



Expected impact of the proposed EU regulation
on JSW's activities and preparatory actions
undertaken by the company

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Management Team

Methane emissions reduction strategy in EU

October 14, 2020

From February 5, 2021 to May 1, 2021

Public consultations

EP resolution on the EU strategy to reduce methane emissions

October 20, 2021

From October 31, 2021 to November 11, 2021

COP26 in Glasgow
+
Methane Pledge

Legislative proposal to reduce methane emissions in the energy sector
December 2021

cmm-energy.eu
website

Work within
EURACOAL

International Methane
Emissions
Observatory

Methane emissions
reduction strategy
in EU

EP resolution on the
EU strategy to reduce
methane emissions

October 14, 2020

From February 5, 2021
to May 1, 2021

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to November 11, 2021

Legislative proposal
to reduce methane
emissions in the
energy sector
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Public
consultations

COP26
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+
Methane Pledge

Joining the ICE-CMM
operating under
the auspices of the UNECE
Mine Methane Expert Group

JSW S.A. position
presented in the
public consultation
process

Cooperation with the
Permanent
Representation of the
Republic of Poland to
the EU

Proposal for a Regulation of the European Parliament and of the Council on methane emissions reduction in the energy sector

Legislative process



European Commission
December 15, 2021



Compromise
proposal
December 15, 2022



European Parliament
Currently



Proposal for a regulation of the European Parliament and of the Council on methane emissions reduction in the Energy sector

Article 20

„1. For underground coal mines, mine operators shall perform continuous ventilation air methane emissions measurement and quantification on all exhaust ventilation shafts used by the mine operator [...]"

Article 22

*„1. Venting and flaring of methane from drainage station shall be prohibited from **1 January 2025**[...]"*

*„2. Venting of methane through ventilation shafts in coal mines emitting more than **0.5 tonnes of methane/kilotonne of coal mined**, other than coking coal mines, shall be prohibited from **1 January 2027**".*

*„3. By ... **three years from the date of entry into force of this Regulation** the Commission shall adopt a delegated act in accordance with Article 31 to supplement this Regulation by setting out restrictions on venting methane from ventilation shafts for coking coal mines".*

Proposal for a regulation of the European Parliament and of the Council on methane emissions reduction in the Energy sector

Compromise proposal

Article 20

„1. For underground coal mines, mine operators shall perform continuous *source level direct measurement and quantification on all exhaust ventilation shafts.*”

Article 22

„1. Flaring *with a destruction and removal efficiency below 98%* and venting of methane from drainage stations shall be prohibited from **1 January 2025**, [...]”

„2. Venting of methane through ventilation shafts in coal mines emitting more than 5 tonnes of methane/kilotonne of coal mined, other than coking coal mines, shall be prohibited from **1 January 2027**. *Venting of methane through ventilation shafts in coal mines emitting more than 3 tonnes of methane/kilotonne of coal mined, other than coking coal mines, shall be prohibited from 1 January 2031. These thresholds shall apply per year per mine and per operator, if one entity operates several mines.*”

„3. By ... **[five years from the date of entry into force of this Regulation]** the Commission shall adopt a delegated act in accordance with Article 31 to supplement this Regulation by setting out methane venting thresholds from ventilation shafts for coking coal mines.”

Exhaust ventilation shafts									
Plant	NAME	Average airflow [m³/min]				Average methane concentration [%]			
		2018	2019	2020	2021	2018	2019	2020	2021
Ruch "Borynia"	Shaft III	25 028	24 927	25 886	25 660	0,07%	0,08%	0,07%	0,06%
	Shaft VI	13 079	12 544	12 458	11 712	0,09%	0,08%	0,10%	0,23%
KWK "Budryk"	Shaft II	20 439	19 938	20 005	19 780	0,38%	0,39%	0,19%	0,29%
	Shaft V	14 690	14 092	14 451	16 190	0,67%	0,45%	0,23%	0,25%
Ruch Knurów	"Aniołki"	6 300	6 317	6 717	7 741	0,13%	0,11%	0,11%	0,08%
	Shaft V	14 738	14 329	13 204	12 393	0,03%	0,02%	0,04%	0,02%
KWK "Pniówek"	Shaft III	19 130	18 943	20 373	19 921	0,16%	0,18%	0,17%	0,12%
	Shaft IV	9 332	10 728	10 571	10 758	0,41%	0,45%	0,41%	0,34%
	Shaft V	14 871	14 615	14 793	14 845	0,41%	0,41%	0,40%	0,32%
Ruch Szczygłowice	Shaft IV	12 500	12 900	13 250	13 950	0,19%	0,18%	0,36%	0,31%
	Szyb VI	19 867	20 458	20 513	19 900	0,25%	0,22%	0,29%	0,36%
Ruch "Zofiówka"	Szyb IVz	21 592	20 749	15 545	11 920	0,16%	0,13%	0,08%	0,08%
	Szyb Vz	18 335	23 221	27 572	29 810	0,15%	0,11%	0,09%	0,11%

Proposal for a regulation of the European Parliament and of the Council on methane emissions reduction in the Energy sector

Impact and risks

1. MRV

2. Penalties

3. EU ETS

4. Loss of competitiveness

5. Just Transition

Proposal for a regulation of the European Parliament and of the Council on methane emissions reduction in the Energy sector

Monitoring and reporting

- *„Mine operators shall report to the competent authorities methane releases per ventilation shaft per year in kt of methane, using equipment and methodologies resulting in a measurement accuracy with a tolerance of +/- 5% of the reported amount or +/- 0.5 kt of methane whichever value is lower.*
- *International Methane Emissions Observatory.*

Proposal for a regulation of the European Parliament and of the Council on methane emissions reduction in the Energy sector

Article 30. Penalties

1. *Member States shall lay down the rules on penalties applicable to infringements of the provisions of this Regulation and shall take all measures necessary to ensure that they are implemented.*
2. *The penalties provided for must be effective, proportionate and dissuasive and may include:*
 - a) *finest proportionate to the environmental damage and impact on human safety and public health. The level of such fines shall be calculated in such way as to make sure that they at least effectively deprive those responsible of the economic benefits derived from their infringements and gradually increasing the level of such fines for repeated serious infringements;*
 - b) *periodic penalty payments to compel operators to put an end to an infringement, comply with a decision ordering remedial actions or corrective measures, supply information or submit to an inspection, as applicable.*

DIRECTIVE 2003/87/EC OF THE EUROPEAN PARLIAMENT AND
OF THE COUNCIL of 13 October 2003
establishing a scheme for greenhouse gas emission allowance
trading within the Community

ANNEX I

CATEGORIES OF ACTIVITIES REFERRED TO IN ARTICLES 2(1), 3, 4, 14(1), 28 AND 30

Activities	Greenhouse gases
<i>Energy activities</i>	
Combustion installations with a rated thermal input exceeding 20 MW (except hazardous or municipal waste installations)	Carbon dioxide
Mineral oil refineries	Carbon dioxide
Coke ovens	Carbon dioxide

Proposal for a regulation of the European Parliament and of the Council on methane emissions reduction in the Energy sector

Article 27 Importer requirements

1. By ... [9 months from the date of entry into force of the Regulation] and by 31 December every year thereafter, importers shall provide the information set out in Annex VIII to the competent authorities of the importing Member State. The Commission shall be empowered to adopt delegated acts in accordance with Article 31 to supplement this Regulation by amending or adding to the information to be provided by importers.

Artykuł 28 Methane transparency database

1. By ... [18 months after the date of entry into force of the Regulation] the Commission shall establish and maintain a methane transparency database containing the information submitted to it pursuant to Article 27 and Articles 12(11), 16(3), 18(4), 20(7), 23(2) and 25(5).

Artykuł 29 Methane emitters global monitoring tool

1. By ... [two years after the date of entry into force of the Regulation], the Commission shall establish a global methane monitoring tool based on satellite data and input from several certified data providers and services, including the Copernicus component of the EU Space Programme. The tool shall be made available to the public and provide regular updates at least on the magnitude, recurrence and location of high methane-emitting sources of energy.

Initiative for coal regions in transition

The Initiative for coal regions in transition assists EU countries and coal regions tackling challenges related to the transition to a low-carbon economy. It aims to support public administrations and other relevant stakeholders by:

- connecting stakeholders by facilitating dialogue among regions and the wider stakeholder community, promoting good practices and cooperation, and organising working groups and high-level political events,
- delivering tailored technical assistance and capacity-building to help coal regions to transition from the carbon-intensive era towards a clean energy future,
- providing supportive resources through helpful information on sources and support materials, which include toolkits, guidelines and reports covering key transition issues for coal regions such as governance, environmental rehabilitation, employment, financing, clean air and clean technologies.

JSW CG environmental strategy by 2030 and in 2050 perspective



The basis of the Environmental Strategy is to clarify the role of JSW CG in the environmental and energy-climate transformation of Poland and the European Union as a response to changes in the external environment – regulatory, technological and market environment.

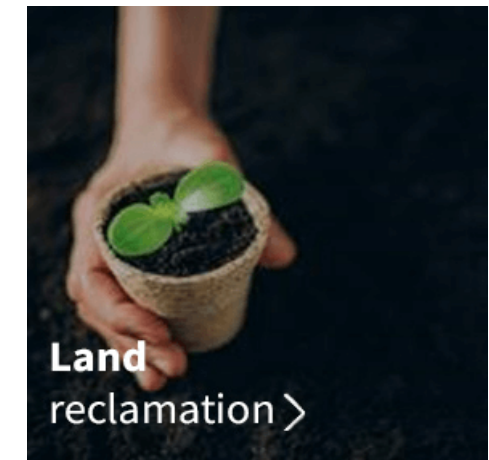
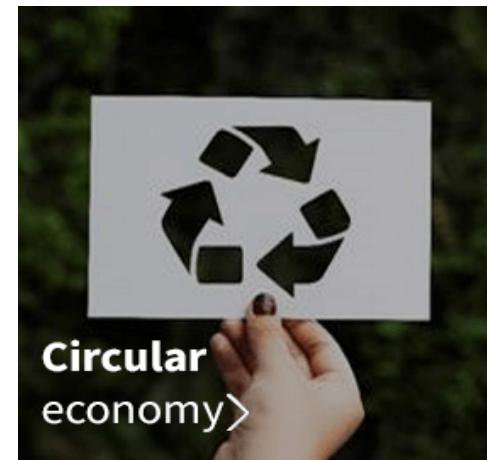
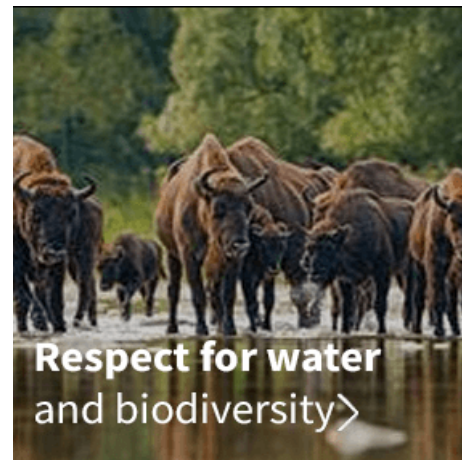
Overarching objective: **aiming to achieve climate neutrality by 2050**

Intermediate objective: **reduction of carbon footprint by 30% by 2030 compared to 2018**

72% of JSW CG's carbon footprint is **METHANE => Methane Emissions Reduction Programme to 2025**
methane capture of approximately 50% and its economic use of up to 95%

Additional measures to further optimise electricity consumption and improve energy efficiency, develop our own RES capacity and increase the share of 'green energy' in the volume of energy purchased from the market. Planned innovation and development initiatives related to the reduction of ventilation air methane (VAM) emissions

4 key areas of pro-environmental and pro-climate action:



Methane Emissions Reduction Program



In 2022 Jastrzębska Spółka Węglowa has presented the new Strategy including the Group's Subsidiaries until 2030. Important part of the business strategy is the Environment Strategy. One of the significant elements of the adopted Strategy is counteracting climate change by reducing the carbon footprint by 30% by 2030 and achieving climate neutrality in 2050.

The main source of greenhouse gas emissions resulting from the Group's operations is methane, which accounts for approximately 72% of the carbon footprint.

The Methane Emissions Reduction Program developed by the Methane Drainage and Management Office is the answer to this challenge.

95%

Planned energy use of captured methane in 2025

50%

Methane drainage effectiveness in 2025

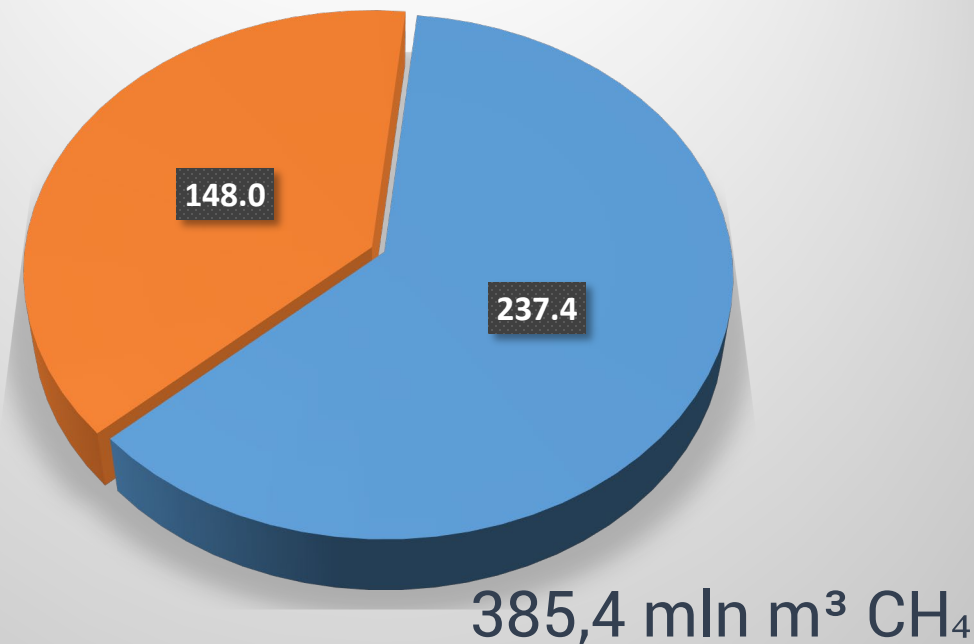
JSW S.A. Methane emissions forecast in 2026

Without implementation of Methane Emissions Reduction Program

The release of methane during exploitation

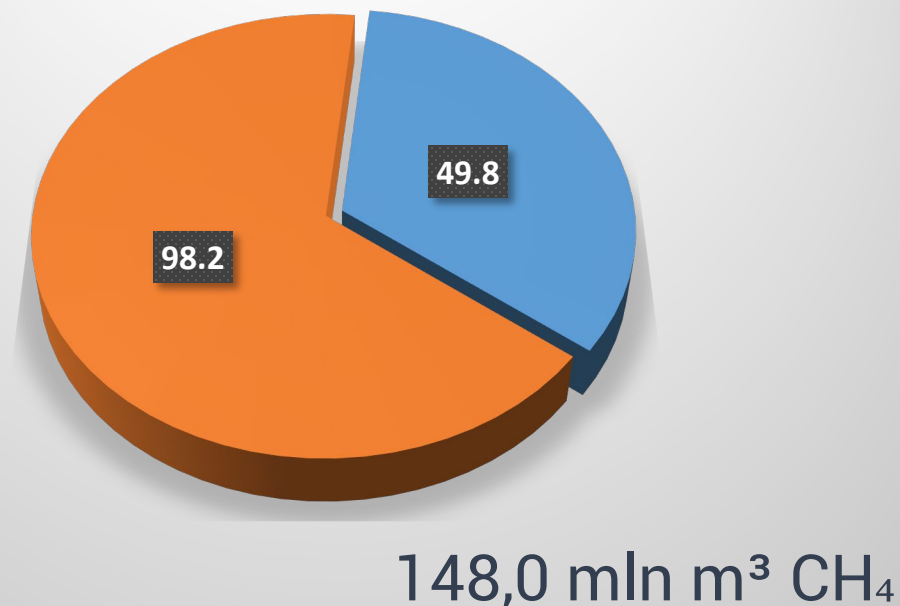
Management of captured methane

Total amount of methane released in the coal mining process in JSW S.A. mines for 2026 [mln m³ CH₄]



- The amount of methane emitted to the atmosphere through ventilation [mln m³ CH₄]
- The amount of methane captured by methane drainage stations [mln m³ CH₄]

Utilization of managed methane for 2026 [mln m³ CH₄]



- The amount of methane captured in surface methane drainage stations released to the atmosphere [mln m³ CH₄]
- The amount of methane captured in surface methane drainage stations for economic use [mln m³ CH₄]

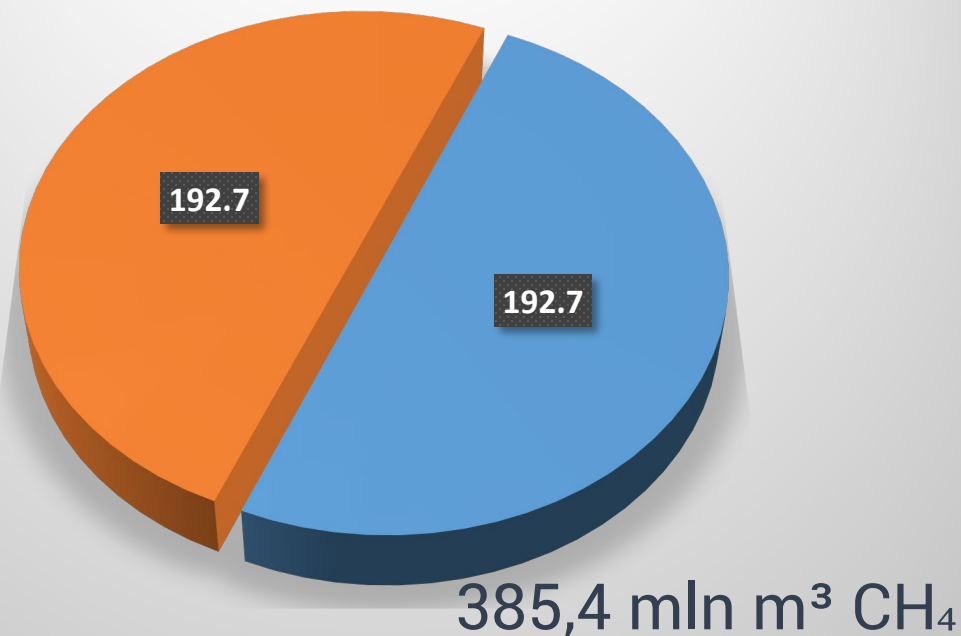
JSW S.A. Methane emissions forecast in 2026

Implementation of Methane Emissions Reduction Program

The release of methane during exploitation

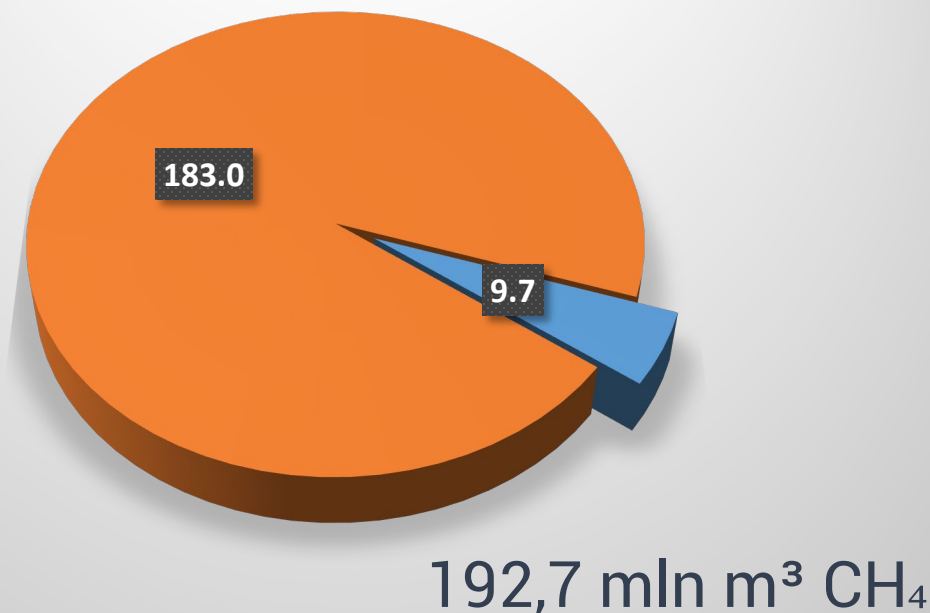
Management of captered methane

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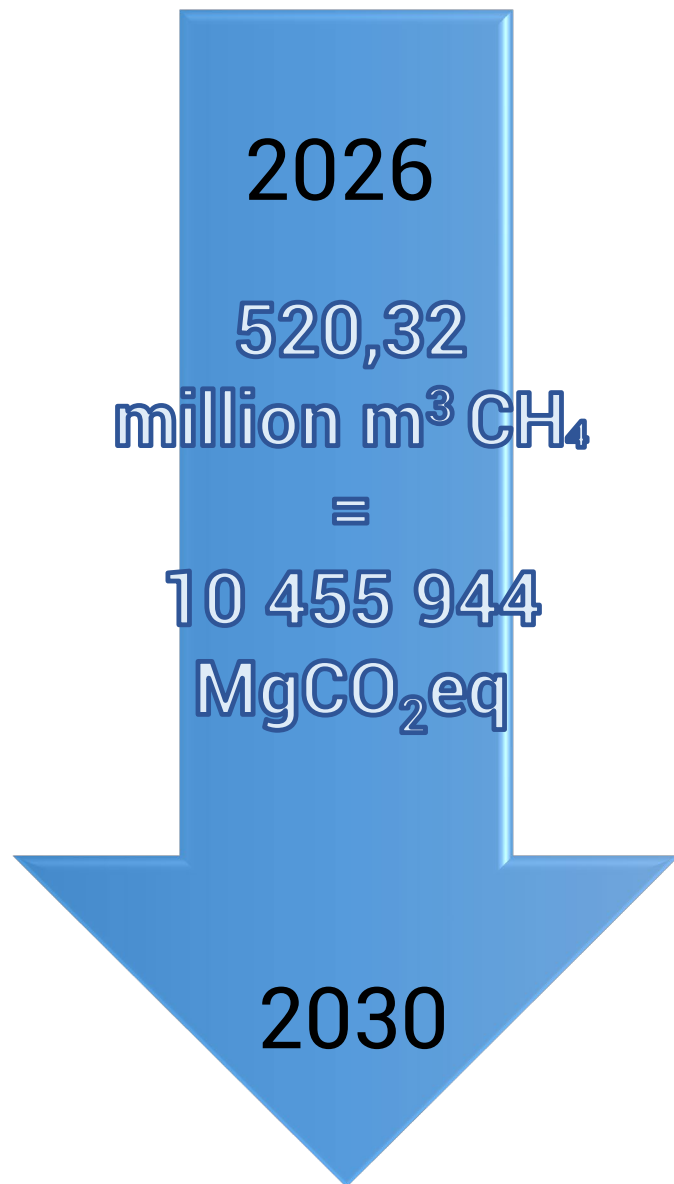
Utilization of managed methane for 2026 [mln m³ CH₄]



- The amount of methane captured in surface methane drainage stations released to the atmosphere [mln m³ CH₄]
- The amount of methane captured in surface methane drainage stations for economic use [mln m³ CH₄]

Jastrzębska Spółka Węglowa SA

Environmental Strategy implementation effect

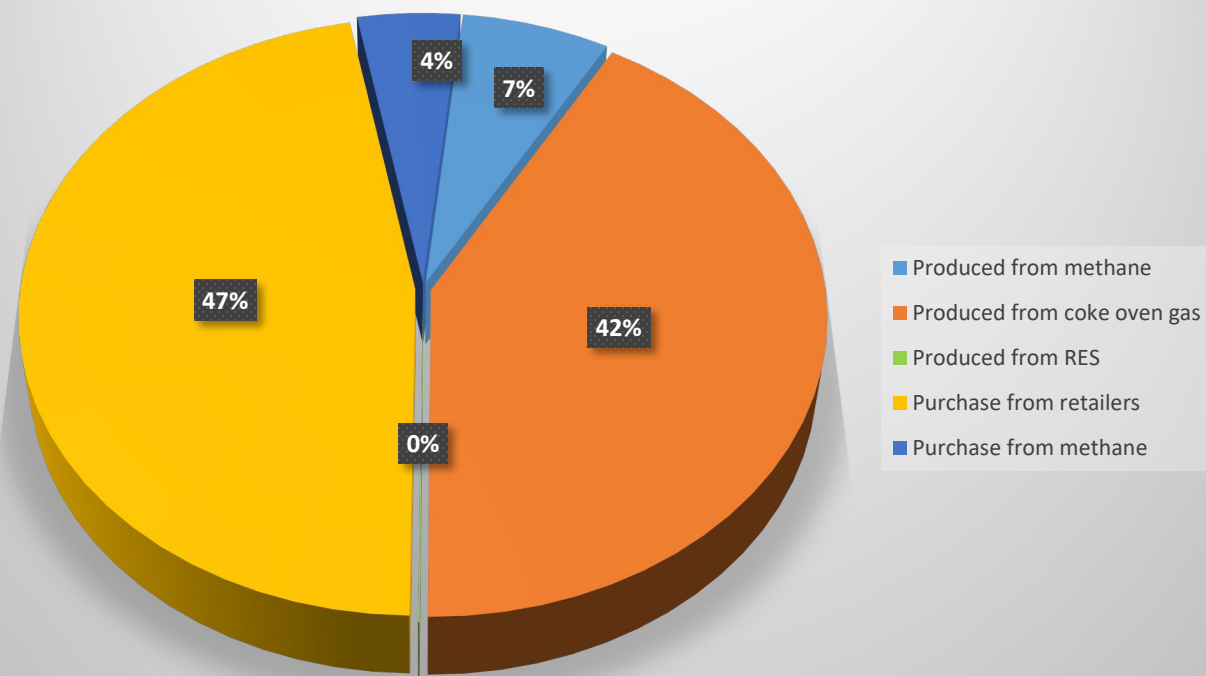


The implementation of the Environmental Strategy in the years 2026-2030 will allow to reduce methane emissions by **520,32 million m³ CH₄** IPCC respectively **10 455 944 MgCO₂eq.**

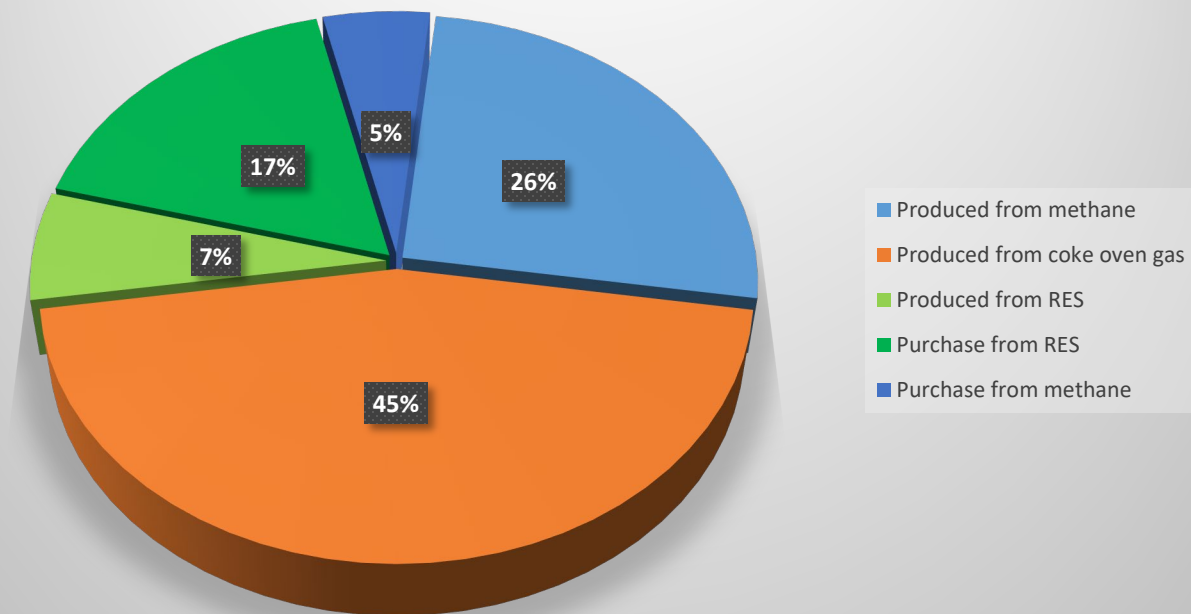
GK JSW Energy consumption structure

Environmental Strategy implementation effect

JSW Group's energy consumption structure in 2022



JSW Group's energy consumption structure in 2029- forecast





Thank you

For further information visit our website: www.cmm-energy.eu

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 **GPW**
SPÓŁKA NOTOWANA NA

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