

The emerging bio-economy in Europe: Exploring the key governance challenges

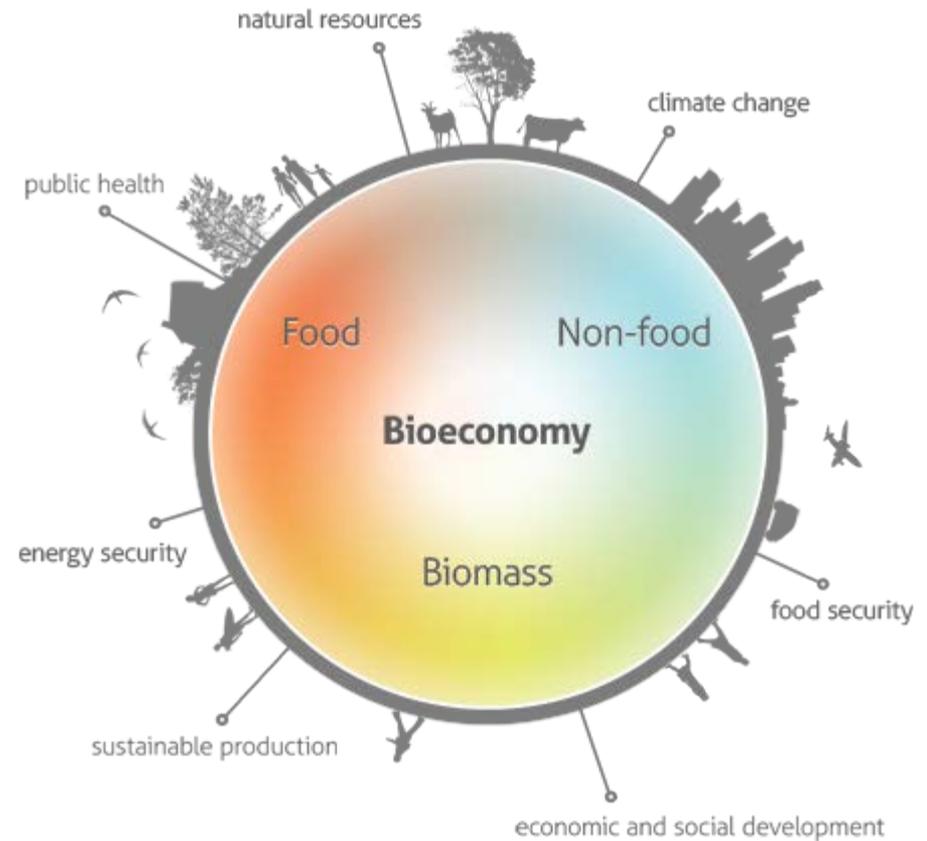
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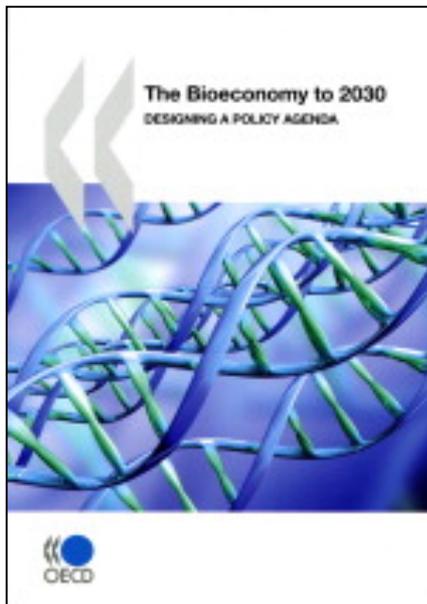
What is the bio-economy?

- A bio-economy refers to an economy where the basic building blocks for materials, chemicals, and energy are derived from renewable biological resources.
- Biofuels
- Biorefineries
- Biotechnology
- Connecting sectors and finding synergies!



Growing interest!

The bio-economy concept is attracting increasing political, business, public and scientific attention. This is exemplified by the OECD policy agenda in 2009, and the US and EU strategies and visions in 2012.



Emerging challenges?

- **Biomass** – significant availability or competition for resources? Land use.
- **Sustainability** – how to define, how to measure? Social, environmental and economic factors.
- **Visions** – can electric vehicles and biofuels co-exist? Transport.

Governance

- Governance encompasses a range of actors (state, market, society) in decision-making and policy-making, which is reflexive and interactive.
 - It refers to the different **tiers** at which governance takes place and the interactions between the tiers, which for Europe is local municipalities, national governments and the EU institutions.
 - It refers to the myriad of **networks** between public and private actors that shape governance activities.

Visions

- Diverging visions on the bio-economy, agriculture and bioenergy – wildly optimistic about an industrial revolution or deeply concerned of the consequences (genetic modification, food or fuels, oil for biofuels)
- Sustainability challenges
 - production and consumption
 - domestic systems and international trade
 - direct and indirect effects
- Considerable uncertainty about potentials and impacts of the bio-economy (biorefineries and biofuels), increasing emphasis on sustainability frameworks in Europe

Public-private networks

- Liberal and market-based or coordinated and state-led?
Combined public and private investments is a key aspect of the bio-economy.
- State “intervention” is imperative for creating favourable conditions for investments.
- Bridging the considerable “gap” between research and markets as well as intensifying cooperation across sectors is needed.

City-regions

- The bio-economy concept promotes connections between urban and rural areas.
- Local municipalities can establish more ambitious goals and policies than national governments, particularly in relation to climate, energy and transport governance.
- Networking between local municipalities can allow the exchange of knowledge and experiences on the bio-economy.

Consumer-citizens

- Communicating and engaging the general public and key stakeholders is imperative.
- Marketing and promoting the bio-economy to “consumers” (to create demand) and actively engaging “citizens” in planning and implementation processes is needed.
- Involving NGOs is important. NGOs are engaged in debates on biofuels for transport and establishing positions on the emerging bio-economy.

Any comments or questions?

