Swedish bioenergy – a success story?

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Photo: Frederic Forsmark
Energy supply, total Sweden

Figure 8 Total energy supply in Sweden, excluding net electricity exports, 1970–2010, in TWh

Source: Swedish Energy Agency and Statistics Sweden.
Renewables (proportion of total)

**Figure 11** Sweden’s total proportion of renewable energy use, 1990–2009

Source: Statistics Sweden and the Swedish Energy Agency.
Note: The proportion for 2009 is based on short-term statistics, and is therefore subject to change.
Sources of bioenergy in Sweden

- **Biol. residues**
  - Ethanol, FAME
- **Forest industry**
  - (black liquor etc)
- **Tree biomass**
  - from forestry
The origin of tree biomass

Tree biomass from forestry
Origin of tree biomass: sometimes whole stems.

Photo: Jonas Rudberg
Sometimes, and rapidly increasing, stump extraction.
Stump extraction can create leaching of nutrients, metals, sediments etc. Damaging or jeopardizing soil, water ecosystems – even future production.
...but mostly: branches and twigs (by-products) are used.

So – is there a problem?
Forestry in Sweden is not sustainable

Photo: Hans Sundström
Landskapsförändringar
Transformation of the forest landscape
Transformation of the forest landscape
Transformation of the forest landscape
Transformation of the forest landscape

Source: J. Svensson & P. Sandström, Institutionen för skoglig resursanalys, SLU
Voluntary set-asides are most welcome, but not sufficient:

- Quality
- Long term
- Transparency

... far from satisfying

SSNC report: "Credibility at Stake"
The **less** protected areas – the **more** nature consideration needed in the production forest
1800 forest species on the Red data list

...at least 24 of those used to live here

Photo: Malin Sahlin
White-backed woodpecker

Earlier: quite common in large part of the country.
Now: two (2) breeding pairs, less than ten (10) ”singles”

Cause: forestry. Red listed: ”critically endangered”
What is needed

• More forest protection, in Sweden and elsewhere – balancing the increasing wood demand

• Substantial improvement of nature consideration in forestry; clear-cut free forestry methods

• EU-level criteria for sustainable production/harvest of biomass
Challenges and risks

• Forestry as such – safeguards for protection of species and habitats are already too weak

• Growing demands emphasizes the urgency for sustainability criteria to meet increasing market

• Some MS are opposing such criteria with vague or false arguments, e.g. ”we already have SFM”
The Swedish position on EU biomass criteria

The Swedish Society for Nature Conservation (SSNC) is highly aware of the resistance against EU-wide sustainability criteria on biomass that has been communicated by the Swedish government and some other member states.\(^1\)\(^2\) Therefore, we would like to clarify that Sweden's official standpoint in this matter by no means is supported by SSNC, the largest environmental NGO in Sweden.

Unlike the Swedish government, we see an urgent need for sustainability criteria for all kinds of bioenergy, including biomass from forests. The present Swedish forestry is not sustainable, especially when it comes to how it affects the environment in general, and biodiversity specifically. The measures and processes that are referred to by the Swedish government in the referred letter...
Criteria for EU sustainability criteria

• Legally binding
• ”Management plans”- good, but far from enough
• Safeguarding strict habitat protection (consistent with the Habitats directive)
• Ensuring no biomass harvesting from forests on sensitive soil types or from biotopes of conservation value
• No destructive harvesting methods
• Adding substantial improvement to the national forest legislation (at least SE!)
Thank you!