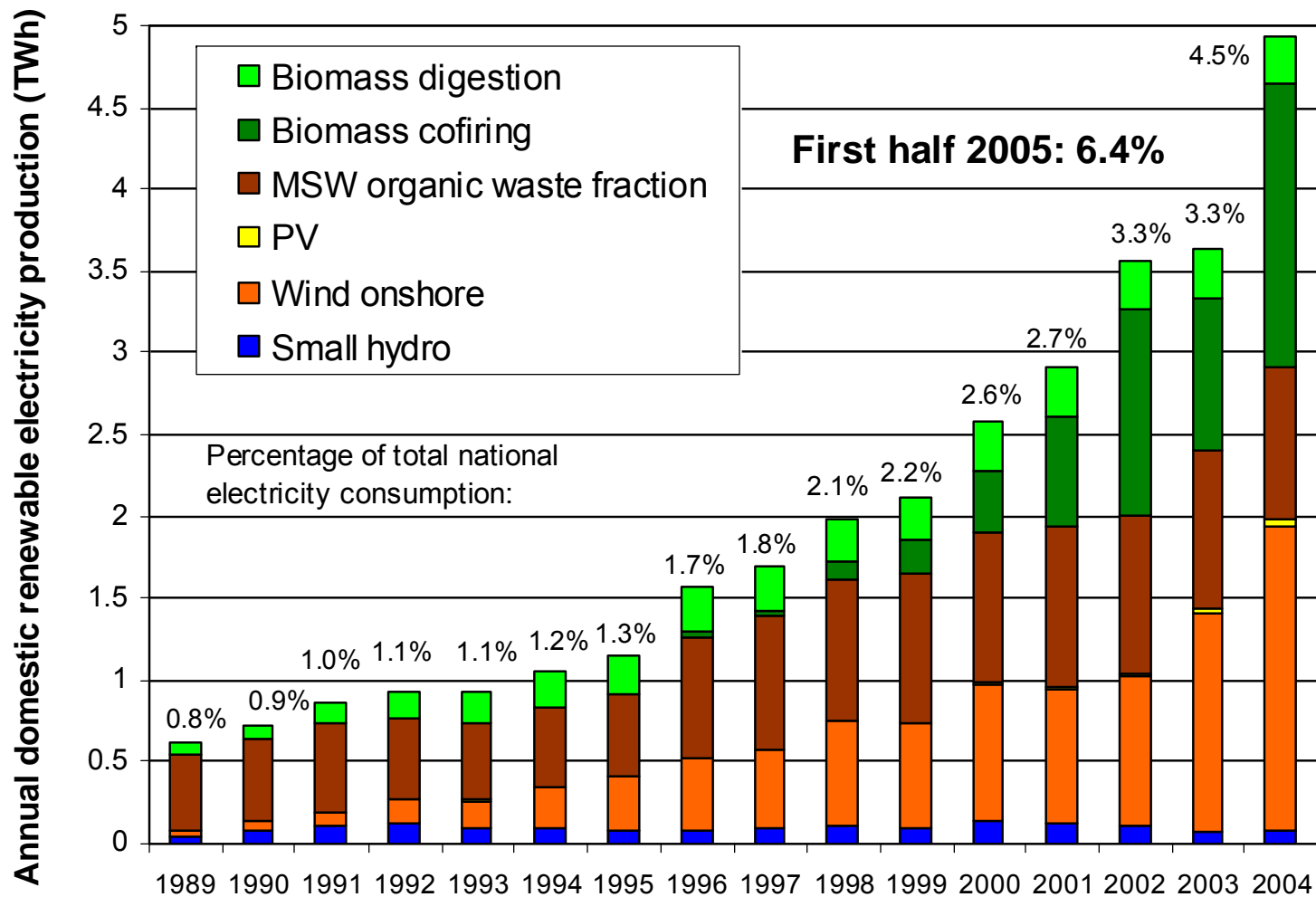
Dutch Biomass targets and ambitions

- Target of 5% renewable *energy* in 2010 and 10% in 2020
- Target of 9% renewable *electricity* in 2010 and 17% in 2020
- European biofuels directive (2% in 2005, 5.75% in 2010)
- Biomass to be the backbone of these targets (together with wind energy)
- Long term *ambition* (energy transition): 30% of all primary energy from biomass in 2040,
- Requires substantial amounts of biomass imports, indigenous resources could only cover about 5%

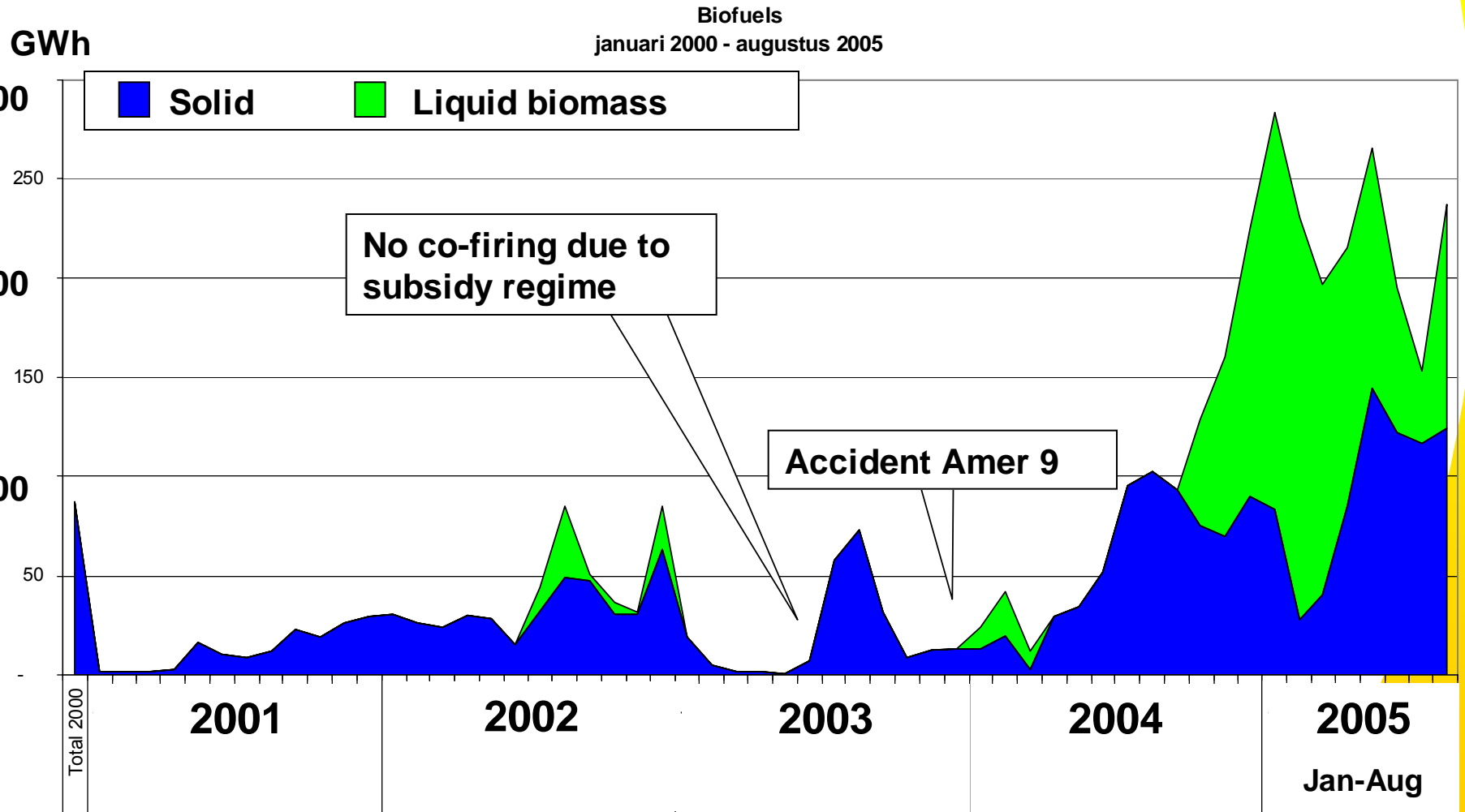
Domestic biomass use in the Netherlands



Domestic renewable electricity production in the Netherlands



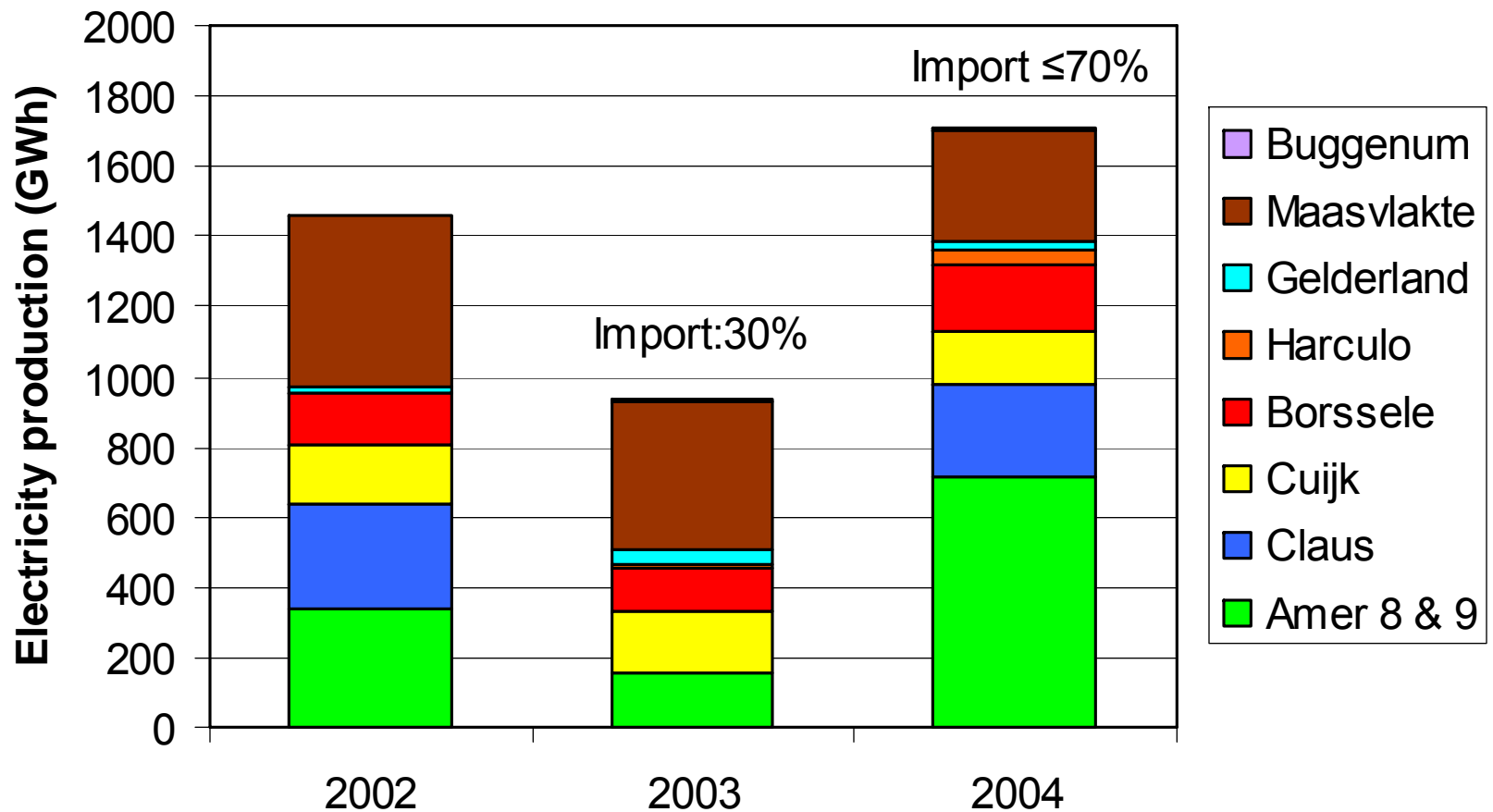
Co-firing of solid and liquid biomass in Essent power plants



Source: P.P. Schouwenberg, Essent Sustainable Energy



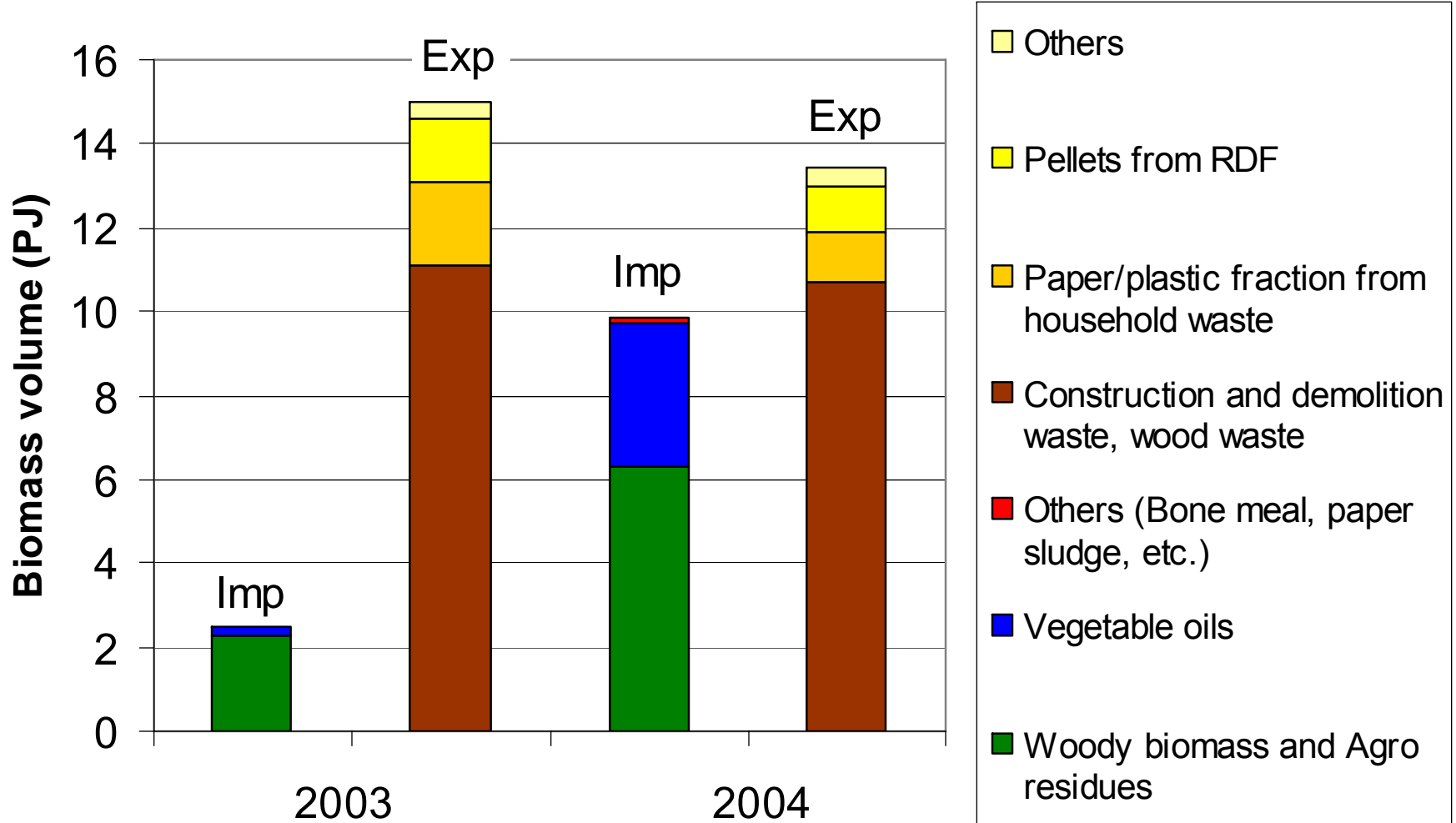
Electricity production from biomass co-firing in power plants



Imported fuels used:

- Wood pellets (mainly from Canada)
- Agro-residues (palm kernel shells, olive nuts, nut shells, cocoa husks, soy and sun flower residues)
- Palm Oil (Malaysia and Indonesia)
- Bone Meal and other waste streams

Import / export of biomass in the Netherlands

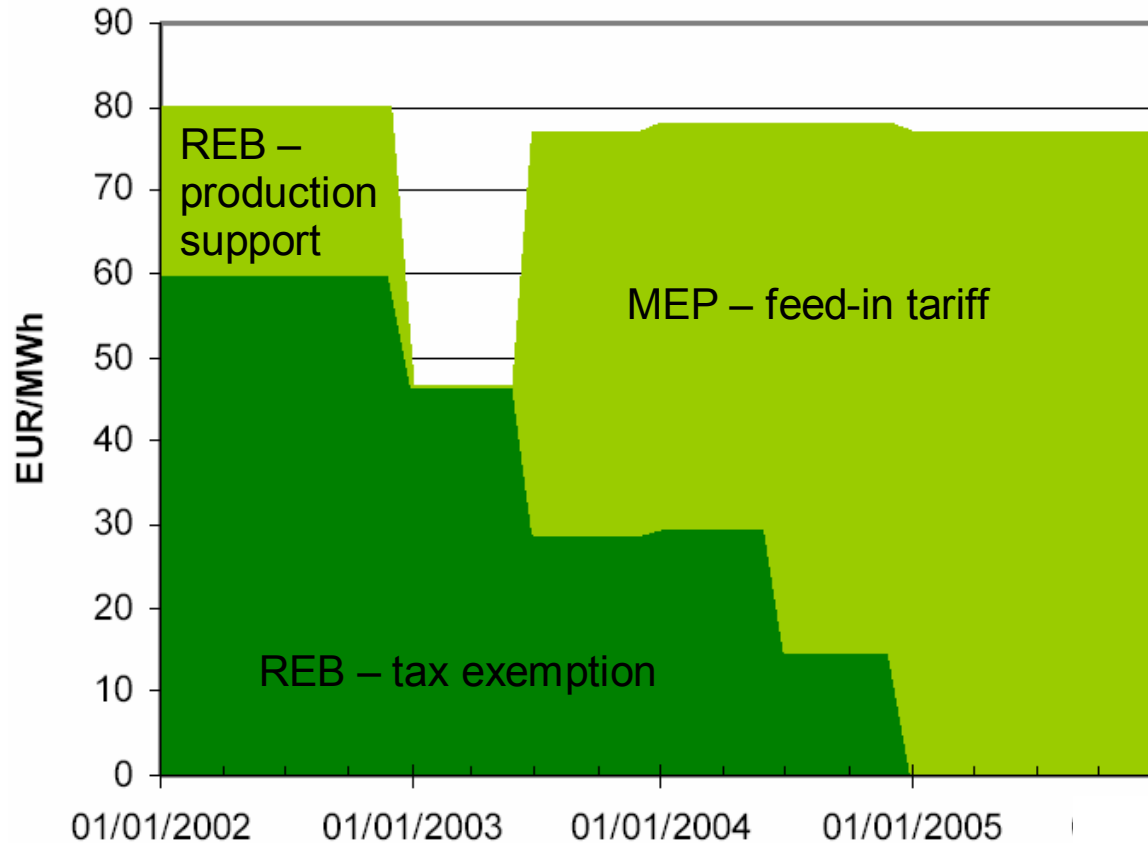


Most exports of wood waste to Germany ; **Indirect** import and export not known

The drivers behind import: Policy to stimulate renewable electricity

- 1999 introduction of demand-side stimulation (REB-tax exemption)
- Result: > 2 million households (out of 7 million) using green electricity in 2002
- However this caused massive import of renewable electricity, and annual tax 'losses' of 100-150 M€/year)
- -> Re-orientation to domestic supply stimulation in 2003

Switch from tax exemption to feed-in tariff system

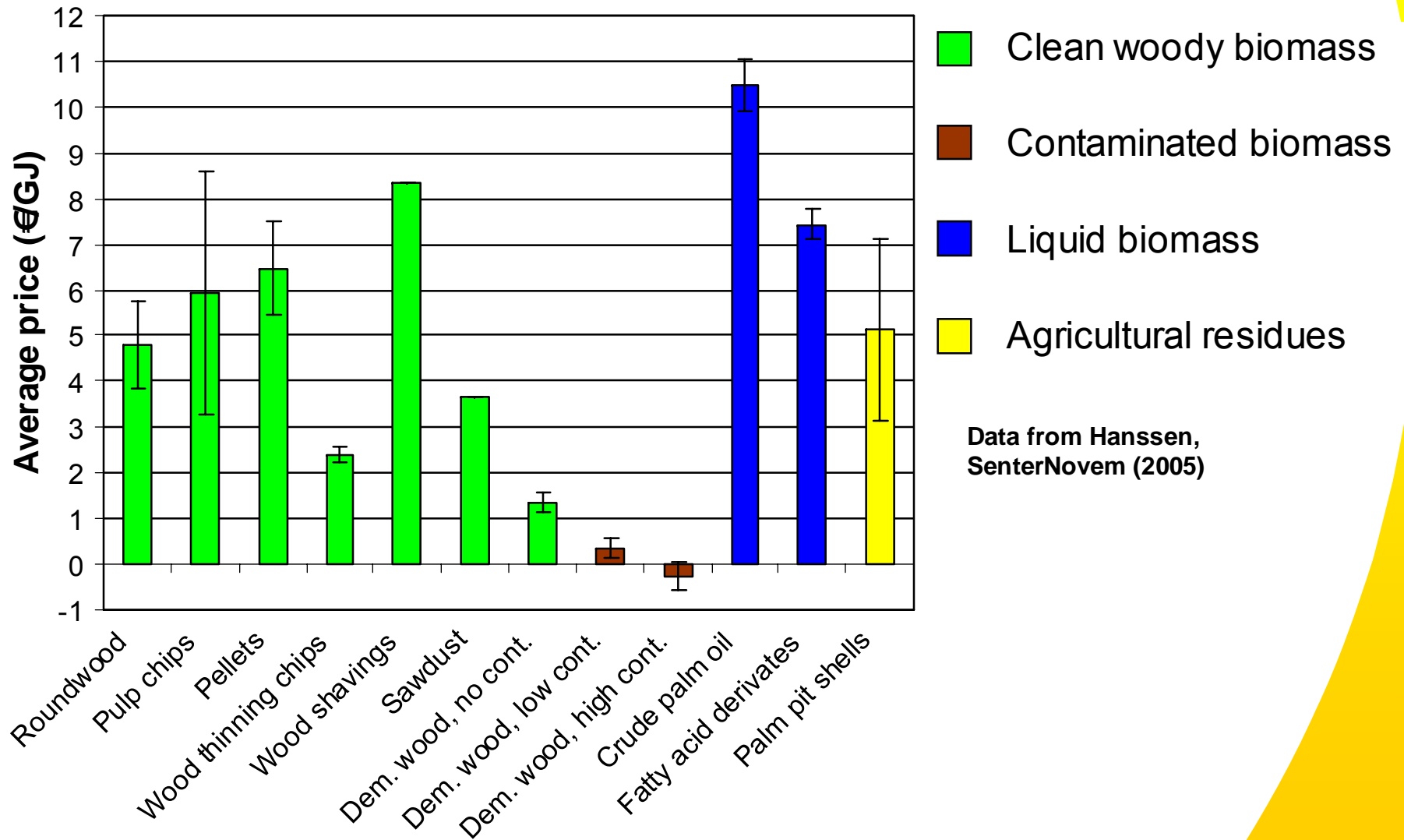


Example for feed-in tariff for biomass co-firing in large plants (>50 MW).

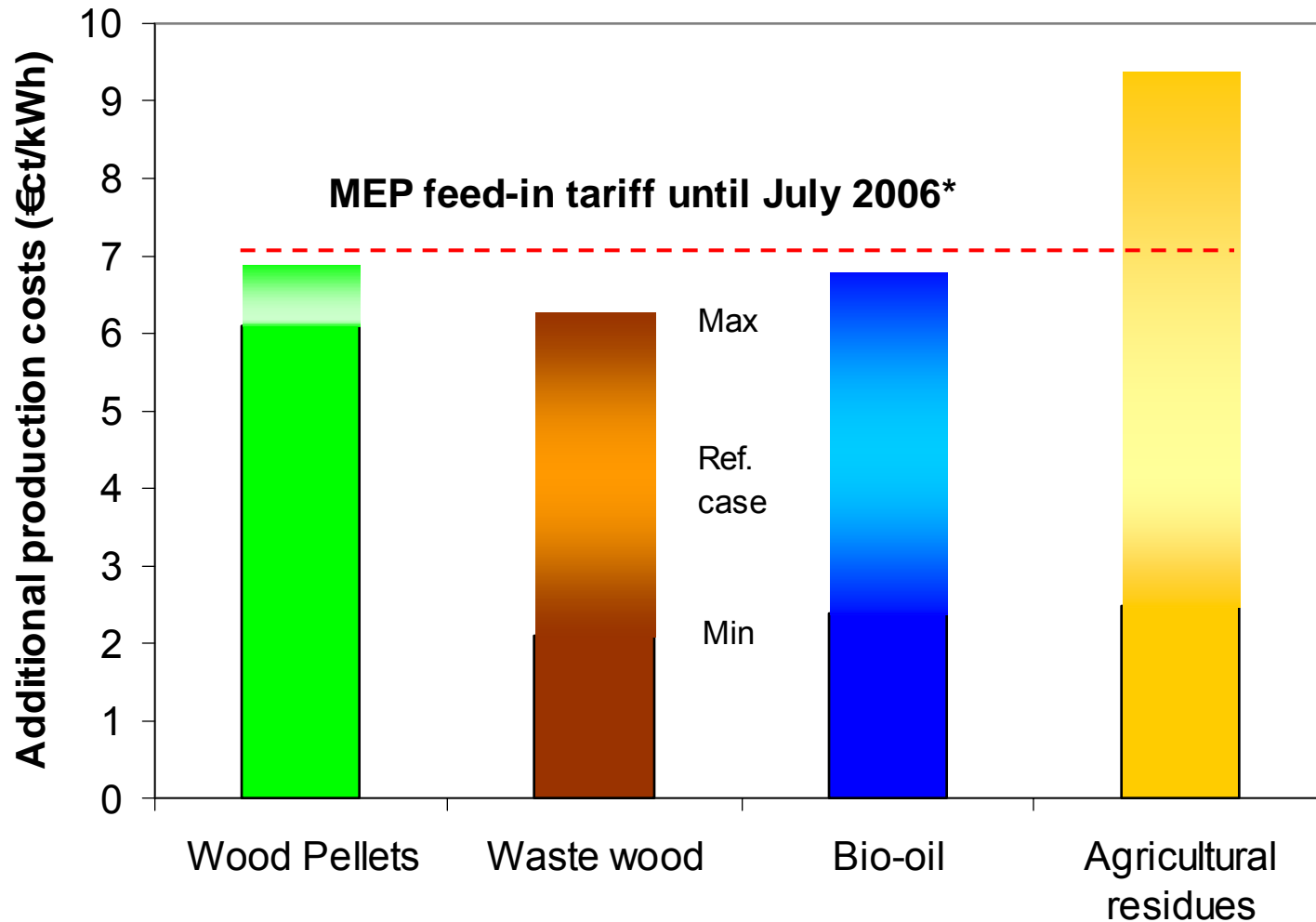
Source: Wagener, Essent, 2005



Biomass fuel prices in the Netherlands in 2004



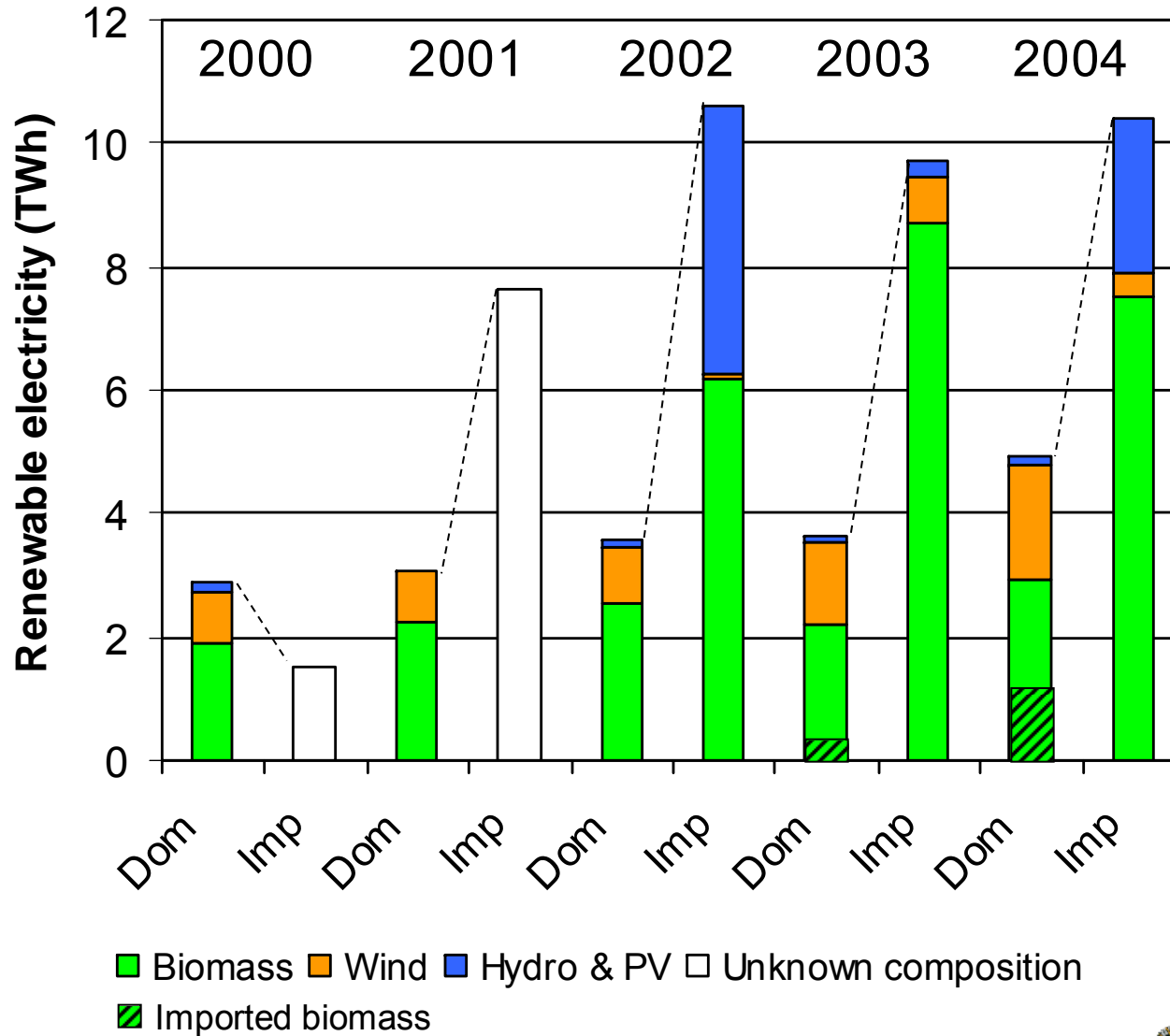
Additional electricity costs for co-firing



* feed-in tariffs for large-scale plants >50 MW, Data from de Vries et al., ECN, 2005



Domestic production compared to import of renewable electricity certificates



Barriers for further import of biomass

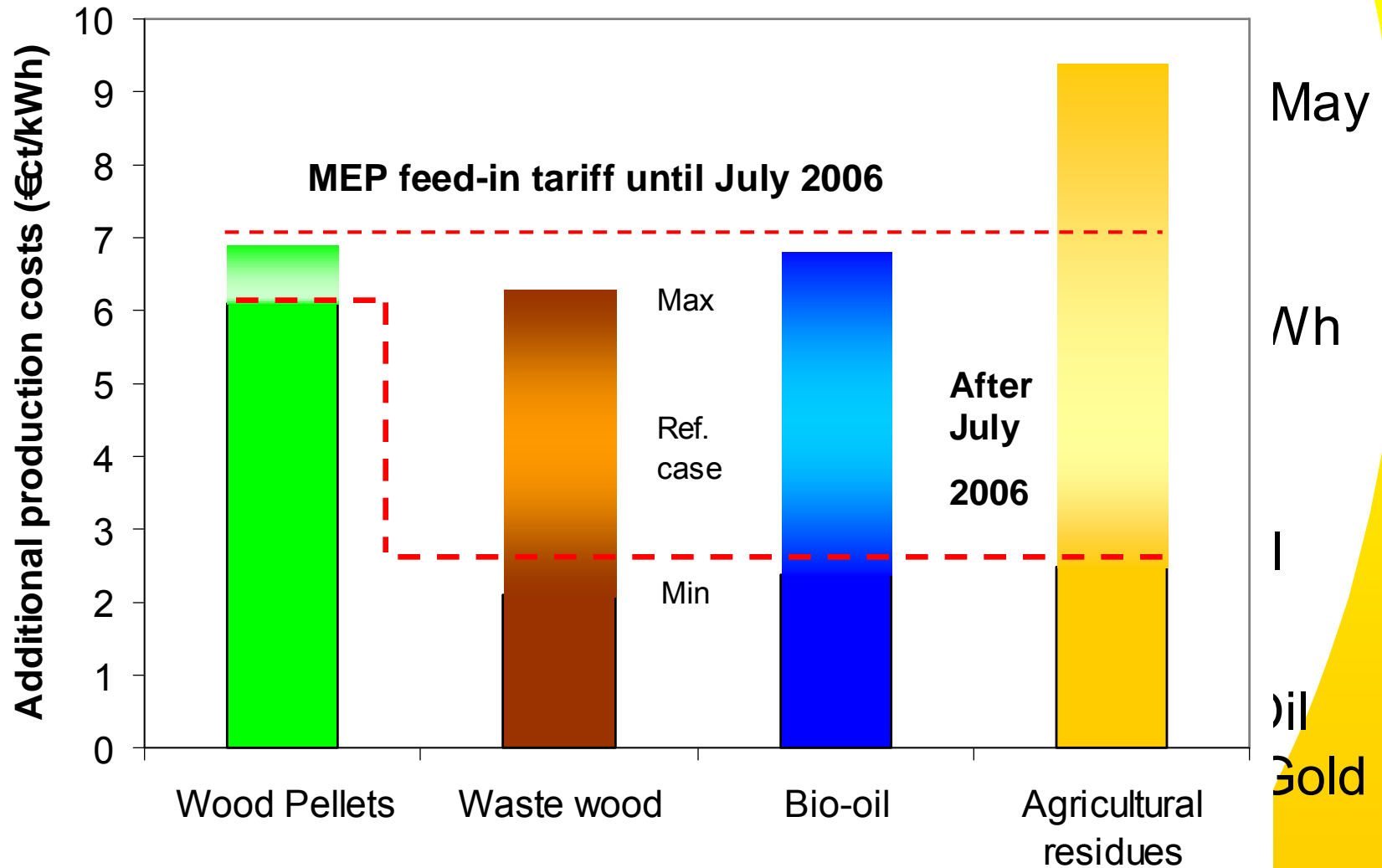
- Competition with application as fodder production or food production.
- Increasing international competition.
- Reluctance to use new biomass streams.
- Immature market, lack of significant volumes and associated professional logistics.
- Import restrictions (on ethanol, agricultural residues)
- Few or no statistics!
- Sustainability issues



Controversy around palm oil

- Netherlands largest European importer of palm oil, two thirds from Indonesia and Malaysia, mainly for food applications (e.g. Unilever)
- Comparable to large increase in soy bean plantations in South America
- Several international NGO's strongly against further use of palm oil and soy bean products (e.g. oil for ape report)
- Dutch NGO's Novib, Both Ends, Friends of the Earth (Milieudefensie) demand *sustainability criteria* for use of palm oil and soy bean oil (august 2005)

Changing governmental policy



Data from de Vries et al., ECN, 2005

Changing governmental policy

- Additional issue: yearly budget for MEP feed-in tariff insufficient due to rapid growth of co-firing -> announcement in May 2005 that no new co-firing capacity will get MEP feed-in tariff
- Oktober 2005: Feed-in tariff for large-scale co-firing of solids and liquids reduced from 7 €/ct/kWh to 2.5 €/ct/kWh from July 2006 onwards, exception: clean wood (6.1 €/ct/kWh)
- -> Essent announces to stop using palm oil, Electrabel cancels plans for co-firing palm oil
- Essent partner of Round Table on Sustainable Palm Oil and initiator of a biomass certification system (Green Gold Label)



Essent involvement in Sustainability



- 'Groene Stroom' product and involvement of stakeholders for more than 10 years
- Development of Track and Trace system to guarantee sustainability from source to customer
- Member of Round table for Palm Oil: producers, stakeholders, traders, users
- Heavily involved in sustainability discussions ('Groene Stroom', WWF, stakeholder meetings, Solidaridad, Fair trade)
 - Stakeholder presentations in 2002 and 2003
 - Fair Trade (Albert Heijn) parallels studied by Solidaridad for palm industry in 2004
 - Fair trade pilot started with Solidaridad
- Fair Trade study with university of Utrecht to develop sustainable criteria for importing Biomass

Essent Green Gold Standard (EGGS) (1)



Guarantee from sustainable source to customer

- Essent started the development of EGGS in 2002 resulting in a 1st certificate in 2004
- Unique, worldwide promoted system, appreciated by stakeholders and suppliers
- Standard condition in all Essent supply contracts for biofuels
- EGGS is a certification and supply chain monitoring program for the acceptance of sustainable biofuels (sustainable forest and plantation management, fertilizer use, replanting programs, plant mass balance, cleanliness storage and shipping)
- executed by an independent certifying and inspection company (Skal International) and an independent inspection company (Peterson Bulk Logistics)
- Within EGGS two main sources of biofuels, Forestry and Agriculture; main criteria for EGGS are sustainability and traceability

Essent Green Gold Standard EGGS (2)

the route to an independent system



- On behalf of Essent, the Sustainable Trading & Operations department is involved in the Green Gold System; ISO 9001 certified in 2000.
- Skal International, an independent certification and inspection company, and Peterson Bulk Logistics, an independent inspection company, acknowledged by Dutch Council of Acknowledgement.
- The Green Gold System is registered property of the independent Green Gold Standard foundation, responsible for the standard criteria and for communication with participants in the program.
- Other companies (power companies, producers) in Europe and Canada are using / are going to use this system
- The foundation is itself advised by an independent **Advisory Council**, in which the following companies/agencies are represented :
 - Unilever (supplier of consumer goods and chairman of the Round Table of Sustainable Palm Oil),
 - Solidaridad (NGO),
 - Probos (NGO),
 - Cefetra (Agri product supplier),
 - Jongeneel Agencies (biofuel supplier)

Round Table on Sustainable Palm Oil



- **Objective** : promotion of the growth and use of sustainable palm oil through co-operation within the supply chain and open dialogue between its stakeholders
- **Initiated in 2001 by WWF**
- **65 members representing all sectors**
- **Organization, managed by executive board (16 members):**
 - **Oil palm growers (4)**
 - **Palm oil processors and/or traders (2)**
 - **Consumer goods manufacturers (2)**
 - **Retailers (2)**
 - **Banks/investors (2)**
 - **Environmental / nature conservation NGOs (2)**
 - **Social/developmental NGOs (2)**

RSPO objectives into more detail



- Research and develop definitions and criteria for sustainable production and use of Palm Oil
- Undertake practical projects designed to facilitate implementation of sustainable best practices
- Develop solutions to practical problems related to the adoption of best practices for plantation establishment and management, procurement, trade and logistics
- Acquire financial resources from private and public funds to finance projects under the auspices of RSPO
- Communicate RSPO's work to all stakeholders and to the broader public

RSPO sustainability criteria study



- Study Palm Oil supply chain study ongoing
- Members: Golden Hope, Cargill, Unilever, Henkel, Aarhus, Essent, others
- Timing: Q4 2005 preliminary results for presentation to all members
- Project aims tracing palm oil from producer to end user:
- Three options
 - Development of methodology for physically trace oil from plantation to end user
 - RSPO oil (criteria) set up as a specific grade from RSPO plantations
 - Mass balance methodology analog green power; labeling

-> **Use Essent Green Gold because of compliance with all three options**
- Three phases:
 1. Better understanding of options pro's and con's
 2. Development methodology implementing preferred option
 3. Pilot test

Potential concerns of Essent



- Invested > 300 m Euro in sustainable energy in a volatile market environment
- Commitments to more than 800.000 green customers
- Frequent and unpredictable changes in the subsidy system
- Further opportunities to raise share of co-firing go un explored
- Still unforeseen operational risks not accounted for
- Penalizing for its early commitment and developed market leadership

Conclusions

- Rapid increase of (dedicated) imported biomass over the last 3 years, but “buried under its own success”
- Further import needed for obtaining targets, especially also for the bio-fuel directive, but questionable with recent policy changes
- Both industry and NGOs demand a more sustainable (i.e. reliable) policy and support measures
- *Urgent* need for a better classification of biomass, (basic) sustainability criteria and certification standards

Thank you for your attention

Full Country report available at: www.fairbiotrade.org