

Burning wood is *not* green transition

In Denmark, almost half of the electricity production and most of the heat production is based on burning trees and fossil fuels. This contributes to global warming, harmful air pollution and serious deterioration of nature. Danish power and heat plants have in the last 20 years increased their burning of forest by a factor 10 - while their burning of international forest has increased by a factor 25. Denmark's burning of trees pollutes the atmosphere with roughly 15 million tonnes CO₂e every year - this is NOT green transition and should not be done by any state.

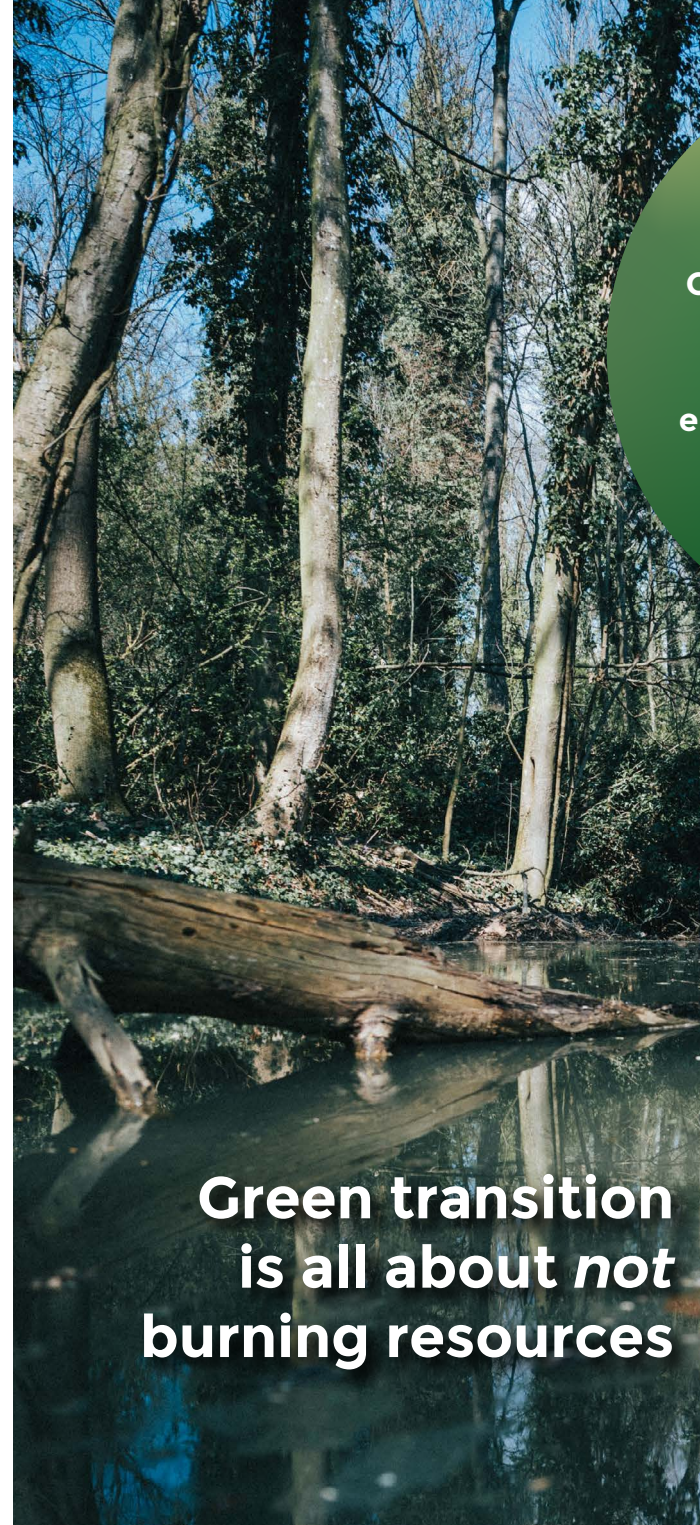
Emission free energy production

Green transition is all about not burning resources. Hence, we must phase out burning trees and the use of fossil fuels in the energy production as soon as possible. Fortunately, many green alternatives exist.

First step is to avoid unnecessary electricity and heat consumption. This can be done by better insulation of buildings, higher energy efficiency and electricity savings in households, companies etc.

In Denmark, electricity must be produced by wind and solar power, which is already covering a high share of the Danish electricity consumption - balanced by e.g., Swedish and Norwegian hydropower during periods without wind and sun.

Heat must be produced from central heat pumps in cities and private heat pumps in rural areas - supplied with electricity from wind turbines and solar panels. In parallel, we must utilize a higher degree of geothermal heat, solar heat, excess heat from industrial processes, heat storages, etc.



Green transition is all about *not* burning resources

By becoming a member of Green Transition Denmark, you actively support our efforts to promote green emission free energy - read more on www.rgo.dk/frontpage-english/

Recommendations

- All CO₂ emissions (also from burning wood) must be included in CO₂ reports/procurements by 2023.
- A ban on new establishments - and prolonging existing lifetimes - of energy plants burning wood by 2023.
- Burning of wood (firewood and wood chips/pellets) should be taxed no later than 2025.
- Wood must not exceed more than 15% of the fuel mix in electricity and heat production by 2030 and should be phased out in 2035.
- A ban on private heating with solid fuels (firewood, etc.) in district heating areas by 2025 and nationally by 2030.
- A ban on using fossil fuels for electricity and heat production no later than 2028 - with transitional solutions for gas customers that are waiting to be connected to district heating.

Climate impact

Burning wood is *not* climate neutral. One kg of CO₂ originating from burning wood causes the exact same global warming as one kg of CO₂ originating from coal burning. At best, CO₂ is reabsorbed by new trees in the long term but with considerable delay. In the emerging climate crisis, we cannot afford to wait even *one* decade for current CO₂ emissions to be reabsorbed by new trees. In addition, CO₂ emissions are not accounted for where the wood is burned. Thus, Denmark is just “exporting” its CO₂ emissions to countries from where the biomass is imported. On top, Denmark and many other countries incentivise a replacement of old wood stoves with new stoves that emit much more of the climate-damaging soot, which is *also* excluded from the carbon accounting. Hence, a major part of the Danish climate accounting is reminiscent to creative bookkeeping.

Deterioration of nature

Half of all Danish species are forest dependent. There are 10 different forest-ecosystems in Denmark. The biodiversity status of all of them is highly unfavourable. The absence of dead wood in forests is one of the main causes of this deterioration. In natural forests, the amount of dead wood is 30-40 times higher per hectare than in production forests – thus, the level of both biodiversity and CO₂ storage is much higher in natural forests. Therefore, there is an urgent need to ensure much more dead wood in forests (and gardens, parks, etc.) just as new forests are needed. Timber from forestry must

be used for products that have at least the same lifetime as the wood is old, and should replace concrete, steel, plastic, etc., instead of being used for energy production. We must develop to a climate-positive society that treats our forests as valuable nature, CO₂ storages and unique natural resources.

Air pollution

Air pollution is the third highest risk factor in relation to mortality for Danes and many Europeans. Wood burning in small private stoves/boilers is the most significant source of health and nature hazardous air pollution in Denmark; it contributes significantly to pollution of the indoor air as well. Every year, outdoor air pollution from wood burning in small private stoves/boilers causes several hundred deaths in Denmark. On top of this, adverse health effects from polluted indoor air along with health effects from health hazardous air pollution from burning of wood in large energy plants should be added.

Carbon capture is not a solution

Although the emitted CO₂ may be captured by CCS (Carbon Capture and Storage) at some point in the future, it comes with costs. Firstly, an incentive is created to continue burning trees that are a scarce natural resource, which is already overconsumed at the cost of our ecosystems. Secondly, there is a high cost and a high energy demand connected to CCS. Thus, many negative effects from burning trees still apply and the possible CCS technology should therefore not affect a phase out of biomass in the energy production.



The absence of dead wood in forests is one of the main causes of forest ecosystem deterioration



More information

Pollution from residential burning:

https://rgo.dk/wp-content/uploads/GTD_Pollution-from-wood-burning_2022-1.pdf

Where there's fire, there's smoke

https://eeb.org/wp-content/uploads/2021/09/Wheretheres-fire-theres-smoke_domestic-heating-study_2021.pdf



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Green Transition Denmark receives funding from the European Climate Foundation and Birdlife Europe for our work to phase out burning of wood for the benefit of the climate, public health, and biodiversity.