

# Forest Vision Germany

Fern panel event:

„Achieving the 1.5° target with forests – What role for the EU?”

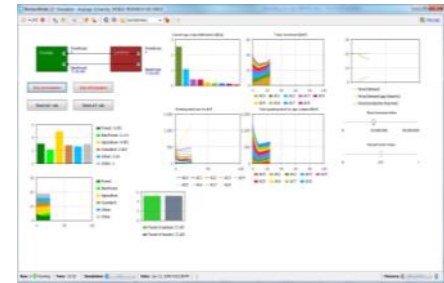
*Öko-Institut*

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Brussels, 7. March 2018



The study was commissioned by Greenpeace.

Scenario development took place in co-operation with Naturwald Akademie (Lübeck).

# Motivation and goals of Forest Vision

## Motivation:

- Spark a debate on the development of future-proof, sustainable and ecological forestry in Germany



## Goals

- Develop a scenario for alternative ecological forest management in Germany, so the so-called 'Forest Vision'
- Compare the Forest Vision with a Base Scenario and a Timber Scenario by means of a simulation model
- Computing indicators related to climate protection, biodiversity and economy

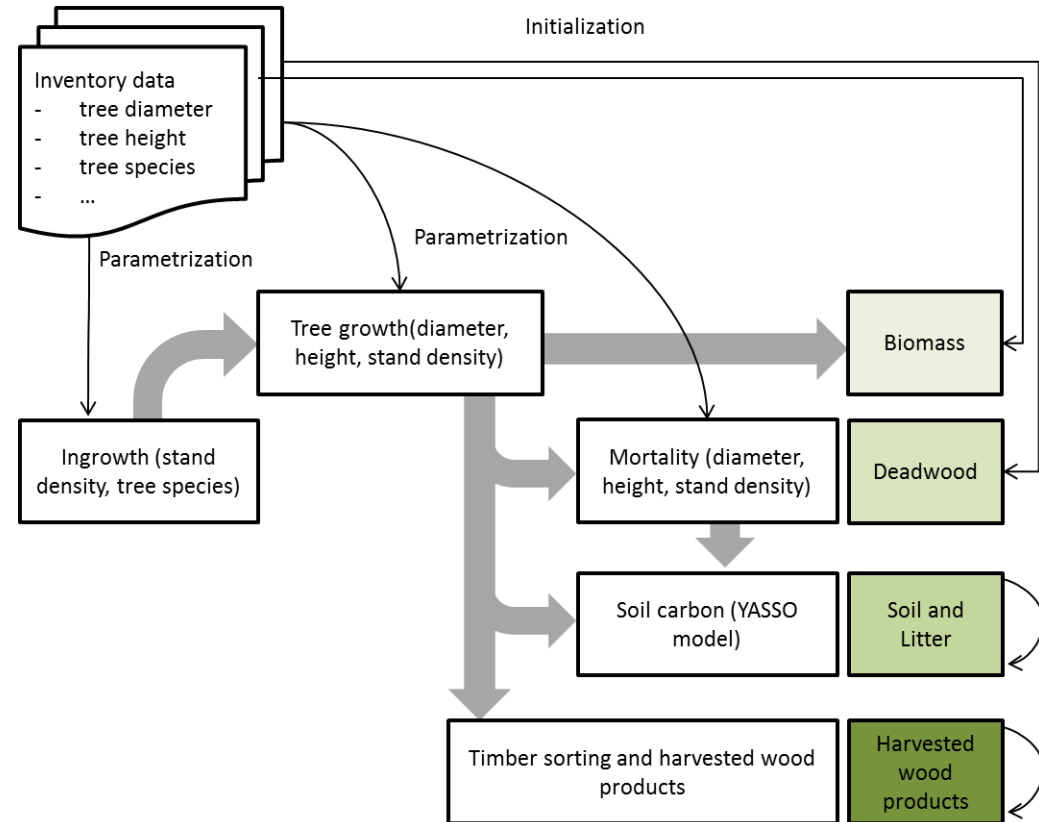
# Model structure and data

## Sub-models:

- Tree growth model
- Ingrowth model
- Mortality model
- Deadwood model
- Soil carbon model
- Sorting and classification of wood products

## Data source

- Forest inventories 2002 and 2012
- Simulation for >18.000 plots



**FABio** – **F**orestry and **A**griculture **B**iomass Model

# Scenarios and management settings

## Base Scenario:

- Projection of existing conditions

## Timber Scenario

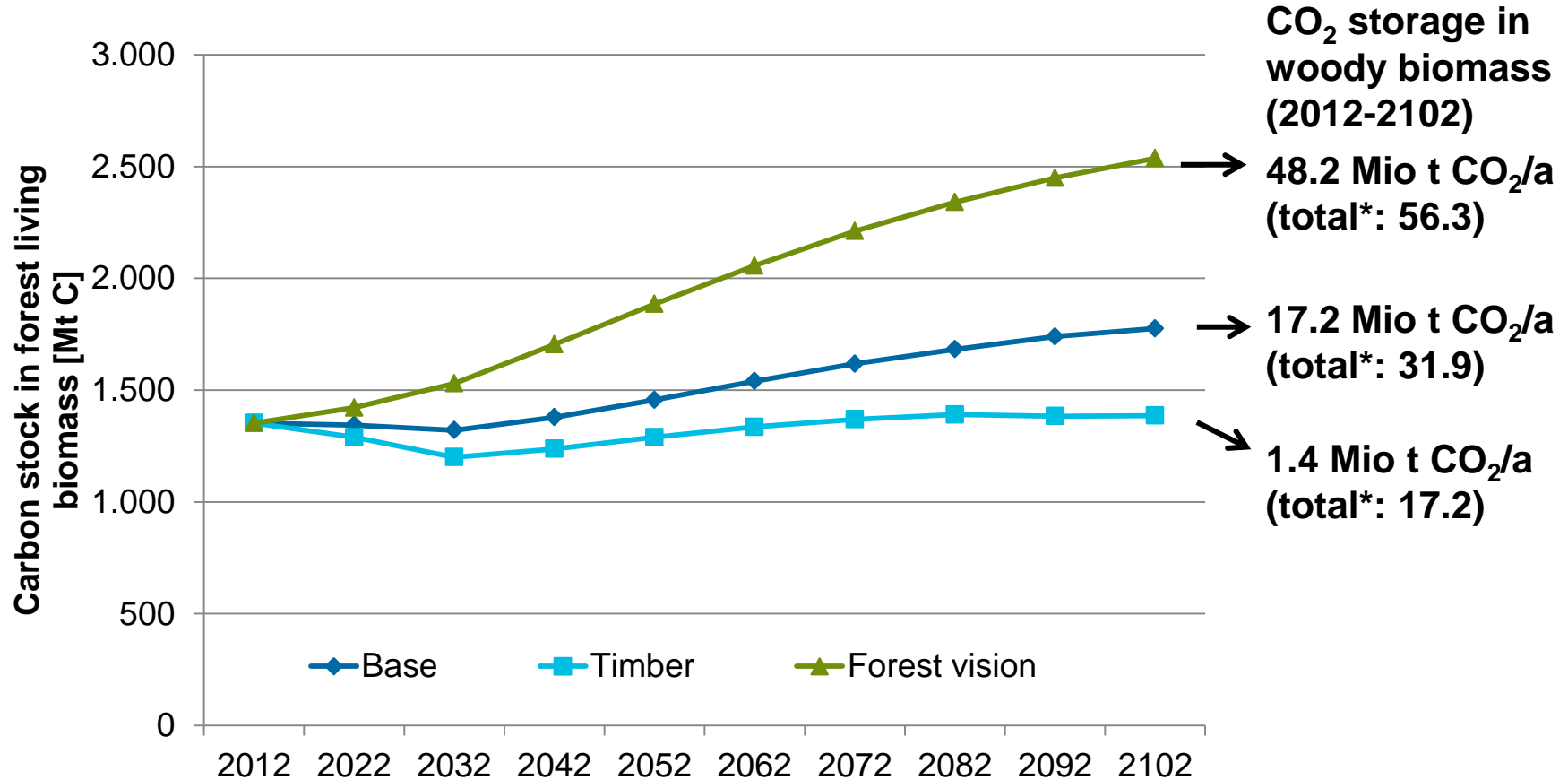
- Support of coniferous trees
- Intensification of forest management (higher thinning and extraction rates)

## Forest vision

- Support of broadleaf trees
- Reduced management intensity and increased target diameters
- Additional protection of areas of rare natural forest communities and old forests (16.6% instead of 4.1%)

# Strong synergies btwn. climate and nature protection

## – Carbon stock in forest living biomass –



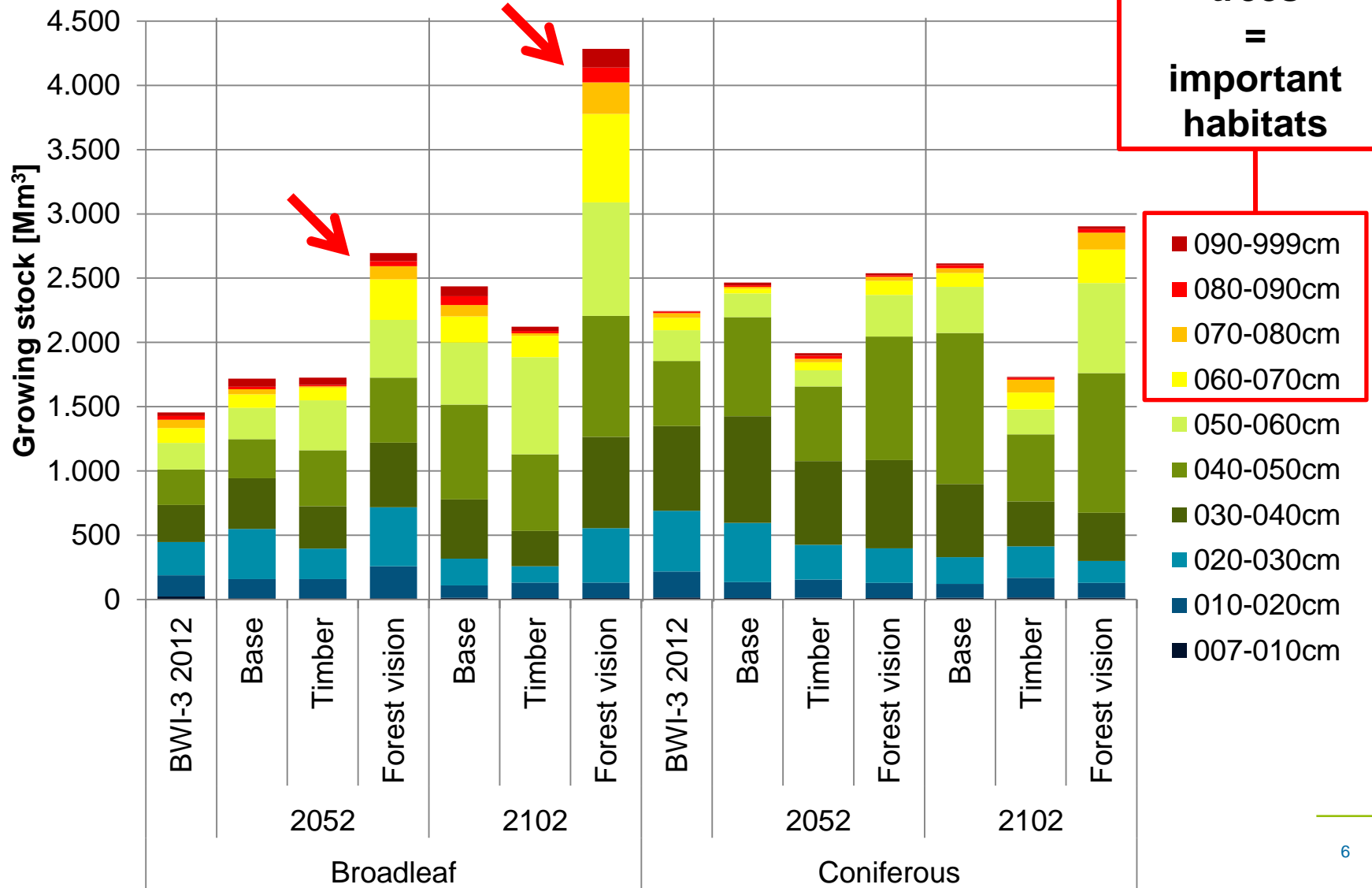
### Accounting period (2021-2030):

- Base: 22 Mio t CO<sub>2</sub>/a → reference level
- Timber: debit of -16 Mio t CO<sub>2</sub>/a
- Forest vision: credit of + 28 Mio t CO<sub>2</sub>/a

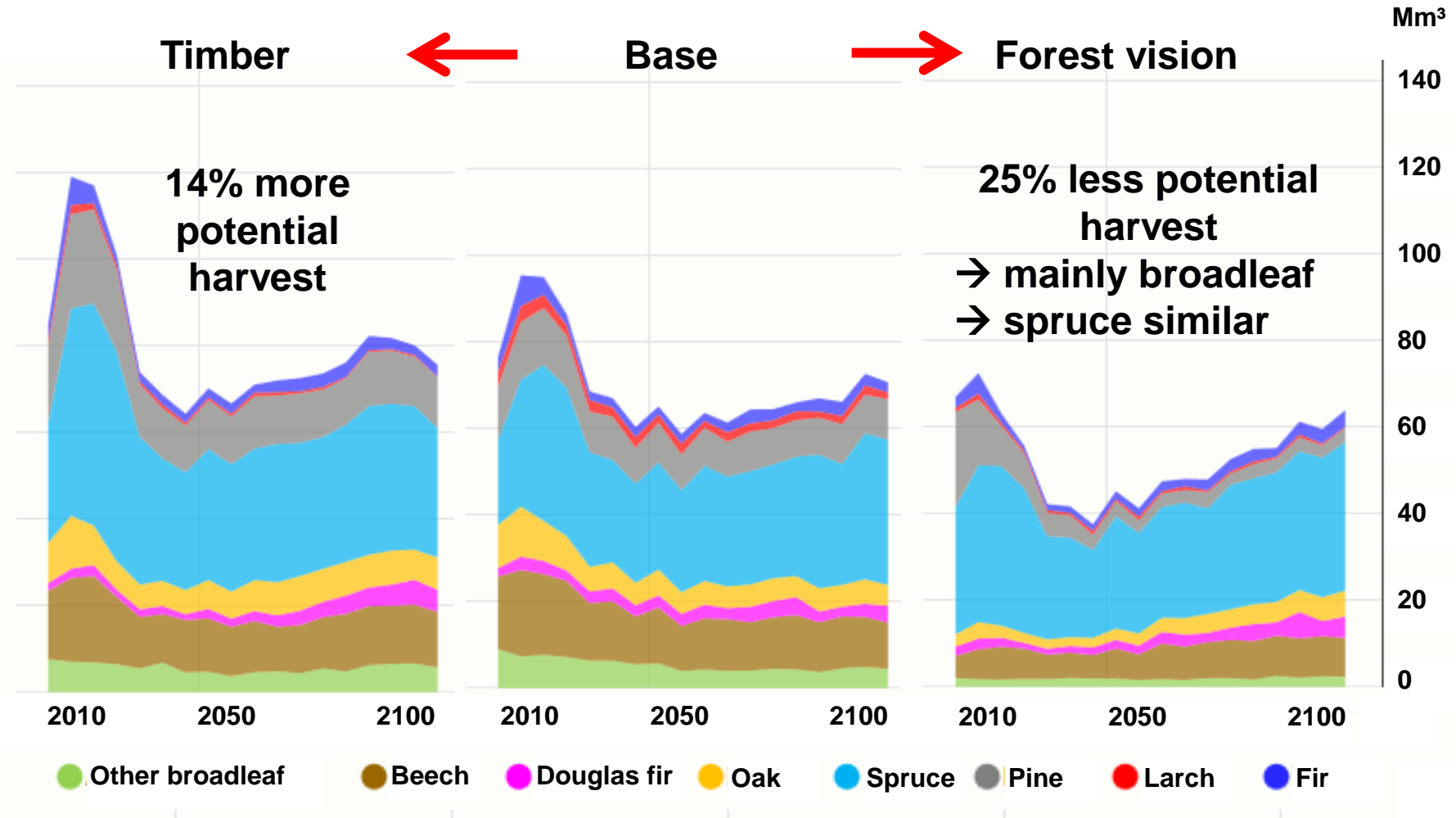
\* Including soil, dead wood, HWP

# Strong synergy btwn. climate and nature protection

## – Diameter classes –



# Wood supply



## Forest Visions' take home messages

### Strong synergies between climate and nature protection...

- More extensive forest management
  - Maintained CO<sub>2</sub> sink in forests and HWP
  - Strong habitat improvements

### ...but not for free:

- 25% less wood supply
  - Still high production of spruce wood (currently main source for material use)
  - Reduced availability of broadleaf wood (currently about 50% used for direct energy wood)
- Needed: Significant increase in the efficiency of wood use through more material and less direct energetic use



# Urgent questions

- How large are potential substitution effects (problem of data availability and reducing rates with higher decarbonisation in the future)?

Substitution effects (kg CO <sub>2</sub> -eq / kg CO <sub>2</sub> in wood)	today	2050	2100
Materials	1-2	?	?
Energy	ca. 0.5		

Rüter et al. (2016)  
Frühwald/Knauf (2013)

- May the support of direct use of wood for energy under the RED II impair synergies between climate and nature protection?

	EU Gross final energy consumption (Mtoe)	Roundwood equivalent (Mm <sup>3</sup> )	Mean annual increment of EU 28 (Mm <sup>3</sup> )
Heating and cooling (mean 2020 and 2030)	513	<b>Heat pumps? Solar? Wood?</b>	
Share additional renewable energy (2030: 10%)	51,3	236	744

# Overall conclusion



# Thank you for your attention!

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