

**Voluntary Report** – Voluntary - Public Distribution

**Date:** July 14,2020

**Report Number:** NL2020-0034

**Report Name:** Dutch Government Advised to Cascade Biomass

**Country:** Netherlands

**Post:** The Hague

**Report Category:** Biofuels, Wood Products

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**Report Highlights:**

The Dutch Social Economic Council (SER) advised the Dutch government to phase out bioenergy and instead use biomass for high value applications. The conclusion is based on the SER's assumption that the availability of biomass is limited and that production and use is a linear activity. However, the EU's Renewable Energy Directive and a wide range of organizations, such as the Intergovernmental Panel on Climate Change (IPCC) and International Energy Agency (IEA), consider bioenergy production to be a circular activity.

## Background

The Netherlands is a signatory to [the Paris Climate Agreement](#), which includes an EU-wide target to reduce carbon dioxide (CO<sub>2</sub>) emissions by 40 percent by 2030 (compared to levels in 1990). Under the [Dutch Climate Law](#), the Netherlands has increased its goal to reduce emissions by 49 percent by 2030 and by 95 percent by 2050. The Netherlands has the ambition to further raise the bar to a reduction of 55 percent at the EU level by 2030, and to reach a neutral and fully circular economy by 2050. On September 14, 2016, the Dutch Cabinet presented to the Parliament their [policy program](#) (*in Dutch*) to stimulate the circular economy and reduce CO<sub>2</sub> emissions -- known as “The Netherlands Circular in 2050.” The Dutch Climate Law mandated the Dutch government draft a [Climate Plan](#), which was published on April 1, 2020. This plan focused on achieving these goals through the cost effectiveness of technology.

In the Climate Plan, the Dutch Cabinet indicated biomass is an important tool to achieve a climate neutral and circular economy. In June 2019, the Dutch [Ministry of Infrastructure and Water Management](#) announced its intention to introduce a new sustainability framework for biomass. The framework would include requirements for all types of biomass, subsidized and non-subsidized, for all purposes (not just energy applications). The Ministry asked the Dutch [Social Economic Council](#) (SER) to advise it about the practicability of such a framework. In addition to SER members, social partners, nature and environmental organizations, and independent experts serve as part of the advisory committee.

## SER Issues its Advice to the Dutch Government

On July 8, 2020, the SER published its report: [Biomass in Balance, a sustainability framework for the high value application of bio-feedstocks](#) (*in Dutch*). Apart from advising the government about biomass sustainability, the SER also included extensive recommendations for the application of biomass, or “bio-feedstocks” as they are called in the report -- the SER finds the term better reflects the diversity and value of various flows of biomass.

Below is a summary of the SER report:

***Getting the highest value out of bio-feedstocks:*** Sustainable bio-feedstocks are a necessary and valuable tool for a CO<sub>2</sub> neutral and circular economy and are needed to reach the Netherlands’ climate goals. For this, available feedstocks must be used for the highest value applications as possible and comply with clear sustainability requirements. The government must set the pace in supporting the expansion of high-quality applications and phasing out low value use of bio-feedstocks (e.g. power and heating). Long-term investment is, therefore, very important.

***Expansion of high value applications:*** The future lies in high-value applications for bio-feedstocks -- as inputs for the production of chemicals and materials. The bio-feedstocks can be derived from crops, algae, trees and plants, and animal products. In chemistry, the SER believes they can partly replace petroleum and fossil gas. They can also be used, for example, for bioplastics or bio-concrete. Capture of CO<sub>2</sub> in materials helps the climate and benefits a circular economy and circular agriculture. Although this technology is not yet commercialized, the expansion requires a clear, long-term, and consistent government policy that businesses, the labor market, and researchers can respond to.

***Transition as a temporary solution:*** For the energy usages for which no sustainable alternative is available, bio-feedstocks can serve as a temporary solution. For example, and for the time being, biofuels are still needed for heavy road transport, shipping, and aviation. A swift transition is needed for this commercialization as well as for phasing out these biofuels.

***Phasing out of low-value applications:*** The application of bio-feedstocks for generating power and heat must be phased out. The SER indicated it is crucial that the government takes the initiative to make alternative sources available for heat generation, such as geothermal and aqua-thermal energy, hydrogen, and heat pumps. Otherwise, the Netherlands' climate goals cannot be achieved. The SER stated that the demand for electricity will increase after 2030 and that this demand will be mainly fulfilled by wind energy. The SER further stated that wind and solar energy are more cost-effective than bioenergy.

***Sustainability requirements:*** The SER advised the Netherlands to implement clear and specific requirements for the production of bio-feedstocks. The EU Renewable Energy Directive (RED) provides the basis for these rules, but must be supplemented with social economic criteria and ecological risk assessments related to the use of the bio-feedstocks. An important condition for the feedstock is its availability. The global supply of sustainable bio-feedstocks is limited, and the Netherlands must not make disproportionate use of the supply. The Dutch Cabinet must take the control in determining the use of bio-feedstocks as an input for the Dutch economy.

As part of the SER's advice, the Dutch government asked the Netherlands Environmental Assessment Agency (PBL) to investigate the available supply and economically viable applications of biomass for the Dutch economy. The overall conclusion of the [report](#), published on May 8, 2020, is that it is risky that the government policy for the circular economy does not have a significant role for biomass. In its report, the PBL advised the government to develop an agenda for the realization of bio-refinery projects on an industrial scale. PBL also questioned the extent to which the Dutch government can impose requirements on biomass that come on top of the conditions already laid out in the EU's REDII. Therefore, PBL advises the Ministry to work at the EU-level for a further completion and enforcement of harmonized requirements. For additional information, please see FAS GAIN Report - [Dutch Wood Pellet Imports Surge to a New Record in 2019](#), published May 26, 2020.

#### FAS/The Hague Comment:

The SER laid out several reasons for the preference of wind, solar, geo-thermal, and aqua-thermal sources over bioenergy: (1) the limited availability of biomass, (2) wind and solar energy are more cost-effective, (3) biomass is too valuable to replace fossil fuels on a one-to-one basis, (4) burning biomass is a linear activity, (5) the use of biomass is not climate neutral as the emissions during harvesting and transport are not considered, (6) burning wood has a negative effect on the air quality, and (7) burning biomass does not require innovation and will not create significant employment opportunities in the Netherlands.

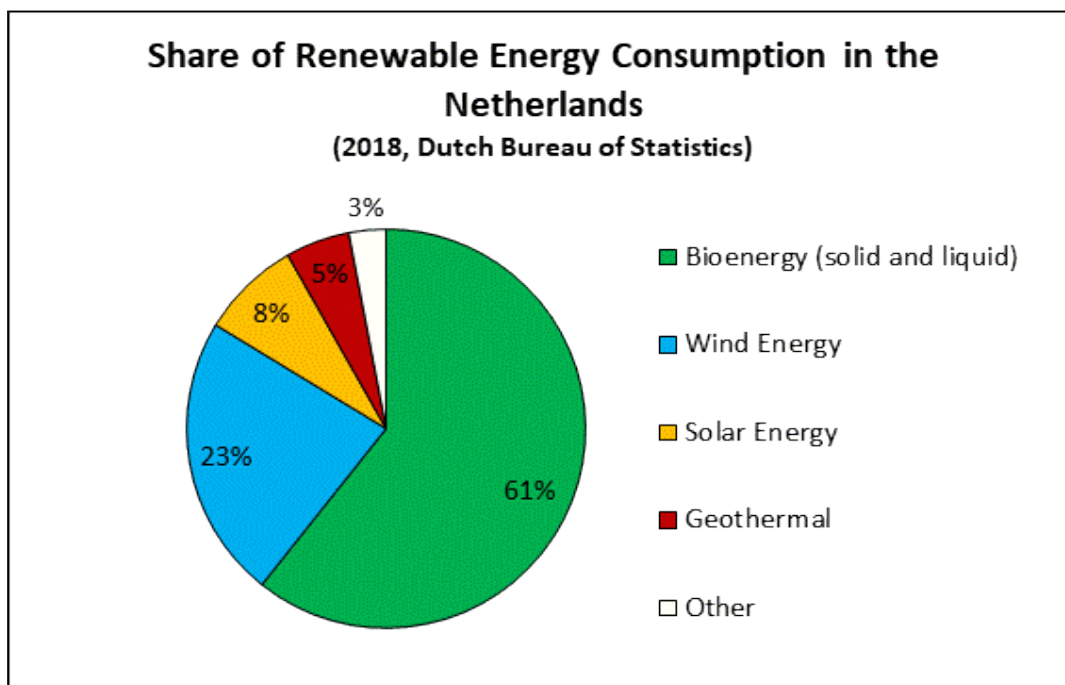
#### **(1) There is a sufficient supply of biomass**

Reports of the [Intergovernmental Panel on Climate Change](#) (IPCC) and [International Energy Agency](#) (IEA) have mapped the availability of biomass, and concluded that the global potential for biomass use is several times that of petroleum. The [USDA/U.S. Forest Service and the U.S. Department of Energy](#)

identified potential biomass resources in the United States at one billion Metric Tons (MTs) or more per year. Looking specifically at the Southeast United States, the Netherlands' [Wageningen University](#) estimated the regional export potential at 35 million MT, double the current export level.

### **(2) Biomass plays a role in the renewable energy mix**

Since 2016, wind energy in the North Sea has been developed without Dutch government subsidies. However, the SER report does not quantify how the current use of bioenergy could be replaced (see figure below), or how the future demand for renewable energy can be fulfilled without bioenergy. The development of geothermal energy is at a nascent stage and heat pumps do not generate renewable energy (rather they consume renewable power). Also, hydrogen is not a source of renewable energy as it is an energy carrier.



### **(3) Biomass is a by-product from the harvest, for which few other purposes exist**

The forests in the Southeast of the United States, and most other forests from which biomass is sourced, mainly exist because of their economic value. The trees - trunks, tops, branches - are selected (cascaded) on the field, and the most valuable parts are used for timber. Only the by-products, for which few other purposes exist, are chipped and pelletized for bioenergy.

### **(4) Bioenergy is a circular energy as it generates supplies**

Forestry (i.e., the harvesting and replanting of trees) is a circular activity. The [International Energy Agency's \(IEA\) Bioenergy Technology Collaboration Program](#) found that in the Southeast United States the demand for biomass is decreasing the likelihood that forest land is converted for other purposes. For the same region, [Wageningen University](#) calculated that the growth of the forests at 360 million m<sup>3</sup>, with a harvest of 220 million m<sup>3</sup>, of which the pellet sector only accounts for five percent.

**(5) The CO<sub>2</sub> emissions of bioenergy are accounted for in the RED**

In the new EU Renewable Energy Directive (REDII), greenhouse gas emissions generated during the production and transport of forest biomass are included in the sustainability assessment. Calculations for liquid biofuels are listed in [Annex V](#) while [Annex VI](#) lists the calculations for solid biomass. In fact, the forestry sector is identified as having the biggest potential to absorb carbon. The generation of bioenergy combined with Carbon Capture and Storage (CCS) has a net negative CO<sub>2</sub> emission, and is highly recommended as one of the most cost-effective technologies by the [Netherlands Bureau for Economic Policy Analysis](#) (CPB).

**(6) Air pollution by modern biomass installations is limited**

The [PBL](#) concludes that the effect of bioenergy generation on air quality is limited (by both large and modern small-scale biomass plants). The Dutch Climate Law will enforce stricter norms for the smaller installations beginning in 2022.

**(7) Bioenergy creates employment in rural areas**

Several organizations including the [IEA Bioenergy](#) have concluded that the wood pellet sector creates employment in the forestry sector, generally in rural and often economically deprived areas.

**Synergies for developing a bio-economy between the Netherlands and the United States**

The United States and the Netherlands are close partners in a variety of sectors, including the agro-food and feed sectors. In the past, the U.S. private sector has heavily invested in the processing capacity of Dutch ports. As a result of this and other partnerships, there is a strong commercial relationship between the two countries that still exists today. Accordingly, the goal of mitigating climate change and reducing CO<sub>2</sub> emissions offers new opportunities for transatlantic cooperation in many areas, including research, investment, and trade.

**Attachments:**

No Attachments.