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Biomass to Power

The World Market for Biomass Power Plants 2022/2023

13th edition, 2022

Extract

ecoprogram GmbH

Biomass to Power 2022/2023

The standard reference for the Biomass to Power industry. The 13th edition includes:

- An analysis of about 4,600 biomass power plants and about 700 projects worldwide
- Global market development forecast 2022–2031, including new constructions, shutdowns and investment volumes based on 840 cost examples
- Country level analysis of market factors, support schemes and existing plants and projects of the world's most important biomass markets
- Investment and operational costs and revenues with an exemplary calculation
- Description and market shares of all important operators and technology providers

In addition to the market report, you will get free access to our infrastructure database waste & bio Data (Biomass to Power module) for 1 year.

The database contains information on all plants and projects, including capacity, status, start of operation, technology, fuel, manufacturer and operator, and more. This also includes our weekly updated Biomass to Power Project Tracker.

The study is available starting from 3,400.- €*. **Please find detailed price and product information at the end of this extract.**

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* plus 19% VAT for customers within Germany and EU customers without a VAT ID.

Contents

Preface	13	
Management summary	15	
1 Highlights 2022	19	
2 Plant portfolio	21	
2.1 Global plant asset	21	
2.2 Europe	26	
2.3 Asia	31	
2.4 South & Central America	34	
2.5 North America	37	
2.6 Australia & Pacific	40	
2.7 Africa & Near East	42	
3 Market forecast by 2031	45	
3.1 Global outlook	45	
3.2 Europe	49	
3.3 Asia	52	
3.4 South & Central America	54	
3.5 North America	56	
3.6 Australia & Pacific	58	
3.7 Africa & Near East	59	
4 Competition	61	
4.1 Operator segment	61	
4.2 Technology provider segment	64	
5 National markets	69	
5.1 Africa & Near East	69	
Côte d'Ivoire	69	
South Africa	75	
Rest of Africa & Near East	80	
5.2 Asia	86	
China	86	
India	110	
Indonesia	137	
Japan	145	
Malaysia	161	
Philippines	169	
South Korea	178	
Taiwan	187	
Thailand	191	
Vietnam	202	
Rest of Asia	209	
5.3 Australia and Pacific	216	
Australia	216	
Rest of Australia and Pacific	224	
5.4 Europe	228	
	Austria	228
	Belgium	239
	Bulgaria	250
	Croatia	255
	Czech Republic	262
	Denmark	270
	Estonia	278
	Finland	285
	France	298
	Germany	309
	Hungary	330
	Ireland	337
	Italy	343
	Latvia	357
	Lithuania	364
	Netherlands	370
	Norway	381
	Poland	386
	Portugal	396
	Romania	403
	Serbia	410
	Slovakia	414
	Slovenia	419

	Spain	425		Rest of North America	507
	Sweden	436	5.6	South and Central America	508
	Switzerland	448		Argentina	508
	Turkey	454		Brazil	516
	United Kingdom	461		Chile	545
	Rest of Europe	474		Mexico	552
5.5	North America	480		Uruguay	560
	Canada	480		Rest of South & Central America	565
	USA	490			
Part 2: Background					571
6	Differentiation				573
6.1	Type, character and minimum size of the plants				573
6.2	Biomass in the energy business				575
6.3	Fuels				575
6.4	Regional breakdown				578
7	Technology				581
7.1	Delivery and processing of the fuel				581
7.2	Combustion				583
7.3	Energy generation				587
7.4	Flue gas cleaning				587
7.5	Carbon capture, storage and utilisation				588
8	Costs and revenues of biomass power plants				591
8.1	Investment costs				591
8.2	Current costs				596
8.3	Revenues				599
9	Framework/market factors				601
9.1	Economic viability and biomass potential				601
9.2	Subsidisation of electricity generation from biomass				605
9.3	Carbon pricing				612
9.4	Other types of political support				612
9.5	Ecological criticism of electricity generation from biomass				613
9.6	Renewable energy policies in the EU				615
9.7	Coal phase-out and changing heat market in Europe				619
Data origin and methodology					623
Glossary					625
Annex A: List of known plants and projects					628
Annex B: Forecast data					629

Japan

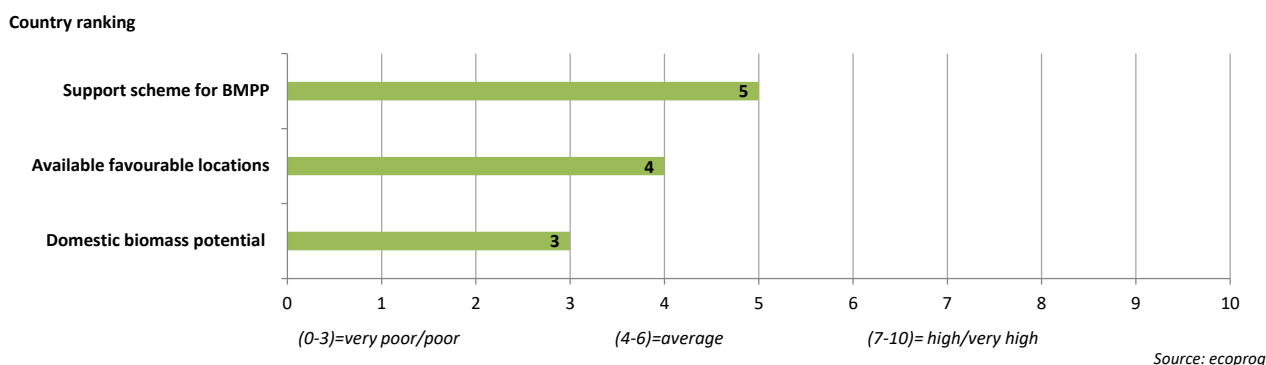
Update: 11-2022

Key figures			
Inhabitants 2020 [UN est. in million]	126.86	Number of BMPPs	[...]
Goal: Share of biomass in generation mix (2030) [%]	[...]	Installed electrical capacity [MW _{el}]	[...]
Electricity from biomass 2018 [GWh]	22,181	Share of total electricity generation 2018 [%]	2.15
<i>Forecast 2021-2030</i>		<i>Forecast 2021-2030</i>	
Total invest market [mn EUR]	[...]	Capacity of new commissionings [MW _{el}]	[...]

Management summary

Despite unsuccessful capped tendering rounds for BMPPs >10 MW_{el}, the Japanese project pipeline as well as the commissioning rate is higher in 2022 than in the years before. Japan is one of the most dynamic markets worldwide, despite the limited domestic usable biomass potential. [...]

Figure 86: Ratings for the biomass market in Japan



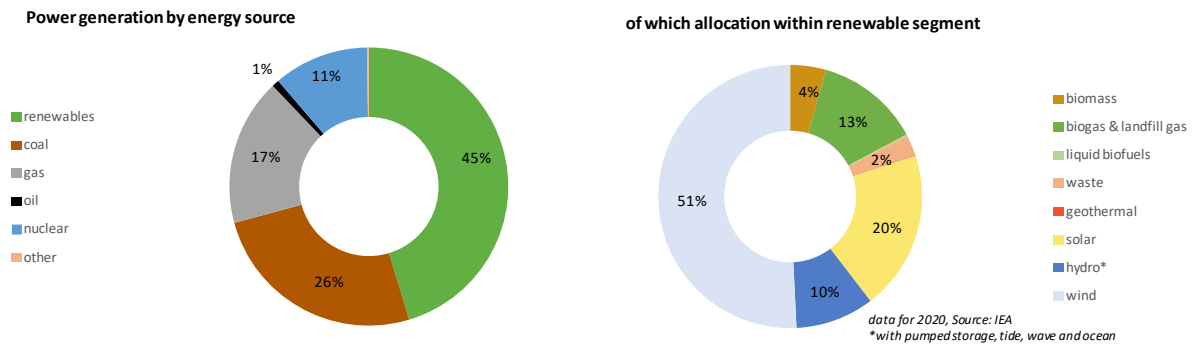
Background, market factors, legal framework

Electricity generation

- Japan has few domestic energy sources and thus strongly depends on imports. This is also the reason why nuclear power had been one of the country’s most important energy resources until the nuclear disaster at the power plant in Fukushima in March 2011.
- Since 2011, especially gas-fired power stations were commissioned. These are based on imported LNG.
- In October 2022, [...]

[...]

Figure 185: Electricity generation in Germany



Market factors

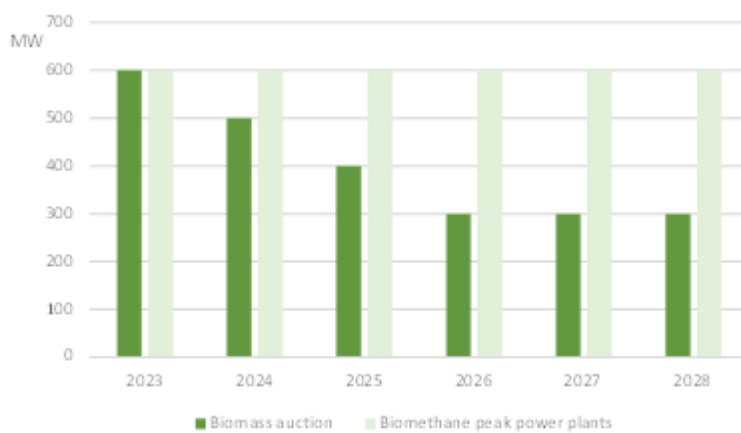
- Germany has been subsidising electricity from renewable energies since 1991. [...]
- The EEG caused a dynamic market development in the 2000s and early 2010s. The market [...]
- According to the EEG, developing RE by 2030 should mainly happen by considerably expanding wind and solar power technologies, which are less expensive than other RE technologies. By contrast, biomass only plays a marginal role.
- In October 2022, the Ministry of Environment released key points for a National Biomass Strategy [...]

[...]

Support Scheme

- The strike price for new installations is [...] EURct/kWh and for existing installations [...] EURct/kWh. From 2023 until 2025 [...]

Figure 186: Biomass auction volumes under the EEG 2023



Market development

Projects

- As of December 2022, we know of [...] projects in different planning phases with a total expected capacity of approximately [...] GW_{el}. [...] of these projects with a total expected capacity of [...] MW_{el} are under construction.
- The largest individual project is the 400 MW_{el} plant in [...]

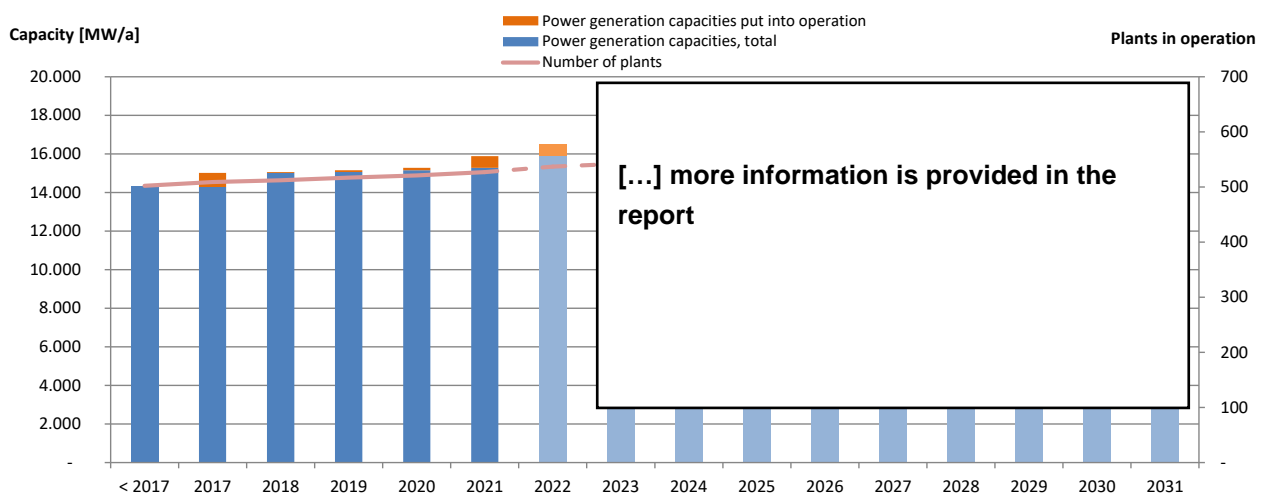
[...]

Forecast

- The Brazilian market for BMPPs is mainly dominated by the strong sugar and ethanol industry. In recent years, the market development was stimulated by the PPAs awarded by regulatory authority ANEEL.
- However, the level of the PPAs is comparatively low. The positive effect of the 20-year PPA awarded in the auctions is more the certainty of income in contrast to sell the energy on the free market.

[...]

Figure 307: Market forecast Brazil

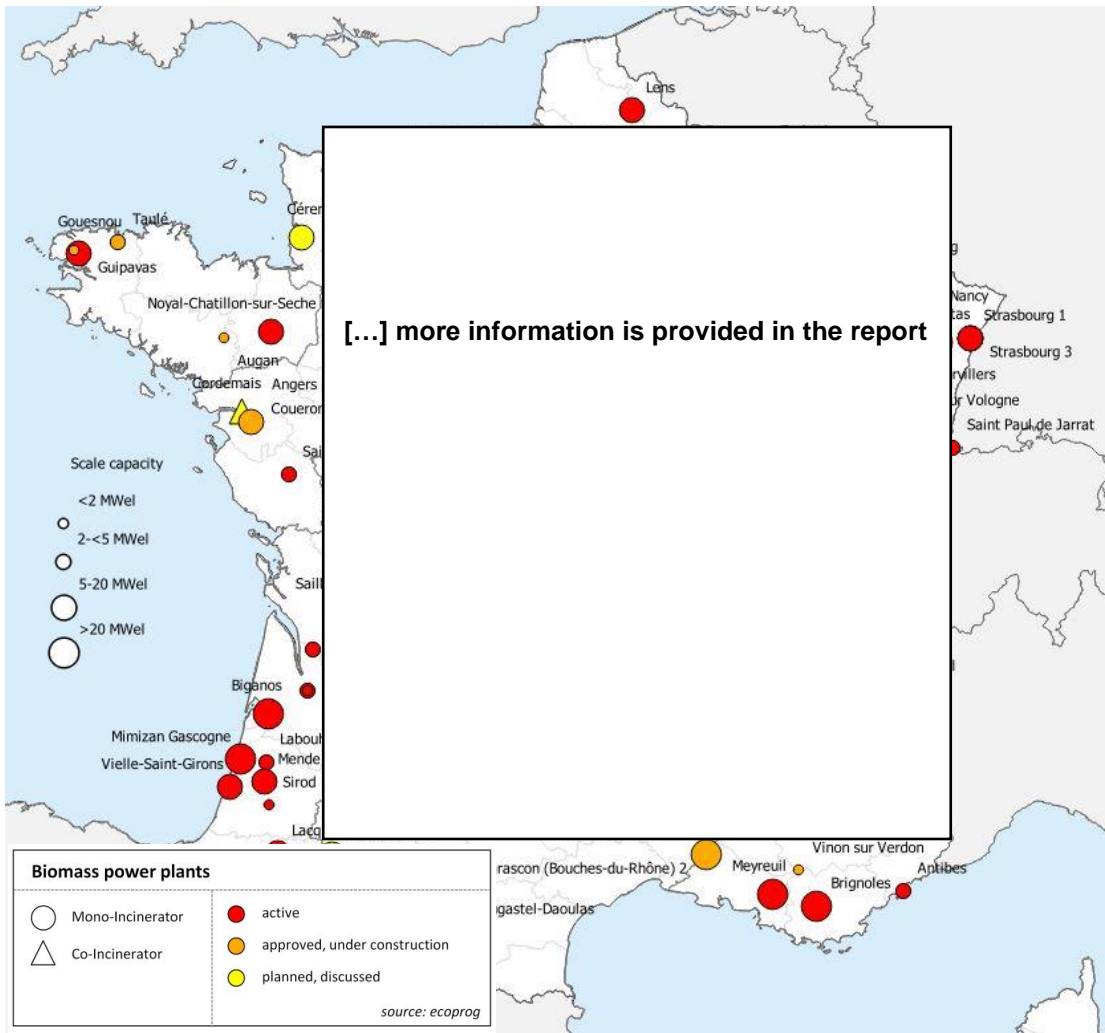


Data estimated up to 2021, from 2022 on: forecast, source: ecoprolog

Competition

- As most Brazilian biomass power plants are operated by ethanol producers, the largest among them are also the most important operators in the electricity generation from solid biomass segment, such as [...]
- [...]

Figure 181: Locations of plants and projects in France



[...]

Figure 182: Project outlook France

Plant	Type	Plant unit	Cap. (MWel)	Start	Status
Évron	mono-incinerator	1	n.a	2022	under construction
Laneuveville-devant-Nancy	mono-incinerator	1	14.6	2022	under construction
Paris La Défense	mono-incinerator	1	n.a	2022	under construction

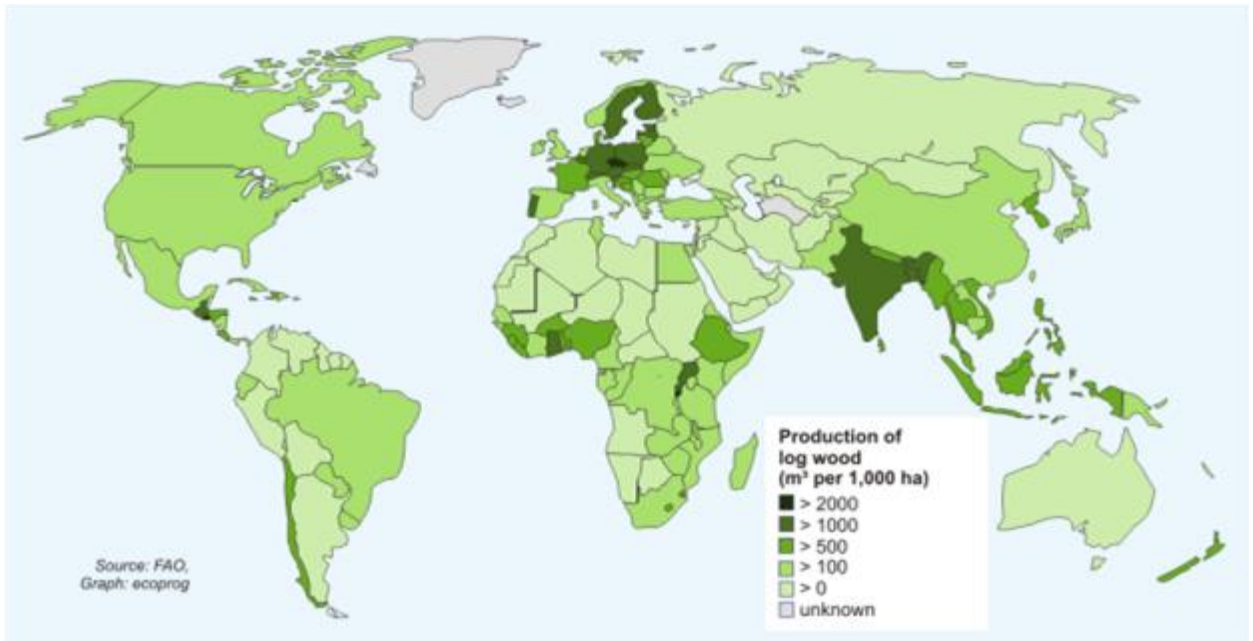
[...] more information is provided in the report

Active Plants

You can find further information on all plants, such as specifications on technical equipment, manufacturer, or fuel for 12 months at <https://data.ecoprolog.com/ecopr/>. This database is updated every week. Please use the username and password that have been sent to you by email.

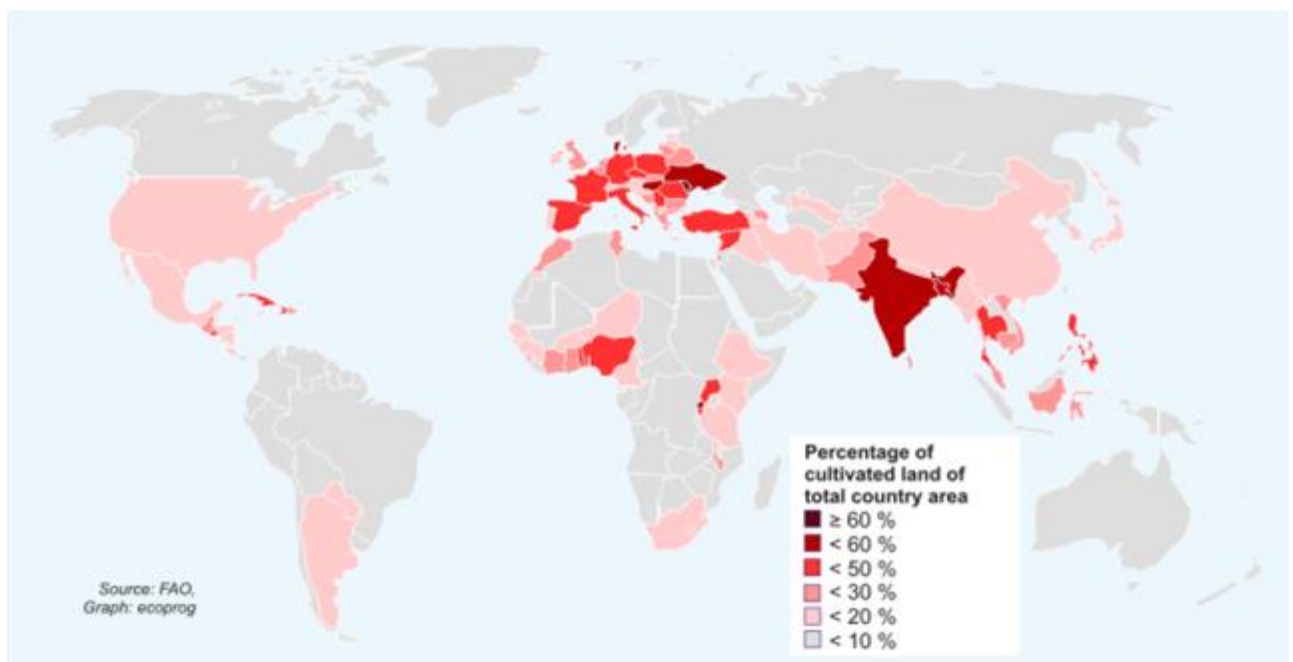
Name	Operator	Capacity (MWel)	Type	Start
Abercrombie Point	Nothern Pulp Nova Scotia	n.a.	mono-incinerator	2011
Ajax 1	Energy+2000 Ltd.	0.7	mono-incinerator	2012
Ajax 2	n.a.	25	mono-incinerator	2015
Armstrong 1	Tolko Industries Ltd.	20	mono-incinerator	2000
Atholville	AV Cell	17	co-incinerator	1985
[...] more information is provided in the report				


Figure 341: Use of forests worldwide




The biomass potential has grown in most of the states over the past years, which is first and foremost due to the reason that more and more types of biomass seem to be technically usable. In the beginning, the calculation of the potential oftentimes focused on the forestry industry. In the last years [...]

Figure 342: Cultivated arable land worldwide




Change Password



- 1 Waste-to-Energy
- 2 MBT plants (u.p.)
- 3 Sorting Plants
 - 3. 1 Dry Recyclables (u.p.)
 - 3. 2 Plastic (u.p.)
 - 3. 3 Paper (u.p.)
- 4 Recycling plants
 - 4. 1 Plastic (u.p.)
 - 4. 2 Paper (u.p.)
- 5 Biomass-to-Power
- 6 Biogas / Anaerobic digestion

Search

Country Filter

Plant

Name	Amagerværket
Country	Denmark
Province/Region	Hovedstaden
Status	active
Start of operation	2010
Input, capacity [t/a]	n.a.
Gross heat production [MW]	n.a.
Power generation capacity [MW]	219,0
Heat production capacity [MW]	251,0
Heat use category	district heating CHP

Remarks: The Amagerværket went operational in 1971 as coal power plant with 4 units. One unit (unit 2) is operating on wood pellets. Another unit (unit 3) became operational in April 2020, after several delays of the start of operation and runs on wood chips. As of August 2020, Danish utility Høfor A/S is tendering the procurement of an outdoor woodchip storage for its AMV4 biomass CHP unit.

Unit 1

Status	shut down
Start of operation	1972
Mono-/Co-Incineration	co-incinerator
Fuel	straw pellets, oil
Combustion technology	n.a.
Technology provider	n.a.
Power generation technology (PGT)	n.a.
PGT provider	n.a.
Gross heat production [MW]	n.a.
Power generation capacity [MW]	136,0
Heat production capacity[MW]	190,0
Remarks:	n.a.

Unit 2

Status	active
Start of operation	2010

Downloads

- BtP Project Tracker
692.00 KB
- BtP, List Of Active Plants
956.00 KB

In addition to the report, you will get 12-month access to waste & bio Data (Biomass to Power module).

Find detailed information on all biomass plants and projects, related to capacity, status, start of operation, technology, fuel, manufacturer, operator, and more. The database is updated weekly.

This also includes the weekly updated BtP Project Tracker.

Please find a trial version of waste & bio Data [on our website](#).

Price and product information

You can order the market report here:

<https://www.ecoprolog.com/publikationen/energiewirtschaft/biomass-to-power/order-biomass-to-power.htm>

Pricing model: One-time purchase

- Single-user version: 4,400.- €*
- Company version: 8,800.- €*
- Corporate version: Price on request

Product information:

Single-user copy: personal copy (personalised and password-protected PDF file, sent via email)

Company version: company-wide copy (legal entity), PDF file, sent via email

Corporate version: for different, legally connected companies (e.g. sister companies, subsidiaries abroad). Price depends on number of companies and employees.

Includes 12-month free access to waste & bio Data (Biomass to Power module) and BtP Project Tracker.

Subscribers of ecoprolog's waste & bio Infrastructure Monitor ([info](#) | [order](#)) will receive a discount of 600.- € (1,200.- € in case of a company version).

Pricing model: BtP Package (subscription)

- Single-user version: 3,400.- €* per year
- Company version: 6,800.- €* per year
- Corporate version: Price on request

The BtP Package includes:

- a. market study „Biomass to Power“, updated annually
- b. w&b Monitor (sent weekly) plus access to the online archive with more than 47,000 news items
- c. access to waste & bio Data (Biomass to Power module) including BtP Project Tracker

The minimum subscription period is 2 years. The subscription will be renewed for another year if it is not cancelled at least 4 weeks before the expiration date.

Options (both pricing models):

Additionally, you can order all detailed information on plants and projects in MS Excel (only available in combination with a company or corporate version): 4,400.- €*

Additionally, you can order a printed copy of the study: 150.- €*

* plus 19% VAT for customers within Germany and EU customers without a VAT ID.