EUROPEAN FOREST INSTITUTE

What is Climate Smart Forestry?

PEFC EU Policy Seminar, 26. September 2019, Brussels

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Climate Smart Forestry CSF

- presented by EFI at COP 21 in Paris, December 2015

- aims at
  1) sustainably increasing forest productivity and incomes
  2) adapting and building resilience to climate change
  3) reducing and/or removing greenhouse gas emissions

- regards the whole value chain and relates to the circular bioeconomy, including the optimal use of wood

- regionally specific measures - look at local circumstances

- additional potential to compensate in total ca. 20% of EU's GHG emissions

Mitigating Climate Change by Forests and Wood

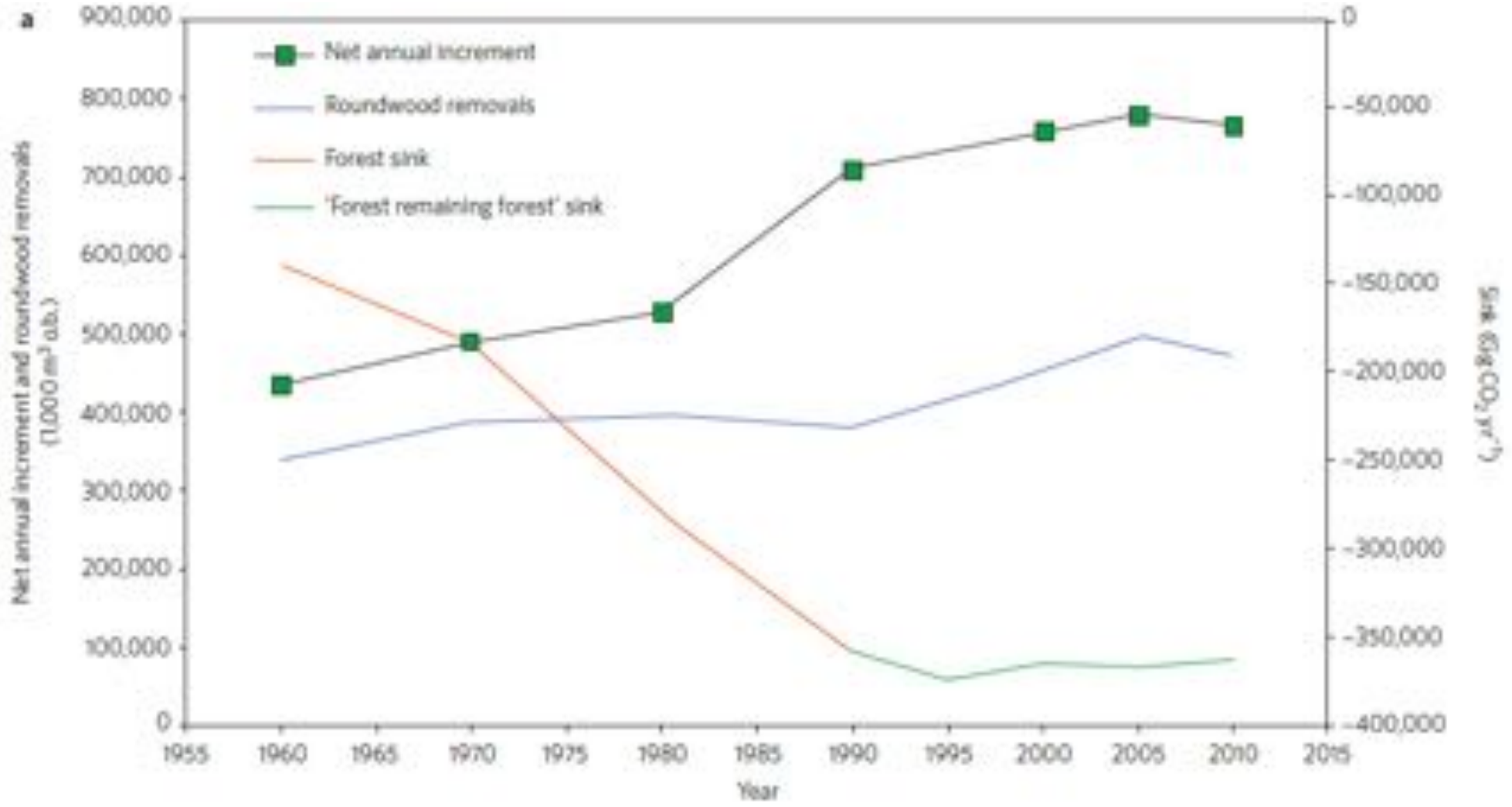
Option		current offset of total EU emissions (%)	Short-term *relative* impact of > harvest	Reported/accounted in:
Increase in C stock	in existing forests (CO_2 sink or "removal") 	≈ 10% (only 1% accounted under KP in 2008-2012)	<<	LULUCF
	in wood products 	≈ 1%	>	LULUCF
Substitution effects by wood (approximate figures)	Material 	≈ 1-2%	>	Other GHG sectors
	Fossil-fuel energy 	≈ 4-5%	*	Other GHG sectors

* While the emission saving by material substitution are immediate, when wood replaces fossil fuels the emissions saving highly depends on the context, assumptions and time frame.

Source: G. Grassi, JRC, presentation 20170530, Brussels

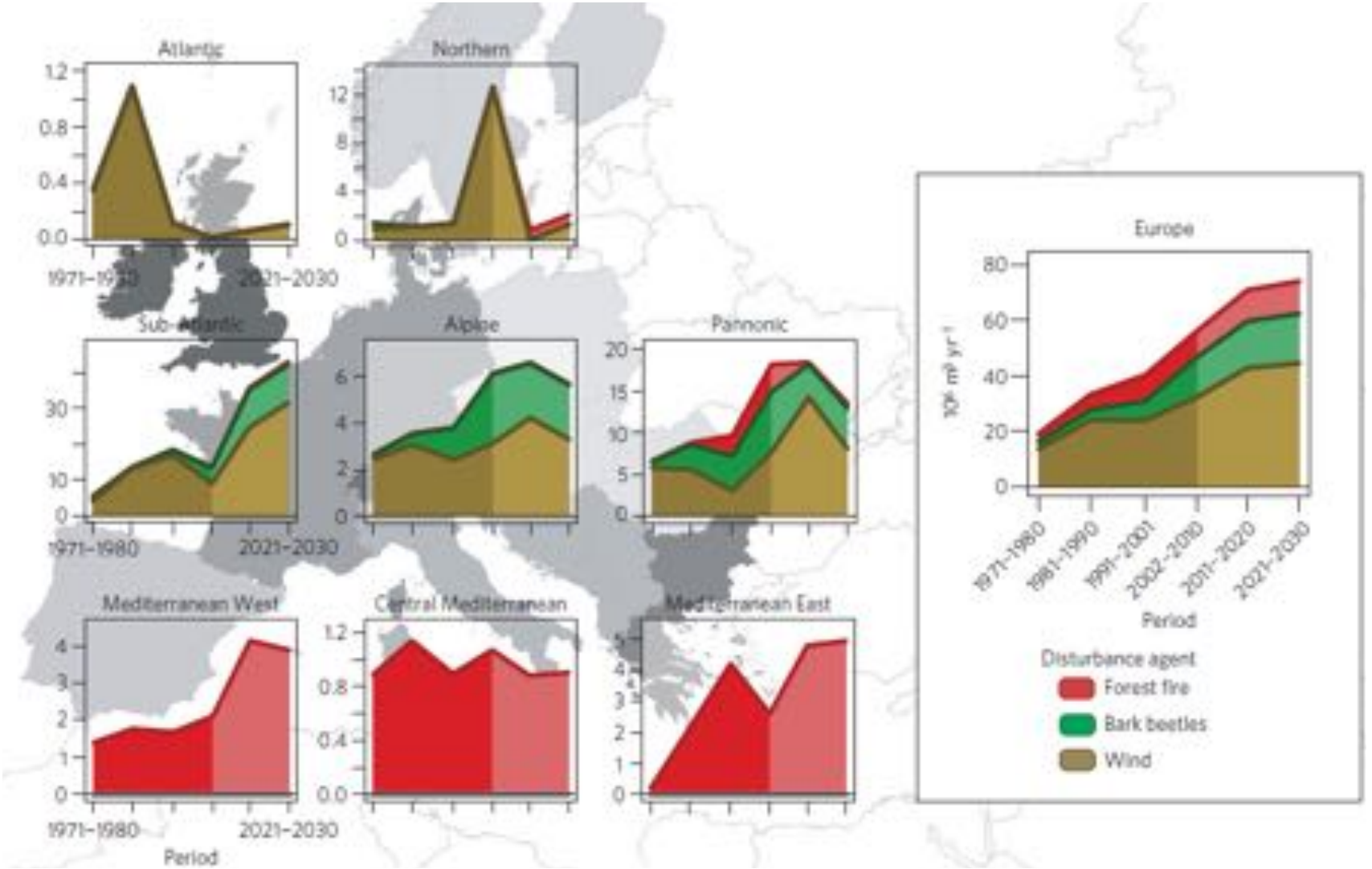
- trade-offs between options, each with its temporal dynamics of emissions.
- the most effective forest-based mitigation strategy should optimize the sum of all options in a given time frame.

A biological sink will eventually saturate



Source: Naburrs et al. 2013

Storing Carbon in Forests is not free of Risks

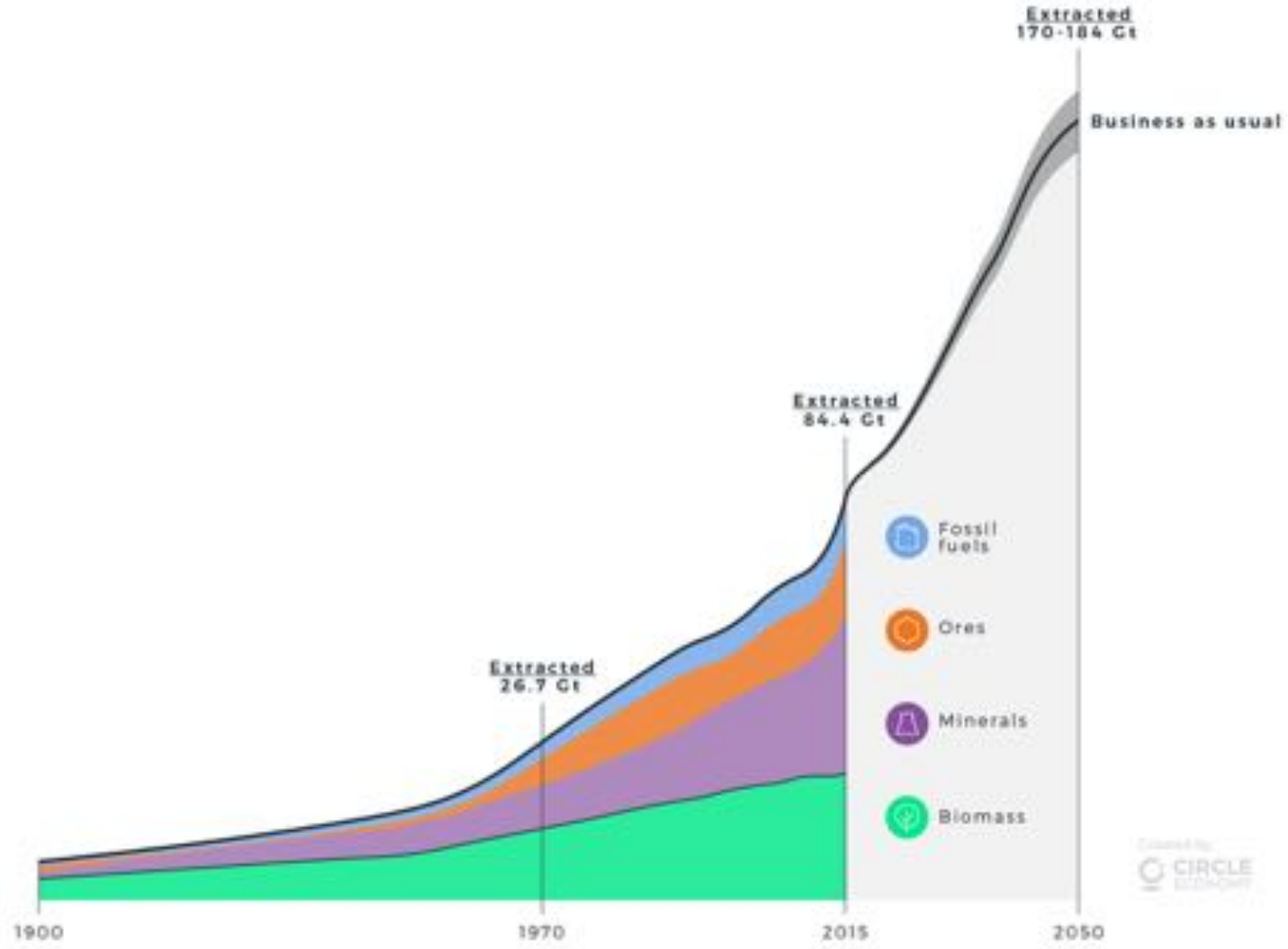


Forest disturbance damage in Europe 1971–2030


Photo: Cameron Strandberg

Source: Seidl et al. 2014

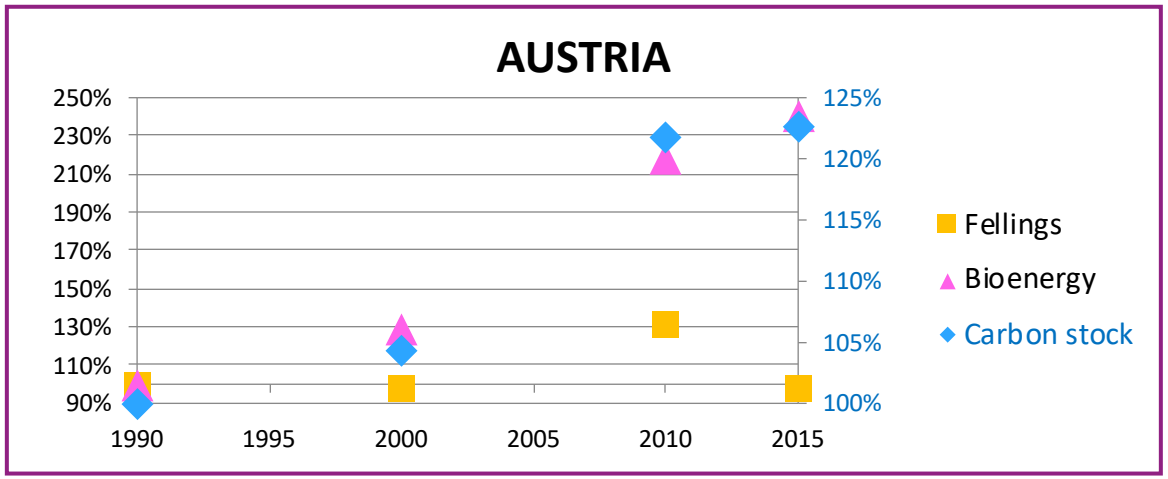
Increasing Demand for Materials

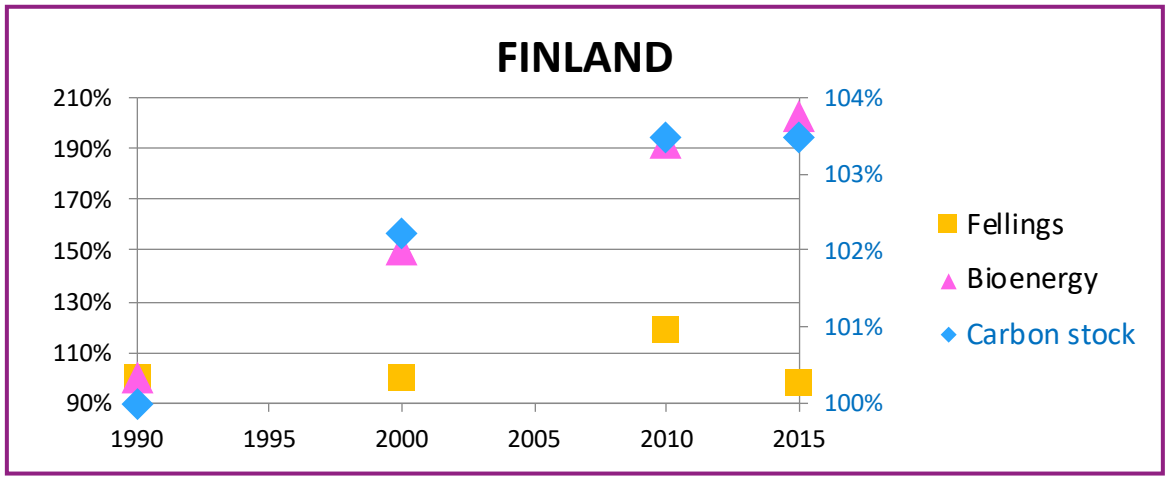


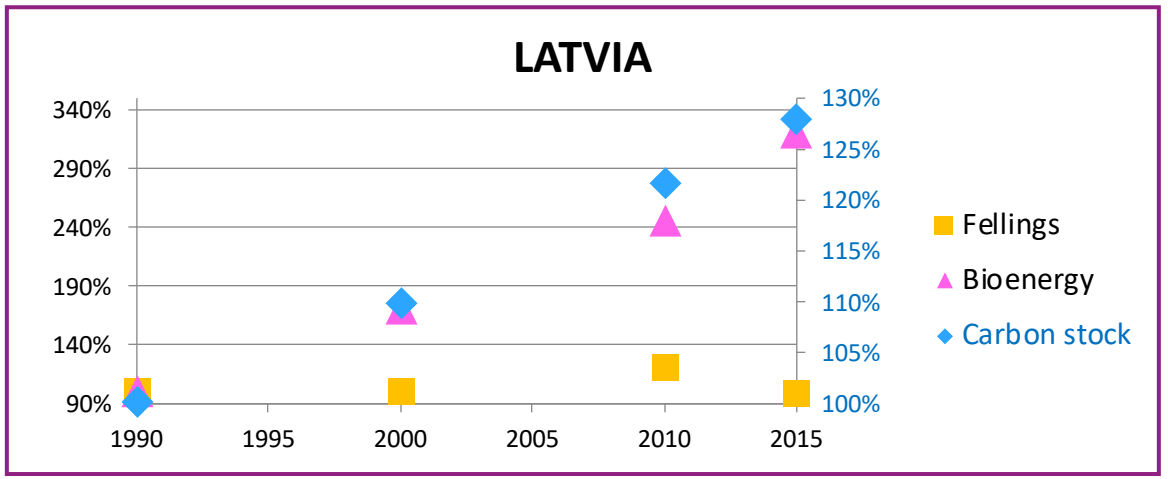
Raw material extraction, associated with +41% in GHG emissions

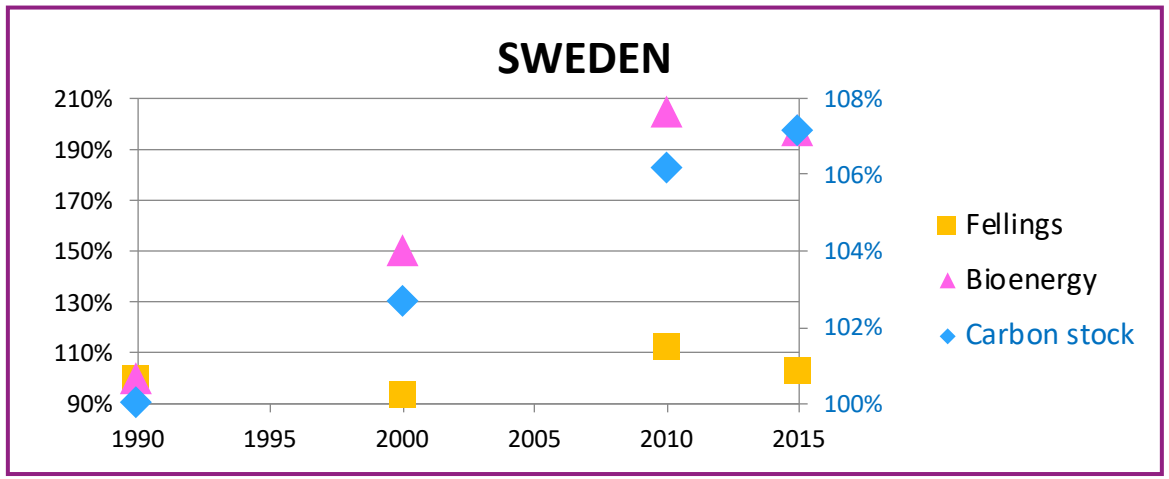
Source: Hatfield-Dodds et al. 2017

Forest Utilisation and Carbon Sink





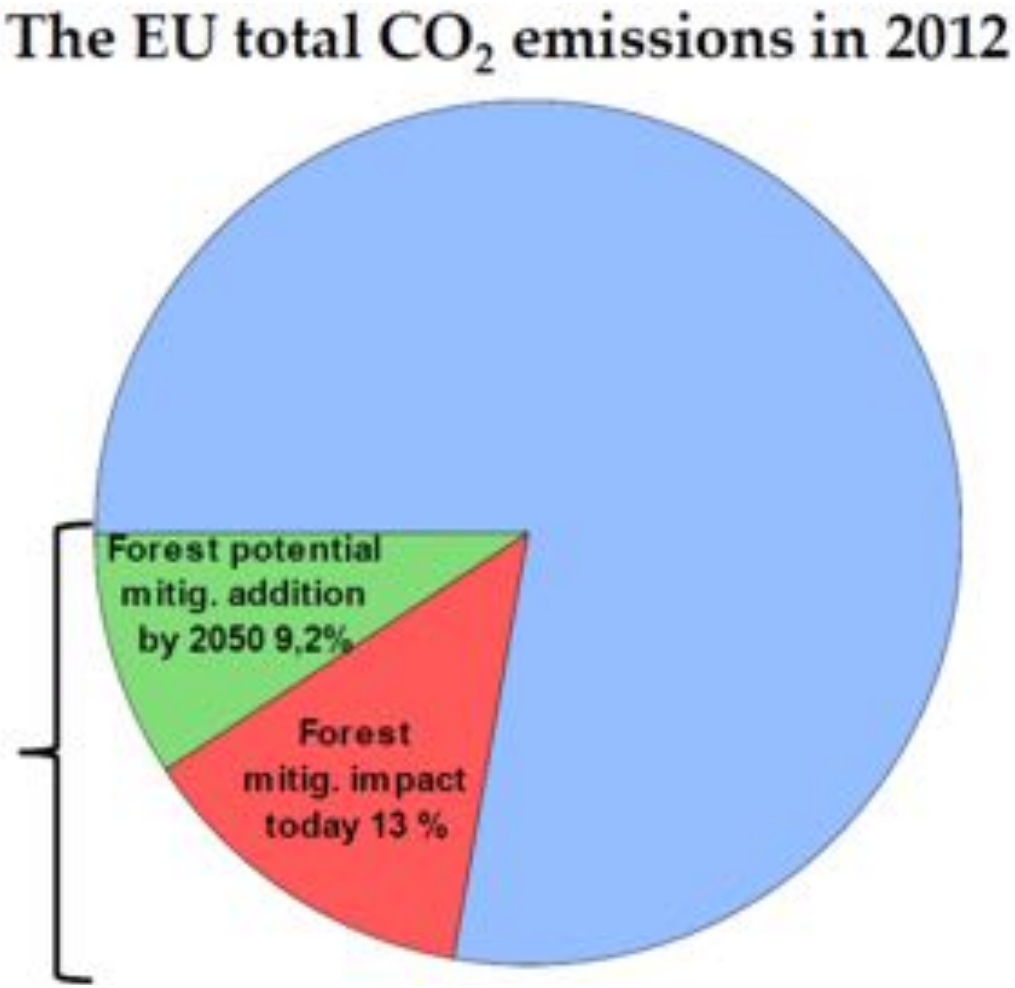




Bioenergy: Primary energy production with biomass and renewable waste (EUROSTAT)
Carbon stock: on forest in million metric ton (Forest Europe 2015, EUROSTAT)
Fellings: (Forest Europe 2015)

Compensate more EU GHG Emissions

- use triple S impacts – sink, substitution and storage
- create new policy incentives and support investments
- tailoring policies and incentives at the regional level – one size does not fit all
- finding synergies between climate and other benefits (e.g., bioeconomy, biodiversity)
- strive to conciliate mitigation with adaptation



Estimates based on: Nabuurs, Delacote, Ellison, Hanewinkel, Lindner, Nesbit, Ollikainen & Savaresi. 2015. A new role for forests and the forest sector in the EU post-2020 climate targets. From Science to Policy 2. European Forest Institute.

Mitigation and Adaptation – an example

CSF Scenario Analysis
Czech Republic
Quick adaptation scenario

Source:

Regional Examples and potential Synergies

Remote or low productivity area **old forest** that is **not at a high risk** of disturbance **sensitive site, high soil carbon site** and **steep slope**
introduce restricted areas
conserve/increase CO_2 stock + increase biodiversity

Forest primarily used for timber production
optimize silvicultural techniques carbon-efficient management scheme combine with innovation in bio-products
continuing/increasing carbon sink/stock + help climate adaptation + wood for bioeconomy (substitution, storage)

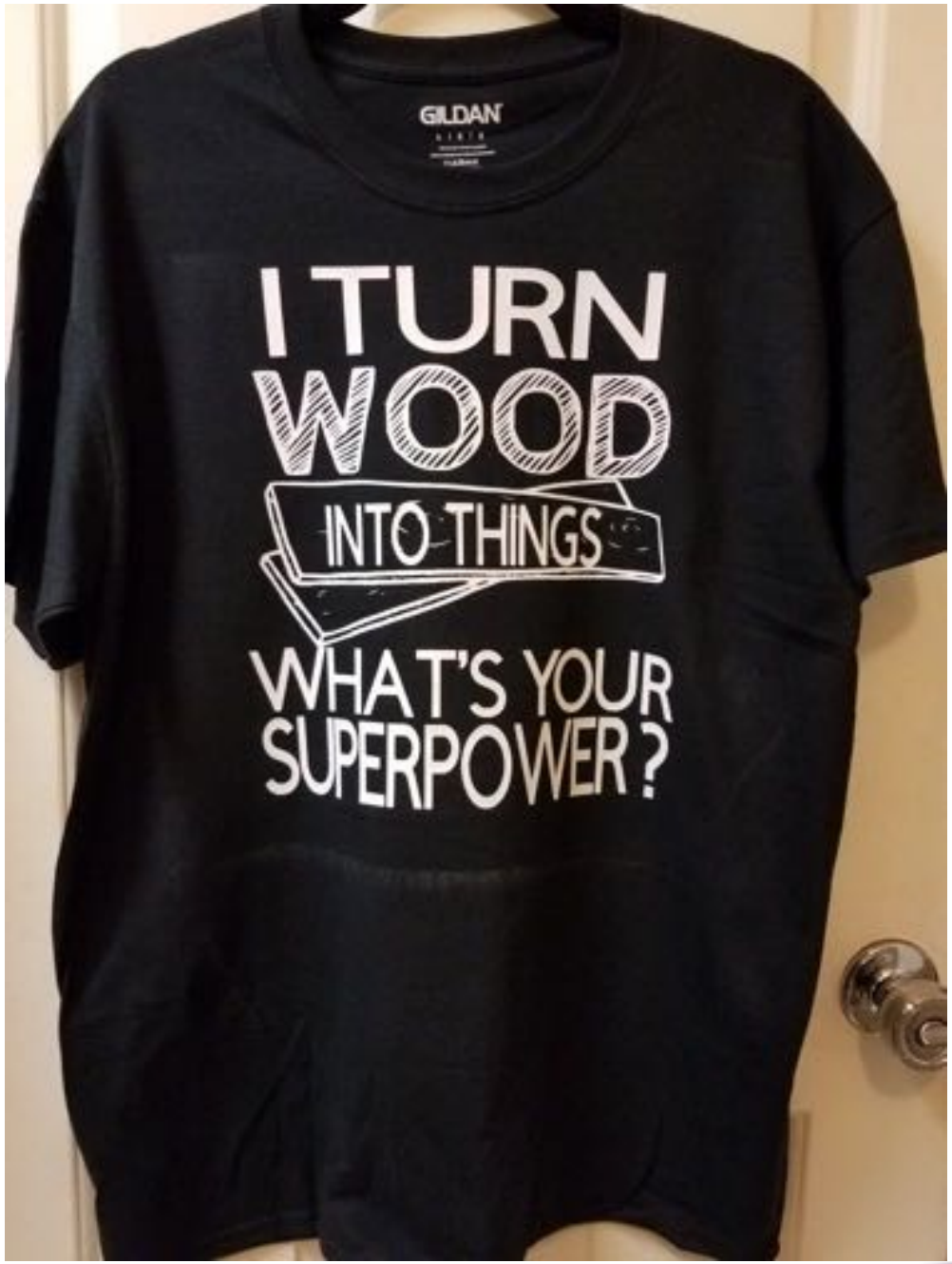
Storm or fire prone area **(high risk of disturbance)**
actively manage (mature) forests bring down stock; increase share of broadleaves
reduce risk and damage + improve resilience to disturbances + safegueard carbon sink + help climate adaptation + wood for bioeconomy (substitution, storage)

Criteria for a successful Climate Policy

No policy – no matter how ingenious – has any chance of success if it is born in the minds of a few and carried in the hearts of none!
Henry Kissinger

1) **Result oriented** (design policy options to achieve the EU climate targets)
2) **Realistic** (has to be politically feasible to implement)
3) **Economic efficient** (as cost effective as possible)
4) **Fair and socially acceptable** (acceptable burden sharing)

- **increase flexibility** and avoid sectoral isolation in policy
- **provide incentives** to do more and **utilize regional strengths**
- **seek synergies** with other policies, avoid trade-offs
- utilize **all possibilities** of forest&forest-based sector to contribute to mitigation (**3S**)
- acknowledge and take advantage of the **link between mitigation and adaptation** in forestry



Thank you!