Forests and climate change mitigation in the Swedish context

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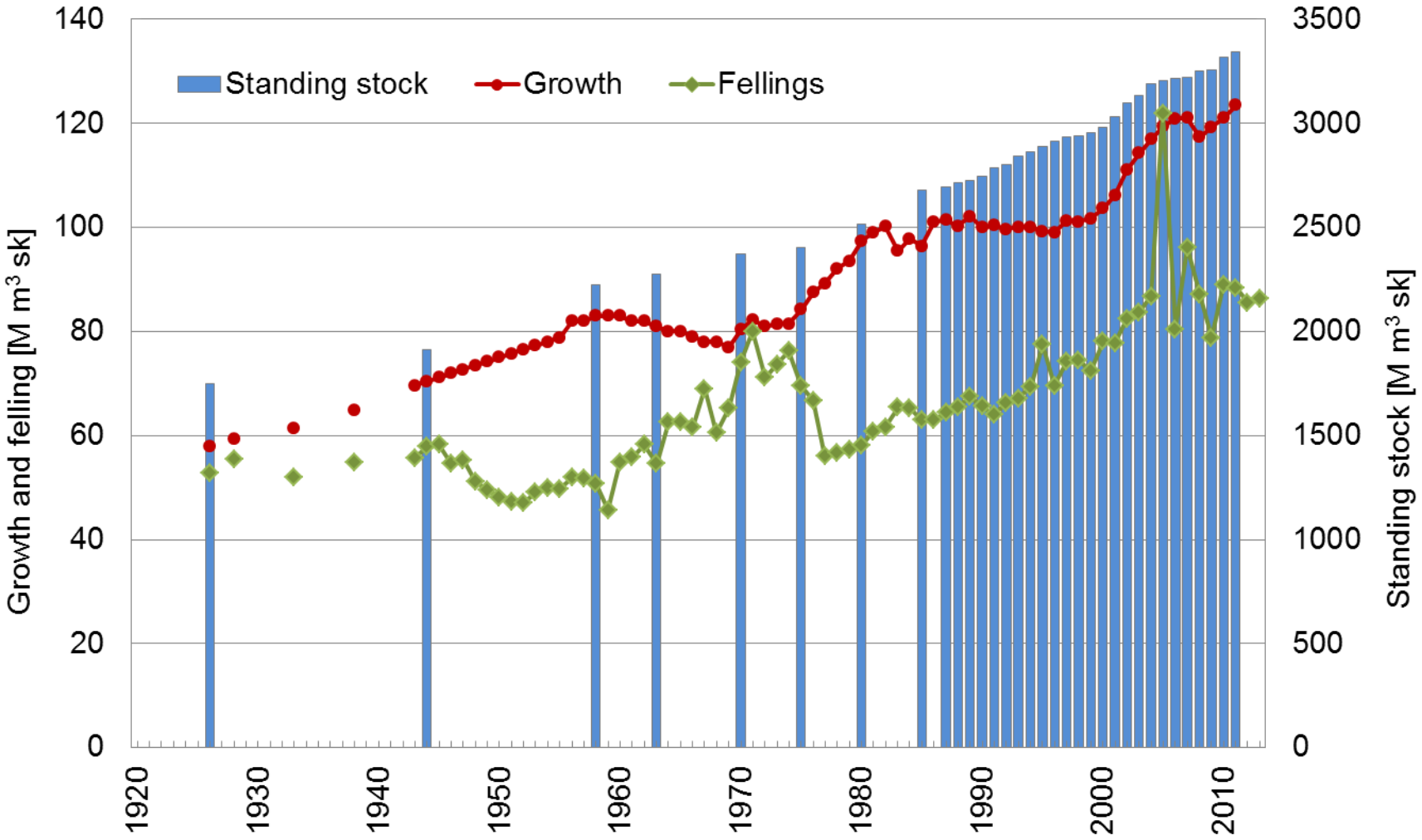
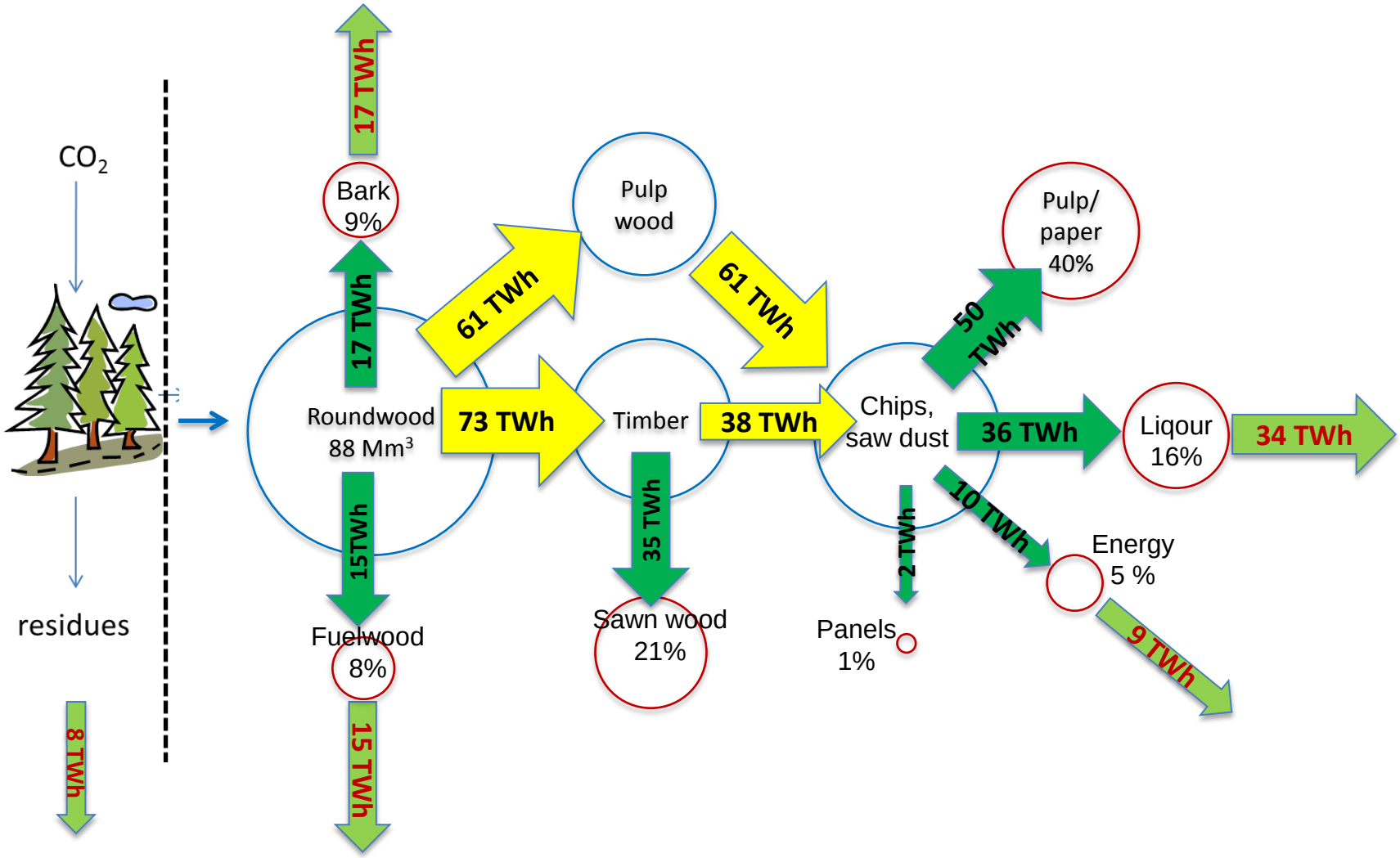
Degraded forests in Sweden 100 years ago

The forest transition in Sweden



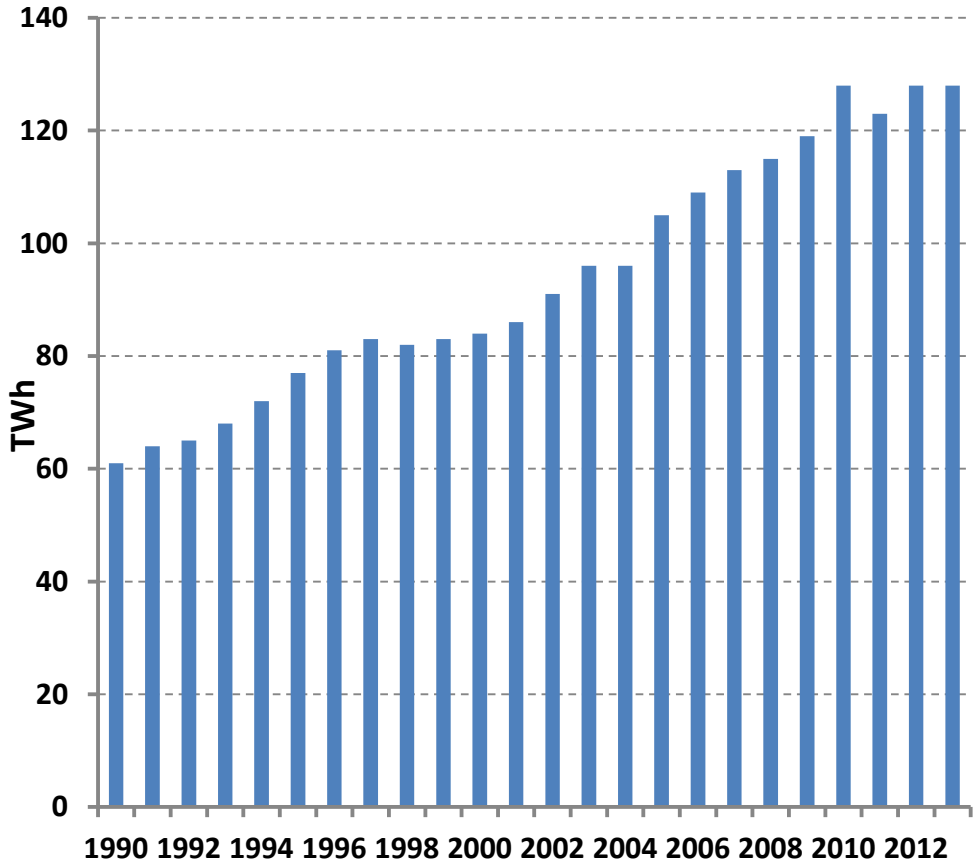
Uses of harvested wood 2014



Priorities regarding the Swedish forest resource in national climate change policies

- To increase bioenergy use from Swedish forests to substitute fossil energy
- To increase the use of wood products from Swedish forests to substitute fossil materials and materials requiring high energy input.
- Achieve the increased use of the resource within the framework of sustainable management, including maintaining the level of the Swedish net forest sink and other sustainable goals
- Always underlining the long term perspectives in boreal forestry and looking for long term effective climate change policies for the forest management.

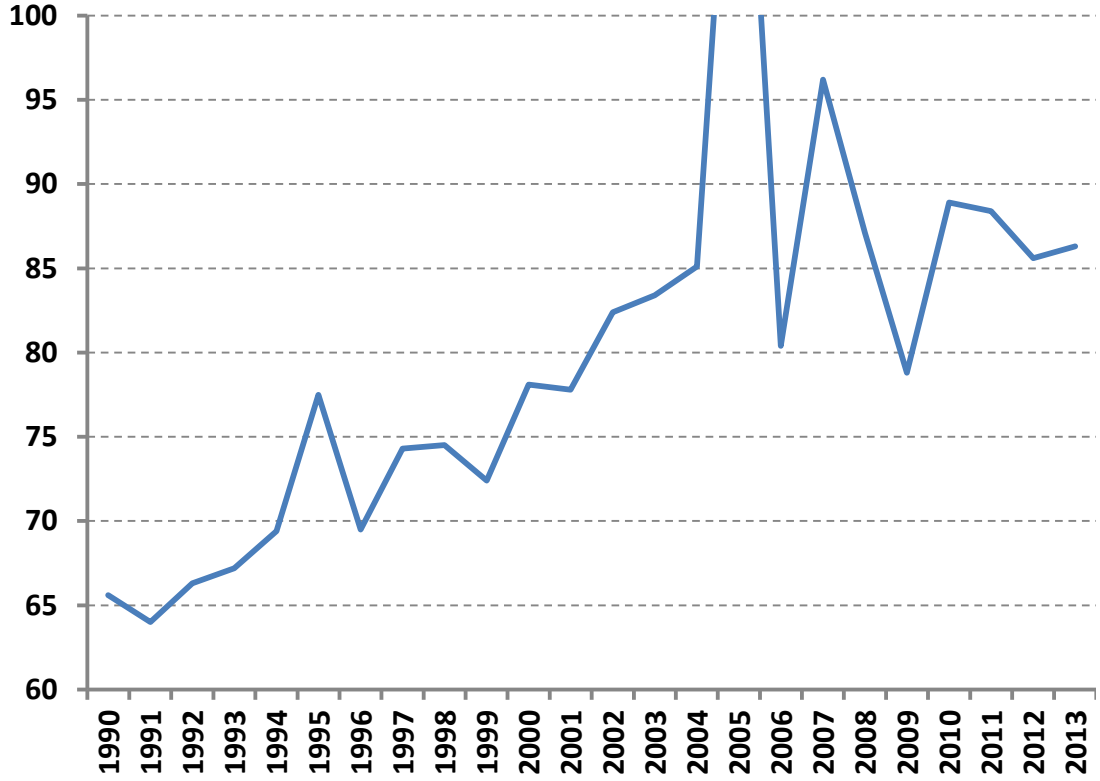
Use of bioenergy in Sweden 1990-2013



- in 2013 bioenery use was 128 TWh, while the overall energy use has been fairly stable around 550-600 TWh
- Most of the bioenergy use in heating and electricity production
- Bioenergy is growing in the transport sector
- In recent years increased competition in heating and electricity production from imported waste

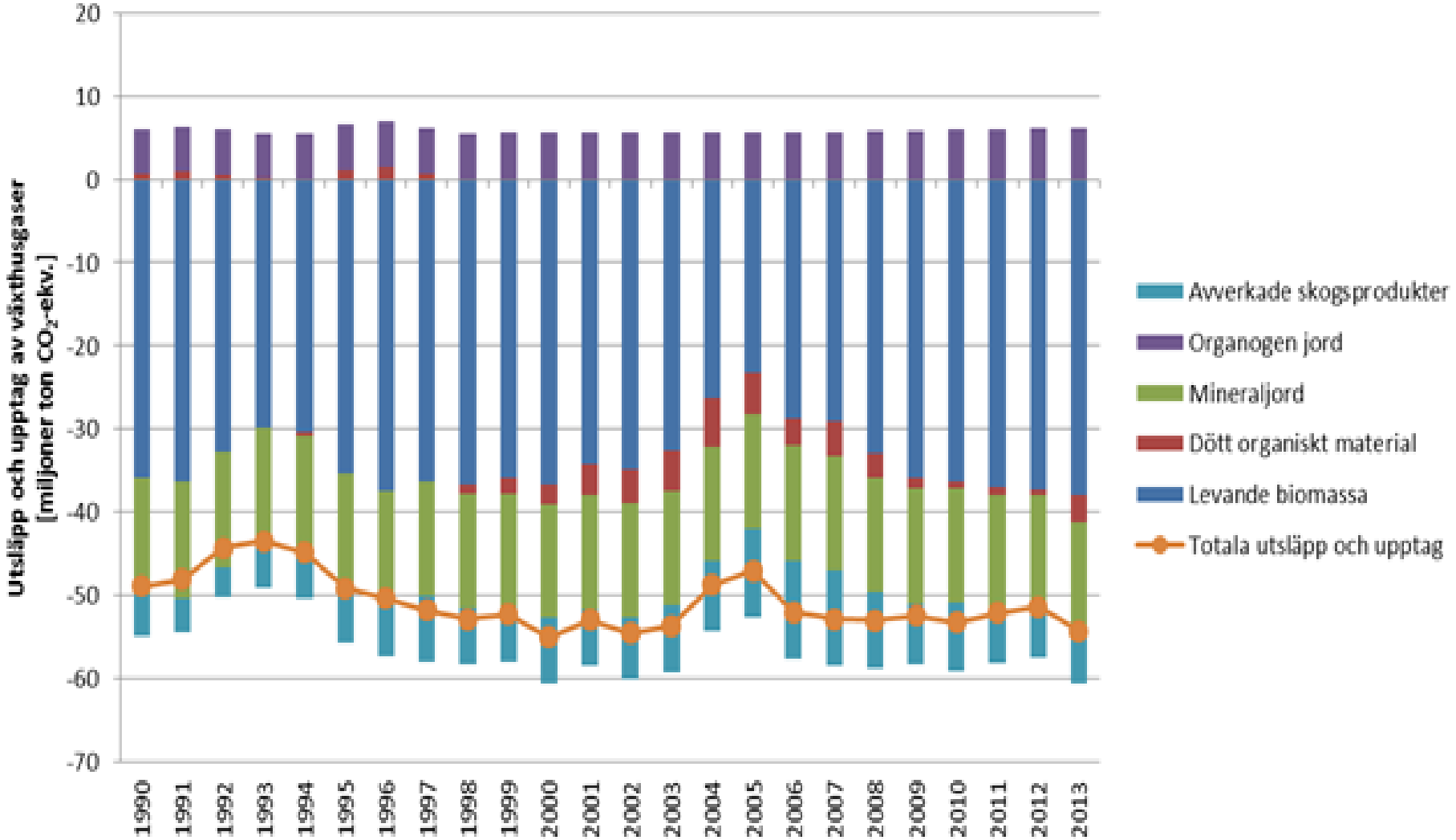
Harvesting level in Sweden 1990-2013

(million cubic metres)



- Harvesting levels has increased steadily due to demand from forest industry and energy sector
- Large storms in 2005 and 2007, affecting
- Economic downturn from 2008 in construction and less demand for newsprint has reduced growth in the forest sector the last few years

Development of the forest sink



Several policy processes addressing the role of forests in the climate change policies at present

- Government offices develop Swedish position for the inclusion of LULUCF in the EU 2030 framework (ongoing)
- Commission on national environmental goals (2016)
  - formulation of national targets for midterm and long term
  - Strategies and measures to be implemented
- Commission on future energy policies (2017)
  - future energi mix
- National Forest Program (2016/17)
  - Enhance the value of the forest resource for society including to mitigate climate change
- National agenda for bioeconomy (2016/17)
  - under discussion

Questions or comments?

Feel free to contact:

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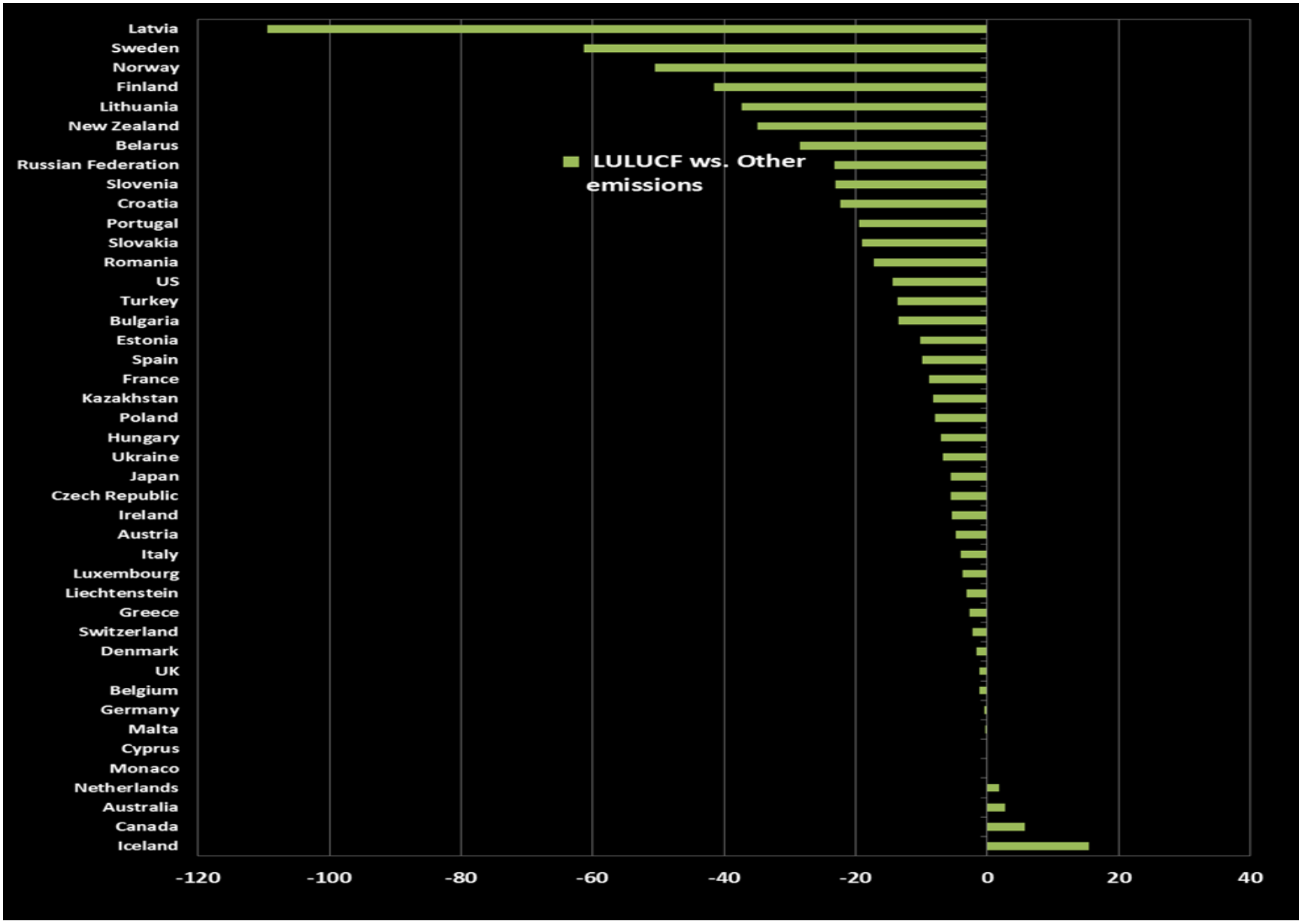
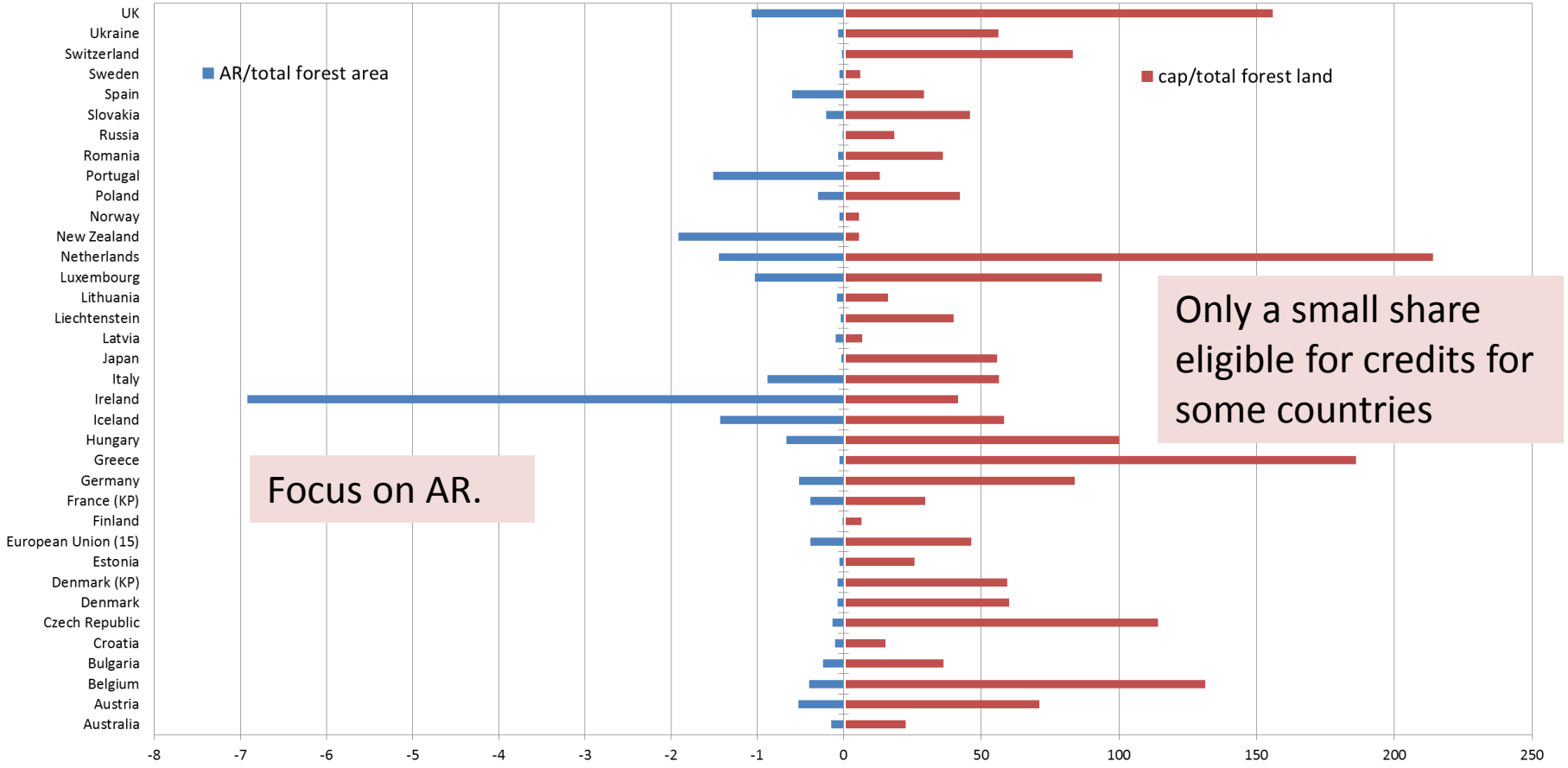
Extra material:

Different situations (1)



Different situations (2)



Focus on AR.

Only a small share eligible for credits for some countries

Measures to reduce emissions through substitution

- Substitution of fossil fuels for biofuels contribute to large emission reductions. There is further potential for cost-efficient emission reductions through substitution of fossil fuels, i.a. in transport and industry sectors.
- Increased use of wood for multistory houses and bridges can reduce emissions from metal-reinforced concrete and increase carbon storage.
- Increased use of biofuels is driven by a more efficient use of residues from forestry, forest industries, refinement industries
- Economy-wide carbon tax on fossil fuels has driven substitution of fossil fuels for biofuels since 1991. Other notable policy instruments are electricity certificates, quota obligations on renewable fuels and support to research and development.

Kan sägas muntligen till figurer

Measures to reduce emissions in forests

- More extensive use of already established silvicultural practices could increase growth and carbon sequestration.
- Adapting forestry to reduce the risks for damage (fire, insects, pathogens and wind-felling). Swedish Forest Agency continuously provides information and advice on climate adaptation to forest owners.
- Conservation work can increase carbon stocks in forests but reduce production of biomass to be used for substitution of fossil fuels.
- Reduce emissions from previous drainage and stimulate restoration of wetlands.

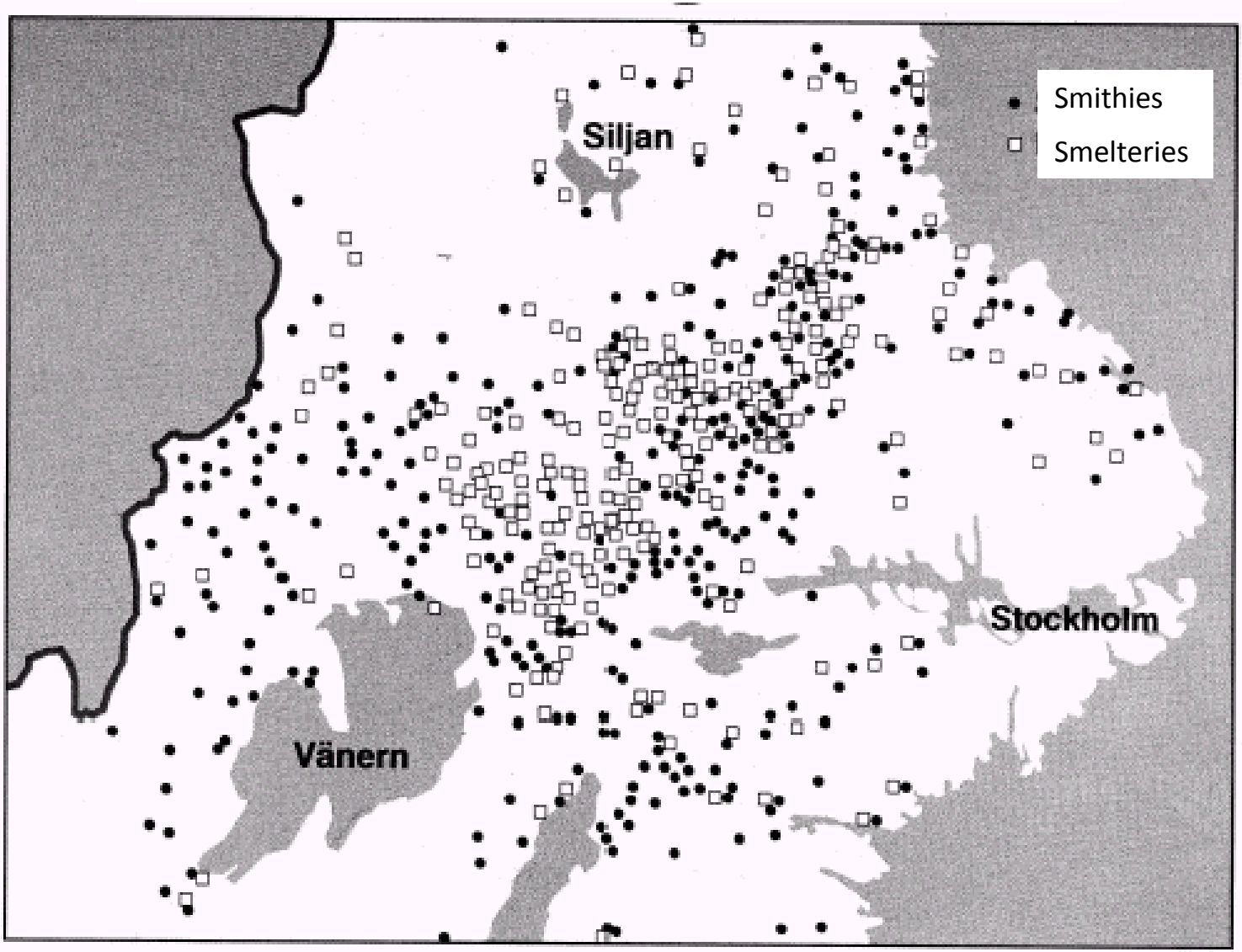
Adaptation measures – examples SÄGA NGT OM ANPASSNING? ELLER BARA HA I BEREDSKAP? SLIDE FRÅN JÖRGEN

- For preserved forest productivity in future?
  - Selecting tree species/provenance for best production
  - More species-specific damage -> risk spreading
  - Improved road maintenance/quality
  - Anti-root rot treatment
  - GENETIC DIVERSITY? BLANDSKOG, ????

- For improved resilience related to other values (biodiversity, social, non-wood products, tourism, etc)?
  - Risk spreading -> more species
  - More differentiated silvicultural systems
  - Climate change strategies for preservation

But how did we end up with our current situation?

Iron production required huge amounts of wood



National policy shaped by context and stakeholders

- Forestry Act, 1903: Mandatory regeneration measures
- Increased involvement from the public to restore degraded lands
- New forest model during the 1940s → clear-felling and regeneration
- Forestry Act, 1979: Detailed regulations, Wood shortage for the industry (threat)

Priorities regarding the forest resource in national climate change policies (1)

- **Focus for Swedish climate change policies has been domestic reduction of fossil emissions**
- **Efforts to reduce emissions outside Sweden has been an important addition**
- **Less interest in the net removal from LULUCF, although almost of the size of the emissions in the rest of the economy, thus**
  - has not been included in domestic climate change targets and
  - mostly excluded from domestic policy discussions