

Investments and development

The ultimate goal of investments undertaken by the Company is to **drive up its market value**.

The investment program of KOGENERACJA S.A. focuses mainly on **internal and external investments in fixed-assets**.

Investments in fixed-assets are intended to boost growth, protect the national environment and ensure modernization and replacement of fixed assets.

Modernization and replacement investments, such investments in the Company's production assets increase their efficiency and availability, reduce the failure rate of production systems and improve work safety.

Table. Investments

in PLN thousand	for the period from 1 January 2019 to 31 December 2019	for the period from 1 January 2018 to 31 December 2018
KOGENERACJA S.A.	113 529	99 529
Internal investments	104 629	93 222
External investments	8 900	6 307
EC Zielona Góra S.A.	47 851	32 614
Total capital expenditures	161 380	132 143



Investments

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Internal investment

The projects in this field are aimed at the gradual restoration of decapitalized production assets, combined with their modernization.

The most important tasks carried out in 2019 include:

- capitalized overhaul of TG3 turbine at EC Wrocław,
- modernization of selected auxiliary facilities at EC Wrocław,
- capitalized overhaul of TG2 turbine at EC Czechnica,
- capitalized overhaul of K-3 boiler at EC Czechnica,
- modernization of network water pumps at EC Wrocław,
- capitalized overhaul of the mill installations EC Wrocław,
- modernization of selected non-block facilities at EC Czechnica,
- modernization of the internal heating system in the EC Wrocław.

The investments executed in 2019 were financed mainly from the Company's own funds.

The most important tasks planned for 2020 include:

- renovation of the capitalized TG2 turbine in EC Wrocław,
- modernization of selected electrical systems and modernization of the G-2 generator in the EC Wrocław,
- renovation of capitalized K-2 boiler in EC Wrocław,
- modernization of the construction infrastructure in the EC Wrocław,
- modernization of selected non-block facilities in the EC Wrocław,
- modernization of selected electrical systems in the EC Wrocław.

The investments planned to be executed in 2019 will be financed from the Company's own funds.

External Investments

**New connections**

Both KOGENERACJA S.A. and EC Zielona Góra S.A. carry out external investments to facilitate new connections to the municipal heat distribution network in Wrocław and

Zielona Góra and to expand the heat market in conformance with the Company's strategic objectives.

In 2019, consumers with a total contracted capacity of **26.4 MWt** (vs. 15.7 MWt in 2018) were connected to the district heating network:

- **13.3 MWt** - in Wrocław 40 nodes with a capacity of **10.7 MWt**, through the construction of own nodes at customers' sites from the Company's own resources and nodes financed by customers; including **4.7 MWt** on the primary market and **6 MWt** on the secondary market. At the same time, **11** nodes with a total capacity of **2.6 MWt** were built and connected to the own heat distribution network in Siechnice and Święta Katarzyna.
- **13.1 MWt** in Zielona Góra.

The investment projects implemented in 2020 will be financed from the Company's own funds and from external sources e.g. subsidies from the National Fund for Environmental Protection and Water Management under the Integrated Territorial Investments.

Electromobility

EC Zielona Góra S.A. participates in the project called the "Integrated system of low-emission public transport" in Zielona Góra implemented in partnership with the City Hall of Zielona Góra and the Municipal Transport Company (MZK). The development of electromobility in Zielona Góra creates an opportunity for the Company to launch a new business line of sales and distribution of electricity supplied to the electric bus charging station and in the future also to charging points distributed across the entire city.

The aim of the new area of activity will be to increase the security of electricity supply to public transport vehicles and in the future to gain new customers. 9 November 2018 The President of the Energy Regulatory Office granted the concession for distribution of electricity. 11 July 2019 The President of the ERO approved the first Tariff for the distribution of electricity, which was introduced for use in settlements with final recipients on 1 August 2019 and on 15 July 2019 appointed HPP Zielona Góra as the power distribution system operator (DSO) for the period until 31 December 2030 within its own electricity distribution network.

Quality and environmental protection

Integrated Management System

KOGENERACJA S.A. and EC Zielona Góra S.A. have individual Integrated Management System certificates which cover the following three systems:

- Quality Management System compliant with the requirements of PN-EN ISO 9001:2010,
- Environmental Management System compliant with the requirements of PN-EN ISO 14001:2005,
- Occupational Health and Safety Management System compliant with the requirement PN-N 18001:2004 and OHSAS 18001:2007.

In May 2019, auditors from the Management Systems Certifying Unit UDT-CERT carried out a supervision audit of the certificate of the Integrated Quality, Environmental and Health and Safety Management System in KOGENERACJA S.A. The Integrated Management System Certificate is valid until 30 May 2022 for the Quality and Environmental Management System and until 11 March 2021 for the Occupational Health and Safety Management System. The expiry date of the OHSAS certificate is linked to the date of publication of the new standard ISO 45001:2018.

In June 2019, auditors from the Polish Centre for Testing and Certification (PCBC) carried out a certificate renewal audit for the Integrated Quality Management System, the Environmental Management System and the Occupational Health and Safety Management System at EC Zielona Góra S.A. All the certificates shall remain valid for three years.



Integrated permits and environmental decisions

In 2019, the Parent Entity requested for changes in the integrated permits issued to EC Czechnica and EC Wrocław. The purpose of changes in the administrative decisions was to align them with the provisions of the so called BAT Conclusions which will take effect as of 17 August 2021.

Following entry into force on 4 September 2018 of a revised Waste Act, new obligations were imposed on waste management companies, such as monitoring waste storage and disposal facilities and a requirement to draw up a fire safety plan which has to be appended to the application for changes in the integrated permit.

In particular, significant changes (restrictions) were introduced with regard to air emissions, especially SO₂, NO_x and dust emissions. Another novelty is the introduction of emission limits for concentrations of such pollutants as hydrogen chloride, hydrogen fluoride and mercury. Additionally, new requirements have been laid down regarding the monitoring and measurement of emissions. In the case of emissions to water bodies, the number of analyses required to be performed at the discharge of wastewater from the exhaust treatment system (IMOS).

Additionally, work commenced on alignment of the system with the expected changes related to the modernization of the sulfur removal system, nitrogen removal system, wastewater treatment plant and mounting additional continuous measurements, etc. At present, technical specifications for the planned modernizations are being finalized. Moreover, 2018 was the first year in which the revised Water Law was in effect. The first agreements were concluded with Wody Polskie regarding the calculation of fixed and variable charges for water use.

Due to the need to adapt to the European Commission Executive Decision 2017/1442 of 31 July 2017, establishing conclusions on best available techniques (BAT) with respect to large combustion plants, Heat and Power Plant Zielona Góra S.A. obtained a decision of

the Marshal of the Lubuskie Voivodeship of 27 February 2019 amending the decision granting an integrated permit to operate a fuel combustion installations with a nominal capacity of over 50 MW of 6 February 2012 In the framework of the decision, the company obtained a derogation from the requirements of the BAT conclusions for the average annual NOx emissions for the Gas-Steam Bloc (concerning the increase of emissions from 45 mg/m³ to 50 mg/m³). The derogation is valid from 17 August 2021 until 31 December 2024.

CO₂ emission allowances trading system

The free allocation of CO₂ emission allowances is based on the National Allocation Plan in accordance with the Regulation of the Council of Ministers of 13 April 2015 on the list of power generating installations and with the Regulation of the Council of Ministers of 10 April 2015 on the list of installations other than power generating installations.

The allocation of free allowances is primarily dependent on the completion of investment projects set out in the National Investment Plan and the use of investment outlays for the settlement of allocated allowances.

Pursuant to the Regulations applicable to the period of 2013–2020, the granted limit for free CO₂ emission allowances is getting lower.

Taking into account the value of capital expenditures required to receive the allowances, the estimated volume of free allowances is 477,859 Mg, which:

- **for electricity generation: 173 444 Mg,**
- **for heat generation: 201 205 Mg,**

(limit for 2018: 477 859 Mg, limit for 2017: 585,956 Mg of which free allowances for disposal granted to the Company amounted to 304 997 Mg, limit for 2016: 665,993 Mg, limit for 2015: 882,819 Mg, limit for 2014: 1,091,947 Mg, limit for 2013: 1,280,830; and limit for 2012: 1,626,966 Mg, according to KPRU II)

- actual CO₂ emission in 2019 – 1 549 477 Mg
- annual allowance allocation – 374 649 Mg
- 2019 balance following full settlement (shortage) – 1 174 828 Mg
- forwards (net) contracted for 2020 – 1 174 828 Mg

In accordance with the Company's accounting policy, the Company set up a provision for the shortage of CO₂ allowances of 70 473 tys. zł (w 2017 r. 29 199 tys. zł).

Quality, environmental and health and safety policy of KOGENERACJA S.A.

KOGENERACJA S.A. is a subsidiary company of PGE Energia Ciepła S.A. specializing in the combined generation of heat and power, a technology that contributes to more efficient utilization of the chemical energy of fuel and thereby to reduced environmental pollution.

The Company pursues its core business in compliance with the principles of sustainable development, an approach that ensures satisfactory economic performance without compromising its social and environmental responsibilities.

Through its adherence to strict safety standards and the professional conduct of its personnel, KOGENERACJA S.A. aspires to be perceived as a reliable company that earns the trust of its customers and shareholders and is accepted by the local community.

Having full knowledge of the types and awareness of the scale of threats to the natural environment, the Company implements its environmental policy by:

- planning the Company's development on the basis of modern and environmentally friendly technologies, meeting the criterion of best available techniques,
- identification of all environmental aspects, their periodic review and continuous monitoring of significant aspects,
- minimizing the negative impact on the environment through appropriate management in all areas of the Company's operations,
- rational and economical use of fuels and electricity,
- taking preventive measures to counteract the occurrence of accidents,
- raising employees' qualifications, awareness and commitment to environmental protection,
- support and participation in the promotion of environmental protection in local social initiatives.

The management team is obliged to acquaint employees with this Environmental Policy and the Company's employees to apply it in practice.

The Management Board of the Company declares its commitment to the implementation of the Environmental Policy and to provide the necessary resources to achieve the objectives and tasks resulting from it.