



## FOREST HEALTH - A CORNER STONE OF SUCCESSFUL FOREST-BASED INDUSTRY

HealGenCAR Conference: Challenges in tree resistance breeding  
Punkaharju, 7 June 2016

Dr. Karoliina Niemi, Manager, EU Forest Issues  
Finnish Forest Industries Federation



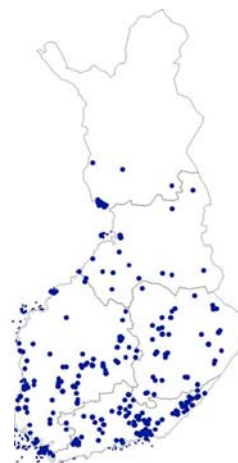
### THE FINNISH FOREST INDUSTRIES FEDERATION ACTS AS A COMMON VOICE FOR ALMOST 80 MEMBER COMPANIES IN THE FOREST INDUSTRIES













 *We do lobbying at national, EU and also global level*

## FOREST INDUSTRY IS IMPORTANT IN THE COUNTRYSIDE

- Forest industry is important to over 50 local communities
  - 48 pulp and paper mills
  - over 200 industrial sawmills, panel factories or other wood products companies
- The forest industry directly and indirectly employs approximately 160,000 Finns (altogether 5.5 M Finns)

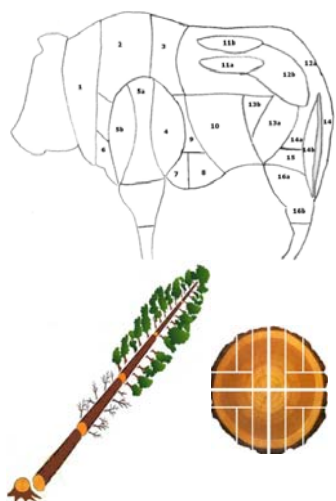


## FINLAND'S TOP EXPORT PRODUCTS

<p><b>1.</b> Paper and paperboard 7,0 bill. EUR</p> 	<p><b>4.</b> Wood pulp 1,8 bill. EUR</p> 	<p><b>6.</b> Softwood sawnwood 1,6 bill. EUR</p> 													
<p><b>2.</b> Diesel fuel 3,4 bill. EUR</p> 	<p><b>3.</b> Stainless steel 2,5 bill. EUR</p> 	<p><b>5.</b> Motor vehicles for personal transport 1,7 bill. EUR</p>  <p><small>Photo: Volvo Car Automotive</small></p>	<p><b>7.</b> Electric generators and motors 1,3 bill. EUR</p>  <p><small>Photo: ABB</small></p>												
<p><b>8.</b> Special machinery 1,0 bill. EUR</p>  <p><small>Photo: Fibromeca</small></p>	<p><b>9.</b> Earth movers and excavators and other similar machinery 1,0 bill. EUR</p> 	<p><b>10.</b> Electricity transformers and frequency changers 1,0 bill. EUR</p> 	<table border="1"> <thead> <tr> <th>Value of exports, billion EUR</th> <th>2015</th> </tr> </thead> <tbody> <tr> <td>Pulp, paper, board and converted products</td> <td>9 100</td> </tr> <tr> <td>Wood products</td> <td>2 400</td> </tr> <tr> <td>Furniture industry</td> <td>150</td> </tr> <tr> <td>Forest industry total</td> <td>11 650</td> </tr> <tr> <td><b>Share of total Finnish exports</b></td> <td><b>21,6 %</b></td> </tr> </tbody> </table>	Value of exports, billion EUR	2015	Pulp, paper, board and converted products	9 100	Wood products	2 400	Furniture industry	150	Forest industry total	11 650	<b>Share of total Finnish exports</b>	<b>21,6 %</b>
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*At the same time forest-based industry produces 2/3 of renewable energy in Finland*

## RESOURCE EFFICIENT USE OF WOOD FROM VITAL AND SUSTAINABLE SOURCES



Packaging



Bio-chemicals



Medicine and wellness



Buildings and interior design



Wood and other materials together



Energy and biofuels



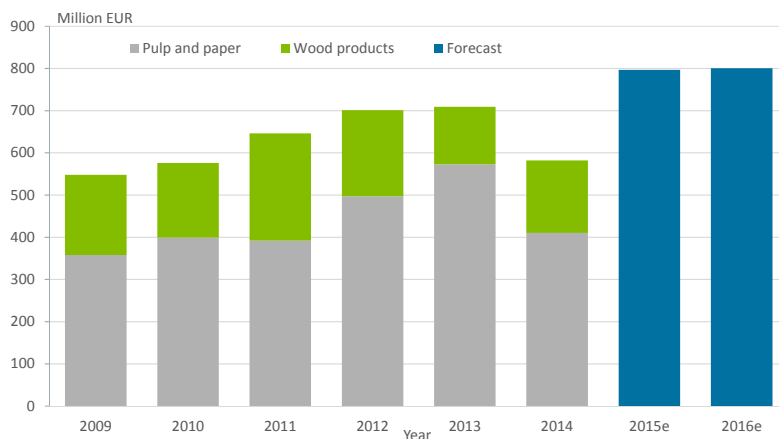
Biopolymers and bio plastics



Pulp and paper

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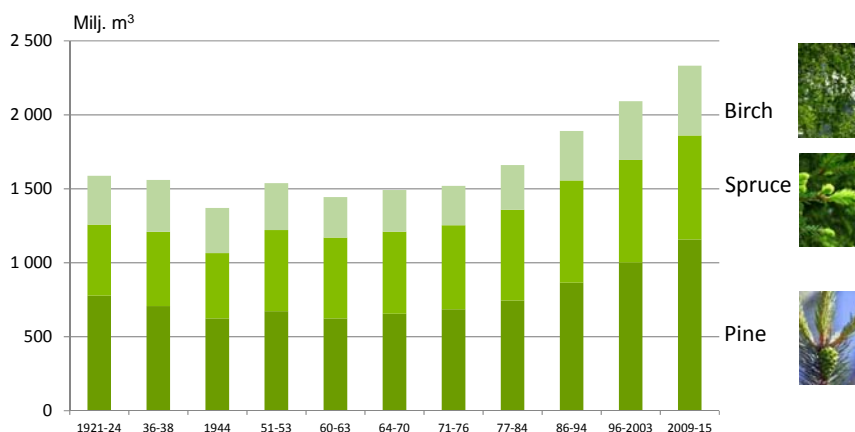
## FOREST-BASED INDUSTRY IS WILLING TO STAY IN FINLAND ALSO IN THE FUTURE - INVESTMENTS HAVE BEEN INCREASING



SOURCE: Statistics Finland, forecast Confederation of Finnish Industries, FFIF



**MAINTENANCE OF FOREST RESOURCES IN A LONG TERM IS ESSENTIAL TO DEVELOPMENT OF WOOD-BASED BIO-ECONOMY**



➔ **Forest-based industry is dependent on three domestic tree species – a great possibility but also a challenge**

SOURCE: Luke

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**INCREASED USE OF WOOD – DECREASING AREA FOR FORESTRY?**

**Heterobasidion and other existing diseases**

**Production of ecosystem services**  
-Wood production and other services against each services?

**Possible new forest pests and diseases**

**Green infrastructure**  
-Forest networks to protect ecosystem services

**Area for commercial forestry**

**No-Net-Loss**  
-Sectors causing loss of biodiversity  
-Possible compensation by using e.g. habitat banks

➔ **How to ensure increased and cost-efficient wood procurement from commercial forest area that is probably decreasing?**

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## FOREST TREE BREEDING PLAYS IMPORTANT ROLE

- Large climatic adaptation
- Climate hardiness
- Volume
  - We still can increase it, but how much without decreasing quality
  - We do not win the game with plantations with rotation of less than 10 years
- Quality
  - Nordic boreal forest tree species have specific characters
- Pest and disease resistance
  - *Heterobasidion*, *Cronartium*
  - Moose
  - *Anoplophora*, Pine wood nematode
  - New possible threats?



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## HOW MUCH TECHNOLOGY DEVELOPMENT CAN HELP US?

- Vegetative propagation?
  - Norway spruce
  - Scots pine
- Gene technology?
  - Genome sequencing and marker genes to help existing breeding methods
  - New engineering techniques
    - Role of EU versus third countries in GM technology
    - Deregulated new techniques?



 **Acceptance?**

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