

# Project teaser

## BIOGAS POWER PLANT (DIVERSIFIED FEEDSTOCK)

developed by UKRAINIAN TECHNOLOGICAL COMPANY in partnership with UP Solar Sp.z o.o.

### TECHNOLOGY

Developer`s own technology of anaerobic digestion biogas power plant construction and operation using mixed feedstock. The mixed feedstock may consist of up to 20 raw material options. i.e. chicken manure, crop residues, bagasse, flotation sludge, pomace, etc.

### KEY FEATURES

- Jenbacher JMC 420 GS-B.L gas engines
- Methane content - 55% - 1,29kg/m<sup>3</sup>
- Lower calorific capacitance - 19,8 MJ/m<sup>3</sup>
- Energy content - 5,5 kW/m<sup>3</sup>
- Working hours per year - 8060 h.

### BUSINESS PLAN INCLUDES

- Functional - technological scheme of the power plant
- List of suppliers of raw materials to be used & supply chain adjustment.
- O&M methodology and costs description
- Workforce organizational charts & instructions

### FINANCIAL INDICATORS FOR 2,4 MWP PLANT (INCLUDING HYDROLIZER)

CAPEX – 4 700 000 EUR without VAT

OPEX – 767 700 EUR/year

IRR >30%

Payback period < 4 years

### OPTIONS

- Power range - 1,2 - 5,2 MWp
- Possibility of cogeneration
- Hydrolyzer may be removed to decrease CAPEX
- Separate long term storage tank for fertilizers

### REVENUE SOURCES AND RESPECTIVE MARKETS

#### Electricity, which may be traded:

- under direct PPA
- using "green" auction support scheme
- as auxiliary service for network frequency adjustment.

Taking into account Polish ambitions to reach leading positions in RES sector and fully decarbonize its economy in line with the EU's Green Deal, there are almost no risks that electricity generated from biogas plant in question will be unclaimed.

#### Organic fertilizer (biohumus).

Organic fertilizer is a highly profitable commodity which is growing in demand (at internal and external markets). It is planned to focus on selling biohumus to wholesale customers with a 50% discount from the current market price in Poland. The aim is to rapidly penetrate the market and reduce the stockpiling of the product. The export sales are also planned.

### BUSINESS MODEL

- Purchasing cheap diversified feedstock.
- Generating biogas from a feedstock of animal and (or) organic origins.
- Transforming biogas into electricity (cogeneration option)
- Guaranteed sales of electricity under the auction's price or direct PPA.
- Selling biohumus at internal and external markets as a by-product.

### COMPETITIVE ADVANTAGES

- Turnkey solution available to any Investor. We may perform from the stage of land allocation up to the adjustment of O&M on the constructed plant.
- Unique technological solution enabling to diversify raw materials and thus secure peak availability of the plant.
- The lowest market price for the ready-to-use plant.
- Profound engineering and construction experience which guarantees claimed performance. We possess our own operational plants and built the biggest biogas power plant in Ukraine.

### IMPACT

CO2 emissions reduction by 30 500 tons yearly. Balancing the national electric grid (as biogas can be stored unlike SPP or WPP). New jobs, more than 800 households will benefit from a new product - biohumus.

### CONTACTS

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