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Towards RES



67 YEARS OF EXPERIENCE IN THE POWER MARKET

ENERGOPROJEKT-KATOWICE SA

One of the largest designing and engineering companies in Europe.

Established leadership in the power engineering sector.

Over 67 years in business.

Engineering services related to the development and the implementation of large power units.

Tens of thousands of projects for various sectors of the economy, primarily for the power engineering, including among others: in Angola, Belarus, Bosnia and Herzegovina, Czech Republic, Denmark, Egypt, Finland, Greece, Holland, India, Jordan, Germany, Nigeria, Portugal, Russia, Romania, Turkey, Ukraine, and the United Kingdom.

Experience in complex investments in designing, consulting, expert's reports, and technical analyses, construction supervision, and general contractorship.

GENERAL IMPLEMENTATION OF INVESTMENT PROJECT

Stocktaking and technical assessment of facilities intended for PV power plants

Conceptual designs along with an analysis of shading and a year-round system performance

Economic analyses

Analyses of image-related benefits

Raising funds from national and EU resources

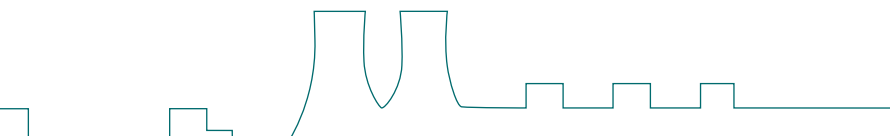
Having terms and conditions of connection to the external networks agreed

Building designs and detailed designs

Plant commissioning

Guarantee and post-guarantee services

LONG HISTORY OF THE COMPANY ASSURES GUARANTEE AND POST-GUARANTEE SERVICES



BENEFITS OF A PHOTOVOLTAIC POWER PLANT

Economic benefits:

- Reduction of electric power purchase costs.
- Possible sale of energy surpluses to a distribution network.
- Less dependency on electric power price changes.
- Possible obtaining of RES Certificates of Origin.

Marketing benefits:

- Increasing environmental awareness of society – consumers are more and more inclined to buy products or services of environmental-friendly companies.
- Strengthening of the Company's image – thanks to an own PV power plant it is possible to position a brand and a company in a market as responsible and environmental-friendly.

Environmental benefits:

- No emissions of CO₂ and other harmful gases related to conventional generation of electric power.

100 KWP PV POWER PLANT GENERATES CO₂ SAVINGS OF CA. 55 MG/YEAR

Module Locations in EPK	Quantity: 373 pcs	1,666 x 992 mm Modules	1 Module Power [Wp]	Total Power [kWp]
SOUTHERN FAÇADE	196	KPV 270 BME (eff. – 16.34%)	270	52,9
HIGH ROOF	105	KPV 260 PE (eff. – 15.73%)	260	27,3
LOW ROOF	72		260	18,7

DIMENSIONS AND CHARACTERISTICS OF EPK'S PV POWER PLANT

DC power installed on the EPK building is: 98,9 kWp	MODULES by Kioto Solar INVERTERS by Fronius
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kWp [kilowatt-peak] – capacity of a photovoltaic module [electric power] determined for STC [Standard Test Conditions], i.e. the standard test conditions: the intensity of solar radiation of 1000 W/m², cell temperature of 25°C.

Total active area of the modules is: 616.5 m²

ARRANGEMENTS WITH TAURON DYSTRYBUCJA SA, TAURON SPRZEDAŻ SA, AND ENERGY REGULATORY OFFICE

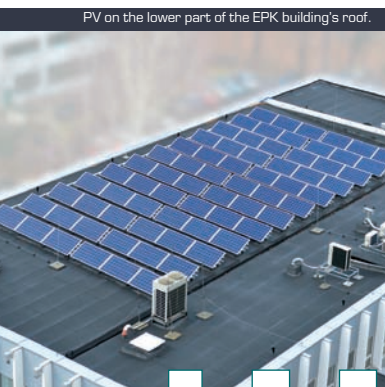
- Obtaining connection terms and conditions, conclusion of a connection contract, and power distribution and resale contracts.
- Filling an application to the Energy Regulatory Office for making an entry to the register of power generators – small plants up to 200 kW.

PROVIDING FUNDS FOR THE EPK'S PV INVESTMENT PROJECT

- Own resources – 15%.
- Grant of the Regional Fund for Environmental Protection and Water Management – 25%.
- Soft loan granted by the Regional Fund for Environmental Protection and Water Management – 60%.



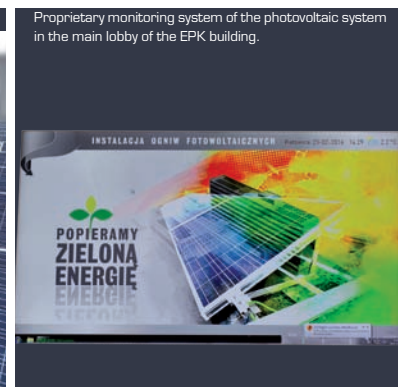
PV on the EPK building's wall.



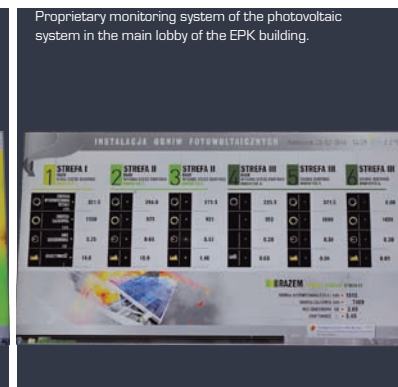
PV on the lower part of the EPK building's roof.



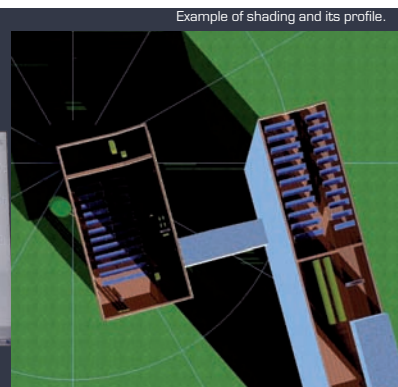
PV on the roof of the high part of the EPK building.



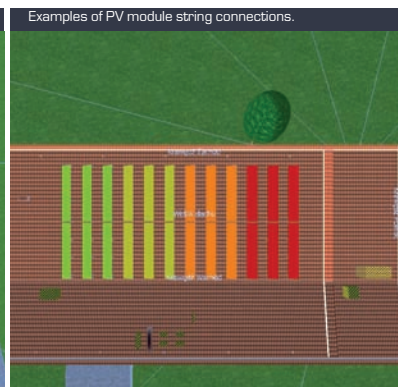
Proprietary monitoring system of the photovoltaic system in the main lobby of the EPK building.



Proprietary monitoring system of the photovoltaic system in the main lobby of the EPK building.



Example of shading and its profile.



Examples of PV module string connections.

