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Research on Certification for Burning Biomass



The claim that the adverse environmental and climatic impacts of large-scale bioenergy can be avoided through the application of sustainability standards is also proven to be false. Standards applied to individual batches of 'raw material' cannot address an issue that is inherently one of scale. Standards and certification schemes are applied only to specific loads of biomass or biofuel, and have no impact on overall scale and expansion.

On the contrary, they may add to the problem by legitimising large-scale bioenergy use in the eyes of the public. The EU and government institutions like those of the Netherlands have tried but failed for over a decade to certify the overall biomass supplychain. Furthermore, standards and even regulations are ineffective without strict independent enforcement, yet existing biofuel standards and proposed ones for biomass rely entirely on self-regulation by companies and their chosen consultants.

Professor Martijn Katan Substantionates Whole Tree Claim
[2019-11-29-mkatan-onderbouwing-nrc-artikel-kolencentrales-gaan-bomen-stoken-dutch.pdf](#)

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[2019-11-29-mkatan-onderbouwing-nrc-artikel-kolencentrales-gaan-bomen-stoken-dutch.pdf](#)

2019-11 \ \ Professor Martijn Katan

[2019-11-22-edsp-eco-pro-biomass-lobbyfacts-research-part-3-scientists-martin-junginger-english.pdf](#)

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[2019-08-00-eu-biomass-legal-case-main-arguments-english.pdf](#)

2019-08 \ \ EUBiomassLegalCase

[2019-06-23-wageningen-university-research-duurzame-biomassa-voor-de-productie-van-waterstof-dutch.pdf](#)

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[2019-04-09-european-commission-report-progress-renewable-energy-english.pdf](#)

2019-04 \ \ European Commission

[2019-02-20-gnmf-aanbevelingen-hoogwaardige-inzet-houtige-biomassa-dutch.pdf](#)

This substantiation, written by Professor Martijn B. Katan, was originally published in NRC Handelsblad, a major Dutch National newspaper and provides evidence that wood pellets used for bioenergy consist mostly of whole trees. He explains how subsidies for woody biomass has created a huge rise in demand for wood and has driven up the prices, whereas had these subsidies not been allowed, the burning of trees for energy would not have been economically viable and the trees would be left standing, capturing CO₂. In line with this he observes how the demand for wood chips rose and fell as subsidies came in and went. And indeed, at the end of 2018 export volumes from the U.S. to the Netherlands, the fourth largest importer of U.S. wood pellets with 2.3% of market share, more than tripled as the country returned to co-firing at the end of 2018

(<https://forisk.com/blog/2019/11/13/north-american-wood-pellet-exports-q4-2019-update/>). This substantiation which was added to the the original article is supplemented with sources and his calculation that supports his statement that one would need forests five times the size of Estonia to be able to supply the three coal plants in the Netherlands with enough wood if indeed, as some claim, only waste wood was used as fuel.

"A final argument for the sustainability of biomass is that it is certified with strict quality marks. But that is also not correct. First of all, the official Dutch regulation allows biomass to be made from trees. In addition, certification schemes are not in order as yet [...]. In the meantime, to keep the supply going, the Netherlands allows timber with less sustainable quality marks."

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Paid Pro-Biomass LobbyFacts Research - The Scientists
<2019-11-22-edsp-eco-pro-biomass-lobbyfacts-research-part-3-scientists-martin-junginger-english.pdf>

This report describes the paid pro-biomass lobbying activities of scientists in the Netherlands and is part of an extensive study on the paid pro-biomass lobbyfacts in the Netherlands. Researchers, professors and the directors of universities, (former) members of the House of Representatives, ministers and officials from the government are paid directly or indirectly through biomass projects that are allocated by the companies who benefit from burning woody biomass through subsidies paid by the government and the European Union. This specific article focuses on the Copernicus Institute of Utrecht University. Other institutes are discussed in following chapters.

2019-02 \ \ GNMf

[2019-02-06-shareaction-investor-report-the-biomass-blind-spot-english.pdf](#)

2019-02 \ \ ShareAction

[2018-12-21-minez-kamerbrief-over-stimulering-duurzame-energieproductie-sde-2019-dutch.pdf](#)

2018-12 \ \ Ministry of Economic Affairs

[2018-12-17-european-environment-agency-report-renewable-energy-in-europe-english.pdf](#)

2018-12 \ \ EU Environment Agency

[2018-08-28-flinders-university-eu-renewable-energy-directive-revisions-put-biodiversity-at-risk-english.pdf](#)

2018-08 \ \ Flinders University

[2017-03-00-transport-and-environment-annual-report-2016-english.pdf](#)

2017-03 \ \ Transport & Environment

[2014-12-00-bvor-houtchips-als-brandstof-dutch.pdf](#)

2014-12 \ \ BVOR/RVO

[2014-03-03-bvor-warmte-uit-hout-dutch.pdf](#)

2014-03 \ \ BVOR

"During an inaugural lecture on 8 September 2017 for his colleagues from the University of Utrecht, he [Professor Martin Junginger UU Copernicus Institute and SBP advisory board member] said that the FSC requirements were so strict that it could be difficult to find enough wood that meets all these criteria."

"Quote from 2017 from Martin Junginger: We are currently sourcing a lot of wood to replace coal from pine tree plantations in the southeastern US. However, these plantations are not or hardly FSC certified because the local paper industry does not value this. This can of course change, but it takes a lot of time. Moreover, bioenergy is ultimately not the main market for this wood. That is why the motivation for landowners to certify their forest will remain limited."

"CertiQ is responsible for the granting of biomass certification for the energy companies and is a subsidiary of network manager Tennet. CertiQ's board only includes directors of energy companies, including Mr Schoutenberg from RWE Essent. Every element in the biomass chain, from certification, harvesting, production, trade, transport to incineration and obtaining subsidies, is imbued with conflicts of interest. And this is legal."

"In 2011, Greenpeace published a report on the destructive effect of the production of wood pellets for RWE Essent. Dogwood Alliance wrote a report at the end of 2012 that shows that RWE Essent uses non-certified biomass from whole trees from South-East America for the production of its wood pellets. Biofuelwatch has also written an extensive and destructive report on RWE Essent. Junginger indicated in his inaugural speech on 8 September 2017 that biomass from the southeastern US is still not, or hardly, certified."

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EU Biomass Legal Case Main Arguments [2019-08-00-eu-biomass-legal-case-main-arguments-english.pdf](#)

This legal document contains the main arguments in the EU Biomass Legal Case where the applicants seek annulment of the inclusion of "forest biomass" – essentially trees, including, stems, stumps, branches and bark – as a renewable fuel within the Renewable Energy Directive (recast) 2018.

"...The Commission's Bioenergy Impact Assessment notes the lack of consistent standards for forest harvesting in the EU, and in some cases the lack of any

<https://ec.europa.eu/energy/en/topics/renewable-energy/biofuels/voluntary-schemes>

European Union

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standards for countries providing biomass to the EU: "Most Member States have in place legislation and other measures to promote sustainable forest management practices. There are however no EU-wide binding standards ensuring an equal and high level of sustainable forest management practices across the EU Member States, and such standards don't necessarily exist in non-EU countries that supply biomass to the European market.."

"...The first, and clearest, flaw with the GHG criteria is that there simply are none applicable to existing installations: is only applicable to installations starting operation from 1 January 2021. Existing installations burning forest biomass may consequently qualify...and treat biomass as a renewable energy source even if they deliver no GHG savings at all..."

"...When calculating the GHG emissions of new installations post-2021, the Directive's methods fail to recognise the full GHG impact of burning forest biomass for energy..."

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Sustainable Biomass for the Production of Hydrogen

[2019-06-23-wageningen-university-research-duurzame-biomassa-voor-de-productie-van-waterstof-dutch.pdf](https://www.wageningenur.nl/en/2019-06-23-wageningen-university-research-duurzame-biomassa-voor-de-productie-van-waterstof-dutch.pdf)

This report discusses the burning of woody biomass to generate electricity to be used for the production of hydrogen.

"...The arguments of the proponents and opponents [of burning woody biomass] have to do with the:

- CO₂ and energy balance in the chain and the moment at which you measure the carbon stock;*
- biomass additional growth in relation to consumption and the effects of harvest on the landscape and the ecosystem;*
- guaranteeing sustainability through an administrative system of certification;*
- market forces and market failures, due to the exploitation of subsidies (level playing field) and the absence of a CO₂-related market mechanism;..."*

"...[proposed] requirements for the various parties in the chain:

The use of biomass must lead to a substantial reduction in greenhouse gas emissions, calculated over the entire chain. The calculated reduction in greenhouse gas emissions must be at least 70% relative to the reference value for fossil fuels.

- production of raw biomass must not lead to destruction of carbon reservoirs.*
- biomass production may not lead to long-term carbon debt.*

- biomass production must not lead to indirect land use change (ILUC) with a negative impact on carbon capture.
- relevant international, national and regional / local laws and regulations are followed.
- biodiversity must be preserved and, where possible, strengthened.
- the production capacity of each forest type must be maintained.
- forest management contributes to local economy and employment.
- sustainable forest management is realized on the basis of a management system..."

"...About half of wood and other biomass consist of carbon (C) and as long as this biomass is intact, the carbon remains stored and there is therefore less CO₂ in the atmosphere. Through branch and leaf fall and tree death, the carbon stored in the plant ends up in and into the soil... In a managed ecosystem, like most forests, harvesting usually takes place, whereby part of the carbon stored in the forest is removed during harvest in the form of trunks, firewood and / or branch and top timber. The method of harvesting can also have effects on the amount of C stored in the soil..."

"...Because products made from wood last a certain time, a carbon stock is created here in the form of, for example, furniture, parquet, wooden houses and books. By reusing or recycling used wood products and using them as raw materials for other products, the time when the carbon from the wood is released into the atmosphere can be postponed..."

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Effects of the Drafted Climate Agreement

[2019-05-28-pbl-effecten-ontwerp-klimaatakkoord-dutch.pdf](#)

This report is commissioned by the Dutch Government (PBL) and describes the effects of the drafted climate agreement.

"...If the SDE ++ is more focused on CO₂ reduction instead of renewable energy, then the use of biomass in industry can also turn out lower than in this analysis is assumed..."

"...The support for this must come from the SDE ++, but the analyzes show that direct biomass combustion is still preferred based on costs above the more innovative, sometimes second-generation technologies..."

"... The additional use of renewable fuels must be mainly achieved from sustainable residues. In 2019, the government will take the initiative for the development of an integral sustainability framework for all biomass..."

"...Increasing the supply of sustainable biomass can considerably reduce the long-term costs of the energy transition. Creating additional demand for sustainable renewable fuels is crucial for increasing this supply..."

"...It is also unclear whether subsidies for renewable heat measures in the industry that are already eligible for the current SDE + also fall under the subsidy ceiling of € 550 million. For techniques such as industrial biomass boilers and geothermal energy there is no limit in the current regulation, and the text of the agreement does not apply..."

"...For the other measures there is - only at the top of the bandwidth, contribution of more than 2.5 Mton from the regular SDE funds for renewable heat, largely with the use of biomass..."

"...There are opportunities for innovation and in particular support for the first steps towards large-scale application for technology that fits in with its long-term picture: biomass processing in combination with CCS (negative emissions) and / or in the future with CCU. With the OKA policy, however, chances are that direct biomass combustion without these options is still being used..."

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EU Renewable Energy Progress Report
[2019-04-09-european-commission-report-progress-renewable-energy-english.pdf](#)

This report is commissioned by the European Union and states the progress made on implementing renewable energy and discusses the biomass certificates and schemes.

"...renewable energy policy initiatives appear today to be insufficient to trigger the required renewable energy volumes purely domestically..."

"...Over the last few years, voluntary schemes recognized by the European Commission have become the main tool to demonstrate compliance with the EU biofuel sustainability criteria, and therefore they have been subject to increased public scrutiny..."

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Durable Usage of Woody Biomass in the Netherlands [2019-02-20-gnmf-aanbevelingen-hoogwaardige-inzet-houtige-biomassa-dutch.pdf](#)

This report has been prepared by the Gelderland Nature and Environment Federation and contains the recommendations for the municipal Climate and Energy Implementation Program and the Regional Energy Strategies (RES).

"[...] only a limited amount of woody biomass is certified."

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Investor Report the Biomass Blind Spot [2019-02-06-shareaction-investor-report-the-biomass-blind-spot-english.pdf](#)

Carbon emissions from burning wood have been ignored by utility companies and policy makers for two reasons. Firstly, because it is incorrectly seen as a "renewable" resource. The carbon emissions from combustion are assumed to be recaptured as trees regrow. However, at the point of combustion, wood emits more CO₂ than coal. It takes decades for this carbon to be reabsorbed by forest growth. Given that we urgently need to reduce greenhouse gas (GHG) emissions over the short-term to reach a net zero energy system by 2050, biomass is not compatible with achieving this. The second reason is related to international carbon accounting rules. UNFCCC's reporting guidelines require GHG emissions related to bioenergy to be counted in the land-use sector, where the tree is felled rather than at the point of combustion. [...] This paper challenges the assumption that carbon is recaptured by forest regrowth, at the rates required to offset emissions from combustion. Converting natural forests into a managed or plantation forest reduces their stored carbon. In addition, the methods used to grow and harvest biomass feedstocks also have an enormous impact on how quickly forest carbon can recover."

"Banks policies and the Climate Bonds Initiative forestry criteria refer to, and rely heavily on the FSC17 or the PEFC65 standards. These forestry criteria alone are not enough to protect the carbon stocks of forests harvested for

biomass and require additional bioenergy criteria to strengthen them.

"It is important to acknowledge the scepticism amongst campaigners about the effectiveness of sustainability criteria and a mistrust in the biomass industry's implementation of them. This has developed because of industry claims that feedstocks meet sustainability criteria whilst there is evidence of continued unsustainable practices, such as clear-cutting."

"In 2015, only 12% of the wood that Enviva, the world's largest wood pellet producer, received was certified at the forest management level through standards such as the FSC, Sustainable Forestry Initiative (SFI) or the American Tree Farm System (ATFS)."

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Renewable Energy in Europe

[2018-12-17-european-environment-agency-report-renewable-energy-in-europe-english.pdf](#)

This report is commissioned by the European Environment Agency and discusses the status of the sustainability criteria for solid biomass.

"..Until 2020, the European Commission has left it up to Member States to decide whether or not to introduce sustainability criteria for solid (and gaseous) biomass fuels.."

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Promotion of Sustainable Energy Production SDE 2019

[2018-12-21-minez-kamerbrief-over-stimulering-duurzame-energieproductie-sde-2019-dutch.pdf](#)

This letter to the Dutch Government commissioned by the Minister of Economic Affairs states that once again the woody biomass certification requirements were not approved resulting in another year of national usage of non sustainable biomass as not enough truly certified sustainable biomass was available.

"..The assessment of the sustainability of the solid biomass can only continue through an approved certification scheme or verification protocol.."

"...The approval of both the certificates based on the information provided by EZK independently established advisory committee (the Sustainability Advisory Committee Biomass for Energy Applications) as the recognition of the authorities is still going on..."

"...The implementation process... in the supply chain took longer than anticipated and therefor insufficient (certified) biomass will be available..."

"...As of January 1, 2019, this applies by the verifier to a statement of conformity must be submitted, demonstrating that for the entire year to the sustainability requirements are met. If it appears that this is not the case, it can and will mean no subsidy is provided..."

"...the energy companies involved bear responsibility. The starting point for the payment of this subsidy is that it must only concern biomass that complies with the sustainability criteria for biomass, this is a an obligation which requires results..."

"...Biomass burned for heat makes an important contribution to the short term implementation of the national "Energy Agreement". Burning biomass has to be seen as transition method as the use of biomass in the longer term is impossible to prioritize due to its limited availability..."

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EU RED-2 Revisions Put Biodiversity at Risk

[2018-08-28-flinders-university-eu-renewable-energy-directive-revisions-put-biodiversity-at-risk-english.pdf](#)

This report commissioned by Flinders University discusses the RED II legislation and states it will undermine the sustainability requirements and the risks for biodiversity.

"...RED II is an immense step in the wrong direction for biodiversity and we strongly recommend that it be revised immediately. It undermines the already weak sustainability requirements for forestry and opens the door for indirect effects within the EU bioenergy market selling compliant wood to larger plants and non-compliant biomass to smaller plants..."

"...The revisions outlined in RED II would apply only to areas considered agriculture and no longer encompass forestry. Instead, new management

rules that lack adequate safeguards have been added, so biomass harvested in forests could now legally be sold as a 'sustainable' product in Europe..."

"...Other additions include inefficient measures for biodiversity protections in terms of forestry management. The new land-use criteria focusing on carbon safeguards won't be effective for many reasons..."

"...Under the proposed revisions published on June 2018 the 'RED II' legislation around 75% of wood energy being sold in EU would not have to comply with sustainability requirements..."

"...There is an exemption on importation guidelines and a complete lack of regulation surrounds the process of conversion to agricultural land..."

"...Red II also undermines the protection of highly biodiverse grasslands, with only non-natural lands identified by a 'competent authority' protected..."

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Transport & Environment Annual Report [2017-03-00-transport-and-environment-annual-report-2016-english.pdf](#)

This report discusses the Renewable Energy Directive framework and policy for the period 2021-2030 and provides a clear warning for the future.

"...The new Renewable Energy Directive is setting up a framework for the next decade. Now is the time to decide if we will actually decarbonise our economies with real, low-carbon renewables and clean technologies..."

"...Or we can repeat the mistakes of the past by burning biomass resources that, in fact, have negative impacts on land use, biodiversity and local communities.

We produced the Black Book of Bioenergy, which named and shamed some of the worst examples of bioenergy doing more harm than good to the climate and the environment..."

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Quality Assurance of Wood as a Fuel [2014-12-00-bvor-houtchips-als-brandstof-dutch.pdf](#)

This report which was commissioned by the Dutch Government discusses the certification which determines the quality required for the production of high quality woodchips for the burning of biomass in energy plants.

"...National quality standards have been around for some time in various European countries of wood fuels. The best known of these is the Austrian Ö standard 7133, which is also in the international trade and is used extensively by larger parties in the Netherlands..."

"...Others examples are the German DIN standards, the Finnish FINBIO guidelines, and the Italian and French standards "PelletGold" and "ITEBE" (for pellets). In recent years, the European Commission for Standardization (CEN) has within it "Technical committee CEN / TC 335 solid fuels" developed the so-called EN 14961 standards..."

"...This series of standards offers a uniform, Europe-wide tool for standardizing every solid fuel that can be used for energy production. The target of this standard is to encourage the use of wood fuels and to remove trade barriers between European countries..."

"...The set of standards EN 14961 consists of six parts, one general part and five parts, each dealing with different types of solid fuels:

- EN 14961-1 General requirements*
- EN 14961-2 Fuel specifications and classes: Wood pellets for non-industrial use*
- EN 14961-3 Fuel specifications and classes: Wood briquettes for non-industrial use*
- EN 14961-4 Fuel specifications and classes: Wood chips for non-industrial use*
- EN 14961-5 Fuel specifications and classes: Firewood for non-industrial use*
- EN 14961-6 Fuel specifications and classes: Non-wood pellets for non-industrial use..."*

"...EN 15234 are requirements intended for traceability, production, transport, handling and storage of fuels, and thus aim to guarantee the quality of solid biomass throughout the entire chain. EN 15234 is hardly used in the Dutch wood chips market. An important reason is that the requirements in this standard are complicated for many market players and therefore relatively expensive..."

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This report of the Dutch Government discusses the certifications (international /national) required for the logging and burning of woody biomass.

NTA 8080 Certification for Biomass

"..The Dutch government wants the NTA 8080 for sustainably produced biomass energy purposes (electricity, heat & cold and transport fuel) among other things the incentive for sustainable energy production (SDE +)..."

"..Because a large part of the biomass production takes place outside national borders, the NTA 8080 must become an intermediate step seen. The ultimate goal is to implement the criteria internationally through the European standardization organization CEN and the international standardization organization ISO..."

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All Research Papers on Deforestation & Woody Biomass

<https://biomassmurder.org/research/index.html>

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