
EU & MS Policy Regimes Affecting Biorefineries

Comments & examples
emerging from Euroview &
BioPol studies

▷ Overview

- Understanding/acceptance in policy community
- Policy & stimulation of research/innovation
- Policy & the development of biorefineries
 - Coordination & coherence
 - EU legislative support to energy, agriculture, forestry, environment & health
 - Market development
- Key policies issues



Perception and understanding of biorefineries

Surveys



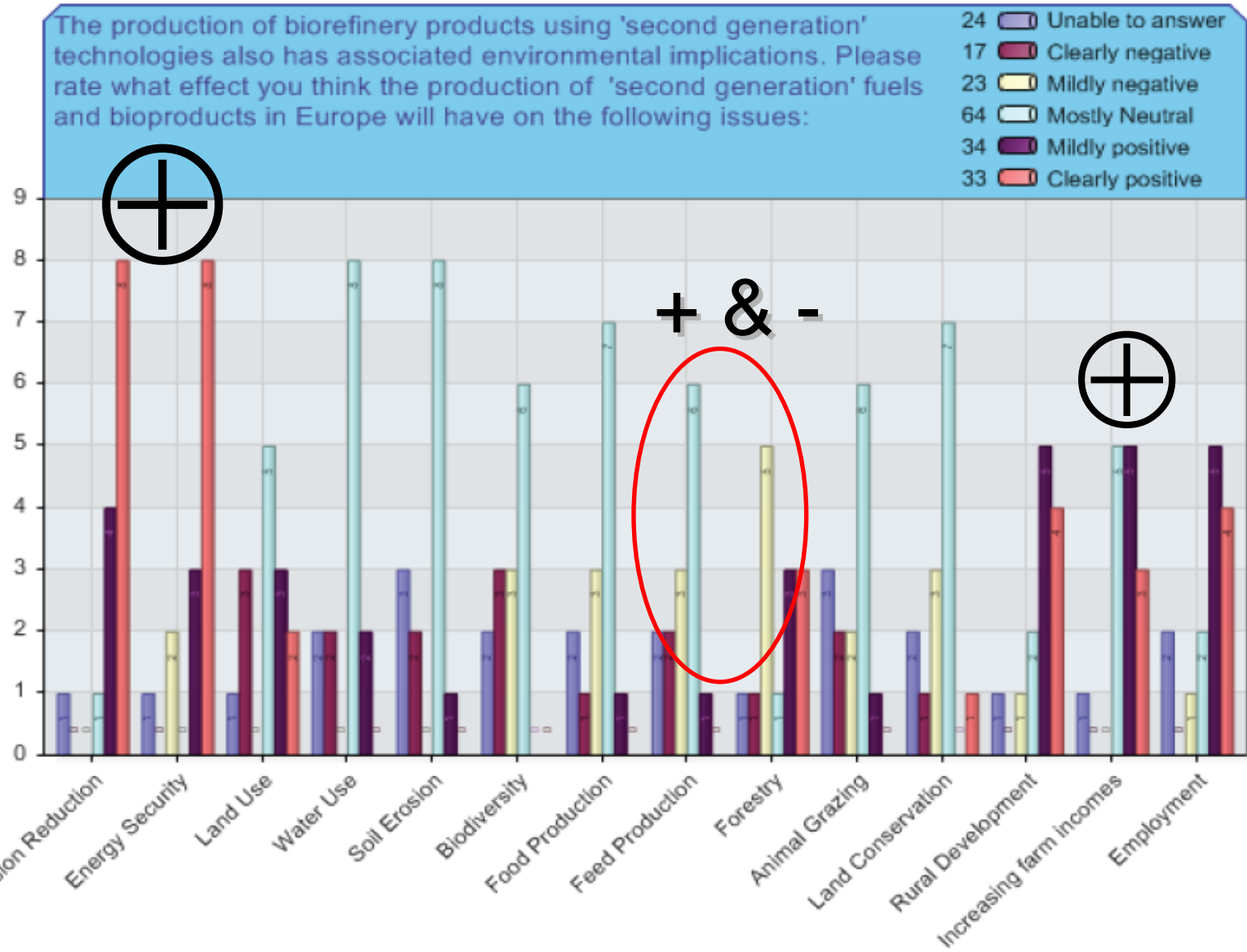
▷ Understanding

- Initial results indicate moderate to good understanding of biorefinery concepts:
 - (informants believe they have) generally good working knowledge of biorefinery concepts;
 - largely share the views of the scientific community
 - relative advantages of advances to 2nd generation biofuels and then onwards to biorefinery implementation (e.g. related to aspects such as GHGs, energy security, rural development, environmental quality etc.).

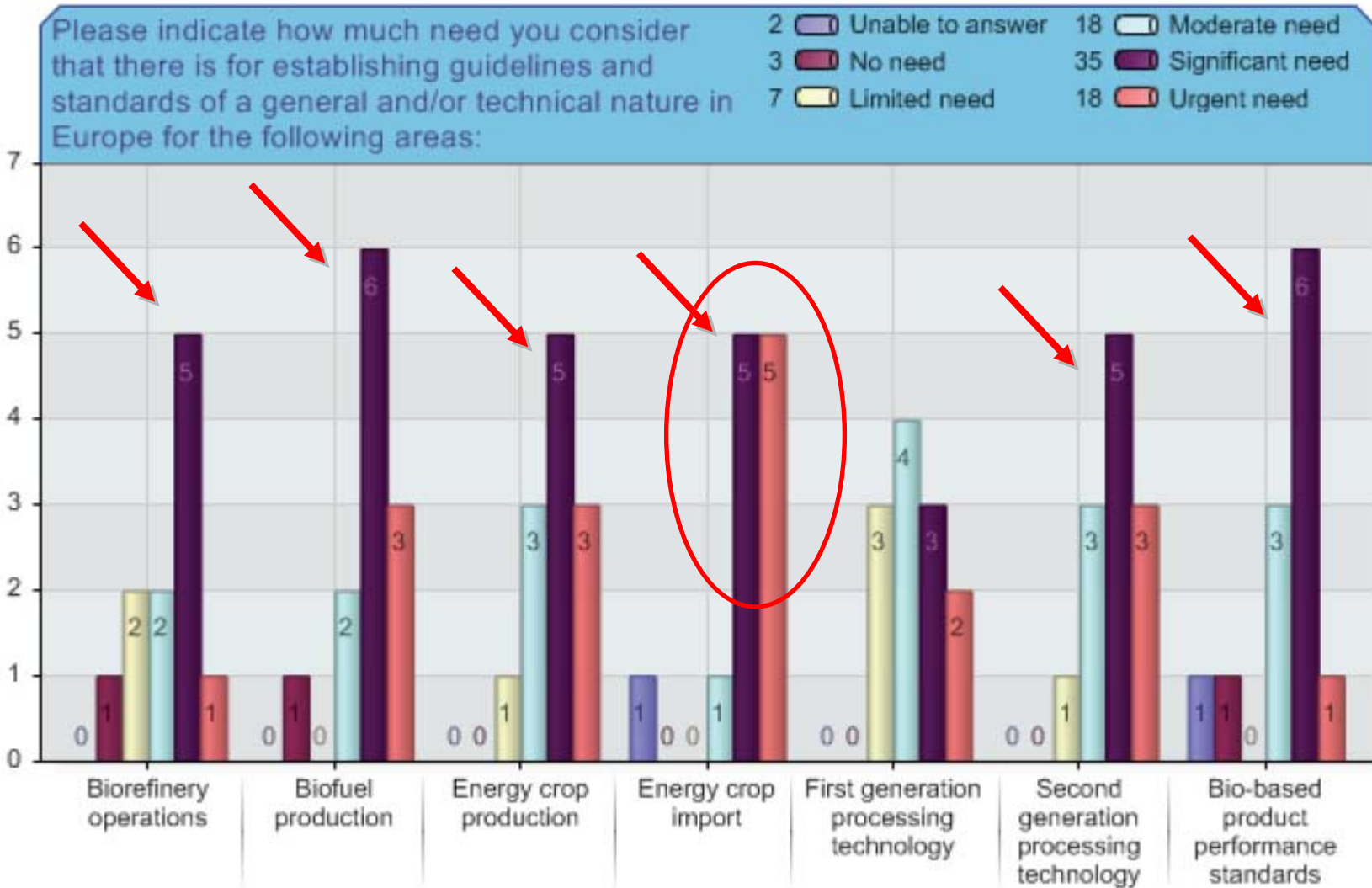
▷ Acceptance

- Biofuels debate is affecting the views of biorefineries
- Perceptions of disparity in policy support for advanced bioenergy and biorefinery concepts at EU level versus national level.
- Concern that feedstock production issues can damage biorefinery reputation and acceptance
 - genetically modified plants,
 - food crop displacement,
 - deforestation/biodiversity concerns in developing countries
- Mixed perceptions of support from industry:
 - agricultural product industries (starch/sugar) support biorefineries,
 - forestry/petrochemical industries support AND oppose.

Positive to 2nd gen. Mixed views for forestry & field ?



Informants perceive need for standards & guidelines



... Issues perceived as potential barriers...



Please rate how significant you feel the following reputation and general acceptance issues are as drivers/barriers to implementation of biorefineries and/or advanced bioenergy/bio-product systems:

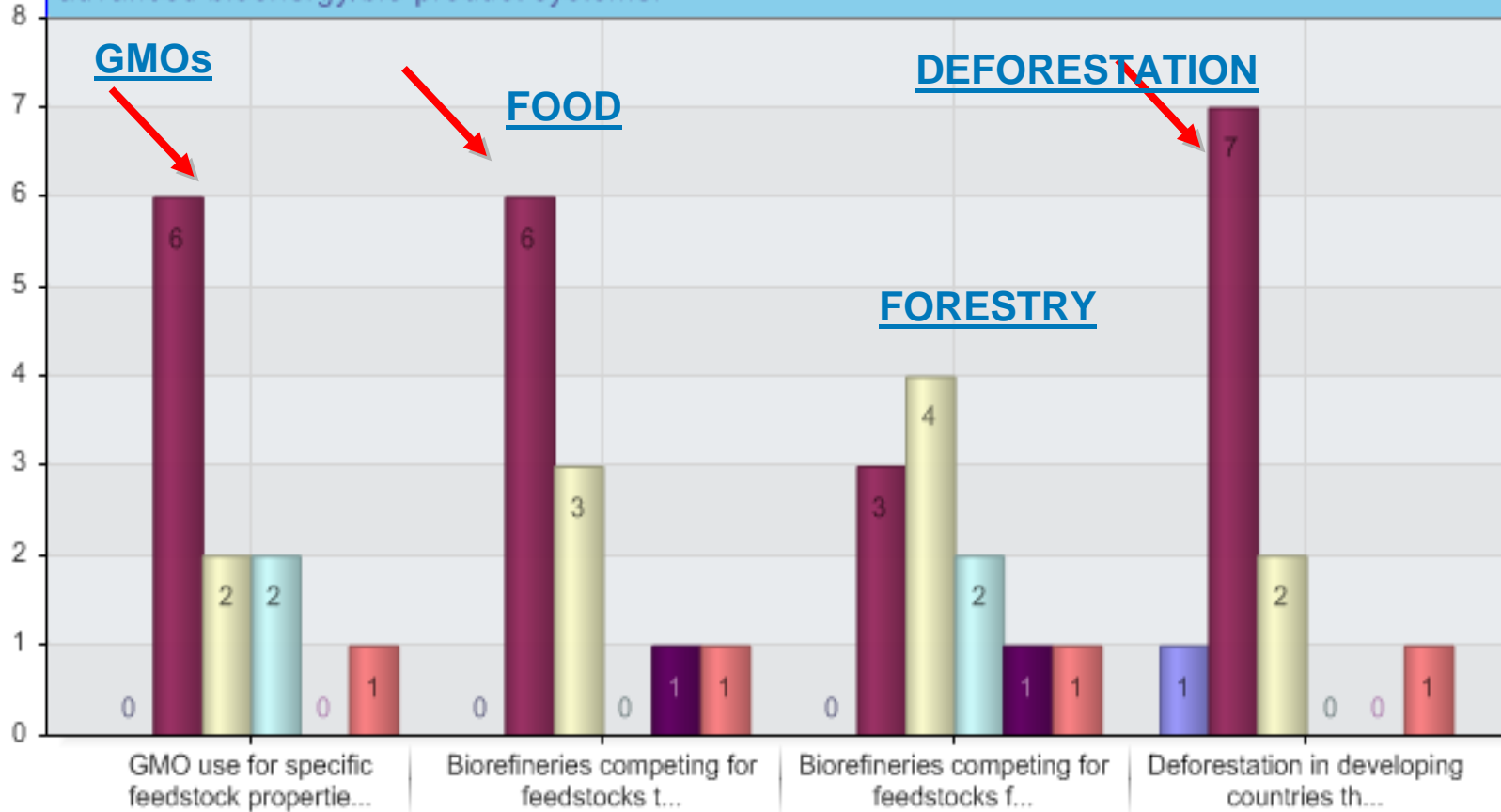
- 1 Unable to answer
- 22 Strong barrier
- 11 Weak barrier
- 4 Neutral
- 2 Weak driver
- 4 Strong driver

Statistics

1 Median

0 Min

7 Max





Policies to support biorefinery development

▷ Stimulation of Research/Innovation

- R&D programmes: FP7, ERA-net, national
=> continuity of R&D funding + strategic planning
- Facilitating integration
 - New financing models for development of innovative bio-based products by small high-tech companies
 - Financing models/tax incentives for development of biorefineries (pilot & demonstration) – use of EIB loans &/or structural funds.
 - Development of PPP (UK IBTI)



Overview of policies and legislations

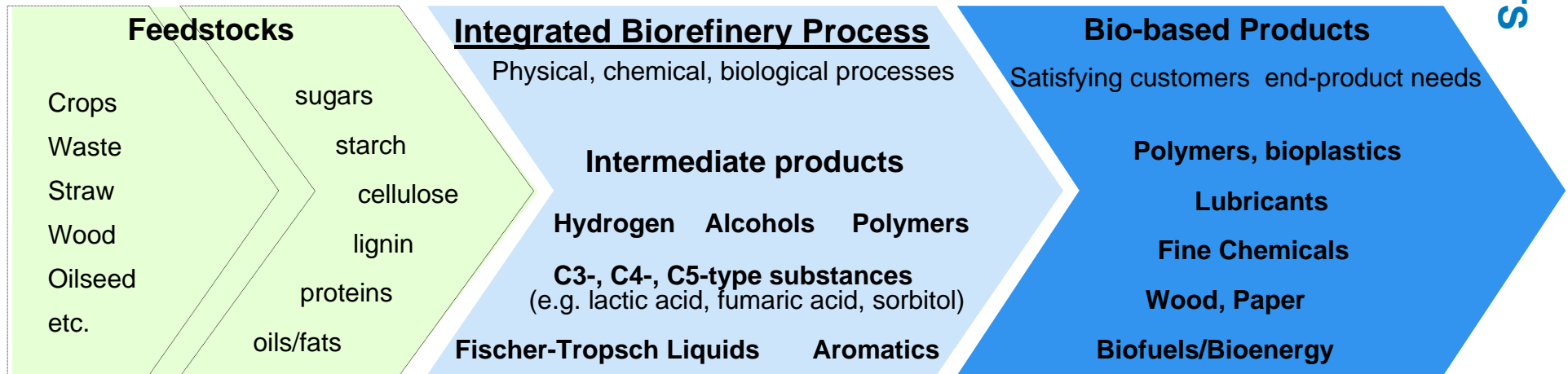
Standardisation (COM(2004)674), 'More RTD & Innovation' (COM(2005)488),
 Environmental Technology Action Plan, Greening Industrial Policy,
 Thematic Strategies for Sustainable Use of Resources & on Waste (COM(2003)572 & COM(2005)666)

Agricultural/ forestry:
 Sugar and starch refund

Environment/Health
 Integrated Pollution Prevention
 Control Directive (96/61/EC)

Environment:
 Packaging & packaging waste
 Landfill Directive
 Green public procurements
 ECO-Label

BIOPRODUCTS



Agricultural/ forestry:
 CAP aid schemes - Aid for non-
 food Crops, Energy-crops set-
 asides
 Biomass & Forestry action Plans
 08.07.2008

Technology:
 Strategic Energy
 Technology Plan
 Carbon trading

Biofuels/Energy:
 Biofuels Directive, Renewable
 energy Directive
 Lead Market Initiative –
 renewable energy

BIOFUELS₁₂

▷ Policy coordination and coherence

- Lead Market Initiative
 - => provide an umbrella to address policy coherence public intervention (pull and push measures) in a coordinated way
- Long-term policy framework (Sustainable Use of Resources & on Waste, Greening Industrial Policy, Biofuels strategy, CAP, waste management, emission reduction)
- Action Plans: Environmental technology, Biomass, Forestry, etc

▷ Policy – Agriculture

- The common agricultural policy, is crucial in steering the amount and price of crops produced in Europe. Specific schemes exist for non-food and energy crops:
 - CAP aid schemes (including starch production refunds to cereals & potatoes that support the European non-food starch-users;
 - Sugar and starch refund for the chemical industry supporting bioethanol, chemicals & pharmaceutical products;
 - Non-food crops in the obligatory set-aside supporting arable crop producers & the cultivation of crops for non-food purposes;
 - Aid for energy crops supporting Member States
- Trade policies & taxes

▷ Policy – Forestry

- **Forest-based sector Technology Platform (FTP)**
 - Launched Vision 2030 and formulated a strategic research agenda.
 - Research area on pulp, energy and chemicals from wood biorefineries.
 - Research also on conversion of isolated chemicals and fibrous elements to value-added specialty chemicals and other products.

- **Forest Action Plan**
 - Strong support for the implementation of the Biomass Action Plan. But no direct mention of the biorefinery concept in detail.
 - States clearly that a key action is to promote the use forest biomass for energy generation.
 - Highlights support for R&D on technologies for the production of heating, cooling, electricity and fuels from forest resources.

▷ Policy - Environment

- Waste management regulations (packaging, landfill directives) do not consider biodegradable plastics
=> their use and end-of-life is in legislation vacuum and discourage their market introduction
- Integrated Pollution Prevention & Control, encourages the use of best available techniques which produce least waste, use less hazardous chemicals etc.
=> even with LCA, remains extremely difficult to compare a chemical process to a biological process as the outputs and their integration in the value chains are totally different.

▷ Market development measures

- Different approaches are currently used :
 - Developing the market via increased visibility and examples: public procurement, standards and labels, communication (e.g. standard for compostable plastic)
 - Temporary monetary incentives: tax breaks/subsidies
 - The use of voluntary or mandatory targets (biofuels directive)
 - Legislations (e.g. French and Italian law to replace all mulching films by biodegradable ones)

▷ Key Policy Issues

- Translation and implementation of EU policy into MS policy!
- Sustainability of biomass feedstocks and biofuels for transport? Certification schemes? International trade?
- Innovation processes? Legislation on outcomes NOT technologies.
- Competition between biofuels for transport (energy security) and heat/power from biomass (climate change)? What role for the biorefineries?