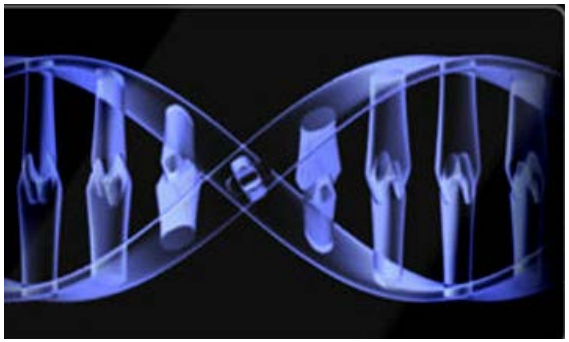
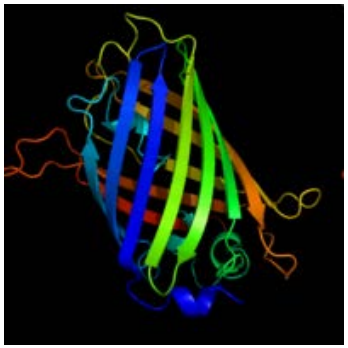
Mariene biotechnologie - context in Europa en de OESO

Kathleen D'Hondt

Departement Economie, Wetenschap & Innovatie - Vlaamse Overheid

The European Knowledge Based Bio-economy - KBBE

A Bio-based economy is based on production paradigms that rely on **biological processes** and, as with natural ecosystems, use natural inputs, expend minimum **amounts of energy** and do **not produce waste** as all materials discarded by one process are inputs for another process and are reused in the ecosystem.

includes **all industries and economic sectors** that produce, manage and otherwise exploit biological resources, such as agriculture, food, fisheries, forestry etc… including **marine**

Market size: €2 trillion

Employment: 22 million jobs

In a broader context the Bioeconomy includes **health related biotechnologies**.

Major task of this century

- Climate change
- Energy supply
- Population growth - Food supply
- Aging population
- Pandemics
- Personalized medicine

Europe 2020 Strategy

- Europe 2020 strategy = EU's growth strategy for the coming decade.
- In a changing world, we want the EU to become a

Smart economy
Sustainable economy
Inclusive economy

Employment
Productivity
Social cohesion

- Triple Helix Innovation
  - Academia
  - Industry
  - Government
- R&D&I towards the Bio-economy

Why fund Marine biotech?

2001
- Position paper from ESF's Marine Board

2006
- EC green paper on Maritime Policy

2007
- "The Bremen meeting"

2008
- EC-US Task Force on Biotechnology

2008
- EC's strategy for Marine and Maritime Research

2009
- Recommendations to KBBE-net for integrated Marine Biotech R&D in Europe

2010
- Updated Position paper from ESF's Marine Board

Ireland 2007 : http://www.marine.ie/home/SeaChange.htm

- *"**Sea Change** - A Marine Knowledge, Research & Innovation Strategy for Ireland 2007-2013"*
  - Marine Biotechnology, Marine Technology, Marine Functional Food and Renewable Ocean Energy

Norway 2009

- *"A strategy for **Marine Bioprospecting** – a source of new and viable wealth creation"*
  - Encourage use of marine resources, biobanks, international collaboration, innovation – develop value chain

Denmark 2010

- *"**The Ocean** – a underutilised resource"*
  - Better use of marine biomass, healthy diet, bioprospecting for new biological principles and compounds, biofilm

Definition of Marine Biotechnology

OECD - definition of biotechnology:

"The application of science and technology to living organisms, as well as parts, products and models thereof, to alter living or non-living materials for the production of knowledge, goods and services" [1].

+ **list of** biotechnology techniques functions as an interpretative guideline to the single definition.

Marine biotechnology: the living organisms from marine sources.

Marine biotechnology has a horizontal scope encompassing very different applications, for all of which the marine environment is providing the resources.

[1] http://www.oecd.org/document/42/0,3343,en_2649_34537_1933994_1_1_1_37437,00.html

KBBE-net Collaborative Working Group on Marine Biotechnology

- Biodiscovery / Bioprospecting
- Reference marine organisms and systems
- Molecular aquaculture
- Marine biomass production, use and transformation
- R & D tools
  (model organisms, reference sequences, bioinformatics, databases and biobanks, HTS technologies, IPR)

Topics in the FP7 calls

European Technology Platforms (ETPs) and ERA-nets related to KBBE

- EATIP, SusChem, biofuels TP, ...?
- BiodivERsA, MATERA, INNER, ERA-PG, SPLASH, BONUS, Nanosci, EMIDA, ERASysBio, SEAS-ERA,...

Joint Programming Initiative (JPI)

- OCEANS (No & Be)

Coordinated Support Action (CSA) towards an ERA-net on Marine Biotech 2011

Call 2013 call for an ERA-net on marine biotech

A broad range of national programs and activities

Funding in FP6

- 1 STREP, 2 NOE, 1IP, 1 SME research project, 2 SSA, 1 Marie Curie
- Total: **€ 37.341.164**

Funding in FP7

- 2 SCP, 3 Infra: Total: **€ 18,31M**
- 2010: 5 SCP (€3M); 1 CSA €1M; 1 LCP €6M
- 2011: 1 CSA € 1M
- 2013: ERA-net € 2M

Industries and market

”… to produce goods and services”

EU and national instruments towards SMEs

EuropaBio’s initiative to establish a ”Blue Biotech” activity

Establish a culture for working in clusters where industries and academics develop innovations.

Give the ”Market Pull” a spearheading role. Use the ”Technology push” to achieve this, and respect their mutual dependencies.

Development of the Knowledge Based Bio-Economy

What is on the scene?

Towards an ERA-net on Marine Biotech in 2013 (CSA)

basis for a successful forum for the exchange of **information** between Member States

initiate the process of identifying **research complementarities, future joint, transnational calls**.

expand the partnership of the previous KBBE-NET Marine biotechnology working group to include more funding agencies of the different member states.

complementarities with other **European initiatives** are sought and that interactions are established with relevant ERA-NETs and ETPs.

future global initiatives in the area marine biotechnology

new policy work to ensure the translation of new scientific and technological advances into economic prosperity in an environmentally sustainable manner.

Workshop:

- Provide a forum to discuss the potential of marine biotechnology to provide solutions to the grand challenges of food and fuel security, population health, sustainability industries and environmental sustainability – Green Growth
- Discuss the impact and potential of new science and technology within the field of marine biotechnology.
- Identify areas which may present a barrier to development of marine biotechnology.
- Consider the role of government in creating an enabling environment for marine biotechnology.
- Determine areas in which the OECD can provide further policy insight and expertise.
- Provide guidance for further work on marine biotechnology at the OECD.

- Session 1: **Productivity and Sustainability of the Ocean**
- Session 2 : **Marine Biotechnology and the Bioeconomy / Deriving Value from Marine Biotechnology**
- Session 3: **Realising the Promise of Marine Biotechnology—'Benefit for the People'**
- Session 4: **Marine Biotechnology and Marine Sustainability – 'Benefit for the Planet'**
- Session 5 : " '**The Human Genome Project' of the Ocean" – Development of infrastructures to realise the potential of marine biotechnology**
- Session 6: **Knowledge Mobilization: Sharing knowledge for Global Benefit**
- Session 7: **The intersection between Science, Industry and Society—Enabling the Global Promise**
- **How to Deliver the Promise: Where to Next?**
- Closing Debate

Round Table - DISCUSSION

- Heeft mariene biotechnologie een rol in uw onderzoek?
- Zijn er infractuursnoden om mariene biotechnologie in uw onderzoeksdomein te ondersteunen?
- Kan mariene biotechnologie bijdragen tot innovatie en valorisatie in uw expertisedomein?
- Welke expertise is er nodig om opportuniteiten op het vlak van mariene biotechnologie voor uw domein uit te bouwen?
- Wat zijn de gaps om een dynamische mariene biotech expertise centrum uit te bouwen; opleiding? Industrie?
- Wenst/kan men mariene biotechnologie in de huidige onderzoeksstrategie op te nemen?
- Zijn er mogelijkheden om bij te dragen tot het ‘Nieuw Industrieel Beleid’ of een ‘Bio-based Economy’?


Thank you!