

# Data governance in Poland's coal mining sector

## Harnessing open data to monitor delivery of climate policy targets



POWER MARKET, COAL & CLIMATE  
DATA HUB FOR POLAND



**Jan Balcerowski**

Junior Analyst / Instrat Foundation

[jan.balcerowski@instrat.pl](mailto:jan.balcerowski@instrat.pl)

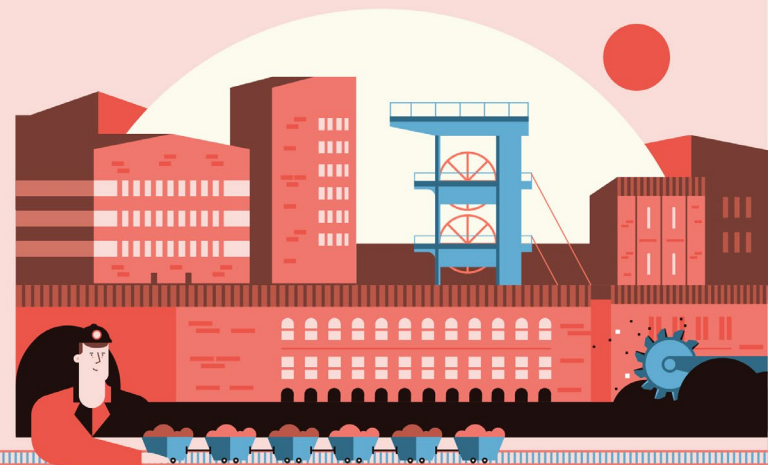
17th session of the UNECE Group  
of Experts on Coal Mine Methane  
and Just Transition

March 21st, 2022 - Geneva



# AGENDA

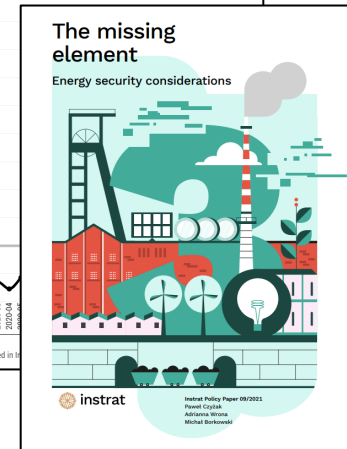
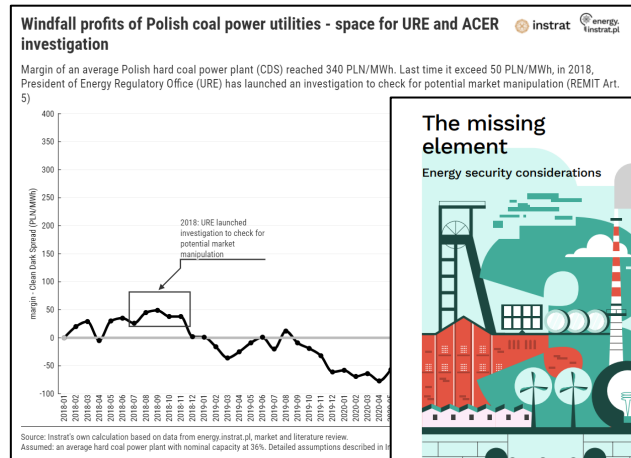
- ⌘ About us
- ⌘ New EU Methane Legislation
- ⌘ Poland's coal mining data landscape
  - Sources
  - Data flow
- ⌘ A need for transparency
- ⌘ Stylized facts - data



# Instrat Foundation

About us

- Warsaw-based think tank
- Interdisciplinary approach to energy transition
- Empowering civil society and public sector with open energy data
- EU and Poland's energy & climate policy
- Energy modeling – power market forecast
- Just transition – technical assistance
- Open energy data





Choose coal type:

All fuels

Choose company:

All companies

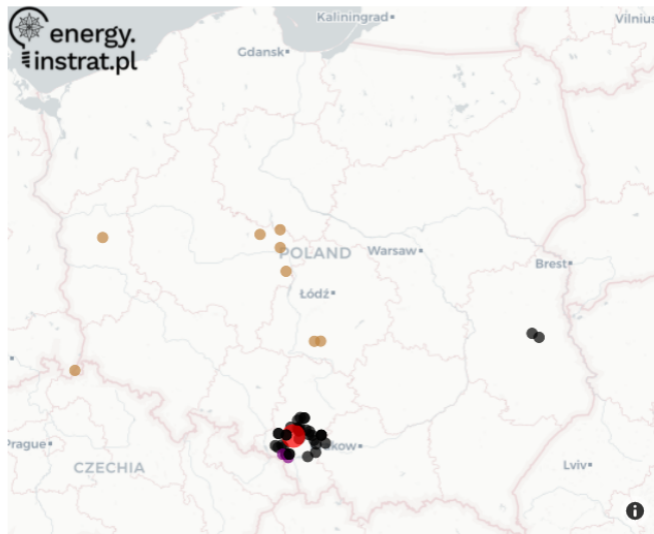
Choose coal mine:

KWK Budryk

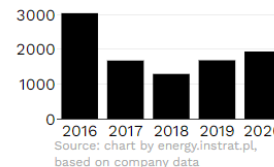
Chart

Data

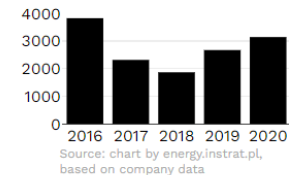
## Map of coal deposits in Poland



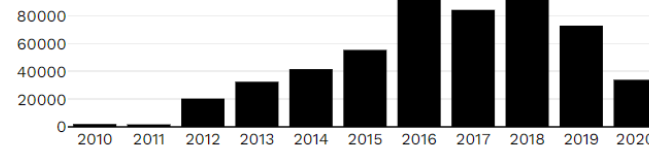
### Extraction in the mine KWK Budryk [th. tonnes]



### Employment in the mine KWK Budryk [persons]



### Methane emissions in the mine KWK Budryk [tonnes]



Source: chart by energy.instrat.pl, based on KOBIZE (E-PRTR) data

Source: [energy.instrat.pl/coal\\_mining\\_map](https://energy.instrat.pl/coal_mining_map)



# Methane Action Now

The roadmap ahead of us

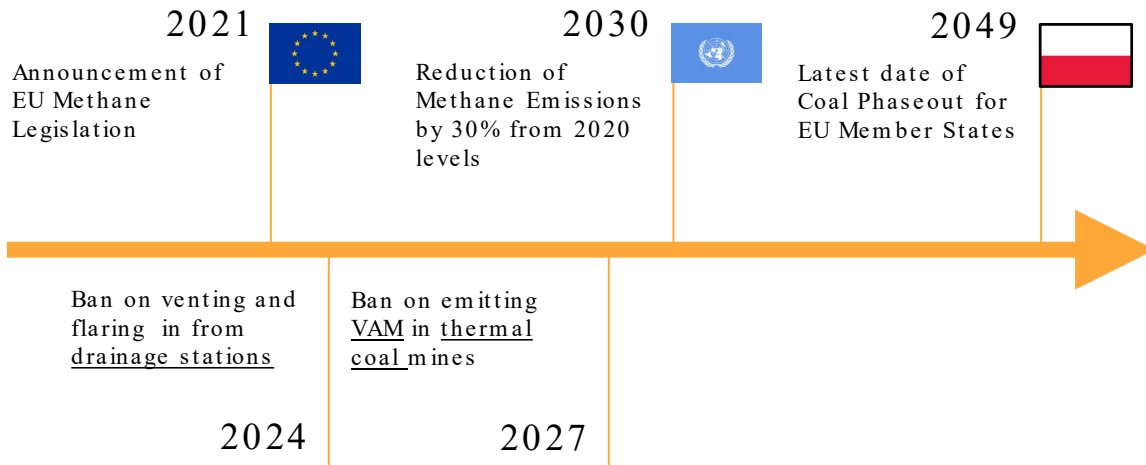
## ✂ Proposed EU Legislation

Aims to:

- ✂ Set up **monitoring and mitigation** plan for **closed and abandoned** mines
- ✂ Empower EC to **regulate venting** from coking coal mines.
- ✂ Set up robust reporting mechanism based on open data

## ✂ Global Methane Pledge

- ✂ 100 countries, representing 70% of global economy pledge to cut methane emissions by at least **30% from 2020 levels**





# Sources



Paywalls, user unfriendly formats

## DEGREE OF OPENNESS

Open data standards

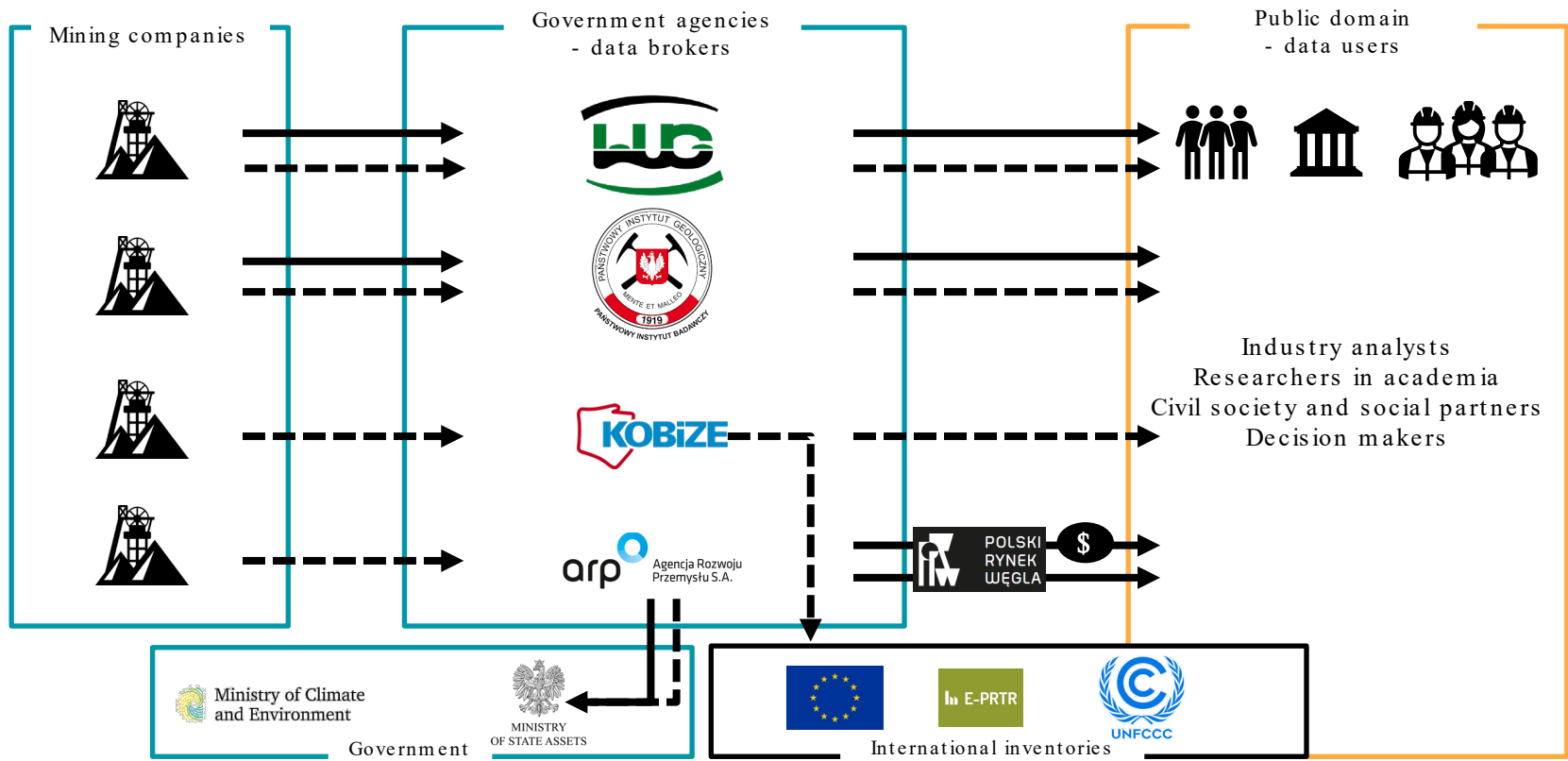
Industrial Development Agency (ARP Katowice) on behalf of the Ministry of State Assets (MAP)	National Centre for Emissions Management (KOBIZE)	Company reporting	National Geological Institute (PIG- PIB)	State Mining Authority (WUG)	Ministry of Climate and Environment (MKiS) via gov's open data platform
Public Statistics and Market Monitoring	National Emissions Database	Annual reports	Annual reports MIDAS database	Annual reports Website data	List of mining permits
<ul style="list-style-type: none"> <li>- socio-economic data</li> <li>- market data</li> <li>- state aid</li> <li>- technical &amp; geological data</li> <li>- environmental data</li> </ul>	<ul style="list-style-type: none"> <li>- environmental data: GHG emissions (CO2, CH4)</li> </ul>	<ul style="list-style-type: none"> <li>- socio-economic data</li> <li>- market data</li> <li>- environmental data</li> </ul>	<ul style="list-style-type: none"> <li>- environmental data: methane emissions, water</li> <li>- geological: extraction, reserves, location</li> </ul>	<ul style="list-style-type: none"> <li>- socio-economic data: safety &amp; working conditions</li> <li>- technical &amp; geological data: emethanation efficiency</li> </ul>	<ul style="list-style-type: none"> <li>- legal data</li> </ul>
Extensive coverage Challenges in accessibility	Robust data sets Data available on request	Insufficient and mixed ESG reporting	Long time series User un-friendly formats	Simple access	Small scope of data High data licensing standards
National / company level Annual, quarterly, monthly	Mine / unit level Annual	Company / mine level Annual / quarterly	Deposit level Annual	Mine / unit level Annual	Deposit level Annual / quarterly

# How does the data flow?

Why do we need transparency about methane?

aggregated data 

individual unit-level data 





## Key takeaways

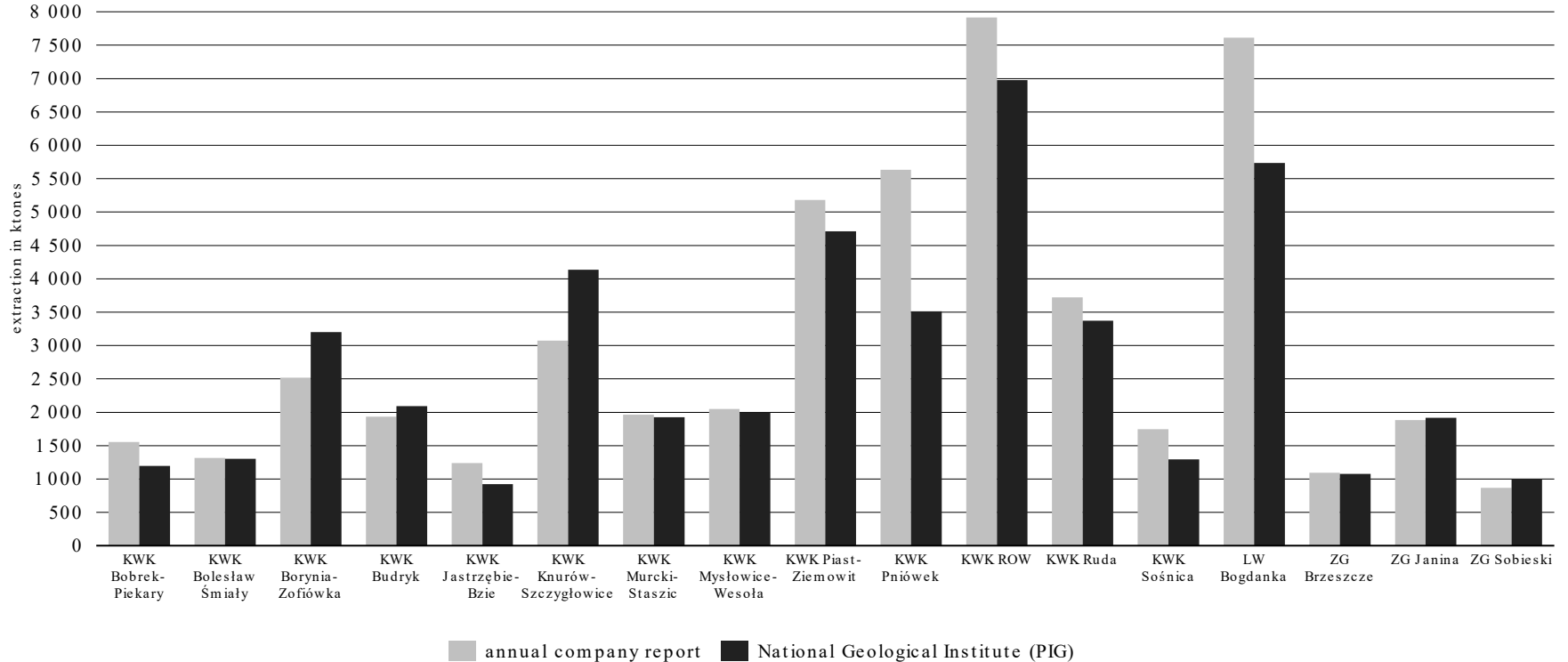
- **Multiple actors** within the public sector with similar goals
- **Poor quality of ESG metrics**
  - socio-economic data
  - state aid
  - environmental data
  - technical indicatorson the **unit-level** (companies, mines)
- **Room for improvement** in terms of:
  - data accessibility → user-friendly formats (PDFs)
  - licensing and copyrights → **lifting paywalls**
  - scope of reporting → methane emissions and mitigation technologies
- **EU Methane Legislation**
  - differentiates between types of coal and methane emissions
  - will force companies to upgrade reporting standards





# Disparities in extraction

All companies report their extraction differently depending on the target audience

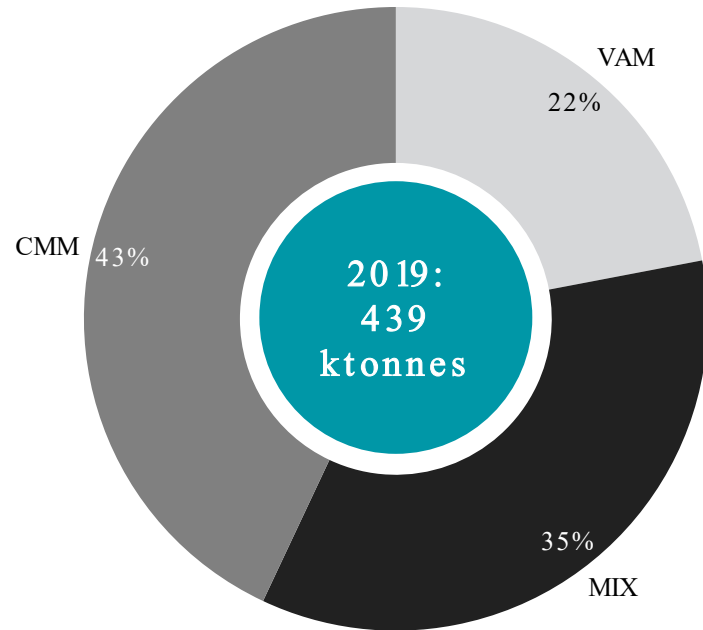




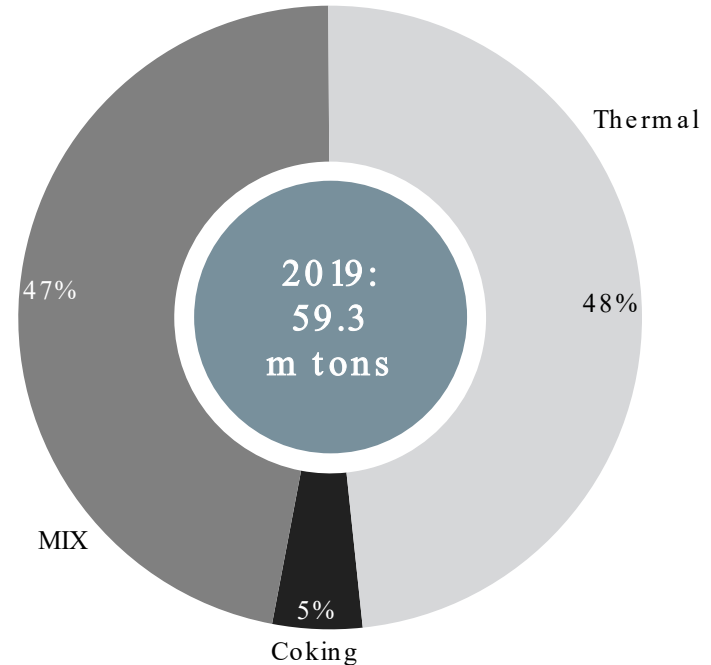
# Ambiguities in current reporting

Lack of clarity compromises the ambitious emission goals

### Type of methane emissions (2019)



### Type of coal extraction (2019)



Sources: energy.instrat.pl based on KOBIZE and company reports.

# A need for transparency

Why do we need transparency about methane?

- ✂ Monitoring company actions aimed at decreasing methane emissions
- ✂ Monitoring and reporting **needs to be incentivized**
- ✂ **Rethinking our data governance** with commitment to transparency
- ✂ **Impact assessment:** reliable energy and climate modeling is crucial for ambitious policies

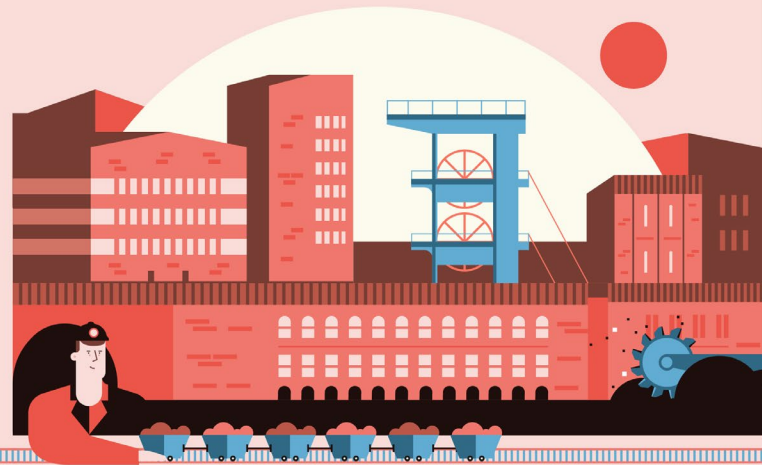
Ambitious goals ahead of us



Let's agree on the baseline data



# APPENDIX

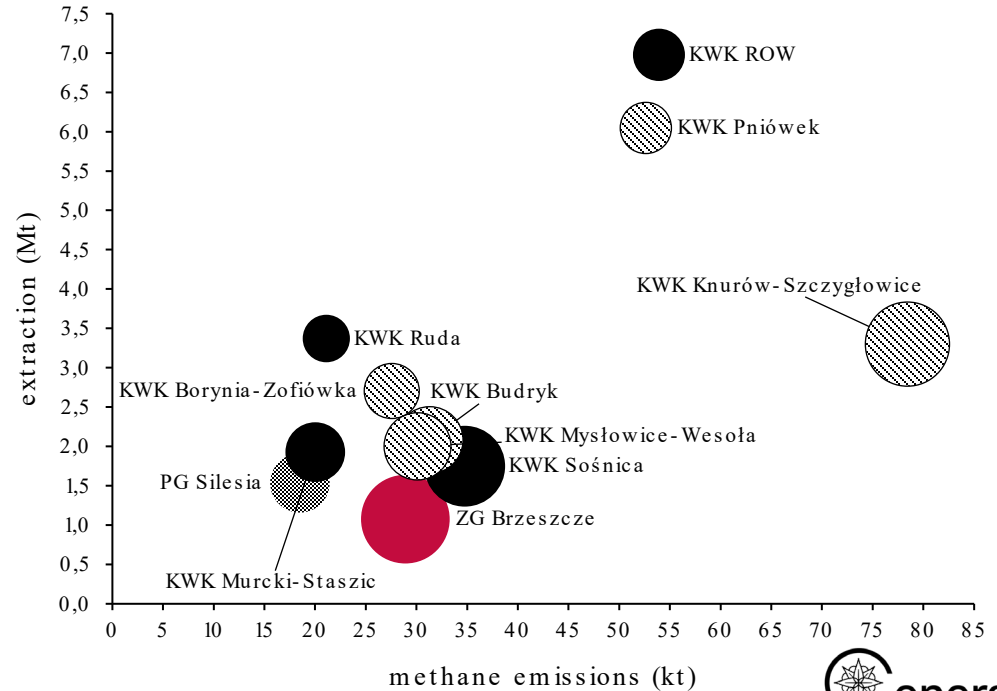
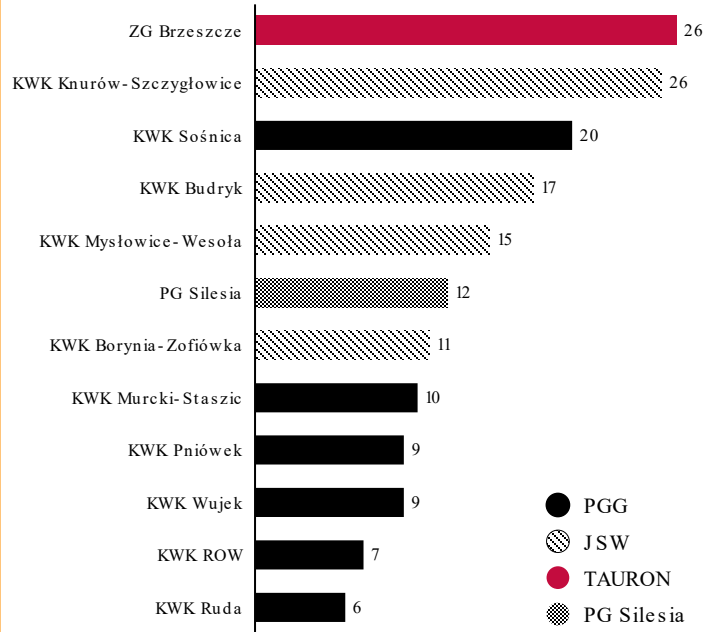




# Relative emissions from operating coal mines (2020)

The most methane emitting per ktonne of coal is TAURON's ZG Brzeszcze

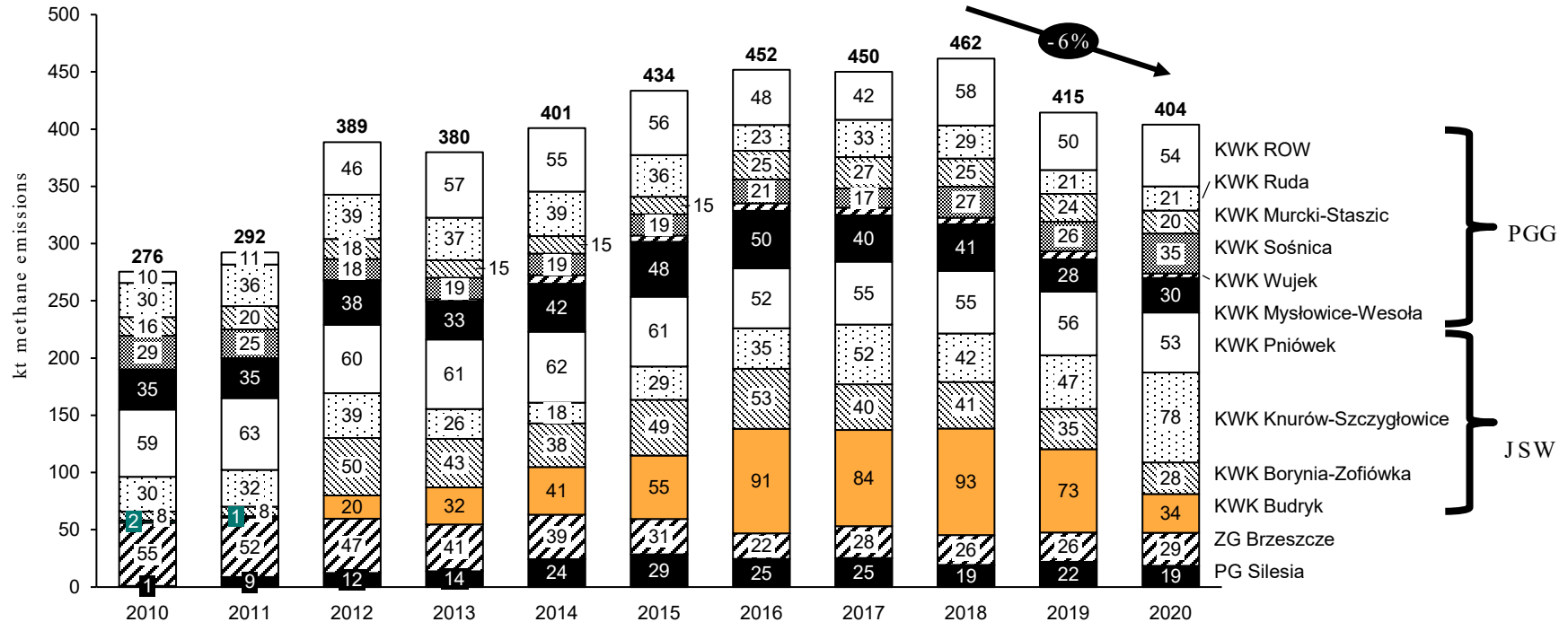
### Relative emissions ranking (t methane emissions / kt coal extraction)



Source: [energy.instrat.pl/coal\\_mining\\_map](http://energy.instrat.pl/coal_mining_map)  
 Methodology note: [blog.energy.instrat.pl/en/mining-en](http://blog.energy.instrat.pl/en/mining-en)  
 KOBIZE and company data as of 2020

# Methane emissions from operating coal mines (2020)

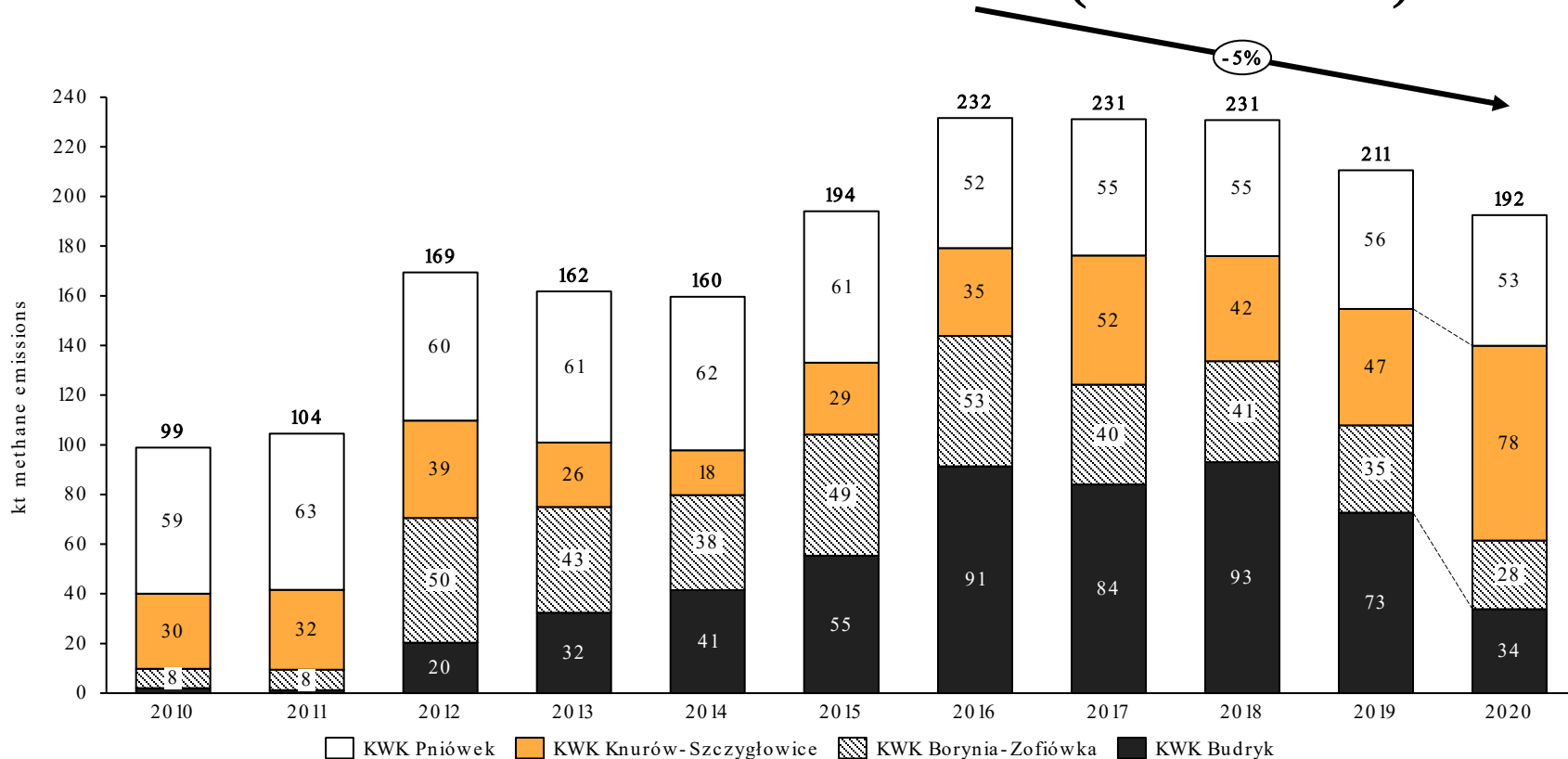
Given COP26 methane pledge compliance, Poland should reduce its methane emissions to the 2010 level - 282 kt by 2030



Source: [energy.instrat.pl/coal\\_mining\\_map](http://energy.instrat.pl/coal_mining_map)  
 KOBIZE data; Slide includes amendment to the legend compared to the originally presented version.



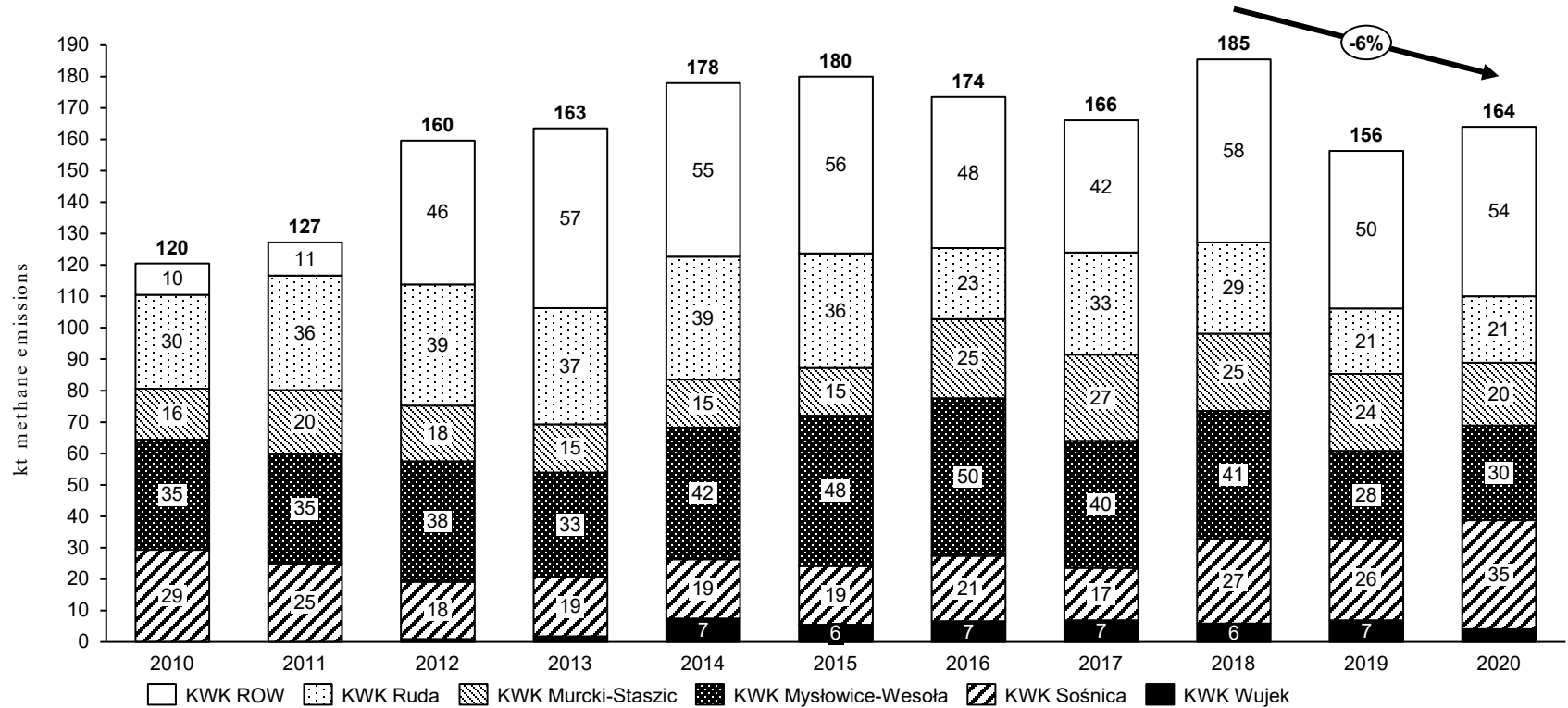
# Methane emissions from JSW mines (2010-2020)



Source: [energy.instrat.pl/coal\\_mining\\_map](http://energy.instrat.pl/coal_mining_map)  
KOBIZE data; Slide includes amendment to the legend compared to the originally presented version.



# Methane emissions from PGG mines (2010-2020)

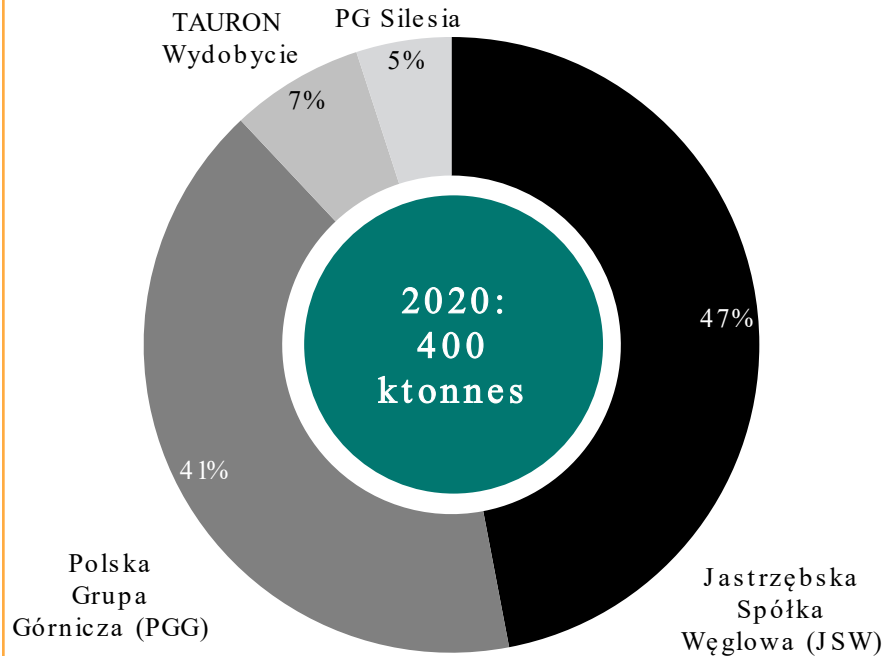


Source: [energy.instrat.pl/coal\\_mining\\_map](http://energy.instrat.pl/coal_mining_map)  
KOBIZE data; Slide includes amendment to the legend compared to the originally presented version.



## Methane emissions from operating mines (2020)

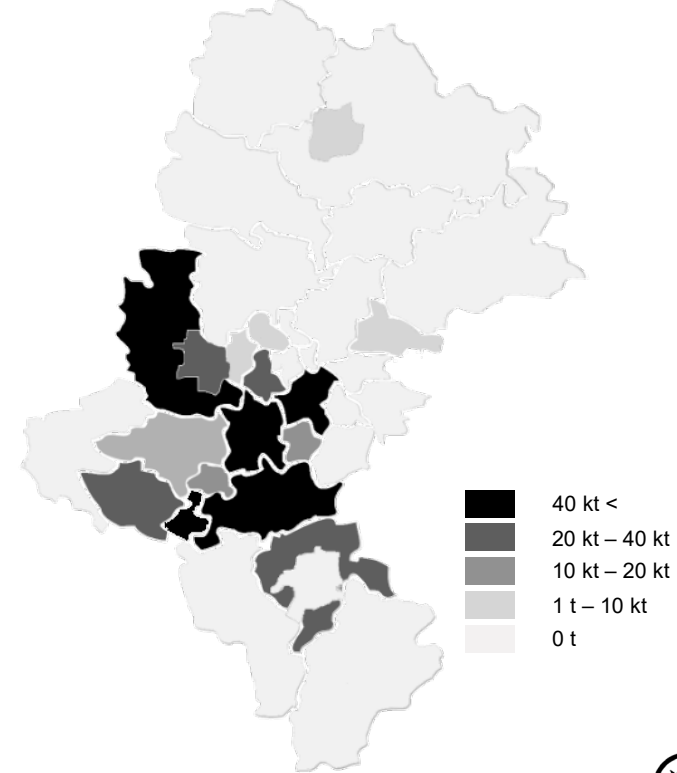
share of emissions by companies



Source: KOBIZE  
Graph pictures active mines only

## Methane emissions in Upper Silesia (2020)

absolute emissions in ktonnes per year per NUTS-4 unit



Source: GUS  
Absolute emissions in tonnes per year