Insights and reflections from 20 years of work to boost the bioeconomy in North Sweden and in the EU
Framtiden för biobränslen
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BioFuel Region™

From Challenge to Transition – Together

biofuelregion.se

From Challenge to Transition – together

What we are

Member-owned, non-profit company

Founded 2003

8 employes

Link between public sector, industry, and research

Focus areas

Bioeconomy

Biogas

Sustainable transports

BioFuel Region™

What we do

Accelerate the transition to a fossil-free society

Building networks and collaboration

Turning ideas to action

Create new business opportunities, share knowledge, and reduce dependence on fossil fuels.

Vi är BioFuel Region

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20 years history of cross border cooperation

- 2003 - 2004 Bioenergy from Forest
- 2005 - 2007 Bioenergy from Forest 2
- 2009 - 2012 Forest Power
- 2012 - 2014 Forest Refine 2.5 M €
- 2016 – 2019- Bio Hub 2.3 M €
- 2021 – 2022 Added Value 0.6 M €

Pågående projekt

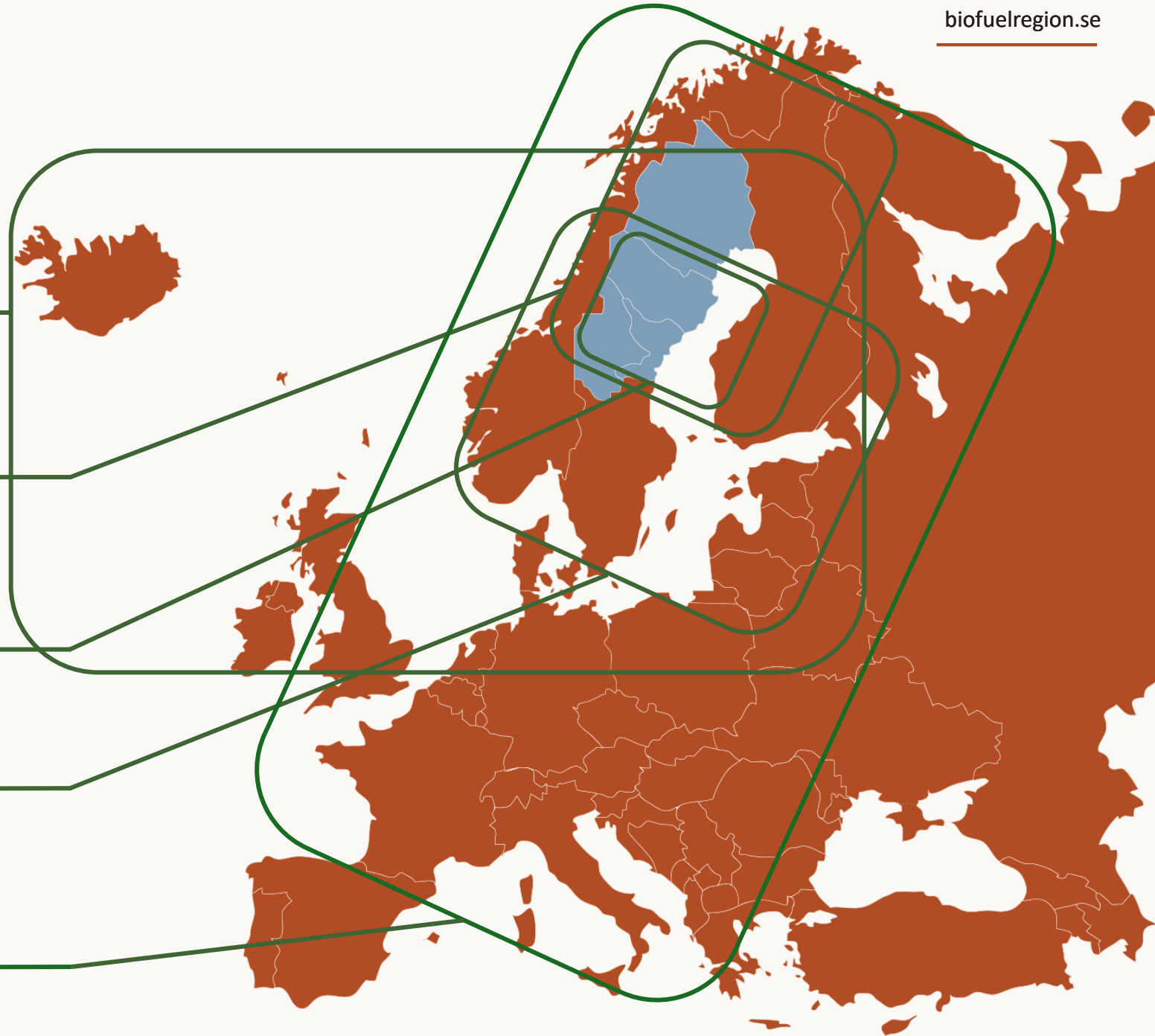
NPA
Sustainable SME's

Interreg aurora
Boost Nordic Biogas
Nature refines

ERUF
Förnybart 2030
Förnybart 2030 Västerbotten

Interreg Baltic
Bioboosters

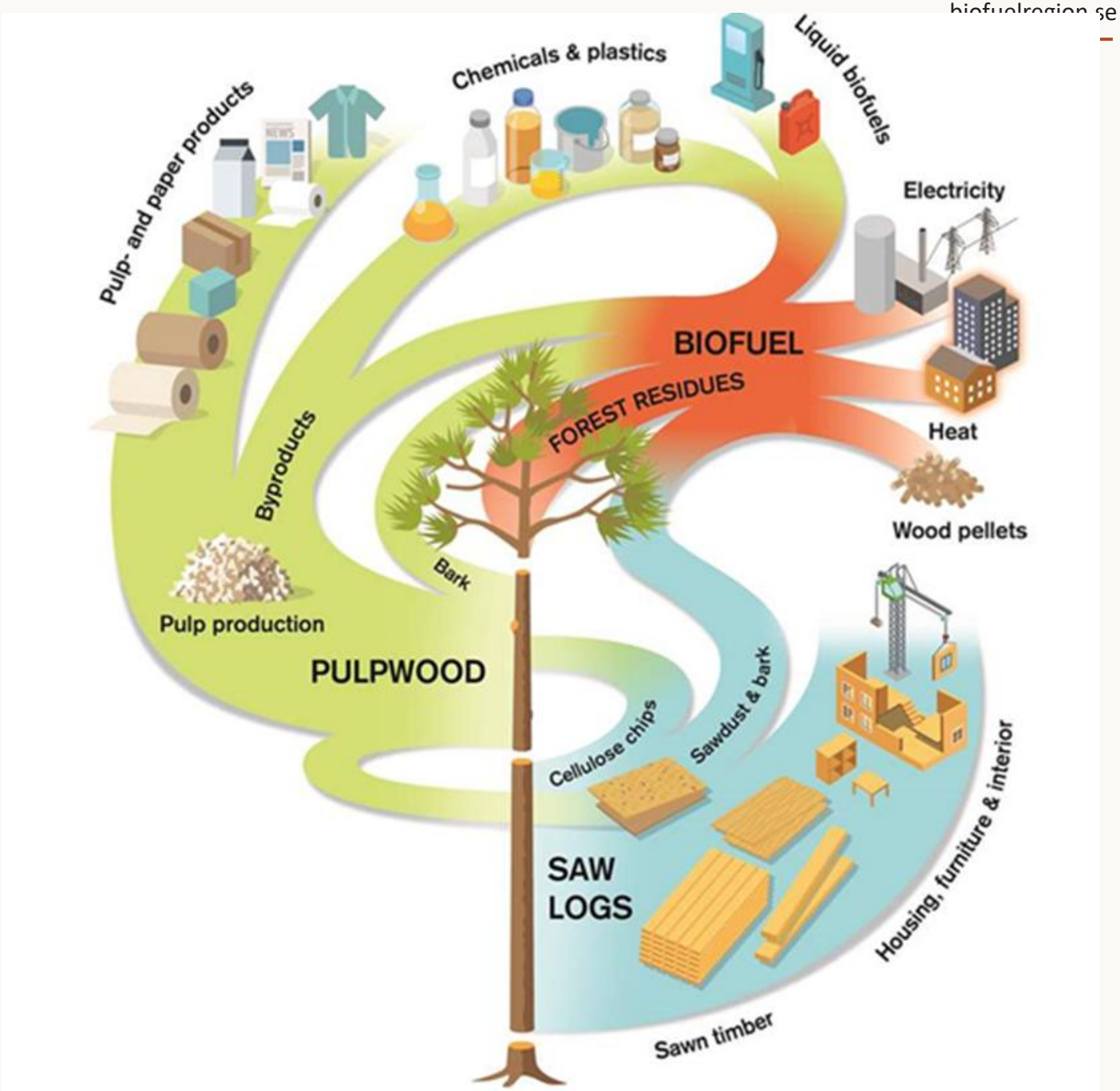
Horizon
C4B
ToBeReal



European Bioeconomy Stakeholders MANIFESTO- Hot topics

Bio resources availability, Ecosystem pressure, Subsidies for energy only, A level playing field

Do not burn your trees !!



Climate law

Forest strategy

Lulucf ***Renewable directive III***

Deforestation legislation

Taxonomy

Binding targets for nature restoration

Certification of Carbon removal

Forest monitoring and strategic plans

Soil health directive

NORTH SWEDEN

www.northsweden.eu

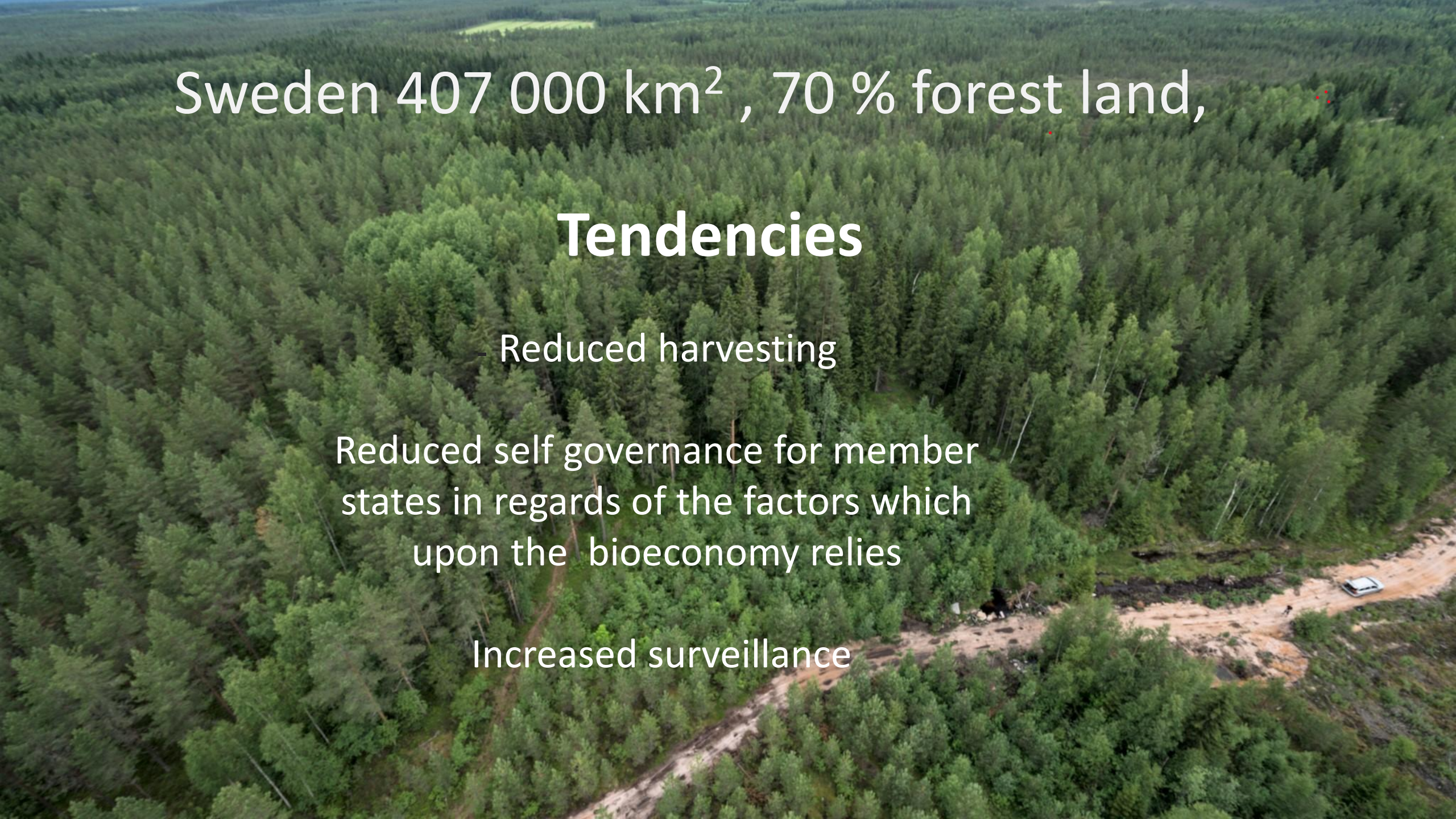
Coherent or contradictory EU policies

Wood-based products and bioenergy	Forest increment	Multi-purpose forestry	Increased carbon sink	Biodiversity
RED II-III **BioEconomy Strategy** **LULUCF** **BAUHAUS**	**Bioeconomy Strategy**	**Agricultural policy** **Rural dev. programmes** **Forest Program**	**LULUCF** **Fit for 55** **Bioeconomy Strategy**	**Biodiversity strategy** **Nature Restoration Regulation** **The Habitats Directive** **Deforestation directive, EUDR**

Increased wood utilization  Decreased wood utilization

A biomass gap is projected within the EU

More actions to mobilize more biomass are needed !



Sweden 407 000 km^2 , 70 % forest land,

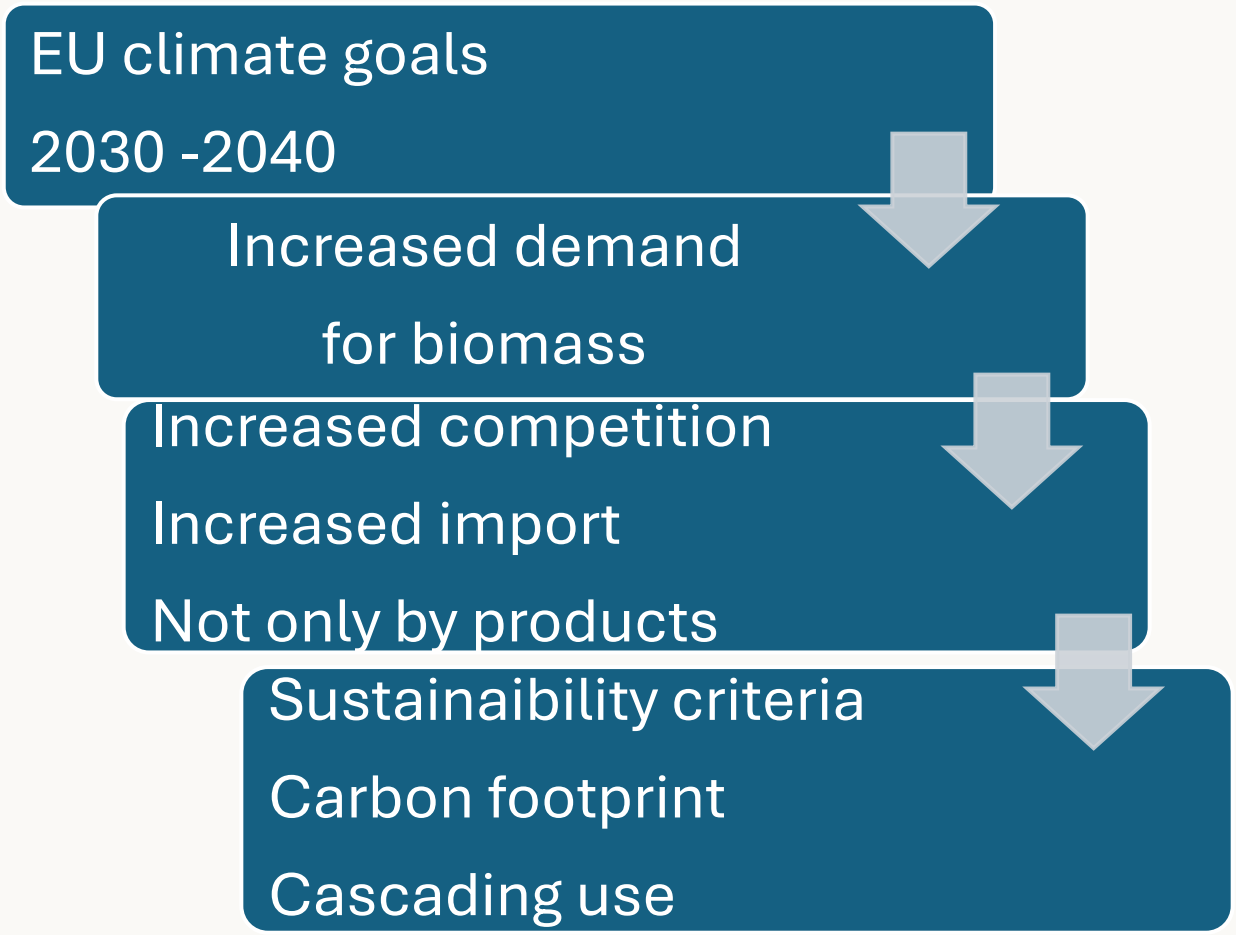
Tendencies

- Reduced harvesting

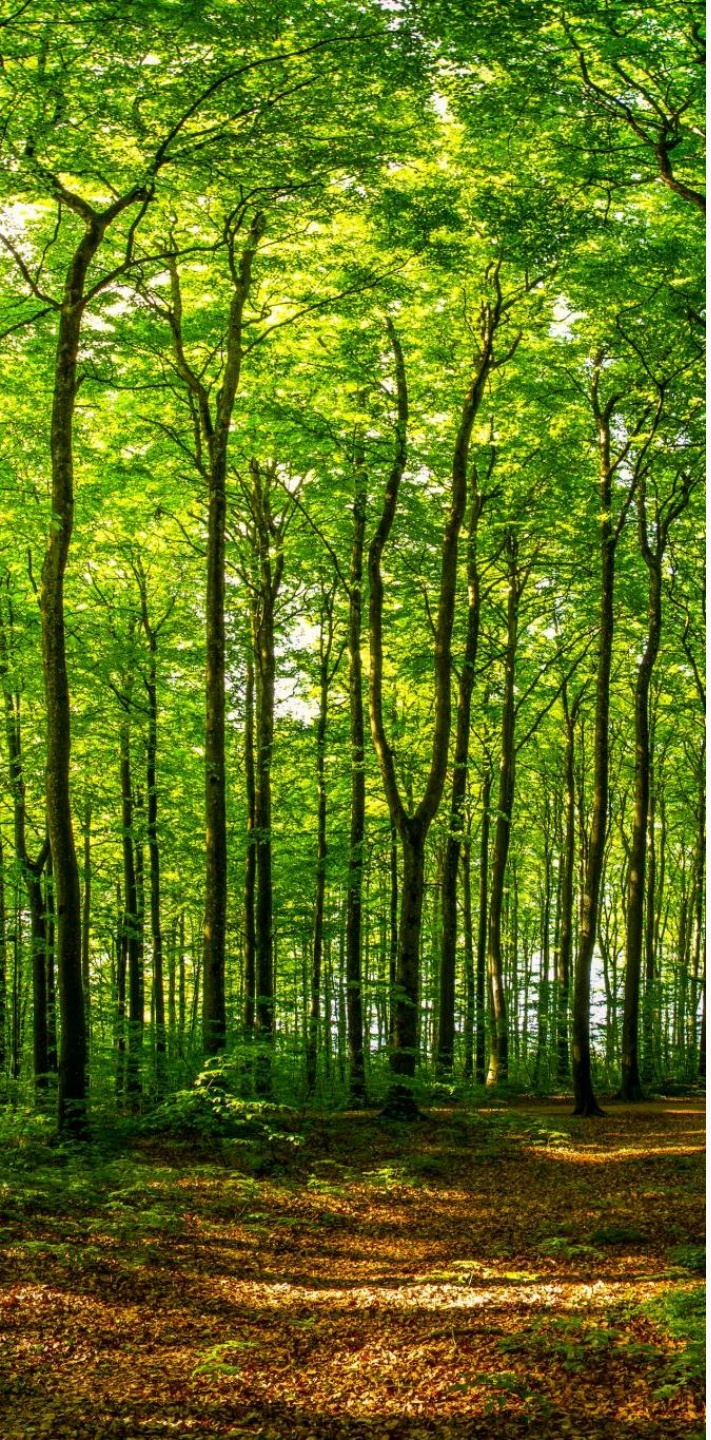
Reduced self governance for member states in regards of the factors which upon the bioeconomy relies

Increased surveillance

Don't let the perfect be the enemy of the good !



Poor understanding of the different conditions for local bioeconomy value chains across EU may delay investments or outsource them outside EU or they will simply fail to appear



Investors in the forest bioeconomy can handle economical and technical risks but not political risks

Policies are complex, difficult to predict and not coherent and pose a significant risk, both financially and juridical, for future growth and investments in the forest bioeconomy

A challenge for the future is to harmonize bioeconomy related policies on a regional level with national and especially with polices on an EU level

Feedstock costs is often neglected

People often make unrealistic optimistic assumptions about things like feedstock costs

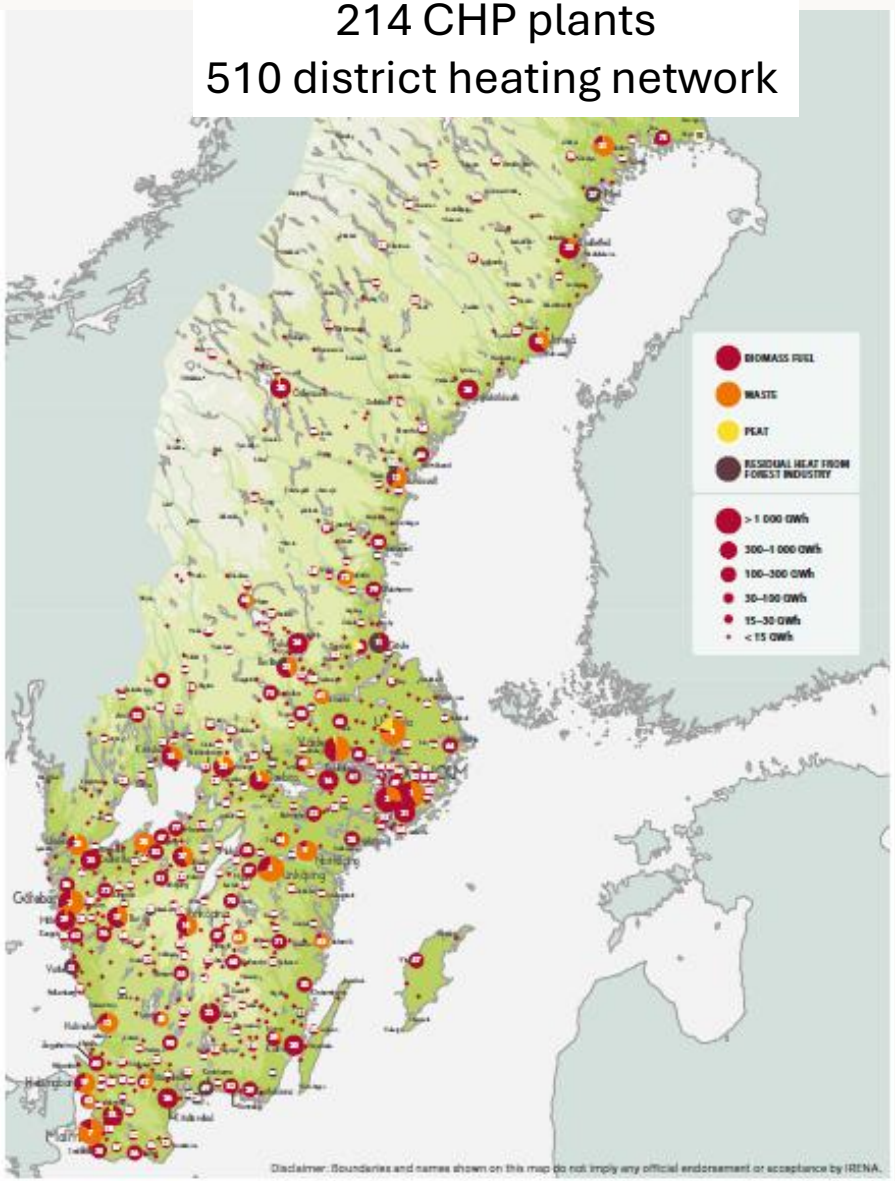
Raw material supply cost often represents >50% of the overall cost for refining

To be competitive - more focus should be put on the feedstock instead of on the technology to process it

EU HAVE A NEGATIVE VIEW ON THE USE OF BIOMASS FOR ENERGY GENERATION

Bioenergy represents 57% of all renewable energy in EU

214 CHP plants
510 district heating network



Source: Bioenergi and Svebio (2018)

Security of supply as a driver for energy policies

50 years ago, Sweden was dependent on oil import used in the heating sector

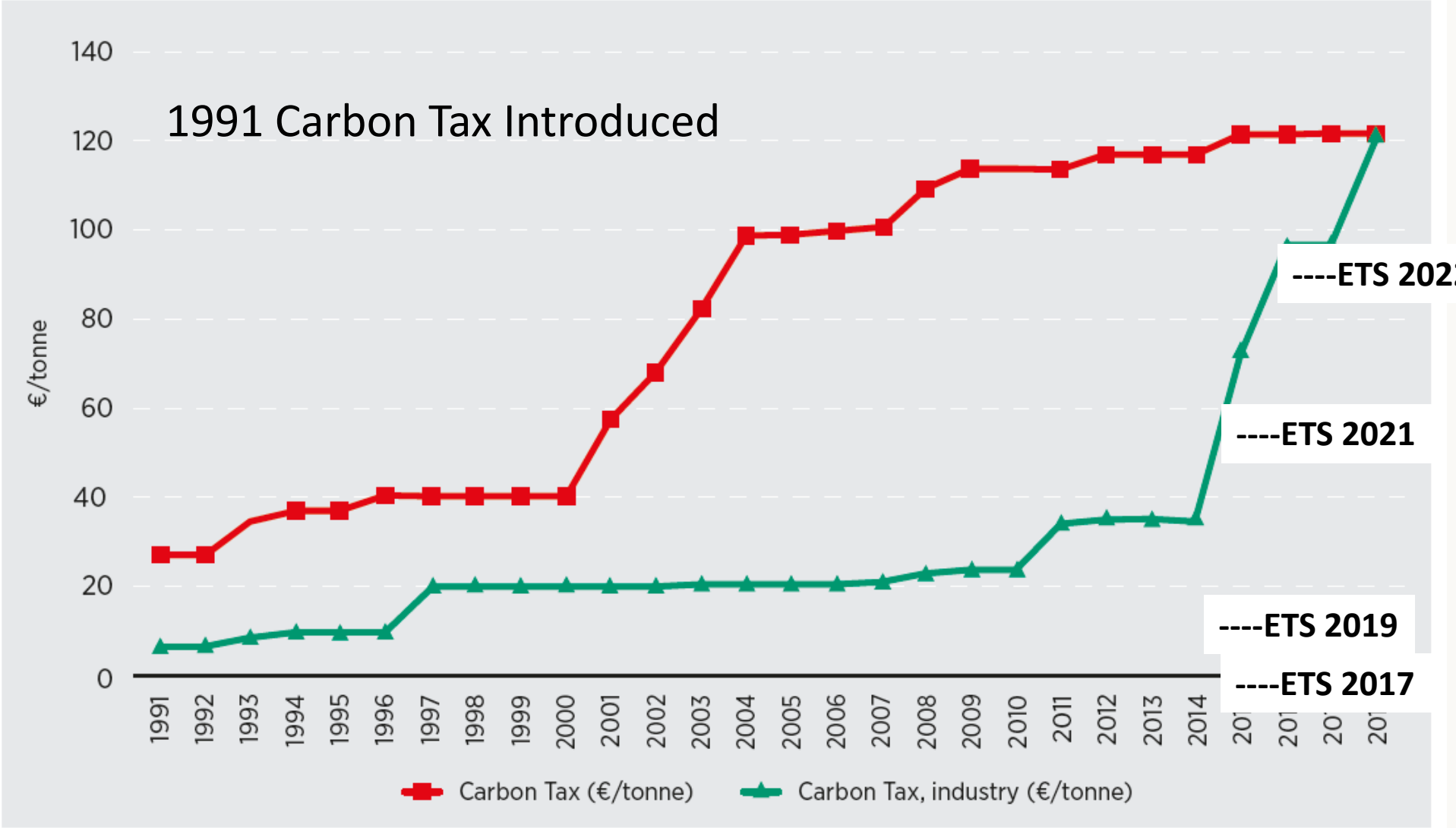
1973 Yom Kippur war

1974 OPEC Oil Embargo Oil price + 300%

1991 Carbon Tax introduced

2003 Green electricity certificates and Carbon Price increase to 100 EUR/tonne

Figure 1.1 Carbon tax in Sweden, 1991-2018 (EUR per tonne of carbon dioxide)

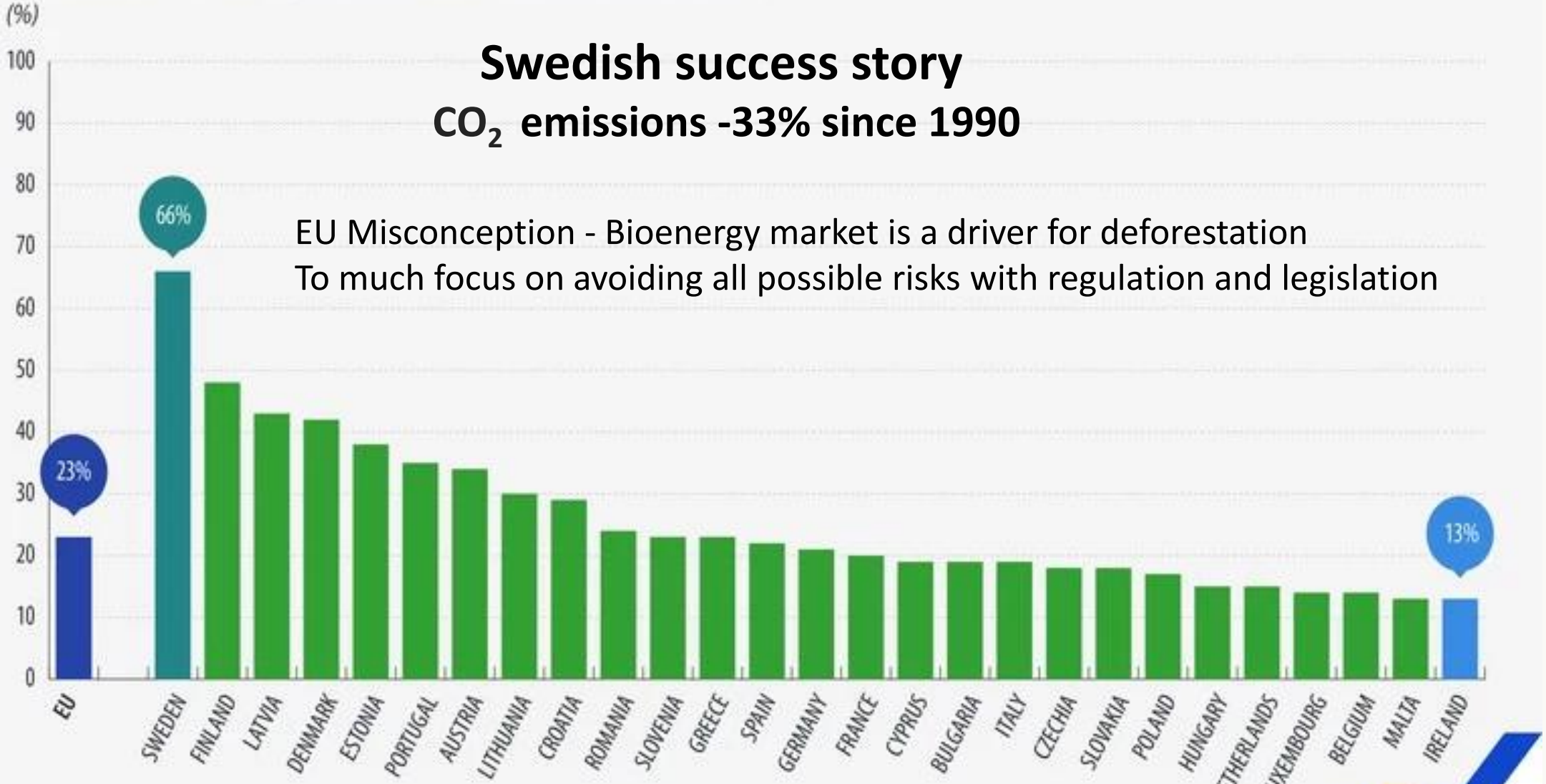


Source: Swedish government, Ministry of Finance, and Svebio (2018)

Swedish success story

CO_2 emissions -33% since 1990

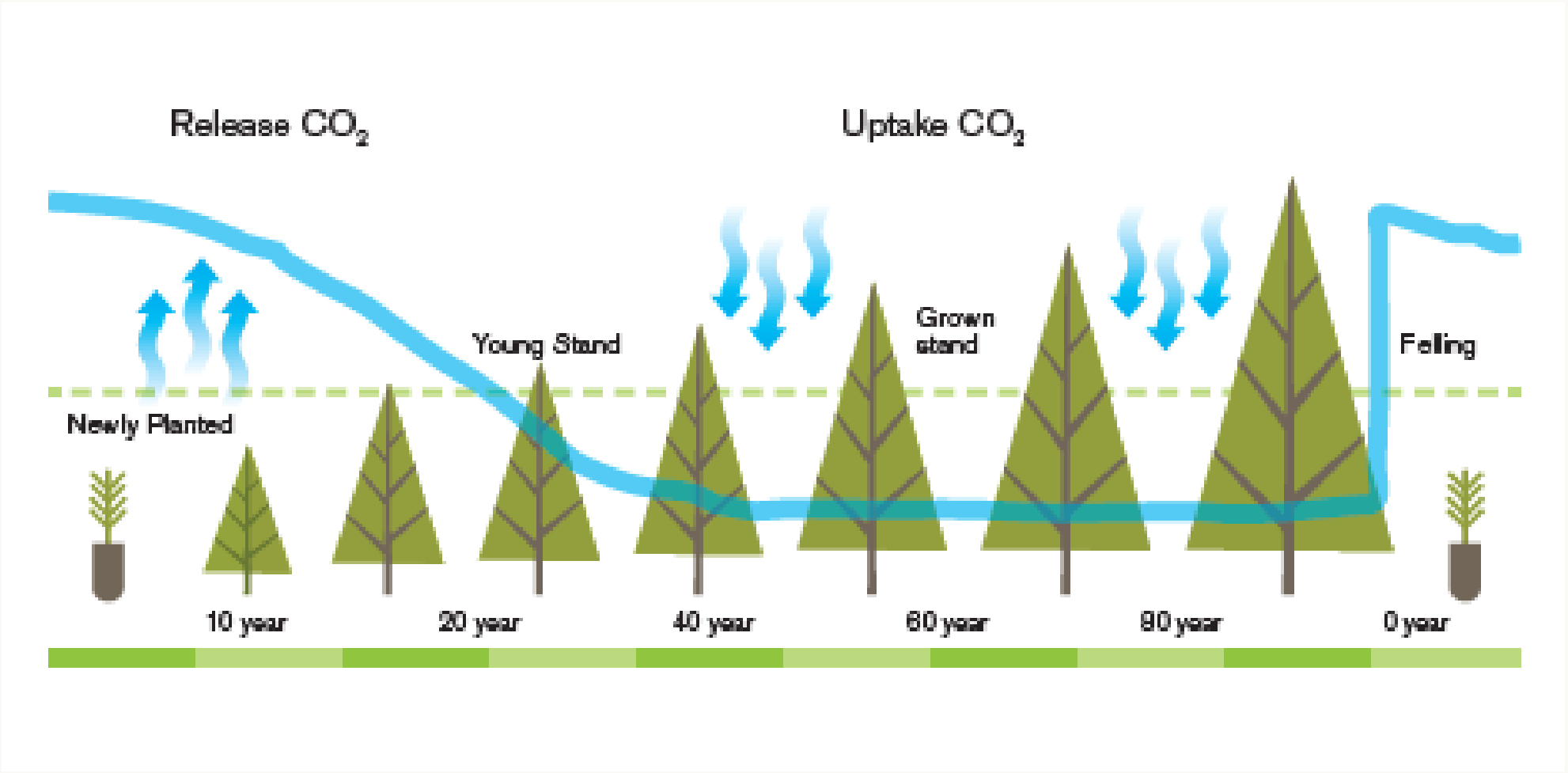
EU Misconception - Bioenergy market is a driver for deforestation
To much focus on avoiding all possible risks with regulation and legislation



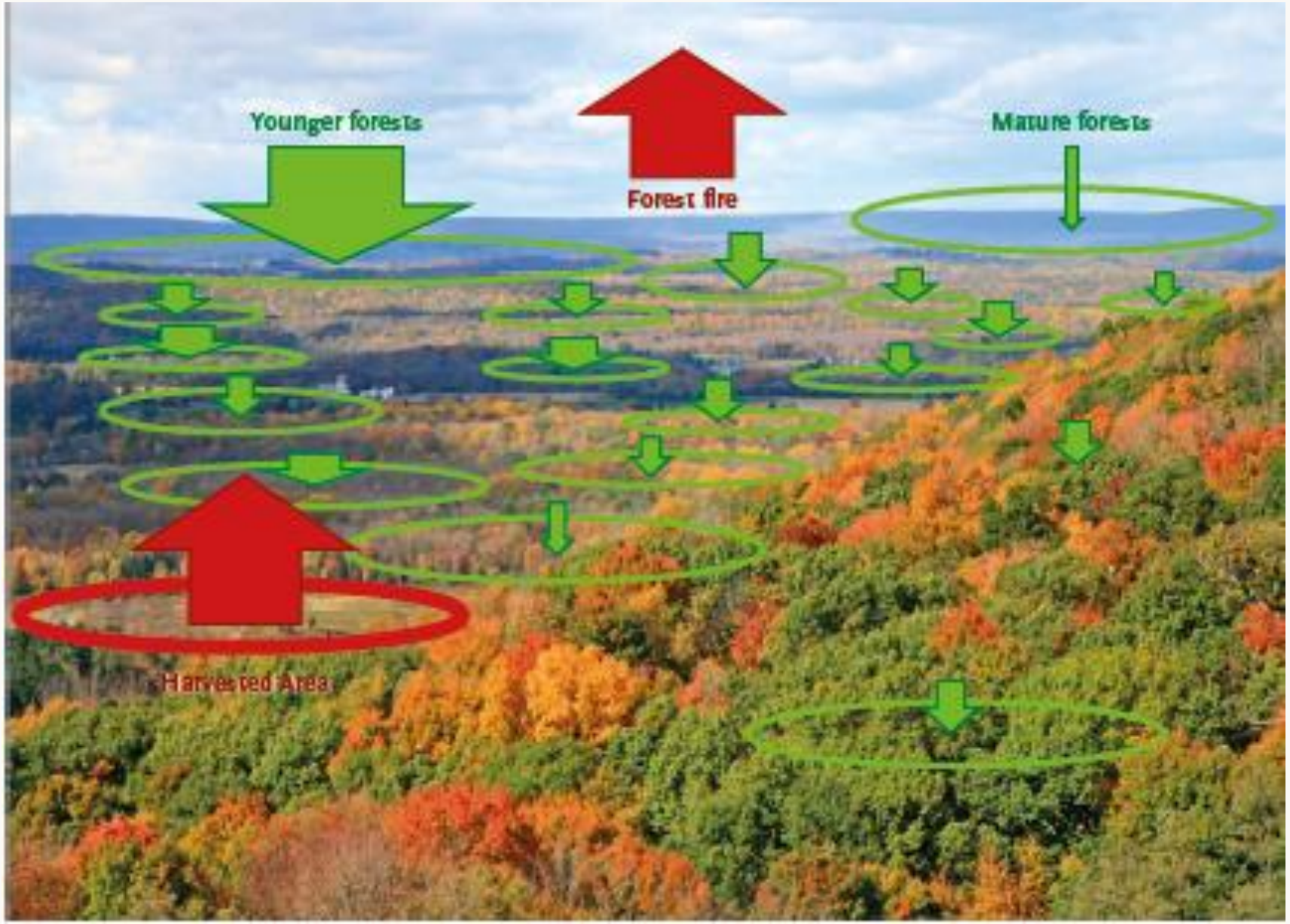
Leave the trees in the forest as a carbon sink – bad long term climate policies

- Burning of fossil fuels is the problem, not active and sustainable forest management
- No biomass flow to the society to substitute material and energy of fossil origin
- This strategy ignores that mature slower growing trees occupy the space that could otherwise be utilized by young faster growing trees.
- Old trees will after some time no longer be a carbon sink but a slow carbon emitter

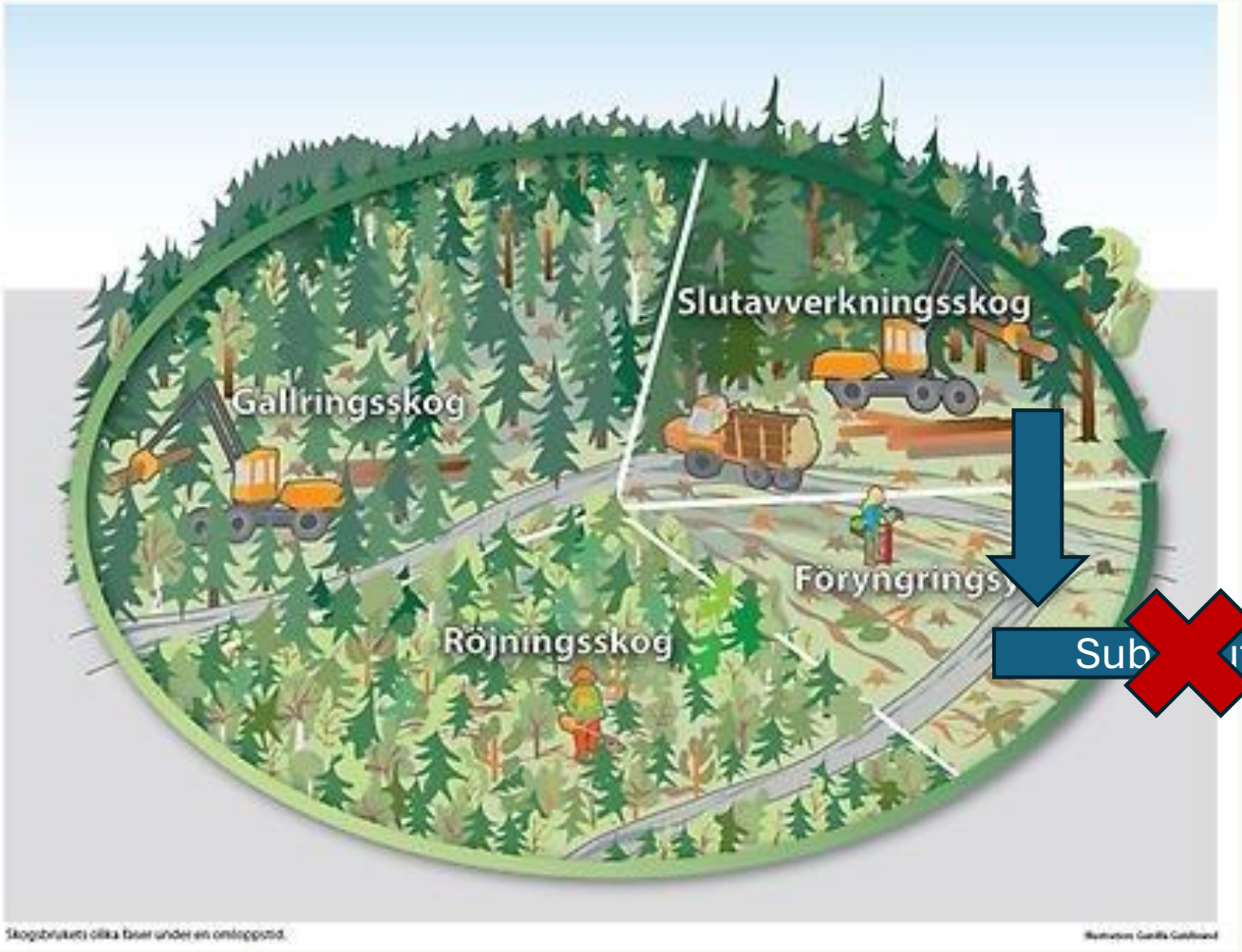
Only 0.8% of Swedish forests are felled annually, while the remaining 99.2% continue to absorb CO2.



Carbon losses in some stands are counteracted by carbon gains in other stands



Not in my back yard!



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Sub ition

Forests – A powerful tool for the climate work

Increase Growth + Maximize Substitution = Increased Climate Benefit

1 m^3 wood subst.
Coal 700 kg CO_2

1 m^3 wood subst.
Oil 500 kg CO_2

1 m^3 wood subst.
Gas 400 kg CO_2

1 m^3 wood subst.
Metal 1000-1500 kg CO_2

1 m^3 wood subst.
Concrete 1500 kg CO_2

Climate policies should encourage increased forest growth !

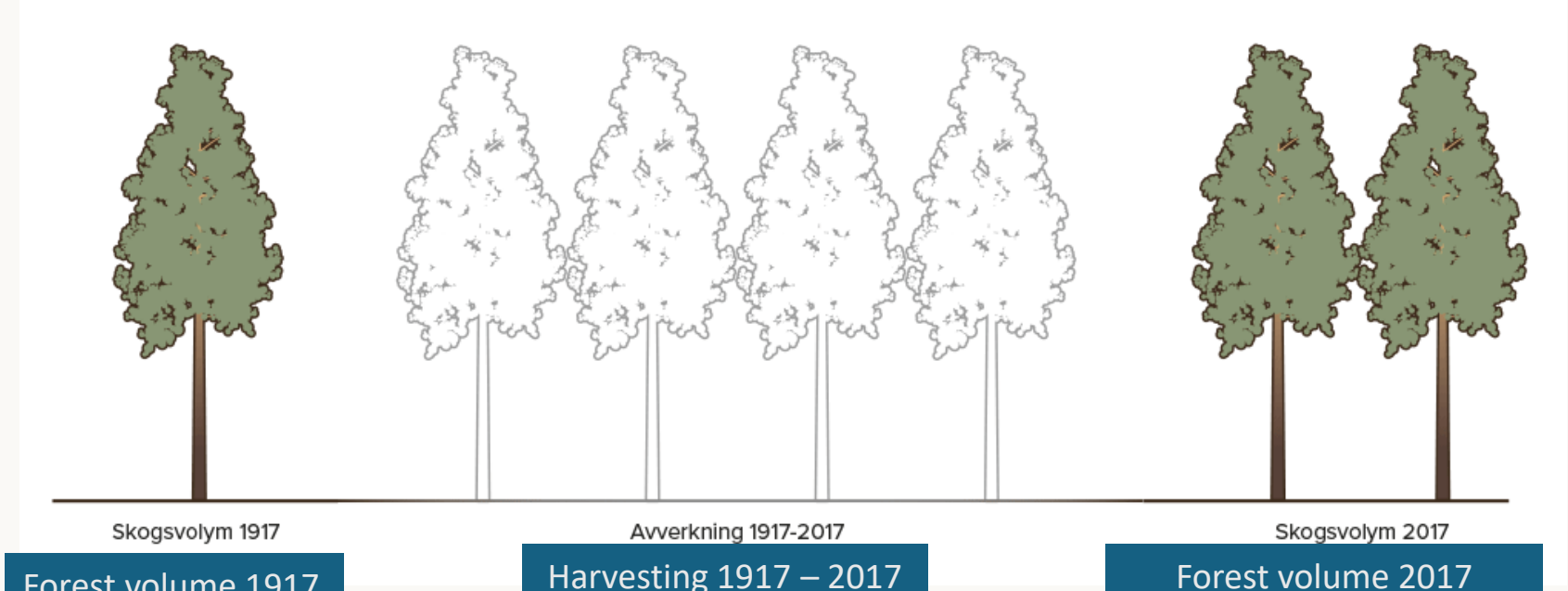
Source: Potential Roles of Swedish Forestry in the Context of Climate Change Mitigation
Tomas Lundmark et al

Increased demand for forest biomass results in more biomass not less
Biomass demand gives the forest owners incentives for good forest management

Over the last 100 years the standing volume in Swedish forests has almost doubled and carbon stocks in forests and forest soil have quadrupled.

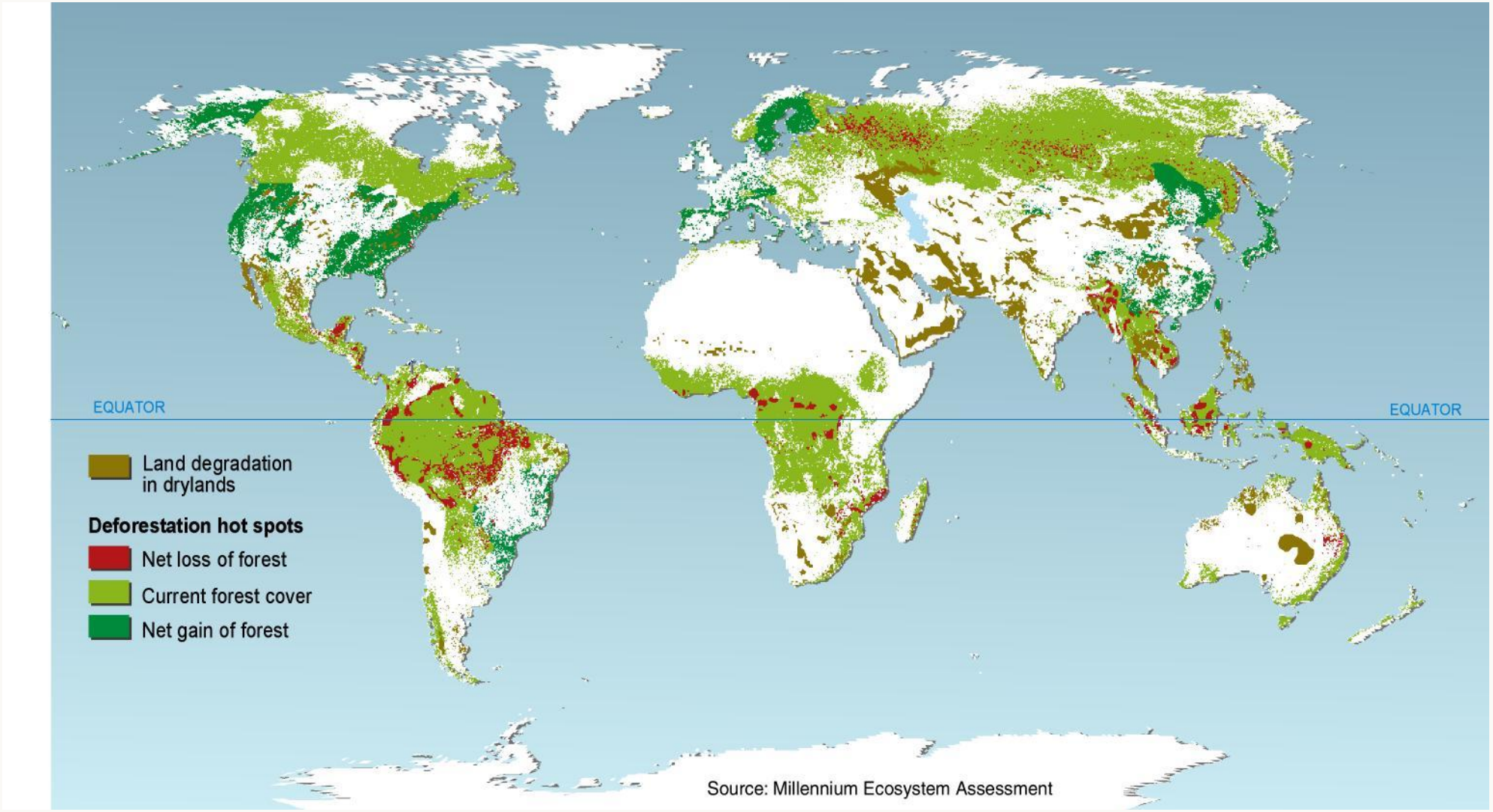
At the same time, more than 5 billion cubic meters of timber have been felled and delivered to the society.

Sustainable forest management has in other words proven to have a positive impact on climate change mitigation.



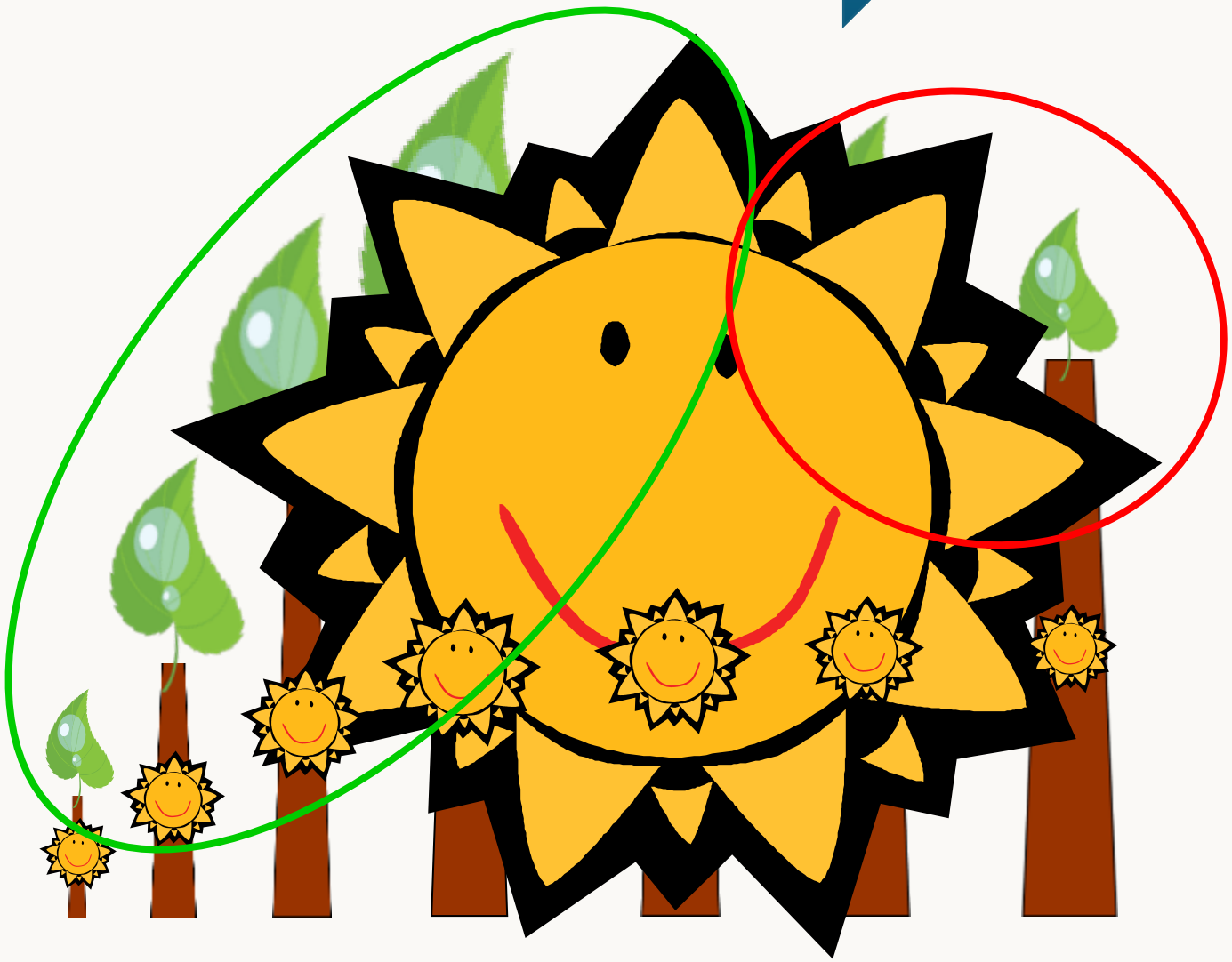
Deforestation is big problem for the climate!
Forestry is not a driver for deforestation!

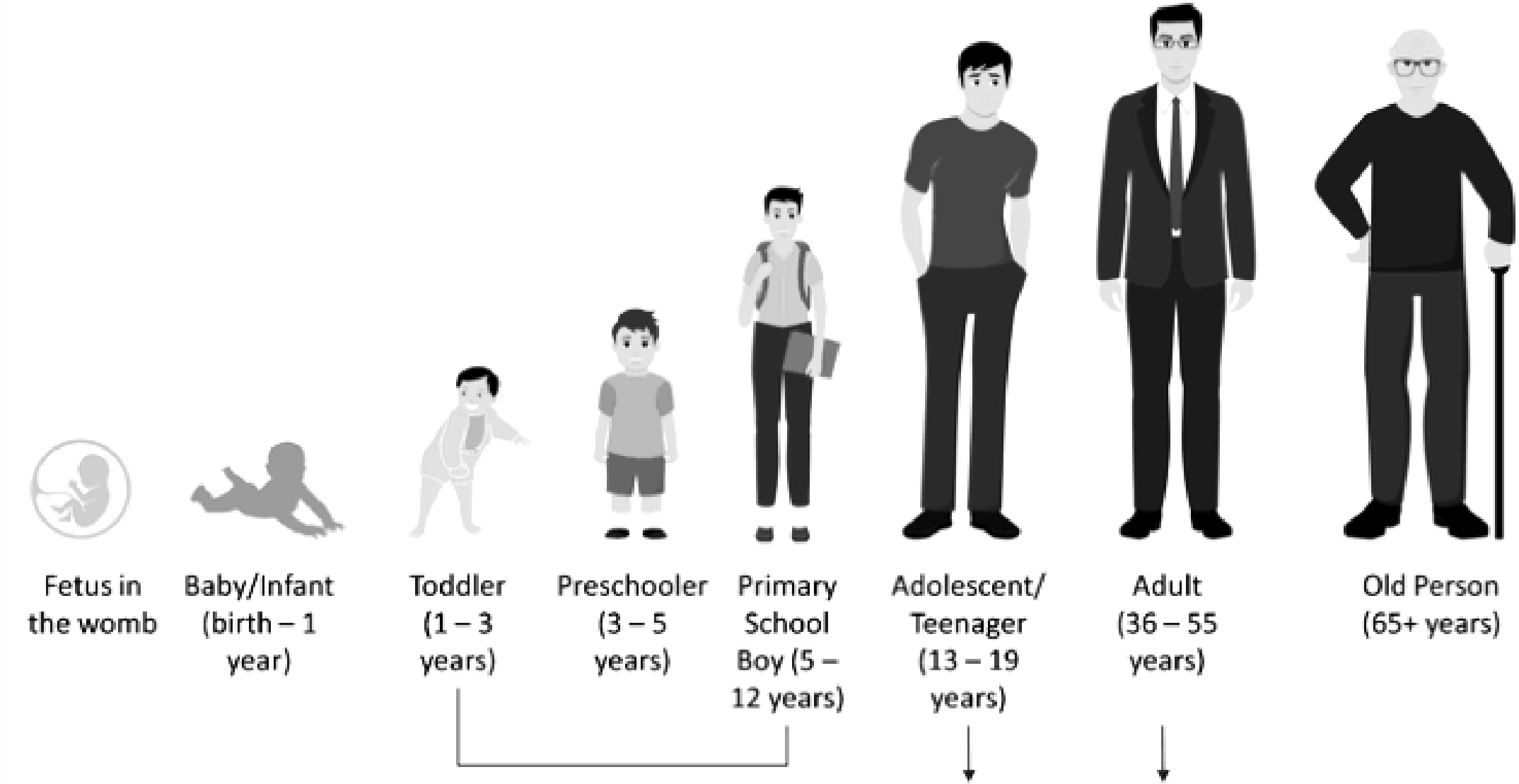
Global Deforestation Hotspots



Chemical Equation

EU Polices




Fetus in the womb
Baby/Infant (birth – 1 year)
Toddler (1 – 3 years)
Preschooler (3 – 5 years)
Primary School Boy (5 – 12 years)
Adolescent/ Teenager (13 – 19 years)
Adult (36 – 55 years)
Old Person (65+ years)


Thank you for your attention!
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