WORLD BIOENERGY ASSOCIATION

# Annual report 2021

www.worldbioenergy.org

# ANNUAL REPORT FOR THE FINANCIAL YEAR 2021




**World Bioenergy Association**

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Corporate Identity Number 802444-7958

## Introduction by the President

Dear members of the World Bioenergy association, supporters, collaborators and friends,

The urgency of decarbonizing our energy supplies is becoming ever more obvious and the awareness that action is needed is progressing both within societies and enterprises. It's fair to say that the interest in using bioenergy has never been as large as now and will likely continue to increase. Companies active in bioenergy see double digit growth and shortages emerge as demand is rising faster than expected and investments are lagging behind.

WBA is trying to catch up with this dynamic and has realized more activities in 2021 than ever before. Also, we have decided to increase membership fees significantly to be able to extend our activities on a solid financial base. Hardly any members dropped out due to the increased fees. We greatly appreciate the extended support.

Our focal activities have been around the topics of sustainability and the transformation of biomass use in developing countries towards upgraded biomass and use of advanced cookstoves. These topics will continue to be at the heart of our activities. The question is – what are the next topics to establish and build networks around? Any proposal from our members and the wider bioenergy community is welcome.

**Christian rakos**
**President**
**World Bioenergy Association**

Christian Rakos
President
World Bioenergy Association

## Summary of Activities 2021

The year 2021 was particularly successful for the World Bioenergy Association. At the start of the year, we were able to sign a partnership with the leading international bioenergy trade publication Bioenergy International. With this partnership, our members receive weekly newsletters along with free subscription to the print and digital version of the magazines – all included in the membership fee.

Among publications, our annual bioenergy statistics showcases the development of the sector in the year 2021 while the new factsheet on bioenergy and net zero highlights the critical role of the sector in a net zero future.

The membership support also enabled us to undertake 5 webinars in 2021 on topics related to: national experiences on using agro residues, densification technologies, national experiences on bioenergy (Lithuania), valorization and developments in biomethane. All videos and presentations are available on our homepage.

Partnerships are integral to the development of the sector. Along with ITN Productions Industry News, we co-produced 'Bioenergy for the future' – a series of videos looking at innovations in the sector. We were more vocal in our international advocacy by publishing articles in leading news publications including Politico (Why Europe needs bioenergy?) and Financial Times (Growing the bioeconomy).

In partnership with leading global industries in the biomass to pellets value chain, WBA organized webinars (Role of sustainable bioenergy and Bioenergy and Net Zero).

Finally, at the UNFCCC COP26 conference in Glasgow in November, WBA along with leading bioenergy stakeholders organized side events, press conferences and webinars as well as the launch of the Glasgow Declaration on Sustainable Bioenergy.

## Membership

World Bioenergy Association is a member-based organization. Our membership comprises of a wide variety of stakeholders in the biomass to energy sector. Affiliations include national and regional bioenergy associations, companies, research institutions and individuals. Among companies, WBA has members from fuel producers, technology companies, equipment manufacturers, utilities etc. The background of members cover a wide range of sectors including pellets, liquid biofuels, biogas, wood chips etc.

WBA membership 2020

| | Full members | Associated members | Individual members | Total |
|---|---|---|---|---|
| **Africa** | 2 | 0 | 24 | **26** |
| **Americas** | 2 | 1 | 17 | **20** |
| **Asia** | 3 | 5 | 36 | **44** |
| **Europe** | 16 | 29 | 43 | **88** |
| **Oceania** | 0 | 0 | 4 | **4** |

At the General Assembly in Vienna in September 2021, the members agreed to update the membership fee structure to properly reflect the current challenge faced by bioenergy and the increased support required for WBA to effectively execute the mission.

Following is the new member fee structure:

Membership types and characterization

| Form of membership | Membership category | Fees (Euros/year) |
|---|---|---|
| **Associations** | 2% of the membership fee | 1 000 – 10 000 |
| **Companies *** | > 100 million Euros | 10 000 |
| | 50 – 100 million Euros | 7 500 |
| | 25 – 50 million Euros | 5 000 |
| | 5 – 25 million Euros | 3 000 |
| | 1 – 5 million Euros | 2 000 |
| | < 1 million Euros | 1 000 |
| **Energy agencies, think tanks, universities etc.** | 2 000 | 1 000 – 10 000 |

* Based on turnover of the previous year. 50% reduction for organizations in LDC countries

Individuals interested in supporting the work of WBA can join as individual supporters (Fee 50 Euros)

Organizations can also join as supporter members (Gold/Silver). Please contact secretariat for further information.

# Communiation

## Secretariat

World Bioenergy Association is registered as a Non Governmental Organization in Sweden. The Secretariat is based in Stockholm, Sweden along with the Swedish Bioenergy Association (Svebio).

Daily activities of WBA are executed by the Executive Director, based at the Secretariat, and supported by the staff, consultants, the board and the President.

The current location of the Secretariat is:

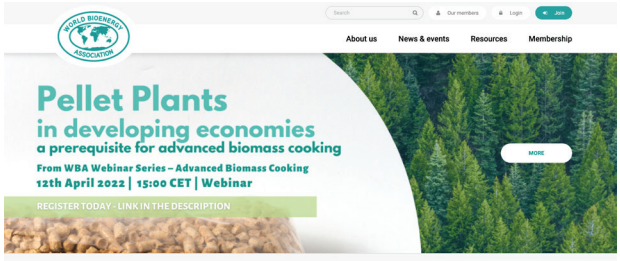
World Bioenergy Association
Kammakargatan 22, Floor 6
111 40, Stockholm
Sweden
+46 8 441 70 84

Office hours are usually from 09.00 – 17.00 and the Secretariat welcomes all members and bioenergy stakeholders to the office to interact and exchange information related to bioenergy development around the world.

## Website

The WBA website is hosted at https://worldbioenergy.org. Information generated by the Secretariat including news items, event information, publications (factsheets, statistics, mission reports etc.) are posted regularly on the WBA website. It is managed by the Secretariat. Current list of WBA members is regularly updated as well.

The website also hosts a member only section with member exclusive information. It can be accessed by a username and password which is sent to all members upon registering as a member.




## Mailing list and GDPR

An active mailing list is crucial for effective communication for NGO's. WBA maintains a mailing list in the platform Mailchimp and regularly sends information about our activities to the subscribers. The subscribers are updated either via the subscribe button on the website or through their participation in our webinars.

WBA takes the issue of data privacy seriously and manages the mailing lists as per EU GDPR regulations. A data policy is also available on our website.

## Social media

Apart from the webpage and mailing lists, social media also forms an important part of our communication activities. Social media also enables quick and effective exchange of information among the bioenergy community. Currently, WBA has the following social media accounts:

Facebook (2 892 followers):
Twitter (1 903 followers):
LinkedIn Company (873 followers):
LinkedIn Group (1 732 followers):
YouTube (88 subscribers):

WBA recently employed a Communication Manager to manage the social media platforms and increase engagement with the bioenergy community.

## News Item

WBA news items are the primary mode of communicating our activities to our community. The news items are posted on the website at regular intervals and include information about our publications, partnerships, events etc.
The information is also shared via our mailing lists. In 2021, WBA issued the following news items:

**January**
- 29th January: WBA webinar 2 – national experiences on bioenergy development

**February**
- 11th February: Bioenergy industry joint statement

**March**
- 02nd March: WBA partners with bioenergy international
- 10th March: Renewables are ready to deliver a renewable world
- 31st March: WBA joins Global Bioenergy Partnership (GBEP) as an observer

**April**
- 01st April: Bioenergy is a perfect example of a circular economy
- 01st April: EU Africa Business Forum
- 09th April: Why Europe needs bioenergy to reach net zero
- 13th April: Webinar 3 – Latest developments in densification of agricultural residues
- 15th April: Annual Report 2020

**May**
- 06th May: Growing the forest bioeconomy
- 18th May: WBA Webinar Series – National experiences with bioenergy deployment

**June**
- 28th June: A New Momentum for Climate Change Mitigation: Renewables Working Together
- 30th June: Webinar: Lessons so far – the role of sustainable bioenergy in displacing fossil fuels

**July**
- 05th July: WBA Open Letter to EASAC

**September**
- 14th September: International community gathers to discuss bioenergy opportunities and challenges
- 20th September: WBA IBTC Webinar - Agricultural residues valorisation
- 27th September: WBA webinar – Bioenergy and net zero

**October**
- 13th October: Scaling up biomethane on the pathway to a net zero future
- 21st October: Sustainable bioenergy at heart of net zero

**November**
- 09th November: Bridging the gap: Unlocking Net Zero through investment in sustainable bioenergy and BECCS
- 10th November: Launch of Glasgow Declaration on Sustainable Bioenergy
- 10th November: WBA launches Bioenergy for the future
- 12th November: World Bioenergy Association at COP26
- 13th November: Glasgow Climate Pact agreed at COP26

**December**
- 14th December: Global Bioenergy Statistics 2021

# Publications

## Annual Report 2020



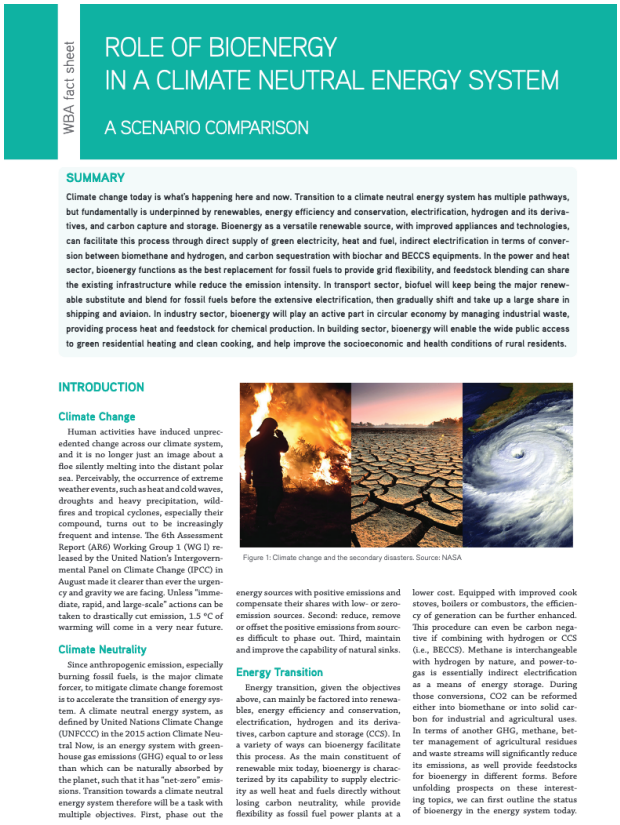
The COVID19 pandemic had a significant impact on the energy sector worldwide in 2020. It created numerous challenges for everyone around the world and the bioenergy sector was no exception. During the difficult times, the WBA managed to effectively execute the work plan during 2020. A detailed report of the activities was presented in the Annual Report 2020.

Activities in 2020 include:
- Publications – Annual Report 2020, Factsheet on Liquid Biofuels, Global Bioenergy Statistics 2021
- Events – IRENA GA, G20 Summit, Annual Meeting (Vienna), Webinar (Regulatory intervention on bioenergy feedstock, technology for agriculture residue conversion)
- Projects – COVID19 survey and position paper, e – video series of board members
- Collaborations – IRENA Coalition for Action, REN Alliance, Carbon Pricing Leadership Coalition, Australian Renewable Energy Agency

## Factsheet - Role of bioenergy in a climate neutral energy system

Many countries around the world were announcing climate neutral targets in line with the IPCC recommendation for the world to move towards net zero by mid-century. Even though the targets announced (e.g., USA 2050, China 2060, India 2070) are well ahead in the future, changes will need to be done in the present to meet the

demands for the energy transformation. International organizations such as IEA and IRENA have announced scenarios for the world to move towards net zero and WBA published a factsheet comparing key scenarios and the role of bioenergy in various sectors including power, heat, transport, aviation, marine etc.



WBA fact sheet

ROLE OF BIOENERGY
IN A CLIMATE NEUTRAL ENERGY SYSTEM

A SCENARIO COMPARISON

SUMMARY

Climate change today is what's happening here and now. Transition to a climate neutral energy system has multiple pathways, but fundamentally is underpinned by renewables, energy efficiency and conservation, electrification, hydrogen and its derivatives, and carbon capture and storage. Bioenergy as a versatile renewable source, with improved appliances and technologies, can facilitate this process through direct supply of green electricity, heat and fuel, indirect electrification in terms of conversion between biomethane and hydrogen, and carbon sequestration with biochar and BECCS equipments. In the power and heat sector, bioenergy functions as the best replacement for fossil fuels to provide grid flexibility, and feedstock blending can share the existing infrastructure while reduce the emission intensity. In transport sector, biofuel will keep being the major renewable substitute and blend for fossil fuels before the extensive electrification, then gradually shift and take up a large share in shipping and aviaion. In industry sector, bioenergy will play an active part in circular economy by managing industrial waste, providing process heat and feedstock for chemical production. In building sector, bioenergy will enable the wide public access to green residential heating and clean cooking, and help improve the socioeconomic and health conditions of rural residents.

INTRODUCTION

Climate Change

Human activities have induced unprecedented change across our climate system, and it is no longer just an image about a floe silently melting into the distant polar sea. Perceivably, the occurrence of extreme weather events, such as heat and cold waves, droughts and heavy precipitation, wildfires and tropical cyclones, especially their compound, turns out to be increasingly frequent and intense. The 6th Assessment Report (AR6) Working Group 1 (WG I) released by the United Nation's Intergovernmental Panel on Climate Change (IPCC) in August made it clearer than ever the urgency and gravity we are facing. Unless "immediate, rapid, and large-scale" actions can be taken to drastically cut emission, 1.5 °C of warming will come in a very near future.

Climate Neutrality

Since anthropogenic emission, especially burning fossil fuels, is the major climate forcer, to mitigate climate change foremost is to accelerate the transition of energy system. A climate neutral energy system, as defined by United Nations Climate Change (UNFCCC) in the 2015 action Climate Neutral Now, is an energy system with greenhouse gas emissions (GHG) equal to or less than which can be naturally absorbed by the planet, such that it has "net-zero" emissions. Transition towards a climate neutral energy system therefore will be a task with multiple objectives. First, phase out the energy sources with positive emissions and compensate their shares with low- or zero-emission sources. Second: reduce, remove or offset the positive emissions from sources difficult to phase out. Third, maintain and improve the capability of natural sinks.

Figure 1: Climate change and the secondary disasters. Source: NASA

Energy Transition

Energy transition, given the objectives above, can mainly be factored into renewables, energy efficiency and conservation, electrification, hydrogen and its derivatives, carbon capture and storage (CCS). In a variety of ways can bioenergy facilitate this process. As the main constituent of renewable mix today, bioenergy is characterized by its capability to supply electricity as well heat and fuels directly without losing carbon neutrality, while provide flexibility as fossil fuel power plants at a lower cost. Equipped with improved cook stoves, boilers or combustors, the efficiency of generation can be further enhanced. This procedure can even be carbon negative if combining with hydrogen or CCS (i.e., BECCS). Methane is interchangeable with hydrogen by nature, and power-to-gas is essentially indirect electrification as a means of energy storage. During those conversions, CO2 can be reformed either into biomethane or into solid carbon for industrial and agricultural uses. In terms of another GHG, methane, better management of agricultural residues and waste streams will significantly reduce its emissions, as well provide feedstocks for bioenergy in different forms. Before unfolding prospects on these interesting topics, we can first outline the status of bioenergy in the energy system today.

**Summary**

Climate change today is what's happening here and now. Transition to a climate neutral energy system has multiple pathways, but fundamentally is underpinned by renewables, energy efficiency and conservation, electrification, hydrogen and its derivatives, and carbon capture and storage. Bioenergy as a versatile renewable source, with improved appliances and technologies, can facilitate this process through direct supply of green electricity, heat and fuel, indirect electrification in terms of conversion between biomethane and hydrogen, and carbon sequestration with biochar and BECCS equipment. In the power and heat sector, bioenergy functions as the best replacement for fossil fuels to provide grid flexibility, and feedstock blending can share the existing infrastructure while reduce the emission intensity. In transport sector, biofuel will keep being the major renew- able substitute and blend for fossil fuels before the extensive electrification, then gradually shift and take up a large share in shipping and aviation. In industry sector, bioenergy will play an active part in circular economy by managing industrial waste, providing process heat and feedstock for chemical production. In building sector, bioenergy will enable the wide public access to green residential heating and clean cooking and help improve the socioeconomic and health conditions of rural residents.

## Global Bioenergy Statistics 2021

The first global bioenergy report was published by WBA in 2014. The 7th edition of the flagship publication continued the reporting on the latest developments in the bioenergy sector. As with previous reports, the GBS 2021 looked at the global energy system, role of renewables in electricity, heat and transport, biomass supply, biopower, bioheat, biofuels as well as jobs in the renewable energy.



GLOBAL BIOENERGY STATISTICS 2021

World Bioenergy Association

**Summary**

Fossil fuels dominate the global energy supply. 81% of the total primary energy supply was from coal, crude oil, and natural gas. Renewable energy technologies of solar, wind, hydro, biomass, geothermal etc. had a share of 14.1% in the primary energy supply in 2019 – a 0.3% increase over the previous year.

Coal is a significant contributor to the global electricity mix. In 2019, 37% of electricity produced globally was from coal-based sources with a total production of 9 914 TWh. In 2019, 27 044 TWh of electricity was generated globally with renewables having a share of 27%, mainly driven by the increasing use of solar and wind as well as significant contribution from hydropower and biomass. In 2019, 7 311 TWh of renewable electricity was produced globally. Hy-

dropower was the largest renewable electricity generating source with a share of 59% followed by wind at 20%. Bioenergy was the third largest renewable electricity generating source with 768 TWh of production.

In 2019, 15.5 EJ of heat was produced globally via heat only and combined heat and power plants. Coal and natural gas have a combined share of more than 85% in the global heat production. Renewable energy technologies including biomass, geothermal and solar thermal have doubled their share in the global heat production over the past 19 years. 97% of all renewable heat produced was from biomass with minor contribution from geothermal and solar thermal technologies.

In the transport sector, crude oil and oil products contribute 92% of the energy needs. Liquid biofuels and biogas are a sustainable option for the sector right now. Biofuels have a share of 3.3% and have experienced a growth of 13%.

Gross final energy consumption includes the total final consumption of all energy sources including the electricity and heat consumption at all end use sectors. In 2019, gross final energy consumption of all energy sources was 379 EJ. The share of renewables has remained constant at 17%.

In 2019, domestic supply of biomass was 56.9 EJ globally. 85% of the domestic supply was from solid biomass sources including wood chips, wood pellets and traditional biomass sources. Liquid biofuels accounted for 8%, municipal and industrial waste sectors accounted for 5% followed by biogas at 2%. In 2020, 1.93 billion m3 of wood fuel was produced globally. Africa and Asia had the highest share of wood fuel production with a contribution of 36% and 37% respectively. Wood pellets are one of the fastest growing bioenergy sectors worldwide. In 2019, 40.5 million tonnes of pellets were estimated to be produced globally. In 2019, 53.6 million tonnes of wood charcoal were produced globally with Africa accounting for 65% of the global production.

Agriculture is a key sector for increased potential for bioenergy utilization in the future. In terms of yields of major crops, there is significant potential to increase the yields in various regions to the global average. This will enable increased production of both food and fuel with the agriculture sector playing a key enabler for increased bioenergy use around the world. Energy generation from municipal and industrial waste represents the 3rd feedstock sector after forestry and agriculture. In 2019, domestic supply of energy from municipal and industrial waste was 2.59 EJ with 56% from municipal waste and remaining from industrial waste.

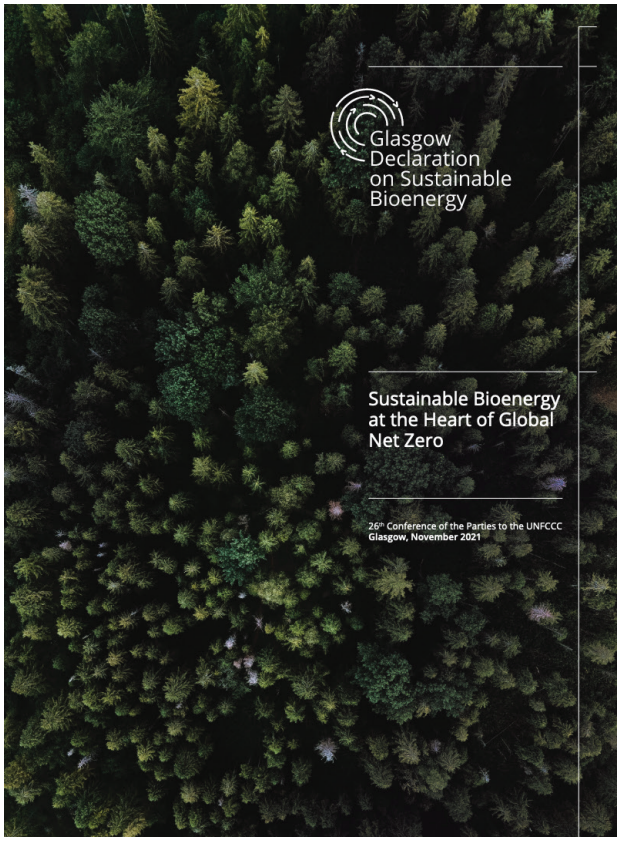
In 2019, 655 TWh of electricity was generated from biomass globally. 68% of all biopower generated was from solid biomass sources followed by 17% from municipal and industrial waste. Asia accounted for 39% of all biopower generated globally with 255 TWh of production in 2019 followed by Europe at 35%. Electricity only plants are designed to produce electricity only. In 2019, 428 TWh of biopower was estimated to be produced in electricity only plants. CHP or Combined Heat and Power plants refer to those plants that are designed to produce both heat and electricity. In 2019, 280 TWh of biopower was generated globally from biomass CHP.

In 2019, 1.17 EJ of heat was produced from biomass-based sources – 53% from solid biomass sources and 25% from municipal solid waste. Europe is the world leader in producing heat from biomass in power plants with a share of 88% globally. In 2019, 0.43 EJ of bioheat was produced in heat only plants while 1.35 EJ of bioheat was produced globally in CHP facilities.

In 2019, 159 billion litres of biofuels were produced globally. Americas dominate the biofuel production globally. North and South America together produce 70% of all biofuels globally with Europe having a share of 15%. In 2019, 62.3 billion m3 of biogas was produced globally with an equivalent energy content of 1.43 EJ.

## Glasgow declaration on sustainable bioenergy

WBA was an independent advisor to a project where leading industries in the wood-based bioenergy industry analysed the role of sustainable bioenergy in 2030 and 2050 based on the IEA's net zero scenario. The industries also set out commitments in a new document titled Glasgow Declaration on Sustainable Bioenergy. The new declaration sets out how wood-based bioenergy can help tackle climate change, with a world-wide industry standard for sustainability at its core.



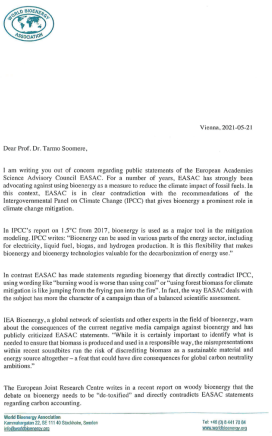
By 2030, sustainable wood-based bioenergy is projected to reduce net global emissions by 600 million tonnes of CO2e annually and one billion tonnes of CO2e by 2050 – more than is currently emitted by the world's entire aviation industry.

The UN Intergovernmental Panel on Climate Change says: "Bioenergy use is substantial in 1.5°C pathways with or without BECCS due to its multiple roles in decarbonizing energy use."

The Declaration sets a global standard of sustainability for the industry, aiming to launch a cross-sector dialogue about how wood bioenergy can deliver to its full potential as an indispensable tool for reaching global Net Zero.

## Open Letter to European Academies' Science Advisory Council (EASAC)

World Bioenergy Association sent an open letter to all the National Academies of Science of the EU Member States, Norway, Switzerland, and United Kingdom, expressing our concern regarding the public position of EASAC (the European Academies' Science Advisory Council) in relation to the role of sustainable bioenergy. WBA received a response from the EASAC President Prof. Christina Moberg following which WBA President Dr. Christian Rakos has responded.



Vienna, 2021-05-21

Dear Prof. Dr. Tarmo Soomere,

I am writing you out of concern regarding public statements of the European Academies Science Advisory Council EASAC. For a number of years, EASAC has strongly been advocating against using bioenergy as a measure to reduce the climate impact of fossil fuels. In this context, EASAC is in clear contradiction with the recommendations of the Intergovernmental Panel on Climate Change (IPCC) that gives bioenergy a prominent role in climate change mitigation.

In IPCC's report on 1.5°C from 2017, bioenergy is used as a major tool in the mitigation modeling. IPCC writes: "Bioenergy can be used in various parts of the energy sector, including for electricity, liquid fuel, biogas, and hydrogen production. It is this flexibility that makes bioenergy and bioenergy technologies valuable for the decarbonization of energy use."

In contrast EASAC has made statements regarding bioenergy that directly contradict IPCC, using wording like "burning wood is worse than using coal" or "using forest biomass for climate mitigation is like jumping from the frying pan into the fire". In fact, the way EASAC deals with the subject has more the character of a campaign than of a balanced scientific assessment.

IEA Bioenergy, a global network of scientists and other experts in the field of bioenergy, warn about the consequences of the current negative media campaign against bioenergy and has publicly criticized EASAC statements. "While it is certainly important to identify what is needed to ensure that biomass is produced and used in a responsible way, the misrepresentations within recent assemblies run the risk of discrediting biomass as a sustainable material and energy source altogether – a feat that could have dire consequences for global carbon neutrality ambitions."

The European Joint Research Centre writes in a recent report on woody bioenergy that the debate on bioenergy needs to be "de-toxified" and directly contradicts EASAC statements regarding carbon accounting.

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— by email only —

03 June 2021

**Recent WBA letter to EASAC member academies**

Dear Dr Rakos,

We have been informed by some of our member academies of your letter to academy presidents concerning EASAC's work on forest biomass use in conversion of coal-fired electricity generation. As a matter of principle, we welcome engagement with stakeholders and have had multiple conversations with some of your members on this issue – IEABioenergy, Svebio and Enviva among them. In view of this, we were surprised that you should choose to send a circular letter to our academies without further dialogue. Nevertheless, we have read carefully your communication. In the present letter, I will address the issues you raise, independently of any replies you may receive from the individual EASAC member academies in receipt of your letter.

EASAC's role is to provide scientific analysis to policy-makers and the public, and the science leads to the inevitable conclusion that increasing the harvest of wood from forests to replace coal in power generation leads to an initial increase in carbon dioxide emissions to the atmosphere (for the reasons you are no doubt aware of and are clearly enumerated in our and many others' papers). This injection of additional $CO_2$ to the atmosphere is compensated if the forest regrows but this takes time, giving rise to the concept of 'carbon debt' and a 'payback period' before a switch from coal to forest biomass can make any net reduction to atmospheric $CO_2$ levels.

Since the purpose of renewable energy is to reduce the level of $CO_2$ in the atmosphere, this payback period needs to be limited if regulations are to meet their climate objectives. Our contribution to this debate has been to explain that, to meet climate objectives, woody

## Bioenergy industry joint statement

Responding to the criticism about wood-based bioenergy and its impact on the forestry sector, WBA together with bioenergy stakeholders issued the joint statement.

**Statement**

The fundamental science on the carbon and forestry benefits of wood bioenergy, when produced sustainably, is well-established and remains unchanged. It has been attested to by the leading scientists and academics who specialize in this field, and is underpinned by a growing body of academic literature, including key research published in 2019 and 2020.

Sustainable biomass is a small, but important part of the forest economy. It provides an additional income source for landowners alongside core uses for wood in the timber and paper industries, helping to incentivize landowners to plant more trees. Indeed, real world data show forest carbon stocks are increasing in forests where sustainable biomass is sourced. In 2020 forest stocks in the EU28 reached 28,3 billion m3, equivalent to an increase of 47% over the period between 1990 and 2020.1 Similarly, forests in the US Southeast, which is the world's leading exporter of sustainable biomass, have seen forest stocks increase more than 100% since 19532.

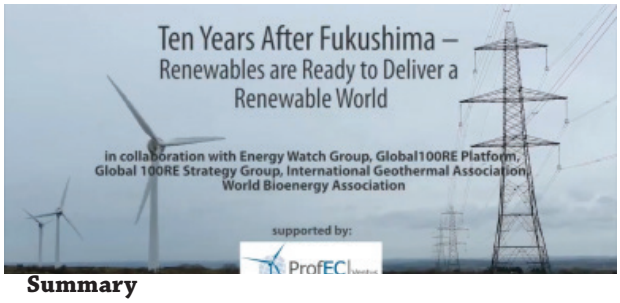
There is clearly an important role for sustainable bioenergy as a climate change mitigation tool. This has been the consistent guidance from the UN Intergovernmental Panel on Climate Change (IPCC) and was recently confirmed by the EU Joint Research Centre. Its latest findings on the use of woody biomass for energy production in the EU recognize the revised EU Renewable Energy Directive (RED II) and the sustainability criteria it introduced as important tools to ensure a sustainable use of woody biomass.

We do share concerns that biomass is produced in a sustainable way, no matter where it comes from. This is exactly why we support the immediate implementation of RED II and the use of high-quality certification schemes to ensure that stringent standards are being upheld. RED II's sustainability criteria are based on well-established science, expert testimony, and evidence gathered from stakeholders on all sides.

In line with the JRC's call to "de-toxify" the debate around biomass, we invite those who harbour concerns about wood bioenergy to work together with us and regulators to ensure it is produced sustainably and delivers the benefits to our climate and forest ecosystems that science clearly proves it can.

## Joint RE statement – Renewables are Ready to Deliver a Renewable World

The Fukushima nuclear disaster occurred 10 years ago in 2011. The anniversary reminded us of the importance of converting the world's energy supply entirely to renewable energy. Together with leading international renewable energy agencies including Energy Watch Group, Global100RE Platform, Global 100RE Strategy Group, and International Geothermal Association, the WBA participated in a webinar: Ten years after Fukushima – Renewables are ready to deliver a renewable world. After the event, the group issued a joint statement:




**Summary**

Renewable energy organisations representing different spheres of the renewable energy community have gathered today on the occasion of the tenth anniversary of the Great East Japan Earthquake and Fukushima nuclear accident to emphasise that renewable energies are not only available in abundance but ready to deliver a renewable world.

The combination of all renewable technologies, be it bioenergy, geothermal energy, hydropower, ocean energy, solar energy or wind power, in particular in combination with storage options, can satisfy all energy needs of mankind, be it for power, heating/cooling, transportation, or industrial processes.

Renewables have seen tremendous growth rates and cost reduction over the past two decades, but there are still many barriers that need to be addressed for a faster renewable energy deployment to eventually achieve global 100% renewable energy. It is up to political decision-makers to create the legislative and regulatory conditions so that the renewable energy community can act as fast as needed.

Such rapid switch towards renewables is not only a must in light of nuclear risks and the growing threats of climate change, but also the necessary response to the current pandemic situation. And it will allow those hundreds of millions of humans in unserved areas to get for the first time ever access to modern energy services.

## Article in news media

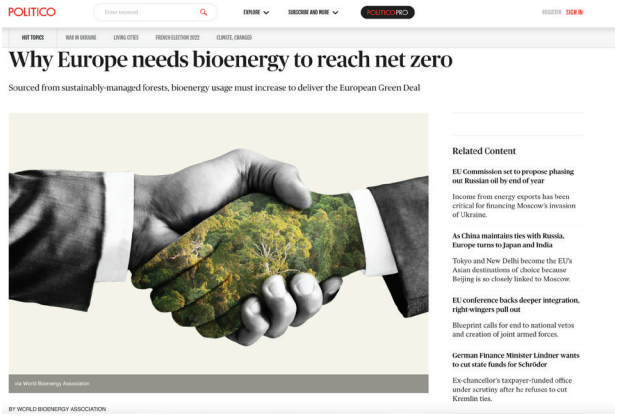
Together with the US Industrial Pellets Association (USIPA) – a member – WBA published articles in leading media outlets including Financial times and Politico. WBA put forth arguments for why EU needs bioenergy, the opportunities for growing the forest bioeconomy, and finding the right balance on bioenergy policy.

### Why Europe needs bioenergy to reach net zero

The era of bold climate ambition has finally arrived with more than 100 countries pledged to reach net-zero emissions in the next 30 years. The goal is holding global temperature rise to 1.5°C this century, thus avoiding the worst impacts of climate change. But to make these commitments a reality, much work remains and the challenge is immense.

The EU is at the forefront of this effort with the European Green Deal, the bloc's signature initiative to make Europe the first climate-neutral continent by 2050. As EU leaders close in on a sweeping set of policy proposals and investment decisions, sustainable bioenergy remains an indispensable mitigation technology in making the EU's low-carbon energy transition a success.

Originally published in Politico


POLITICO

Why Europe needs bioenergy to reach net zero

Sourced from sustainably-managed forests, bioenergy usage must increase to deliver the European Green Deal

Related Content

EU Commission set to propose phasing out Russian oil by end of year

Income from energy exports has been critical for financing Moscow's invasion of Ukraine.

As China maintains ties with Russia, Europe turns to Japan and India

Tokyo and New Delhi become the EU's Asian destinations of choice because Beijing is so closely linked to Moscow.

EU conference backs deeper integration, right-wingers pull out

Blueprint calls for end to national vetos and creation of joint armed forces.

German Finance Minister Lindner wants to cut state funds for Schröder

Ex-chancellor's taxpayer-funded office under scrutiny after he refuses to cut Kremlin ties.

BY WORLD BIOENERGY ASSOCIATION

### Growing the forest bioeconomy

Of the 51bn tons of greenhouse gases (GHGs) added to the atmosphere each year, less than 30 per cent originate from electricity production. While increasing renewable energy is critical in the bid to reach net zero by 2050, a sustainable bioeconomy is seen as a core component of the European Green Deal.

EU policy is supporting the expansion of bio-based climate solutions that keep fossil carbon in the ground and help meet the challenge of decarbonising the remaining 70 per cent of the world's economy - including infrastructure, industry and transportation - by replacing fossil-based resources with biological ones.

But as forest-strategy rapporteur Petri Sarvamaa told the European Parliament last autumn: "The enhancement of biodiversity, the fight against climate change and the transitions to a circular bioeconomy and to a fossil-free society will never be possible without multifunctional, healthy and sustainably managed forests."

Originally published in Politico


FINANCIAL TIMES

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WORLD BIOENERGY ASSOCIATION

PARTNER CONTENT

Growing the forest bioeconomy

*Forests provide the base for innovative technologies that can decarbonise the global economy. But policies that build on Sustainable Forest Management are vital in order to deploy this renewable resource at scale.*

**Finding balance on bioenergy policy**

This fall, the EU Parliament and Council will advance an ambitious, comprehensive set of legislative actions to achieve climate neutrality by 2050. Sustainable forest biomass has underpinned much of the EU's decarbonization success to date and will play an integral role in the future.

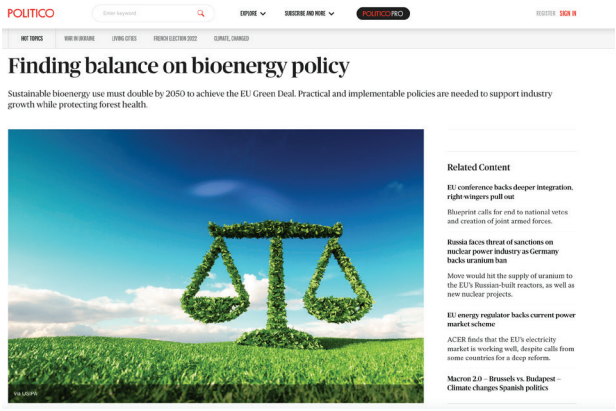
As Europe pushes its climate action ambition further, scaling the biomass industry will be vital to provide dispatchable power and heat today, and industrial decarbonization and negative emissions tomorrow. This will require policymakers to enact durable and consistent policies to support industry growth while ensuring the health of forest ecosystems.

"That will be our task," said Frans Timmermans, executive vice president of the European Commission in charge of the European Green Deal. "If we use the best available scientific knowledge, then we can have sustainable use of biomass."

The leading science can be found in the recent Sixth Assessment Report from the U.N. Intergovernmental Panel on Climate Change (IPCC). It is unequivocal that sustainable biomass is essential in all modeled pathways consistent with keeping global warming below 2C. The IPCC's findings are echoed by other authorities including the International Energy Agency's (IEA) seminal Net-Zero by 2050 report, as well the European Commission's July impact assessment.

The climate benefits of sustainable biomass and the EU's need for more of it are well established, but what should be the aims of effective biomass policy that strikes the right balance between using it to reduce emissions and protect forests?

Originally published in Politico


POLITICO

Finding balance on bioenergy policy

Sustainable bioenergy use must double by 2050 to achieve the EU Green Deal. Practical and implementable policies are needed to support industry growth while protecting forest health.

Related Content

EU conference backs deeper integration, right-wingers pull out

Blueprint calls for end to national vetos and creation of joint armed forces.

Russia faces threat of sanctions on nuclear power industry as Germany backs uranium ban

Move would hit the supply of uranium to the EU's Russian-built reactors, as well as new nuclear projects.

EU energy regulator backs current power market scheme

ACER finds that the EU's electricity market is working well, despite calls from some countries for a deep reform.

Macron 2.0 – Brussels vs. Budapest – Climate changes Spanish politics

# Events

January

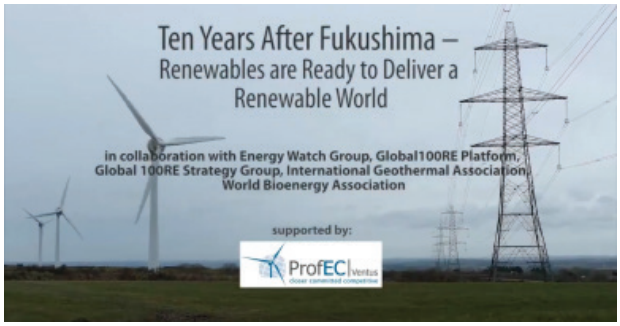
**Webinar – National experiences on bioenergy development**

Following the previous webinar on latest technological developments on efficient combustion (Link), WBA and the AgroBioHeat project organised a webinar on national experiences related to policies and regulations supporting the use of agricultural residues as source of energy. The session included presentations from representatives of national associations and researchers from Spain, Denmark, Ukraine, India and Brazil.

March

**REN Alliance webinar**

Renewable energy organisations representing different spheres of the renewable energy community have gathered today on the tenth anniversary of the Great East Japan Earthquake and Fukushima nuclear accident to emphasise that renewable energies are not only available in abundance but ready to deliver a renewable world. Link

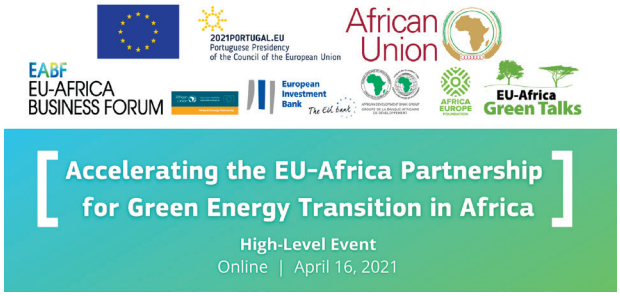



April

**EU Africa Business Forum**

High-level representatives from the European Commission and the African Union Commission, development banks and private sector CEOs joined in an online roundtable to discuss the rapid green energy transformation in Africa and how they will contribute to bridging the energy gap in the continent. During the forum, the exhibition was an opportunity to network and build new bridges in the green energy sector by participating in exhibitions, workshops and conferences, as well as business to business and business to government meetings. WBA was one of the

exhibitors in the virtual forum.




**Webinar 3: Latest developments in densification of agricultural residues for energy**

Following the success of previous webinars organized on combustion technologies (Link) and national experiences (Link) related to the agricultural residues to energy sector, WBA organized the 3rd webinar in the series: Latest developments in densification of agricultural residues for energy.

The webinar featured presentations from leading companies in densification technology including pelleting, briquetting and baling. Speakers presented the latest technologies, success stories and opportunities provided by densified biomass for energy.


May

**WBA Webinar Series – National experiences with bioenergy deployment**

Lithuania's success story in replacing fossil fuels with biomass in District Heating (DH) system is a unique story. The share of fossil fuels in DH in Lithuania has been declining at particularly rapid rates. In 2011, 76% of DH was generated from fossil fuels in Lithuania while in 2018, only 31% of the heat was generated from fossil fuels with biomass heat increasing proportionately during the same time.

To share the success story of Lithuania in replacing fossil fuels with biomass and the numerous benefits generated in the society, World Bioenergy Association along with Lithuania Biomass Energy Associationorganised this webinar. Speakers informed about the latest developments of the bioenergy sector with company representatives showcasing the latest technologies in biomass district heating in the country. The webinar is the 1st in a new WBA webinar series focussing on national experiences with bioenergy development.


June

**A New Momentum for Climate Change Mitigation: Renewables Working Together**

With the new US Administration in office, China committing to becoming climate neutral by 2060, the European Green Deal and a strong social climate movement being active around the globe, the international climate change mitigation efforts have gained additional momentum. Many governments, amongst them the largest greenhouse gas emitters, have raised their climate ambitions in the past weeks and months. Amibitions by many governments to build back better, in response to the Covid-19 crisis, have added to the new climate momentum.

This new momentum has been reflected in the work of three international key organisations working on the global energy transformation: IRENA, IEA and REN21. Accordingly, representatives from these three organisations presented their latest key reports which include scenarios on how the world can reach its climate goals and keep global warming at 1,5°C. In response, the REN Alliance partners, representing the renewable energy practitioners, commented on the findings of the organisations, and highlighted what needs to be done from the practitioners' viewpoints, e.g. on policies/legal frameworks, innovation, socioeconomic development or sustainability standards.

**Webinar: Lessons so far – the role of sustainable bioenergy in displacing fossil fuels**

Sustainable bioenergy has played a crucial role in helping many countries to move rapidly away from fossil fuels. The industrial use of bioenergy has enabled companies, governments, and supranational blocs to achieve rapid decarbonisation of their energy systems. With the IEA naming bioenergy as one of the seven key pillars of decarbonisation in their recent Net Zero report, WBA was pleased to organise a webinar, "Lessons so far – the role of sustainable bioenergy in displacing fossil fuels" on 30 June 2021.


September

**WBA Annual Meetings 2021**

On 14th September 2021, the World Bioenergy Association (WBA) convened the Annual Meetings (AM) 2021. The meeting was in a hybrid format with participants joining us physically in Vienna as well as via conference call. On the previous day, WBA delegates had an opportunity to participate in site visits near Vienna including a visit to the company Polytechnik, a new CHP facility in the city of Sulz, and discussions with the Wienerwald Forestry Agency.

**WBA IBTC Webinar - Agricultural residues valorisation**

International Biomass Torrefaction Council (IBTC), together with World Bioenergy Association (WBA) organised a free and open webinar on Agricultural Residues Valorisation – Opportunities with Torrefaction, which took place on Monday September 20, 16:00 – 17:30 CEST.

The webinar welcomed industry leaders and showcased the prospering reality of torrefaction technology, as well as its applications, particularly in respect to agricultural biomasses, and so much more!

Three breakout rooms were organized to further discuss key concepts: Feedstock, Technology and Consumer perspective.


**WBA Webinar: Bioenergy and Net Zero**

The IEA recently named bioenergy as one of its seven "key pillars" of decarbonisation for getting to Net Zero by 2050. In particular, the IEA report stressed the importance of Bioenergy with Carbon Capture and Storage (BECCS), noting that, "BECCS plays a critical role in the NZE [Net Zero Emissions] Scenario by offsetting emissions from sectors where full decarbonisation is extremely difficult to achieve."

Sustainability is at the heart of modern bioenergy and its contribution to climate change mitigation, and transparent sustainability governance will remain of central importance as the global bioenergy industry scales up to meet the climate challenge.

As part of our work in building a coalition around sustainability in the run-up to COP26, WBA is pleased to have organised this webinar, "Bioenergy and Net Zero – sustainability in a world of scaled-up modern bioenergy". This event examined the varied roles of bioenergy in a Net Zero future and how we can maintain a strong focus on sustainability governance.


October

**Scaling up biomethane on the pathway to a net-zero future**

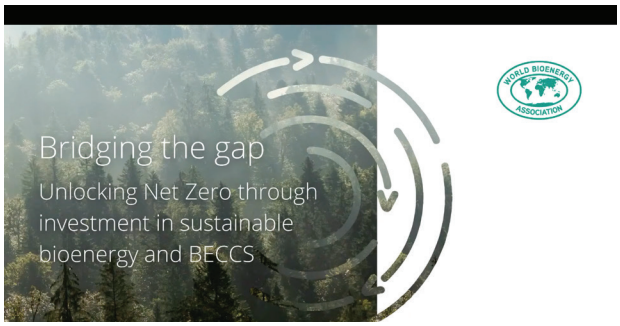
Biomethane is among a leading range of low carbon solutions which needs an accelerated scale up to match these

ambitions. According to the International Energy Agency´s Net-zero Emissions by 2050 scenario, globally biomethane needs to grow more than eight-fold in the next ten years. In this context, WBA organised this webinar aims to showcase the latest global developments and best practices in the field of biomethane, covering new market trends, innovative polices and technology advances.


November

**Bridging the gap: Unlocking Net Zero through investment in sustainable bioenergy and BECCS**

A panel of business and policy leaders discussed the role of sustainable bioenergy and BECCS in delivering global Net Zero. Speakers included: The Rt Hon Amber Rudd, Will Gardiner (CEO, Drax Group) and John Keppler (CEO, Enviva). The session was moderated by WBA President Christian Rakos.




**WBA Press Conference: Critical role of bioenergy in meeting global net zero**

Global net zero commitments cannot be achieved without significant scale up of bioenergy. In this context, WBA organized a press briefing at COP26 by presenting a global overview on the development of the bioenergy sector and success stories from Lithuania and Finland.

The briefing also included the launch of the program Bioenergy for the Future. The program Bioenergy for the Future developed in collaboration between WBA and ITN Productions combined key sector interviews, informative news items, sponsored editorial profiles to highlight the critical role of bioenergy in global net zero.


**Forestry and Net Zero: Protecting and investing in forests**

Sustainable management of forests and supply of wood products will be central to protecting forest carbon sinks and the species they support. This event explored how the sustainable forestry sector can play a crucial part in delivering global Net Zero.

**Ensuring Sustainable Bioenergy: Launching the Glasgow Declaration on Sustainable Bioenergy**

According to the International Energy Agency, sustainable wood-based bioenergy must increase threefold to meet global Net Zero. This event set out a vision for how the industry can meet this challenge while maintaining its commitment to sustainability. At the same event, the Glasgow Declaration on Sustainable Bioenergy was launched.

# Collaborations

## Bioenergy International

The leading global bioenergy industry association joined forces with a leading international bioenergy trade publication to strengthen the position of bioenergy on the global level. On 1st March 2021, representatives of the WBA and Bioenergy International (BioInt), a leading international English language subscription-based trade publication focusing on biomass to energy value chains, signed a Co-operation Agreement whereby Bioenergy International becomes the official magazine of World Bioenergy Association. As part of the agreement, both WBA and BioInt agree to promote individual publications, organize joint activities and strengthen the network of bioenergy stakeholders around the world.


## Global Bioenergy Partnership

WBA officially become an observer organization to the Global Bioenergy Partnership (GBEP). As an observer, WBA will participate actively in all GBEP's activities and discussions including the technical and steering committee meetings. Together, WBA and GBEP will exchange information, promote individual activities and explore joint events in the near future.

GBEP
Global Bioenergy Partnership
WORKING TOGETHER FOR SUSTAINABLE DEVELOPMENT

## ITN Productions

In the face of climate change, providing reliable supplies of renewable energy has become one of the biggest developmental challenges of our time. Bioenergy has a significant role to play in carbon removal, emissions reduction as well as in the development of bioenergy-based fuel alternatives for fossil fuels. WBA has partnered with ITN Productions Industry News to make Bioenergy for the Future, a programme looking at the innovations and developments in the Bioenergy sector.


## REN21

WBA is a member of Steering Committee of REN21 and regularly participates in official meetings. WBA also reviews reports including Global Status Report and participates in interviews etc. to inform on the latest developments in bioenergy. In 2021, WBA was re-elected to the Steering Committee for another 3 years.

REN21
RENEWABLES NOW

## IRENA

WBA is an observer organization to IRENA and is part of the Coalition for Action. As an observer, WBA participates in the General Assembly and provides input to the Work Program while our role in the Coalition for Action involves suggesting case studies for various working groups, reviewing reports and participating in webinars as speakers.

IRENA
Coalition
FOR ACTION

# Projects

## Board videos

Saku Rantanen is the board member of World Bioenergy Association and is the Managing Director of Bioenergy Business at BECIS (Berkeley Energy Commercial Industrial Solutions). The video shows a bioenergy plant in East Java, Indonesia which utilizes rice husk as fuel to produce steam for a nearby brewery. The plant has been in operation for 2 years and provides 100% of the thermal needs of the brewery, replacing the use of natural gas. Fuel gases are treated via ESP while produced ash is used as organic fertilizer.

The plant has 5 main benefits:

1. reducing pollution and agricultural waste,
2. producing energy with lower cost compared to fossil fuels,
3. lowering $CO_2$ emissions by more than 80%,
4. providing employment opportunities to rural Indonesia
5. case example of circular economy.

# Organization

## WBA Board Members 2020 – 2021

1. Christian Rakos, Propellets Austria (Austria)
2. Kelvin Hong, Great Resources (China)
3. Tanay Sidki Uyar, Beykent University (Turkey)
4. Alarik Sandrup, Lantmännen (Sweden)
5. Ben Moxham, Camberwell Energy (UK)
6. Georgiy Geletukha, Bioenergy Association of Ukraine (Ukraine)
7. Glaucia Souza, University of Sao Paolo (Brazil)
8. Hazir Farouk, Sudan Universiy of Science and Technology (Sudan)
9. Larissa Rose, below50 Australia (Australia)
10. Mika Ohbayashi, Japan Renewable Energy Institute (Japan)
11. Oscar Espinosa Mijares, Pellet Mexico Bioenergia (Mexico)
12. Pharoah Le Feuvre, International Energy Agency (France)
13. Remigijus Lapinskas, Lithuania Biomass Energy Association (Lithuania)
14. Saku Rantanen, Tasma Bioenergy (Singapore)
15. Seth Ginter, US Industrial Pellets Association (USA)
16. Vadim Zubarev, Ethanol Europé (Hungary)
17. Werner Sitzmann, Amandus Kahl (Germany)
18. Zygmunt Gzyra, President, Polish Chamber of Biofuels (Poland)

## Nominating Committee

- Gustav Melin, Svebio, Sweden (Convenor)
- Andrew Lang, WBA, Australia
- Christoph Pfemeter, Austrian Bioenergy Association, Austria

## Secretariat

- Bharadwaj Kummamuru, Executive Director (Sweden)
- Karin Haara, Senior Advisor (Sweden)
- Lizia Branco, Communication Manager (Portugal)

## Members of Honour

- Kent Nystrom, Stockholm

## Full members

Spanish Bioenergy Association, Swedish Bioenergy Association, Bioenergy Europe, Propellets, Energy Farm International, Czech Bioenergy Association, Bundesverband Bioenergie e.V, Austrian Bioenergy Association, Fachverband Biogas, New World Hope, Bioenergy Association of Turkey, LITBIOMA, Bioenergia ry, Bioenergy Association of Ukraine, Namibia Biomass Industry Association, Cluster

VALBIOM Maroc, European Renewable Ethanol Association, Croatian Biomass Association, Polish Chamber of Biofuels, Indian Bioenergy Association, Hungarian Bioethanol Association, Power Workers Union, US Industrial Pellets Association

### Associated members

First Bioenergy AB, Firefly AB, CPM Europe BV, C.F. Nielsen A/S, KWB Kraft und Warme Aus, Herz Energietechnik GmbH, Energie Steiermark AG, Sunbird Management SL Ltd, Bioenergie Wärmeservice GmbH , Södra Skogsägarna ekonomisk förening , nahwaerme.at Energiecontracting GmbH , nahwaerme.at Energiecontracting GmbH , nahwaerme.at Energiecontracting GmbH , Bioenergie Tirol Nahwärme GmbH , TB Harald Kaufmann GmbH, World Thermal Service AB, Enerstena grupė, UAB, Amandus Kahl GmbH & Co. KG, Syncraft Engineering, Henriksson Salix AB, Mantex AB, Investancia Paraguay SA, Pellet Mexico Bioenergia S.A. DE C.V. , Mine Biomass Synergies Pte Ltd, Renewable Energy Institute, Alterna Verde , Lithuanian Energy Institute, Enviva, Aichernig Engineering GmbH, Serge Energy, Pellet Invest LLC, Fröling, SSBE Bioenergy Company Ltd, Justsen Energiteknik A/S, Istanbul Energy, Drax Group

### Individual members

Individual members are not listed.

## Funding

WBA is grateful for the funding we receive from our membership. The companies, associations and individuals comprising our member base support us immensely. Apart from the core membership, we are also thankful for the support of our supporter members.

- AGRANA AG, Austria
- Fröling, Austria

Detailed analysis of WBA financing is available in the authority version and will be available upon request. Please send your request info@worldbioenergy.org