WELCOME TO WORKSHOP 2

"Realizing Bioeconomy in the Baltic Sea Region"

BERLIN
NCM seed projects

10 steps towards the bioeconomy
Project - overview

• Local Capital - Realizing the Bioeconomy in the BSR, Leo Padazkos, Nordic Lokalkapital AB

• Proteins - The Green Gold of Baltic Sea Region Bioeconomy, Knud Tybirk(Lars Horsholt Jensen), Agro Business Park

• Markets for woody biomass and wood-based energy around the Baltic Sea Region, Peichen Gong, EFINORD Regional Office

• Tightening the Phosphorus cycle for a more sustainable Bioeconomy in the Baltic Sea Region, Gitte Rubæk, Aarhus University

• Bio-resources for innovative and sustainable non-food uses, Ramune Kuktaite, Swedish University of Agriculture (SLU)

• Developing cross-cutting stakeholder involvement for realizing the bioeconomy, Margareta Dahlström, Karlstad University
Sustainable protein production initiative

Objectives:
Mapping the regional potentials for replacing soy proteins for animal feed with locally sourced proteins
• identify the challenges and barriers
• suggesting potentially viable value chains
• prepare an ambitious project for the Interreg BSR programme in 2015

Focus areas
• marine biomasses (e.g. mussels, ascidians, fish discard, macro- and microalgae)
• green agricultural crops (grass, clover, alfalfa etc.) for green protein extractions
• sidestreams in pulp and paper industry for single cell protein cultivation
• insect larvae protein cultivation based on organic wastes
Sustainable protein production initiative

Activities so far

- 16th June: Project development workshop in Copenhagen. 26 participants, 6 countries
- 6th August: Pre-project application NCM
- Early September: Grant notification

Next steps

- Initial workshop
- First knowledge screening
Sustainable protein production initiative

**Partners:**
Agro Business Park/INBIOM
Swedish University of Agricultural Science
Aarhus University
University of Copenhagen
Nordregio
Green Center, Lolland
Matis, Ltd.
Latvian Farmers Union
Markets for woody biomass and wood-based energy, Peichen Gong, EFINORD

A brief report on our seed money project:

• The contract with Nordic Council of Ministers was approved in the beginning of August.

• A first version of the prototype model for the bioenergy market in Baltic Sea Region is complete.

• We have almost completed the collection of data for Finland, Norway and Sweden.

• The model is to be tested in the coming weeks using data for Finland, Norway and Sweden.

• The workshop for which we received fund from NCM is scheduled for the end of October.
Bio-resources for innovative and sustainable non-food uses = Bio- for non-food

Lead partner: Swedish University of Agriculture Sciences (SLU), Plant Breeding Department, Alnarp, Sweden
Contact person: Ramune.Kuktaite@slu.se

Countries involved: Sweden, Finland, Poland, Iceland, Lithuania, Latvia, (Norway).

Outcome from the workshop 16\textsuperscript{th} June, 2014

18-19 September, 2014, Berlin
A brief report on our seed money project:

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Objectives

Out of sight, out of mind
The continent-sized vortex of plastic waste blighting the Pacific

Approximate areas of ‘rubbish soup’

- Russia
- Japan
- North Pacific Gyre currents
- Canada
- Hawaii
- US
- Mexico
- Pacific Ocean

Translucent soup of degrading plastic waste

Depth to 10 metres

North Pacific Gyre currents keeps soup in constant movement

Source: Greenpeace

18-19 September, 2014, Berlin
Project aim

Solutions:

• to find bio-alternatives to petroleum derived synthetic polymers, chemicals, materials etc.

• to screen available bio-resources from various industrial processes for high added value products.

• new uses of current bio-resources.

Agriculture  
Forestry  
Marine
Partners involved (so far):

• Sweden
• Finland
• Poland
• Iceland
• Lithuania
• Latvia
• (Norway)
• Nobody from: Denmark?
## Competences in the project:

<table>
<thead>
<tr>
<th>Institution</th>
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</thead>
<tbody>
<tr>
<td><strong>Swedish University of Agricultural Sciences (SLU), Dept. of Plant Breeding, Alnarp, Sweden</strong></td>
<td>Plant proteins, biobased materials/composites, structure-function relationship.</td>
<td><strong>Matis, Iceland</strong></td>
<td>Polysaccharides enzymes for processing and modification of wood and macroalgal products</td>
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<tr>
<td><strong>Swedish University of Agricultural Sciences (SLU), Dept. of Plant Breeding, Alnarp, Sweden</strong></td>
<td>Residual proteins, biobased materials/composites, protein isolates, functional properties.</td>
<td><strong>VTT Technical Research Center, Finland</strong></td>
<td>LCA analyses, carbon footprint and water footprint analyses</td>
</tr>
<tr>
<td><strong>Latvian State Institute of Wood Chemistry (IWC), Latvia</strong></td>
<td>Forestry product processing, side-streams, polymer production</td>
<td><strong>Koszalin Univ. of Technology, Economics and Management, Poland</strong></td>
<td>Economy and energy efficiency, non-food plants</td>
</tr>
<tr>
<td><strong>Department of Biotechnology, Lund University, Sweden</strong></td>
<td>Enzymes from microorganisms (thermostable)</td>
<td><strong>KETEK, Finland</strong></td>
<td>Biobased resources, process development, bioeconomy, SME’s network</td>
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<tr>
<td><strong>Department of Biotechnology, Lund University, Sweden</strong></td>
<td>Biotechnological conversion of renewable feedstocks, novel enzymes</td>
<td><strong>SINTEF, Norway</strong></td>
<td>Processing enzymes, biorefinery organisms</td>
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<tr>
<td><strong>Dept. of Polymer Chemistry and Technology, Kaunas University of Technology (KTU), Kaunas, Lithuania</strong></td>
<td>Synthesis and characterization of renewable polymers, biodegradability</td>
<td><strong>West Pomeranian University of Technology, Dept. of Agronomy, Szczecin</strong></td>
<td>Agricultural crops (cereals, lupine, potatoes), energy crops etc.</td>
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<tr>
<td><strong>SIK, Lund</strong></td>
<td></td>
<td><strong>LCA, biorefinery, Bio-based materials and structures</strong></td>
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Future steps for coming proposals; Project directed towards: Innovation, sustainability and economy

• **WP1. Specific resource evaluation and screening: economical, characterization (industrial by-products and industrial raw materials), selection (SME’s):** VTT (Finland), WUT (Poland), KUT (Poland).

• **WP2. Pre-processing, modification, production=> development of tools:** LU (Sweden), MATIS (Iceland).

• **WP3. Physicochemical characterization** (raw materials and final products): SLU (Sweden), IWC (Latvia).

• **WP4. Production of new polymers and composites** (including SME’s): KTU (Lithuania), IWC (Latvia).

• **WP5. Application and demonstration of new products** (including SME’s and eventual bigger industry): KETEK (Finland), KUT (Poland).

• **WP6. Sustainability assessment e.g. LCA, economical and social:** VTT (Finland), SIK (Sweden), KETEK (Finland), WUT (Poland).
Developing cross-cutting stakeholder involvement for realizing the bioeconomy

Partners:

- **Karlstad University**, Professor Margareta Dahlström, margareta.dahlstrom@kau.se and Centre director Cecilia Nahnfeldt, cecilia.nahnfeldt@kau.se, Sweden. Margareta Dahlström is the project leader
- **Nordregio**, Senior researchers Jukka Teräs, jukka.teras@nordregio.se and Gunnar Lindberg, gunnar.lindberg@nordregio.se, Sweden
- **The Paper Province**, CEO Maria Hollander, m.hollander@paperprovince.com, Sweden
- **Region Värmland**, Research and innovation strategist Anders Olsson, anders.olsson@regionvarmland.se, Sweden
- **HAMK University of Applied Sciences**, Dr. Matti K. Hakala, Senior Advisor R&D, Matti.Hakala@hamk.fi
- **Forssa Region Development Centre ltd**, Juha Pirkkamaa, Environment and Energy Cluster Manager, juha.pirkkamaa@fskk.fi
- **Envor Group**, CEO Mika Laine, mika.laine@envor.fi
- **Aalborg University**, Professor, research director Lene Lange, lla@adm.aau.dk, Denmark
- **Estonian Forest Industry Association**, Pille Aasamets, Theme manager, pille.aasamets@empl.ee, Estonia
- **Estonian Chamber of Commerce and Industry**, Peter Gornischeff, Director of services, peter@koda.ee, Estonia
- **Stockholm Environment Institute in Tallinn**, Kaja Peterson, Senior expert, Kaja.Peterson@seit.ee, Estonia
Developing cross-cutting stakeholder involvement for realizing the bioeconomy

Objectives:
- Piloting methods to ensure truly multidisciplinary and stakeholder involvement from start in research and development processes.

Activities so far:
- An open seminar at Nordregio in Stockholm 8 September: “Realising the bioeconomy”

Preliminary outcomes, bottlenecks and challenges:
- A first round of learning within the core group as a result of the workshop in November.
- A first step towards an application for research funding to a suitable funder in 2015.

Next steps
- Running a workshop involving a core team of senior level participants in Stockholm 4-5 November. The workshop will explore ways of working to communicate across disciplines and roles aiming at identifying key research and development questions for a transition to a sustainable regional development in a bio economy.