

Vattenfall's wood bioenergy investments and plans

Who is Vattenfall?

Energy company Vattenfall is fully owned by the Swedish state. For many years, until 2015, Vattenfall counted as one of the EU's top three fossil fuel CO₂ emitters.¹ In 2018, the company rebranded itself and adopting the motto "fossil free living within one generation".² In 2016, Vattenfall sold its lignite mines and power plants in Germany. Since 2017, Vattenfall has closed four of its six coal power plants and decided to stop burning coal entirely in 2030 (later than the coal phaseout date of many European countries),³ and the company has scaled up its investment in wind energy. However, Vattenfall retains a large fossil gas energy capacity (3.2 GW electricity and 5.2 GW heat).⁴ Furthermore, it has been investing in burning more wood for energy, mainly for heat, an energy source the company plans to expand significantly in future. This is the focus of this briefing.

Vattenfall's current investments in wood bioenergy

Vattenfall currently burns biomass in 14 heat and combined heat and power plants, two of them in Berlin, one in the Netherlands, and the remainder in Sweden. In addition to burning wood, they also trade wood pellets and a small amount of woodchips, selling them to be burned by other energy companies.

According to Vattenfall's response to questions by the German NGO *Urgewald* in 2021, the

company sourced a total of 750,000 tonnes of woodchips and pellets in 2020. Of this wood, 215,000 tonnes were recycled waste wood and the rest virgin wood. All of the wood Vattenfall burned in Germany and the Netherlands, and 88% of wood they burned in Sweden that year were sourced domestically (i.e. from the three countries respectively). 12% were imported from Belarus, although the company has since stopped sourcing from that country. Since then, Vattenfall has commissioned a new biomass plant, in Uppsala, their second biggest wood-fired facilities to date.⁵

Wood sold to other energy companies has recently been imported from the USA, the Baltic States, and Russia.⁶ As of 4th April, 40 days after the Russian regime started its all-out invasion of Ukraine, Vattenfall has still not announced that they will cease purchasing wood biomass, nor for that matter coal or gas, from Russia.

Vattenfall's plans to scale up wood burning:

Vattenfall is continuing to increase the amount of wood it burns for energy. In **Sweden**, it has joined an EU-funded project aimed at developing alternatives to using coal in iron and steel production, called HYBRIT.⁷ Part of this project involves hydrogen produced from renewable electricity. The other part, however, involves testing the use of pyrolysis oil made from wood – likely stemwood⁸ - to replace coal as a heating fuel. The amounts of wood required in the pilot project itself will be quite small. However, if this technology proved economically successful, it



could create a very significant new market for wood bioenergy.

In Diemen in the **Netherlands**, Vattenfall hopes to build a new 120 MW biomass heat plant which would burn 200,000 tonnes of imported wood pellets a year. The plant has been strongly opposed by environmental campaign group Comité Schone Lucht (Clean Air Committee), Mobilisation for the Environment (MOB) and local residents.⁹ Vattenfall has put construction plans on hold pending the outcome of a court case against the nature permit for the plant. The Clean Air Committee has asked Vattenfall to waive the licensed operating subsidy so that this subsidy can be used for real sustainable energy.



Moabit power and heat plant, Photo: Wikimedia

Impacts of Vattenfall's burning and trading of woodchips and pellets

Climate impacts:

At the point of combustion, burning wood emits at least as much and generally more CO₂ than burning coal per unit of energy. Bioenergy proponents argue that these emissions can be ignored because new trees will grow back in lieu of those felled and sequester all of that CO₂ again in future. It is an argument that ignores two key facts: Firstly, it takes decades for a new tree to grow large enough to store as much carbon as was emitted by burning a previous one for energy, and even longer for a regrowing forest to recover all the carbon lost during logging. In the meantime, the extra carbon dioxide remains in the atmosphere and fuels further global warming. Yet, as the IPCC has been warning, we have less than a decade to drastically reduce greenhouse gas emissions if we want to have a realistic chance of avoiding warming greater than 1.5 degrees (the goal of the Paris Climate Agreement), which would have catastrophic impacts. And secondly, as climate change escalates and as logging pressures and practices continue to intensify, there is no guarantee that forests will be able to recover and re-absorb the emitted carbon dioxide in future. In February 2021, an open letter by 500 scientists called on world leaders to "end subsidies and other incentives that today exist for



Protest against biomass plant proposed in Diemen, Photo: Comite Schone Lucht

In **Berlin**, Vattenfall plans to increase the amount of wood it burns nearly six-fold from, from 88,000 tonnes in 2020 to 450,000 tonnes a year by 2030.¹⁰ The plans involve two new biomass units being built on the sites of a coal plant (Moabit) and a fossil gas plant (Klingenberg). Vattenfall has not said where the additional wood will be sourced.



the burning of wood whether from their forests or others”, warning: “as numerous studies have shown, this burning of wood will increase warming for decades to centuries. That is true even when the wood replaces coal, oil or natural gas.”¹¹

Impacts on forests:

At present, most of the wood burned by Vattenfall comes from **Sweden**, a country where the prevalent ‘forest management’ practice consists of clearcutting forests. Sweden is subject to ongoing infringement proceedings notified by the European Commission on the grounds that “Sweden’s Natura 2000 network is insufficient both as regards habitat types and species under the Habitats Directive as well as birds and sites under the Birds Directive”¹² According to Sweden’s own reporting under the EU Habitats Directive,¹³ According to Sweden’s own reporting under the EU Habitats Directive,^{xiii} 14 out of 15 forest biotopes to be protected under the directive are have a status classed as ‘bad’ or ‘inadequate’ in some or all of the regions where they are found. Furthermore, the conservation status of 10 out of 11 woodland-living priority species of invertebrates is ‘bad’, with the remaining one ‘inadequate’. The Swedish Forest Agency’s 2021 annual review of the environmental quality objective shows a negative trend for forests.¹⁴



Forest clearcut in Sweden, Photo: Marcus Westberg

Wood currently burned in Berlin is sourced from **Germany**.

German forests are under increasing pressure from a combination of increased wood demand, accompanied by an intensification of logging, climate change, and environmental pollution.¹⁵ Satellite imaging has revealed significant loss of tree cover, with North Rhine-Westphalia having lost around 4.5% of tree cover and Saxony-Anhalt around 5% between 2016 and 2020. Around half of Germany’s entire annual wood harvest is burned for energy.¹⁶

Wood pellets and woodchips traded by Vattenfall have recently been sourced from the Southeastern USA, the Baltic States and Russia, where clearcutting of biodiverse forests is widespread and causes significant ecological harm.

In the **Southeastern USA**, wood for pellet production is routinely sourced from the clearcutting of coastal hardwood forests¹⁷ that form part of a Global Biodiversity Hotspot.¹⁸ Wood is also sourced from pine plantations, however, those have for decades been expanded directly at the expense of biodiverse forest ecosystems.¹⁹

In **Estonia and Latvia**, logging volumes and areas of clearcut forest have been rising steadily in recent years, and especially in Estonia, that increase correlates neatly with rising demand for wood biomass, including for export.²⁰ In Estonia alone, as logging intensifies the number of forest birds is declining by 50,000 breeding pairs a year.



Typical clearcut in Estonia, Photo: Martin Luiga

In **Russia**, there have long been far less options for on-the-ground investigations due to repression against campaigners. However, a study by Greenpeace Russia and the University of Maryland illustrates the large-scale loss of intact forest landscapes in recent years, both in Western Russia and Siberia. However, a study by Greenpeace Russia and the University of Maryland illustrates the large-scale loss of intact forest landscapes in recent years, both in Western Russia and Siberia.²¹ Illegal Russian wood recently found its way onto EU markets, some of it PEFC certified²² and some FSC certified²³. In response to the illegal war on Ukraine, both PEFC and FSC have suspended all certificates for Russian wood and wood products. Nonetheless, Vattenfall has not publicly said that they will stop sourcing from there.

Vattenfall's wider role in the expansion and greenwashing of wood-bioenergy and the international wood pellet trade

The company has for many years played a pivotal role in bringing about the recent expansion of wood bioenergy in Europe and developing the international wood pellet trade. In 2019, the International Renewable Energy Association (IRENA) published a report called "Bioenergy from boreal forests – Swedish approach to sustainable wood use".²⁴ According to the authors:

"Sweden has conducted in-depth research of related sustainability issues. It started with the Vattenfall project, which was carried out by the Swedish University of Agricultural Sciences (SLU) from 1990 through 1998." This suggests that Vattenfall has been involved from early on in developing the so-called "Swedish Forestry Model" and its framing as 'sustainable forest management'. This model has, denounced by environmental groups for the serious harm it causes to forest ecosystems, including old growth forests.²⁵

In 2010, Vattenfall was one of six European energy companies that set up the Initiative of Wood Pellet Buyers (IWPB).²⁶ The IWPB's stated aim was to "enable the trading of industrial wood pellets among the partnering companies", and their first task was to develop a reference system for technical specifications for wood pellets, which became the EN plus labelling scheme.²⁷ In practice, this meant setting up the first international quality standard without which there could have been no global market in wood pellets. IWPB members also started to draw up their own sustainability standards, however, in 2013, they decided to join up with wood pellet companies to continue those efforts through a new body, the Sustainable Biomass Partnership, later renamed Sustainable Biomass Program (SBP).²⁸ SBP is now the single biggest wood pellet certification scheme, recognised across the EU. It has been denounced by environmental NGOs, for example in a report by NRDC and Dogwood Alliance from the USA, calling it a "smokescreen for forest destruction and corporate non-accountability".²⁹ Even before the SBP was set up, in 2011, Vattenfall succeeded in agreeing the very first 'sustainable biomass' agreement anywhere in Europe, namely with the State of Berlin. It explicitly allows the sourcing of large stemwood for energy.³⁰ And, what is more, it gave the green light to a disastrous biomass sourcing project involving wood from Liberian rubber plantations. Vattenfall



terminated that sourcing contract in 2012. However, according to a report by the NGO Swedwatch in 2018, “the project and its shutdown led to several human rights challenges for local communities, particularly for female charcoal producers, local rubber farmers and BRF [the wood supplier] employees.” Those included loss of livelihoods and sexual exploitation and abuse of women. Furthermore the project competed with other charcoal users and pushed charcoal production into highly biodiverse forest ecosystems, thus accelerating deforestation.³¹ The same ‘sustainability agreement’ under which this project was deemed acceptable was extended for another ten years in 2021.³² It fed into the development of SBP certification.

What Vattenfall needs to do

Vattenfall must immediately cancel all plans to build new biomass-burning plants or to increase the amount of wood burned in existing plants, and abandon its wood biomass trading activities. A rapid and comprehensive phaseout of Vattenfall’s current coal, biomass, gas and waste burning portfolio is required, as part of a wider energy shift reliant on energy conservation and low-carbon renewable energy.

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- 9 See for example <https://www.biofuelwatch.org.uk/2021/netherlands-campaign-against-new-biomass-plant/>
- 10 Figures confirmed in email by Vattenfall to ROBIN WOOD, 6.9.2021
- 11 <https://www.woodwellclimate.org/letter-regarding-use-of-forests-for-bioenergy/>
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