

GREEN HYDROGEN HUBS

**PRODUCTION, STORAGE AND DISTRIBUTION OF GREEN
HYDROGEN AND RENEWABLE ENERGY**



**EUROPEAN CONSORTIUM
H2R HYDROGEN RENEWABLE**

TARGET INSTALLATION PARAMETERS

| | |
|--|------------------|
| Photovoltaic power plant: | 300 MWp |
| Maximum hourly electricity production: | 284 MWh |
| Annual electricity production: | 360 GWh |
| Power of electrolyzers for the production of green hydrogen: | 95 MW |
| Daily average production of green hydrogen: | 16 tonnes |
| Annual production of green hydrogen: | 5 820 tonnes |
| Daily average production of liquid oxygen: | 99 tonnes |
| Annual production of liquid oxygen: | 36 160 tonnes |
| Financing scale: | 600 MM EUR |
| Employment: | 100 |
| Reduction of CO2 emissions per day: | 600 tonnes |
| Reduction of CO2 emissions per year: | 2 300 000 tonnes |
| Planted trees equivalent: | 8 000 000 |



LOCATION DESCRIPTION

The investment in Poland will be located in:

Gmina **Nowa Dęba**, Podkarpackie region,

Gmina **Grębów**, Podkarpackie region.

List of locations:

Chmielów (PV + H2); 51.1 ha; PV power 45 MWp; electrolyser power 15 MW,

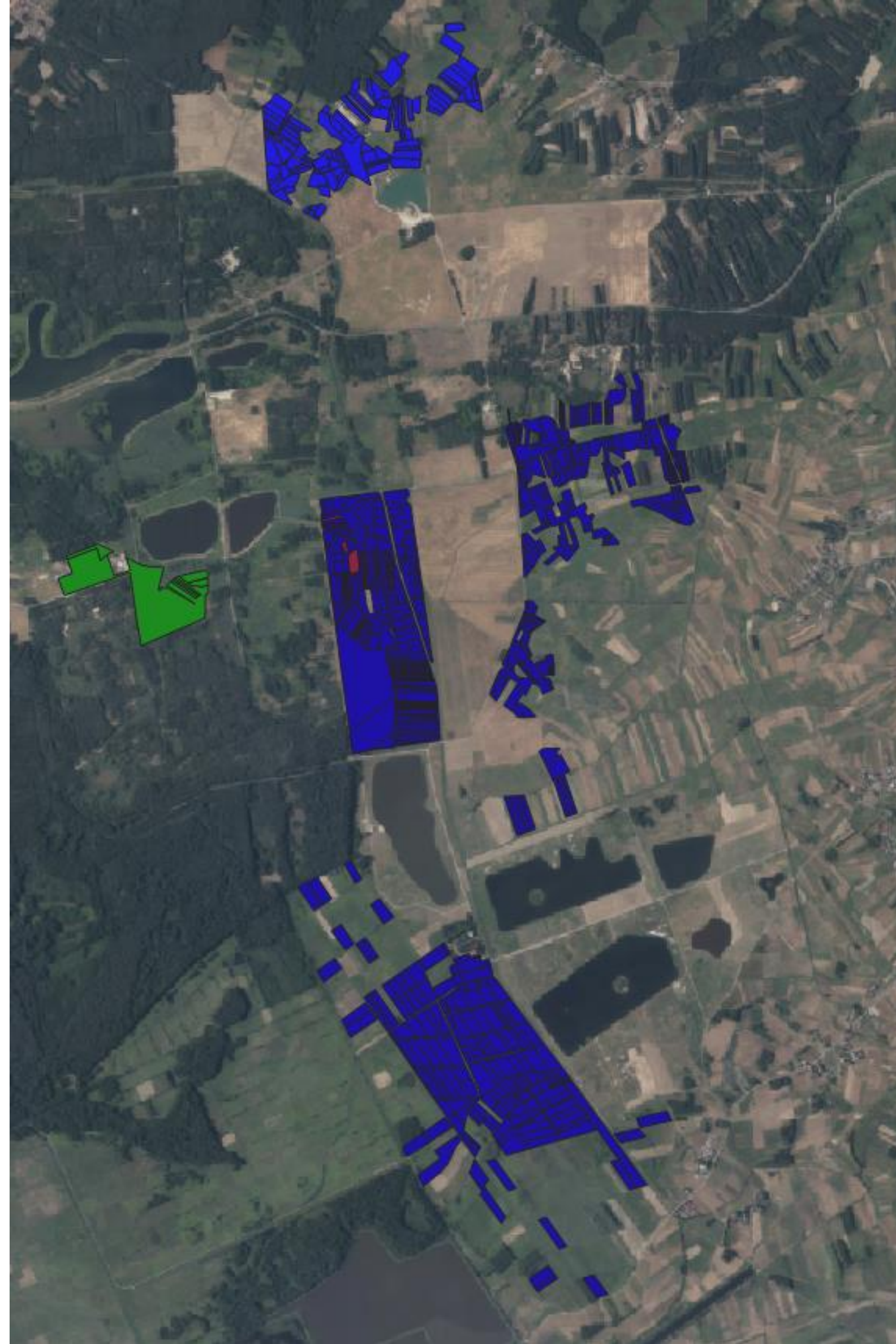
Jeziórko (PV + H2); 22.5 ha; PV power 10 MWp; electrolyser power 80 MW,

Grębów-Żupawa (PV); 59 ha; PV power 40 MWp,

Jeziórko (PV); 80 ha; PV power 75 MWp,

Jeziórko-Wydrza (PV); 75.1 ha; PV power 45 MWp,

Wydrza (PV); 135 ha; PV power 90 MWp.



CHMIELÓW – 50 MWp PV i 15 MW ELECTROLYSER POWER

TECHNICAL PARAMETERS:

area: 51.1 ha,

PV power: 45 MWp,

hydrogen production: YES,

electrolyser power: 15 MW,

oxygen management: YES,

average hydrogen production: 2.5 tonnes/day → 920 tonnes/year,

average oxygen production: 15.5 tonnes/day → 5 710 tonnes/year.

SELECTED INSTALLATION ELEMENTS:

electrolysers (2,5 MW each): 15 MW,

ionic compressors H₂ - up to 350 bar & O₂ up to 50 bar,

H₂ storage 350 bar: 22 tonnes,

O₂ storage 50 bar: 200 tonnes,

fuel cell: 1.2 MW,

air compression and liquefaction system (LAES): 15 MW,

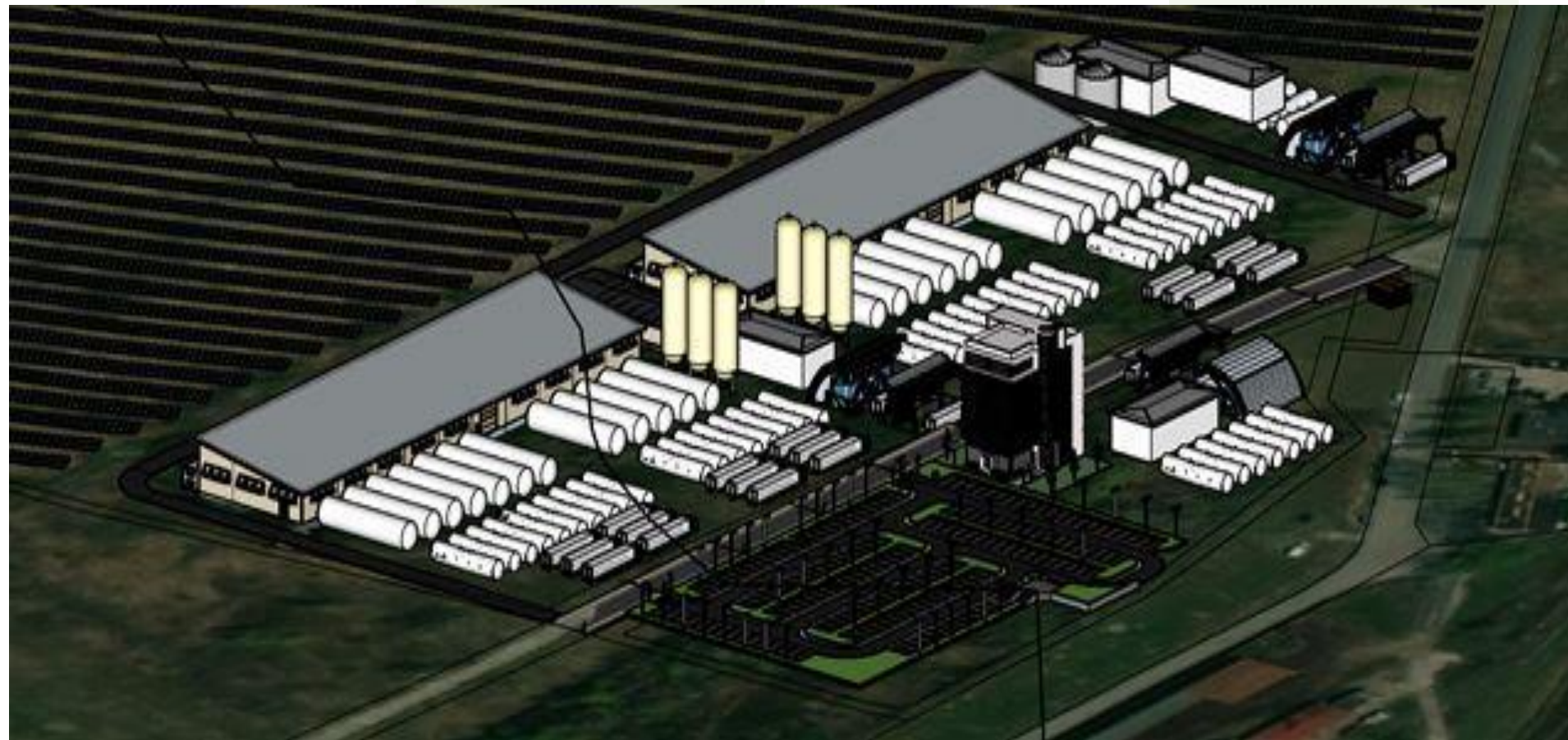
gas turbines,

LOES storage tanks,

hydrogen distribution and refuelling stations.



CHMIELÓW – INSTALLATION VISUALISATION



JEZIÓRKO – 10 MWp PV i 80 MW ELECTROLYSER POWER

TECHNICAL PARAMETERS:

area: 22.5 ha,

PV power: 10 MWp,

hydrogen production: YES,

electrolyser power: 80 MW,

oxygen management: YES,

average hydrogen production: 13.5 tonnes/day → 4 900 tonnes/year,

average oxygen production: 83.5 tonnes/day → 30 450 tonnes/year.

SELECTED INSTALLATION ELEMENTS:

electrolysers (2,5 MW each): 80 MW,

ionic compressors H₂ - up to 350 bar & O₂ up to 50 bar,

H₂ storage 350 bar: 100 tonnes,

O₂ storage 50 bar: 600 tonnes,

fuel cell: 2.4 MW,

air compression and liquefaction system (LAES): 80 MW,

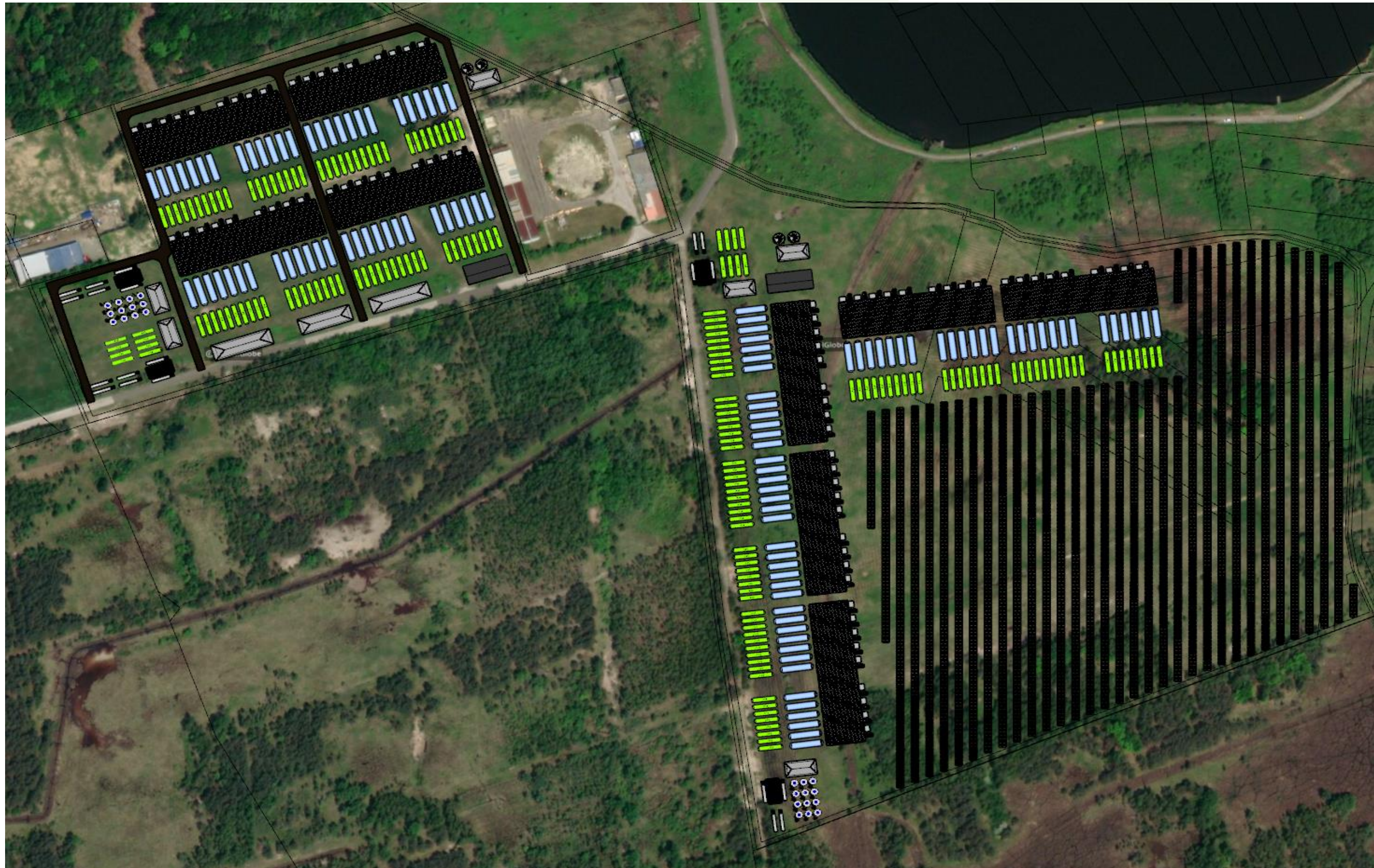
gas turbines,

LOES storage tanks,

hydrogen distribution and refuelling stations.



JEZIÓRKO – INSTALLATION VISUALISATION



JEZIÓRKO – 72 MWp PV

TECHNICAL PARAMETERS:

area: 80 ha,

PV power: 72 MWp,

hydrogen production: NO,

oxygen management: NO.

SELECTED INSTALLATION ELEMENTS:

supporting structures (with the possibility of changing the angle of the panels) for mounting PV panels,

photovoltaic modules with a unit power of 500 to 700 W each in the amount of up to 80 000 pcs,

power inverters in quantity depending on the technical solution used,

DC cable lines,

medium voltage (MV) substations in the amount of up to 18 pcs,

MV cable lines,

technological roads, manoeuvring area,

monitoring system (infrared barrier, motion sensors, cameras),

fence up to 2.2 m high.



GRĘBÓW-ŻUPAWA – 46 MWp PV

TECHNICAL PARAMETERS:

area: 59 ha,

PV power: 46 MWp,

hydrogen production: NO,

oxygen management: NO.

SELECTED INSTALLATION ELEMENTS:

supporting structures (with the possibility of changing the angle of the panels) for mounting PV panels,

photovoltaic modules with a unit power of 500 to 700 W each in the amount of up to 80 000 pcs,

power inverters in quantity depending on the technical solution used,

DC cable lines,

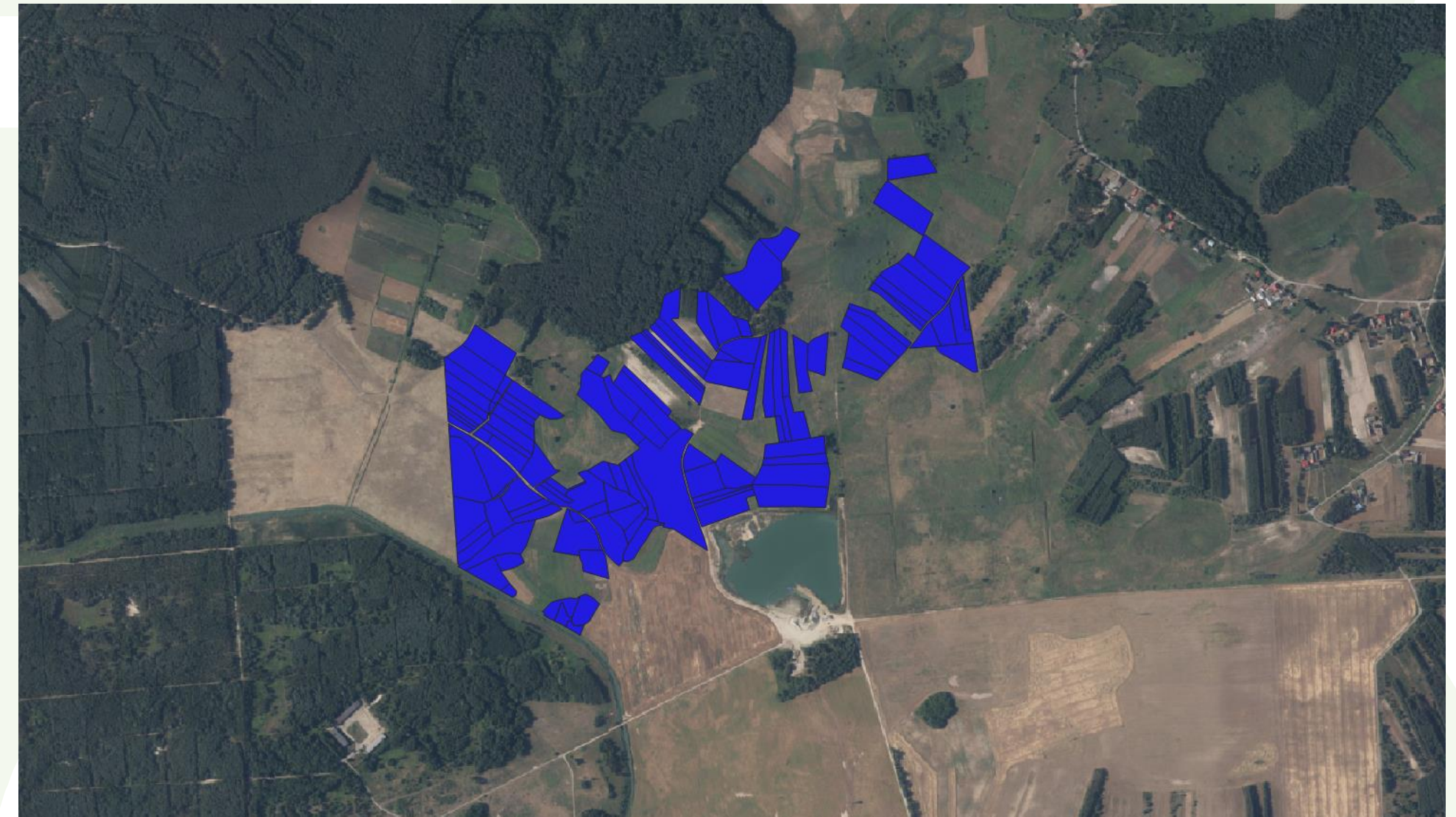
medium voltage (MV) substations in the amount of up to 18 pcs,

MV cable lines,

technological roads, manoeuvring area,

monitoring system (infrared barrier, motion sensors, cameras),

fence up to 2.2 m high.



JEZIÓRKO-WYDRZA – 45 MWp PV

TECHNICAL PARAMETERS:

area: 75.1 ha,

PV power: 45 MWp,

hydrogen production: NO,

oxygen management: NO.

SELECTED INSTALLATION ELEMENTS:

supporting structures (with the possibility of changing the angle of the panels) for mounting PV panels,

photovoltaic modules with a unit power of 500 to 700 W each in the amount of up to 90 000 pcs,

power inverters in quantity depending on the technical solution used,

DC cable lines,

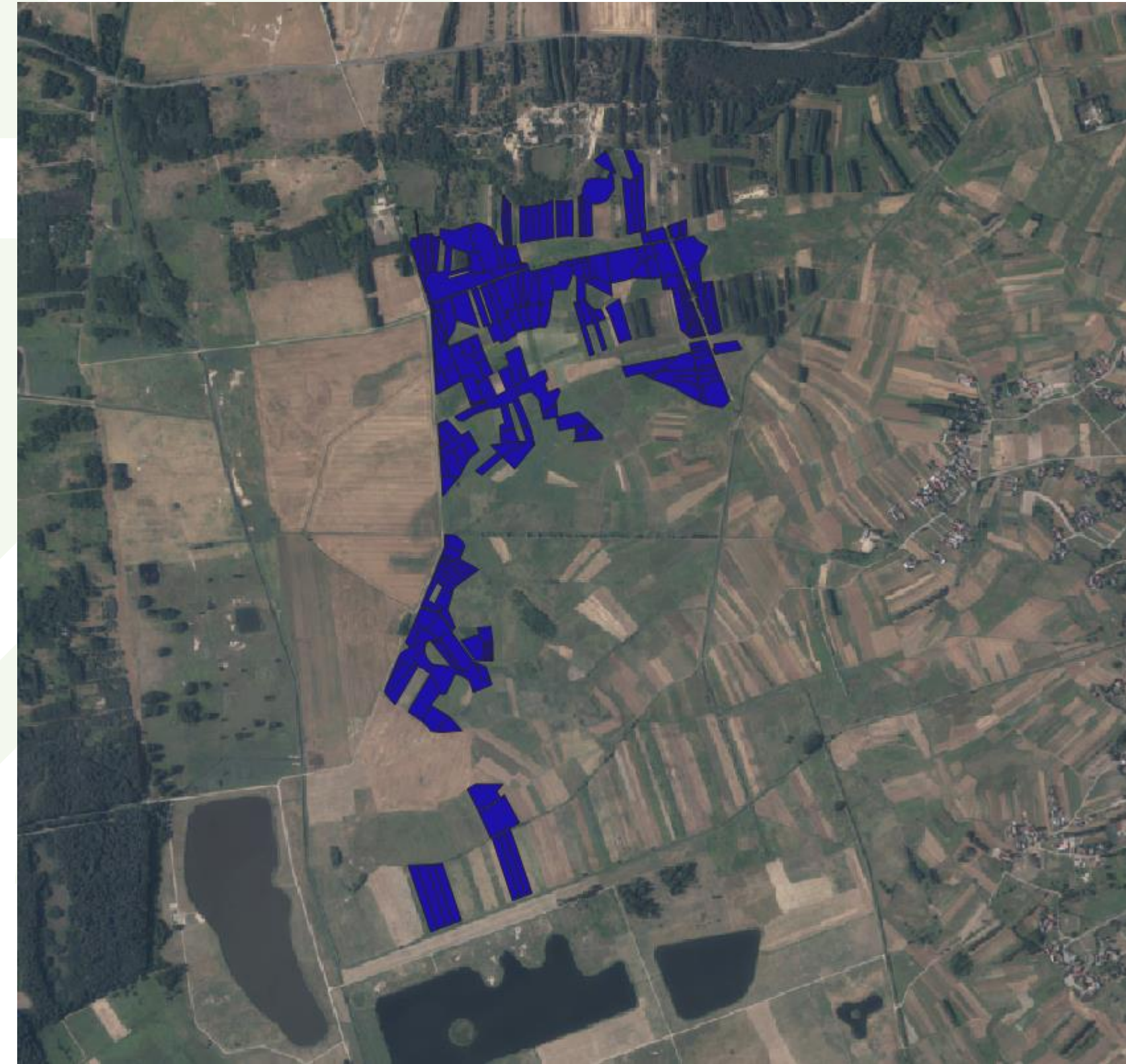
medium voltage (MV) substations in the amount of up to 30 pcs,

MV cable lines,

technological roads, manoeuvring area,

monitoring system (infrared barrier, motion sensors, cameras),

fence up to 2.2 m high.



WYDRZA – 90 MWp PV

TECHNICAL PARAMETERS:

area: 135 ha,

PV power: 90 MWp,

hydrogen production: NO,

oxygen management: NO.

SELECTED INSTALLATION ELEMENTS:

supporting structures (with the possibility of changing the angle of the panels) for mounting PV panels,

photovoltaic modules with a unit power of 500 to 700 W each in the amount of up to 180 000 pcs,

power inverters in quantity depending on the technical solution used,

DC cable lines,

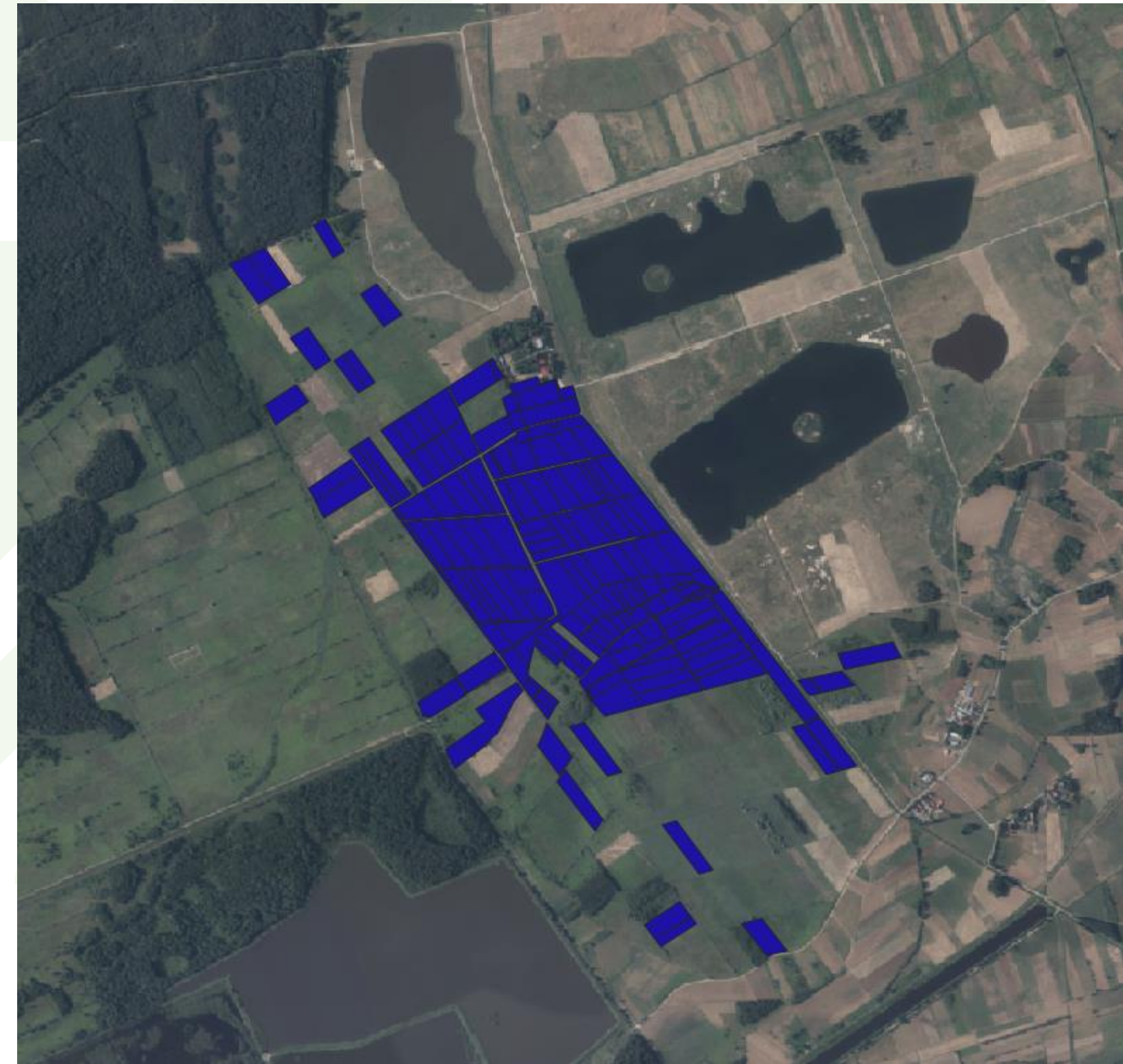
medium voltage (MV) substations in the amount of up to 50 pcs,

MV cable lines,

technological roads, manoeuvring area,

monitoring system (infrared barrier, motion sensors, cameras),

fence up to 2.2 m high.





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