



POWER4BIO
REGIONS FOR
BIOECONOMY

BIOECONOMY IN NATIONAL FOREST STRATEGY AND FORESTRY IN SELECTED EUROPEAN COUNTRIES

RATNA C. PURWESTRI , Dr.sc.agr
Faculty of Forestry and Wood Sciences,
Czech University of Life Sciences Prague

Part of the project “Diversification of the Impact of the Bioeconomy on Strategic Documents of the Forestry-Wood Sector as a Basis for State Administration and the Design of Strategic Goals by 2030” implemented by the CULS Prague and the University of South Bohemia, České Budějovice.

EVA 4.0-CULS Prague

Cross visit Czech Republic 30.11-1.12. 2020

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 818351





Background

- Since the introduction of the 2012 European Bioeconomy Strategy a growing bioeconomic activity in rural areas has been reported.
- Some European countries have adopted and implemented it within their national forest strategies and priorities.
- Question: how is the role of bioeconomy in national forest strategy and forestry in the case study countries in Europe?

Case study country-1: Sweden (1)

- The **largest forested landscape** in Europe (about 28,073 million ha), followed by Finland (about 22,218 million ha) and Spain (\pm 18,418 million ha) (Eurostat 2020).
- The **top producer of the total roundwood production** among the EU countries with approximately 74 million m³, followed by Finland (\pm 59 million m³), Germany (about 55 million m³) (Eurostat, 2017).
- Thus, the highest amount of **industrial roundwood** is supplied by the Swedish forests (about 67 million m³)



Case study country-2: Germany

- The forest area is > 11 million, but has **the highest share of growing stock** for timber in forests and other wooded lands (Eurostat, 2018a).
- Has negative balance in wood export-import, but one of the main foci of the German bioeconomy policy is the use of **advanced technology to produce higher value-added products** (BMEL, 2014).



Case study country-3: The Czech Republic

- No distinct bioeconomy strategy is officially stated in Czech policies.
- Yet, bioeconomy has been mentioned in the rural development policy documents, the 2018 draft strategy of the Czech Ministry of Agriculture (MoA), and, more recently, in the 2020 Czech Forest Policy.



Methods and study framework

- Document review of the national forest strategy:
 - Strategi för Sveriges nationella skogsprogram
 - The 2011 German forest strategy
 - The 2020 Czech Forest Policy
- Selected forestry data analysis (Eurostat)



Forestry comparison in the case study countries in 2015

FORESTRY INDICATORS	SWEDEN	GERMANY	CZECH REP.
Forest area, thousand ha (% EU)	28,073 (16.8%)	11,419 (6.3%)	2,667 (1.5%)
Total roundwood production, thousand m3 (%EU)	74,300 (17.7%)	55,613 (11.4%)	16,163 (3.6%)
Industrial roundwood production, thousand m3	67,300	45,119	13,827
Fuelwood production thousand m3	7,000	10,494	2,336
Net annual increment, thousand m3	120,000	119,000	17,900
Gross value added (at basic price) , million €, (% EU)	3,936 (15.3%)	3,344 (13%)	883 (3.4%)



Forest ownership in Sweden

- In Sweden (Swedish Forest Agency, 2020)
 - 48% of the forests are owned privately
 - 24% of private forest companies
 - 6% by other private owners (e.g. organisations)
 - 13% of the state-owned limited liability companies
 - a few portion of the forests (7%), and 2% others
- the management of the forest-based sector is towards the **profitability and forest enterprises.**



Forest ownership in Germany

- In Germany:
 - 29% federal states
 - 4% government
 - 48% private owners (with half of them < 20 ha)
 - 19% communal forests.

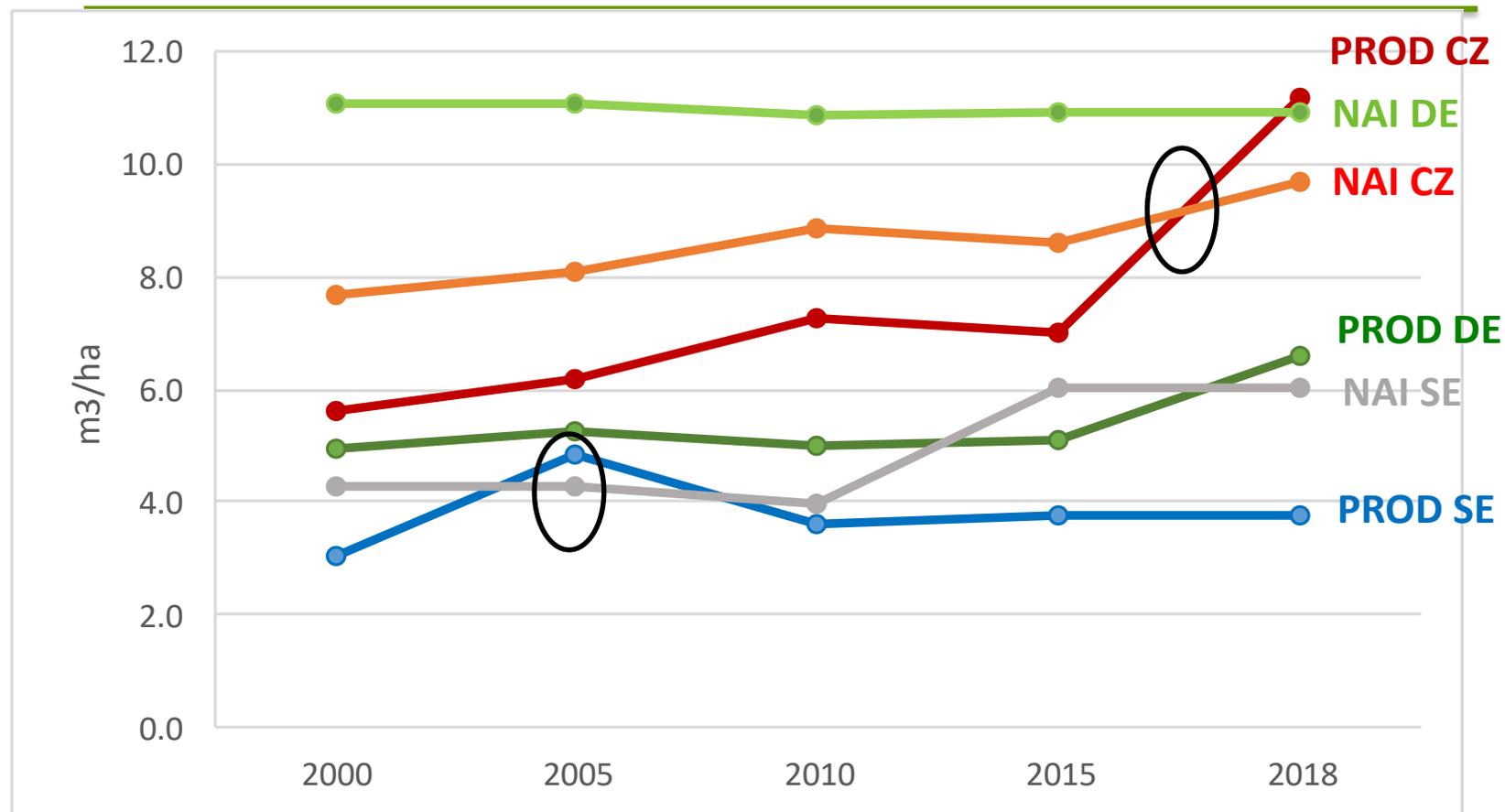


Forest ownership

- Specific condition of the forest owners in the Czech Republic:
 - 56.04% State Forests → 90% of them are forest enterprises
 - 19.18% private
 - 17.13% municipalities
 - 3.12% legal persons
 - the rest is other communal entities

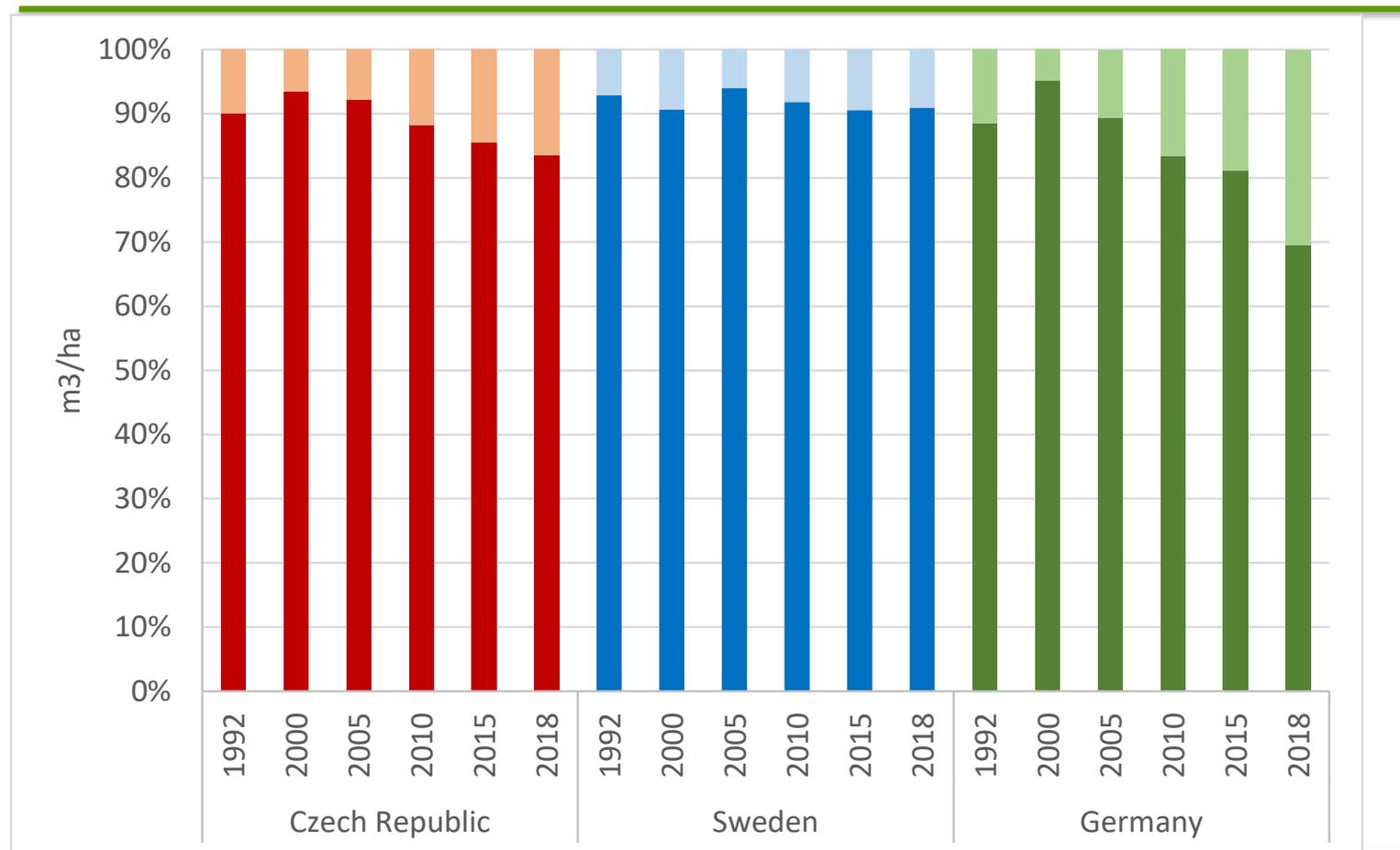


Total roundwood production (PROD) and NAI (m³/ha)





% fuelwood and industrial roundwood production





Bioeconomy in the studied national forest strategies

- Bioeconomy principles are the core values in the Swedish NFP. Thus, the NFP targets not only to deliver sustainable forest products and ecosystem services to support forest enterprises, but also to **achieve a fossil-free-Sweden**.
- The German national forest strategy **denotes the country's bioeconomy actions**, e.g., to promote the consumption of sustainable forest biomass to replace fossil fuels, forest product innovation to generate high value-added products, and attention on the link between research and commercialisation.



-
- the 2020 Czech Forest Policy has referred the Bioeconomy Strategy as one of the referral documents.
 - Yet, its strategies are only regulated in this sector, which might limit bioeconomy implementation in the country.
- the Czech Republic is currently in the midst of the bioeconomy adoption process.



Lessons learned from Germany

- The sustainable forest-based production, mixed-tree forests, and multipurpose forests (as also emphasised by the national forest strategy and the federal state forest policy).
- Germany also focuses on the link between the research and commercialisation of bio-based and high value-added products, and public support



“The Swedish forestry model”

- a vast opportunity to make silvicultural decisions while concurrently paying more attention to societal needs' **environmental consideration.**
- The guided policy expresses in terms of a **minimum standard of forest management practices.**
- relies upon **voluntary participation, initiative and dialogue** (Royal Swedish Academy of Agriculture and Forestry, 2009).
- In consequence of privatisation, the related subsidies on forestry have been abolished.



The Czech forest-based sector

- In 2018, the total felling slightly ascended the entire net annual increment due to the high demand for timber in a relatively short time and a small region.
- Additionally, the bark beetle attack has driven the forest owners to process the calamity logging hastily



Potential benefits of the Bioeconomy's adoption

- From 2000 to 2018 → increased the ratio between fuelwood and industrial roundwood were increased.
- Wood products and other forest ecosystem services (FES) will also be promoted.
- The general use of forests by the public can be maintained and financially take into account the ecosystem services provided to the public by forest owners → creates a new business opportunity for the owners.



Challenges of the Bioeconomy's adoption in forest-based sector

- Fulfilling the demand of the sustainable forest biomass and bio-based materials
- Policy harmonisation
- Acceptance of the stakeholders of the Czech forestry, by taking into account the preferences of the small-holder forest owners

Thank you for your attention

RATNA C. PURWESTRI , Dr.sc.agr
Faculty of Forestry and Wood
Sciences
Czech University of Life Sciences
Prague

purwestri@fld.czu.cz



POWER4BIO
REGIONS FOR BIOECONOMY





www.power4bio.eu



@power4bioproject



@power4bi
o



@power4bio

