



# ZERO-EMISSION ENERGY POWER PLANT - BSE

GREEN ENERGY - GE 1-50 MW

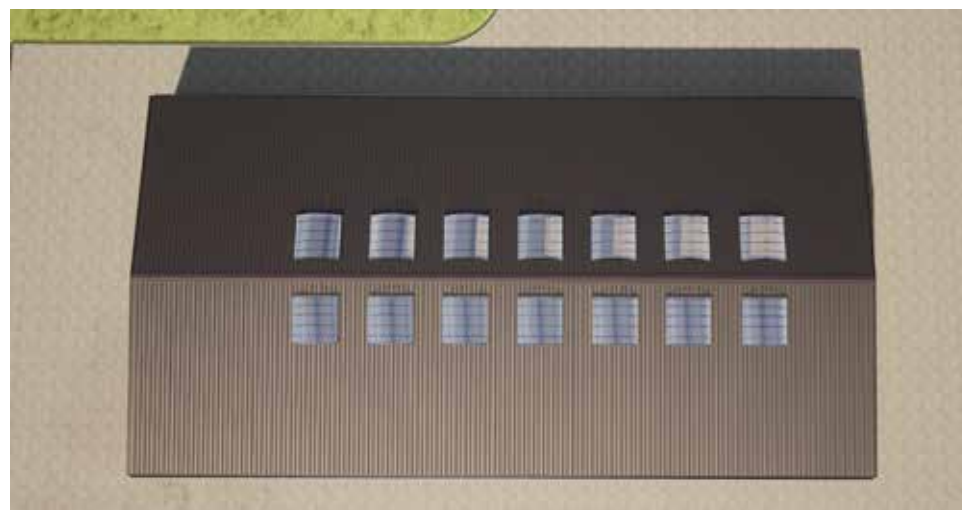
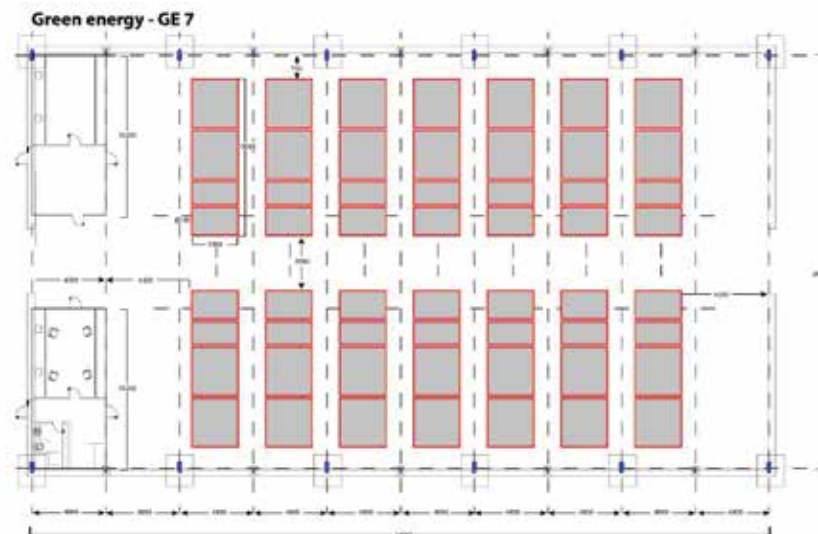


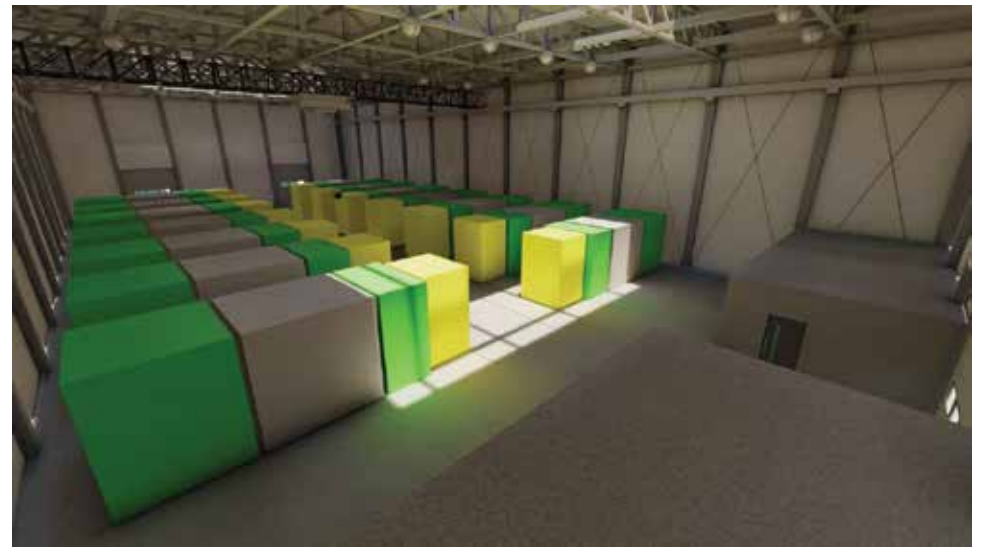
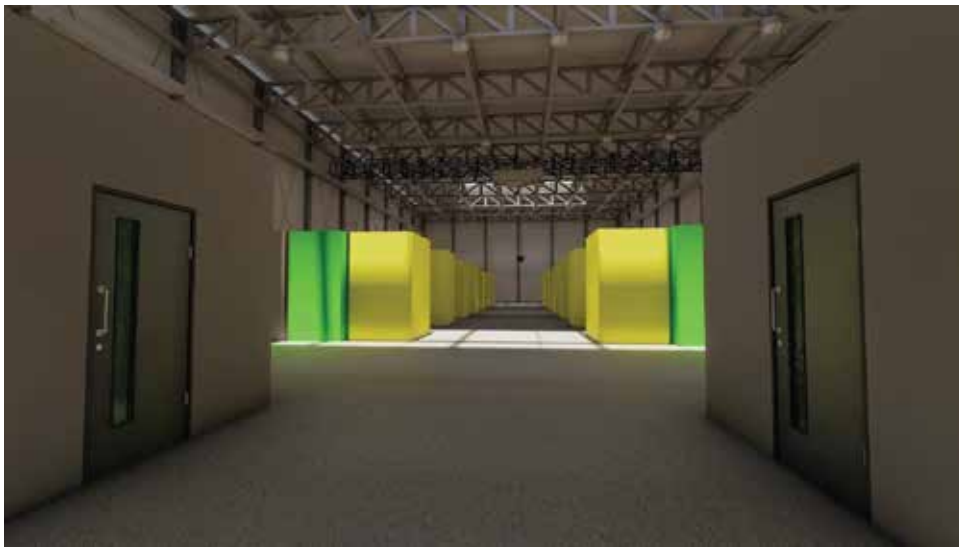
ENERGY COST REDUCTION BY 30%-50%

## ZERO-EMISSION ENERGY POWER PLANT - Z-EEPP/ BSE



## GREEN ENERGY GE - 7 MW





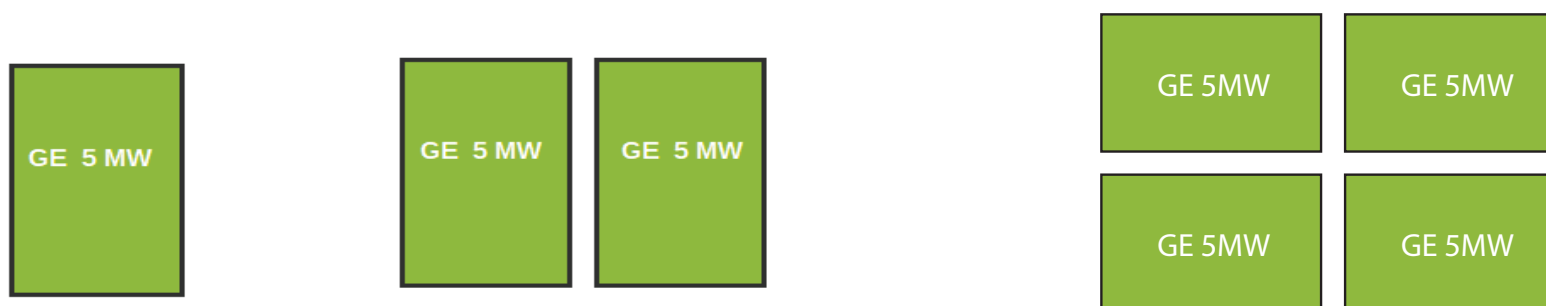
# BASIC PARAMETERS:

## ZERO-EMISSION ENERGY POWER PLANT - ECOLOGICAL POWER PLANT

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An example module of the Free-Emission Power Plant has a nominal power of 5MW (productivity:  $8760\text{h} \times 5\text{MW} = 43800 \text{ MWh/year}$ ), consists of 10 generators with a total continuous power of 5MW and operates stably 24 hours a day.

The use of the land for the 5MW power plant is about 2,500 m<sup>2</sup>. The Zero-Emission Energy Power Plant can be built with any capacity, in the range of 1-50MW, by connecting many basic modules of 1MW or 5MW.



Configuration of an exemplary Green Energy Zero-Emission Power Plant - GE 5/10/20 MW

## COMPARING TECHNOLOGY: ZERO - EMISSION ENERGY POWER PLANT AND PV

**Z-EEPP/BSE - 5MW Zero-Emission Energy Power Plant and PV - 45MW Photovoltaic Power Plant** are installations with similar annual energy productivity and have design parameters:

Name:	<b>Z-EEPP/BSE - ZERO-EMISSION ENERGY POWER PLANT</b>	<b>PV - PHOTOVOLTAIC POWER PLANT</b>
Parameters:		
Productivity:	1 MW = 8760 MWh/year	1 MW = 1100 MWh/year
Investment area/plot:	0,25 ha	35 ha
Stability of power generation:	stable 24 hours a day	unstable/operation only on sunny days
Construction and start-up time:	7–8 months	min. 1.5–2 years
Return on investment:	short	min. 8–10 years
Energy produced:	it is green energy	it is green energy

# COMPARING TECHNOLOGY: ZERO - EMISSION ENERGY POWER PLANT AND PV

## THE ARGUMENTS FOR THE Z-EEPP/BSE PROJECT

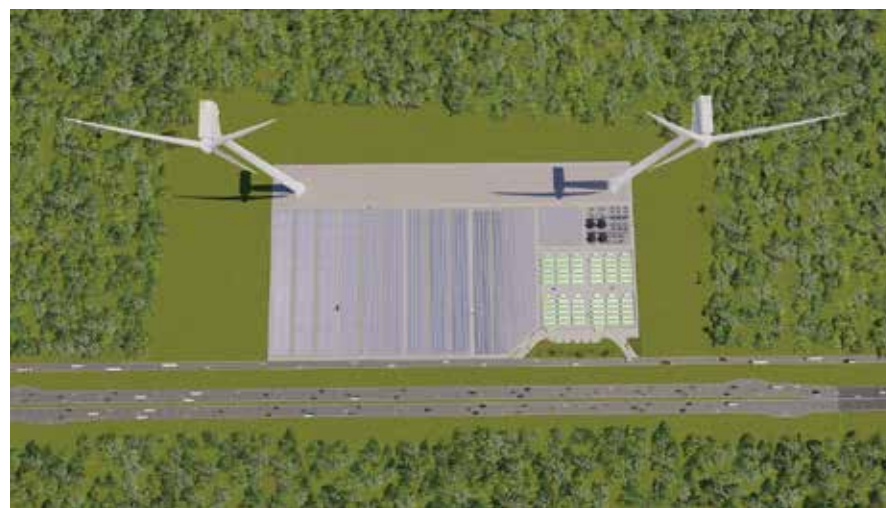
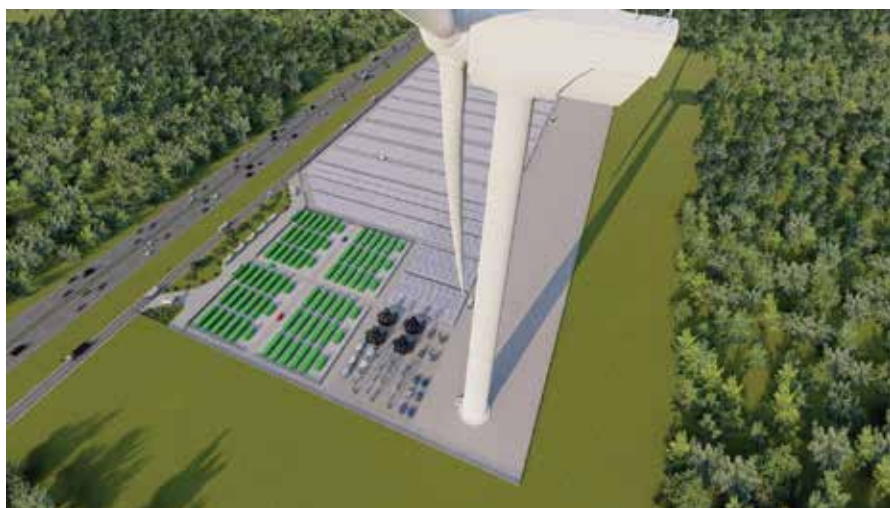
Land tax several dozen times lower due to the investment area;

Zero-Emission Energy Z-EEPP/BSE Power Plant is located next to the energy plant/consumer - no transmission costs and capacity fees;

EU subsidies for Z-EEPP/BSE - this is a very innovative and ground-breaking technology, thanks to which it can be financed from EU subsidies;

Z-EEPP/BSE - energy costs for the end customer are 30-50% lower than the current market energy prices. In addition, Z-EEPP/BSE has full investment financing without the end customer's capital involvement.

# ZERO-EMISSION-FREE POWER PLANT LOCATED AT THE EXISTING FARM PV + WIND:



# HYBRID POWER PLANT

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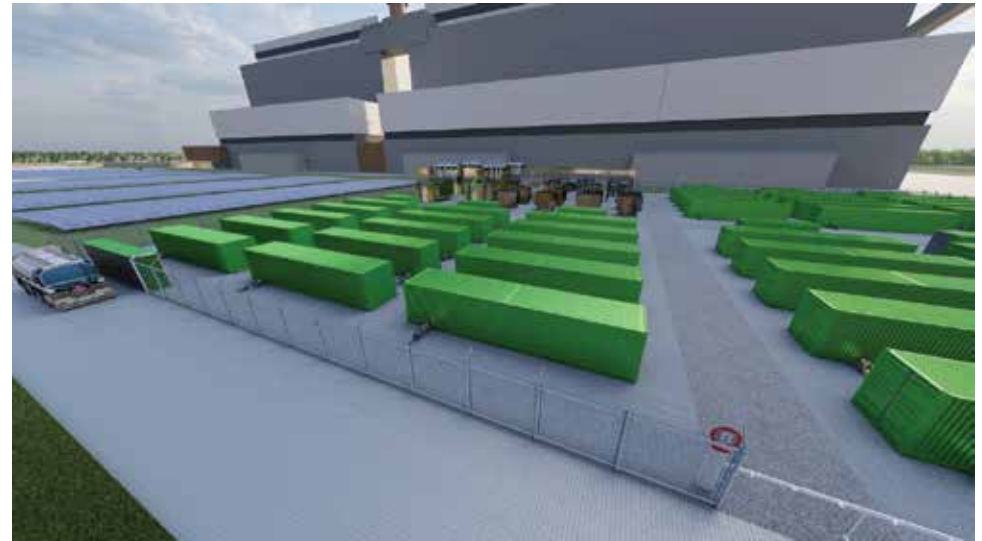
TECHNOLOGY GREEN ENERGY



# CONVENTIONAL HEAT AND POWER PLANT OR INDUSTRIAL PLANT



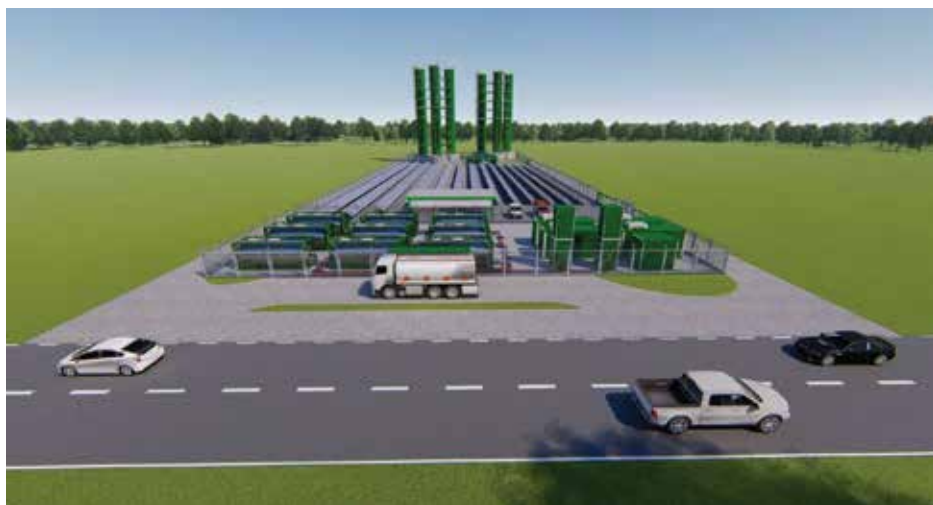
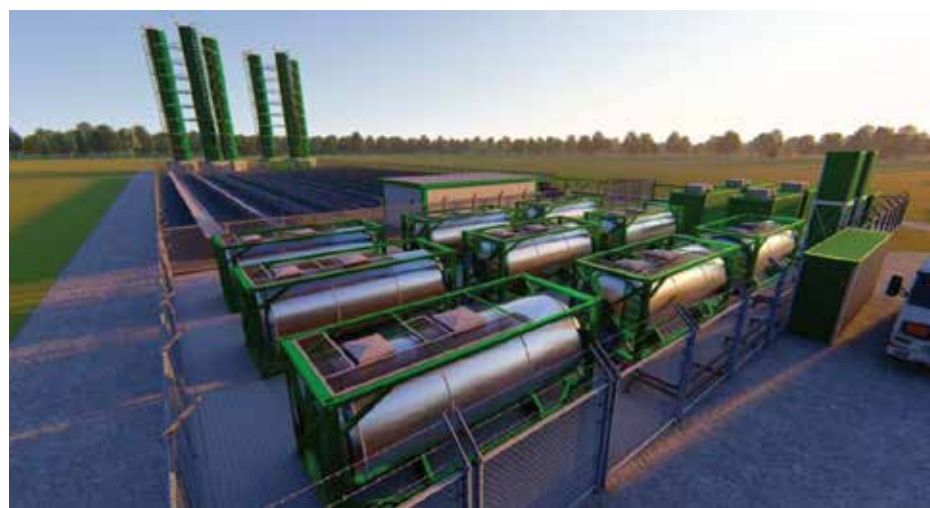


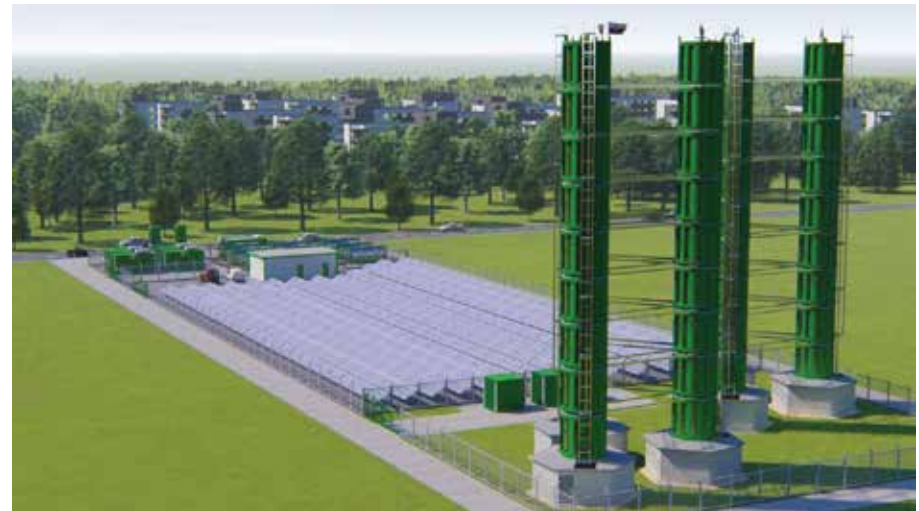


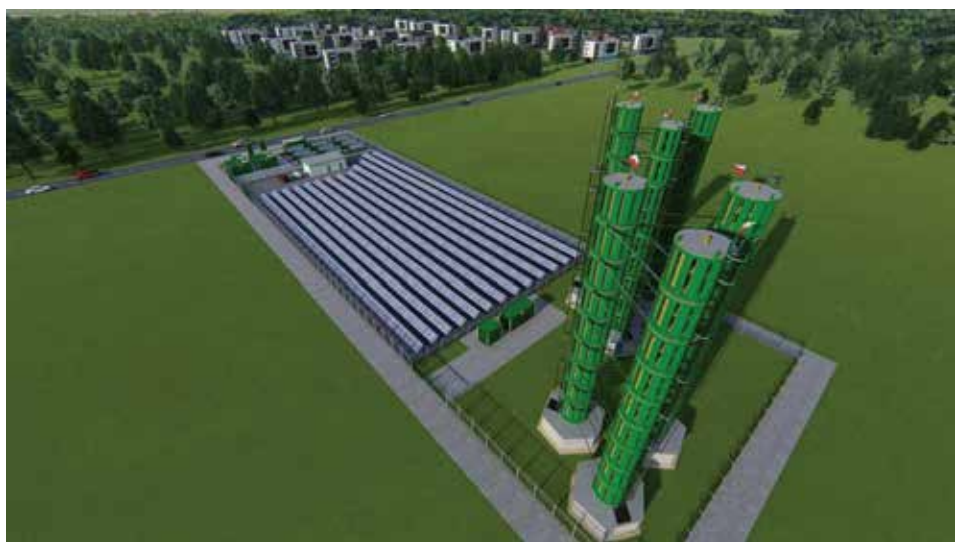
# SMART POWER PLANT

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TECHNOLOGY GREEN ENERGY







# AUTONOMOUS DISTRICT / PRODUCTION PLANT

An autonomous housing estate/plant (house/business without bills) is a concept of buildings that are independent of the supply of utilities to them from the outside. Instead of purchasing electricity, heat, water and possibly gaseous fuel from the grid, they obtain it on their own from other sources.

Often a more natural approach is to treat an autonomous, not so much a single building, but the entire habitat, i.e. the building together with the accompanying infrastructure on the plot. In this approach, it is easier to achieve at least partial autonomy.

Autonomous housing estates are cheap to maintain, and their construction costs are lower than those of a traditional housing estate.



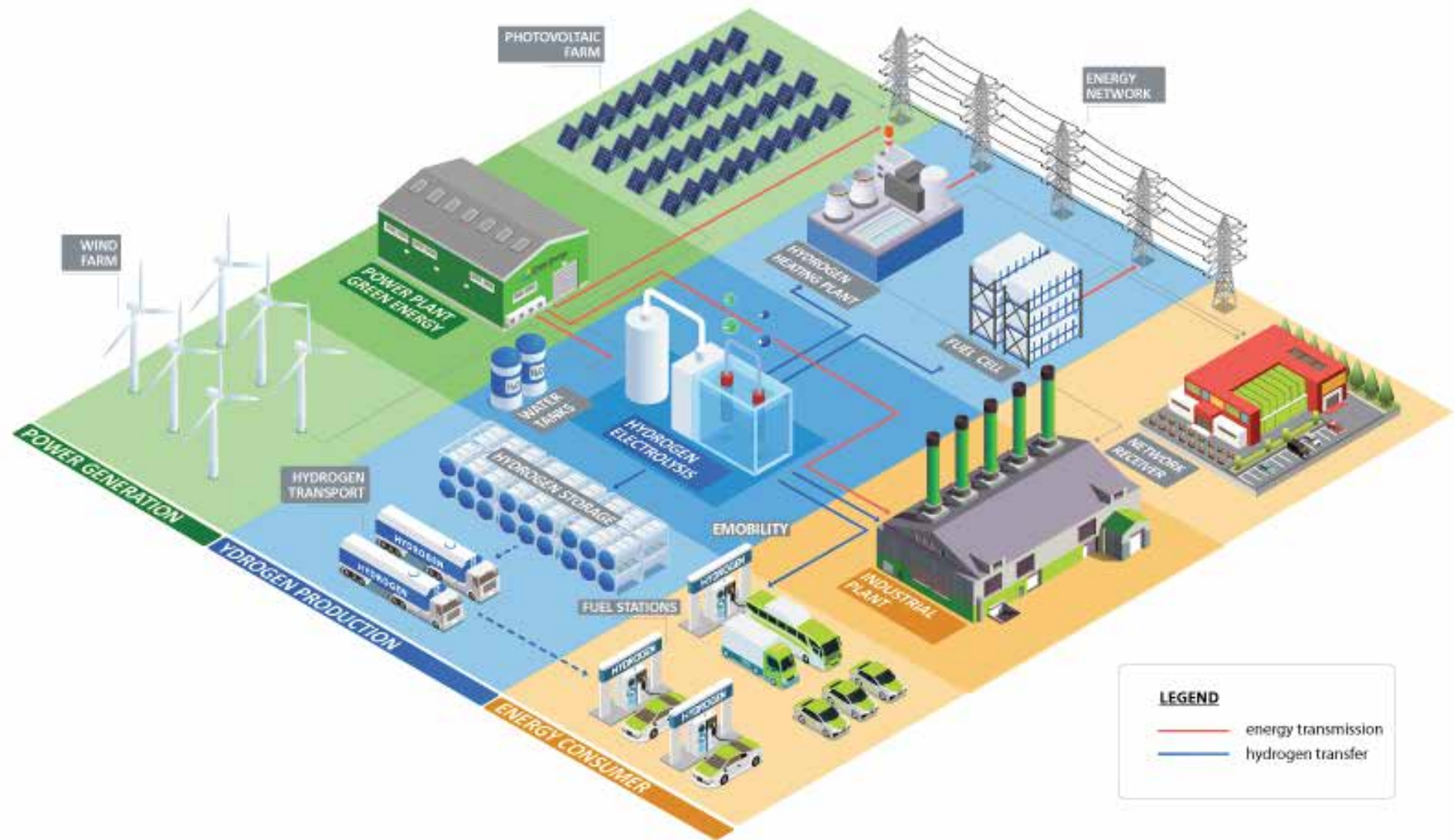


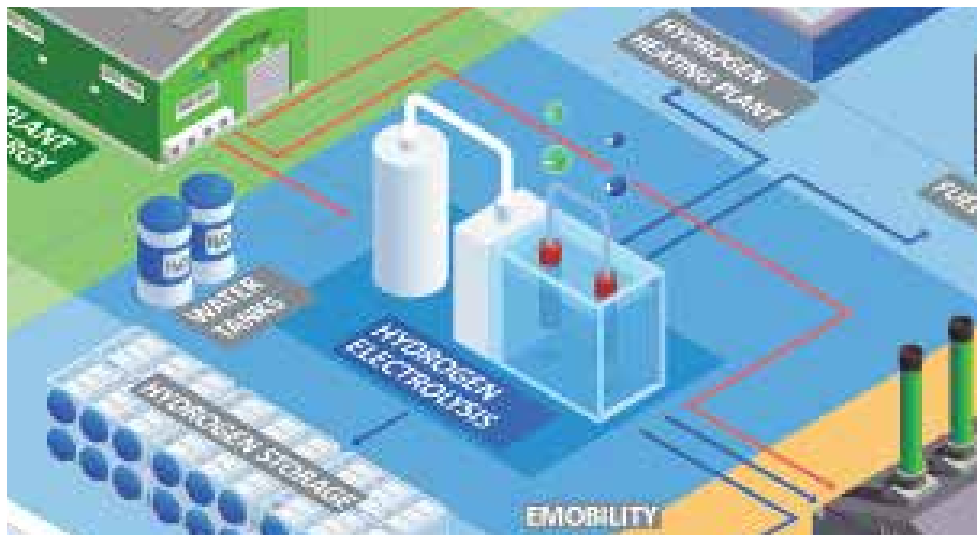
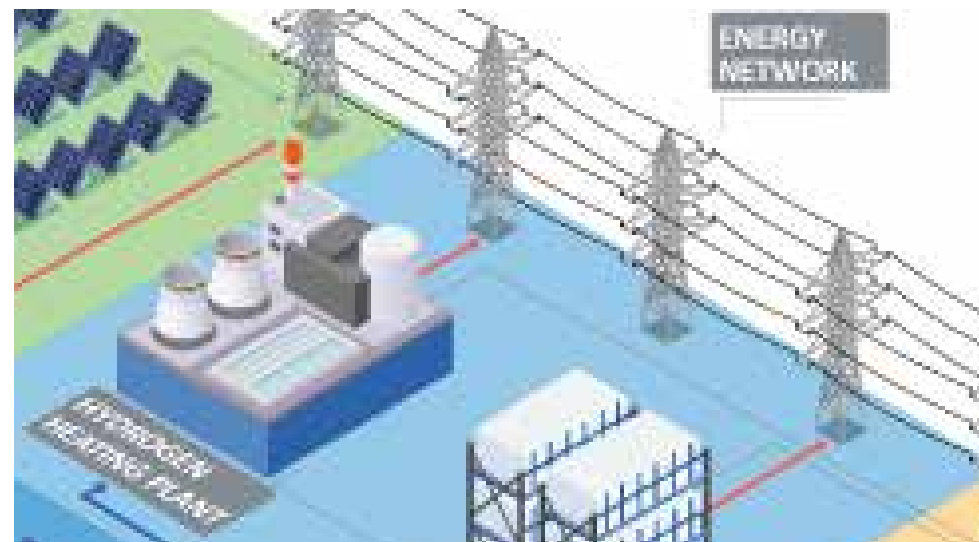
# GREEN HYDROGEN HUB

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Z-EEPP/BSE - HYDROGEN HUB

# Z-EEPP/BSE - HYDROGEN HUB - DIAGRAM OF OPERATION





## HYDROGEN PRODUCTION

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The electrolyzer produces carbon-free green hydrogen, using renewable electricity and water. Electrolyzer solutions are used in a variety of applications, from mobility to energy to the chemical industry.

As a cost-competitive form of energy, green hydrogen is the only form of hydrogen produced using clean, renewable energy sources.



## HYDROGEN TRANSPORT

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Innovative designs of cryogenic trailers for everyday transport of green hydrogen and mobile equipment for its storage enable a range of industrial, commercial, medical and chemical applications using hydrogen.

The delivery of liquefied hydrogen at extremely low temperatures changes the logistics. The result is cost savings for our customers.



## HYDROGEN STORAGE AND HANDLING

Pluggable storage and handling solutions include the design, procurement, commissioning and maintenance of hydrogen storage, compression and flow systems. A full portfolio of services means storage and handling options can meet a variety of customer needs, including those who need to store liquids and gases.



## HYDROGEN DISTRIBUTION

Proprietary hydrogen dispensers provide perfect fuel system integration, with fuel cell products including fast fill reporting and industrial IoT to help users track their latest performance.



## APPLICATION OF HYDROGEN

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By combining hydrogen with fuel cells, we can power a range of applications, from material handling, to class 6 and 8 trucks, to charging electric vehicles, to aviation, to critical infrastructure backup.

Proven, flexible and durable fuel cell technology for power generation allows users across the spectrum of applications to unleash the inherent benefits of hydrogen.



## HYDROGEN FOR E-MOBILITY

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Cars with fuel cells powered by hydrogen, the so-called hydrogen cars are actually electric cars. Fuel cells convert the chemical energy from hydrogen into electromechanical energy.

According to LMC Automotive, in 2030, approximately 10-15 million passenger cars and approximately 0.5 million commercial vehicles using hydrogen will appear on the world's roads. By 2050, one in four cars in the world may already have such a drive.



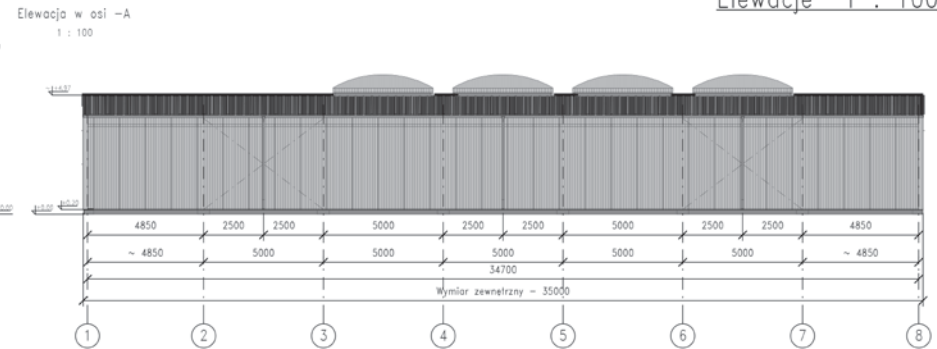
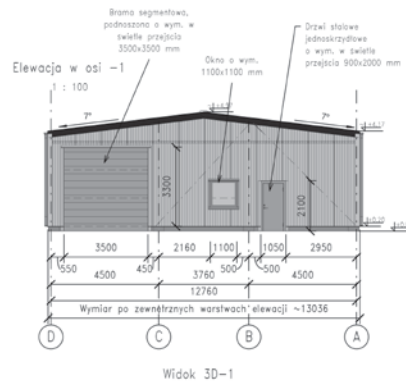
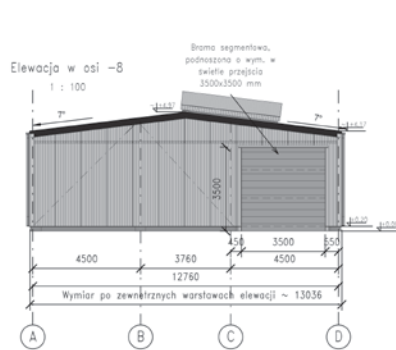
# POWER PLANT BSE – G1/G2

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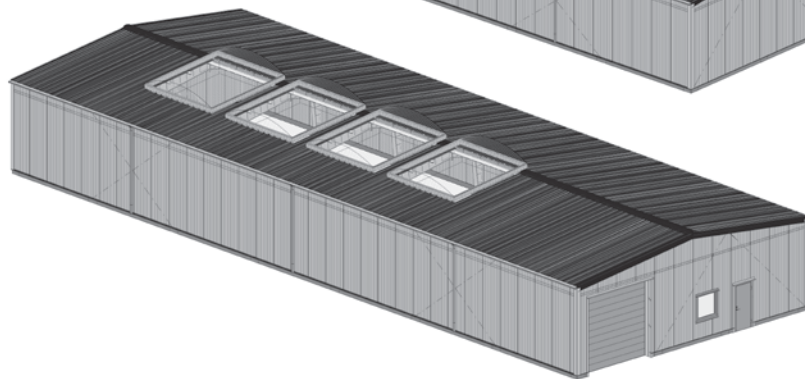
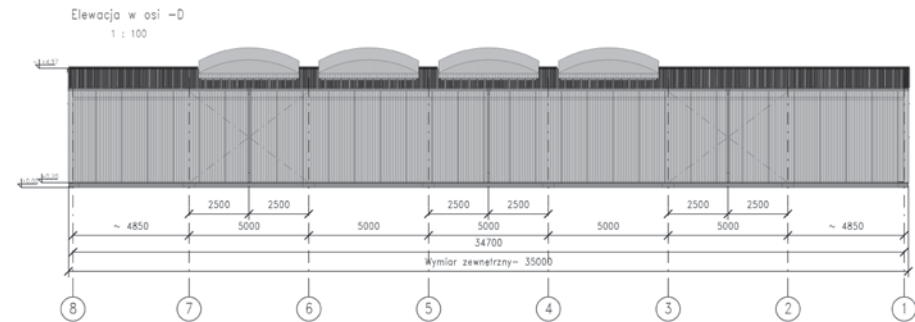
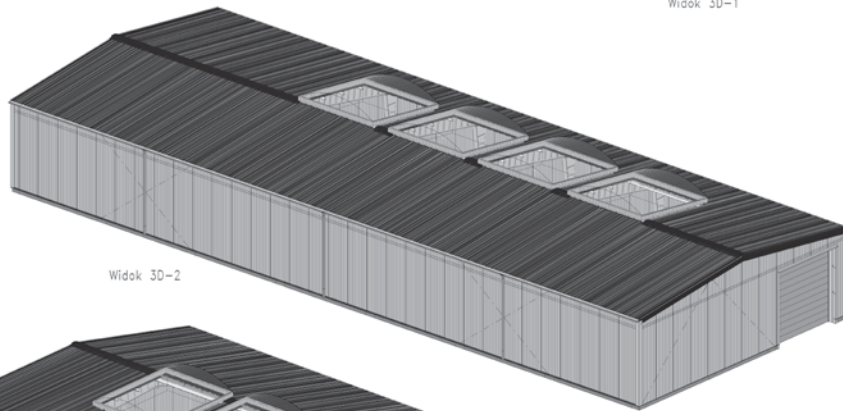
**DIMENSIONS AND VIEW OF THE HALL**

**INSTALLED POWER: 1.5-12 MW**

# POWER PLANT BSE –G1 (13M X 35-65M) – Installed power: 1,5 – 4,5 MW



Elewacje 1 : 100

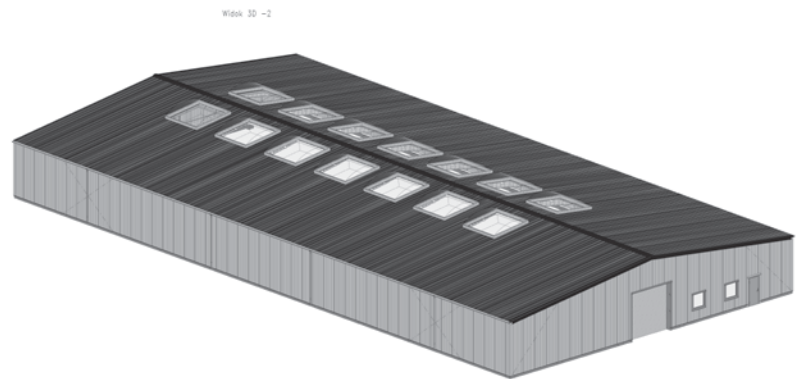
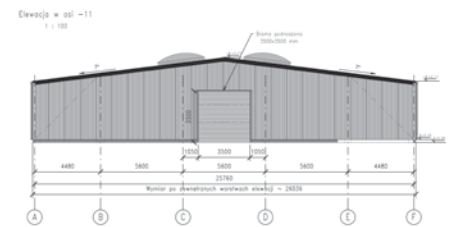
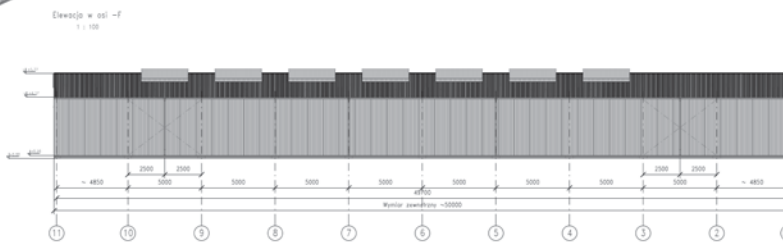
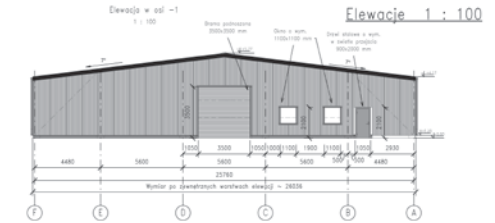
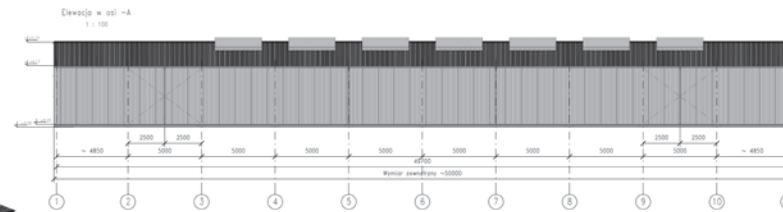
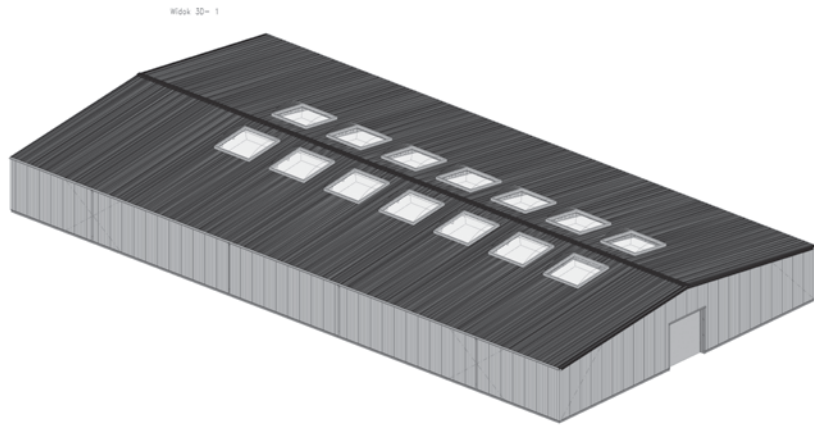


## POWER PLANT BSE - G1 WITH DIMENSIONS:

- Width: 13 m
- Length: 35-65 m (in series every 5 m)



# POWER PLANT BSE –G2 (26M X 30-80M) – Installed power: 3 – 12 MW



## POWER PLANT BSE - G2 WITH DIMENSIONS:

- Width: 26 m
- Length: 30-80 m (in series every 5 m)

**THANK YOU FOR YOUR ATTENTION**



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