



Join the  
green switch  
movement

## Time for a change?

Go fossil free through bioenergy  
- easier than you think

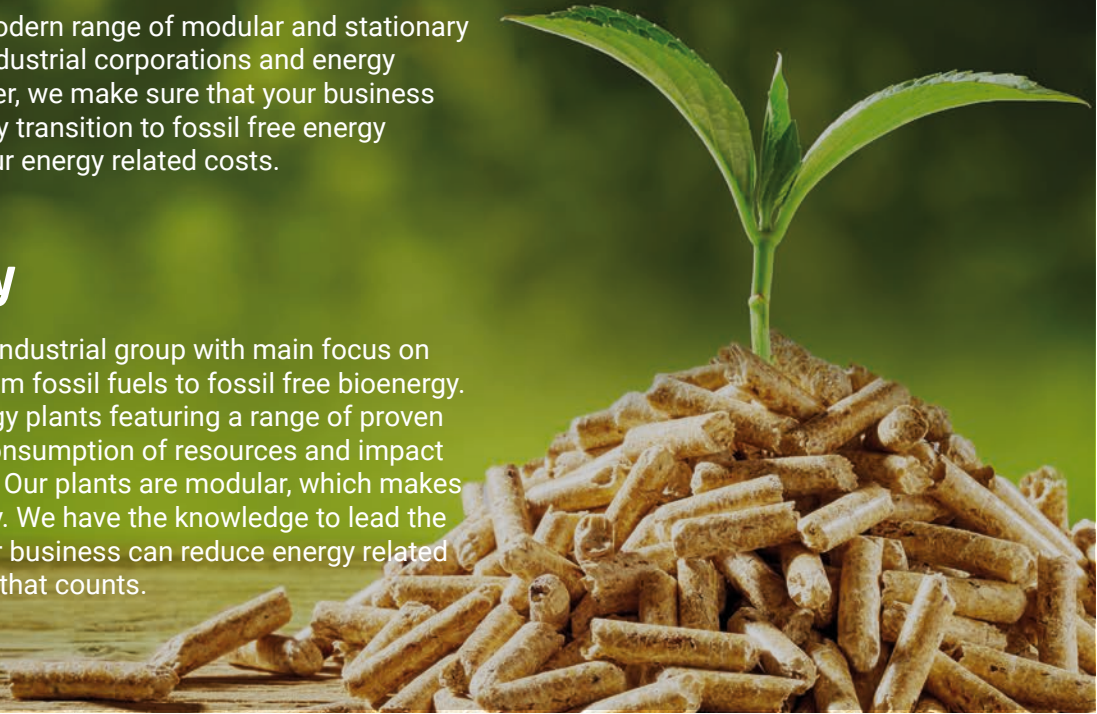
**bk**tech

# Join the green switch movement!

BKtech offers the most modern range of modular and stationary bioenergy solutions, for industrial corporations and energy companies. As your partner, we make sure that your business can make a quick and easy transition to fossil free energy production and reduce your energy related costs.

## Convert today

BKtech is a privately held industrial group with main focus on conversion of energy – from fossil fuels to fossil free bioenergy. We offer modular bioenergy plants featuring a range of proven technologies. Reducing consumption of resources and impact on the environment is key. Our plants are modular, which makes installation quick and easy. We have the knowledge to lead the way and to show how your business can reduce energy related costs and make a change that counts.



### Technical advantages

- Modular design and high quality components
- Automated fuel and ash management
- Bio-burner with automatic start and stop
- High-speed regulation of boiler output
- Made in Sweden by BKtech



### Financial advantages

- Lower energy related costs compared to fossil fuels
- Fastest delivery, integration and commissioning in the whole industry
- Compliant with European standards for road freight transport
- Small footprint that saves time, space and money
- Excellent availability and low life cycle costs



### Environmental advantages

- Fossil free and climate-neutral steam production
- Wood pellets are a renewable source of bioenergy (derived from waste from the wood industry)
- Reducing CO<sub>2</sub> emissions and overall carbon footprint of operations
- Contributing to sustainable development and decreased dependence on fossil fuels

# Modular bioenergy plants



## BioOne

BioOne is our family of modular bioenergy plants that use wood pellets as an energy source in outputs ranging from 870 kW to 2 MW. Available in a number of configuration that are optimized for the productions of steam, warm water, hot water or thermal oil.



## BioTwin

BioTwin relies on the same technical foundation as BioOne, but is equipped with double bioboilers for wood pellets. Available in outputs ranging from 870 kW to 2 MW. Chooseable type of production: steam, warm water, hot water or thermal oil.



## BioMulti

BioMulti is a series of efficient and flexible bioenergy plants with multifuel burners. Wood powder is its primary fuel, BioMulti also thrives on biooil, biogas, natural gas, LPG and fossil oil. Powerful and available in outputs ranging from 3 to 7 MW.



## BioMax

BioMax is one of a kind among modular bioenergyplants in the range of 7–15 MW. Suitable for industrial applications as it is for municipalities looking to phase out their fossil-fueled heating plants. BioMax is arranged in modules and equipped with multi-fuel burners for wood powder or alternative fuels.

# BioOne

BioOne is our family of modular bio-energy plants that use wood pellets as an energy source in outputs ranging from 870 kW to 2 MW. Available in a number of configuration that are optimized for the productions of steam, warm water, hot water or thermal oil.

<b>Output:</b>	870 kW–2 MW
<b>Fuel:</b>	Pellet
<b>Fuel storage:</b>	85 m <sup>3</sup> wood pellet silo



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## Efficient and reliable

BKtech's BioOne is a modular bioenergy plant for efficient, reliable and climate friendly energy production. As we manufacture and optimise our plants at our own state-of-the-art facility in Blomstermåla, we are able to make quick deliveries and installations throughout Sweden and beyond. All components in our plants are manufactured in the Nordic countries. A high performance system combined with intelligent control allows the plant to handle rapid load variations in a very flexible and stable way. Automated processes and minimal maintenance requirements contribute to excellent availability, high thermal efficiency and secure energy supply.

## Easy to install

This plant is generally delivered by truck according to European standards; BKtech has established a number of partnerships with both carriers and contractors to help with transportation. In addition, BKtech's BioOne is easy to install. It takes little preparation, most often just a concrete slab on which we place the bioenergy plant. BioOne is equipped with connectors and flanges to be linked to the end client's own system.

## Small in size, big on power

We have developed BioOne with the aim of achieving as small a footprint as possible. BioOne measures 3.7 m in width, 12 m in length and has a height of 4.1 m, chimney and silo excluded. BioOne can also be disassembled and relocated, allowing the bioenergy plant to be sold onwards, should such a need arise. Modular bioenergy plants lead to lower project costs for the end client thanks to very few preparatory steps, fast deliveries and effective integration with the client's own systems.

## Performance Data BioOne (steam/hot/warm water)

- Output: 0,87–2 MW
- Pressure: Steam 16 bar standard, 204°C saturated steam, higher upon request
- Hotwater: 6 bar, 165°C
- Warm water: 6 bar, 110°C
- Output: ~1300–3000 kg steam / hour
- Very fast output regulation
- Programmable operation
- The burner stops and starts automatically
- Fully automatic de-ashing
- Small footprint: the house is L12,0 × W3,7 × H4,1 (m) (not including filter and silo)
- Chimney height standard: 12–16 meters
- Silo height standard: 15,3 meters
- Silo capacity: 55 tons / 85 m<sup>3</sup>
- Ash container: 1 m<sup>3</sup>

## Mobile bioenergy plants: core delivery and options

- One module, all main components assembled inside and factory tested before delivery
- **Optional:**
  - Flue gas cleaning filter
  - Function extension e.g. feed water, condensate treatment, water treatment
  - Economiser



# BioTwin

BioTwin relies on the same technical foundation as BioOne, but is equipped with double bioboilers for wood pellets. Available in 3 and 4 MW models. Chooseable type of production: steam, warm water, hot water or thermal oil.

**Output:** 3–4 MW  
**Fuel:** Pellet  
**Fuel storage:** 85 m<sup>3</sup> wood pellet silo



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## High quality from Sweden

BKtech's BioTwin is generally supplied with an 85 m<sup>3</sup> wood pellet silo, two silos equates to 540 MWh of energy. This bioenergy plant consists of two modules that are manufactured and assembled in our production facility. BioTwin features high quality components, burners and PLC-systems from well-known suppliers.

## Climate friendly bioenergy

BKtech's BioTwin is a modular bioenergy plant for efficient, reliable and climate friendly energy production. As we manufacture and optimise our plants at our own state-of-the-art factory in Blomstermåla, we are able to make quick deliveries and installations throughout Sweden and beyond. All components in our plants are manufactured in the Nordic countries. A high performance system combined with intelligent control allows the plant to handle rapid load variations in a very flexible and stable way. Automated processes and minimal maintenance requirements contribute to excellent availability, high thermal efficiency and secure energy supply.

## Little preparatory work required

This plant is generally delivered by truck according to European standards. BKtech has established a number of partnerships with both carriers and contractors to help with transportation. In addition, BKtech's BioTwin is easy to install. It takes little preparation, most often just a concrete slab on which we place the bioenergy plant, and BioTwin is equipped with connectors and flanges to be linked to the end client's own system.

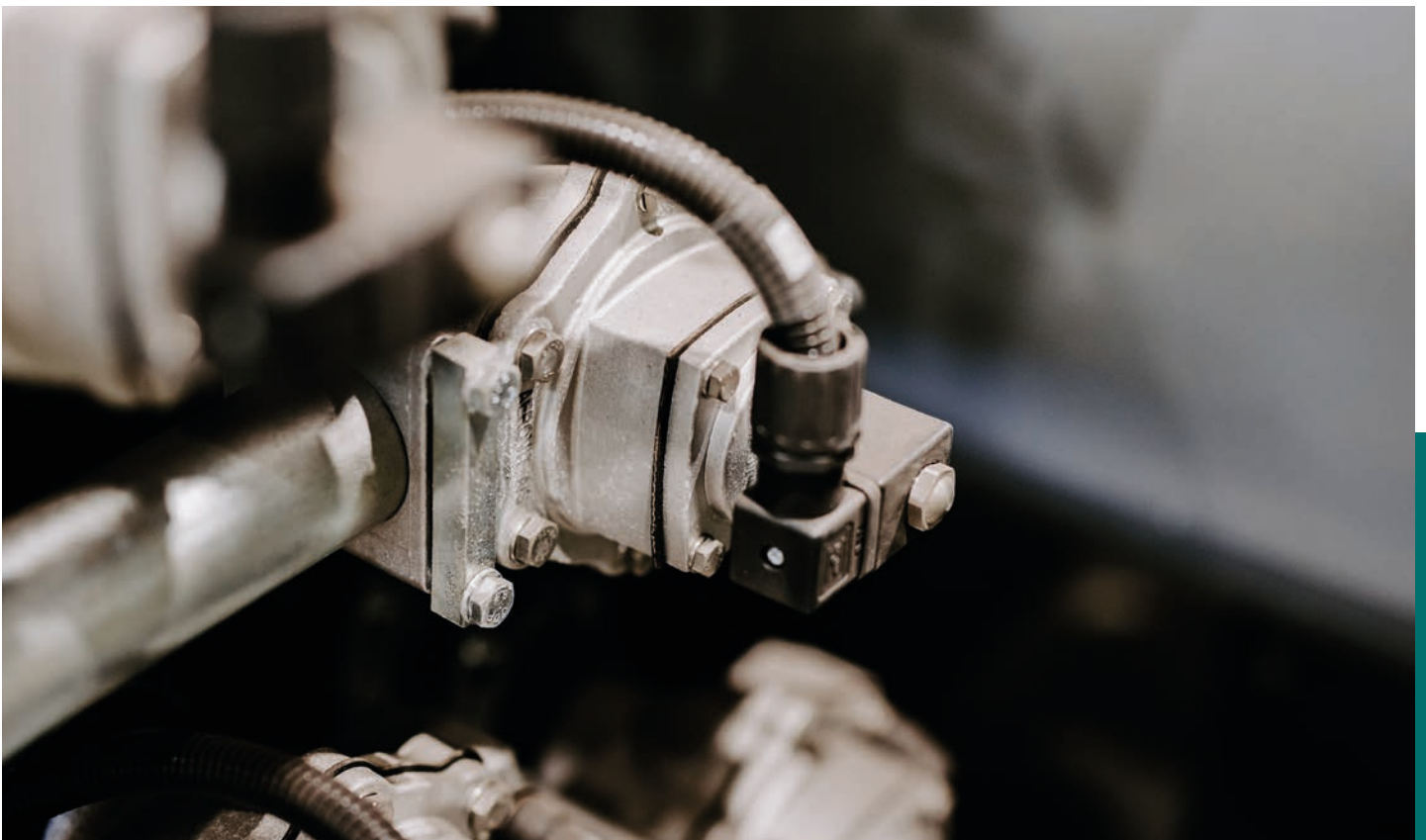
## Performance Data BioTwin (steam/hot/warm water)

- Output: 3–4 MW
- Pressure: Steam 16 bar standard, 204°C saturated steam, higher upon request
- Hotwater: 6 bar, 165°C
- Warm water: 6 bar, 110°C
- Output: ~4500–6000 kg steam / hour
- Very fast output regulation
- Programmable operation
- The burner stops and starts automatically
- Ramp-up time approx. 20 minutes
- Short integration interval
- Fully automatic de-ashing
- Small footprint: the house is L12,0 × W7,5 × H4,1 (m) (not including filter and silo)
- Chimney height standard: 12–16 meters
- Silo height standard: 15,3 meters
- Silo capacity: 55 tons / 85 m<sup>3</sup>
- Ash container: 1 m<sup>3</sup>

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## Mobile bioenergy plants: core delivery and options

- Two or three modules, all main components assembled inside and factory tested before delivery
- Optional:**
  - Flue gas cleaning filter
  - Function extension e.g. feed water, condensate treatment, water treatment
  - P&ID (on request)
  - Economiser



# Multifuel burners

Experience, knowledge and expertise. We develop bio energy projects based on zero-carbon-emission technology. In newbuilt projects as well as in conversion ones.



## Multifuel burner gives a lot of advantages

Installing a new combustion system in an existing boiler gives new possibilities: A dual or triple fuel installation makes it possible to choose the most preferred fuel. Often pellets is the most preferable since they have a high energy density compared to wet fuels. They can also be stored at a small footprint. The burners are operated automatically and fast responding with low emissions of  $\text{NO}_x$  and  $\text{CO}$ . The availability is high and maintenance costs are low. The split between powder/oil or powder/gas can be done independently. As a bonus – fast load response and effects up to 50 MW/burner.

## Choose your green fuel

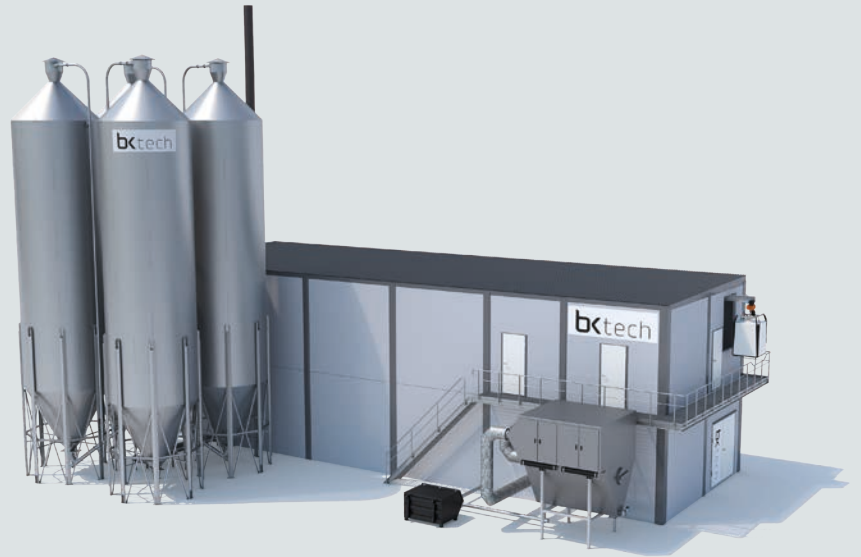
Powder fuels for multifuel burners:

- Sawdust
- Pellets
- Chips
- Bark and coal as well as agro and other industrial residues



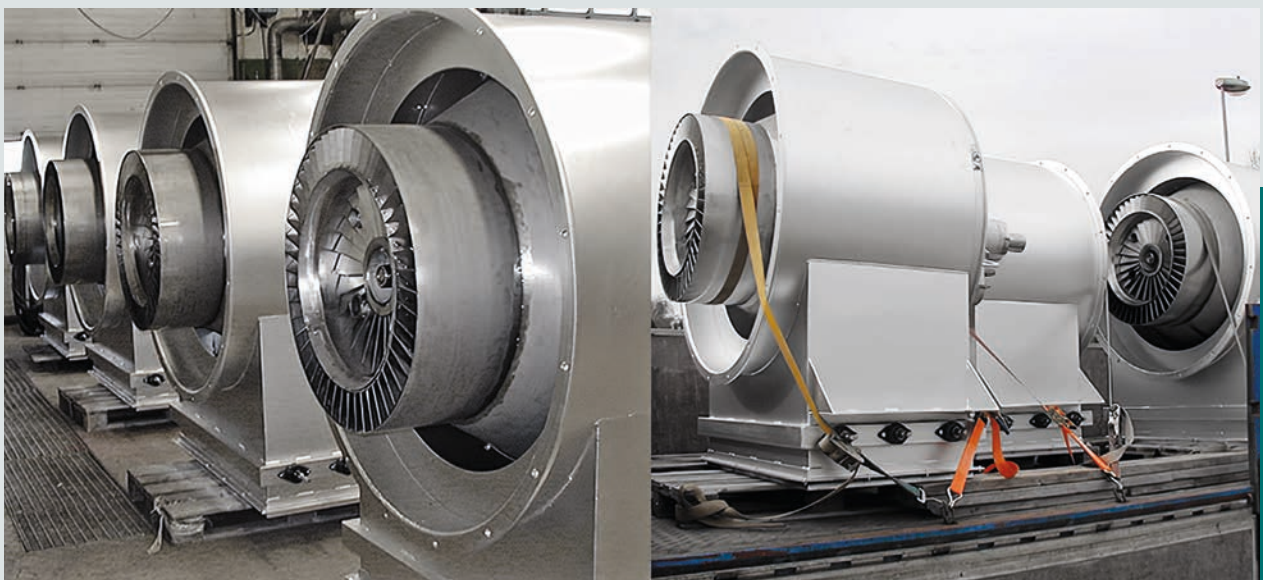
## Why Multifuel burners in BioMulti and BioMax?

- Higher output
- Reduced emission of CO<sub>2</sub>
- Flexible possibilities – wood powder, bio oil, biogas, LPG or other fuels
- Future proof technology
- Climate friendly energy production
- Minimal carbon footprint
- Cost efficient
- Highly effective



## Multifuel burners are key for converting into a green, fossil free future

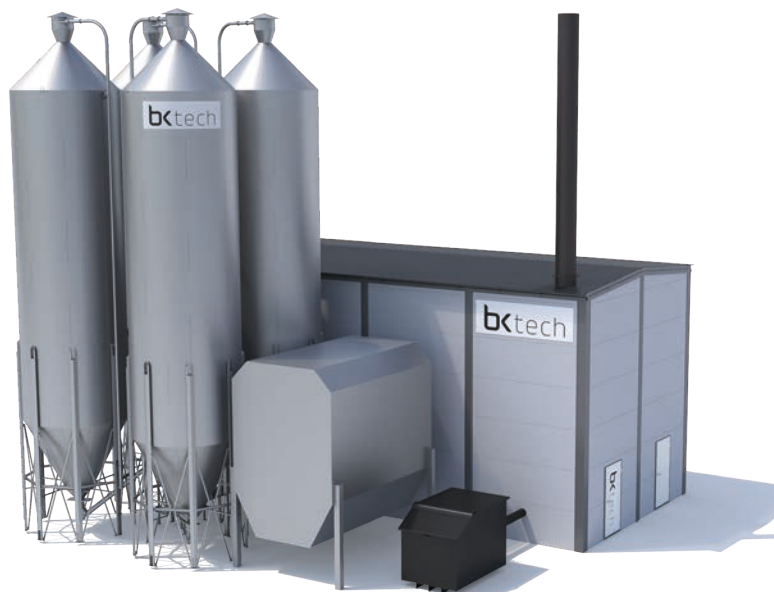
**Morgan Gullklint**  
Account Manager Multifuel



# BioMulti

BioMulti is a series of efficient and flexible bioenergy plants with multifuel burners. Wood powder is its primary fuel, BioMulti also thrives on biooil, biogas, natural gas, LPG and Fossil oil. Powerful and available in outputs ranging from 3 to 7 MW.

<b>Output:</b>	3–7 MW
<b>Fuel:</b>	Wood powder
<b>Fuel storage:</b>	2 × 85 m <sup>3</sup> wood pellet silos
<b>Footprint:</b>	4,5 × 15,0 × 5,1 m



## Multi - for efficient production

BKtech's BioMulti is a modular bioenergy plant for efficient, reliable and climate friendly energy production. As we manufacture and optimise our plants at our own state-of-the-art factory in Blomstermåla, we are able to make quick deliveries and installations throughout Sweden and beyond. All components in our plants are manufactured in the Nordic countries. A high performance boiler system combined with intelligent control allows the plant to handle rapid load variations in a very flexible and stable way. Automated processes and minimal maintenance requirements contribute to excellent availability and secure energy supply.

## Quality

BKtech's BioMulti is generally supplied with two 85 m<sup>3</sup> wood pellet silos, which equate to 540 KWh of energy. This bioenergy plant consists of four modules that are manufactured and assembled in our production facility. BioMulti features high quality components, burners and PLC-systems from well-known suppliers.

## Easy to install

This plant is generally delivered by truck according to European standards. BKtech has established a number of partnerships with both carriers and contractors to help with transportation. In addition, BKtech's BioMulti is easy to install. It takes little preparation, most often just a concrete slab on which we place the bioenergy plant. BioMulti is equipped with connectors and flanges to be linked to the end client's own system.

## Lower project costs

We have developed BioMulti with the aim of achieving as small a footprint as possible. BioMulti measures 4.5 m in width, 15 m in length and has a height of 5.1 m, chimney and silo excluded. BioMulti can also be disassembled and relocated, allowing the bioenergy plant to be sold onwards, should such a need arise. Mobile bioenergy plants lead to lower project costs for the end client thanks to very few preparatory steps, fast deliveries and effective integration with the client's own systems.

## Performance Data BioMulti (steam/hot/warm water)

- Output: 3–7 MW
  - Four to six modules, all main components fitted inside and factory tested before delivery
  - Primarily for steam but also hot/warm water
  - Ceramic or electrical filter
  - P&ID available upon request
  - Steam 16 bar standard higher upon request
  - ~4500–10 000 kg steam / hour
  - Hotwater 6 bar, 165 degrees Celsius
  - Warm water 6 bar, 110 degrees Celsius
  - Multifuel burner for wood powder
  - Fully automatic de-ashing
  - Very fast output regulation
  - Programmable operation
  - Chimney height standard: 18–22 meters
  - Silo height standard: 15,3 meters
  - Silo: 55 tons / 85 m<sup>3</sup> × 2 or 4
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## Mobile bioenergy plants: core delivery and options

Four to six mobile modules depending on configuration with all main components fitted inside (excluding filter and silo) and factory tested before delivery. Multifuel burner for wood powder for flexibility.

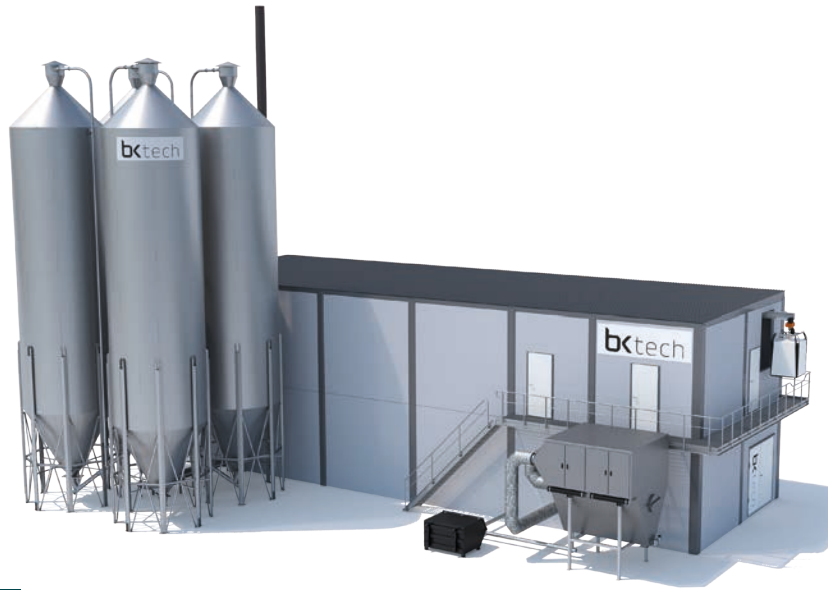
### Optional:

- Either ceramic or electrical filter
- Function extension e.g. feed water, condensate treatment, water treatment
- PLC from other supplier possible



# BioMax

BioMax is one of a kind among modular bioenergy plants in the range of 7–15 MW. Suitable for industrial applications as it is for municipalities looking to phase out their fossil-fueled heating plants. BioMax is arranged in modules and equipped with multi-fuel burners for wood powder or alternative fuels.



<b>Output:</b>	7–15 MW
<b>Fuel:</b>	Wood powder
<b>Fuel storage:</b>	2–4 × 85 m <sup>3</sup> wood pellet silo
<b>Footprint:</b>	7,0 × 22,0 × 7,0 m

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## Climate friendly energy production

BKtech's BioMax is a modular bioenergy plant for efficient, reliable and climate friendly energy production. As we manufacture and optimise our plants at our own state-of-the-art factory in Blomstermåla, we are able to make quick deliveries and installations throughout Sweden and beyond. All components in our plants are manufactured in the Nordic countries. A high performance system combined with intelligent control allows the plant to handle rapid load variations in a very flexible and stable way. Automated processes and minimal maintenance requirements contribute to excellent availability and secure energy supply.

## High quality

BKtech's BioMax is generally supplied with 2–4 85 m<sup>3</sup> wood pellet silos, which equate to 540–1080 MWh of energy. This bioenergy plant consists of 6–8 modules that are manufactured and assembled in our production facility. BioMax features high quality components, burners from well-known WTS AB, PLC systems and a purpose-built bio-boiler.

## Easy to install

This plant is generally delivered by truck according to European standards. BKtech has established a number of partnerships with both carriers and contractors to help with transportation. In addition, BKtech's BioMax is easy to install: It takes little preparation, most often just a concrete slab on which we place the bioenergy plant. BioMax is equipped with connectors and flanges to be linked to the end client's own system.

## Small footprint

We have developed BioMax with the aim of achieving as small a footprint as possible. BioMax measures approximately 7 m in width, 15 m in length and has a height of 7 m, chimney and silo excluded. BioMax can also be disassembled and relocated, allowing the bioenergy plant to be sold onwards, should such a need arise. Modular bioenergy plants lead to lower project costs for the end client thanks to very few preparatory steps, fast deliveries and effective integration with the client's own systems.

## Performance Data BioMax (steam/hot/warm water)

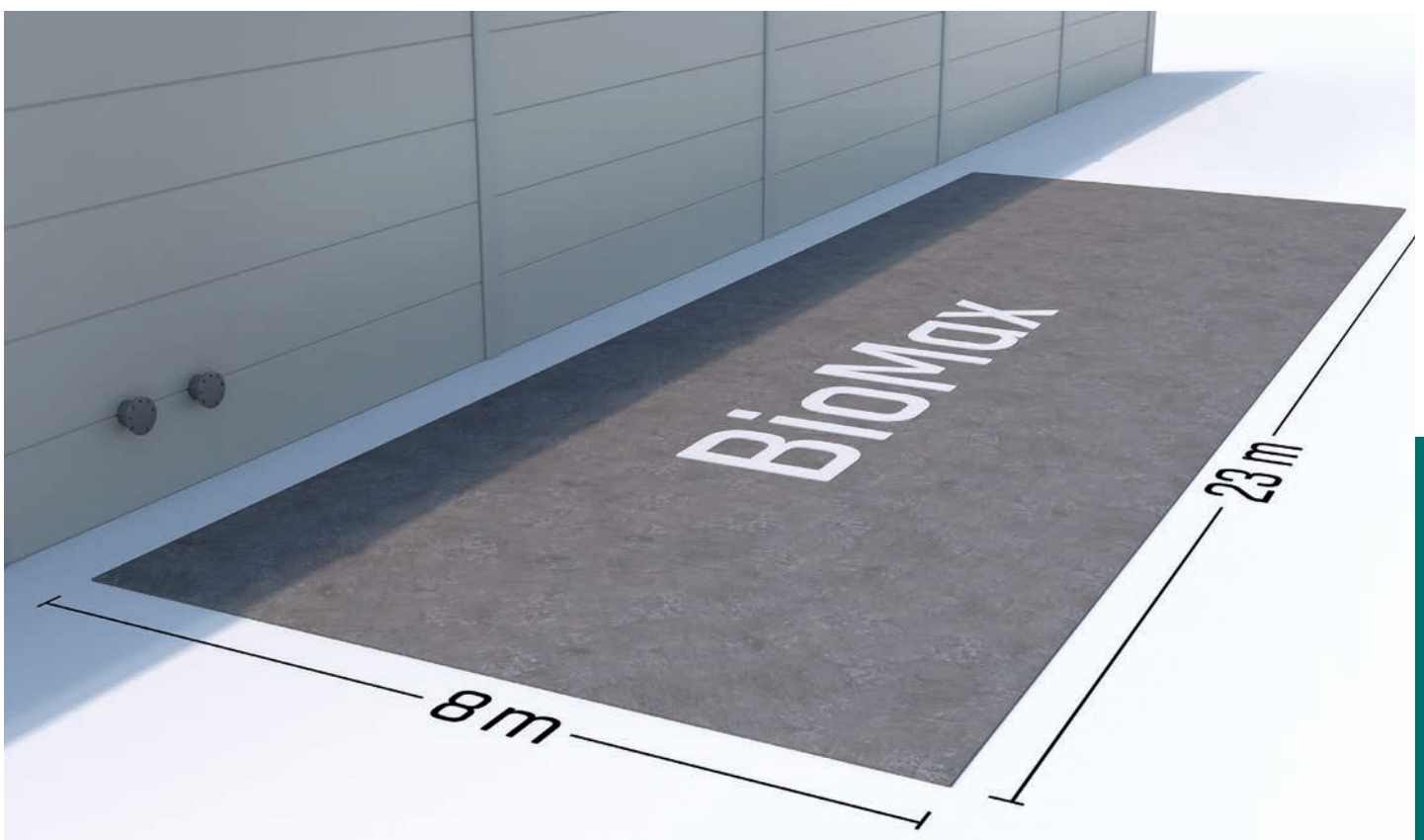
- Output: 8–15 MW
- six to eight modules, all main components fitted inside and factory tested before delivery
- Primarily for steam but also hot/warm water
- Ceramic or electrical filter
- P&ID available upon request
- Steam 16 bar standard higher upon request
- ~10 000–22 000 kg steam / hour
- Hotwater 6 bar, 165 degrees Celsius
- Warm water 6 bar, 110 degrees Celsius
- Multifuel burner for wood powder
- Fully automatic de-ashing
- Very fast output regulation
- Programmable operation
- Chimney height standard: 20–25 meters
- Silo height standard: 15,3 meters
- Silo: 55 tons / 85 m<sup>3</sup> × 4

## Mobile bioenergy plants: core delivery and options

Six to eight mobile modules depending on configuration with all main components fitted inside (excluding filter and silo) and factory tested before delivery. Multifuel burner for wood powder for flexibility.

### Optional:

- Either ceramic or electrical filter
- Function extension e.g. feed water, condensate treatment, water treatment with integration to existing plant in different ways
- PLC from other supplier possible



## Our clients

We have a history of helping several types of industries go fossil free and reduce energy related costs. Steam, hot water, warm water or thermal oil – we have the perfect solution to join the green switch movement. At the same time we support energy companies in their strive towards a fossil free future. Here are some examples of industries, clients and cooperation partners of BKtech. Thanks to our modular bioenergy plants and knowledge we are proud to provide a quick and secure energy supply with no disruptions.



### Food industry

BKtech has a solid track record of helping companies in the food industry. We have a deep understanding of the processes and know how important it is for the supplied bioenergy to meet the demands of fast load regulation, high pressures and high temperatures.



### Laundry industry

We also have plenty of experience in helping laundries go fossil free. We understand the processes and with steam as energy source, we are able to meet the demands in terms of fast load regulation, high pressures and high temperatures.



### Energy industry

BKtech has a history of helping the energy industry go fossil free and reduce energy related costs. Today it is more important than ever to support the energy sector when it comes to bioenergy.

# BKtech - your partner

We are passionate about bio-energy. BKtech is highly involved in the shift towards climate smarter forms of energy in several ways. One way is to help businesses reduce its CO<sub>2</sub> emissions and energy related costs. Let us guide you to convert in a safe and easy way. We answer all of your questions about bio-energy conversion, maintenance, wood pellets or financial matters. Feel free to contact us – we look forward to hear from you.



## **Chemical industry**

Hot water and thermal oil are the most common forms of energy in the chemical industry. In order to meet energy needs in an efficient manner, we offer modular bioenergy plants ranging from 1 to 15 MW that are easy to transport, quick to integrate and can be relocated if necessary.



## **Concrete sector**

The concrete industry is one of the most energy-intensive industries. BKtech helps to lower both the industry's carbon footprint and its energy related costs.



## **Paper industry**

For more than ten years BKtech has helped companies in the paper industry go fossil free and reduce their energy related costs. We work with steam as primarily energy source and our insight into the industry's processes enables us to meet high demands.



Join the green switch movement

Office/  
production site

Customer  
site



# bktech

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