

# Indonesia Investments

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## Energy: Biomass in Indonesia

- Biomass Considered One of the Renewable Energy Solutions for Indonesia but Does Not Seem to Be a Priority for the Government
- PLN Wants the Private Sector to Take the Lead in Biomass Power Plant Construction
- Biomass Development Especially Regarded a Solution for the Eastern Part of Indonesia
- PLN Conducts Blending Trials of Biomass in 52 Coal-Fired Power Plants (Co-Firing)
- What Are the Challenges of Biomass?

**25 FEBRUARY 2022**

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**Van Der Schaar Investments B.V.  
CV Indonesia Investments**

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Update – 25 February 2022

## Development of Biomass Power in Indonesia



# Preface

In addition to our reports, Indonesia Investments sends updates on key economic, political or social developments to our subscribers to make sure that our subscribers do not miss out on vital information. The topics in these updates may be discussed in more detail (and in an updated form) in the forthcoming monthly report.

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## - Energy -

# Biomass Development in Indonesia

Considering Indonesia is committed to the development of renewable energy<sup>2</sup> in a bid to cut the country's greenhouse gas emissions, while at the same time reducing its traditional dependence on fossil fuels such as coal and (mainly imported) diesel in terms of the energy supply, biomass is one of the options that can offer a solution.

Biomass is organic material made from plants, animals, or waste, that is burned to create heat and converted into electricity, or, (indirectly) processed into biofuel. The best-known types of biomass resources are: agricultural residues, wood pellets, bio briquettes, animal waste, forest residues, industrial wastes, solid waste, and sewage sludge.

There is some debate over whether biomass is truly a clean source of energy because when materials are burned – whether low or high in carbon content – it simply is an inherently dirty process (since harmful air pollutants are released in this process). However, in the case of biomass, the amount of carbon dioxide emitted in relation to

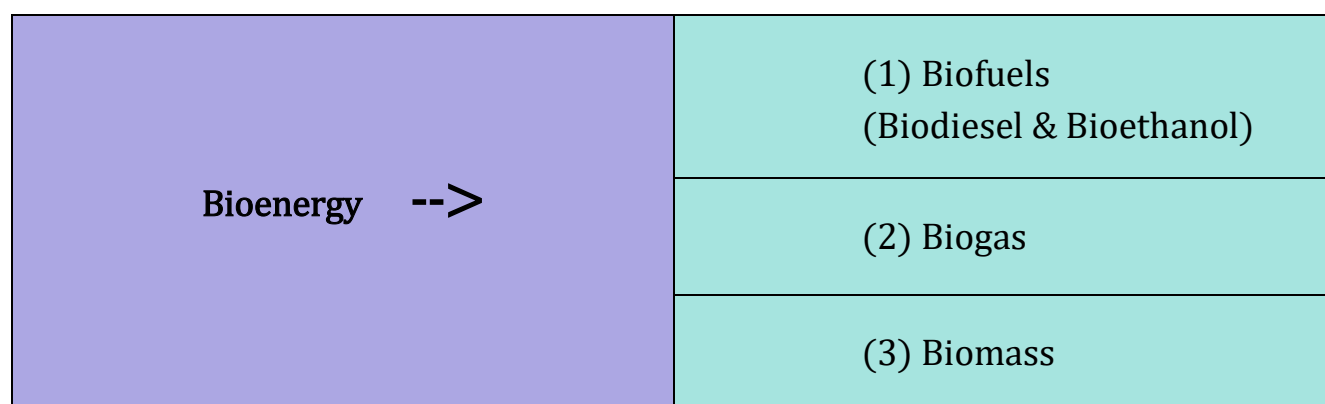
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<sup>2</sup> Based on Government Regulation No. 79 of Year 2014 on National Energy Policy, national renewable energy sources (including biomass) are prioritized for electricity generation.

energy produced is much lower than in the case of coal, diesel, gasoline, propane or natural gas. So, it is definitely a much cleaner energy source compared to fossil fuels.

Meanwhile, biomass is generally regarded a renewable energy source because new trees and crops can always be grown (and relatively quickly compared to fossil fuels such as coal, oil, and gas that require millions of years to develop), while waste will always exist. Therefore, biomass essentially does not 'permanently' deplete Earth's natural resources. However, when trees or forests are cut and burned for energy, it is important that this is done in a careful and responsible manner (if not, it can lead to deforestation, which would also imply that carbon dioxide produced in burning is not efficiently re-absorbed by plant life).

If we zoom out, then biomass is one of the three categories under bioenergy. Besides biomass, bioenergy also involves biofuel (biodiesel and bioethanol), and biogas. Bioenergy can be used to generate electricity, as a transportation fuel or to create heat.



In this article, we are going to zoom in on the potential, challenges and ambitions for biomass development in Indonesia.

To start off, we can state with quite some certainty that biomass is not a top priority of the Indonesian government. This is also reflected in media coverage. If we follow Indonesian media, then we see that – in terms of energy coverage – fossil fuels still get most attention (which should not be a surprise because they contribute most to the country’s energy mix). And compared to renewable energy sources such as solar, hydro or geothermal power, Indonesian media show little interest in biomass too.

#### Primary Energy Mix Targets of the Indonesian Government:

Energy Resource	2020 (Realized)	2025 (Target)	2050 (Target)
Coal	38.04%	>30%	>25%
Crude Oil	31.60%	<25%	>20%
Natural Gas	19.16%	>22%	>24%
Renewable Energy	11.20%	>23%	>31%

Sources: National Energy Council (*Dewan Energi Nasional*, DEN) and PLN’s Electricity Supply Business Plan 2021-2030, IV-18 (RUPTL 2021-2030)

[...]

This is the introduction of the article (consisting of 31 pages). Read the full article in our February 2022 report. Order the report by sending an email to [info@indonesia-investments.com](mailto:info@indonesia-investments.com) or a message to +62.882.9875.1125 (including WhatsApp).

Price of the full February 2022 (electronic) report:

Rp 150,000

USD \$10,-

EUR €10,-

This article about the challenges of biomass development in Indonesia can also be purchased separately for the price of Rp 45,000.