



SusVALUEWaste



NoRest Conference
25 Oct., Copenhagen

The status of circular bio-economy in Scandinavia

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OREEC - Oslo Renewable Energy and Environment Cluster

- Cleantech cluster
- Greater Oslo region
- 82 partners: companies; research & academia; public institutions



Mobilitet



Avfall



Fornybar



Bygg

- Projects – Development of business and research opportunities for our partners



SusValueWaste - Sustainable Value Creation Based on Organic Rest-products

Research project

- 2015-2019
- Funded by Research Council of Norway - Bionær programme
- Budget EUR 4,5 mill

Project partners:

Norway

- Norwegian Institute for Studies in Innovation, Research and Education (project coordinator)
- University of Oslo/TIK-centre
- OREEC
- Østfoldforskning
- Norwegian Institute of Bioeconomy Research
- University of Stavanger

Sweden

- Circle& LTH - Lund University

Denmark

- Technical University of Denmark

Report: The circular bioeconomy in Scandinavia

- Deliverable in SusValueWaste project
- Overview of visions, scenarios and roadmaps for the circular bioeconomy in Scandinavia
- Cooperation between OREEC, NIFU and CIRCLE (Lund University)
- January-March 2016
- Methodology: Literature review
- Structure: 3 countries- 3 steps of strategic evolution of bio-economy
- What? Why? Who? How?

Report: The circular bioeconomy in Scandinavia



Marianne Reime, Rannveig Røste, Alexandra Almasi & Lars Coenen





Circular bio-
economy as a
boundary object



Findings

- *Circular* bio-economy = bio-economy
- Norway, Denmark, Sweden: slightly different approaches to bio-economy
- All share the ambition to become world leaders in the bio-economy
- By-products regarded as resources
- Cross-sectorial approach is important
- The development of the bio-economy is supported by both governments and industry & research

Norway



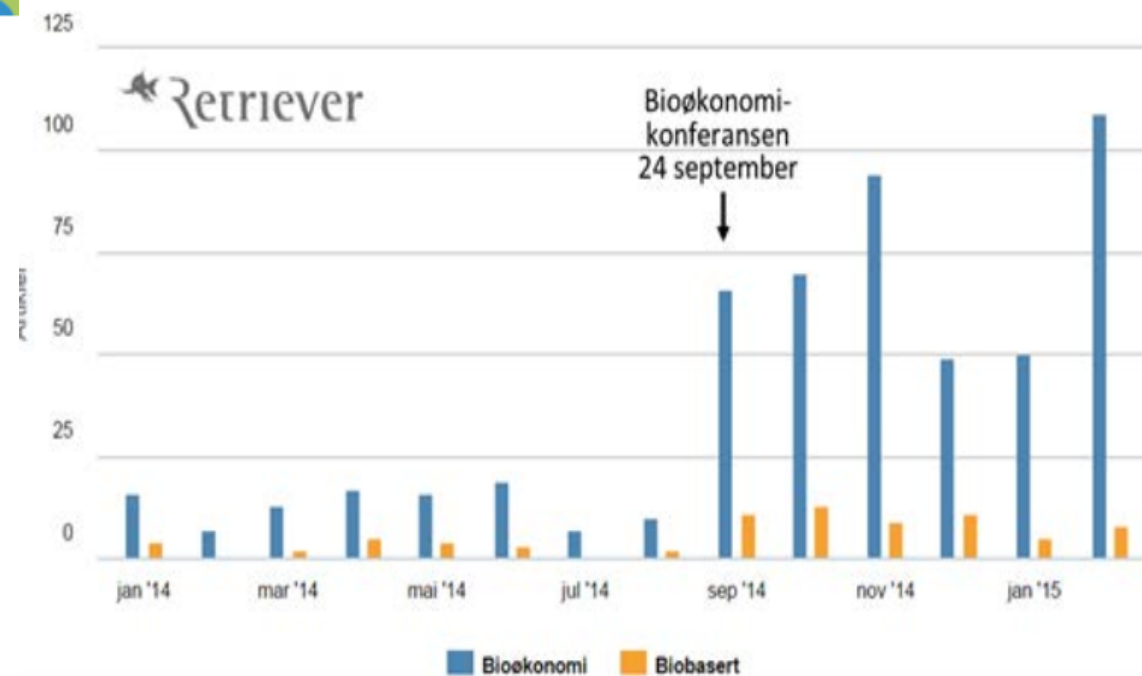
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Den **bioøkonomiske**
våren er her!

Konferanse om Bioøkonomi

Radisson Plaza, Oslo, 24. september 2014, kl. 10-16



Norway

Collaborative stakeholder initiatives supporting the bioeconomy





Norway

- Bioeconomy – as a new source of growth for Norway (‘the new oil’) and opportunity to reduce carbon emissions
- Norway leader in the marine sector – but this must be further developed through new products
- Unexploited potential in the production of biomass (e.g. algae)
- The Norwegian Government is working with a national strategy
- The Bioeconomy has been identified by Innovation Norway as a national priority to business development
- Good funding opportunities for research are available
- Support for clusters
- Way further: exploring interaction between the aquaculture, agriculture and forestry and various biotechnologies



Denmark

- Independent from fossil-fuels by 2050
- The Biorefining Alliance in 2011- DONG Energy, Novozymes, Haldor Topsøe, Agri & Food Council
- Bioeconomy in Action - EU

eu2015.dk bioeconomy in action

Programme	About	Practical Info	Contact	Registration	Speakers
whats going on where, when and with whom	read more about the conference	how to get there, finding a hotel etc.	get in touch with the conference secretariat	register for the conference	see a list of speakers at the conference

Bioeconomy in Action
– Boosting bioeconomical growth in Europe in a smart and sustainable way
Copenhagen, DK 26-28 March 2012

The Danish Council for Strategic Research **eu2015.dk**
DANISH PRESIDENCY OF THE COUNCIL OF THE EUROPEAN UNION 2012

**The Copenhagen Declaration for a Bioeconomy in Action
March 2012**

"Bioeconomy in Action" was a major event to discuss the European Commission Strategy "A Bioeconomy for Europe: Innovating for Sustainable Growth" submitted during the Danish Presidency for the European Union, in the context of the Europe 2020 Strategy and its two flagship initiatives "Innovation Union" and "A Resource Efficient Europe". This declaration presents the key findings and recommendations presented and debated at the Copenhagen conference "Bioeconomy in Action" on 26 March - 28 March 2012 with ministers, high level governmental officials, research councils, industry, stakeholder organisations, NGOs, and scientists.

The European bioeconomy today has an annual turnover of about € 2 trillion and employs more than 22 million people, approximately 9% of the total EU workforce. Its further development will significantly contribute to reducing the dependency on fossil resources and offers opportunities for growth and jobs. Building the bioeconomy is one of the great research and innovation challenges within Horizon 2020, the proposed European Union Framework Programme for Research and Innovation for the years 2014 - 2020. The Bioeconomy Strategy "Innovating for Sustainable Growth: A Bioeconomy for Europe" adopted by the European Commission on 13 February 2012 wants to make this vision a reality for Europe by addressing bioeconomy related challenges in a comprehensive and sustainable manner. Its implementation will build momentum for strengthening European competitiveness, making the bioeconomy a powerhouse for economic growth and job creation in Europe and beyond.

The participants welcomed this Strategy and Action Plan, recognising that the potential of the bioeconomy is an opportunity for Europe and its regions to build future competitive advantages.

The attendees of the conference stressed that public and private actors in the Member States including regions of Europe should also take up many of the proposals and activities in the Strategy, in order to speed up and further build on the bioeconomy already in action in different parts of Europe but at various levels of commitment. To achieve this, public and private enterprises must be encouraged to sustain and stimulate training, research and innovation across the whole bioeconomy, in particular in the area of biotechnology.

The following recommendations can be distilled from the comprehensive presentations and discussions during this conference:

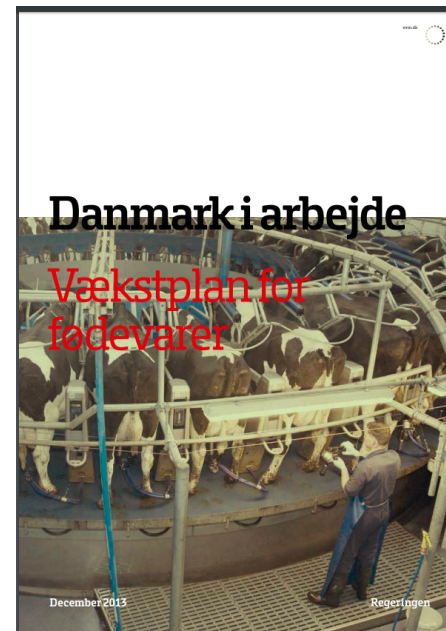
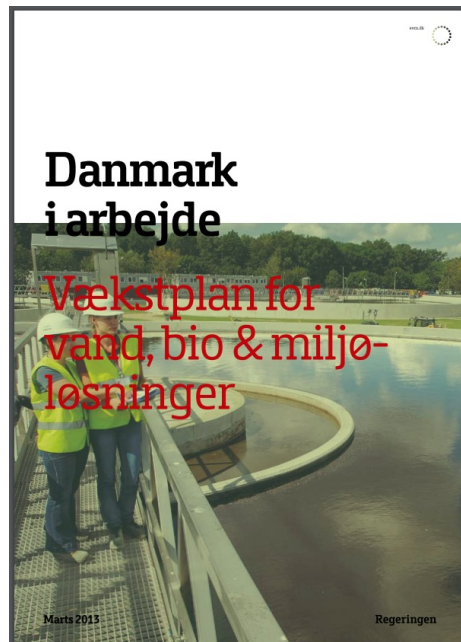


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Denmark

- No dedicated strategy for the bioeconomy
- The bioeconomy – part of other national strategies





Denmark

- Bio-economy – driven by both the industry and the Danish Government (The National Bioeconomy Panel)
- Denmark as a growth hub for sustainable bioeconomy- growth, jobs creation and increased export
- Focus on increased efficiency and competitiveness
- The utilisation of residues, by-products and waste – integral part of the bio-economy in Denmark
- Way forward: development of cascading biorefineries

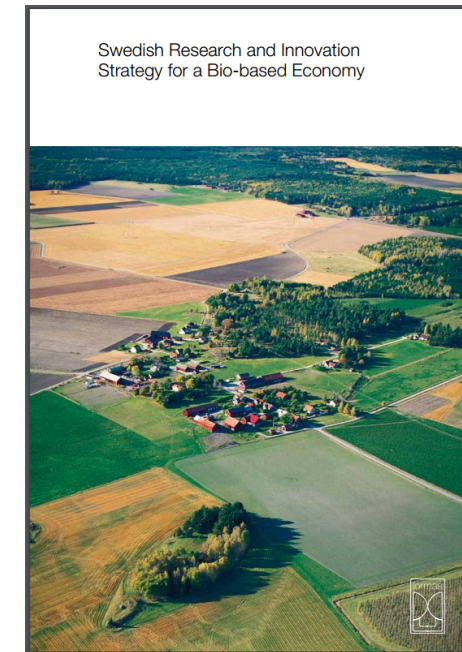


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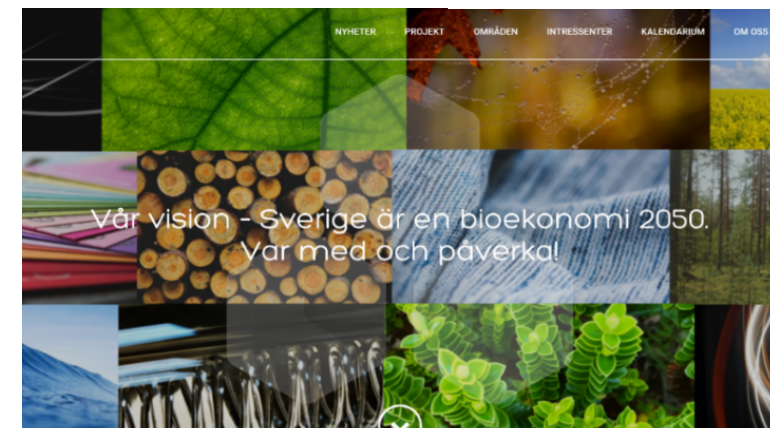
Sweden

- National research and innovation strategy for a bio-based economy, 2012
- Strategic innovation program BioInnovation, 2015
 - Objective: Create transboundary collaboration across sectors in forestry, chemical and textile industry to increase valorisation and competitiveness
- Re:source, 2016
 - Aim: Increase economic growth and sustainability in waste management by resource efficient innovations



RE:

SOURCE





Sweden

- Vision: to transform Sweden to a bioeconomy in 2050
- Focus on clusters:
 - Paper Province – from pulp and paper to bioeconomy
- Potential to develop new jobs and sustainable growth, as well as contributing to achieving environmental objectives
- Forestry – the cornerstone in the Swedish bioeconomy; away from traditional industrial boundaries
 - Renewable energy and transport
 - Textiles
 - Lignin and green chemicals
 - Automobile industry
- Industrial actors and federations active (especially Forest Industries Federation)



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Nordic Bio-economy

- Nordic Council of Ministers (Icelandic Presidency 2014)
- Across all Nordic countries
- Vision to «become a world leading region in the field of bioeconomy»
- Establishment of a Nordic Bioeconomy Panel
- Efficient utilisation of waste streams – strongly emphasised as part of the bio-economy
- A great number of partnerships established – research&innovation





Thank you for your attention!

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