



12 June 2020

COVID19 and Bioenergy: Impacts and future outlook

Results from Survey on Impacts of COVID 19 on Bioenergy Sector

Summary of impact

The spread of COVID19 virus and subsequent measures taken to control the spread had a significant impact on the bioenergy sector worldwide. Measures such as national/local lockdowns, social distancing guidelines and restrictions on movement of people and goods has led to a significant challenge to the bioenergy community.

The sector hardest hit is the liquid biofuels sector. Low oil prices are making biofuels hard to compete with conventional fossil fuels. Although some of the producers have shown flexibility with production diverted to essential commodities (e.g. hand sanitizers), the significant drop in demand for transport fuels around the world due to lockdown measures implemented are causing hardships for biofuel producers leading to plant closures and reduced production volumes. On the other hand, solid biomass sector has shown resilience. Most of the producers of solid biofuels (e.g. wood pellets) have continued with no significant change in production as there were no significant restrictions in the movement of essential energy commodities. The producers of industrial pellets also benefit from long term offtake agreements with buyers. A key challenge for the sector has been the procurement of feedstock as most of the industry depends on forestry harvesting and processing residues which have been impacted due to national/regional restrictions. Producers of electricity and heat from biomass and biogas also have shown resilience and continued production due to the benefit of bioenergy in providing on demand and dispatchable renewable energy to end consumers.

WBA Position

Based on the impact of the COVID19 on the bioenergy sector and the expectations from the bioenergy industry towards policy makers, WBA issues the following key messages for governments around the world:

1. **Bioenergy as essential service.** Bioenergy (including solid biomass, liquid biofuels and biogas) has provided clean, on demand energy and its role in meeting end use of electricity, heating and transport fuels should be recognized as essential product and service in times of crisis.
2. **A bioenergy future.** Policy makers should assure investors and the wider bioenergy community of their support to bioenergy and its crucial role in reducing fossil fuel use, generating jobs, local economic development and combating climate change.
3. **Dis-incentivize fossil fuels.** Low oil prices, low cost of renewable energy sources and the momentum towards a clean energy future provide the opportunity for policy makers to dis-incentivize fossil fuels development by eliminating subsidies, implementing carbon pricing policies and developing fossil fuel exit strategies.
4. **Build back better with Bioenergy.** Recognizing the crucial role of bioenergy in the global energy mix, governments should include support to sustainable bioenergy technologies and pathways as key themes at the centre of economic recovery packages. No more fossil fuel support.
5. **Time for ambition and action.** Recognizing that we face a climate urgency, national governments must increase their climate ambition by setting long term, ambitious and stable targets for bioenergy and renewable energy.



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WBA Survey on impacts on bioenergy

WBA initiated the survey ‘COVID 19 and impact on global bioenergy sector’. The survey was open for responses from bioenergy stakeholders for the duration of 3 weeks (05 – 26 May 2020). The aim of the survey was to understand the impacts of the COVID19 pandemic and the resulting lockdown on the bioenergy community along with recommendations from the bioenergy community to policy makers. Majority of the respondents were producers of bioenergy equipment (boilers, pellet mills etc.), processed solid biomass (pellets, wood chips etc.), energy (electricity and heat), liquid bioethanol, biodiesel and biogas.

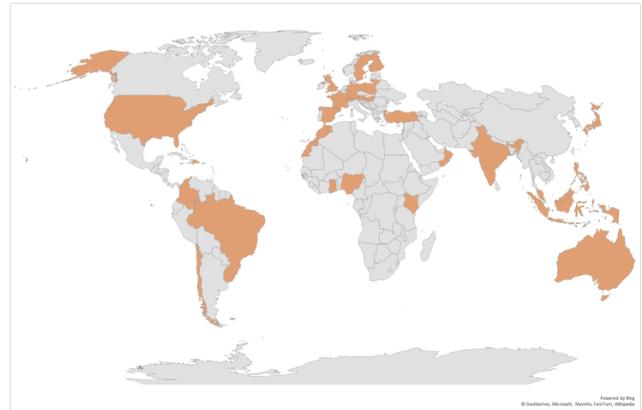


Figure 1 Representation of geographical coverage of responses

Geographic representation

The global effect of the pandemic is visible from the wide geographic representation of the respondents to the survey. Responses were received from 6 continents and more than 30 countries around the world. These include: India, Kenya, Austria, Sweden, Uruguay, Malaysia, Indonesia, England, India, Indonesia, Australia, France, Lithuania, Brazil, United States of America, Poland, Morocco, Germany, Oman, Philippines, Japan, Poland, Ghana, Turkey, United Kingdom, Hungary, Nigeria, Colombia, Finland, Chile, Switzerland, Spain, Dominican Republic and Sierra Leone.

Number of Employees

Bioenergy is one of the largest employers globally with estimates of more than 3 million people working in the entire supply chain. 65% of the responses for the survey were from micro, small and medium enterprises (1 – 100 employees) while less than 15% of the respondents had more than 1000 employees.

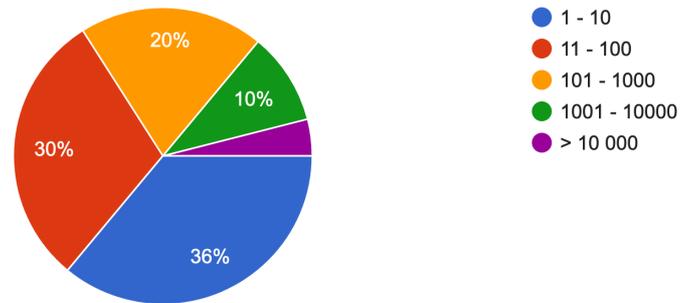


Figure 2 Number of employees for respondents



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Impact on business

In general, 52% of the respondents indicated that there was a moderate to significant effect of the COVID19 pandemic on their bioenergy businesses out of which 12% of the respondents had a severe impact on their businesses. The biggest challenge faced by the respondents was due to the measures taken to prevent the spread of the pandemic – e.g. lockdowns and social distancing guidelines which restricted the movement of goods and people around the world. The low oil prices have also had a significant effect as producers of biofuels in regions without significant biofuel mandates found it challenging to compete with gasoline and diesel. Respondents also indicated the lack of support for bioenergy in some countries which affected their businesses in times of crisis.

Few of the respondents (<5%) indicated that there was no impact at all on their businesses. Respondents indicated that even though the pandemic has restricted the movement of people and majority of investments are on hold, they expect the situation to improve soon and that the bioenergy community will have a better situation by the end of the year.

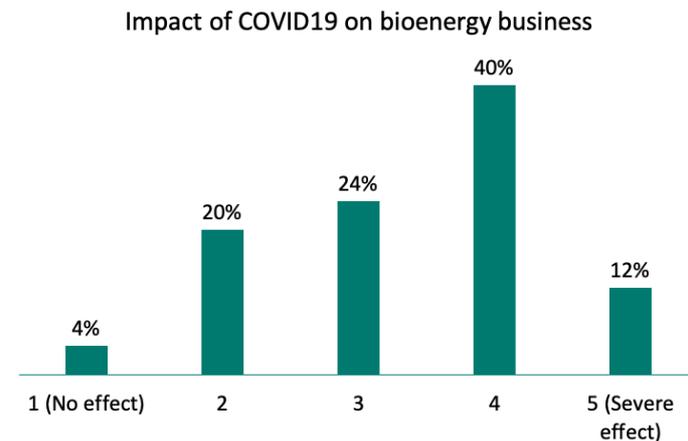


Figure 3 Effect of COVID19 on overall business

Biofuel and/or equipment manufacturing

Among producers of biofuels and equipment for bioenergy production, more than 40% of the respondents had indicated a medium to large decrease in their production. For liquid biofuel producers, low price of oil and drop in transport fuel demand has made it a challenge to compete with gasoline and diesel. For equipment producers, the challenge lies in the pause in deployment of renewable energy technologies due to lockdown measures as well as difficulties in transportation and installation of equipment. Human resource availability due to movement restrictions for people and goods is also a cause of concern. For producers of biogas, the main challenge is that they are unable to work on biogas units due to strict enforcement of social distancing guidelines. Postponement of new projects hold on existing projects has affected the producers of biogas and bioenergy equipment around the world.

Some of the respondents (16%) indicated that there has been no change or even in an increase in production of biofuels and/or equipment which is largely due to some sectors having long term offtake agreements (e.g. industrial pellet producers) and resilient supply chains which can handle such major disruptions in the energy system worldwide. However, in case the situation worsens, the rest of the sectors will face challenges as well.



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Impact of COVID19 on bioenergy production

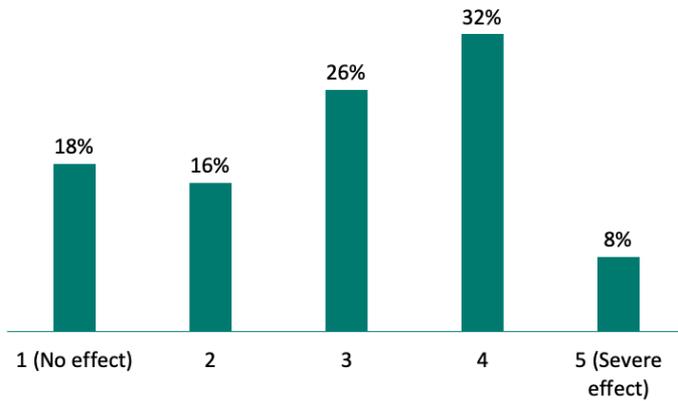


Figure 4 Effect of COVID19 on biofuel production and/or equipment production

Cash flows/revenues

With regard to finances, 44% of the respondents indicated that they had or will have a large decrease in revenues or challenging situation with managing cash flow for their companies. This was mainly due to the challenge in competing with low oil prices and major drop in demand for transportation fuels. Some respondents indicated that payments from clients are also on hold as some cite force majeure in their contracts while concerns arose on the challenge of leveraging development capital for future projects. The role of governments is more important than ever in assuring investors on the way ahead.

At the same time, 8% of the respondents indicated no change in their cash flows or even an increase in their revenues. They indicated that the situation would improve very soon and any challenges in the short term would improve later in the year as governments push their efforts in promoting resilient supply chains such as bioenergy.

Impact of COVID19 on bioenergy business revenues

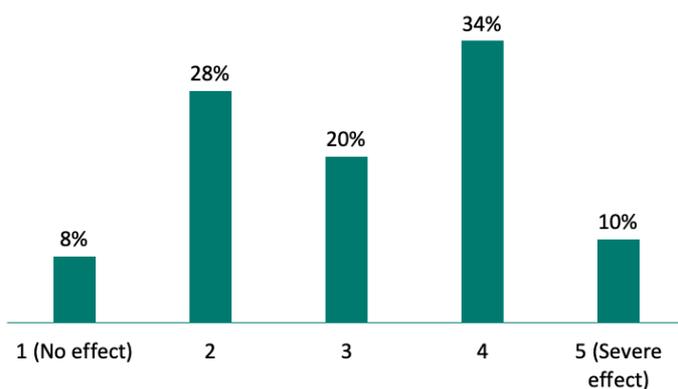


Figure 5 Effect of COVID19 on cash flows/revenues

Employment

The COVID19 pandemic had significantly less impact on employment in the bioenergy sector compared to investments and cash flow and biofuels production. 22% of the respondents indicated that there won't be any layoffs or even possibility to recruit for new positions as



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they indicated that the situation will improve soon. Very few respondents (6%) indicated that there would be a risk of large layoffs in the sector.

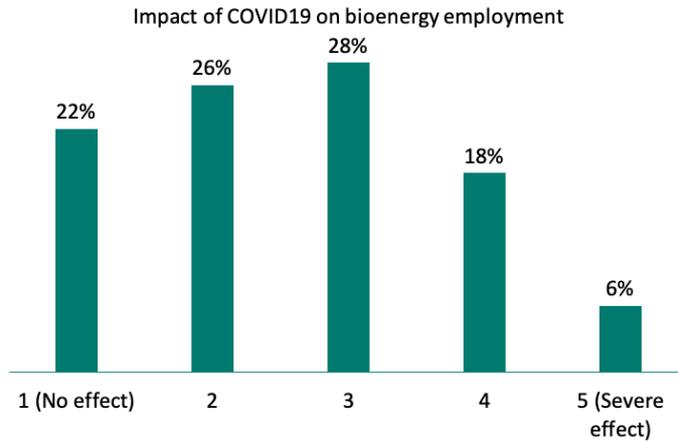


Figure 6 Effect of COVID19 on employment

Investments

In terms of investments expected in the bioenergy sector, more than 38% of the respondents indicated a reduction or even termination of new investments in the sector. The uncertainty has led to a delay in decision making on new investments. 22% suggested that there may be no change or even new investments expected as governments ramp up policies in the aftermath of the COVID19 pandemic.

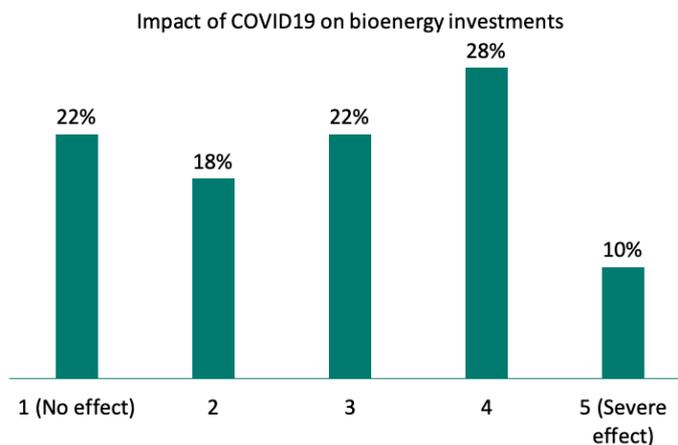


Figure 7 Effect of COVID19 on bioenergy investments



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Impact of COVID19 – Short and Long Term

The prevalence of COVID19 and measures taken to restrict the spread of the virus (e.g. social distancing, lockdowns etc.) have had short term and long-term impacts on the bioenergy community.

Respondents indicated that strict implementation of social distancing guidelines by cities, provinces and governments have impacted the deployment of bioenergy equipment (e.g. biogas units). It was reported that businesses find it challenging to recruit and train skilled personnel as well as perform planned maintenance of existing facilities. At the same time, managing the employees at the sites due to various restrictions was reported as challenging.

In the short term, some respondents indicated that there are no new orders in the current environment as investors are adopting a wait and see approach. The uncertainty in terms of the spread of the virus, status of recovery packages and the extent of the lockdown measures are affecting investment decisions in the short term.

Solid biomass supply chains have remained largely unaffected due to long term offtake agreements between producers and consumers of biomass products. However, certain regions have reported disruption in supply chains and trade challenges as some companies have declared force majeure on supply contracts leading to fuel shortage issues.

One of the major impacts of the spread of the coronavirus has been the decline transportation fuel demand and low oil price leading to biofuels not being competitive with gasoline and diesel at current rates. The effect is also felt in the heating sector as biomass is unable to compete with heating oil in some regions as indicated by the respondents.

Some respondents indicated a decrease in cash flow as clients have put payments on hold due to the delay in execution of projects and that local projects are facing challenges for implementation as municipalities are concerned with handling the pandemic with bioenergy projects not being considered essential sectors. Due to the shutdown of some industries (e.g. pulp and paper, sawn timber etc.), there is a shortage of biomass feedstock in some regions.

In the long term, most of respondents indicated that, with the easing of restrictions around the world and the expected increase in demand for energy, businesses will be back to normal. The resilience of the bioenergy and renewable energy industry shows that the industry can handle major disruptions in the global energy system. Most of the respondents expect a robust biomass market growth in the future.

However, some respondents indicated that investors in the long term may be more conservative in their investments and rather focus their funds to 'essential capex'. Challenges in financing new commercial biomass projects was also identified as an impact of the pandemic in the long term. If the situation does not improve, job losses in the sector was identified as a key long-term impact.

Respondents indicated that major changes in the way bioenergy projects are deployed around the world as another long-term impact. There may be a higher demand for on-site energy production (e.g. decentralized) such as biogas projects. The global energy disruption has shown the resilience of most of the bioenergy supply chains although it was indicated that there should be a rethinking of security of supply chains. A key recurring theme among respondents is their desire for policy makers to recognize bioenergy as an essential sector, incentivize bioenergy development and establish strong and stable policies around the world.



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Role of governments

Governments around the world have a unique opportunity to make major changes in the way energy is produced and consumed. Private sector is expecting political decisions to steer towards a clean and green economy in the short and long term.

In terms of expectations from policy makers on actions needed in the short term, respondents chose recognizing bioenergy as an essential product/service as the top priority. Other options suggested including direct financial support from the government (e.g. grants), lowering/removal of tariffs and taxes and prioritizing the trade of bioenergy commodities around the world.

For the long-term expectations, top priorities from policy makers include more direct governmental investment support for bioenergy projects, increasing mandates/targets for bioenergy sectors, increasing/implementing carbon pricing and eliminating fossil fuel subsidies



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Appendix Survey Questions

Dear Bioenergy Stakeholder,

The social and health impacts of the COVID 19 pandemic are quite evident around the world. At the same time, the energy industry is experiencing a significant shock as markets, companies and economies are experiencing major effects of reduced demand and disruptions to the supply chains.

Countries around the world have realized the critical importance of energy security and the essential need for continuous supply of electricity and heat to end consumers. In this regard, liquid biofuels, biogas, pellets and wood chips etc. for heat and electricity currently provide essential and on demand energy. As governments around the world are responding to the pandemic with recovery packages, it is important to keep in mind the threat of climate change and the need for a just transition to a renewable energy future. Bioenergy and other renewable energy sources should be the central pillar of governments' plans to stimulate economic growth as well as accelerate the transition to a sustainable future.

To better understand the effects of the global pandemic on the bioenergy sector and to inform national and regional governments along with international agencies during the time of recovery, WBA is requesting all bioenergy businesses to respond to the Survey: COVID – 19 and impact on global bioenergy sector. All bioenergy stakeholders including equipment manufacturers, liquid biofuel producers, biogas producers, utilities, pellets, woodchips and other solid biofuel producers, EPC companies etc. are invited to respond.

The responses will be aggregated and presented to policy makers. Individual responses will not be shared. Click next to start the survey. They survey should take about 10 minutes. For queries, please contact us at info@worldbioenergy.org

For information on handling of personal data, please check our data privacy policy: <https://worldbioenergy.org/data-privacy-policy>

General Information

Q. Type of Business

Producer of bioenergy equipment

Producer of processed solid biomass

Producer of electricity and/or heat from biomass

Producer of liquid biofuels

Producer of biogas

Biofuel traders

Electricity/heat distributors

EPC company

Q. Main country of operation

Q. Number of employees

1 – 10



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11 – 100

101 – 1 000

1 001 – 10 000

> 10 000

Effect of COVID 19

Q. How much has COVID – 19 pandemic affected your business?

Not affected at all (1) → Severely affected (5)

Q. What has been the effect on biofuel and/or equipment manufacturing in your company?

No change/increase in production (1) → Large decrease in production (5)

Q. What has been the effect on your company revenues or cash flow?

No change/increase in revenue (1) → Large decrease in revenue/cash flow difficulties

Q. What has been the effect on employment in your company?

No layoffs/possibility to recruit (1) → Risk of large layoffs

Q. What has been the effect on current or future bioenergy investments?

No change/new investments expected (1) → Reduction/termination of new investments

Q. What other changes are you currently experiencing in the short term in relation due to the current global crisis?

Q. What changes do you expect in your business in the long term?

Future Response

Q. What are your expectations from the policy makers in terms of action needed in the short term (e.g. weeks/months)?

Direct government support

Lowering/removal of taxes and tariffs

Supporting trade of goods and products

Recognizing bioenergy as essential product/service

Q. What are your expectations from the policy makers in terms of action needed in the long term?

Increasing/implementing carbon pricing

Eliminating fossil fuel subsidies

More investment for renewables deployment

Increasing mandates/targets for bioenergy

- End of Survey –