Polskie Górnictwo Naftowe i Gazownictwo S.A.

Directors' Report on the operations of PGNiG S.A. and the PGNiG Group

in the six months ended June 30th 2021

THE PGNIG GROUP **FIRST HALF OF 2021**

PGNiG

PLN 25.0 bn
IN REVENUE

PLN 2.4 bn
IN NET PROFIT

PLN 68.6 bn
IN TOTAL ASSETS

PLN bn
IN EBITDA

3.
POLAND'S LARGEST COMPANY ON WSE*

24.6 k
EMPLOYEES

PLN 3.4 bn
IN EBIT

PLN 38.8 bn
IN MARKET CAPITALISATION

PLN 29.5 m
IN AVERAGE DAILY TRADING VALUE

*IN TERMS OF MARKET CAPITALISATION AS AT JUNE 30TH 2021.

EXPLORATION AND PRODUCTION

PLN 2,8 bn
EBITDA

~918 m boe
OIL AND GAS RESERVES

608k ton
CRUDE OIL, CONDENSATE AND NGL PRODUCTION

35
NUMBER OF PRODUCTION LICENCES

2.3 bn m³
NATURAL GAS PRODUCTION

TRADE AND STORAGE

PLN 0,3 bn
EBITDA

6.2 bn m³
VOLUME OF GAS SOLD VIA POLPX

17.7 bn m³
VOLUME OF THE GROUP'S GAS SALES (TO NON-PGNIG GROUP CUSTOMERS)

8.3 bn m³
NATURAL GAS IMPORTS

3.1 bn m³
SEGMENT'S OWN STORAGE CAPACITIES

DISTRIBUTION

PLN 1,6 bn
EBITDA

1668
NUMBER OF MUNICIPALITIES WITH ACCESS TO GAS SUPPLIES

7.3 m
NUMBER OF CUSTOMERS

7.3 bn m³
VOLUME OF GAS DISTRIBUTED (IN NATURAL UNITS)

198 k km
DISTRIBUTION NETWORK LENGTH (INCLUDING CONNECTIONS TO END CUSTOMERS)

GENERATION

PLN 0.6 bn
EBITDA

5.2 GW_t
THERMAL POWER

23.5 PJ
HEAT OUTPUT

1.2 GW_e
ELECTRIC POWER

1.8 TWh
ELECTRICITY OUTPUT

Financial highlights of the PGNiG Group and PGNiG

Table 1 Financial highlights of the PGNiG Group for the first half of 2021 and 2020

Key data from the interim condensed consolidated financial statements	PLNm		EURm	
	6 months ended June 30th 2021	6 months ended June 30th 2020	6 months ended June 30th 2021	6 months ended June 30th 2020
Revenue	24,985	21,038	5,495	4,737
Operating profit before interest, taxes, depreciation and amortisation (EBITDA)	5,195	9,352	1,142	2,106
Operating profit (EBIT)	3,417	7,656	751	1,724
Profit before tax	3,336	7,327	734	1,650
Net profit attributable to owners of the parent	2,434	5,920	535	1,333
Net profit	2,434	5,920	535	1,333
Total comprehensive income attributable to owners of the parent	2,371	5,597	521	1,260
Total comprehensive income	2,371	5,597	521	1,260
Net cash from operating activities	4,750	6,679	1,045	1,504
Net cash from investing activities	(2,878)	(2,938)	(633)	(662)
Net cash from financing activities	(1,065)	(3,119)	(234)	(702)
Net cash flows	807	622	177	140
Basic and diluted earnings per share (in PLN and EUR, respectively)	0.42	1.02	0.09	0.23

Key data from the interim condensed consolidated financial statements	PLNm		EURm	
	As at June 30th 2021	As at December 31st 2020	As at June 30th 2021	As at December 31st 2020
Total assets	68,636	62,871	15,182	13,624
Total liabilities	22,333	18,746	4,940	4,062
Non-current liabilities	12,138	11,666	2,685	2,528
Current liabilities	10,195	7,080	2,255	1,534
Total equity	46,303	44,125	10,242	9,562
Share capital	5,778	5,778	1,278	1,252
Weighted average number of ordinary shares (million)	5,778	5,778	5,778	5,778
Book value per share and diluted book value per share (PLN/EUR)	8.01	7.64	1.77	1.65
Dividend per share declared or paid (PLN and EUR)	0.21	0.09	0.05	0.02

Table 2 Financial highlights of PGNiG for the first half of 2021 and 2020

Key data from the interim condensed separate financial statements	PLNm		EURm	
	6 months ended June 30th 2021	6 months ended June 30th 2020	6 months ended June 30th 2021	6 months ended June 30th 2020
Revenue	12,413	11,037	2,730	2,485
Operating profit before interest, taxes, depreciation and amortisation (EBITDA)	1,836	6,776	404	1,526
Operating profit (EBIT)	1,427	6,365	314	1,433
Profit before tax	2,140	6,469	471	1,457
Net profit	1,870	5,230	411	1,178
Total comprehensive income	1,779	4,955	391	1,116
Net cash from operating activities	(257)	2,622	(57)	590
Net cash from investing activities	738	(1,083)	162	(244)
Net cash from financing activities	(28)	(3,051)	(6)	(687)
Net cash flows	453	(1,512)	99	(341)
Earnings and diluted earnings per share attributable to holders of ordinary shares (PLN/EUR)	0.32	0.91	0.07	0.20

Key data from the interim condensed separate financial statements	PLNm		EURm	
	As at June 30th 2021	As at December 31st 2020	As at June 30th 2021	As at December 31st 2020
Total assets	48,058	43,746	10,631	9,480
Total liabilities	10,242	7,516	2,266	1,629
Non-current liabilities	4,476	3,871	990	839
Current liabilities	5,766	3,645	1,276	790
Equity	37,816	36,230	8,365	7,851
Share capital and share premium	7,518	7,518	1,663	1,629
Weighted average number of shares (million) in the period	5,778	5,778	5,778	5,778
Book value per share and diluted book value per share (PLN/EUR)	6.54	6.27	1.45	1.36
Dividend per share declared or paid (PLN and EUR)	0.21	0.09	0.05	0.02

Table 3 Average currency exchange rates

Average EUR/PLN exchange rates quoted by the NBP	June 30th 2021	June 30th 2020	December 31st 2020
Average exchange rate for period	4.5472	4.4413	4.4742
Exchange rate at end of period	4.5208	4.4660	4.6148

Calendar of corporate events in the first half of 2021

January 2021
January 13th – President of URE's decision leading to a 3.6% increase in PSG Distribution Tariff prices and network rates January 27th – Publication of natural gas and crude oil production forecasts for 2021–2023 January 29th – Expiry of exclusive negotiation period for acquisition of TAURON Ciepło Sp. z o.o.
February 2021
February 10th – PGNiG's withdrawal from participation in acquisition of CEZ's Polish assets February 17th – resignation of Vice President Jarosław Wróbel as Member of the PGNiG Management Board
March 2021
March 2nd – Appointment of Artur Cieślik as Vice President of the PGNiG Management Board March 25th – Execution of a conditional agreement for the acquisition of INEOS E&P Norge AS by PGNiG UN
April 2021
April 14th – UOKiK's clearance of the establishment of joint venture CCGT Ostrołęka by PGNiG, PKN ORLEN and Energa April 15th – President of URE's decision leading to a 5.6% increase in the price of gas fuel in PGNiG OD Retail Tariff
May 2021
May 5th – Signing of a letter of intent with ORLEN Południe concerning a possible joint project in biomethane May 12th – Conclusion of cooperation agreement between PKN ORLEN, Grupa LOTOS, PGNiG and the State Treasury – Minister of State Assets, regarding the scenario for PKN ORLEN's acquisition of control over Grupa LOTOS and PGNiG May 25th – PGNiG Management Board's recommendation regarding payment of dividend of PLN 0.21 per share from 2020 profit May 27th – PGNiG named among the top three most valuable Polish brands in the 15th ranking held by the *Rzeczpospolita* daily
June 2021
June 18th – start of production from the Gråsel field by PGNiG UN, Aker BP (as the operator) and other licence partners

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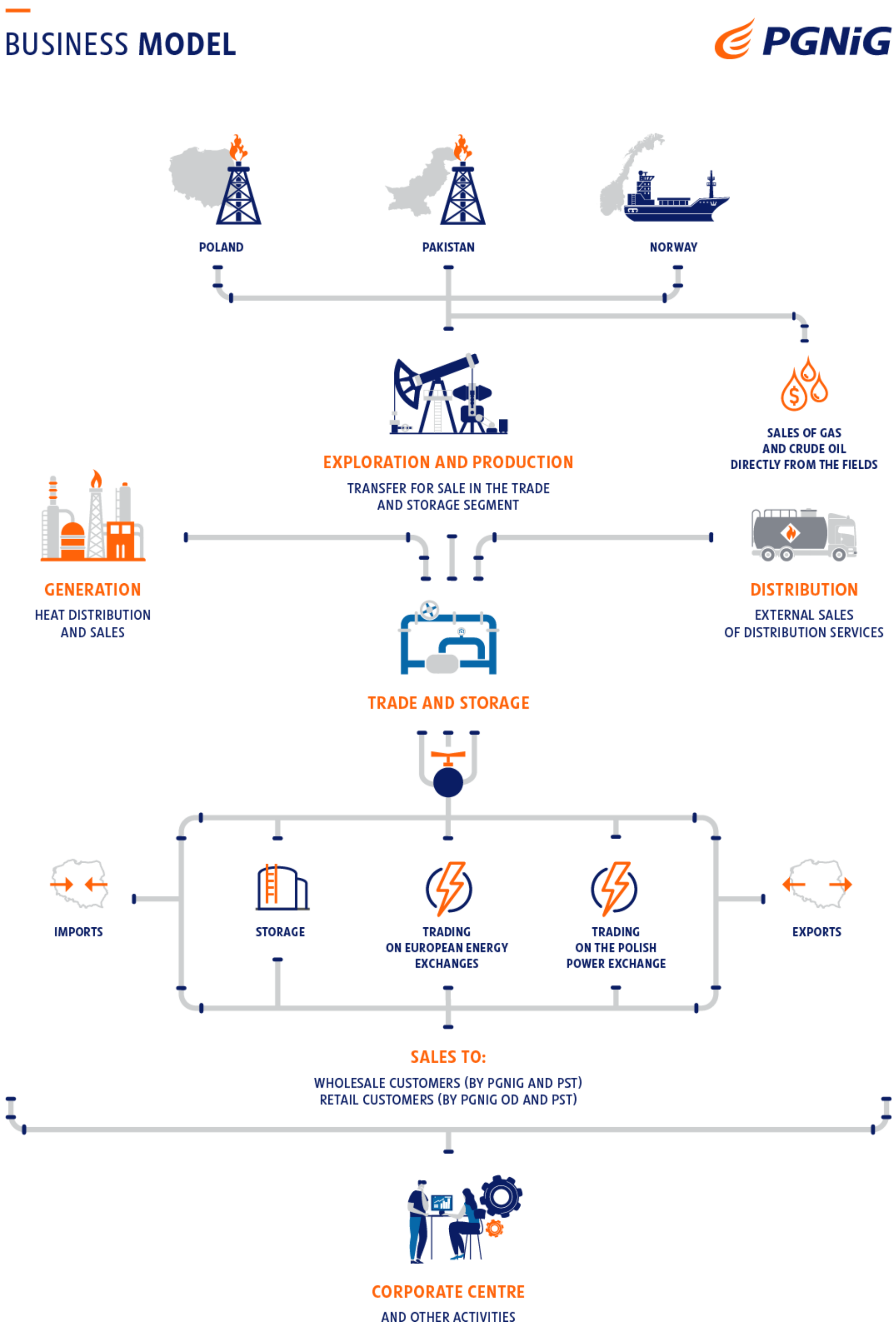
1. Business model and organisation of the PGNiG Group

1.1 PGNiG Group's business and business model

Figure 1 PGNiG Group's business model



(in PLN million unless stated otherwise)

1.2 Organisation of the PGNiG Group

As at June 30th 2021, PGNiG (the parent) and 23 subsidiaries were consolidated using the full method. PGNiG comprises The Wholesale Trading Branch, Geology and Hydrocarbon Production Branch (Sanok Branch, Zielona Góra Branch, Odolanów Branch), Central Measurement and Research Laboratory, Well Mining Rescue Station, and Foreign Branches (the Operator Branch in Pakistan and the UAE Branch).

Figure 2 Fully consolidated companies of the PGNiG Group

1.3 PGNiG shareholding structure and shares on the WSE

1.3.1 Shareholding structure

As at June 30th 2021, the share capital of PGNiG was approximately PLN 5.78bn.

Table 4 Shareholding structure as at June 30th 2021

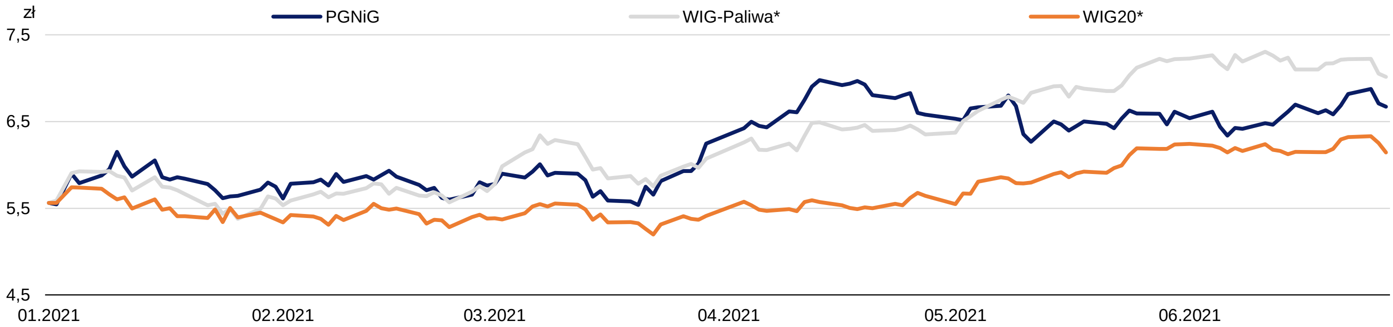
Shareholders	Number of shares/voting rights as at June 30th 2020	Percentage of share capital/voting rights at GM as at June 30th 2020	Change in H1 2021	Number of shares/voting rights as at June 30th 2021	Percentage ownership/voting interest in the Company as at June 30th 2021
State Treasury	4,153,706,157	71.88%	-	4,153,706,157	71.88%
Others	1,624,608,700	28.12%	-	1,624,608,700	28.12%
Total	5,778,314,857	100.00%	-	5,778,314,857	100.00%

For information on shares in PGNiG and its related companies held by members of the Management and Supervisory Boards, see Section 5.5.

1.3.2 Share price

Since September 23rd 2005, the PGNiG shares have been listed in the continuous trading system of the main market on the Warsaw Stock Exchange. The issue price per share in the Company's public offering was PLN 2.98. In the first half of 2021, PGNiG shares were included in the following indices: WIG, WIG20, WIG30, WIG-Poland, WIG-ESG, WIGdiv, WIG-PALIWA sectoral index and WIG. MS-PET macrosectoral index.

Chart 1 PGNiG share price vs WIG20 and WIG-Paliwa in the first half of 2021



Source: WSE – Warsaw Stock Exchange.

** Rebased to PGNiG share price.*

1.3.3 Dividend policy

The PGNiG Group's Strategy for 2017–2022 provides for distribution of up to 50% of consolidated net profit as dividend, with the proviso that in recommending dividend payments the PGNiG Management Board must always take into account the PGNiG Group's current financial condition and investment plans.

Table 5 Dividend from net profits for 2014-2020

	2020	2019	2018	2017	2016	2015	2014
Dividend for financial year (PLNbn)	1.21	0.52	1.04	-	1.16	1.06	1.18
Dividend per share (PLN)	0.21	0.09	0.18	-	0.2	0.18	0.2
Average annualised share price (PLN)	4.4	5.59	6.12	6.33	5.16	5.94	4.85
Dividend yield*	4.77%	1.61%	2.94%	-	3.88%	3.03%	4.12%

** Dividend yield – dividend per share divided by the average annual share price.*

On July 9th 2021, the Annual General Meeting of PGNiG, acting in line with the recommendation of the PGNiG Management Board of May 25th 2021, resolved to distribute PLN 6,908,548,870.60, comprising PGNiG S.A.'s net profit for 2020 of PLN 6,908,551,193.11 and accumulated loss brought forward of PLN 2,322.51 resulting from correction of prior period, as follows:

- PLN 1,213,446,119.97 was to be distributed to the Company's shareholders as dividend (PLN 0.21 per share);
- PLN 5,695,102,750.63 was to be transferred to PGNiG's statutory reserve funds.

The Annual General Meeting of PGNiG also set the dividend record date for July 19th 2021 and the dividend payment for August 3rd 2021.

(in PLN million unless stated otherwise)

2. Strategy of the PGNiG Group

2.1 Mission and vision

Mission statement We are a trustworthy supplier of energy for households and businesses	**Trustworthy** – the customers can depend on premium quality and reliability of our services **Energy supplier**– our customers are offered a full range of energy products (gas + electricity + heat + other/services) **Households and businesses** – we care for and value all our customers: households, businesses, and institutions
Vision We are a responsible and effective provider of innovative energy solutions	**Responsibly** – we act transparently, in line with the principles of corporate social responsibility **Effectively** – we have implemented process and cost optimisation measures **Innovative solutions** – we are an innovation leader in the energy sector
Primary objective	**Value growth** – our primary ambition is to create added value for our shareholders and customers **Financial stability** – we seek to secure long-term financial stability and creditworthiness

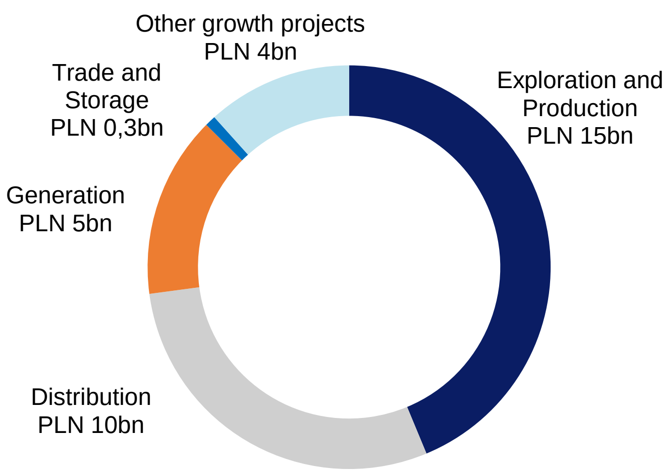
2.2 PGNiG Group Strategy for 2017−2022 with an Outlook until 2026

The PGNiG Group's Strategy for 2017–2022 with an Outlook until 2026 (the "Strategy") was adopted by the PGNiG Supervisory Board on March 13th 2017. The pursuit of sustainable development as the Group's priority will be driven by parallel investments in riskier business areas yielding relatively high rates of return (upstream) and in regulated areas offering considerable safety of the investments (gas distribution, power and heat generation). The PGNiG Group implements an ambitious investment programme, which is to lay foundations for a long-term and stable growth in value.

2.2.1 Investment projects in 2017−2022

The Strategy assumes that the total CAPEX will exceed PLN 34bn in 2017−2022. Average annual capital expenditure will amount to ca. PLN 5.7bn. The investment programme should deliver cumulative 2017−2022 EBITDA of ca. PLN 33.7bn, driving long-term growth of the Group's EBITDA in 2023−2026 to the annual average of ca. PLN 9.2bn. At the same time, the net debt to EBITDA ratio should stay below 2.0 over the Strategy term, with the current dividend policy providing for distribution of up to 50% of the Group's consolidated net profit upheld.

Chart 2 Planned CAPEX in 2017−2022*



** CAPEX including expenditure on acquisition of hydrocarbon deposits.*

2.2.2 Capital expenditure in 2021

Exploration and Production

Working towards its strategic objective of increasing total hydrocarbon production, PGNiG will continue to develop and tie in wells in Poland at the Zielona Góra and Sanok Branches. In 2021, PGNiG plans to produce in Poland 3.8 bcm of natural gas (measured as high-methane gas equivalent), and 0.667m tonnes of crude oil and condensate. In the first half of 2021, domestic production of natural gas in Poland reached 1.8 bcm. Competitors' share in the production of natural gas in Poland is approximately 1.4%.

PGNiG UN plans to acquire new licence areas by participating in the annual APA licensing rounds and normal licensing rounds, as well as by purchasing new licence areas from other oil companies in areas of interest to the company *(farm in*) or by swapping shares between its own licences and areas of interest to the company*(swap, farm down*). PGNiG UN also plans new investments that could feed into the Baltic Pipe project.

In Pakistan, completion of reservoir testing, drilling and tie-in of additional production wells and capacity expansion of production facilities are scheduled for 2021. In addition, seismic surveys will continue to be carried out, with the results to be used as the basis for drilling exploratory wells in the future.

Trade and Storage

As regards storage, GSP will carry out works on the construction of five chambers at the Kosakowo storage facility in cluster B, which will be commissioned in 2021.

Distribution

PSG intends to continue expenditure on network expansion, connection of new customers and reconstruction and upgrade of the gas network.

In the short term, PSG is taking steps to build a gas network and connect new customers, while in the medium term PSG will reconstruct, modernise and build a new gas network to maintain the security and continuity of gas supplies. The company performs multi-faceted analyses on the preparation of gas infrastructure for the distribution of renewable gases.

In addition, PSG joined a consortium to participate in the 'Preparation of the process to inject hydrogen into the HyReady natural gas network' research project.

Generation

The projects carried out by the PGNiG TERMIKA Group in the first half of 2021 included construction of a CCGT unit at the Żerań CHP plant and construction of gas and oil-fired boiler houses at the Pruszków CHP plant and Kawęczyn Heat Plant. New units – a multi-fuel unit and a CCGT unit – are also planned to be built at the Siekierki CHP plant. The coming periods will see continuation of work on projects aimed at adapting the generation assets to the current and future environmental requirements.

2.2.3 Investments in renewable energy sources

The PGNiG Group continues to deliver its plan of actions relating to future RES investments. The aim of gaining exposure to RES is to ensure safe conditions for the Group's growth in the long term by stabilising its revenue in the rapidly changing macroeconomic and regulatory environment. In building its RES operations, the PGNiG Group will mainly focus on:

- acquiring projects and gradually building its own development capabilities in wind power and photovoltaics,
- research, development and innovation projects in hydrogen and energy storage.

In addition, PGNiG and ORLEN Południe signed a letter of intent to strengthen cooperation in the development of renewable energy sources. The companies plan to set up a special purpose vehicle that will invest in the development of a network of biomethane plants. This cooperation fits with PGNiG's plans to reduce the emissions intensity ratio of Poland's gas sector and to dynamically grow trading in green gases.

(in PLN million unless stated otherwise)

3. Operating activities in the first half of 2021

3.1 Exploration and Production

The segment's operations involve exploring for and extracting natural gas and crude oil from deposits, and includes geological surveys, analysis of geophysical data, drilling, and development of and production of hydrocarbons from gas and oil fields. Its core activities are carried out in Poland, Pakistan, the United Arab Emirates and on the Norwegian Continental Shelf, while support activities are conducted worldwide. The segment also relies on storage capacities available at the Bonikowo and Daszewo UGSFs.

3.1.1 Key operating metrics

Table 6 Volumes of PGNiG Group's natural gas production by country

mcm	H1 2021		H1 2020		2020		2019		2018	2017
	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG Group
Poland	1,778	1,778	1,855	1,855	3,746	3,746	3,815	3,815	3,808	3,839
high-methane gas (E)	636	636	679	679	1,337	1,337	1,337	1,337	1,296	1,315
nitrogen-rich gas (Ls/Lw as E equivalent)	1,142	1,142	1,175	1,175	2,409	2,409	2,478	2,478	2,512	2,524
Other countries	558	168	332	125	773	295	674	193	738	697
Norway (high-methane gas (E))	390	0	207	0	478	0	481	0	538	548
PGNiG Pakistan Branch (nitrogen-rich gas (Ls/Lw as E equivalent))	168	168	125	125	295	295	193	193	200	149
TOTAL (measured as E equivalent)	2,336	1,946	2,187	1,980	4,520	4,041	4,489	4,008	4,546	4,536

Table 7 Volumes of E&P segment's natural gas sales to non-PGNiG Group customers by country

mcm	H1 2021		H1 2020		2020		2019		2018	2017
	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG Group
Poland	338	337	325	325	667	667	679	679	684	676
high-methane gas (E)	12	12	13	13	25	25	25	25	26	30
nitrogen-rich gas (Ls/Lw as E equivalent)	326	326	311	311	642	642	654	654	658	646
Other countries	164	164	124	124	295	289	192	192	199	149
Norway (high-methane gas (E))	0	0	0	0	7	0	0	0	0	0
PGNiG Pakistan Branch (nitrogen-rich gas (Ls/Lw as E equivalent))	164	164	124	124	289	289	192	192	199	149
TOTAL (measured as E equivalent)	502	502	449	449	962	956	871	871	883	825

Table 8 Crude oil* production volumes at the PGNiG Group (including fractions)

thousand tonnes	H1 2021		H1 2020		2020		2019		2018	2017
	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG Group
Crude oil production*	608	325	656	367	1,324	709	1,216	776	1,345	1,257
in Poland	325	325	367	367	709	709	776	776	818	787
in Norway	283	0	290	0	615	0	440	0	527	470

** Including condensate and NGL.*

Table 9 Crude oil* sales volumes at the PGNiG Group (including fractions)

thousand tonnes	H1 2021		H1 2020		2020		2019		2018	2017
	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG Group
Crude oil sales*	617	320	646	369	1,332	713	1,210	771	1,411	1,271
including oil produced in Poland	320	320	369	369	713	713	771	771	818	792
including oil produced in Norway	297	0	277	0	619	0	439	0	593	479

** Including condensate and NGL.*

Table 10 Production volumes of other products

thousand tonnes	H1 2021		H1 2020		2020		2019		2018	2017
	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG Group
Propane-butane	18	18	17	17	36	36	39	39	39	37
LNG	10	10	9	9	20	20	20	20	21	22
mcm										
Helium	1	1	1	1	3	3	3	3	3	3

Table 11 Sales volumes for other products

thousand tonnes	H1 2021		H1 2020		2020		2019		2018	2017
	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG Group
Propane-butane	18	18	17	17	36	36	39	39	39	37
LNG	7	7	5	5	12	12	14	14	17	17
mcm										
Helium	1	1	2	2	3	3	3	3	3	3

3.1.2 Operations in Poland

Licences in Poland

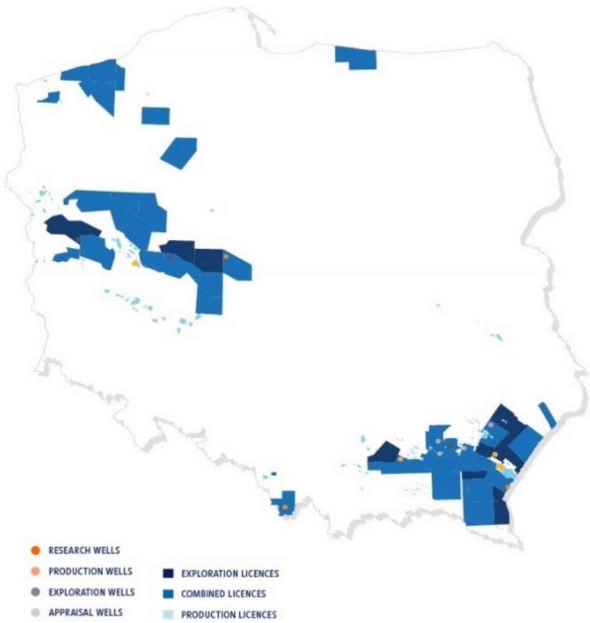
As at June 30th 2021 PGNiG held 46 licences: 11 licences for exploration for and appraisal of oil and gas deposits and 35 combined licences (for exploration, appraisal and production). In the same period, two licences were relinquished, namely the Murowana Goślina-Kłecko combined licence and the Międzyrzecze licence for exploration and appraisal of methane deposits from coal beds and extraction of methane from coal beds.

In the first half of 2021, 14 proceedings to obtain or amend licences and approve additions to plans of geological operations were completed at the Ministry of Climate and Environment. As at June 30th 2021, 21 administrative proceedings were pending to amend licences and approve additions to plans of geological operations.

As at June 30th 2021, PGNiG held 204 licences, including 192 production licences, 3 underground waste storage licences and 9 underground gas storage licences. In 2021, PGNiG was granted four new production licences (Kramarzówka, Rogoźnica, Gryżyna, and Miłosław E), five licences were amended, one was terminated, and proceedings were pending in respect of two licences.

Operations under licences held by PGNiG

Figure 3 PGNiG's licences and wells in the first half of 2021



Source: In-house analysis based on data from the Geology and Hydrocarbon Production Branch.

In the first half of 2021, PGNiG continued crude oil and natural gas exploration and appraisal projects in the Carpathian Mountains, Carpathian Foothills, Przedsudecka Monocline, and Polish Lowlands, both on its own and jointly with partners. Out of the 14 boreholes drilled in the first half of 2021, the target depth was reached by 12, of which 2 were exploration wells, 2 were appraisal wells, and 8 were production wells.

As at the end of June 2021, formation test results were obtained from 12 wells (including 3 where drilling was completed in 2020 and formation tests were performed in 2021): 2 exploration wells, 4 appraisal wells, and 6 production wells. The 12 wells with known formation test results included 11 which returned positive results (of which 1 was an exploration well, 4 were appraisal wells and 6 were production wells), and 1 (an exploration well) which returned negative results – the geological and formation results did not indicate hydrocarbon saturation of industrial use. Furthermore, in January 2021 one research well was abandoned. Its drilling was completed in 2020 (due to its research nature, the well was not subject to reservoir classification).

In the first half of 2021, formation tests and decommissioning operations were also performed on wells drilled in previous years, including on: six test wells (Kramarzówka-1K – end of the first stage of test production; Gilowice-3K, Gilowice-4H, Gilowice-1, Międzyrzecze-3, Orzesze-1 (abandoned), 1 exploration well (decommissioned), and three appraisal wells (of which one was decommissioned and two had production tests completed and are waiting for further work to continue).

In the first half of 2021, three new fields were brought on stream at the Sanok Branch of PGNiG: Jastrzębiec (Jastrzębiec-2 and Jastrzębiec-3 wells: – as part of a long-term production test), Wielgoszówka (Wielgoszówka-1K well – as part of test production), Kramarzówka (Kramarzówka-3H and Kramarzówka-1K wells – under an investment decision issued by the Minister of Climate and Environment on January 22nd 2021), and five wells in the already producing fields: two wells on the Pruchnik-Pantalowice field

(in PLN million unless stated otherwise)

(Pruchnik-36 and Pruchnik-37K – as part of a long-term production test), and three wells on the Przemyśl field (Przemyśl-287K, Przemyśl-289K and Przemyśl-290 – as part of a long-term production test).

In the first half of 2021, a total of 10 wells were tied-in at the Sanok Branch. In the Zielona Góra Branch region, a new field Wielichowo W (Wielichowo-8 well) and one well on the Brońsko field (Brońsko-30) were brought on stream.

Recoverable reserves

As at June 30th 2021, the total recoverable reserves (including reserves covered by geological prospecting documentation as well as clearance documentation submitted to the Ministry of Climate and Environment, pending approval by the Minister) were 14.3 million tonnes of crude oil (105.0 mboe) and 86 bcm of natural gas (high-methane gas equivalent) (554.3 mboe).

3.1.3 Foreign operations

Norway

As at June 30th 2021, PGNiG UN held interests in 37 exploration and production licences on the Norwegian Continental Shelf, in two of them as the operator. As at June 30th 2021, PGNiG UN's recoverable reserves totalled approximately 209.5 mboe, including 126.4 mboe (20.1 bcm) of natural gas and 83.2 mboe of crude oil and NGL.

Figure 4 PGNiG UN licences and fields

Source: In-house analysis based on PGNiG UN data.

Table 12 PGNiG UN producing fields

	Field	PGNiG UN reserves as at June 30th 2021	Planned activities
1	Skarv	approximately 16.0 mboe, including 10.4 mboe of natural gas and 5.6 mboe of crude oil + NGL	Currently producing
2	Gina Krog	approximately 14.6 mboe, including 8.6 mboe of natural gas and 6.0 mboe of crude oil + NGL	Currently producing
3	Vilje	approximately 3.1 mboe of crude oil	Currently producing
4	Vale	approximately 0.7 mboe, including 0.4 mboe of natural gas and 0.3 mboe of crude oil	Currently producing
5	Morvin	approximately 1.7 mboe, including 0.6 mboe of natural gas and 1.1 mboe of crude oil	Currently producing
6	Skogul	approximately 1.8 mboe, including 0.1 mboe of natural gas and 1.7 mboe of crude oil	Currently producing
7	Kvitebjorn	approximately 10.7 mboe, including 8.7 mboe of natural gas and 2.0 mboe of crude oil + NGL	Currently producing
8	Valemon	approximately 1.0 mboe, including 0.9 mboe of natural gas and 0.1 mboe of crude oil + NGL	Currently producing
9	Ærfugl and Snadd Outer fields	Ærfugl reserves: approximately 23.6 mboe, including 17.1 mboe of natural gas and 6.5 mboe of crude oil + NGL Snadd Outer reserves: approximately 4 mboe, including 3 mboe of natural gas and 1 mboe of crude oil + NGL	Production under phase 1 is under way (the first wells in the Ærfugl development began production in 2020).

In the first half of 2021, PGNiG UN produced a total of 283 thousand tonnes of crude oil with other fractions (measured as tonnes of crude oil equivalent), and 0.39 bcm of natural gas from the Skarv, Morvin, Vilje, Vale, Skogul, Ærfugl (phase 1), Kvitebjorn, Valemon and Gina Krog fields. Production of gas from the fields increased year on year, mainly as a result of acquisition of interests in the Kvitebjorn and Valemon fields at the end of 2020. Production of crude oil with other fractions was slightly lower and resulted from gradual depletion of deposits and scheduled production stoppages.

(in PLN million unless stated otherwise)

Table 13 PGNiG UN fields in the phase of development or selection of development concept

	Field	PGNiG UN reserves as at June 30th 2021	Planned activities
1	Tommeliten Alpha	approximately 58.4 mboe, including 40.7 mboe of natural gas and 17.8 mboe of crude oil + NGL	Production planned to start in 2024
2	Duva	approximately 27.3 mboe, including 15.4 mboe of natural gas and 11.9 mboe of crude oil + NGL	Production start date: H2 2021
3	King Lear	approximately 35.4 mboe, including 14.8 mboe of natural gas and 20.6 mboe of crude oil + NGL	Investment process planned for 2021–2024, and production to be launched in 2025
4	Alve Nord	approximately 5.3 mboe, including 3.5 mboe of natural gas and 1.8 mboe of crude oil + NGL	Aker BP, the project operator, is preparing the field development concept. Production is expected to start in 2025.
5	Shrek	approximately 6.0 mboe, including 2.2 mboe of natural gas and 3.8 mboe of crude oil + NGL	The field, operated by PGNiG UN, was proven in 2019. The operatorship was transferred to Aker BP for the duration of the development phase.
6	Ærfugl and Snadd Outer fields	Ærfugl reserves: approximately 23.6 mboe, including 17.1 mboe of natural gas and 6.5 mboe of crude oil + NGL Snadd Outer reserves: approximately 4 mboe, including 3 mboe of natural gas and 1 mboe of crude oil + NGL	Production from phase two development is planned to commence in the fourth quarter of 2021.

In the first half of 2021, the company continued the development of the Ærfugl, Duva and Snadd Outer fields, in which PGNiG UN is a partner. Aker BP is the operator of the Ærfugl and Snadd Outer fileds, while the Duva project is operated by Neptune Energy Norge AS. The work in the first six months of 2021 included installation of production equipment and drilling of production wells.

The Fogelberg and Warka fields are in the exploration/appraisal phase. In the case of the Fogelberg field, in the first half of 2021 analyses of the development potential of the field were continued. The Warka field was proven using the exploration well drilled by ConocoPhilips in 2020. The appraisal well to confirm the commercial viability of the discovery is planned to be drilled in 2023.

In January 2021, another APA 2020 (Awards in Pre-defined Areas) round was concluded, as a result of which PGNiG UN obtained interests in four further exploration licences. The licence areas are located close to the existing production and pipeline infrastructure, so if a decision to proceed with their development is made, the process will be simpler and faster. They are also located in the immediate vicinity of the fields where PGNiG UN is already present (Skarv and King Lear). In case of commercial discoveries, potential connection of the licence areas to Skarv or King Lear would offer additional synergies in the form of incremental revenue derived from the provision of access to the existing infrastructure

In March 2021, PGNiG UN entered into a conditional agreement to acquire INEOS E&P Norge AS, which holds interests in 22 licences on the Norwegian Continental Shelf, covering, among others, three production fields (Alve, Marulk and Ormen Lange), and owns the Nyhamna gas terminal. The estimated volume of hydrocarbon resources attributable to INEOS E&P Norge AS's licence interests is approximately 117 million barrels of oil equivalent (as at January 1st 2021), of which over 94% are natural gas resources. Following the transaction, PGNiG UN's estimated average gas output in Norway may increase by some 1.5 bcm per annum over the next five years. In addition, PGNiG UN will acquire an exploration licence portfolio in which INEOS E&P Norge AS is the operator under six licences.

The purchase price for INEOS E&P Norge AS provided for in the Agreement is USD 615m, with January 1st 2021 being the effective transaction date. The final purchase price will be reduced by revenue earned by INEOS E&P Norge AS in the period from the effective transaction date, i.e. January 1st 2021, to the date on which PGNiG UN acquires operational control of INEOS E&P Norge AS. The parties are now awaiting administrative approvals from the Norwegian authorities to close the transaction.

2021 is the second year in which temporary uplifts to support the oil industry in the economic downturn caused by COVID-19 apply. In 2021, as in 2020, the uplifts apply for all investment projects. From 2022 onwards, only new investment projects approved between June 2020 and December 2022 will be subject to tax reliefs.

Temporary changes to the tax system include:

- direct expensing of development capital expenditure incurred under the petroleum tax regime (special petroleum tax) in the year in which the expenditure was made;
- uplift for the directly expensed investments of 24% of the investment – in the investment year (previously the uplift was 20.8%, spread over four years);
- the direct expensing and the uplift apply for all costs incurred in income years 2020 and 2021 and for all expenditure on new projects approved for execution (until the end of 2022);
- refund to oil producers of the tax value of losses for income years 2020 and 2021 (from August 2020, in tranches paid every two months).

(in PLN million unless stated otherwise)

Pakistan

Table 14 Producing fields in Pakistan

No.	Field	PGNiG reserves as at June 30th 2021	Planned activities
1	Rehman	approximately 4.77 bcm (30.7 mboe)	The Rehman-7 well survey results and the obtained reservoir fluids are being analysed. The Rehman-8 well – construction work at the well site is under way. More wells will be drilled using the back-to-back method as soon as the work on the Rehman-8 well has been completed.
2	Rizq	approximately 1.70 bcm (11.0 mboe)	Positive results were obtained from the Rizq-3 production well (work commenced in July 2019). At the turn of 2021-2022 another production well Rizq-4 is planned to be drilled.

As part of the continued exploration work, in 2021 the PGNiG Pakistan Branch plans to complete the interpretation of seismic data: 3D seismic imaging of the W1 prospect and 2D seismic imaging of the W2 prospect.

United Arab Emirates

Acquisition of seismic data started in late 2019 and the process continued until May 2020. Since then, PGNiG has been processing and interpreting data to identify locations for drilling of the first exploration well. Drilling work is scheduled to commence in the fourth quarter of 2022. Work is also under way to acquire rights to subsequent blocks in the Ras Al Khaimah emirate.

Libya

PGNiG Upstream North Africa BV constantly monitors political developments in Libya. In April 2021, it began preparations to resume exploration work in Libya and lift force majeure if a general election is held in December 2021 and its results are accepted by the main political forces.

3.1.4 Development prospects and challenges for the future

Poland

The work planned for 2021 in the Sanok Production Branch includes tie-in of the Brzyska Wola 2 and Dąbrowica Duża 3 and 6 wells, Trzebownisko 3 (after well workover); Jaksmanice 221 and Przemyśl 139, as well as development of the following wells: Kramarzówka 1K, 2H, 3H; Rogoźnica 3K, 4K, 5K; Korzeniówek 1; Draganowa 4K; Przemyśl 291K, 292K, 316K, 317K, 318K; Kulno 1; Przemyśl 303K, 304K; Mirocin 66, 67, 68, 69; Chodakówka 1K; Draganowa 4K; Królewska Góra 2K; Gnojnica 4, 5, 6; Ryszkowa Wola 8; Zapałów 3; Nowe Sioło-1, Mielnik-1; Przemyśl 299K, 308K and Zalesie 7.

The activities planned to be performed in 2021 in the area of the Zielona Góra Branch include expansion of the Lubiatów Oil and Gas Production Facility to increase the production capacity of the Międzychód field, as well as expansion of the Dębno Oil and Gas Production Facility to develop the Różańsko field. The Branch also plans to develop the following fields: Kamień Mały, Babimost, Zbąszyń, Rokietnica (including construction of gas transmission pipeline from Grodzisk Wielkopolski to Kościan), Gryżyna, Czeszów, and the following wells: Brońsko -31H and -32, Koźminiec-1, Grotów -4K, -10 and -12K, Sieraków-2H, Chwalęcin-1K, Borowo-5, Granówko-1, Szczepowice-1, Turkowo-2, and Paproć-66H.

PGNiG's production branches will also engage in other investment projects, focusing mainly on maintaining or ramping up hydrocarbon production. Such projects include, for instance, work related to the installation of gas compressors or upgrade of flowline systems or gas pipelines.

Other countries

Norway

In 2021, PGNiG UN's Norwegian operations will focus primarily on integrating the assets of INEOS E&P Norge AS after the completion of the transaction and on further field development work in accordance with the schedules adopted by the company.

Pakistan

As regards appraisal and production work, plans for the second half of 2021 include drilling of the Rehman-8 production well and start of earthworks for drilling of the Rizq-4 well. In parallel with the drilling campaign, the PGNiG Pakistan Branch will work on expanding the capacity of the production infrastructure. As part of continued exploration work, the Pakistan Branch also intends to complete interpretation of 3D seismics from the W1 prospect and 2D seismics from the W2 prospect. Based on the results, the prospects will undergo economic evaluation for the purposes of planned exploration wells. Acquisition of more detailed 2D seismic imaging for the contours enclosing the W2 prospect is also being analysed.

(in PLN million unless stated otherwise)

2021 will see the processing of gravimetric and magnetic data collected from the Musakhel licence area, which will subsequently be integrated with the field mapping geological data. Plans for the second half of 2021 include preparation of the full technical scope for seismic surveys.

Ukraine

In 2021, the Group intends to acquire shares in KarpatGazVydobuvannya, the ERU (Energy Resources of Ukraine) Group company, and commence operations in Western Ukraine, next to the Polish border.

3.2 Trade and Storage

In Poland, where the PGNiG Group is the largest natural gas supplier, the segment sells natural gas produced from domestic fields as well as imported gas. Through PST, the PGNiG Group is developing its foreign operations. The segment also trades in electricity, certificates of origin for electricity, CO_2 emission allowances, and crude oil (since 2018, through PST). In order to conduct trading activities on the global LNG market, the company established a branch in London. The segment operates seven underground gas storage facilities and provides a ticketing service for gas storage to external customers.

3.2.1 Key operating metrics

Table 15 Volumes of natural gas sales to non-PGNiG Group customers in the Trade and Storage segment

mcm	H1 2021		H1 2020		2020		2019		2018	2017
	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG Group
High-methane gas (E)	17,233	9,452	16,061	9,526	29,930	17,769	29,031	16,464	27,440	22,818
Nitrogen-rich gas (Ls/Lw as E equivalent)	446	126	388	133	745	261	751	262	721	671
Total (measured as E equivalent), inluding:	17,679	9,578	16,449	9,660	30,675	18,030	29,782	16,726	28,161	23,489
PGNiG – Wholesale	9,578	9,578	9,660	9,660	18,030	18,030	16,726	16,726	16,364	13,734
PGNiG OD – Retail sale	5,462	0	4,496	0	8,198	0	7,815	0	7,868	7,245
PST – Wholesale/retail sale	2,639	0	2,293	0	4,447	0	5,242	0	3,929	2,510

Table 16 Volumes of natural gas sales to non-PGNiG Group customers outside Poland in the Trade and Storage segment

mcm	H1 2021		H1 2020		2020		2019		2018	2017
	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG Group
PST	2,291	0	1,950	0	3,720	0	5,028	0	3,929	2,186
Exports from Poland and sales in Ukraine	225	225	900	900	1,239	1,239	544	544	451	728
Total (measured as E equivalent)	2,516	225	2,849	900	4,959	1,239	5,572	544	4,380	2,914

Table 17 T&S segment's natural gas customers from outside the PGNiG Group – Poland

mcm	H1 2021		H1 2020		2020		2019	
	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG
Households	3,022	0	2,474	0	4,354	0	4,152	0
Retail, services, wholesale	937	120	833	156	1,556	372	1,597	342
Nitrogen processing plants	1,286	1,281	1,309	1,305	2,526	2,519	2,272	2,264
Power and heat plants	751	582	786	583	1,542	1,161	1,927	1,749
Refineries and petrochemical plants	923	919	1,170	1,163	2,412	2,400	2,020	2,013
Other industrial customers	2,038	372	1,794	365	3,583	692	3,182	903
Exchange	6,206	6,079	5,233	5,187	9,742	9,647	9,061	8,910
TOTAL T&S sales to non-PGNiG Group customers in Poland	15,163	9,353	13,599	8,760	25,715	16,791	24,211	16,181

Table 18 Non-PGNiG Group gas customers outside Poland in the T&S segment

mcm	H1 2021		H1 2020		2020		2019	
	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG	PGNiG Group	PGNiG
Households	0	0	17	0	18	0	32	0
Retail, services, wholesale	1,168	0	902	0	1,586	0	2,677	0
Other industrial customers	0	0	8	0	14	0	16	0
Exchange	1,123	0	1,023	0	2,105	0	2,303	0
Exports from Poland and sales in Ukraine	225	225	900	900	1,239	1,239	544	544
Total T&S sales to non-PGNiG Group customers	2,516	225	2,849	900	4,959	1,239	5,572	5,572

Table 19 PGNiG's electricity customer base in the T&S segment

GWh	H1 2021	H1 2020	2020	2019
End users	72	0	0	0
Trading companies	22	74	101	360
Balancing market	17	39	50	353
Exchange	4,966	4,278	8,875	6,713
Total PGNiG's sales	5,077	4,391	9,026	7,426

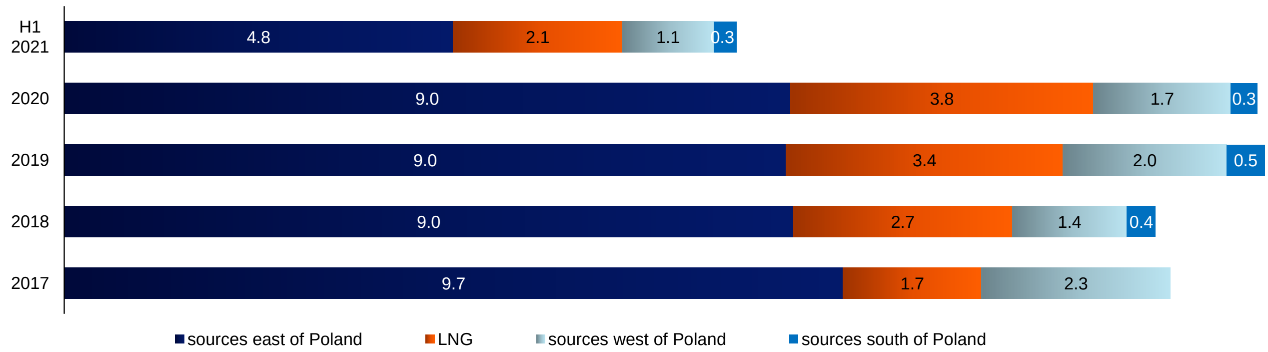
3.2.2 Wholesale business

Wholesale business in Poland

Gas imports

In the first half of 2021, the imported gas volume was 90.8 TWh (8.27 bcm). Gas purchases from countries east of Poland rose by 7.7 TWh (approximately 0.70 bcm) compared with the first half of 2020. LNG supplies fell by 1.7 TWh (0.15 bcm), while supplies from countries west and south of Poland rose, respectively, by 1.9 TWh (0.17 bcm) and 0.8 TWh (0.07 bcm) relative to the first half of 2020.

Chart 3 Imports of natural gas to Poland in 2017–2020 and in the first half of 2021 (bcm)



Following the conclusion of long-term contracts for the purchase of LNG at U.S. terminals in previous years, in 2020 PST chartered two tankers from the Norwegian shipowner Knutsen OAS Shipping to collect LNG contracted on a free-on-board basis. The modern vessels, with a capacity of 174,000 m^3 each, will be placed in service in 2023. The acquisition of the vessels will increase the flexibility of LNG purchases and sales and is another step towards developing the PGNiG Group's trading activities on the global market.

Renegotiation of price terms under the contract with OOO Gazprom Export

PGNiG and Gazprom are holding talks on further changes in the prices under the Yamal contract based on requests for renegotiation of price terms under the Yamal contract, filed by PGNiG on November 1st 2017 and November 1st 2020 and by Gazprom on December 7th 2017 and November 9th 2020.

PAO Gazprom/OOO Gazprom Export filed two petitions with the Stockholm Court of Appeals with respect to arbitration proceedings instigated by PGNiG against PAO Gazprom/OOO Gazprom Export concerning change of the contractual price of gas supplied by the supplier under the Yamal contract. The first petition, of October 2nd 2018, was for revoking the Arbitration Court's ad hoc partial award of June 29th 2018. By a judgment of December 23rd 2020, the Stockholm Court of Appeals dismissed the petition. The second petition, of May 29th 2020, was for reversal of the final award issued by the Court of Arbitration of March 30th 2020. The case is pending.

LNG supplies

In the first six months of 2021, PGNiG received a total of 18 LNG shipments to Poland, with a total volume of 1.47m tonnes, i.e. approximately 22.39 TWh or 1.95 bcm of natural gas after regasification, including:

- 10 shipments under long-term contracts with Qatargas, with the volume of LNG imports from Qatar totalling 0.92m tonnes, i.e. ca. 13.98 TWh or 1.21 bcm of natural gas after regasification;
- 6 spot deliveries;
- 1 shipment under the PGNiG Group's medium-term contract with Centrica;
- 1 shipment under a long-term contract with Cheniere.

Sale of gas by PGNiG

In the first half of 2021, PGNiG's sales of high-methane grid gas in Poland amounted to 104.7 TWh (approximately 9.5 bcm). Year on year, the sales grew by 9.7%, from 95.4 TWh (8.7 bcm).

Sale of gas by PST in Poland

As at June 30th 2021, PST supplied gas to 22 customers (44 points of delivery in Poland). The customers of the Polish Branch of PST are the largest private businesses from the glass, ceramic, automotive, non-ferrous metal, chemical, food and agricultural industries, receiving gas fuel for their own needs at physical points of delivery, as well as wholesale customers taking gas fuel at virtual or physical point of delivery for subsequent resale.

Exports

In the first half of 2021, PGNiG continued to sell natural gas to the Ukrainian market, mainly in cooperation with the ERU Group and other leading traders on the Ukrainian market. The sales to Ukraine totalled almost 225 mcm (2.47 TWh) of natural gas. Gas was sold in the Ukrainian storage system under the Customs Warehouse Regime (CWR). The Company monitors growth opportunities on the Ukrainian market.

Gas sales on POLPX

The volume of gas sold by PGNiG on POLPX in the first half of 2021 (calculated based on the delivery date in the first half of 2021) was 66.7 TWh (6.08 bcm) and increased by approximately 9.8 TWh year on year.

Small-scale LNG sales

In the first half of 2021, PGNiG continued the dynamic development of its small-scale LNG business, where gas is sold in the form of LNG transported by road tankers to regasification facilities or stations with no access to the distribution network. The volume of fuel delivered to end users in the form of liquefied natural gas is growing steadily. As at June 30th 2021, 2,900 LNG tankers were loaded in Świnoujście (3,385 in 2020 and 2,306 in 2019).

In the first half of 2021, PGNiG marketed 65.5 thousand tonnes of LNG (2020: 84 thousand tonnes), of which 51.3 thousand tonnes via Świnoujście, 9.6 thousand tonnes from Odolanów and Grodzisk, and more than 4.6 thousand tonnes from the LNG reloading station in Klaipėda (mostly intended for the Polish market). Between January 1st 2016 and June 30th 2021, the volume of LNG placed on the market by PGNiG totalled 348.3 thousand, including 221.6 thousand tonnes via the LNG terminal in Świnoujście, 118 thousand tonnes from Odolanów and Grodzisk, and 8.7 thousand tonnes from Klaipėda (from April 2020).

Sales of electricity

As part of its operations on the electricity market, PGNiG satisfies its own electricity needs as well as conducts wholesale trade on the exchange and over-the-counter (OTC) markets, while providing the PGNiG Group companies with access to the market. PGNiG's sales of electricity to trading companies and on the Polish Power Exchange accounted for more than 90% of the Company's total electricity sales in the first half of 2021. PGNiG provided commercial balancing services to PGNiG TERMIKA and PGNIG TERMIKA EP, as well as commercial and technical operator services to PGNiG TERMIKA.

Development prospects in Poland – PGNiG

PGNiG's medium- and long-term focus is to perform its long-term contract obligations concerning minimum offtake (Yamal contract) and contracted volumes of LNG, delivered on an ex-ship (Qatargas and Cheniere) and FOB basis (Venture Global LNG), taking into account that FOB contracts provide PGNiG with flexibility to sell LNG on foreign markets.

Wholesale business abroad

PST

In the first half of 2021, PST sold 44.4 TWh of pipeline-supplied gas (including 7.1 TWh of gas from PGNiG UN and Grupa LOTOS S.A.), 7.4 TWh of LNG, and 1.0 TWh of electricity in exchange and OTC transactions. Poland was PST's largest market for deliveries, where 50% of the volume was sold, while the German and Dutch markets accounted for 27% and 21% of sales respectively.

In 2019, PST began to receive gas from LOTOS Exploration & Production Norge, under a contract for supply of gas produced in license areas located on the Norwegian Continental Shelf. The volume of gas received under the contract in the first half of 2021 was 2.8 TWh.

In the first six months of 2021, PST signed a gas supply contract on the German coast for the 2021 gas year. The company is continuing negotiations concerning a medium-term contract for gas supply from 2022 (Total Norge). In addition, PST won a tender for the sale of gas produced from the Duva and Nova fields. The gas will be transported to the United Kingdom (Sval Energie AS).

PGNiG

On November 29th 2019, PGNiG signed a five-year contract for exclusive use of a low-scale LNG reloading wharf station in Klaipėda. It was a major step in PGNiG's efforts to build competence and market position in the markets of Central and Eastern Europe and the Baltic Sea basin. Since the start of operations on April 1st 2020, PGNiG has delivered to Klaipėda seven shipments by sea, and 480 tanker trucks have left the terminal with a total freight of over 8.6 thousand tonnes of LNG, mostly intended for the Polish market.

PST's development prospects abroad

PST will continue to develop its business in the PGNIG Group's key strategic areas including, in particular, LNG trading, supply of hydrocarbons from the North Sea and the Norwegian Sea area and gas trading in Central and Eastern European markets.

PST plans to expand its LNG business to include FOB deliveries both on the spot market and under medium-term contracts. The expansion of commercial and logistical competence in LNG freight management will allow the PGNiG Group to further develop its

LNG trading business to effectively optimise long-term contracts from 2022 onwards. In order to fulfil the long-term FOB contracts for LNG supplies, PST has executed contracts to charter two LNG vessels that will be able to receive and transport the contracted LNG volumes.

In preparation for the start of gas supplies to Poland via the Baltic Pipe, PST has increased its activity on the Norwegian Continental Shelf and the Danish Continental Shelf, which will facilitate effective management of natural gas supplies from fields located in those areas. As part of its operations on the Norwegian Continental Shelf, PST has also started to procure and sell natural gas liquids (including propane, butane, paraffin and ethane).

PST is taking steps to develop its business in Central and Eastern Europe. Particularly important for PST is business expansion into and in markets which, thanks to the emerging gas infrastructure, will gain strategic significance for the Polish market directly (Slovakia, Ukraine and Lithuania), and indirectly (Hungary, Latvia and Estonia). Building competence and strengthening presence in the region will enable the company to gain an additional market for gas from the northern direction and optimise its gas portfolio using, among other things, the storage systems in Poland and Ukraine.

Development prospects abroad - PGNiG

Through its presence in Klaipėda, PGNiG has also gained better access to the small-scale LNG market in the Baltic States, and increased competitiveness of its services for customers from the north-eastern Poland and Central and Eastern Europe. In addition to loading tanker trucks with LNG, the LNG terminal in Klaipėda also offers bunkering of ships. Competence gained in this area will facilitate making full use in the future of the potential of the Świnoujście terminal, which is being expanded.

3.2.3 Retail business

Sales of gas

PGNiG OD's customer base includes consumers and non-consumers (including in particular small and medium-sized enterprises). Customers are classified into tariff groups based on the type of gas fuel received (high-methane gas or nitrogen-rich gas), contracted capacity, annual contracted volume – for customers with contracted capacity of not more than 110 kWh/h, billing system – as per the billing frequency applicable to customers with contracted capacity of not more than 110 kWh/h, or receipt of gas fuel using prepaid metering systems (for customers with contracted capacity of not more than 110 kWh/h).

Group 1-4 retail customers purchase gas used mainly for cooking and for water and space heating, as well as in shop-floor processes. Households are subject to a gas tariff approved by the President of URE. In the first half of 2021, PGNiG OD applied the following gas fuel trading tariffs:

- PGNiG Obrót Detaliczny sp. z o.o.'s Gas Fuel Trading Tariff No. 10 ("Tariff No. 10") for the period from January 1st 2021 to April 30th 2021 – the prices of gas fuel for all tariff groups decreased by 4.5% on the previous tariff, i.e. Tariff No. 9. The subscription fees remained unchanged. PGNiG OD's Gas Fuel Trading Tariff No. 10 for the period from January 1st to December 31st 2021 was approved by decision of the President of URE of December 17th 2020;
- Amendment of PGNiG Obrót Detaliczny sp. z o.o.'s Gas Fuel Trading Tariff No. 10 ("Amendment to Tariff No. 10") for the period from May 1st to December 31st 2021 – the prices of gas fuel for all tariff groups increased by 5.6% on Tariff No. 10. The subscription fees remained unchanged. Amendment of PGNiG OD's Gas Fuel Trading Tariff No. 10 was approved by decision of the President of URE of April 15th 2021. The gas fuel prices and subscription fees defined in the Amendment to Tariff No. 10 were effective from May 1st 2021 to July 31st 2021.

In addition, by decision of July 16th 2021, the President of URE approved Amendment 2 to PGNiG Obrót Detaliczny Sp. z o.o.'s Gas Fuel Trading Tariff No. 10, effective from August 1st 2021 to December 31st 2021. The prices of gas fuel for all tariff groups increased by 12.4% compared with Amendment to Tariff No. 10. The subscription fees remained unchanged.

As at the end of the first half of 2021, PGNiG OD served more than seven million customers in tariff groups 1–4 (both high-methane and nitrogen-rich gas) and over 31 thousand gas off-take points in tariff groups 5–7. Business customers buy gas both for the purposes of their industrial processes and for heating, and are billed at prices set in the business tariff and in special offers.

Sales of other hydrocarbons

In the first half of 2021, an agreement was concluded with the Bisek Buying Group to sell LNG with transport services for collection by the customer, running from July 1st to December 31st 2021. The total contracted volume is 30,000 tonnes of LNG (457,500 MWh after conversion), intended mainly for heavy transport.

Business-to-customer sales policy (B2C)

In the first half of 2021, PGNiG OD added a new product for consumers, Solar PV for Home, to its Solar PV for Business range launched in previous years.

Business-to-business sales policy (B2B)

The gas offering is based on special term-plans with fixed prices or variable prices indexed to selected stock exchange indices. Customers who do not wish to be bound by a fixed-term contract can opt for gas supplies based on the standard 'Gas for Business' price list used in open-term contracts.

Gas fuel sales under emergency / standby / supplier of last resort procedures

PGNiG OD acted as a 'stand-by supplier' and 'supplier of last resort' (in accordance with the Act Amending the Energy Law and Certain Other Acts of November 9th 2018). In the first half of 2021, following discontinuation of gas fuel supplies by ONICO S.A, PGNiG OD ensured uninterrupted supply of gas fuel to the company's customers acting as a supplier of last resort. Customers taken over from the supplier are billed at prices set in the 'Gas for Business' tariff (non-consumers).

Sales of electricity

PGNiG OD's customer base includes consumers and non-consumers who have concluded comprehensive service contracts for the supply of electricity or contracts for the sale of electricity. As at June 30th 2021, the company supplied electricity to over 104 thousand delivery points. As natural persons conducting business activities (who enter into a contract for non-professional purposes) have been afforded consumer protection, a dedicated electricity plan was prepared for this customer category in early 2021.

Given the ongoing work on a draft amendment to the Energy Law, providing for the abolition of the exchange sale requirement for the electricity market (the risk of a lack of market quotations serving as the basis for pricing formulas used to calculate prices of the products mentioned below), products based on variable prices (index and tranche products) have been removed from the offering as of April 13th 2021.

Growth prospects for gas trading in Poland

PGNiG OD, acting in accordance with the principles of sustainable development and in order to address customer needs and environmental challenges, is introducing solutions based on renewable energy sources and intended to increase energy efficiency. Thanks to the possibilities offered by LNG, PGNiG OD supports the process of expanding natural gas access in Poland by supplying fuel to island networks and develops the offer of LNG supplies for the shipping, manufacturing and transport industries (small-scale LNG). The company builds CNG/LNG fuel stations, launches new products (such as assistance service plans) and partners with local governments (e.g. under the 'Switch to gas' programme, supporting transition to low-emission heat sources).

Given the strong potential of the small-scale LNG/CNG segment, PGNiG is taking various initiatives aimed at developing its competencies and product offering. The CNG&LNG road map identifies key projects in 2021–2031 aimed at developing PGNiG OD's in-house capabilities in handling LNG supplies/logistics (including through the purchase of cryogenic tanks), expanding the offering of bunkering services through purchases of dedicated equipment helping to improve operational efficiency, and upgrading CNG stations.

3.2.4 Storage

As part of its business, GSP holds a licence to store gas fuel in storage facilities. Settlements of gas fuel storage services in the first half of 2021 are subject to the following tariffs:

- Amended Gas Fuel Storage Tariff No. 1/2020, effective until 6.00 am on January 1st 2021 – the average rates for storage services increased by 1.58% on the previous tariff;
- Gas Fuel Storage Tariff No. 1/2021, effective from 6.00 am on June 16th 2021 – the average rates for storage services decreased by 1.88% on the previous tariff.

Third-party access (TPA) storage capacities

As at June 30th 2021, GSP had a total working storage capacity of 3,174.8 mcm. As part of those capacities, GSP made available a total of 3,139.6 mcm of working storage capacities for third-party access (TPA) and for the gas transmission system operator under long-term services contracts. On June 15th 2021, GSP announced that 17.0 mcm (of 30.0 mcm of working capacity) would be made available from July 1st 2021 on an intermittent basis under short-term services contracts, with the availability depending on the technical storage conditions in the salt caverns. In addition, GSP allocated 5.2 mcm of working capacity for the needs of the Mogilno CUGSF's and Kosakowo CUGSF's technological units.

Ticketing service – PGNiG

PGNiG offers a ticketing service which allows gas importers and traders to meet their gas-stocking obligations in accordance with the applicable Polish regulations. The Company performed ticketing service contracts concluded for the gas year 2019/2020 with six energy companies; in the gas year 2020/2021, the services are provided to four energy companies. The total volume of gas stocks held by PGNiG for other entities was over 370 GWh of natural gas in the 2019/2020 gas year and over 300 GWh of natural gas in the 2020/2021 gas year.

As part of the ticketing service, PGNiG maintains gas stocks in gas storage facilities operated by GSP.

Development prospects and challenges for the future

In accordance with the schedule for the 'Kosakowo CGSF – Construction of Five Caverns, Cluster B' project, the construction of the K-7 and K-10 chambers at the Kosakowo CGSF will be continued until September 2021 to expand the storage capacities. The contract for the project provides for the completion of all the works in November 2021. After the construction of cluster B is completed, the working capacity will have been increased to ca. 298 mcm.

(in PLN million unless stated otherwise)

GSP also plans to expand its storage business, in particular storage of energy (in the form of hydrogen), hydrogen, biomethane and liquid fuels, in order to broaden its customer base and secure new revenue streams. The offered services will include preparation, execution and supervision of underground energy and fuels storage projects and subsequent offering of the storage capacities.

3.3 Distribution

The segment's principal business activity consists in the delivery of high-methane and nitrogen-rich gas, as well as of small amounts of coke-oven gas, over the distribution network to retail and corporate customers. The segment is also engaged in extending and upgrading the gas network and connecting new customers. Natural gas distribution is the responsibility of PSG. As the Distribution System Operator, the company operates in all regions of Poland. Being the owner of the majority of Poland's gas distribution network and gas service lines, PSG enjoys a dominant market share.

3.3.1 Key operating metrics

Table 20 Volume of distributed gas

mcm in natural units	H1 2021	H1 2020	2020	2019	2018	2017
Total volume of distributed gas, including:	7,349	6,192	11,570	11,531	11,747	11,645
high-methane gas (E)	6,459	5,460	10,194	9,976	9,918	9,797
nitrogen-rich gas (Ls/Lw as E equivalent)	646	560	1,061	1,048	971	989

Table 21 Length of distribution networks

thousand km	H1 2021	H1 2020	2020	2019	2018	2017
Length of distribution networks	198	192.5	195	191	186	183

In the first half of 2021, three new municipalities were connected to the gas grid. Thus, the geographical coverage in terms of the number of municipalities connected reached 67.34% (1,668 out of 2,477 municipalities).

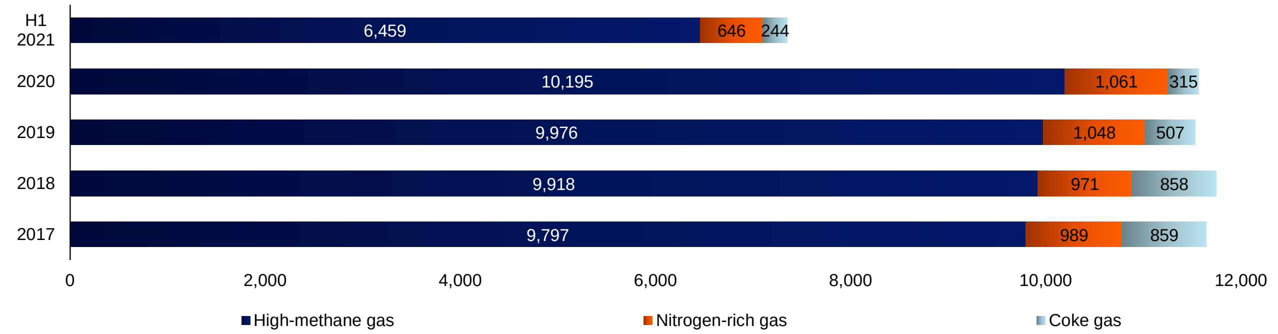
3.3.2 Operations in the first half of 2021

In the first half of 2021, PSG executed four distribution agreements and one inter-operator distribution agreement. PSG's activities resulted in the execution of over 68,500 connection contracts in the first half of 2021, providing for building approximately 76,700 new connections to the gas grid. By June 30th 2021, nearly 145,400 decisions defining the terms of connection were issued (up by 30% year on year) and approximately 60,800 service lines with a total length of 584.5 km were built.

In the first half of 2021, PSG completed acceptance of 12 LNG regasification stations being island power sources. In the reporting period, PSG obtained 19 liquefaction and regasification licences, thus reaching a total of 70 licences. The volume of gas distributed via island LNG regasification stations from January to June 2021 was 112 GWh (up by approximately 35% year on year) and the number of individual distribution orders was 21,821 (up by approximately 4% year on year).

In addition, in the first half of 2021, at 12.6 thousand points of exit from the distribution system, customers changed gas fuel suppliers.

Chart 4 Volume of gas transmitted via the distribution system in 2017-2020 and in the first half of 2021 (mcm)



In the first half of 2021, gas supply volumes rose by approximately +1.16 bcm year on year, with average temperatures -1.6°C lower year on year. As at June 30th 2021, the length of networks operated by PGS (including service lines) was 198.2 thousand km, and the number of customers was over 7.3m.

A significant event with an impact on the performance of operator obligations by PSG was the execution of comprehensive gas fuel supply contracts for and on behalf of end users with a back-up supplier (ENEFIT Sp. z o.o.) at seven exit points and a supplier of last resort (PGNiG OD) at 496 exit points. The contracts were signed as a consequence of ONICO Energia sp. z o.o. S.K.A. having discontinued supplies of gas fuels to end users connected to the distribution network.

(in PLN million unless stated otherwise)

PSG's business is heavily regulated, with licensing of gas fuel distribution and LNG regasification services, and the obligation to have distribution tariffs approved by the President of URE. In the first half of 2021, the following tariffs were in effect:

- Tariff No. 8, effective from April 3rd 2020 to January 31st 2021; the tariff increased the average distribution fee by 3.5% relative to the previous tariff;
- Tariff No. 9, effective from February 1st 2021 to December 31st 2021; the tariff increased the average distribution fee by 3.6% relative to the previous tariff.

In the first half of 2021, the total capital expenditure incurred in the Distribution segment was approximately PLN 1.3bn. PSG spent over PLN 900m on expanding its network and connecting new customers, and approximately PLN 340m on the redevelopment and upgrade of the gas network, including approximately PLN 120m on the replacement and certification of gas meters and components of metering systems.

3.3.3 Development prospects and challenges for the future

In the short term, PSG is taking steps which, through the roll-out of the gas network and connection of end customers (mainly as part of 'network densification', i.e. connection of new service lines to the existing gas network), are part of the anti-smog measures (PSG participates in a number of projects, including the 'Connect, because every breath matters' campaign.

In the medium term, PSG takes steps to convert, modernise and build a new gas network in order to maintain the security and continuity of gas fuel supplies and the long-term capacity to connect new industrial customers, including in particular district heating accounts below 50 MW. This is in line with Directive (EU) 2015/2193 of the European Parliament and of the Council of 25 November 2015 on the limitation of emissions of certain pollutants into the air from medium combustion plants. These arrangements indicate that existing installations with a capacity greater than 5 MW have to ensure compliance with the new emission standards by 2025, and those with a capacity of up to 5 MW – by 2030. Switching to gaseous fuel, by connecting to the gas network, represents an opportunity for these facilities to reduce harmful emissions.

Business potential is recognised in the development of the market for new renewable gas products and the target volumes of these gases to be transported, which can offset (to an extent dependent on economic and regulatory factors) the declining energy significance of natural gas in the "Green Deal" economy. Therefore, in the first half of 2021 PSG conducted multi-faceted analyses to prepare the gas infrastructure for the distribution of renewable gases. It conducted consultations with main stakeholders (Ministry of Climate and Environment, URE, gas system operators, gas infrastructure manufacturers, biogas manufacturers interested in transporting biomethane via the gas network, representatives of the scientific community) on amendments to existing laws and new solutions prepared by the project team to stimulate the development of the Polish biomethane market. The company also actively participates in initiatives coordinated by the Ministry of Climate and Environment such as establishing a partnership to develop the biogas and biomethane sector and conclude a sector-wide alliance, or establishing a partnership to build a hydrogen economy and conclude a sector-wide hydrogen alliance.

PSG also engages in cooperation with the PGNiG Group and entities from the fuel sector to develop a business model which, taking into account the prevailing market conditions and the policy of the state, will enable the development of alternative fuel infrastructure and create conditions to offer vehicle users a viable CNG refuelling option.

3.4 Generation

The segment's principal business consists in the production of heat and electricity, distribution of heat, and delivery of large natural gas-fired projects in the power sector. The relevant competence centre at the PGNiG Group is the PGNiG TERMIKA Group, including PGNiG TERMIKA (and its subsidiaries) and PGNiG TERMIKA EP (and its subsidiaries).

3.4.1 Key operating metrics

Table 22 Volume of regulated sales of heat from own sources to customers outside the PGNiG Group in the Generation segment

TJ	H1 2021	H1 2020	2020	2019	2018	2017
Total heat sales volumes from own generation sources	23,545	22,837	38,940	39,263	40,659	42,611
at PGNiG TERMIKA	21,862	21,412	36,495	36,880	38,290	40,037
at PGNiG TERMIKA EP	1,683	1,425	2,445	2,383	2,369	2,574

Table 23 Total sales volume of electricity from own generation sources in the Generation segment

GWh	H1 2021	H1 2020	2020	2019	2018	2017
Total electricity sales volumes from own generation sources	1,838	2,019	3,638	3,948	3,974	3,882
at PGNiG TERMIKA	1,598	1,855	3,202	3,493	3,535	3,593
at PGNiG TERMIKA EP	240	164	436	455	439	289

3.4.2 Operations in the first half of 2021

PGNiG TERMIKA holds licences for electricity generation, heat generation, heat transmission, and electricity trading. In the first half of 2021 – a tariff for heat generated at PGNiG TERMIKA's heat generating sources: the Żerań CHP plant, Siekierki CHP plant, Pruszków CHP plant, Wola heating plant and Kawęczyn heating plant, and for transmission and distribution of heat via the heating networks in the Pruszków area (supplied from the company's own heat generating source: Pruszków CHP plant) and in the Annopol, Chełmżyńska, Jana Kazimierza, Marsa Park and Marynarska areas, approved by the President of ERO on August 13th 2020. New heat generation rates apply as of June 1st 2021 under the tariff adjustment and decision of the President of URE obtained on May 10th 2021. The following tariffs were in force in the first half of 2021:

- tariff effective from September 1st 2020 to August 31st 2021, resulting in a 3.21% increase in average prices;
- tariff adjustment effective from June 1st 2021 to August 31st 2021, resulting in a 9.03% increase in generation prices.

PGNiG TERMIKA EP holds licences for generation of electricity, generation of heat, transmission and distribution of heat, trading in heat, trading in electricity and distribution of electricity. Among the tariffs effective in the first half of 2021 were:

- tariff for heat from PGNiG TERMIKA EP's generating sources, resulting in a 11.64% increase in average prices, and for distribution services, resulting in a 3.64% increase in average prices;
- tariff for electricity distribution services.

In 2021, PGNiG TERMIKA supplied heat to two municipal networks: the Warsaw heating network, owned by Veolia Energia Warszawa S.A., and its own heating network, covering Pruszków, Piastów, and Michałowice. The company also used Veolia's network to supply heat to its own end customers (connected to PGNiG TERMIKA S.A.'s own local networks and to the networks of Veolia Energia Warszawa S.A.), based on a transmission contract (those customers are billed on different terms as they are classified in PGNiG TERMIKA's separate tariff group – 'OKW').

On April 21st 2021, PGNiG TERMIKA Energetyka Przemyśl sp. z o.o. signed a long-term lease contract for the Zasanie heating plant in Przemyśl with Miejskie Przedsiębiorstwo Energetyki Cieplnej w Przemyślu sp. z o.o. Combined with a currently constructed CHP plant, the acquisition will secure control of all generation units supplying the district heating network in Przemyśl. The average annual output of the Zasanie heating plant is over 550 TJ. The acquisition is expected to be completed in the third quarter of 2021. The company intends to approach local authorities and municipal companies with a proposal of cooperation based on the Przemyśl model, i.e. long-term lease of heating assets.

3.4.3 Development prospects and challenges for the future

PGNiG TERMIKA will proceed with its strategic projects and will actively seek acquisition opportunities in the power and heating area. The company intends to markedly scale up the volume of electricity sales by implementing projects aimed at building new, cost-effective generation capacities and upgrading existing sources using low-carbon technologies.

In 2021, PGNiG TERMIKA plans to continue work on several key projects, including the construction of a CCGT unit and a peak-load boiler house at the Żerań CHP plant, and preparations for the construction of a 75 MWe multi-fuel unit and a CCGT unit at the Siekierki CHP plant. Capital expenditure planned for 2021 in the area of environmental initiatives will include expenditure on adaptation of the Kawęczyn heating plant to the BAT conclusions, a programme to adapt fluidised boilers at the Żerań CHP plant to the BAT Conclusions, modernisation of the Pruszków CHP plant, and a programme to adapt Emitter 5 at the Siekierki CHP plant to new dust emission requirements.

PGNiG TERMIKA also intends to implement an investment programme providing for upgrades to its existing generation assets, aimed at building new high-efficiency and cost-effective generation capacity using low- and zero-carbon technologies adapted to increasingly stringent environmental requirements. Steps will be taken to expand the company's business and R&D&I projects focusing on the use of hydrogen in the energy sector, the construction of electricity batteries and the increased use of renewable energy sources in power generation.

In the coming years, PGNiG TERMIKA also intends to continue its efforts to acquire heat distribution and heat and electricity generation businesses, and to improve its business efficiency through the use of modern production and assets management methods.

The objectives of PGNiG TERMIKA EP in 2021 include mainly continuation of the project to secure heat supplies for the town of Rybnik and the project to integrate the heating systems of the Zofiówka CHP plant and the Pniówek CHP plant, as well as efforts to intensify acquisition of new customers for central heating, domestic hot water, and cold. PGNiG TERMIKA EP is also taking steps to significantly expand the heat market to include year-round sales of domestic hot water, particularly in the towns of Jastrzębie-Zdrój, Rybnik, and Żory. The company recognises the enormous potential of thermal waste conversion facilities in the long term and is therefore conducting analysis of this area of potential activity.

The key challenges to the PGNiG TERMIKA Group's strategic plans include:

- implementing an investment plan that will ensure compliance of generation assets with current and future environmental requirements;

- increasing heat sales and distribution volumes by acquiring district heating assets and expanding generation business across Poland;
- increasing electricity sales volume by implementing investment projects aimed at building new, cost-effective generation capacities and upgrading the existing sources with the use of low- and zero-emission technologies.

3.5 Research, development and innovation

At the PGNiG Head Office, the R&D&I activities (solution identification, development, implementation/commercialisation), including cooperation with research and development institutions, as well as intellectual property matters are managed by the Research and Innovation Department The relevant organisational units are the Research and Innovation Department, the Business Development Department and PGNiG's branches, eg. Central Measurement and Research Laboratory (CLPB).

3.5.1 Operations in the first half of 2021

Research and Innovation Department

In the first half of 2021, the Department oversaw work on 136 research, development and innovation (R&D&I) projects. As at June 30th 2021, the PGNiG Group spent a total of approximately PLN 165m on R&D&I and hydrocarbon identification and exploration projects. Of that amount, approximately PLN 72m was spent at the PGNiG Group companies and approximately PLN 93m at PGNiG (including PLN 8m on R&D&I projects and PLN 85m on hydrocarbon identification and exploration projects at the Geology and Production Branch).

Under the INnovative GAs joint venture (INGA JV), implemented in partnership with the National Centre for Research and Development and GAZ-SYSTEM S.A., work was continued on four R&D projects in the area 'Exploration for and production of hydrocarbons and production of gas fuels', selected in the first competition round of the INGA JV. In the second competition round of the INGA JV two other projects were selected, one in the area 'Underground hydrocarbon storage' and the other in the area 'Exploration for and production of hydrocarbons and production of gas fuels'. They are co-funded by the National Centre for Research and Development. The objective of the INGA JV is to promote long-term innovation and competitiveness of the PGNiG Group companies in Poland and on the global market through targeted and commercialisation-oriented implementation of R&D projects and partnerships with scientific institutions.

The most important new activities of the Research and Innovation Department in the first half of 2021 included the Digitalisation Programme, which was launched on June 10th 2021. The total budget of the projects covered by the Digitalisation Programme is PLN 137m. The programme seeks to maximise the benefits achieved from synergies between initiatives taken by the PGNiG Group over time that share the common goal of digital innovation. One of its objectives is to identify areas within the PGNiG Group where the implementation of new technology and digital solutions would quickly deliver benefits and help to develop standards and processes for identifying, evaluating and implementing similar solutions in the business activities of the PGNiG Group companies. The programme will be implemented in several tranches; the first one envisages the implementation of 11 projects, including:

- Smartfield – environment for dynamic field model; implemented by PGNiG OGIE;
- Meteo – central repository of meteorological data; implemented by PGNiG OOH;
- Volume – long-term high-methane gas consumption model; implemented by PGNiG OOH;
- Lead Gen – optimum location for PV and gas projects; implemented by PGNiG OD;
- Unmanned aerial vehicles – using UAVs for monitoring the infrastructure; implemented by PGNiG Serwis;
- Passporting – converting reality into digital representation; implemented by PGNiG Research and Innovation Department;
- Predictive Maintenance – predictive and analytical models; implemented by PGNiG TERMIKA;
- SORGE – electricity volume data management; implemented by PGNiG TERMIKA Energetyka Rozproszona;
- SDDC – PSG's internal cloud; implemented by PSG;
- Smartphone application – reading of gas meters by Customers for tariff groups 1–2; implemented by PSG;
- IT cloud – PGNiG's internal cloud; implemented by PGNiG IT Department.

Under the 'Hydrogen – a Clean Fuel for the Future. Building Hydrogen Competences at the PGNiG Group' programme (HCF4F), the following projects were continued in the first quarter of 2021: InGrid, P2G – an island research network to add green hydrogen to natural gas and to test the impact of hydrogen on the gas infrastructure of the distribution network and New Fuel Lab – expanding CLPB's laboratory competence to include alternative fuel quality testing. In April 2021, a tender was announced in the Public Information Bulletin (BIP) to select the contractor for laboratory fit-out works at the CLPB. As regards the "Hydra Tank. Construction of a Research Hydrogen Refuelling Station" project, considering the inability to execute the project within the time limit and in the location specified in the contract which, in accordance with the regulations in force at PGNiG, was concluded pursuant to the Public Procurement Law, following additional, including legal analysis, a decision was made that the best solution for the company was to terminate the contract. In partnership with GSP, the H2020 project to construct underground hydrogen storage facilities with the use of salt caverns is being carried out.

In the first half of 2021, an inventory of hydrogen projects implemented at the PGNiG Group was also made, and areas of hydrogen management where new projects should be launched were identified. As a result, the hydrogen programme will be updated in the third quarter of 2021 and expanded by adding at least three new projects. The 'Hydrogen – a Clean Fuel for the Future. Building Hydrogen Competences at the PGNiG Group' programme is consistent with the PGNiG Group's Strategy for 2017–2022. Its objective is to start the implementation (pilots/demonstrations) of hydrogen technologies in specific areas of the PGNiG Group's business, including in particular in the distribution segment as well as the storage and production segment, on the basis of identified technological competencies and experience gained through successive R&D&I projects. The programme also aims to involve a team of specialists from all areas of the PGNiG Group's business where a business case for implementing hydrogen technologies can be identified. Co-operation between stakeholders from different areas of the Company's operations, while creating a single, coherent value chain, will contribute to the PGNiG Group's commitment and increased responsibility for development and innovation growth, reduce project implementation costs, improve profitability of potential investments, and enhance the allocation of capital (financial, material and human).

In the first half of 2021, PGNiG was active in Hydrogen Europe and European Clean Hydrogen Alliance (ECH2A). These are key platforms for broad cooperation in the development of the entire hydrogen value chain to build a hydrogen ecosystem in Europe over three decades.

The AQUA project was implemented in the first six months of 2021, with the objective to investigate the feasibility of producing geothermal energy from existing (negative) oil wells and to verify the viability of using wells nearing depletion for geothermal energy extraction purposes.

In 2021, a systemic approach to securing preferential financing for the PGNiG Group's research, development and innovation project was upheld. Work was conducted in accordance with the adopted procedures that organise the identification of aid programmes, the division of responsibilities when applying for preferential funding, and the external communication with competent ministries. The 'PGNiG Group Procedure for Obtaining External Funding' project was developed, enabling the Group companies to continuously verify the sources of financing in the current and future EU financial frameworks and initiate application procedures for the most interesting R&D&I and investment projects.

In the first quarter of 2021, PGNiG filed two applications for project co-financing:

- 'Study of an integrated system for green hydrogen production, blending with natural gas and transmission through the system of research distribution network at the PGNiG Odolanów Branch to prepare the national gas infrastructure for energy transition (InGrid)', filed under the Fast Track programme (National Centre for Research and Development);
- 'Underground storage of hydrogen in salt caverns as a key element of energy security of a low-carbon economy' under the *Important Projects of Common European Interest* (IPCEI) mechanism, filed with the Ministry of Economic Development, Labour and Technology (national phase), which will subsequently be filed with the European Commission.

Additionally, as part of the 'M-ERA.NET3 Call 2021' competition organised by the National Centre for Research and Development (NCBIR), PGNiG became a consortium member/industrial partner under an application for co-financing of the project to develop a Polish hydrogen detector technology. The application coordinator is the Silesian University of Technology. In March 2021, PGNiG TERMIKA also filed with the Ministry of Economic Development, Labour and Technology – as part of a competition for hydrogen technology and system projects under the IPCEI mechanism – a draft project entitled 'Innovative system for producing green hydrogen using a co-generation unit at the Siekierki CHP plant and its use in transport'.

Activities were also continued within the PGNiG Group's Strategic Projects Committee for the Research, Development and Innovation Area. The Committee is an important forum for strategic R&D&I activities, knowledge exchange and discussions to achieve synergies in key business areas. 48 leading projects were identified at the PGNiG Group, of which 23 are carried out at PGNiG.

Business Development Department

In the first half of 2021, the Business Development Department worked on development projects, focusing on the following key areas: Renewable Energy Sources, Alternative Fuels, Energy Efficiency and the InnVento Start-up Centre.

RES

In the first half of 2021, the RES segment continued to implement the previously prepared concept of PGNiG's entry into the prosumer photovoltaic market (the Photovoltaic Business project), which is intended to enhance PGNiG's offering for retail and institutional customers. The first photovoltaic systems have already been put in operation and more PV systems are in the pipeline as part of the 'Photovoltaic Installations' project (construction of PV systems on PGNiG's own property).

Efforts were stepped up to build and operate a portfolio of renewable electricity sources. In the photovoltaics segment, in addition to the development of photovoltaic systems on owned land, projects to acquire photovoltaic farms were analysed and projects to develop large-scale photovoltaic farms were prepared in accordance with the business concept in place. In the wind farm segment, projects to acquire wind farms ready for construction and operational wind farms were analysed.

Alternative Fuels

As regards Alternative Fuels, the following steps were taken:

- during the implementation of the second stage of the Magellan project, documentation was prepared and the procurement procedure for the MTTS bunkering equipment (multiple truck-to-ship technology increasing bunkering speed and volume) was launched;
- as part of the Gepard project, various options for the construction of LNG and CNG stations were analysed, models recommended by the adviser were selected, and talks concerning cooperation in implementing the project were held;
- in the bioLNG TANK project, the assumptions of the economic model were reviewed by analysing the CO_2 market, the price range for biogas purchases was set, collaboration with the agricultural biogas plant investor was initiated, and technical dialogue with manufacturers of bioLNG production units was held.

Energy Efficiency

Based on the business concept adopted for solutions and products for the energy-related services market, developed under the ESCO project in 2020, an inter-company STOP SMOG project was launched by the PGNiG and PGNiG OD project team, designed to achieve economic benefits by stepping up sales of new energy-related products and services to retail customers. The project will also improve the PGNiG Group's image as an entity actively involved in fighting smog. In July 2021, the launch of 'Simply Clean Air' pilot programme was prepared to help residents of the Katowice and Rzeszów Provinces to receive grants under the 'Clean Air' flagship programme of the National Fund for Environmental Protection and Water Management.

PGNiG successfully completed the process of Energy Management System certification, confirming compliance with the ISO 50001:2018 standard. The certificate will remain valid until March 2023.

Two new projects were added to the Energy Efficiency Improvement Programme: one in Odolanów and the other at one of the gas production facilities of the PGNiG Sanok Branch.

InnVento Startup Centre

In the first half of 2021, InnVento's activity focused on cooperation with the HugeTech accelerator, operator of the IDEA Global acceleration programme, co-financed with public funds (Measure 2.5 POIR Acceleration programmes). A similar cooperation agreement was also concluded with the Kraków Technology Park, operator of the KPT ScaleUp acceleration programme. As part of this cooperation, PGNiG can carry out pilot projects with selected startups in business areas that have been identified as promising for the implementation of technologies developed by small technology companies.

Adoption of an internal regulation entitled 'Rules of cooperation with startups at the PGNiG Group' was a milestone in defining the rules for running pilot projects. The document sets up a comprehensive framework for the methodology of pilot implementations in cooperation with the Group companies.

In the first half of 2021, PGNiG entered into agreements for three pilot projects in the following areas:

- construction of a prototype application to support vulnerability management;
- PoC (proof of concept) for a solution to ultimately provide a professional automatic balancing service for electricity from distributed generation sources, including by enabling the management of distributed electricity receivers;
- development of predictive models for a gas-fired boiler, their review based on historical data and demonstration implementation for PGNiG TERMIKA.

In addition, a few more technological solutions have been identified, which will be analysed in terms of their test implementation at the PGNiG Group:

- development of an application called LeadGen (generator of leads – potential customers – to sell both gas and non-gas products and services (PV systems) for PGNiG OD;
- use of maize cob cores in the production of electricity, heat and CO_2 for industrial applications as a new source of renewable energy for PGNiG TERMIKA;
- video/chat bots for PGNiG OD employees.

3.5.2 Development prospects and challenges for the future

Research and Innovation Department

PGNiG's activities are primarily aimed at strengthening the PGNiG Group's position in the area of hydrogen technologies, carrying out and commercialising further R&D projects, actively acquiring and implementing innovative projects, and adapting the Group's model of R&D&I activities to the evolving market environment and the Group's strategic objectives. At the same time, new business areas that can increase the competitiveness of companies and strengthen their market position will be constantly analysed. These activities will be implemented over two time horizons.

Short-term horizon (until the end of 2021):

- strengthening the PGNiG Group's position in the area of hydrogen technologies through such measures as preparation of an update of the PGNiG Group Hydrogen Programme and, based on that update, initiating further projects and expanding the Group's competence in alternative fuels;
- launch of a PV unit with a power storage facility in Odolanów;
- pilot project combining 3D scanning technology with equipment/infrastructure passporting functionality;
- launch of further projects under the Digitalisation Programme defined in the first project tranche;
- continuation of the R&D projects selected in the first and second round of the INGA JV competition;
- transfer of completed R&D projects for implementation/commercialisation;
- stepping up efforts to apply for assistance funds for the PGNiG Group's R&D&I and investment projects;
- implementation of the 'PGNiG Group Procedure for Obtaining External Funding' agreed with the Group Companies across the PGNiG Group;
- development of R&D&I project management methodology.

Medium-term horizon (2022–2023):

- growth and expansion in the hydrogen technology market, including in P2G energy storage, hydrogen storage and distribution;
- launch of further tranches of the Digitalisation Programme including digital innovation projects – e.g. big data analytics or decision support algorithms (artificial intelligence, machine learning) and process automation – developed, tested and implemented in all areas of the PGNiG Group's value chain;
- commercialisation/implementation into the PGNiG Group's business of the results of R&D projects, including products and technologies originating from INGA projects – verified on an ongoing basis in terms of commercialisation viability.

Business Development Department

In the second half of 2021, steps will be taken primarily to ensure efficient implementation of new business products at the PGNiG Group, based on business concepts, implementation plans and financial models prepared earlier. New projects will also be gradually identified and developed.

RES

The ongoing renewable energy development projects and initiatives and further efforts to identify and analyse potential new RES projects/RES-related business proposals are expected to continue in the second half of 2021.

Alternative Fuels

Phase two of the Magellan project is to be continued until the end of 2021. This phase envisages the selection of a bunkering infrastructure provider, contract execution and approval of the MTTS equipment design. Also, a public procedure for the supply of a parameterisation and liquefaction facility for the bioLNG project is planned to be launched and the business relationship with the biogas supplier is to be formalised.

Energy Efficiency

Activities planned in the Energy Efficiency area:

- a preliminary offer for retail customers, drawing on the experience gained from the 'Simply Clean Air' pilot programme will be developed in stages under the Stop SMOG project;
- projects under the Energy Efficiency Improvement Programme at the PGNiG Group will be sought and implemented in order to obtain energy efficiency certificates enabling the company to settle its obligations under the Energy Efficiency Act.

InnVento Startup Centre

In the second half of 2021, the Group plans to sign further agreements related to the implementation of pilot/test projects with start-ups, building on cooperation with external partners (accelerators). To this end, steps will be taken to identify and verify the technological and business needs of PGNiG and key Group companies, as well as to support effective management of such projects within the PGNIG Group. Collaboration will also be established with an external accelerator to enable cooperation with foreign startups in the following year.

In cooperation with CLPB, a technology competition will be held to obtain an offer to develop an effective, economically and technologically efficient method (a device or sensor) for measuring hydrogen concentration in natural gas that would guarantee accuracy, repeatability and stability as well as fast and correct detection.

4. Financial condition of the PGNiG Group and PGNiG in the first half of 2021

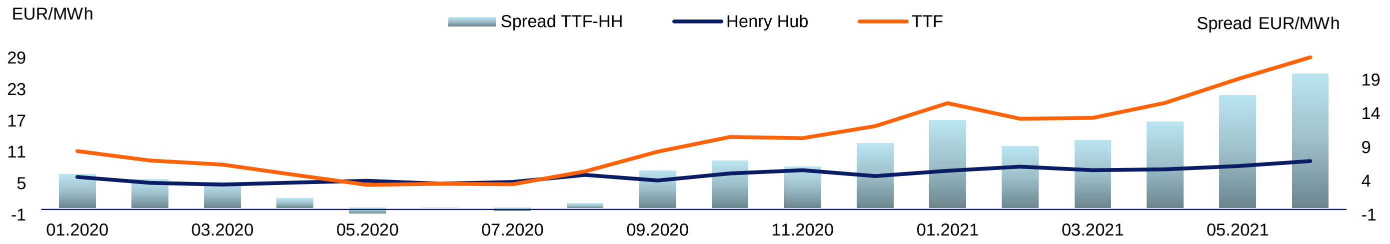
4.1 Macroeconomic environment

4.1.1 Trends in the natural gas market

Gas prices in Europe and globally

In the first half of 2021, natural gas prices in Europe and LNG prices in the United States rose fast year on year. The average price of natural gas at the Dutch TTF hub, with next month delivery, was EUR 21.65 per MWh, up +186% compared with the corresponding period of 2020. Year on year, the prices of natural gas at the Henry Hub rose by EUR 2.48 per MWh, or 44.5%, to the average of EUR 8.06 per MWh. Thus, the average spread between these two trading hubs increased by approximately 577%, or EUR 11.59 per MWh, to an average of EUR 13.60 per MWh in the first half of 2021. The largest price difference of EUR 19.90 per MWh was recorded in June 2021.

Chart 5 Average monthly front month gas contract at Henry Hub and TTF in 2020 and the first half of 2021

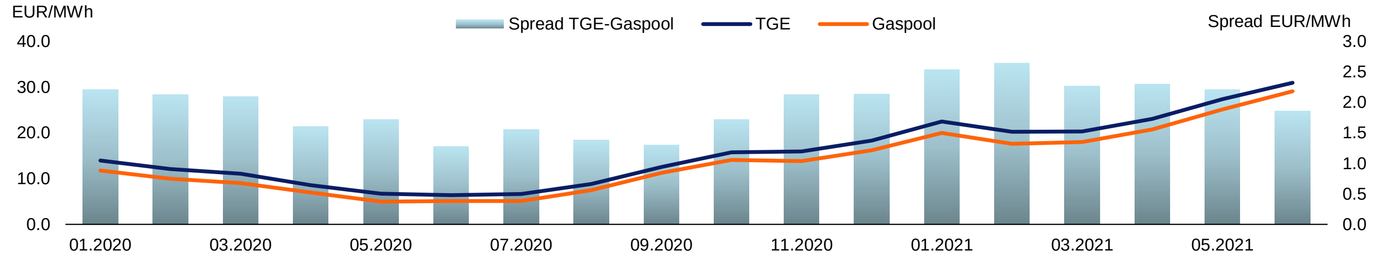


Source: In-house analysis based on NYMEX and ICE data. Front-month contract - contract with the delivery date in the following month.

Gas prices in Poland

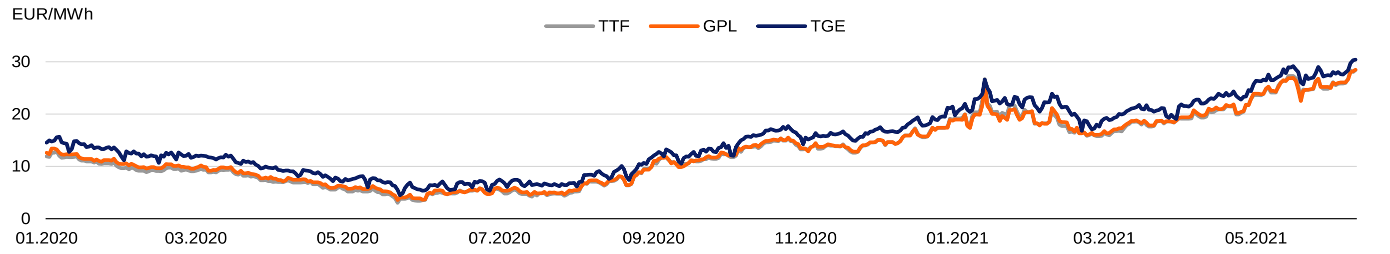
In the first half of 2021, the average spot price of natural gas in Poland was PLN 109.23/MWh, up by 154%, or PLN 66.26 per MWh, year on year. Gas prices in Poland were strongly correlated with those in Germany and on the European markets. The average spread between the spot prices (for day-ahead products) on the POLPX and GASPOOL in the first half of 2021 was EUR 2.30 per MWh.

Chart 6 Average monthly natural gas spot prices in Poland and Germany in 2020 and the first half of 2021



Source: In-house analysis based on POLPX (TGE) and EEX data.

Chart 7 Spot price of gas on POLPX, TTF and GPL in 2020 and the first half of 2021



Source: In-house analysis based on POLPX (TGE) and EEX data.

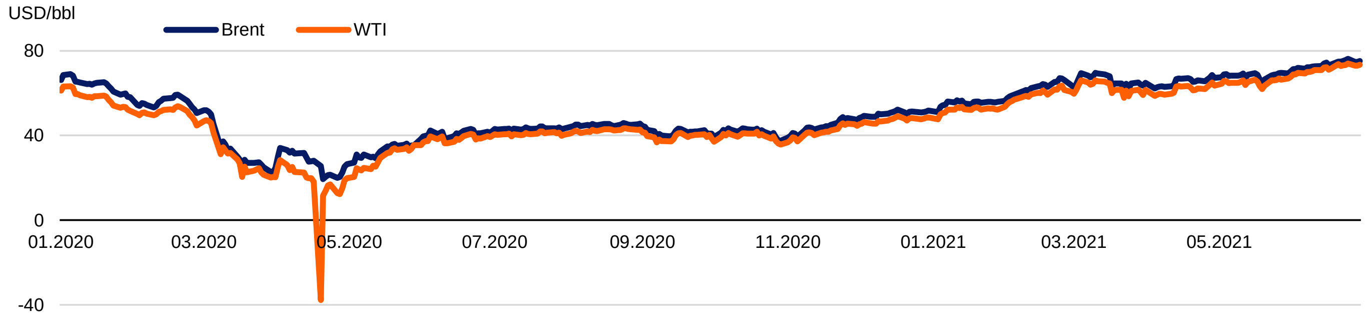
The situation on the natural gas market in Europe and globally has a bearing on the Group's financial performance, mainly due to its impact on the Exploration and Production and Trade and Storage segments, both in terms of revenues and expenses.

4.1.2 Trends in the crude oil market

In the first half of 2021, crude oil prices rose fast year on year. In the period under review, the average price per barrel of Brent crude with next month delivery was USD 65.24, having increased by 55% year on year. For WTI grade, the average price per barrel with next month delivery increased by 67.5%, to USD 62.16.

In the first quarter of 2021, sentiment in the oil market was supported by expectations of a rapid global economic recovery that would trigger a swift rebound in oil demand. These expectations were supported by upward revisions of macroeconomic forecasts for the world's largest economies and the accelerating COVID-19 vaccination rollout in developed countries. In the following months, macroeconomic indicators confirmed the scenario of a rapid global economic recovery was materialising, which translated into a stronger-than-expected drop in oil stocks in the US. Combined with production cuts maintained by OPEC, this further pushed up oil prices in the second quarter of 2021.

Chart 8 Brent and WTI prices, month ahead contracts in 2020 and the first half of 2021



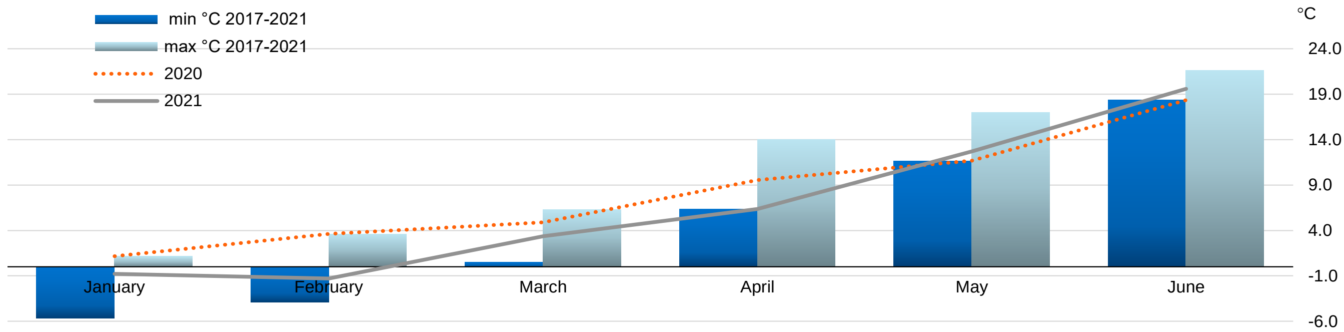
Source: In-house analysis based on ICE and NYMEX data. Month-ahead contract - contract with the delivery date in the following month.

The situation in the oil market in Europe and globally has a bearing on the PGNiG Group's financial performance, mainly due to its impact on the Exploration and Production segment (chiefly sales of crude produced in Norway) and the cost of gas imports in the Trade and Storage segment.

4.1.3 Average monthly temperatures

In the first quarter of 2021, the average temperature was significantly lower (by -2.8°C) compared with the same period of 2020. The second quarter of 2020 was comparable year on year (the average temperature in the second quarter of 2021 was 12.9°C and in the second quarter of 2020 it was 13.2°C).

Chart 9 Average monthly temperatures*



** Reference point for temperature measurement: Rzeszów.*

Source: In-house analysis.

Air temperatures are an important indicator for the Group given their impact on the operating performance of the Trade and Storage, Distribution and Generation segments.

(in PLN million unless stated otherwise)

4.2 Financial position of the PGNiG Group in the first half of 2021

Table 24 Financial highlights of the PGNiG Group for the first half of the years 2018–2021

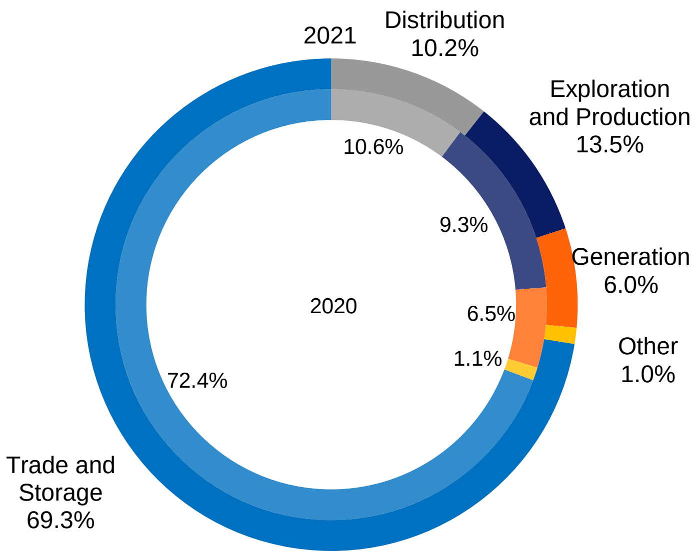
Key data from the interim condensed consolidated financial statements	6 months ended June 30th 2021	6 months ended June 30th 2020	6 months ended June 30th 2019	6 months ended June 30th 2018
Revenue	24,985	21,038	22,624	20,886
Operating profit before interest, taxes, depreciation and amortisation (EBITDA)	5,195	9,352	3,126	4,300
Operating profit (EBIT)	3,417	7,656	1,675	2,974
Profit before tax	3,336	7,327	1,732	3,087
Net profit attributable to owners of the parent	2,434	5,920	1,312	2,270
Net profit	2,434	5,920	1,311	2,270
Total comprehensive income attributable to owners of the parent	2,371	5,597	1,600	2,284
Total comprehensive income	2,371	5,597	1,599	2,284
Net cash from operating activities	4,750	6,679	3,988	4,596
Net cash from investing activities	(2,878)	(2,938)	(2,280)	(1,741)
Net cash from financing activities	(1,065)	(3,119)	(2,527)	(2,376)
Net cash flows	807	622	(819)	479
Basic and diluted earnings per share	0.42	1,02	0,23	0,39

4.2.1 Financial performance of the PGNiG Group

Statement of profit or loss

Revenue

Chart 10 Revenue by operating segment in the first half of 2020 and 2021



Exploration and Production: revenue from sales of gas up PLN +1,302m (+117%) year on year, revenue from sales of crude oil and condensate by PLN +394m (+57% year on year).

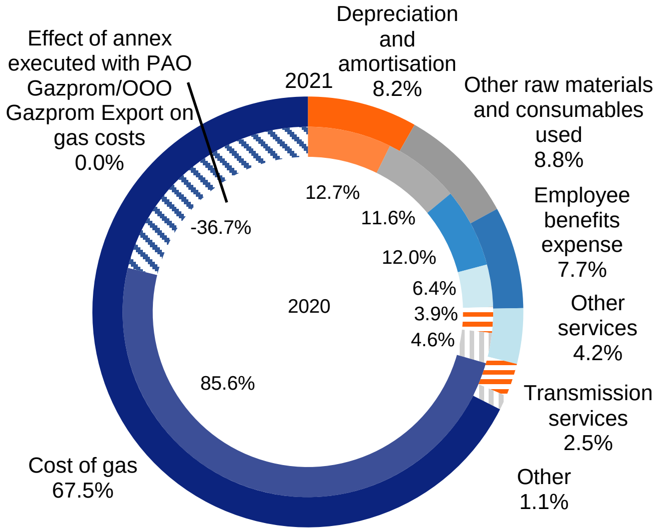
Trade and Storage: revenue from sales of E and Ls/Lw gas (taking into account the adjustment to gas sales due to hedging transactions) up +18% year on year (PLN +2,611m).

Distribution: revenue from distribution services in Poland up +20% (PLN +449m) year on year, with a 3.6% increase in the distribution tariff.

Generation: revenue from sales of heat up +20% year on year (PLN +156m),° with the average air temperature lower -1.6˚C year on year and a +3% (+707 GJ) increase in volumes of heat sales; revenue from sales of electricity from own generation down -7% year on year (PLN -34m), with sales volumes down -9% (-181 GWh).

Operating expenses

Chart 11 Analysis of operating expenses in the first half of 2020 and 2021



Total operating expenses up +61% year on year – in the first half of 2020 operating expenses relating to gas were reduced following the recognition of the effect of settlement under the annex to the Yamal contract of PLN 5,689m (approximately PLN 4,915m relates to cost of gas in 2014-2019) and recognition of net exchange gains on accounting for mutual settlements (approximately PLN 300m);

Other raw materials and consumables up PLN 352m (+23%) year on year, including a PLN 344m (+43%) increase in electricity for trading.

Employee benefits expense up PLN 50m (+3%) year on year, driven mainly by higher employee benefits in the Distribution segment (up PLN 40m).

Cost of eight dry wells and seismic surveys totalled PLN 425m in H1 2021 vs PLN 78m (four dry wells) in the first half of 2020.
Reversal of impairment losses on non-current assets in the first half of 2021 of PLN +542m vs recognition of impairment losses of PLN -854m in the first half of 2020.

Effect of reversal of a gas inventory write-down at PLN +0.5m. In the first half of 2020, reversal of a gas inventory write-down of PLN +363m.

Depreciation and amortisation in the first half of 2021 at PLN -1,778m, in Norway at PLN -246m.

EBIT and EBITDA

In the first half of 2021, EBIT amounted to PLN 3,417m, down PLN 4,239m year on year, mainly due to a drop in operating expenses following price change under the annex to the Yamal contract in the first half of 2020. A similar effect was reported in the case of EBITDA, which declined by PLN 4,157m year on year (to PLN 5,195m in the first half of 2021).

Net finance costs and net profit or loss

In the first half of 2021, net finance costs were PLN -87m and included mainly interest on lease liabilities (PLN -40m), other net finance costs (PLN -73m) and foreign exchange differences (PLN +26m).

After accounting for profit on equity-accounted investees of PLN 6m and income tax of PLN -902m, the Group's net profit for the first half of 2021 was PLN 2,434m.

For detailed information on finance income and costs (Note 3.7) equity-accounted investees (Note 2.1) and income tax (Note 3.8), see the Interim Report of the PGNiG Group for the six months ended June 30th 2021.

Statement of financial position of the PGNiG Group

As at June 30th 2021, total assets recognised in the statement of financial position were PLN 68,636m, having increased by PLN 5,765m (approximately 9%) on the end of 2020.

Assets

Property, plant and equipment represent the largest item of the PGNiG Group's assets. As at June 30th 2021, property, plant and equipment amounted to PLN 43,998m, having increased by PLN 1,433m (+3%) relative to December 31st 2020, with a major increase (up PLN 908m, or +4% on December 31st 2020) reported for 'Buildings and structures'.

As at June 30th 2021, the PGNiG Group's current assets amounted to PLN 20,817m, up PLN 4,189m (+25%) on the end of 2020, with financial derivatives up PLN 1,953m (+149%) and inventories up PLN 381m (+14%).

Equity and liabilities

The main source of financing for the PGNiG Group's assets is equity, whose value at June 30th 2021 was PLN 46,303m, which represents an increase of PLN 2,178m (+5%) on December 30th 2020. The change in equity was mainly attributable to retained earnings (up PLN 2,434m).

As at June 30th 2021, non-current liabilities were PLN 12,138m, having increased by PLN 472m (+4%) on December 31st 2020. The increase was attributable mainly to a rise in derivative financial instruments (up PLN 531m, or +186% on December 31st 2020).

(in PLN million unless stated otherwise)

As at June 30th 2021, the PGNiG Group had current liabilities of PLN 10,195m, up PLN 3,115 (+44%) on the end of 2020. As in the case of non-current liabilities, the increase was attributable to higher derivative financial instruments (up PLN 2,148m, or +193% on December 31st 2020).

For detailed information on the consolidated statement of financial position, see the PGNiG Group's Interim Report for the six months ended June 30th 2021.

Statement of cash flows of the PGNiG Group

In the first half of 2021, cash flows from operating activities were PLN +4,750m, down PLN 1,929m year on year. The decrease was mainly attributable to a less favourable difference between purchase and sale prices of gas compared with the first half of 2020. Cash flows from investing activities remained stable year on year (PLN -2,878m in the first half of 2021 vs PLN -2,938m in the first half of 2020). Cash flows from financing activities amounted to PLN -1,065m as a result of a much lower decrease in debt year on year (PLN -1,077m as at the end of the first half of 2021 vs PLN -3,400m as at the end of the first half of 2020).

For detailed information on the consolidated statement of financial position, see the PGNiG Group's Interim Report for the six months ended June 30th 2021.

4.2.2 Overview of segment results

Chart 12 Changes in EBITDA – first half of 2021 vs first half of 2020

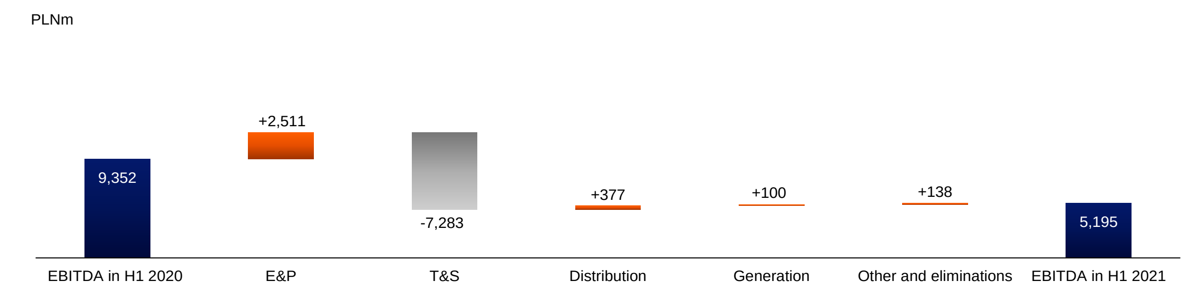
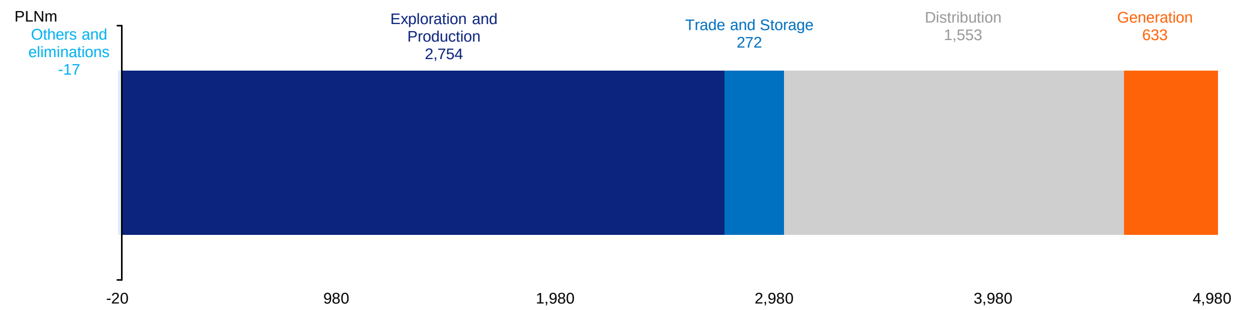


Chart 13 EBITDA for the first half of 2021 by segment



Exploration and Production (E&P)

Table 25 Financial results of the Exploration and Production segment in the first half of the years 2018−2021 (net of consolidation adjustments)

	H1 2021	H1 2020	H1 2019	H1 2018
Revenue from non-PGNiG Group customers	1,742	1,327	1,564	1,831
Inter-segment revenue	2,049	794	1,428	1,829
Total revenue, including	3,791	2,121	2,992	3,660
high-methane gas, nitrogen-rich gas and LNG	2,412	1,110	1,772	2,147
crude oil, condensate and NGL	1,085	691	965	1,256
geophysical, geological, drilling, well services	122	117	99	127
Operating profit before interest, taxes, depreciation and amortisation (EBITDA)	2,754	243	1,990	2,567
Operating profit (EBIT)	2,174	-353	1,450	2,046

(in PLN million unless stated otherwise)

Table 26 Operating expenses in the Exploration and Production segment in the first half of the years 2018−2021 (net of consolidation adjustments)

	H1 2021	H1 2020	H1 2019	H1 2018
Total costs, including:	-1,617	-2,474	-1,542	-1,614
raw materials and consumables used	-141	-150	-173	-177
employee benefits expense	-442	-450	-409	-397
transmission services	-102	-107	-114	-138
other services	-334	-299	-297	-301
taxes and charges	-221	-175	-113	-108
other income and expenses	-127	-34	68	-147
work performed by the entity and capitalised	190	268	249	240
cost of dry wells	-425	-78	-23	-376
cost of exploration and evaluation assets written-off – seismic surveys	0	0	-1	0
impairment losses on non-current assets	565	-853	-189	311
depreciation and amortisation expense	-580	-596	-540	-521

- revenue from sales of crude oil and condensate up PLN 394m (+57%) year on year, on lower sales volumes in Poland (-13% year on year) and higher sales volumes in Norway (+7% year on year), and a +58% year-on-year increase in the average oil price;
- crude oil and NGL production volumes in Norway down -2% year on year, to 283 thousand tonnes;
- overlift/underlift position in Norway in the first half of 2021 – effect on profit or loss for the first half of 2021: PLN -36m. In the first half of 2021, the effect of overlift/underlift on profit or loss was PLN +43m;
- revenue from sales of high-methane and nitrogen-rich gas up PLN 1.3bn (+118%), with production volumes across the PGNiG Group up 7%, gas prices on the Day-Ahead Market of the Polish Power Exchange (POLPX) up 153% year on year, and TTF gas prices in the euro up 186% year on year;
- cost of dry wells and seismic surveys written off: PLN -425m in the first half of 2021 vs PLN -78m in the first half of 2020;
- reversal of impairment losses on non-current assets of PLN +565m in the first half of 2021 vs recognition of impairment losses of PLN -853m in the first half of 2020.

Table 27 Capital expenditure in the Exploration and Production segment in the first half of 2021 and 2020

PLNm	H1 2021	H1 2020	H1 2019	H1 2018
Exploration and Production, including:	876	1,364	687	560
Norway	427	874	164	142
Pakistan	24	67	35	30
Libya	1	1	2	4

** Including capitalised borrowing costs.*

Trade and Storage (T&S)

Table 28 Financial results of the Trade and Storage segment in the first half of the years 2018−2021 (net of consolidation adjustments)

	H1 2021	H1 2020	H1 2019	H1 2018
Revenue from non-PGNiG Group customers	19,134	16,312	17,688	15,528
Inter-segment revenue	325	125	189	242
Total revenue, including	19,459	16,437	17,877	15,770
high-methane gas, nitrogen-rich gas, LNG, CNG, adjustment on hedging transactions	17,656	14,969	16,577	14,588
electricity	1,617	1,381	1,204	1,061
Operating profit before interest, taxes, depreciation and amortisation (EBITDA)	272	7,555	-233	-29
Operating profit (EBIT)	162	7,443	-332	-122

Table 29 Operating expenses of the Trade and Storage segment in the first half of the years 2018−2021 (net of consolidation adjustments)

	H1 2021	H1 2020	H1 2019	H1 2018
Total costs, including:	-19,297	-8,994	-18,209	-15,892
cost of gas	-16,538	-7,323	-16,223	-14,194
raw materials and consumables used	-1,639	-1,345	-1,190	-1,051
employee benefits expense	-194	-192	-164	-169
transmission services	-97	-82	-82	-74
other services	-360	-386	-367	-339
taxes and charges	-29	-37	-29	-27
other income and expenses	-335	111	6	-28
work performed by the entity and capitalised	5	9	8	23
depreciation and amortisation expense	-110	-112	-99	-93

- a year-on-year spike in the segment's total costs (+215%) – in the first half of 2020 operating expenses went down following the recognition in cost of gas of the effect of settlement under the annex to the Yamal contract of PLN 5,689m (approximately PLN 4,915m relates to cost of gas in 2014-2019) and recognition of net exchange gains on accounting for mutual settlements (approximately PLN 300m) in the first half of 2020;

(in PLN million unless stated otherwise)

- total revenue from sale of natural gas in the segment (including the effect of hedging transactions) up PLN 2.7bn (+18%) year on year;
- net gain/(loss) on settlement of hedging instruments designated for hedge accounting and recognised in profit or loss, including PLN -360m in the first half of 2021 (PLN +990m in the first half of 2020) recognised in revenue from sale of gas, and PLN +239m (PLN -283m in the first half of 2020) recognised in gas inventory as increase in gas costs;
- year-on-year increase in gas imports from both east (first half of 2021: 4.82 bcm vs first half of 2020: 4.12 bcm) and west of Poland (first half of 2021: 1.41 bcm vs first half of 2020: 1.16 bcm); lower LNG imports (first half of 2021: 2.04 bcm vs first half of 2020: 2.19 bcm);
- total revenue from sales of electricity: PLN 1.62bn, increase of PLN 236m (17%), with cost of energy for trading higher by PLN 288m (22%) year on year;
- effect of reversal of a gas inventory write-down at less than PLN 1m in the first half of 2021. In the first half of 2020, reversal of impairment loss of PLN +363m;
- effect of recognition of a provision for energy efficiency buy-out price: PLN -151m in the first half of 2021 vs PLN -124m in the first half of 2020.

Capital expenditure made in the first half of 2021 on PGNiG Group's property, plant and equipment in the Trade and Storage segment was PLN 16m.

Distribution

Table 30 Financial results of the Distribution segment in the first half of the years 2018−2021 (net of consolidation adjustments)

	H1 2021	H1 2020	H1 2019	H1 2018
Revenue from non-PGNiG Group customers	2,820	2,374	2,449	2,547
Inter-segment revenue	48	39	23	140
Total revenue, including	2,868	2,413	2,472	2,687
gas distribution	2,731	2,282	2,262	2,380
Operating profit before interest, taxes, depreciation and amortisation (EBITDA)	1,553	1,176	1,124	1,384
Operating profit (EBIT)	958	649	632	927

Table 31 Operating expenses of the Distribution segment in the first half of the years 2018−2021 (net of consolidation adjustments)

	H1 2021	H1 2020	H1 2019	H1 2018
Total costs, including:	-1,910	-1,764	-1,825	-1,760
raw materials and consumables used	-90	-27	-104	-183
employee benefits expense	-743	-703	-740	-607
transmission services	-339	-330	-323	-316
other services	-114	-102	-103	-121
taxes and charges	-431	-384	-359	-395
other income and expenses	242	158	131	184
work performed by the entity and capitalised	160	151	150	136
recognition and reversal of impairment losses on property, plant and equipment and intangible assets	2	-1	5	1
depreciation and amortisation expense	-595	-527	-492	-457

- volume of distributed gas up 19%, or 1.16 bcm, to 7.35 bcm, with average air temperatures lower by -1.6 °C year on year;
- revenue from distribution services higher by PLN 449m (+20%) year on year, with a higher tariff as of February 1st 2021 (increase of approximately 3.6% on the previous tariff);
- net income/cost of system balancing: PLN -35m in the first half of 2021, compared with PLN +17m in the first half of 2020.

Capital expenditure incurred in the first half of 2021 on PGNiG Group's property, plant and equipment in the Distribution segment was PLN 1,328m.

Generation

Table 32 Financial results of the Generation segment in the first half of the years 2018−2021 (net of consolidation adjustments)

	H1 2021	H1 2020	H1 2019	H1 2018
Revenue from non-PGNiG Group customers	1,238	963	873	888
Inter-segment revenue	448	514	537	377
Total revenue, including	1,686	1,477	1,410	1,265
heat	946	790	741	743
electricity	536	560	553	393
heat distribution	50	41	40	40
Operating profit before interest, taxes, depreciation and amortisation (EBITDA)	633	533	462	466
Operating profit (EBIT)	173	101	158	246

(in PLN million unless stated otherwise)

Table 33 Operating expenses of the Generation segment in the first half of the years 2018−2021 (net of consolidation adjustments)

	H1 2021	H1 2020	H1 2019	H1 2018
Total costs, including:	-1,513	-1,376	-1,252	-1,019
raw materials and consumables used	-693	-622	-620	-533
employee benefits expense	-120	-114	-110	-105
services	-101	-88	-85	-83
taxes and charges	-39	-34	-34	-45
other income and expenses	-100	-86	-99	-34
work performed by the entity and capitalised	0	0	0	1
recognition and reversal of impairment losses on property, plant and equipment and intangible assets	0	0	0	0
depreciation and amortisation expense	-460	-432	-304	-220

- revenue from sales of electricity generated by own sources down 7% year on year, to PLN 472m, with sales volumes down 9% (0.18 TWh) year on year.
- a 20% year-on-year increase in revenue from sale of heat, to PLN 946m, with lower average temperature and sales volumes rising 3% year on year;
- cost of coal comparable year on year: PLN 476m in the first half of 2021 vs PLN 474m in the first half of 2020;

Capital expenditure incurred in the first half of 2021 on PGNiG Group's property, plant and equipment in the Generation segment was PLN 406m.

4.2.3 Anticipated financial condition and trends on key product markets

PGNiG Group's anticipated financial condition

In the coming periods, the financial standing of the PGNiG Group will be materially affected by changes in the prices of hydrocarbons on global commodity markets and fluctuations in foreign exchange rates. These factors will be a material driver of the PGNiG Group's performance in the Exploration and Production and Trade and Storage segments. Any changes in hydrocarbon prices affect revenues of the Group entities engaged in production, and determine the demand for seismic and exploration services offered by the Group companies. Rising gas and crude oil prices have a positive effect on the performance of the Exploration and Production segment. Long-term forecasts of hydrocarbon prices strongly influence projected cash flows from production assets, and as a consequence entail the necessity of revaluation of property, plant and equipment.

On the other hand, since the prices of gas purchased by PGNiG under the Yamal and Qatar contracts are linked to prices of crude oil, the effect of rising oil prices on the performance of the Trade and Storage segment is opposite to the effect that rising oil prices have on the performance of the Exploration and Production segment. Any increase in crude oil prices translates into higher cost of gas purchased by PGNiG. This relationship was significantly limited in the case of the Yamal contract thanks to the ruling of the Arbitration Court in Stockholm in favour of PGNiG concerning the pricing formula used in the Yamal contract. The PGNiG Group's financial results will also be influenced by the situation on the domestic currency market. Any strengthening of the złoty against foreign currencies (primarily the US dollar) will have a positive effect on the performance of the Trade and Storage segment by driving down PGNiG's gas procurement costs, although it must be noted that the effect of exchange rate fluctuations is mitigated by the PGNiG Group's hedging policy.

Another factor with a bearing on the PGNiG Group's financial condition is the President of URE's decisions on gas fuel sale and distribution tariffs and heat sale tariffs. In addition, the progressing deregulation of the gas market in Poland will continue to put pressure on the performance of the PGNiG Group's Trade and Storage companies selling gas. In view of the competition for customers, the Group offers discount schemes to customers and adjusts pricing terms to reflect market prices. These factors may have an adverse effect on the profitability of the Trade and Storage segment by eroding its margins.

However, the PGNiG Group companies have put in place a number of initiatives to improve efficiency. These initiatives focus, among other things, on optimisation of the cost base and are expected to have a positive effect on the PGNiG Group's financial results.

In the Generation segment, financial results will be considerably influenced by the support programmes for electricity produced from high-efficiency cogeneration sources and renewable sources. Changes in the market prices of CO_2 emission allowances will have an increasing effect on the PGNiG Group's financial condition in the segment. Another key driver of the segment's performance is prices of the fuels used to produce heat and electricity.

4.2.4 Publication of financial and operating forecasts

The Company does not publish performance forecasts.

On January 27th 2021, PGNiG published its oil and gas production forecasts for 2021–2023.

Table 34 Natural gas production forecast for 2021–2023*

bcm	2021	2022	2023
Poland	3.8	3.8	4
Other countries, including:	1.2	1.4	1.3
- Norway	*0.9*	*1.1*	*1*
- Pakistan	*0.3*	*0.3*	*0.3*
Total	5	5.2	5.3

** Converted to gas with a calorific value of 39.5 MJ/m^3.*

Natural gas production in Poland should remain stable over the years to come. The expected decrease in gas production volumes in 2021 is due to the lengthened project timelines caused by the pandemic, and in 2022 – due to an extended shutdown of the Lubiatów facility. Production is expected to increase in 2023 following completion of capex projects involving development of new fields and connection of new wells.

Lower gas production forecasts in Pakistan are due to delays in construction of technical facilities and the local lockdown caused by the pandemic situation. Growth in gas production in Norway in 2021–2023 will be driven by the acquisition of the Kvitebjørn and Valemon fields, and by the planned launch of production from the Snadd Outer, Duva and other wells drilled on the Ærfugl structure.

Table 35 Crude oil production forecast, including condensate and NGL, for 2021–2023

thousand tonnes	2021	2022	2023
Poland	667	612	616
Other countries, including:	633	918	771
Norway	*633*	*918*	*771*
Total	1,300	1,530	1,387

The 2021 oil production forecasts reflect a number of factors, including the postponement of a project to develop the Kamień Mały field from 2020 to 2022 and lower oil output at the Lubiatów facility. Production volumes are expected to fall in 2022–2023 as a result of a planned extended shutdown of the Lubiatów facility related to its expansion and connection of the Międzychód-8h well in 2022. The planned extended shutdown of the Dębno facility related to its expansion will affect oil production volumes in 2023.

Over the forecast period 2021–2022, the natural decline in oil production will decelerate, as a consequence of the acquisition of the Kvitebjørn and Valemon fields, and of the planned launch of production from the Snadd Outer, Duva, Gråsel and other wells drilled on the Ærfugl structure. In addition, work is being planned to boost production from the Morvin field. The decline in production volumes in Norway expected in 2023 is due to natural depletion. However, the Company is taking steps to acquire new oil and gas reserves in Norway.

Operating performance projections do not reflect the potential production of hydrocarbons held by INEOS E&P Norge AS as the conditions for PGNiG UN's acquisition of control of INEOS E&P Norge AS have not yet been satisfied.

4.3 PGNiG's financial position in the first half of 2021

Table 36 PGNiG's financial highlights in the first half of the years 2018–2021

	6 months ended June 30th 2021	6 months ended June 30th 2020	6 months ended June 30th 2019	6 months ended June 30th 2018
Revenue	12,413	11,037	12,035	10,915
Operating profit before interest, taxes, depreciation and amortisation (EBITDA)	1,836	6,776	864	1,637
Operating profit (EBIT)	1,427	6,365	447	1,249
Profit before tax	2,140	6,469	1,895	3,080
Net profit	1,870	5,230	1,772	2,791
Total comprehensive income	1,779	4,955	2,046	2,782
Net cash from operating activities	(257)	2,622	846	1,279
Net cash from investing activities	738	(1,083)	(241)	(575)
Net cash from financing activities	(28)	(3,051)	(2,387)	(1,563)
Net cash flows	453	(1,512)	(1,782)	(859)
Basic and diluted earnings per share	0.32	0.91	0.31	0.48

In the first six months of 2021, PGNiG reported EBITDA of PLN 1,836m, PLN 4,940m less year on year.

The decline in EBITDA (PLN -7,005m) in the Trade and Storage segment was attributable to the effect on the costs of 2020 of the annex signed with PAO Gazprom/OOO Gazprom Export (PLN +4,915m). The remaining decrease is attributable to higher gas purchase prices. The PLN 1,871m increase in the Exploration and Production segment's EBITDA is mainly attributable to reversal of impairment losses on non-current assets and higher gas prices. The segment's EBITDA also improved as a result of higher profit on sales of crude oil, driven by rising unit selling prices. The PLN 194m increase in the Other Activities segment's EBITDA was due to, among others, the net foreign exchange result on operating activities.

(in PLN million unless stated otherwise)

5. Additional information on the PGNiG Group

5.1 Management and supervisory bodies at PGNIG S.A. and their committees

5.1.1 Management Board

Composition of the PGNiG Management Board as at June 30th 2021:

- Paweł Majewski – President
- Artur Cieślik – Vice President, Chief Strategy and Regulation Officer
- Robert Perkowski – Vice President, Operations
- Arkadiusz Sekściński – Vice President, Development
- Przemysław Wacławski – Vice President, Finance
- Magdalena Zegarska – Vice President.

5.1.2 Supervisory Board

Composition of the PGNIG S.A. Supervisory Board as at June 30th 2021:

- Bartłomiej Nowak – Chairman
- Piotr Sprzączak – Deputy Chairman
- Sławomir Borowiec – Secretary of the Supervisory Board
- Piotr Broda – Member
- Roman Gabrowski – Member
- Andrzej Gonet – Member of the Supervisory Board
- Mieczysław Kawecki – Member of the Supervisory Board
- Stanisław Sieradzki – Member of the Supervisory Board
- Grzegorz Tchorek – Member of the Supervisory Board.

5.2 Agreements executed by PGNiG Group companies

5.2.1 Agreements material to the operations of the PGNiG Group

The agreements material to the operations of the PGNiG Group, executed in the first half of 2021, included:

- Conclusion of a cooperation agreement between PKN ORLEN, Grupa LOTOS, PGNiG and the State Treasury – Minister of State Assets. In the cooperation agreement, the parties confirm that as at the date of signing the cooperation agreement the scenario adopted for PKN ORLEN's acquisition of control over Grupa LOTOS and PGNiG provides for merging PKN ORLEN, Grupa LOTOS and PGNiG through acquisition under Art. 492.1.1 of the Commercial Companies Code, with all assets of Grupa LOTOS and PGNiG (the acquirees) to be transferred to PKN ORLEN (the acquirer) for shares which PKN ORLEN would grant to the shareholders of Grupa LOTOS and PGNiG, as part of one or two separate merger processes. Under this merger scenario, in exchange for the shares held in Grupa LOTOS and PGNiG the shareholders of Grupa LOTOS and PGNiG will subscribe for new shares in the increased share capital of PKN ORLEN and will become PKN ORLEN shareholders as of the merger date;
- Signing of a letter of intent with ORLEN Południe concerning a possible joint project in biomethane. The project will be a joint venture set up by ORLEN Południe and PGNiG in the form of a special purpose vehicle (SPV) in which ORLEN Południe and PGNiG will respectively acquire 51% and 49% of the share capital. The intention of ORLEN Południe and PGNiG is that the SPV's business consists in particular in acquiring and building biomethane facilities, developing technologies used to produce biomethane, and producing, trading and using biomethane in various areas of ORLEN Południe's and PGNiG's operations.
- execution of a conditional agreement for the acquisition of INEOS E&P Norge by PGNiG Upstream Norway AS (for more information, see section 3.1.3.).

5.3 Litigation

Table 37 Litigation

Parties to the proceedings	Subject of the dispute	Description
Proceedings with respect to the obligation to sell natural gas through commodity exchange Parties to the proceedings: PGNiG, President of URE	failure to satisfy the exchange sale requirement in 2013 and 2014	On May 25th 2016, the President of URE resumed *ex officio* the proceedings to impose a fine on PGNIG S.A.. for its failure to meet the exchange sale requirement in 2013. On June 17th 2016, pursuant to Art. 56.6a of the Energy Law, the Company filed a motion that the President of URE refrain from imposing a penalty. As at the date of this Report, the proceedings were not concluded by the President of URE. On October 10th 2018, the Competition and Consumer Protection Court granted PGNIG S.A.'s appeal and reduced the administrative fine for failure to meet the exchange sale requirement in 2014 from PLN 15m to PLN 5m, and also cancelled the costs of first instance proceedings between the parties. On November 12th 2020, the Court of Appeals in Warsaw dismissed the Company's appeal. The ruling is final. The Company is awaiting service of the judgment with the statement of reasons and is considering taking further legal steps .

(in PLN million unless stated otherwise)

Anti-trust proceedings instigated on December 28th 2010 Parties to the proceedings: PGNiG, President of UOKiK	alleged abuse by PGNiG of its dominant position on the domestic natural gas wholesale market, which consisted in inhibiting trade in natural gas against the interests of trading partners or consumers and in impeding the development of market conditions necessary for the emergence or development of competition by refusing to sell gas fuel under a comprehensive supply contract to a business entity that intended to resell the gas	On June 8th 2017, the Court of Appeals in Warsaw reversed the ruling of the Competition and Consumer Protection Court of May 12th 2014 and remanded the case for re-examination by that court. On October 10th 2019, the Competition and Consumer Protection Court again upheld the decision of the President of UOKiK and again imposed a fine on the Company, changing its amount to PLN 5,508,000. The Company filed an appeal with the Court of Appeals on November 28th 2019. On June 11th 2021, the Court of Appeals in Warsaw dismissed the Company's appeal. The ruling is final. The Company is awaiting service of the judgment with the statement of reasons and is considering taking further legal steps.
NS2 AG derogation proceedings Parties to the proceedings: PGNiG, PST, NS2 AG, BNetzA, Higher Regional Court in Düsseldorf	motion	On January 10th 2020, Nord Stream 2 AG applied to the German regulator BNetzA for derogation (exemption) from the provisions of the Gas Directive (2009/73/EC), as amended in 2019. The German company invoked Article 49a of the Directive despite failing to meet one of the conditions under the law regarding the need for the pipeline to be completed on May 23rd 2019 (the date of entry into force of the amendment). PGNiG S.A. and PST applied on February 19th 2020 to accede to the proceedings. On March 18th 2020, the German regulator granted the request. On May 15th 2020, the German regulator announced that it had rejected Nord Stream 2 AG's application. Consistent with the position presented by PGNiG S.A. and PST, BNetzA concluded that the pipeline was not completed on May 23rd 2019. On June 15th 2020, Nord Stream 2 AG appealed the decision of the BNetzA to the Higher Regional Court in Düsseldorf and subsequently filed a statement of reasons for the appeal on September 14th 2020. On July 30th 2020, PGNiG S.A. and PST filed a letter of accession to the case as active participants, and on January 14th 2021 they filed a pleading stating their position on the case. Further letters, being a reply to Nord Stream 2 AG's response, were submitted on June 22nd 2021. On June 30th 2021, a hearing was held before the Higher Regional Court of Düsseldorf. A judgment on the case is to be issued on August 25th 2021.
Proceedings concerning the OPAL pipeline Parties to the proceedings: PGNiG, General Court of the European Union PST, General Court of the European Union	inadmissibility of complaint; award of injunctive relief (administration of injunctive relief)	The complaint and the request for injunctive relief have been filed with the General Court of the European Union against the European Commission's decision of October 28th 2016 whereby the Commission allowed a revision to the exemption of the OPAL pipeline from the common gas market regulations (especially with respect to the Third Party Access (TPA) principle), in accordance with the text of the administrative decision issued by the German regulator – Federal Network Agency (Bundesnetzagentur), subject to modifications referred to in the Commission's decision. On December 4th 2019, the Court of Justice of the European Union dismissed the appeals lodged by PST and PGNiG, upholding the decision of the General Court of the EU and referring only to formal issues and not to the substantive analysis of the case. On December 4th 2019, the Court of Justice of the European Union also dismissed the appeal lodged by the Republic of Poland in the PST case, indicating that the decision of the General Court of the EU is irrelevant to the case initiated based on the Republic of Poland's complaint under Case No. T-883/16. The complaint and the request for injunctive relief filed with the Higher Regional Court of Düsseldorf (Oberlandesgericht Düsseldorf) are primarily against the administrative settlement between the German regulator, OPAL Gastransport GmbH & Co. KG, OAO Gazprom and OOO Gazprom Export, specifying the revised conditions for exemption of the OPAL pipeline from the common gas market regulations (in particular the TPA principle). On January 9th 2019, the German Federal Network Agency (*Bundesnetzagentur*) resumed proceedings concerning a previous decision issued in 2009 on the terms of the regulatory exemption of the Opal gas pipeline, and at the same time it suspended the proceedings. On January 28th 2019, PGNiG and PST filed a request to join in the proceedings. In its reply of February 25th 2019, the German regulatory authority stated that the request would be examined after the pending court proceedings had been closed. On September 13th 2019, the Federal Network Agency (*Bundesnetzagentur*) obliged the transmission system operator Opal Gastransport GmbH's to reduce gas flows in the Opal pipeline, thus responding to the judgment of the General Court of the EU of September 10th 2019 in Case No. T-883/16 initiated by the complaint of the Republic of Poland, declaring invalidity of the European Commission's decision of October 28th 2016 on the rules for using the Opal pipeline. An appeal against the judgment was brought by the German government and the case is currently pending before the Court of Justice. On March 18th 2021, the Advocate General issued an opinion on maintaining the validity of the judgment issued in the first instance. On July 15th 2021, the Court of Justice of the European Union found that by issuing a decision on the OPAL pipeline the European Commission violated the principle of energy solidarity. The judgment is final.

(in PLN million unless stated otherwise)

5.4 Detailed description of the PGNiG Group's structure and its changes

As at June 30th 2021, the PGNiG Group comprised 35 business entities, including:

- PGNiG as the parent,
- 32 production, trade and service companies and 2 mutual insurance companies, including:
  - 18 direct subsidiaries of PGNiG,
  - 16 indirect subsidiaries of PGNiG.

The parent

Name	Polskie Górnictwo Naftowe i Gazownictwo Spółka Akcyjna
Registered office	ul. Marcina Kasprzaka 25, 01-224 Warsaw, Poland
Court of registration	District Court for the Capital City of Warsaw, 13th Commercial Division
NATIONAL COURT REGISTER (KRS) NO.	0000059492
Website	www.pgnig.pl
Investor Relations	ri@pgnig.pl

5.4.1 Detailed structure of the PGNiG Group

Table 38 List of the PGNiG Group subsidiaries as at June 30th 2021

No.	Company name	Share capital [in PLN, unless stated otherwise]	Value of shares held by PGNiG [in PLN, unless stated otherwise]	PGNiG's ownership interest (%, direct holdings)	PGNiG Group's ownership interest (%, direct and indirect holdings)
	Subsidiaries – first tier				
1	PGNiG GAZOPROJEKT S.A.	4,000,000	3,749,000	93.73%	93.73%
2	EXALO Drilling S.A.	981,500,000	981,500,000	100%	100%
3	GEOFIZYKA Toruń S.A.	75,240,000	75,240,000	100%	100%
4	Geovita S.A.	113,407,782	113,407,782	100%	100%
5	Gas Storage Poland Sp. z o.o.	15,290,000	15,290,000	100%	100%
6	PGNiG Obrót Detaliczny Sp. z o.o.	625,307,815	625,307,815	100%	100%
7	PGNiG Serwis Sp. z o.o.	9,995,000	9,995,000	100%	100%
8	PGNiG Technologie S.A.	272,727,240	272,227,240	100%	100%
9	PGNiG TERMIKA S.A.	1,740,324,950	1,740,324,950	100%	100%
10	Polska Spółka Gazownictwa Sp. z o.o.	10,488,917,050	10,488,917,050	100%	100%
11	PGNiG Supply & Trading GmbH	EUR 10,000,000	EUR 10,000,000	100%	100%
12	PGNiG Upstream Norway AS	NOK 1,115,000,000	NOK 1,115,000,000	100%	100%
13	PGNiG Upstream North Africa B.V.	EUR 20,000	EUR 20,000	100%	100%
14	GAS-TRADING S.A.	2,975,000	1,291,350	43.41%	79.58%[2]
15	PGNiG Ventures Sp. z o.o.	22,590,000	22,590,000	100%	100%
16	PGNiG SPV 6 Sp. z o.o.	51,381,000	51,381,000	100%	100%
17	PGNiG SPV 7 Sp. z o.o.	250,000	250,000	100%	100%
18	Polski Gaz Towarzystwo Ubezpieczeń Wzajemnych	40,000,000	40,000,000	100%	100%
	Subsidiaries – second tier				
19	PGNiG TERMIKA Energetyka Przemysłowa S.A.	370,836,300	370,836,300	-	100%[8]
20	GAZ Sp. z o.o.	300,000	300,000	-	100%[3]
21	PSG Inwestycje Sp. z o.o.	81,131,000	81,131,000	-	100%[3]
22	Oil Tech International F.Z.E.	USD 20,000	USD 20,000	-	100%[4]
23	EXALO DRILLING UKRAINE LLC	EUR 20,000	EUR 20,000	-	100%[4]
24	PST Europe Sales GmbH	EUR 1,000,000	EUR 1,000,000	-	100%[5]
25	Ośrodek Badawczo-Rozwojowy Górnictwa Surowców Chemicznych CHEMKOP Sp. z o.o.	3,000,000	2,565,350	-	85.51%[6]
26	Gas-Trading Podkarpacie Sp. z o.o.	6,670,627	5,257,524	-	78.82%[7]
27	Polskie Centrum Brokerskie Sp. z o.o.	100,000	100,000		100%[1]
28	PGNiG TERMIKA Energetyka Rozproszona Sp. z o.o.	13,550,000	13,550,000		100%[8]
29	PGNiG TERMIKA Energetyka Przemyśl sp. z o.o.	6,000,000	6,000,000	-	100%[8]
30	Zakład Gospodarki Mieszkaniowej Sp. z o.o.	1,806,500	1,806,500	-	100%[4]
31	Exalo Diament Sp. z o.o. w organizacji (in the process of formation)	5,000	5,000	-	100%[4]
32	Polski Gaz Towarzystwo Ubezpieczeń Wzajemnych na Życie	25,000,000	25,000,000	100%	100%[11]
	Subsidiaries – third tier				
33	XOOL GmbH	EUR 500,000	EUR 500,000	-	100%[9]
34	PGNiG TERMIKA Energetyka Przemysłowa - Technika Sp. z o.o.	200,000	200,000	-	100%[10]

1) PGNiG's interest held indirectly through PGNiG Serwis Sp. z o.o.
2) PGNiG's direct interest is 43.41%, with a 36.17% interest held indirectly through PGNiG SPV 6 Sp. z o.o.
3) PGNiG's interest held indirectly through Polska Spółka Gazownictwa Sp. z o.o.
4) PGNiG's interest held indirectly through Exalo Drilling S.A.
5) PGNiG's interest held indirectly through PGNiG Supply & Trading GmbH.
6) PGNiG's interest held indirectly through Gas Storage Poland Sp. z o.o.
7) PGNiG's interest held indirectly through GAS TRADING S.A.
8) PGNiG's interest held indirectly through PGNiG TERMIKA S.A.
9) PGNiG's interest held indirectly through PGNiG Supply & Trading GmbH and PST Europe Sales GmbH
10) PGNiG's interest held indirectly through PGNiG TERMIKA S.A. and PGNiG TERMIKA Energetyka Przemysłowa S.A.
11) PGNIG's interest held indirectly through Polski Gaz Towarzystwo Ubezpieczeń Wzajemnych

(in PLN million unless stated otherwise)

5.4.2 Other ownership interests and organisational links

Table 39 List of the PGNiG Group jointly controlled entities and associates as at June 30th 2021

No.	Company name	Share capital [in PLN, unless stated otherwise]	Value of shares held by PGNiG [in PLN, unless stated otherwise]	PGNiG's ownership interest (%, direct holdings)	PGNiG Group's ownership interest (%, direct and indirect holdings)
	Jointly controlled entities and associates – first tier				
1	SGT EUROPOL GAZ S.A.	80,000,000	38,400,000	48.00%	51.18%[1)]
2	PFK GASKON S.A.	13,061,325	6,000,000	45.94%	45.94%
3	ZWUG INTERGAZ Sp. z o.o.	4,700,000	1,800,000	38.30%	38.30%
4	Dewon ZSA	UAH 11,146,800	UAH 4,055,205.84	36.38%	36.38%
	Jointly controlled entities and associates – second tier				
5	Zakład Separacji Popiołów Siekierki Sp. z o.o.	10,000,000	7,000,000	-	70%[2)]
6	Elektrociepłownia Stalowa Wola S.A.	28,200,000	14,100,000	-	50%[2)]
7	Polska Grupa Górnicza S.A.	3,916,718,200	800,000,000	-	20.43%[2)]
8	Polimex-Mostostal S.A.	473,237,604	78,000,048	-	16.48%[3)]
9	Enelion Sp. z o.o	12,650	950	-	7.51%[6)]
10	ICsec SA	161,876	20,000	-	12.36%[6)]
	Jointly controlled entities and associates– third and fourth tier				
11	Śląskie Centrum Usług Wspólnych Sp. z o.o.	10,835,000	2,213,591	-	20.43%[4)]
12	Gardia Broker Sp. z o.o.	55,000	11,237	-	20.43%[5)]
13	ICaudit Sp. z o.o.	22,500	2,780	-	12.36%[7)]
14	ICcert Sp. z o.o.	35,000	4,324	-	12.36%[7)]
15	ICdiode Sp. z o.o.	22,500	2,780	-	12.36%[7)]

1) PGNiG's direct interest is 48.00%, with an indirect 3.18% interest held through GAS-TRADING S.A.
2) PGNiG S.A.'s interest held indirectly through PGNiG TERMIKA S.A.
3) PGNiG S.A.'s interest held indirectly through PGNiG Technologie S.A.
4) PGNiG S.A.'s interest held indirectly through PGNiG TERMIKA S.A. and Polska Grupa Górnicza S.A.
5) PGNiG S.A.'s interest held indirectly through PGNiG TERMIKA S.A., Polska Grupa Górnicza S.A. and Śląskie Centrum Usług Wspólnych Sp. z o.o.
6) PGNiG's interest held indirectly through PGNiG Ventures Sp. z o.o.
7) PGNiG's interest held indirectly through PGNiG Ventures Sp. z o.o. and IC sec S.A.

Equity investments outside the group of related entities

In the first half of 2021, the PGNiG Group made no material equity investments outside the group of related entities. As at June 30th 2021, the total par value of PGNiG's equity interests held outside the group of related entities was PLN 85.7m. As at June 30th 2021, the total par value of the PGNiG Group's (PGNiG's and the PGNiG Group companies') equity interests held outside the group of related entities was PLN 115.8m.

5.4.3 Changes in the PGNiG Group structure

Table 40 Changes in the PGNiG Group shareholding structure in the first half of 2021

Type of change/transaction	Date	% Voting interest after the change/transaction
Share capital increase		
PGNiG Ventures Sp. z o.o.	January 13th 2021	100.00%
PGNiG Ventures Sp. z o.o.	April 29th 2021	100.00%
PGNiG TERMIKA Energetyka Przemyśl sp. z o.o.	May 21st 2021	100.00%
PGNiG Ventures Sp. z o.o.	June 1st 2021	100.00%
PGNiG Upstream Norway AS	June 7th 2021	100.00%
Polskie Centrum Brokerskie Sp. z o.o.	June 11th 2021	100.00%
Company formation		
Entry of PGNiG TERMIKA Energetyka Przemyśl Sp. z o.o. in the National Court Register	March 2nd 2021	100.00%
Acquisition of shares/accession to the company		
By PGNiG Ventures Sp. z o.o. in Enelion Sp. z o.o.	April 9th 2021	7.51%
By PGNiG Ventures Sp z o.o. in ICsec S.A.	May 11th 2021	6.58%
By PGNiG Ventures Sp. z o.o. and ICsec S.A. in ICaudit Sp. z o.o.	May 11th 2021	6.58%
By PGNiG Ventures Sp. z o.o. and ICsec S.A. in ICcert Sp. z o.o.	May 11th 2021	6.58%
By PGNiG Ventures Sp. z o.o. and ICsec S.A. in ICdiode Sp. z o.o.	May 11th 2021	6.58%
Change of company name		
From SEJ-SERWIS Sp. z o.o. to PGNiG TERMIKA Energetyka Przemysłowa - Technika Sp. z o.o.	April 1st 2021	100.00%
From PGNiG Serwis Doradztwo Ubezpieczeniowe Sp. z o.o. to Polskie Centrum Brokerskie Sp. z o.o.	June 11th 2021	100.00%
Other changes		
Termination of legal existence of PST Verwaltungs GmbH as a result of merger with PST Europe Sales GmbH	January 8th 2021	100.00%
CIFL Sp. z o.o. w likwidacji (in liquidation), finally liquidated and deleted from the National Court Register	February 19th 2021	100.00%

5.5 Shares in PGNiG Group companies held by members of the management and supervisory bodies

Table 41 PGNiG shares held by members of the management and supervisory bodies as at June 30th 2021

Full name	Position	Number of shares/voting rights as at June 30th 2020	Par value of shares (PLN)	Number of shares/voting rights as at June 30th 2021	Par value of shares (PLN)
Mieczysław Kawecki	Member of the Supervisory Board	9,500	9,500	9,500	9,500
Stanisław Sieradzki	Member of the Supervisory Board	17,225	17,225	17,225	17,225

As at the date of this Report, PGNiG was not aware of any agreements which could lead to future material changes in the equity interests held in the Company by its existing shareholders.

5.6 Events subsequent to the reporting date

July and August 2021

- July 9th – Adoption by the PGNiG Annual General Meeting of a resolution to pay dividend of PLN 0.21 per share
- July 9th – appointment by the PGNiG Annual General Meeting of the following persons to the PGNiG Supervisory Board: Cezary Falkiewicz, Roman Gabrowski, Tomasz Gabzdyl, Mariusz Gierczak, Mieczysław Kawecki, Bartłomiej Nowak, Piotr Sprzączak and Grzegorz Tchorek. The mandates of the following Supervisory Board members expired on July 9th 2021: Sławomir Borowiec, Piotr Broda, Andrzej Gonet and Stanisław Sieradzki.
- July 16th – Decision of the President of URE concerning Amendment 2 to PGNiG OD's Gas Trading Tariff No. 10, resulting in a 12.4% increase in gas prices for all tariff groups as of August 1st 2021
- July 16th – Conclusion of agreements defining the key terms and conditions of annexes to LNG supply contracts with Venture Global Plaquemines LNG, LLC and Venture Global Calcasieu Pass, LLC, increasing the volume of LNG supplies to PGNiG by a total of 2 million tonnes per year from planned LNG liquefaction terminals.
- July 27th – Termination of a long-term contract for the supply of approximately 2m tonnes of LNG from Port Arthur LNG, LLC
- August 2nd – Execution of a letter of intent concerning potential disposal by the Tauron Group to the PGNiG Group of its equity interest in ECSW and claims under loans granted ECSW by the Tauron Group
- August 30th – Signing an agreement providing for the purchase of a controlling interest in Ukraine's Karpatgazvydobuvannya, the sole holder of the Byblivska licence located in Western Ukraine, in an area adjacent to the Polish border.

Definitions

Abbreviations and acronyms	Meaning
Proper names of companies and branches	
PGNiG, the Company, the Issuer	PGNiG S.A. as the parent of the group of companies
PGNiG Group	The PGNiG Group consisting of PGNiG S.A. as the parent and the subsidiaries
CLPB	PGNiG Central Measurement and Testing Laboratory Branch
Stalowa Wola CHP plant	Elektrociepłownia Stalowa Wola S.A.
EXALO	EXALO Drilling S.A.
Gazoprojekt	PGNiG GAZOPROJEKT S.A.
Geofizyka Kraków	GEOFIZYKA Kraków Sp. z o.o. w likwidacji (in liquidation)
Geofizyka Toruń	GEOFIZYKA Toruń Sp. z o.o.
GEOVITA	GEOVITA S.A.
GSP	Gas Storage Poland Sp. z o.o.
OGiE	Geology and Hydrocarbon Production Branch of PGNiG
OOH	Wholesale Trading Branch of PGNiG
PGG	Polska Grupa Górnicza S.A.
PGNiG OD	PGNiG Obrót Detaliczny Sp. z o.o.
PGNiG Serwis	PGNiG Serwis Sp z o.o.
PGNiG Technologie	PGNiG Technologie Sp. z o.o.
PGNiG TERMIKA	PGNiG TERMIKA S.A.
PGNiG TERMIKA EP	PGNiG TERMIKA Energetyka Przemysłowa S.A.
PGNiG UN	PGNiG Upstream Norway AS
PGNiG UNA	PGNiG UPSTREAM NORTH AFRICA B.V.
PGNIG Ventures	PGNiG Ventures Sp z o.o.
Polski Gaz TUW	Polski Gaz Towarzystwo Ubezpieczeń Wzajemnych
PSG	Polska Spółka Gazownictwa Sp. z o.o.
PST	PGNiG Supply & Trading GmbH
Names of institutions, capital market entities and energy markets	
EIA	Energy Information Administration (US)
EEX	European Energy Exchange AG (Germany)
Henry Hub	Hub /price area in the United States
GASPOOL	GASPOOL Balancing Services GmbH – hub/price area in Germany
GAZ-SYSTEM	Operator Gazociągów Przesyłowych GAZ-SYSTEM S.A.
WSE	Warsaw Stock Exchange (Giełda Papierów Wartościowych w Warszawie S.A.)
ICE	Intercontinental Exchange – energy and commodity exchange
KRS	National Court Register
NCG	NetConnect Germany GmbH & Co. KG – hub/price area in Germany
NBP	National Balancing Point – hub/price area in the UK
OPEC	Organization of the Petroleum Exporting Countries
LNG terminal	the President Lech Kaczyński LNG Terminal in Świnoujście
POLPX	Polish Power Exchange (Towarowa Giełda Energii S.A.)
TTF	Title Transfer Facility – hub/price area in the Netherlands
URE	Polish Energy Regulatory Office
Units of measure	
bbl	1 barrel of crude oil
boe	barrel of oil equivalent;
LNG	liquefied natural gas
Nm3	normal cubic meter of gas
MWt	1 megawatt thermal
MWe	1 megawatt electrical
NGL	natural gas liquids - gas composed of molecules heavier than methane: ethane, propane, butane, isobutane, etc.
PJ	1 petajoule
TWh	1 terawatt hour
Economic and financial metrics	
EBIT	earnings before interest and taxes
EBITDA	earnings before interest, taxes, depreciation and amortisation
Adjusted EBITDA	EBITDA adjusted for impairment losses on non-current assets
EV	enterprise value
P/BV	price/book value
P/E	price/earnings
ROA	return on assets
ROE	return on equity
Net margin	net profit to revenue
Other	
HP	heat plant
CHPP	CHP plant
SFG	Storage Facilities Group
KGZ	gas production facilities
CGSF	cavern gas storage facility
KRNiGZ	Oil and gas production facilities
MTTS	multiple truck-to-ship
EGM	Extraordinary General Meeting (of a joint stock company)
EGM	Extraordinary General Meeting (of a limited liability company)
UGSF	underground gas storage facility
GM	General Meeting of Shareholders (of a joint stock company)
GM	General Meeting of Shareholders (of a limited liability company)
Currencies used	
PLN	amounts expressed in the Polish zloty
euro, EUR	amounts expressed in the euro
US dollar, USD	amounts expressed in the US dollar
NOK	amounts expressed in the Norwegian crown
SEK	amounts expressed in the Swedish crown
UAH	amounts expressed in the Ukrainian hryvnia

(in PLN million unless stated otherwise)

Converters

Converters	1 bcm of natural gas	1m tonnes of crude oil	1m tonnes of LNG	1 PJ	1 mboe	1 TWh
1 bcm of natural gas	1	0.90	0.73	38	6.45	10.972
1m tonnes of crude oil	1.113	1	0.81	42.7	7.5–7.8*	11.65
1m tonnes of LNG	1.38	1.23	1	55	8.68	14.34
1 PJ	0.026	0.23	0.019	1	0.17	0.28
1 mboe	0.16	0.128–0.133*	0.12	6.04	1	1.70
1 TWh	0.091	0.086	0.07	3.6	0.59	1

** The converter is different for crude oil produced in Poland and Norway.*

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6. Representation of the PGNiG Management Board and authorisation of the report

The Management Board of PGNiG represents that to the best of its knowledge this Directors' Report on the operations of PGNiG S.A. and the PGNiG Group gives a fair view of the Company's and the Group's condition and includes a description of key threats and risks.

PGNiG S.A. Management Board:

President of the Management Board	Paweł Majewski	*Signed with qualified electronic signature*
Vice President of the Management Board	Artur Cieślik	*Signed with qualified electronic signature*
Vice President of the Management Board	Robert Perkowski	*Signed with qualified electronic signature*
Vice President of the Management Board	Arkadiusz Sekściński	*Signed with qualified electronic signature*
Vice President of the Management Board	Przemysław Wacławski	*Signed with qualified electronic signature*
Vice President of the Management Board	Magdalena Zegarska	*Signed with qualified electronic signature*

Warsaw, August 31st 2021