

Financial Institutions' Stance on Biomass

HSBC Energy Policy (December, 2022)

- There is a role for biomass energy in a net zero economy, however this is likely to be constrained by the limits of sustainable biomass sources.
- For new finance or new advisory services to any client in respect of generating electricity from biomass in excess of 10MW per plant, criteria including but not limited to, "low lifecycle greenhouse gas emissions" and "minimising deforestation" will be applied.

Triodos Bank

- use of biomass in power generation to reduce carbon emissions may contribute to loss of biodiversity. (. . .) Burning of biomass for power production or application in mobility should be avoided.
—Vision Paper on Energy and Climate (September 2019)
- In new financing deals, therefore, we no longer focus on biomass for power generation.
—Triodos Bank's response to NGO letter about biomass (16 February 2021)

AXA Investment Managers—"Looking for Green Assets"

- AXA Investment Managers has eligibility criteria for a range of green investments. Biomass and biogas power are only eligible for investment if net emission reductions can be demonstrated with no deforestation.

Insight Investment—2019 RESPONSIBLE INVESTMENT REPORT

- Conversion of central power stations to biomass is more questionable. Burning wood pellets releases a material amount of CO2 and could accelerate deforestation if the technology is adopted on a large scale.
— PUTTING PRINCIPLES INTO PRACTICE 2018 RESPONSIBLE INVESTMENT REPORT

RaboBank

- In "Sustainability Policy Framework," the bank expects clients:
 - Not to produce biofuels that contain raw material obtained from land with high carbon stock, such as HCV forests and peatlands;
 - To produce biofuels that provide clear greenhouse gas emission benefits after considering the entire lifecycle of raw material compared to fossil fuels, where natural resources are used as efficiently as possible;
 - To ensure that the biomass/feedstock used for the biofuels does not replace (land for) staple crops when there are indications of local food insecurity.

A major Japanese life insurers

- "In principle, we will not engage in investments or loans for coal-fired power generation projects that have a significant impact on climate change due to greenhouse gas emissions, new construction or renewal of coal-fired power generation facilities for companies, or new construction or renewal of biomass power plants that use palm oil (palm kernel shells) or imported wood chips as fuel."
—From the company's Sustainability Report

(Reference)

- ShareAction, 2021. Countdown to COP26 An analysis of the climate and biodiversity practices of Europe's largest banks.
- BankTrack, 2022. Burning forests in the name of clean energy?
- ShareAction, 2019. The Biomass Blind Spot.

ESG RISK OF IMPORTED WOODY BIOMASS

Climate Change Risk

Despite often being labelled as carbon neutral or renewable, burning wood for energy emits no less carbon dioxide per unit of energy than burning coal, meaning it cannot contribute to the goal of the Paris Agreement to limit warming to 1.5 degrees. By financing the industry, financial institutions are jeopardising their ability to adequately transition their portfolio. This undermines their ability to fulfil climate commitments such as net-zero by 2050 or other targets.

Deforestation Risk

It has been recognised that protecting forests from deforestation or degradation is of paramount importance in tackling both the climate and biodiversity crises. However, the increasing demand for wood to be burned for energy is devastating irreplaceable forest ecosystems across British Columbia, the South-eastern USA, Central-Eastern Europe and increasingly in countries in the Global South. By continuing to invest in this industry, financial institutions are putting their biodiversity and climate commitments at risk.

Financial Risk

Generating electricity from biomass is an expensive and inefficient investment compared to other forms of truly renewable energy like wind or solar. In addition, the biomass industry relies heavily on subsidies from governments, but as scientific and public opinions shift on the issue of biomass, these facilities risk becoming stranded assets due to no longer being financially viable.

A Pellet Plant in British Columbia, Canada@Stand.earth

Recommendations for Financial Institutions

The GHG Protocol and SBTi states that biomass is not carbon neutral and requires that CO2 emissions from biomass combustion be counted. Financial institutions should be aware of this and conduct engagement with the companies in which they invest and finance. In addition, it is desirable to examine the appropriateness of the project as a renewable energy source and rethink the investment and financing.

[FYI] Biomass Power Generation Portal site : <https://biomassinfo.jp/>

[Contact] Global Environmental Forum : contact (a) gef.or.jp

THE REALITY OF WOODY BIOMASS POWER IN JAPAN ~HEAVILY DEPENDENT ON IMPORTS

Woody biomass power generation refers to power generation that uses wood-derived fuels from biomass (biological resources).

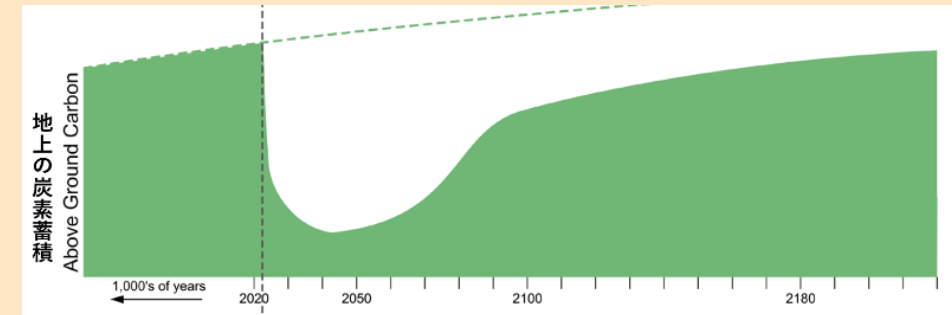
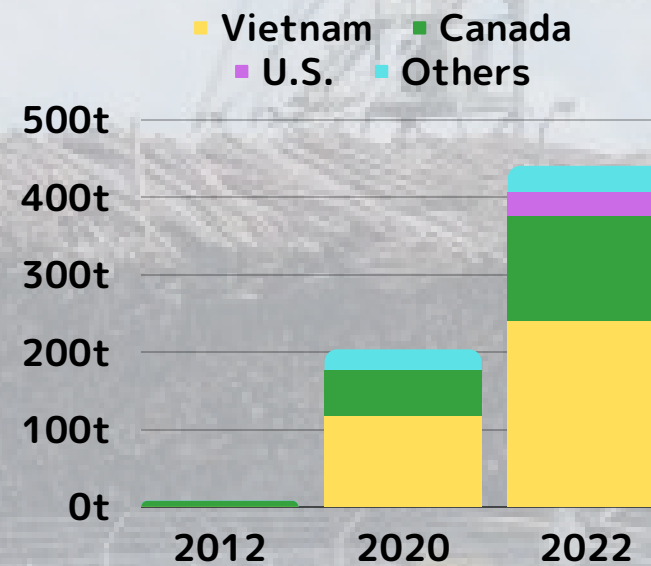
The energy efficiency of biomass power generation is very low, at around 20-30%. Large-scale power plants, which mostly rely on imported fuel, have difficulty utilizing heat, and 70-80% of the valuable wood is released unused as heat.

In Japan, the renewable energy feed-in tariff (FIT) system (launched in 2012) set the world's highest purchase price for woody biomass, leading to a sharp increase in certification and operation.

Nearly 80% (about 6.78 million kW) of the total biomass power generation capacity certified under the FIT system (about 8.3 million kW (September 2022)) is for large power plants, which depend on imported fuels such as wood pellets and palm kernel shells, which does not contribute to energy security, an advantage of renewable energy.

Imports of wood pellets increased significantly to approximately 4.4 million tons in 2022 (a 61-fold increase from the 70,000 tons imported in 2012). The combustion of 4.4 million tons of pellets will emit approximately 8.4 million tons of CO2.

Japan' Imports of wood pellets (ten thousands)



Left Figure) From a research by BC's forest ecologist, Dr. Suzanne Simmard

Right Photo) Sprawling blocks of clearcut in BC

In the southeastern United States, where imports have surged since last year, many of the wood pellet plants are located near forests designated as Near Threatened/Endangered by the World Wide Fund for Nature (WWF), where clear cutting is taking place.

Many of them are located in areas with high concentrations of poor people and racial minorities, which make them vulnerable to environmental destruction. Noise, dust, and air pollution have been reported in the vicinity of pellet plants.

Left) Forests in the southeastern U.S. that have not regenerated due to fires and hurricanes. They are severely degraded.

Right) A pellet plant located right next to the community's residential area.



NEGATIVE IMPACT ON BIODIVERSITY AND LOCAL COMMUNITIES IN PRODUCTION AREAS

Wood pellet manufacturers claim that they manage their forests sustainably and that they use residual and offcuts wood. In British Columbia (BC), Canada, the second largest suppliers of woody biomass fuels to Japan, approximately 20% of the fuel is produced by clearing valuable natural forests and processing them from logs into pellets.

In BC, primary forests (forests that have never been industrially logged, regardless of age), which are home to large mammals such as grizzly bears, wolves, and woodland caribou, and include First Nations conservation areas, are being cleared and the last remaining natural forests are used as pellet feedstock because of their low value as timber.

Clearcutting releases not only the carbon stored in the trees above ground, but also the vast amount of carbon stored in the soil into the atmosphere. It takes hundreds of years for soil carbon stocks to recover to their original levels. There is also a growing risk that forests will not recover to their original state due to forest fires and floods.

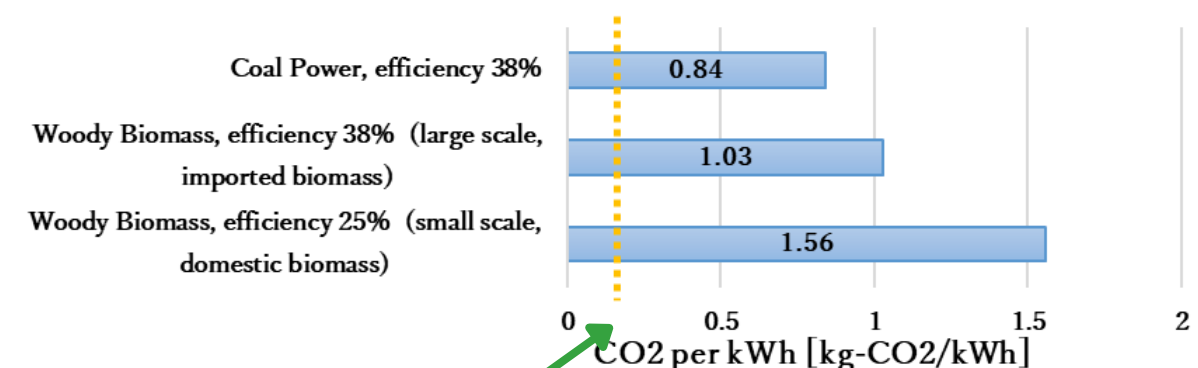
Greenhouse gas emissions, larger than coal-fired power

Multiple studies have shown that greenhouse gas (GHG) emissions from combustion are higher than coal-fired power.

"Japan Greenhouse Gas Inventory Report" by the National Institute for Environmental Studies (2021): Carbon emission coefficient for power generation:

woody biomass (29.6t-C/T) > coal (24.3t-C/T)

Manabu Utagawa, Senior Researcher, Energy and Environment Field, National Institute of Advanced Industrial Science and Technology (see figure below): CO2 emissions from woody biomass combustion



IEA Net Zero Scenario CO2 emissions per unit of electricity generated in 2030 (0.165 kg-CO2/kWh)
*Scenario in which the global energy sector achieves net zero in 2050