# European experience in using CSF approach

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# The Netherlands: early adopter of CSF

Forests cover only 11% of land
surface (370.000 ha)

Still a great need for:
        Climate change mitigation
        Climate change adaptation

# Dutch Climate Agreement



- All sectors included

- Ambition for forest and nature sector

- Aim: 0.8 Mton $CO_2$/yr additionally in 2030

    Through afforestation and improved management
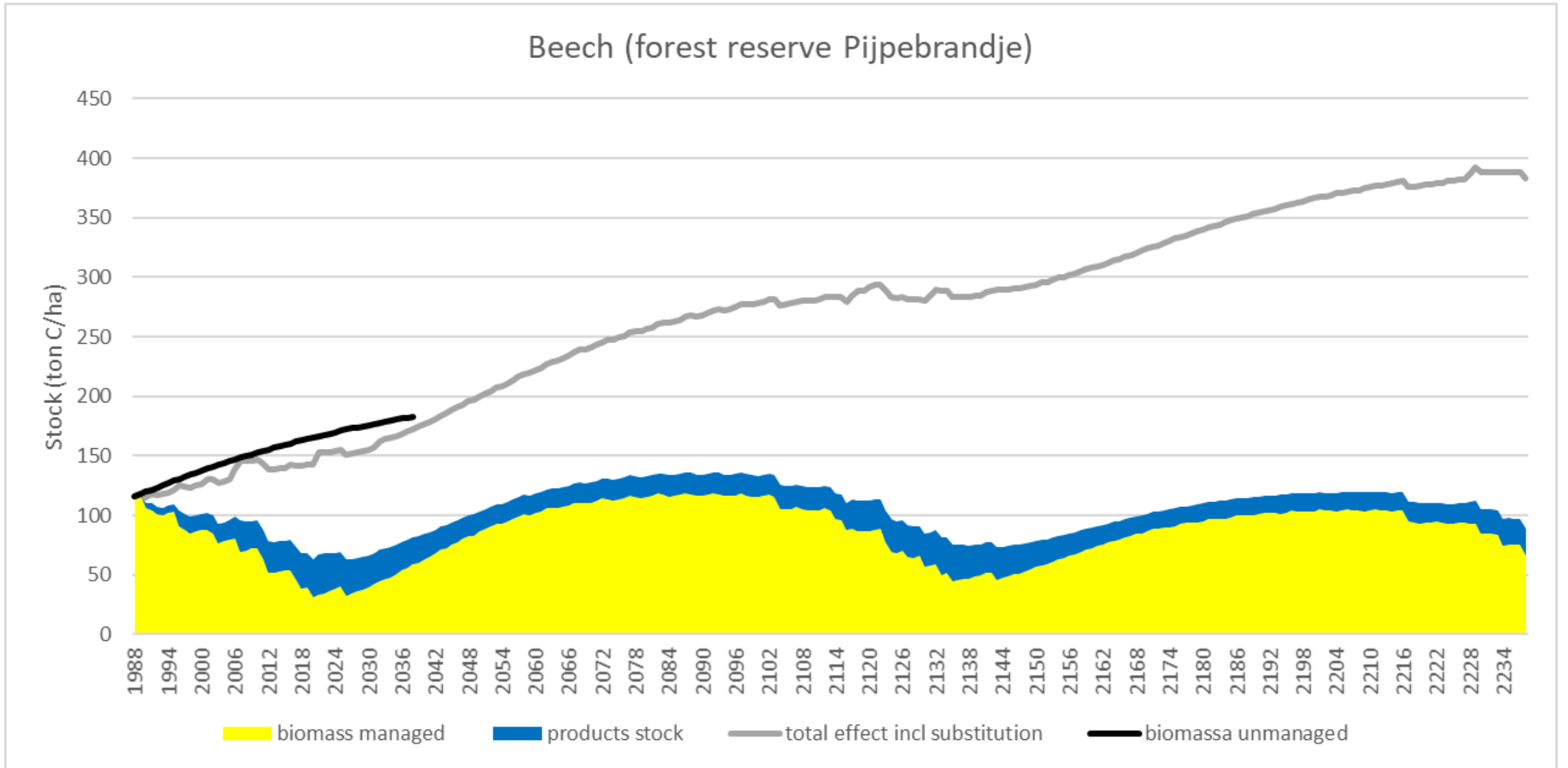
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# Forest management



- Revitalising old pine and spruce forests

- Mixed species

- Selected provenances

- Monitoring after ~2 years

# Forest management



- Forest reserve research

- Carbon sequestration

- To manage or not to manage?

# Forest management



Beech (forest reserve Pijpebrandje)

Stock (ton C/ha)

Legend: biomass managed · products stock · total effect incl substitution · biomassa unmanaged

# Afforestation

- Combination of functions work best

- Agroforestry popular

- 'Normal' afforestation hard due to costs and legislation
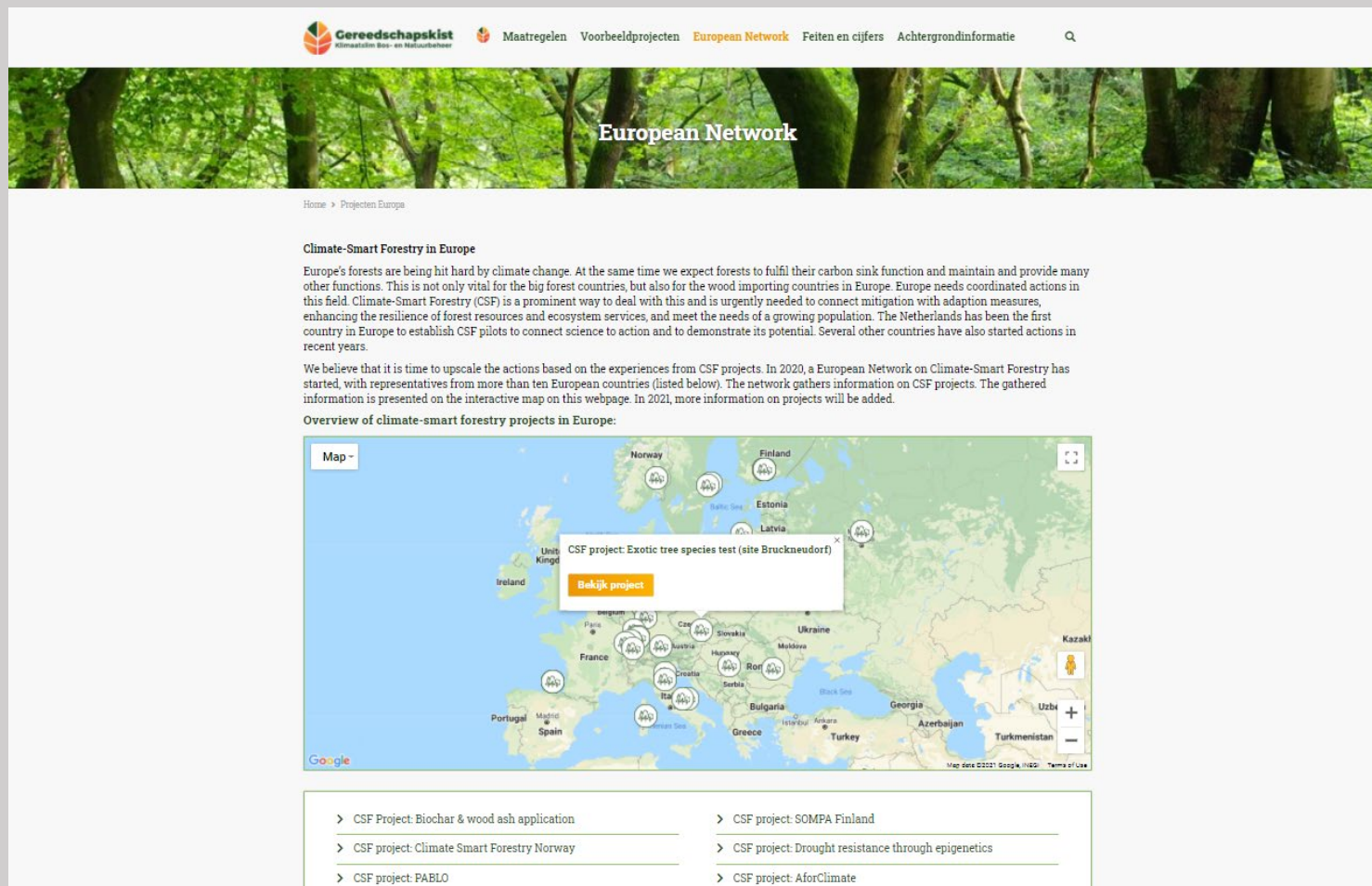
# Situation in Europe



Harz. Foto: Louis König



- 200 million m$^3$ dead spruce

# Climate-Smart Forestry Network

- Connect researchers and institutes working on CSF

- Collect and show example projects

www.climatesmartforestry.eu



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# Irrigation experiment Pfynwald





- Better understanding of effects of drought periods on forests

- Do trees have an ecological memory?

# Adapting beech forests to climate change



- 180 experimental plots in Appenine mountains (Italy)

- Silvicultural interventions aiming for higher wood production and better regeneration

- Monitoring system over multiple years
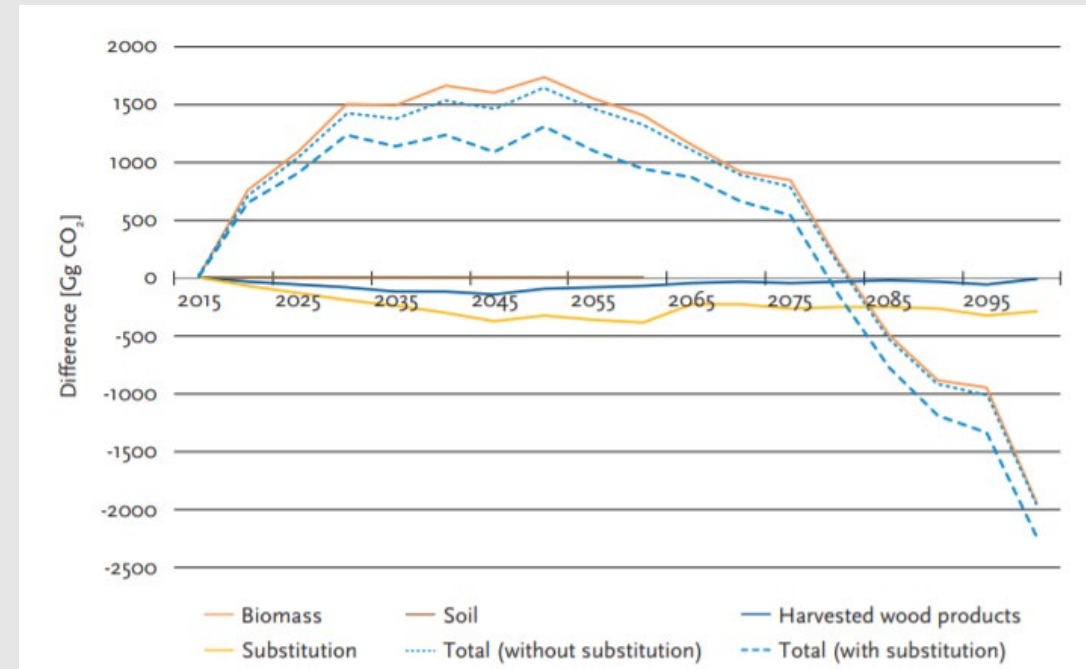
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# Case study: impact of CSF in three European regions



- Spain, Ireland, Czech Republic

- Addressing the main challenges

- Similar approach as in RUFORCLIM

*Nabuurs et al. (2018). Climate-smart Forestry: mitigation impacts in three European regions. From Science to Policy 6, European Forest Institute*

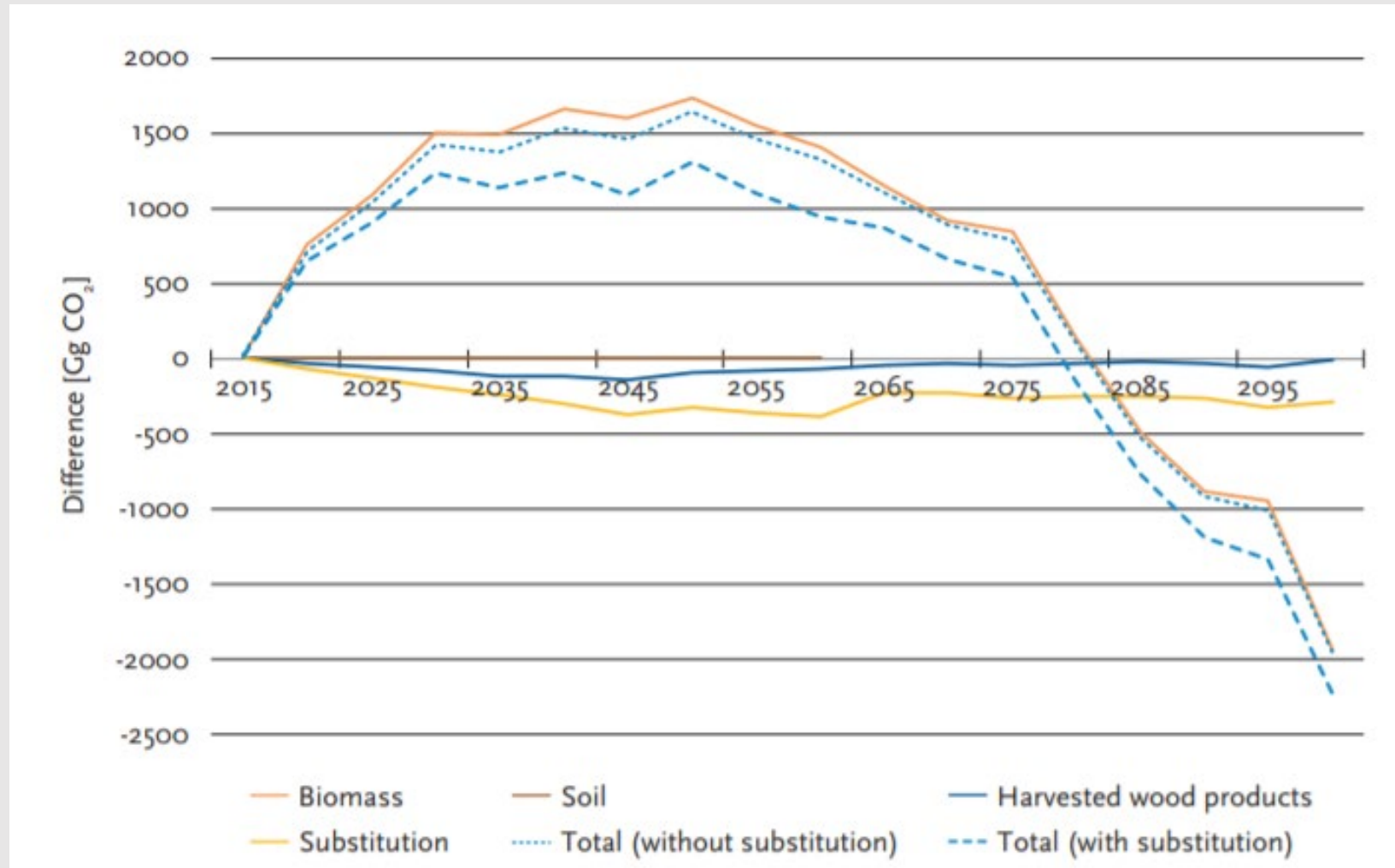# Case study: impact of CSF in Czech Republic



*Nabuurs et al. (2018). Climate-smart Forestry: mitigation impacts in three European regions. From Science to Policy 6, European Forest Institute*

# Case study: impact of CSF in Czech Republic



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# Take home messages

- Almost all European countries are already testing climate smart forestry

- Both adaptation and mitigation are important (adapting forest to multiple stress & measures to improve carbon balance). *Note that a carbon sink cannot always be maintained.*

- Wide variety of measures (from strict reserves to intensively managed plantations are possible)

- Adapt to local circumstances and other demands on forest

- Start a chain of: research – experiment – pilots – implementation & outreach

- Governance and policies (clear targets for forest sector) are a prerequisite

- Gathered experiences available on [www.climatesmartforestry.eu](www.climatesmartforestry.eu)

Thank you!

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