



# ENER

**Energy**

and industrial construction



# Budimex SA

**Leads the Polish construction market, based on 55 years of history and experience.**

The company carries out projects in the field of infrastructure, railway, general, energy and industrial construction, operating both in Poland and abroad. We use advanced technologies and have at our disposal a machinery park that guarantees the reliability and high quality of our work.

The company observes the principles of ethics and responsibility in business. We are one of the signatories to the Agreement for Safety in Construction in order to ensure increasingly high standards of OHS for our employees, as well as for the beneficiaries of our projects. We act for the benefit of local communities. Based on our ESG strategy, we reduce our impact on the immediate environment and participate in the development of a green future.

**We build for people.**

# ENERGETYKA





## Energy and industrial construction

### We support energy security and economic development

For many years, we have been implementing projects in the broadly understood energy and industrial sectors. Based on our experience in conventional power generation, we actively participate in Poland's energy transition towards the decarbonisation of the economy. The company implements projects that aim to reduce CO2 emissions by replacing fossil fuels with gas or alternative energy sources, shapes the environment and takes care of natural resources.

In the area of Energy and Industrial Construction, we implement energy, water and wastewater projects as well as waste management and fuel transport projects.

Among other things, Budimex acts as general contractor or in consortium with leading companies in the energy and industrial sectors. We comprehensively build power blocks, thermal waste treatment plants, RES power plants, flue gas desulphurisation and denitrification installations, water treatment plants, sewage treatment plants, water and sewage mains or transmission gas pipelines. The company is currently expanding its scope of activities to include transmission power lines and nuclear power.

The largest projects in our portfolio include a new 496 MW power unit at Turów Power Plant commissioned by the PGE Group, and a 200-kilometre-long network of high-pressure gas transmission pipelines for Gaz-System, including Baltic Pipe and Poland – Slovakia gas interconnector.

We have also completed thermal waste conversion projects in Poland and Lithuania. In the upcoming years, we will participate in the development of the country's RES potential.







ENERGY SECTOR



RES



GAS PIPELINES



ENVIRONMENT



ENERGY SECTOR



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Net value:  
**333**  
PLN million

## Municipal waste disposal plant in Białystok

The project was carried out under an EPC contract (Engineering, Procurement and Construction). It included the construction of a modern combined heat and power plant that processes 120,000 tonnes of municipal waste per year. The facility was equipped with a flue gas purification installation for the removal of nitrogen oxides, acidic pollutants, heavy metals, dioxins, furans and dust. The works were carried out in consortium with Keppel Seghers Belgium N.V. and Cespa Compañia Española de Servicios Públicos Auxiliares.

It is one of the first installations in Poland for thermal conversion of waste.

Execution:

**12.2013 – 12.2015**

Investor:

**PUHP „LECH”  
SP. Z O.O.**





## Combined heat and power plant in Vilnius

Execution:

**06.2017 – 10.2021**

Investor:

**UAB VILNIAUS  
KOGENERACINĖ JĖGAINĖ /  
IGNITIS GRUPĖ**

### Supporting the Lithuanian capital in meeting its heating demand

The project included the construction of a plant generating power from alternative fuel combustion, consisting of two units for the processing of municipal waste and refuse-derived fuel. For the latter, Budimex supplied a turbine of approx. 73 MWe and built the heat and power outlet.

The capacity of the new CHP plant is around 92 MWe and 229 Mwt. The thermal energy from the cogeneration unit is fed into the city's heating network via DN1200 pipelines and the electricity generated via two 110 kV lines to the power grid.



Net value:

**178**

EUR million



# Żerań Warszawa combined heat and power plant

Heat generation with the highest safety standards

Under the concluded contract, we built a boiler house consisting of two natural gas-fired, water-tube boiler units, each with a thermal capacity of 135 MWt, together with equipment, multi-branch auxiliary systems and flue gas outlet through a two-duct chimney with a height of 70 metres.

The boiler house is characterised by highly efficient heat generation while maintaining high environmental standards. The unit, which serves as a backup heat source for Warsaw, was equipped with technical solutions that meet the principles and standards of BAT conclusions.

Execution:

**07.2019 – 07.2023**

Investor:

**PGNIG  
TERMIKA S.A.  
(GK PGNIG GRUPA ORLEN)**



Net value:

**115**

PLN million





# Kawęczyn Heat Plant

in Warsaw

**Project for decarbonisation of district heating**

As part of the project, a new gas-oil boiler house was built together with auxiliary installations consisting of two water-tube boilers with a total nominal thermal power of approximately 220 MWt. Each is equipped with a high-efficiency selective catalytic reduction installation. The project meets the requirements of BAT conclusions and was carried out under the EPC (Engineering, Procurement and Construction) formula.

Execution:

**12.2021 – IN PROGRESS**

Investor:

**PGNIG TERMIKA  
(GK PGNIG GRUPA ORLEN)**



Net value:

**156.2**

PLN million







# Peak boiler house

## for EDF Gdynia

Execution:

**12.2014 – 06.2016**

Investor:

**EDF POLSKA S.A.**

**Full coverage of the heating demand of the city's inhabitants during the heating season**

The scope of works covered the construction of a 3x30 MW peak boiler house and the infrastructure of heating water pipelines and light oil installation with its integration into the existing grid water system of the CHP plant. The project also included: modernisation of the mazut pumping station and its adaptation to the new type of fuel, a light oil tank with a capacity of 1,600 m<sup>3</sup> along with the infrastructure, as well as an auxiliary water heating system.



Net value:

**27**

PLN million



Execution:

07.2014-05.2021

Investor:

PGE ODDZIAŁ  
ELEKTROWNIA TURÓW

# Turów power plant in Bogatynia

Poland's fourth largest  
coal-fired thermal power plant

A consortium with Mitsubishi Hitachi Power Systems Europe GmbH and Technicas Reunidas S.A. built a separate 447.5 MW thermal power unit which operates at supercritical steam parameters. The generating unit is a single-pass tower once-through boiler with a pulverised fuel furnace and a low-emission combustion chamber, which cooperates with a condensing steam turbine. The scope of work additionally included equipping the unit with the necessary technological systems, site preparation, delivery of components, their assembly and commissioning.

Net value:

3.75

PLN billion







Net value  
**63**  
PLN million

# Combined Heat and Power Plant

## Warszawa **Siekierki**

### Plant modernisation to reduce emissions

In cooperation with Andritz Energy & Environment GmbH, we performed a selective catalytic reduction installation and modernised a semi-dry flue gas desulphurisation installation for the hard coal-fired K2 boiler type OP230. The installation ensures the reduction of nitrogen oxides in flue gases to  $\leq 100$  mg/Nm<sup>3</sup>, of sulphur oxides to  $\leq 100$  mg/Nm<sup>3</sup> and dust to  $\leq 10$  mg/Nm<sup>3</sup> for a maximum flue gas flow of approx.

250,000 Nm<sup>3</sup>/h.

The scope of the contract included the execution of the technological and auxiliary systems, including the flue gas duct, selective catalytic reduction reactor, ammonia solution dosing system, draft fan, rotary air heater and control and measurement system with CEMS.

Execution:

**01.2015 – 01.2018**

Investor:

**PGNIG TERMIKA S.A.**



# Łaziska Power Plant

## Łaziska Górne

### Reduction of flue gas emissions

As part of the contract executed in consortium with Mitsubishi Hitachi Power Systems Europe GmbH, the flue gas desulphurisation (FGD) installation of boilers 9 and 10 was modernised, together with the decommissioning of the GAVO, the reconstruction of the existing chimney and the adaptation of the duct for the exit of wet flue gases from the boilers. The aim of the project was to reduce SO<sub>2</sub> concentration to ≤ 130 mg/Nm<sup>3</sup> in dry flue gas and dust concentration in FGD flue gas to ≤ 8 mg/Nm<sup>3</sup>.

Execution:

**02.2019 – 10.2021**

Investor:

**TAURON WYTWARZANIE S.A.**



Net value:  
**48.8**  
PLN million



# ZW Kraków Tameh Polska

## Huta ArcelorMittal Poland SA

Abandoning coal in favour  
of waste gases from furnaces

The investment included the design and construction of a 55 MW turbogenerator together with an external cable overpass and a 2x40 MVA transformer station. In the first phase of work, two water pumps with a capacity of 52 l/s and a elevation of 1,620 m were replaced. In the second, the installation of the turbogenerator was carried out. The works were carried out in the operating engine room, built in the 1950s-60s.

Execution:

**07.2017 - 07.2020**

Investor:

**TAMEH POLSKA  
SP. Z O.O.**



Net value:

**125.7**

PLN million







ENERGY SECTOR



RES



RES



GAS PIPELINES



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RES



# Wind power plants

## in Wielkopolska region - Złotów

Ultimately more than 10 MW  
of green energy

In 2022, the construction was completed  
of a 3.8 MW wind power plant in Górzna,  
in the municipality of Złotów. Modern  
gearless turbines were applied.

Execution:

**01.2022 – 03.2022**



Wartość:  
**8.3**  
PLN million



# Wind power plants

## Wielkopolska region - Drachowo

Up to 25 GWh per year

The completed power plant in Drachowo has a total capacity of 7 MW. The installation consists of 2 generators. Wind conditions in the region allow an estimated generation of around 25 GWh per year.

Execution:

**02.2022 - 05.2023**



Net value:

**49.5**

PLN million





ENERGY SECTOR



RES



GAS PIPELINES



ENVIRONMENT



GAS PIPELINES



GAS PIPELINES



# Strachocina - Polish border gas pipeline

Cross-border connection  
Poland - Slovakia

Execution:

**07.2019 - 02.2022**

Investor:

**OGP  
GAZ-SYSTEM S.A.**

The contract, carried out in a consortium with Mostostal Kraków, involved the construction of a 61 km gas pipeline (DN 1000, MOP 8.4 MPa) together with associated infrastructure, in mountainous environment, using numerous landslide protection measures. The gas pipeline was constructed using mechanised and assembly welding technology. At the intersections of the gas pipeline with road and municipal infrastructure and watercourses, trenchless crossings were made using HDD and microtunneling technology. The investment enables gas transmission of 5.7 b m<sup>3</sup> a year towards Poland and 4.7 b m<sup>3</sup> a year towards Slovakia.

Net value:

**499**

PLN million





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## Baltic Pipe

### Goleniów-Ciecierzycze gas pipeline

The longest stretch of the strategic Baltic Pipe gas pipeline in Poland

As part of the investment, a 122-kilometre-long gas pipeline was constructed using mechanised welding technology with welding heads with internal centring and assembly welding with external centring. The works included the construction of the linear part of the DN1000, 8.4 MPa gas pipeline, together with the reconstruction of the Goleniów Gas Compressor Station with a transmission

connection, as well as the construction of linear shut-off and relief valve units with bypass systems enabling customer connections, instrumentation and telemetry installations and other infrastructure. Another part of the contract was the drilling of over 1,400 m in Direct Pipe technology.

Execution:

**10.2020 – 09.2022**

Investor:

**OGP GAZ-SYSTEM SA**



Net value:

**335**

PLN million





Net value:  
**62**  
 PLN million

# Czeszów-Kietczów gas pipeline

Part of transmission system extension  
 in Lower Silesia

Execution:

**11.2016 - 09.2018**

Investor:

**OGP  
 GAZ-SYSTEM SA**

Under the concluded contract, 32.5 km of high-pressure gas pipeline was constructed in consortium with Mostostal Kraków. Linear shut-off and relief valve units with bypass systems in the area of Miłonowice and at the Kietczów gas interconnection point were constructed along the project route. In the course of the works, mechanised and assembly welding technologies were used, as well as 28 trenchless crossings of terrain obstacles by means of jacking, drilling and microtunnelling in DN 1200 and DN 1400 casing pipes, as well as two crossings of areas of natural value by means of horizontal directional drilling (HDD) with a total length of 1 250 m. The scope of work also included gasification and commissioning of the pipeline.



# Warsaw Rembelszczyzna - Mory gas pipeline

## Increasing the energy security of Warsaw

The project involves the construction of a 28.5 km long high-pressure gas pipeline (8.4 MPa, DN700). The gas pipeline route runs through 5 Warsaw suburban boroughs and 3 city districts. Over 5 km of the pipeline will be constructed using trenchless technology.

The longest horizontal directional drilling will be carried out under the Vistula River bed and the Ławice Kiełpińskie Reserve at a length of approx. 1,149 m, as well as under the Nowa Warszawa Forest at a length of 1,200 m, to preserve green areas.

Execution:

**03.2022 - IN PROGRESS**

Investor:

**OGP GAZ-SYSTEM SA**



Net value:  
**189**  
PLN million



ENERGY SECTOR



RES



GAS PIPELINES



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ENVIRONMENT



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# Wieliszew Northern Plant

As part of the contract, the plant was modernised with regard to the technology of pre-ozonation, quick sand filters and lime installation. Accompanying construction, assembly, installation and instrumentation works were carried out. In the course of the work, the plate drains and filter bed were replaced with a new two-layer anthracite-sand bed. The ozonisation modernisation carried out makes it possible to produce ozone from technical oxygen.

Execution:

**06.2016 – 05.2020**

Investor:

**MUNICIPALITY  
OF WARSAW**

Drinking water supply for Warsaw



Net value:  
**71.1**  
PLN million



# Modernisation of pumping stations of 1st and 3rd grade

## Wieliszew

### Modernisation of water transportation for Warsaw

Under the contract, outdated equipment was replaced, energy consumption was optimised, and the safety of the facilities was improved. The modernisation included the 1st Stage Pumping Station located on the premises of the Northern Plant Water Treatment Station (SUW) in Wieliszew, as well as the 3rd Stage Pumping Station and the 3rd Stage Auxiliary Pumping Station - located in the Białołęka Zone Station in Warsaw. The scope of the contract included

the replacement of pumps with a total capacity of 27,000 m<sup>3</sup>/h, the renovation of a clean water tank with a capacity of 15,000 m<sup>3</sup>, the renovation and modernisation of more than 100 maintenance chambers, the replacement of main fittings with a diameter of 1,200 mm and the renovation of technological pipelines.

Execution:

**01.2017 - 08.2021**

Investor:

**MPWIK  
WARSAW**



Net value:  
**57.6**  
PLN million



# Vistula collector pipes

## Warszawa

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### Protection of the city against the effects of torrential rain

This project is being carried out as part of the project "Water Supply and Sewage Treatment in Warsaw - Phase VI", which is the largest environmental project in this part of Europe. The Vistula sewage, constructed entirely by microtunnelling, is the largest and longest of its kind in Poland. Ordered by MPWiK, two phases of the project have been completed, including the Vistula Collector - Stage II - located at a depth of 6 m to 15 m along Wybrzeże Gdynskie Street, from the connection chamber with the Wenedów storm water drain pipe to the connection chamber with the Bielański drain pipe. The collector pipe, with a length of approximately 5.5 km and a diameter of 3.2 m, will have a capacity of up to 40,000 m<sup>3</sup> of rainwater.

Execution:

**01.2020 - 07.2023**

Investor:

**MPWiK  
IN WARSAW**



Net value:

**429**

PLN million



# The Vistula Collector

## Warszawa

The Vistula collector – Stage III is a continuation of Stage II from the connection chamber with Bielański collector to "Farysa" plant, together with the "Wiślana" pumping station with a length of 1.2 km and a diameter of 3.2 m, as well as pumping pipes. The target length of the tunnel is 9.5 km, the diameter of the disc cutter is 3.8 m, and the speed of excavation: 14 m/day. There will be approximately 70 inspection chambers and 10 process chambers along the route of the collector pipeline. The sewer will be placed at a depth of 6 to 15 m.

Execution:

**11.2021 – IN PROGRESS**

Investor:

**MPWIK  
IN WARSAW**



Net value:  
**193**  
PLN million



# Sewage Treatment Plant for the Urban Agglomeration of Łódź

The second largest sewage  
treatment plant in Poland

The contract includes the design and construction of a thermal sludge hydrolysis installation and a deammonification installation for the advanced removal of pollutants from sludge leachate. The innovative thermal hydrolysis technology will reduce the amount of sludge after digestion,

while increasing the efficiency of biogas production in the digestion process. With a flow of 332,000 m<sup>3</sup> per day, the sewage treatment plant in Łódź is the second largest in Poland.

Execution:

**10.2020 – IN PROGRESS**

Investor:

**CITY OF LODZ -  
MUNICIPAL CITY COUNCIL**

Net value:

**76.5**

PLN million





# Modernisation of the Tomaszów Mazowiecki wastewater treatment plant

Completion of the investment will increase the number of residents with access to the sewage system by more than 15.500 people

The scope of work included design and construction works. A new intermediate sewage pumping station was built, the DN400 back-up pressure collector was replaced, and a complete drying installation for undigested

sludge was constructed. In addition, the works included the modernisation of the flow section of the sewage treatment plant. The average daily capacity of the facility is 12.000 m<sup>3</sup>/d for the population equivalent (p.e.) of 100.000.

Execution:

**04.2013-01.2016**

Investor:

**ZAKŁAD GOSPODARKI  
WODNO-KANALIZACYJNEJ  
W TOMASZOWIE  
MAZOWIECKIM SP. Z O.O.**

