

Finnish experience in speeding up bioeconomy businesses

Dr Mika Aalto

Head of Division

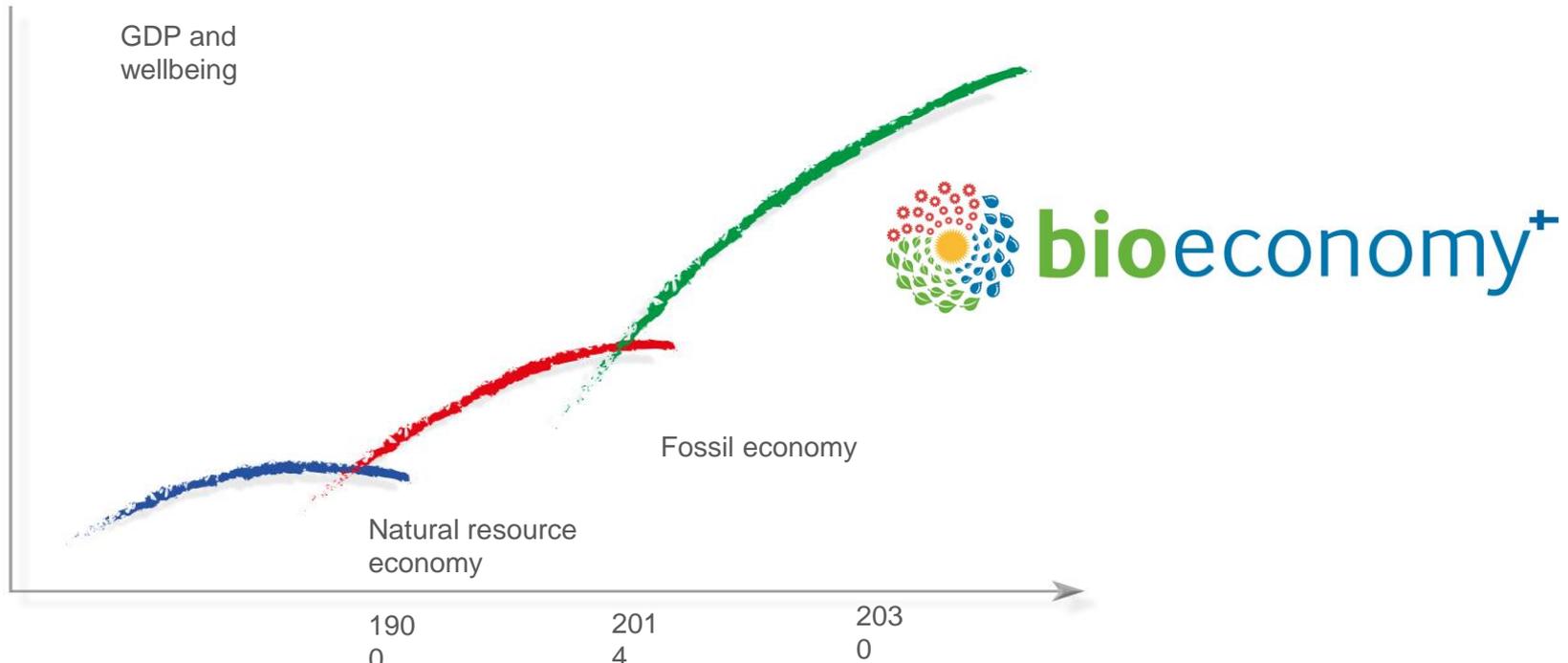
Enterprise and Innovation Department

Ministry of Economic Affairs and Employment



Ministry of Economic Affairs
and Employment of Finland

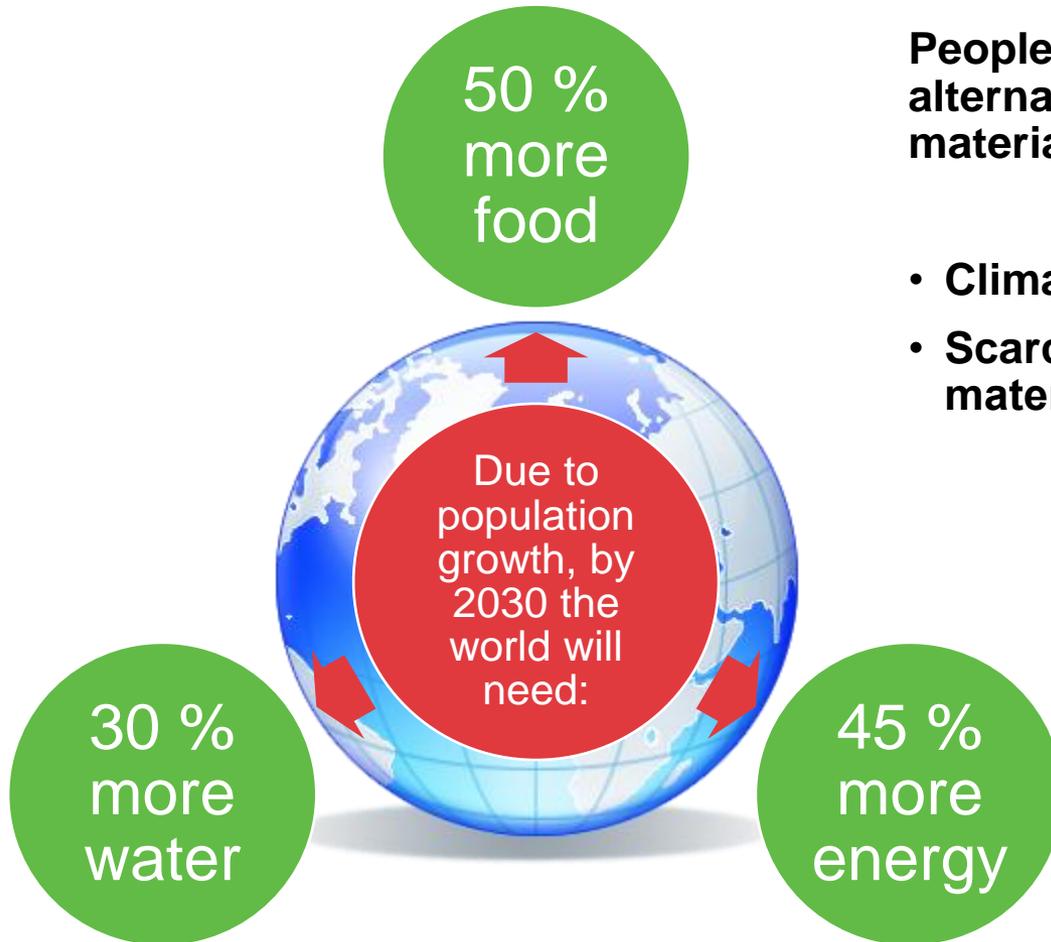
Bioeconomy: The next economic wave



The next wave of economy is bioeconomy, which produces economic growth and wellbeing.

Finland is a bioeconomy forerunner. We have plenty of natural resources, expertise and agility.

Bioeconomy: Born from necessity



People are forced to find alternatives to non-renewable raw materials.

- **Climate change**
- **Scarcity of non-renewable raw materials etc...**

Bioeconomy is the solution



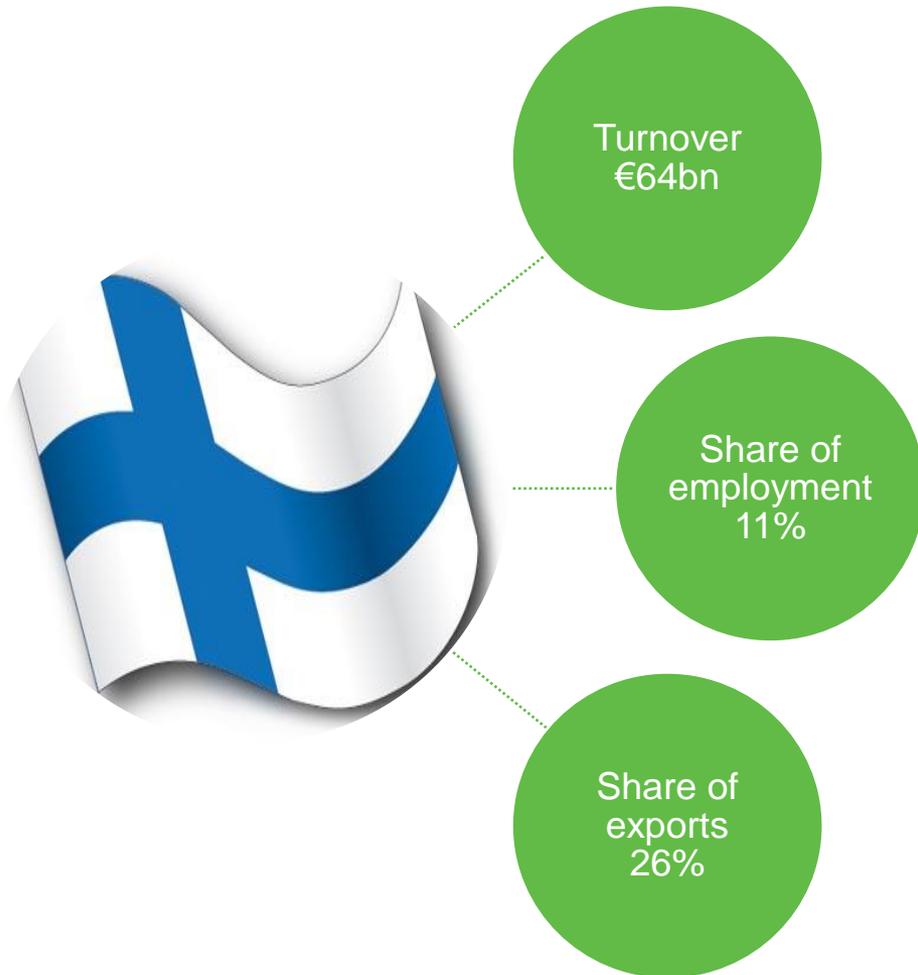
Bioeconomy:

- Sustainably uses biological natural resources to produce goods, energy, food and services

Aims:

- decrease dependency on fossil raw materials
- prevent deprivation of ecosystems
- promote economic development and create new jobs

Bioeconomy's significance for Finland



Finland seeks to increase its bioeconomy output to 100bn euros by 2025 and to create 100,000 new jobs in the process.

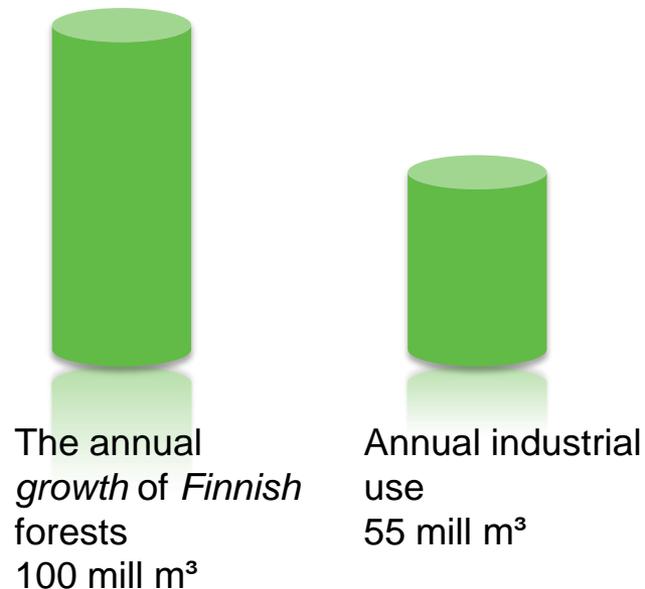
Bioeconomy combines wood processing, chemistry, energy, construction, technology, food and health.

Forest based bioeconomy accounts for 2/3 of the turnover

Forest bioeconomy



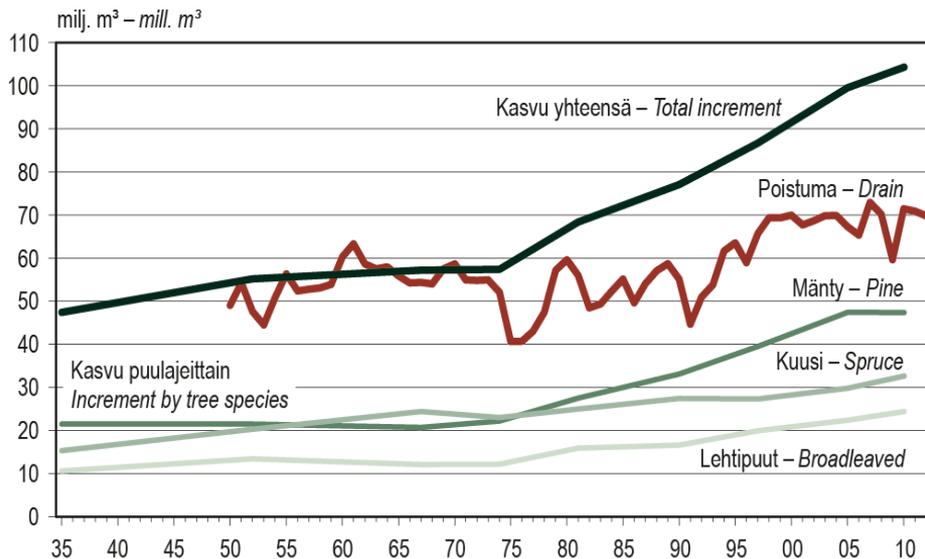
- Of our total land area, 80% is covered by forest, which is managed so that it produces significantly more wood than we currently use.
- The forest-based industry is a Finnish pioneer in bioeconomy. It utilizes renewable natural resources while incorporating economic, social and ecological sustainability in its activities.



The potential of Finnish forests



Finland's well-being is based on our ability to use renewable resources efficiently and sustainably. Forests and clean nature have always been the basis of our existence.



Lähde: Metsätutkimuslaitos – Source: Finnish Forest Research Institute

Puuston kasvu ja poistuma

Annual increment of growing stock and drain

Metsätilastollinen vuosikirja 2013



Finland's bioeconomy strategy (adopted by Government on May 8, 2014)



Strategic goals

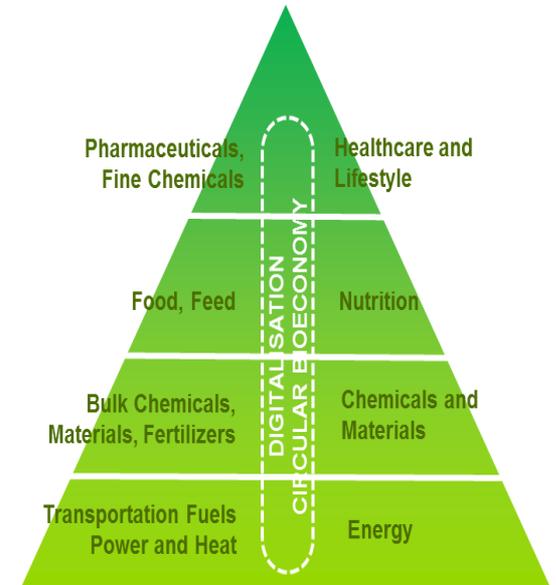
1. COMPETITIVE ENVIRONMENT FOR BIOECONOMY
2. NEW BUSINESS FROM BIOECONOMY
3. STRONG KNOW-HOW BASE FOR BIOECONOMY
4. USABILITY AND SUSTAINABILITY OF BIOMASS

Implementation and monitoring

Sustainable bioeconomy solutions are the basis of Finland's welfare and competitiveness

Tekes' BioNets programme boosts

- innovative international business ecosystems
- new platforms for business development
- new bioeconomy solutions, services and networks that utilise circular economy and digitalisation
- pilots and demos



New solutions and business models co-created with customers for

- new biobased high-value products
- utilisation of side-streams and circular economy
- nutrient circulation and new solutions in food production and business
- ICT in bioeconomy solutions and services

New export spearheads from digital packaging, nutrient recycling, wood fibre textiles and biomaterials

Bioeconomy ecosystems of small and large companies and research organisations, including raw material and technology producers, end-users and customers.



Nutrient recycling
Baltic Sea Action Group



Packaging Valley
Pöyry Management
Consulting Oy



New cellulose and fibre products
CLIC Innovation Oy



Lignin ecosystem
Pöyry Management
Consulting Oy

Co-operation for utilisation of solid side streams in pulp mills

Idea: To develop new solutions to transform solid side streams of pulping process into sustainable products and chemicals. Co-operation was coordinated by UPM-Kymmene and participants included Metsä Fibre, Stora Enso, Biolan, Ekokem, Outotec and Tyynelän maanparannus.

Results: The project accelerates the development in the subject area, creates new competences and reduces the amount of solid wastes in the pulp mills.



“Tekes funding increases the co-operation of large and small companies and speeds up new business possibilities.

Pekka Hurskainen

Vice president, Strategy Development,
Technology, UPM Kymmene Oyj

BMH Technology develops waste processing



Idea: To develop new technologies for bioenergy waste handling and recycling for waste management companies, power plants, and cement factories worldwide.

Impact: BMH Technology is looking for new growth from areas such as Waste-to-Energy market.

“The Green Growth programme and Tekes funding made it possible to take a significantly bigger risk in the launching of the development programme compared with our previous ways of operating and taking risks.

Hannu Lepomäki

Vice President, Technology, BMH Technology Oy

Example; Renewable fuels at Neste Oil



Idea: To develop technology making it possible to produce high-quality and low-emission diesel fuel from renewable raw materials.

Impact: Renewable fuels have become a business with an annual turnover of EUR 2.5 billion. NExBTL diesel reduces greenhouse gas emissions by 40-90% in the life cycle of the product.

Expertise is based
on long-term
competence building



Team Finland bioeconomy growth programs

5.3.2017 Risto Huhta-Koivisto



Team Finland growth programs



- Why
 - To facilitate companies capabilities for international growth, especially SMEs
- What
 - For a group of companies who typically have end customers in the same industry
 - Capability building for the companies, mainly for SMEs
 - Opening new markets for the group
 - Not that companies are always in charge of the sales, NOT the programs
 - Close co-operation with Tekes who funds R&D&I – ecosystems, individual companies
- How
 - Companies participates growth programs management
 - Market studies, fact finding trips
 - Facilitating companies to find right markets and identify right projects
 - To activate companies to spend more time on the markers
 - Companies start to have co-operation between each other
 - Capability building and training with Tekes

Bioeconomy Growth Programs



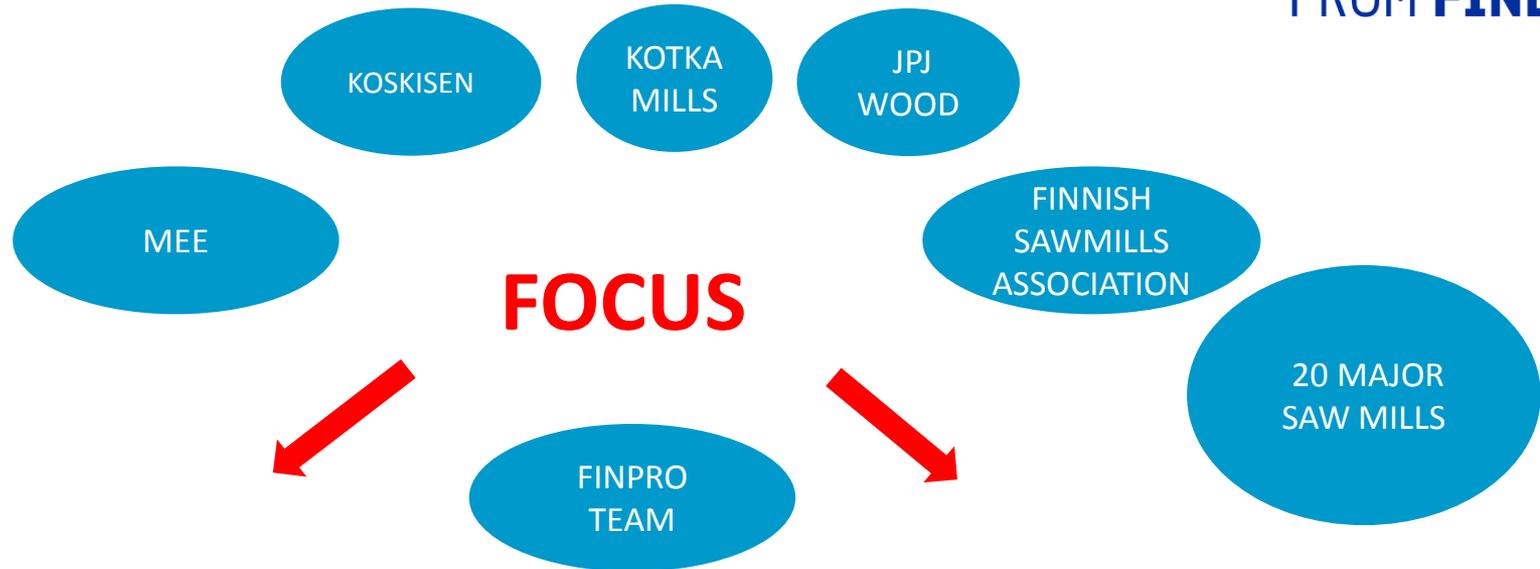
- Agrotechnology from Finland – since 2.2016
 - 20 companies, markets e.g. Poland, Belarus, Kazakhstan, Iran, Bulgaria
- Innovative bioproducts – since 2.2016
 - 20 companies, a lot of start ups, new value added products
 - Supporting companies with export, to get growth capital and investments in Finland
- Food from Finland – since 12.2014
 - Over 100 members, covers almost all of the exporting food industry
 - Fairs really important tool, companies pay typically 50% of the costs related to fairs
- Waste to energy & bioenergy – since 8.2015
 - 47 companies, from SMEs to global leaders
- Wood from Finland – since 4.2015
 - 20 saw mills, representing more than 50% of the total Finnish sawn mill capacity
 - Main target market china, new markets and applications in china

Impact of the bioeconomy growth programs



- Total impact estimated to be 200M€ growth in 2016
 - E.g. Saw mills export to China has grown in 18 months 120M€
 - E.g. Food companies export has grown to EU in 2016 80M€
 - of which big part due to growth program activation of companies
 - E.g. energy technology companies received 500M€ new offers in new markets in 2016
 - Estimated number of new jobs created 2.000 in the whole value chains
 - Government received 5-10 more taxes than invested in the bioeconomy growth programs

SUCCESS FACTORS



PROFESSIONAL TEAM

- Strong industry background
- 2 experts in the market in China

QUICK ACTIONS ON MARKETS

- Sales oriented marketing actions
- Targeting on buyers and decision makers
- Active participation of sawmills



Presenting the world's best circular economy solutions

www.wcef2017.com

5th – 7th of June 2017, Helsinki, Finland

SITRA



3 themes of WCEF2017

1

Truly competitive solutions are born when business and environment go hand in hand. At WCEF2017 **businesses and policy** makers can share how to be circular, profitable and generate growth and jobs within planetary boundaries.

2

The solutions presented during the two day Forum work towards a common cause, achieving the **Sustainable Development Goals**.

3

Finland celebrates its 100th anniversary in 2017. Sitra, founded in 1967 on Finland's 50th birthday, now wants to give a gift back to the world in the form of WCEF 2017. Welcome to Helsinki – let's create something great together!

5-6 June 2017 Finlandia hall, Helsinki

- 17 plenary and boulevard sessions
- Boulevard of Opportunities
- 1200 participants from all over the world
- No participation fee
- Other meetings in Helsinki at the same time, such as the UN International Resource Panel (IRP)



A faint, light blue watermark of a lion's head crest is centered in the background. The lion is facing left, wearing a crown with three circular ornaments. The crest is surrounded by decorative flourishes, including a large '8' shape on the right and a curved banner at the bottom.

Thank you!