ENERGOPROJEKT - WARSZAWA SA has extensive experience and achievements in the development of designs, at various process stages, relating to the use of natural gas in the gas and steam combined cycle units and various sized boilers.

**WE PROVIDE THE FOLLOWING SERVICES:**

1. Consulting services relating to the determination of optimal parameters of gas and steam combined cycle units.
2. Consulting services relating to the form and mode of General Contractor tenders.
3. Consulting services relating to the selection of Strategic Investor (Business Plan).
4. Organisation of General Contractor tenders:
   - development of Terms of Reference for the technical and commercial parts of the tender procedure
   - offer evaluation,
   - development of draft contract.

5. Formal and legal services relating to site development, involving the development of:
   - materials for the Application for a decision on land development and site planning,
   - Building Permit Documentation required for the acquisition of a construction permit.

6. Technical services relating to site development, involving the development of:
   - Concept
   - Basic engineering,
   - Detailed engineering and as-build documentation.

**LIST OF MAJOR DESIGN WORKS RELATED TO THE CONSTRUCTION OF GAS AND STEAM COMBINED CYCLE UNITS**

**Dolna Odra Power Plants Group - PGE GiEK S.A.**

Feasibility study for the construction of two gas-steam combined cycle units with a capacity of 2 x 500 MWe (2017-2018)

**Stalowa Wola CHP Plant - PGNiG S.A**

Construction of a gas - steam combined cycle unit with a capacity of 450 MWe.

- Basic engineering and detailed design for a stabilizing check dam on the San river (2012-2013)
- Basic engineering for the cooling water circuit (2012)
- Basic engineering for the upgrade of the spent cooling water discharge duct (2012)

**Pomorzany CHP Plant - PGE GiEK S.A.**

Construction Permit Design for the construction of a 240 MWe gas-steam combined cycle unit (2012)

**CEZ a.s.**

Multi-discipline study of 9 potential locations for the construction of a high capacity gas and steam combined cycle unit (2008)

**ANWIL S.A. - ORLEN Group**

- Detailed design for the selected buildings and engineering structures of a gas - steam combined cycle unit with a capacity of 463 MWe (2013)
- Concept design for the construction of a 90 MWe gas and steam combined cycle unit at the Anwil CHP Plant (2008)

**Gorzów CHP Plant - PGE GiEK S.A.**

Construction of a new GT8C gas turbine unit with electric output of 55 MWe and a heat recovery boiler fired with local nitrogenised gas. Complete detailed design and as-built documentation was developed for the electrical part in reference to the basic engineering (upon the supplier's request - ABB Zamech Ltd in 1998)

- Multi-variant analyses for the construction of a new power unit based on gas turbine generator set (as part of the Feasibility Study for the construction of a power unit at the Gorzów CHP plant - 2006)

**Construction of a gas-fired water boiler plant with net output of 160 MW<sub>th</sub> in Visaginas (Lithuania)**

Development of the technical part of the offer and joint participation in tender procedure with Elektrim - Megadex S.A. Multi-discipline technical documentation in areas of thermal process, civil engineering and architecture, electrical systems, utility systems, elevators and overhauls, control and instrumentation, (upon request - SNC LAVALIN) including:

- Basic engineering and detailed design (2004)
- As-built documentation (2005)

**Lublin - Wrotków CHP Plant - PGE GiEK S.A.**

Construction of a gas and steam combined cycle unit with a capacity of 235 MWₐ and 150 MWₜₜ at the Lublin-Wrotków CHPP

- Pre-feasibility study - 1996
- Feasibility study - 1996
- Organisation of a tender procedure for a turn-key project (1997-1998) with the subcontractor responsible for the commercial, formal and legal aspects of the tender procedure.
- Financial projection for the long-term agreement for electricity supply from the gas and steam power combined cycle unit to the national grid system (1997)
- Construction Permit Design - upon the General Contractor's request - Lurgi Lentjes A.G., Germany (1998)
- Detailed Engineering - installation for gas and oil supply to turbine, all steam and water systems, cooling water system for the gas and steam combined cycle unit (2001)
- As-built documentation for the systems indicated as above (2002)
- Monitoring the plant's economic and financial situation. Economic and financial projections for the operation of the gas and steam combined cycle unit (2003 - 2005)

**Stalowa Wola Power Plant - TAURON Wytwarzanie**

- Preliminary study and analysis for the construction of a peak load gas unit (1997)
- Preliminary study and analysis for the construction of high load gas and steam combined cycle units (1997)
- Financial projection for the long-term agreement for electricity supply from the gas and steam combined cycle unit to the national grid system (1997)

**Rzeszów CHP Plant - PGE GiEK S.A.**

Construction of a gas and steam combined cycle unit with a capacity of 101 MWₐ and 76 MWₜₜ at the Rzeszów CHPP

- Preparatory works and organisation of tender procedure for the selection of General Contractor (1998-1999)
- Construction Permit Design - upon the General Contractor's request - Lurgi Lentjes A.G., Germany (2000)
- Detailed Engineering for steam and water systems, oil and gas supply pipelines (2002)
- As-built documentation (process and civil engineering) for all steam and water,
compressed air, gas and oil pipelines (2003)
  - Monitoring the plant's economic and financial situation. Economic and financial projections for the gas and steam combined cycle unit (2002-2003)

**Municipal Heat Distribution Company in Tarnów City**

Construction of a gas turbine with a net electric capacity of 3.73 MW operating with a heat recovery boiler with total heat output of 10 MW at the Piaskówka thermal plant.

  - Construction Permit Design (2002)
  - Basic engineering and detailed design (2002)
  - As-built documentation (2003)

**Municipal Heat Distribution Company in Włocławek City**

Concept for the development of an electricity and heat co-generation source based on gas engines (2000)

**Zielona Góra CHP Plant - EDF Group**

Feasibility study for the expansion of the Zielona Góra CHPP. The following works were performed (1998):

  - preliminary specification of the costs of developing gas and steam combined cycle unit at the Zielona Góra CHPP, including an economic and financial analysis,
  - determination of parameters for key devices, basic technical solutions for a gas and steam combined cycle unit with technical and operating data and characteristics for collaboration with the existing combined heat and power plant.
  - financial projection for the long-term agreement with the Polish Power Grid Co. for electricity supply from the gas and steam combined cycle unit.

Materials for the Application for a decision on land development and site planning (2001)

**Elbląg CHP Plant - ENERGA Kogeneracja**

Concept for the modernisation and reconstruction of the power management system in the combined heat and power plant - construction of a gas and steam combined cycle unit with a capacity of 150 MWₑ. Application for a decision on land development and site planning for the gas and steam combined cycle unit and Environmental Impact Assessment (1996-1997)

**POLISH POWER GRID CO.**
Opportunity study for the construction of a pumped-storage gas plant in the area of Mogilno City (1997)

TORUŃ CHP Plant - Toruńska Energetyka Cergia S.A.

Concept for the maintenance and development of the combined heat and power plant, including the construction of a gas and steam combined cycle unit with a capacity of 150 MWₑ. Preparatory works and organisation of a tender for the selection of the General Contractor for the construction of a gas and steam combined cycle unit at the Toruń CHPP (1996)