

Polskie Górnictwo Naftowe i Gazownictwo SA

Sale of Vattenfall Heat Poland's assets in the context of PGNiG SA's strategy to diversify revenue sources

Strategy Department

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Potential acquisition of VHP's assets in the context of PGNiG's strategy

- 2011 offers a unique opportunity to acquire the assets of energy companies which choose to exit the Polish market having failed to deliver critical business value (e.g. Vattenfall Heat Poland).
- Polish Ministry of Economy estimates that natural gas consumption in the energy sector will soar by approximately 250% over the next 20 years.
- LNG supply contract will add approximately 1.5bn cubic metres to PGNiG's gas supply capacity from 2015.
- EU policy on industrial emissions reflected in a relevant directive imposes more restrictive emission caps on the largest industrial emitters across the EU to ensure that they apply Best Available Technologies (BAT) – gas-based technologies for heat generation may reduce carbon emissions by 50% compared with coal-fired generation.
- Poland needs to urgently modernise its obsolete power plants and CHPs.



Potential acquisition of VHP's assets in the context of PGNiG's strategy

- Sale of electricity from gas-fired generation as a potential source of revenue may help enhance profitability of the entire PGNiG Group
- Potential acquisition of Vattenfall's assets fits very strongly into PGNiG's strategy to diversify its business with power generation and, ultimately, sale of electricity.



- Vattenfall's assets would lead to an increased use of natural gas at the Warsaw CHPs (Elektrociepłownie Warszawskie) and rapid acquisition of new capabilities in power and heat generation, which is essential for PGNiG's development in the power sector.
- The project would enable PGNiG to acquire unique capabilities in operating the existing and building new power units. PGNiG would also acquire a team of employees who have contributed to creating a company which is widely recognised as a benchmark for the rest of the market.



Domestic gas market considerations

- Shale gas discoveries may lead to a further increase in the natural gas supply over the next 15-30 years.
- According to estimates by the Ministry of Economy, natural gas consumption in power generation will experience the strongest rate of growth (next to RSE).

	2006	2010	2015	2010	2025	2030
Hard coal	25,084	20,665	18,897	17,722	16,327	18,331
Lignite	12,517	11,091	12,036	9,266	11,095	9,615
Natural gas	961	970	1,094	1,623	2,114	2,473
Petroleum products	533	591	732	791	806	837
Nuclear power	0	0	0	2,515	5,030	7,546
Renewable energy	703	1,461	2,912	5,128	5,030	7,546
- Water	703	1,461	2,912	5,128	5,995	6,212
- Wind	22	174	632	1,178	1,470	1,530
- Biomass	458	943	1,566	2,693	2,749	2,805
- Biogas	48	135	475	986	1,500	1,600
- Solar energy	0	0	0	0	1	2
Waste	144	154	162	168	185	201
Total fuel consumption	39,942	34,933	35,832	37,213	41,552	45,215

Fuel consumption for power generation (including for co-generation) [ktoe]



Initial assumptions for transaction financing

- An option is considered to acquire the assets as part of an SPV project finance structure in partnership with financial investors.
- Debt financing is also planned to be raised to fund 50% plus of the transaction value.

Debt financing

- Investors will be able to obtain acquisition financing.
- In current market conditions, PGNiG could raise senior debt amounting to 3-3.5 x EBITDA reported by the targets.

Equity financing

- Alternatively, minority interests in the targets may be offered for sale to potential partners.
- Potential partners: infrastructural funds and financial investors interested in purchasing noncontrolling stakes in power sector companies and/or infrastructure companies.



Potential post-acquisition synergies

- Investment plans for the Warsaw CHPs provide for the creation of a large gas customer over a short period of time – over 1bn cubic metres of natural gas (installed capacity of new units: 380MW of thermal power and 800MW of electric power).
- Immediate ability to implement other unit construction and power generation projects.
- Ability to generate green energy through biomass co-combustion in boilers and conversion of boilers to biomass fuel.
- Ability to consolidate competencies in acquisitions of power assets, as well as in the development and construction of new capacities.
- Given the planned development of a dual fuel product offering, large generation capacities limit risks and increase profitability at the Group level.
- Synergies in wholesale arising from the Stalowa Wola project thanks to optimisation of the power generation portfolio.
- Opportunity to gain access to and implement the best organisation and management practices at the PGNiG Group, particularly in the power generation segment.



PGNiG as a trustworthy investor on the heat and power market

Prospects for responsible business and sustainable development

Society / Local communities	Market / Economy	Environment		
 Enhanced security of supply of electricity, heat and gas from sources close to consumers (lower risk of blackouts). Enhanced efficiency in securing and using EU funding; public-private partnerships are also an option. Cooperation with agricultural sector in using energy crops (biomass) 	 Better use of domestic gas and fuel resources, balanced energy mix. Response to growing demand for regulatory services in the power system. Use of new, highly efficient generation technologies based on green fuels. Investments in new generation capacities, gradual replacement of obsolete units 	 Significant reduction in harmful emissions – tangible improvement in air quality in Warsaw. Limiting the impact of power industry on the landscape and reducing the area used for generation purposes. Gas-fired plants emit lower quantities of carbon dioxide, sulphur oxides and nitrogen oxides. A gas-fired plant emits 50% less CO₂ per 1 MWh than a coal-fired plant. 		



Benefits from building gas-fired capacities in Poland (1)

- Gas-based technologies allow for significant flexibility as regards the scale of a project: both a 120 MW plant and a 800 MW plant are possible, which enables to precisely adapt the generation capacity to the needs of end consumers.
- Construction of a gas-fired plant progresses much faster compared with a coal-fired plant (around 36 months versus 60 months).
- Construction of a gas-fired plant is cost-efficient compared with coal-based technologies:
- construction cost per one gas-based megawatt is approximately EUR 1m, relative to approximately EUR 1.5m per one coal-based megawatt.
- From all the systems applied in the power industry, the highest efficiency of electricity production is recorded by gas-steam power plants, while the highest efficiency and power-to-heat ratios are recorded by gas-steam CHPs.
- Operational flexibility enables a fast start-up/shut down (in just minutes). Hence, units with gas turbines and gas piston engines are a perfect solution for peak electricity demand.



Benefits from building gas-fired capacities in Poland (2)

Gas-fired plants emit less carbon dioxide, sulphur oxides and nitrogen oxides (50% less of carbon emissions per 1 MWh compared with coal-based generation).

Carbon dioxide emissions depending on fuel and combustion technology type for new generation units





Summary

- PGNiG's particular focus is on the acquisition of Vattenfall's Warsaw assets. However, the Company may also consider the purchase of the entire Polish portfolio jointly with a strategic partner.
- Experience gained from the Stalowa Wola CHP project will enable PGNiG to:
 - develop the insight necessary to complete the planned transaction,
 - move seamlessly into the role of an owner.
- PGNiG is looking into various financing options as regards the acquisition of Vattenfall's Warsaw assets:
 - participation in a consortium,
 - securing a financial investor,
 - financing the transaction with own funds and debt,
 - attracting interest from multilateral institutions to co-finance the project.
- PGNiG should have no difficulties in obtaining clearance from UOKiK (Competition and Consumer Protection Office) to acquire the Warsaw assets:
 - PGNiG's entry into the power sector will enhance the Company's competitiveness in the broad energy sector.

