

# New business opportunities for bio-ethanol in Europe

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# Renewable feedstock in the chemical industry

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- European chemical industry will largely remain petrochemicals based in the next decades
- However, more can be done to increase use of renewable feedstock
- EU 2020 Strategy and the Knowledge Based Bio-economy provide opportunities
- Many factors determining increased industrial use of renewable raw Materials: reliability of supply, price, customer preferences, quality of feedstock, sustainability
- Cefic discussion paper of November 2010 highlights self-inflicted barriers in the EU impeding access to bio-ethanol, sugar/carbohydrates and animal fats at competitive prices



# Access to bioethanol: present situation

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- EU demand for bioethanol: an explosion because of fuel mandatory incorporation rates (10 % by 2015)
- EU 2009 demand: 4,7 Mio T, incl. 2,3 for biofuels
- EU production: 3,9 Mio T
- => nearly structurally imbalanced market
- Bioethanol in EU more expensive than the world market price
- Other countries (e.g. USA) have lower import tariffs on bioethanol for industrial use
- => loss of competitiveness for EU chemical industry
- Risk that biobased chemicals production will develop elsewhere while markets are in Europe.....

# New perspectives for bioethanol in chemicals

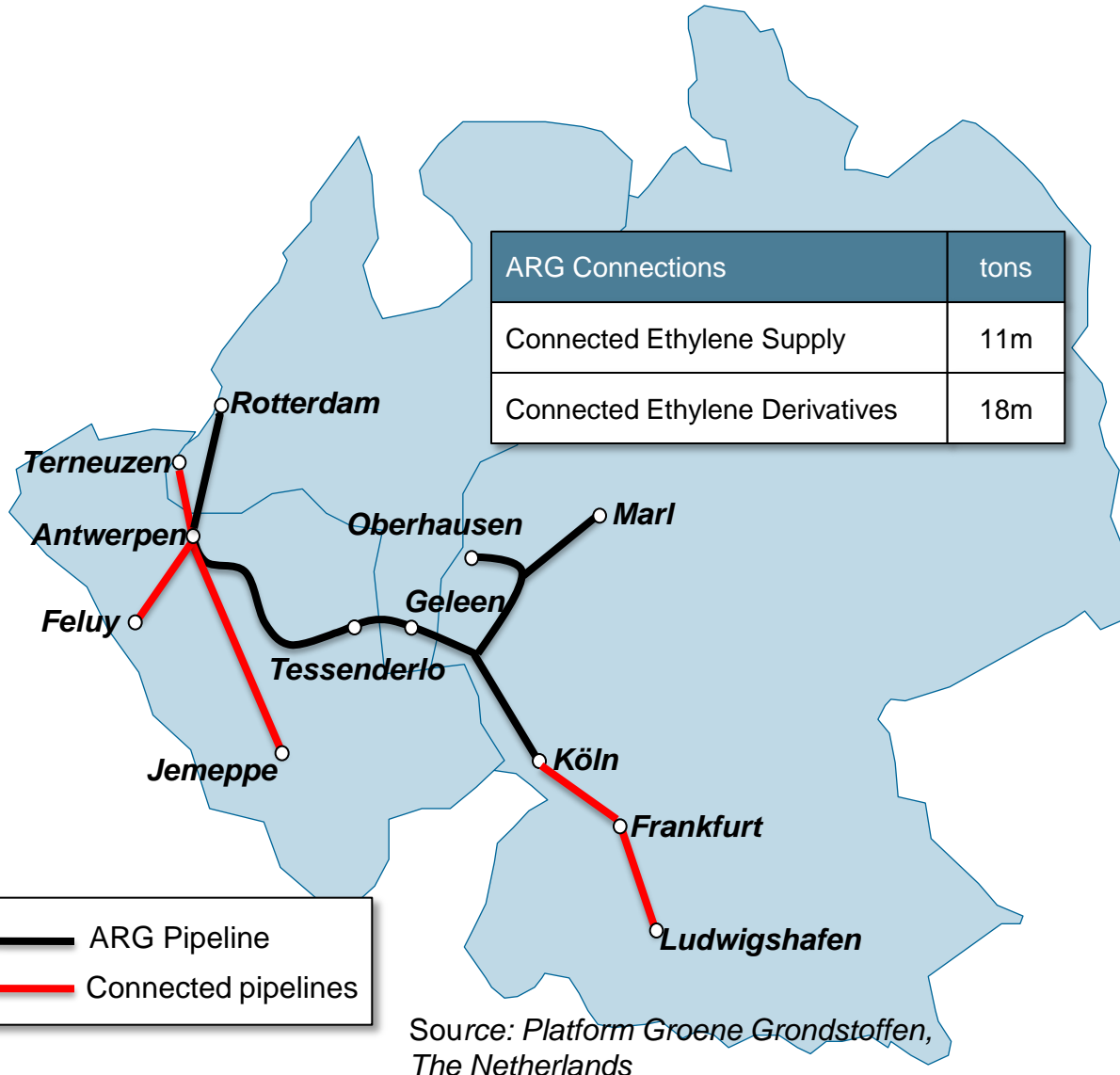


- Until today: specialty applications (amines) or mid-size industrial products (acrylate, acetate, acetaldehyde...) ~ 250 ktpa, i.e. 6% of total EU ethanol market
- Bio-sourced products: strong expectations from downstream markets
  - ✓ Packaging (food, health-care)
  - ✓ Electronics
  - ✓ Automotive
- Ex: Bioethanol to bio-sourced ethylene => « bio-polyethylene »:
  - ✓ Existing production or planned projects: Brazil, India, China
  - ✓ Industrial projects in the EU ?



## 2 – Ethylene Logistics (ARG)

The ARG pipeline and associated pipelines connects about 18 million tons derivative capacity



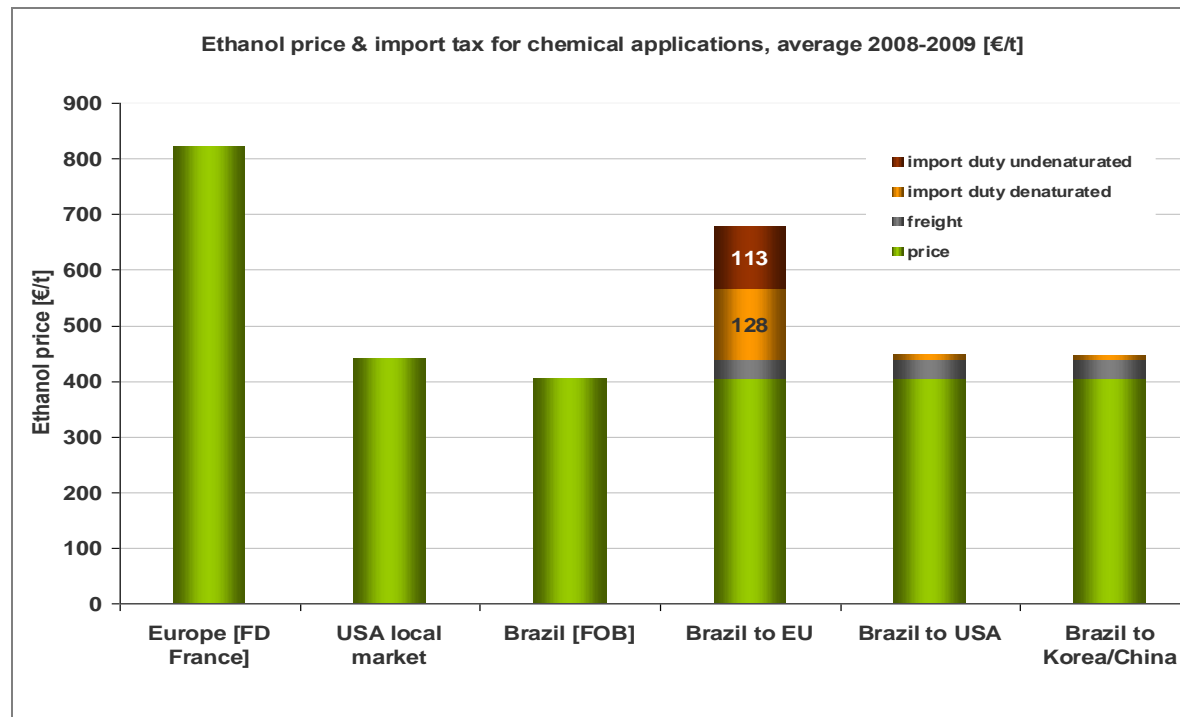
- Ethylene pipelines connect the major petrochemical clusters of NW Europe – connected ethylene conversion capacity is ~11m tpa
- The majority of this network is owned and operated by the ARG – ARG transports about 2m tons annually
- Some important extensions to ARG exist; Antwerp-Terneuzen; Moerdijk-Terneuzen; Antwerp-Feluy; Antwerp-Jemeppe; Wesseling-Frankfurt-Ludwigshafen
- We have performed capacity and ethylene gap analysis the sections excluding Frankfurt-Ludwigshafen

(See Attachment 1 for details)



# A clear competitive handicap

- A heavy customs duties impact:
  - ✓ EU: 30 to 65% *ad valorem*: 19,2 € / hl for undenatured alcohol (HS 220710) and 10,2 €/hl for denatured alcohol (HS 220720)
  - ✓ US: 1,9% for undenatured alcohol and 2,5% for denatured alcohol





# Conclusions

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- Huge opportunity to “green” the key building blocs of the chemical industry in Europe
- Need for permanent duty-free import for bioethanol for chemical intermediate use, just like for key petrochemical building blocs
- Processing under Customs Control provides temporary, time-limited relief but investments cannot be based upon uncertainty
- Inserting of an additional tariff line in the Combined Nomenclature at a zero rate taxation:
  - ✓ for denatured/un-denatured alcohol
  - ✓ exclusively for chemical intermediate use
- Issue will be addressed in context of EU-Mercosur Free Trade negotiations but need speedier solution!