



XXXII School of Underground Mining
*Coal Mine Methane in Poland - current status and anticipated consequences
of the proposed EU regulation on methane emissions reduction*
Kraków, 28.02.2023



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**Principles and current status of the proposed EU Regulation on
methane emissions reduction from hard coal mines**



**Państwowy Instytut Geologiczny
Państwowy Instytut Badawczy**

2021 – New regulations concerning methane emission

1. *Global Methane Pledge – commitment to work together in order to collectively reduce global anthropogenic methane emissions across all sectors by at least 30 percent below 2020 levels by 2030.*

- Formally launched by USA and UE at the COP26 (Glasgow, 31.10–12.11.2021)
- Target – methane emission reduction in energy, waste and agriculture sectors
- Over 110 countries signed onto the pledge; excluding Poland.

2. *Proposal for a Regulation of the European Parliament and of the Council on methane emissions reduction in the energy sector and amending Regulation (EU) 2019/942; Brussels, 15.12.2021*

- The regulation is consistent with EU's commitments concerning the climate neutrality target by 2050, determined in the European Green Deal (among others: 2020 – EU strategy to reduce methane emissions, 2021 – European Climate Law with the commitment known as „fit for 55”).

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

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Oil and gas sector

Exploration and production of oil and gas, gas transmission and distribution, underground gas storage

Coal mining sector

Operating underground and surface mines, closed underground mines

Import of fossil energy

Gathering information on methane emission in the countries of origin

Underground mines

Surface mines

Closed mines

Operating mines

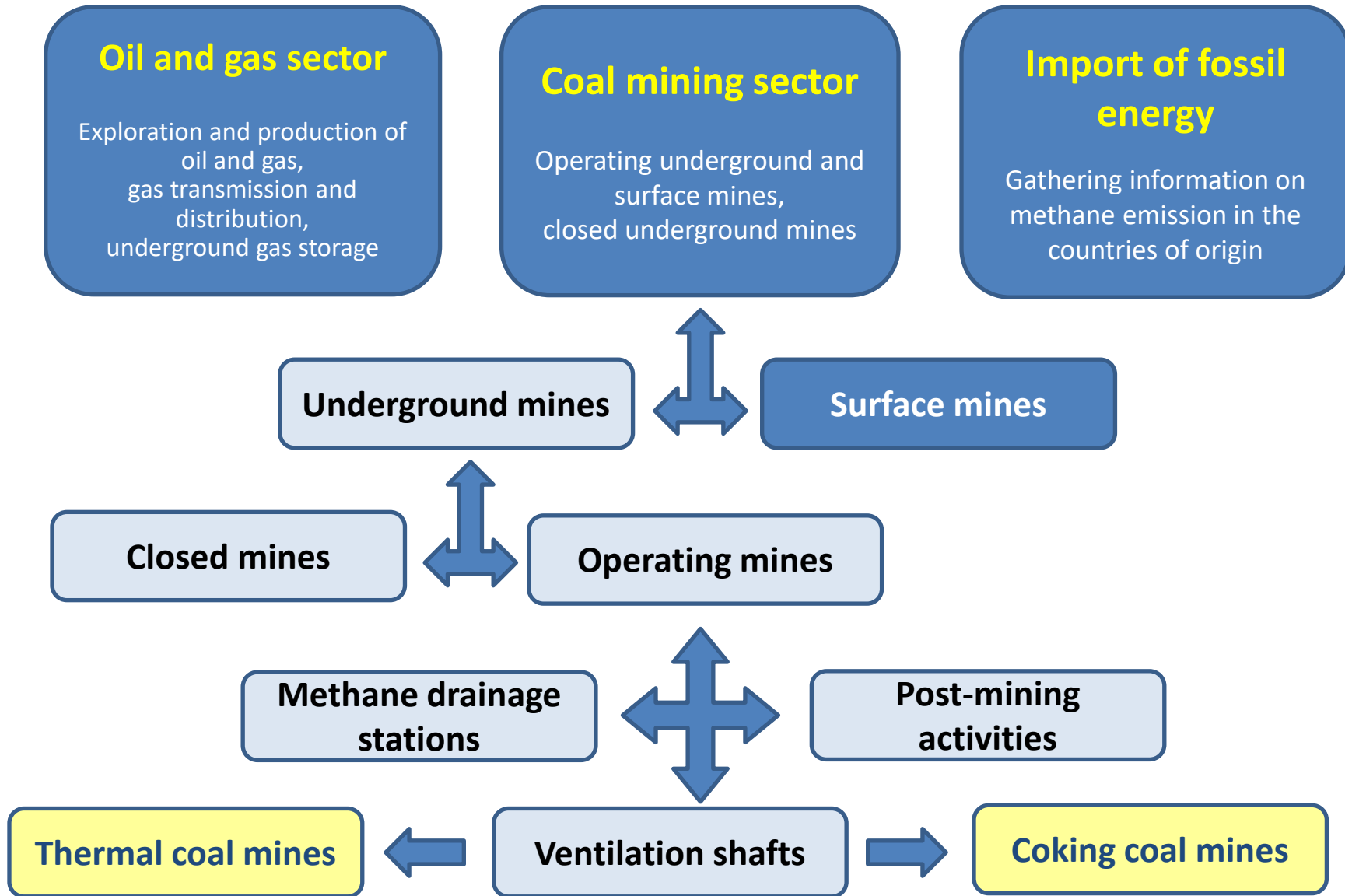
Methane drainage stations

Post-mining activities

Thermal coal mines

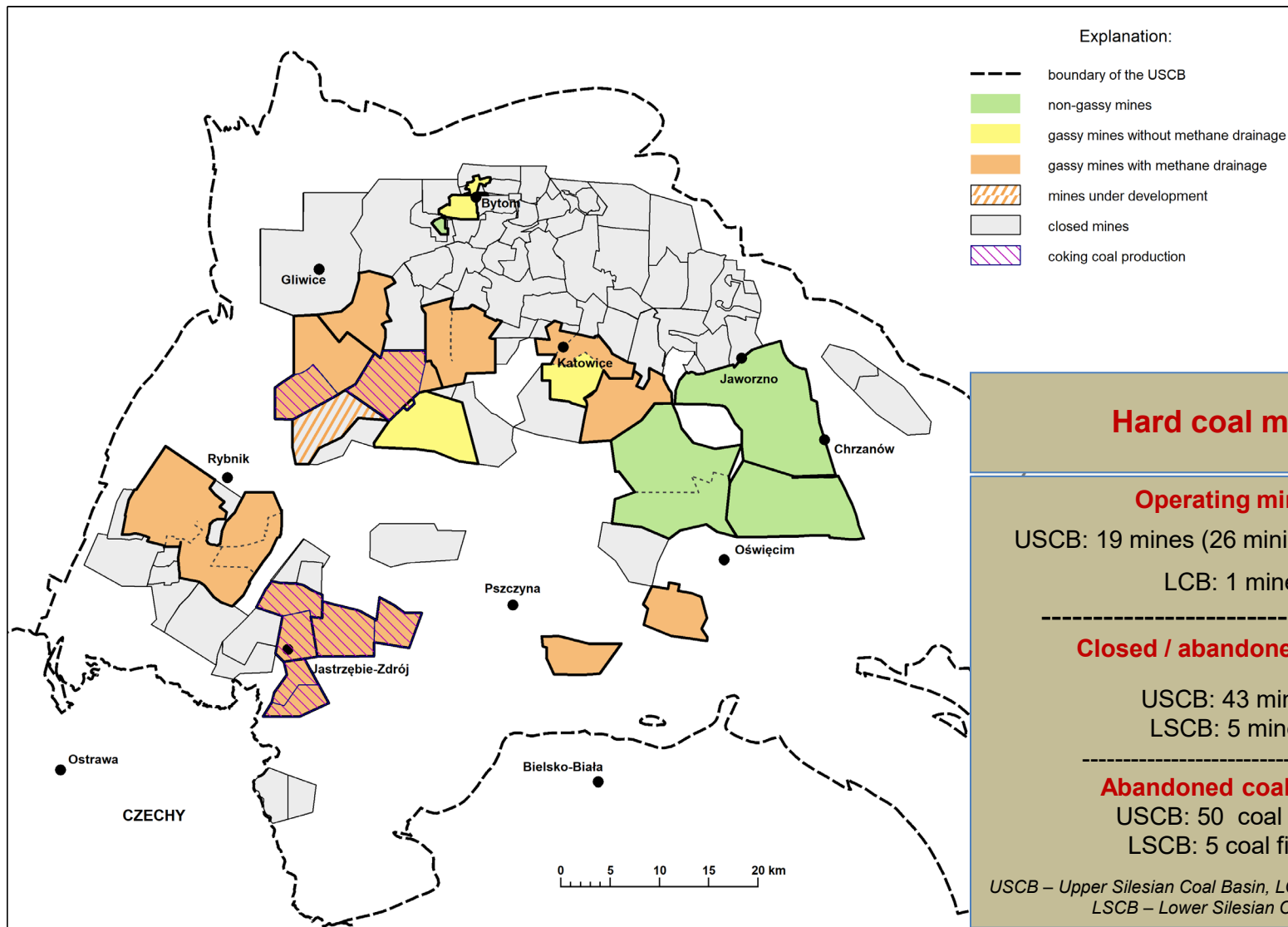
Ventilation shafts

Coking coal mines



Methane Emission in the Upper Silesian Coal Basin

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Hard coal mines

Operating mines
 USC: 19 mines (26 mining companies)
 LCB: 1 mine

Closed / abandoned mines
 USC: 43 mines
 LSCB: 5 mines

Abandoned coal fields
 USC: 50 coal fields
 LSCB: 5 coal fields

USC – Upper Silesian Coal Basin, LCB – Lublin Coal Basin, LSCB – Lower Silesian Coal Basin,



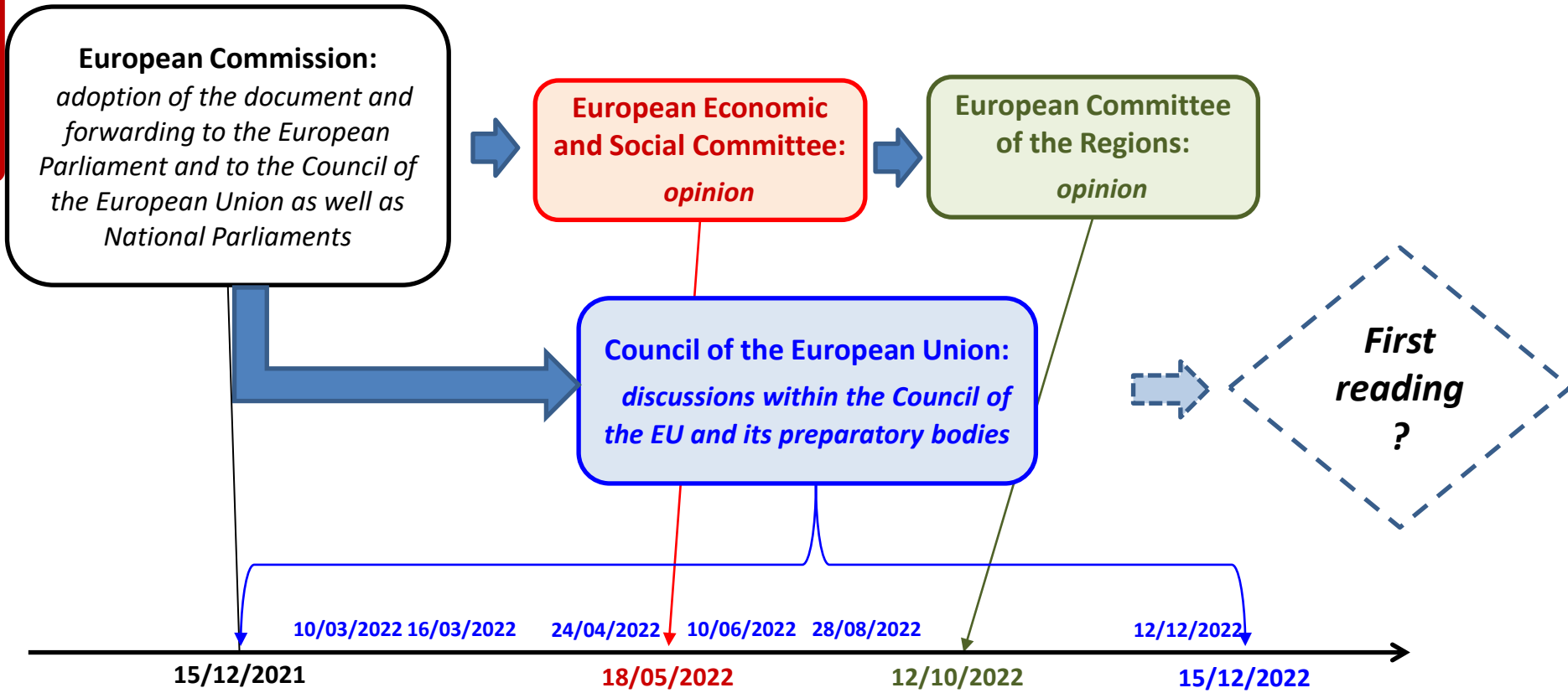
Regulation... – basic information

1. For the first time at the EU level, a **single legal framework** is applied for monitoring, reporting and mitigation of methane emissions in the energy sector.
2. The EU member states shall appoint **competent authorities** to oversee that operators comply with the obligations laid down in the Regulation, as well as **independent accredited verifiers** to ensure the correctness of reports prepared by operators.
3. Competent authorities shall have appropriate authorizations to **perform full inspection** of operators' facilities, including technical documentation, emission measurements, equipment, operations and sites related to methane emission.
4. **Any natural or legal person** which considers that it has suffered injury as a result of a breach of the requirements of the Regulation, may lodge a **written complaint** with the competent authorities.
5. The regulation will apply to all European Union countries, but as far as operating hard coal mines are concerned, it will practically **only apply to Poland**.
6. The necessity to implement methane emission monitoring and reporting procedures in underground coal mines covers all operating mines, **including non-gassy mines**.
7. The EU member states will lay down rules on sanctions in the event of infringements of the Regulation and will take all necessary measures to ensure that they are implemented. **The penalties must be effective, proportionate and dissuasive** and may include fines proportionate to the environmental damage, calculated so as to effectively deprive the economic benefit of the infringements, and **progressive increases in the amount of the fines** in the event of repeated infringements.

Legislative procedure concerning the Regulation in 2022

1. The text of the document was adopted by the European Commission and forwarded to the European Parliament and to the Council of the European Union as well as National Parliaments on 15 December 2021.
2. In the Parliament, the proposal has been referred to the Committee on Environment, Public Health and Food Safety, and the Industry, Research and Energy Committee.
3. The European Economic and Social Committee delivered its opinion on 19 May 2022.
4. The Committee of the Regions delivered its opinion on 12 October 2022.
5. Work within the Council:
 - The Regulation, together with its impact assessment, was presented to the Working Party on Energy on 7 February 2022.
 - Between March and December 2022 six revisions of the Regulations were made, including fourth and fifth revisions which reflected most of the concerns raised by the Member States.
6. First reading – indicative plenary sitting date – **29 March 2023**.

Legislative procedure timeline



Most important modifications made by the Council

(Mitigation of methane emissions from operating underground coal mines)

1. Venting and flaring of methane from drainage stations shall be prohibited **from January 1, 2025**.

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 ~~0.5 tons~~ of methane/kiloton of coal mined (**0,75 m³** methane per ton of coal) shall be prohibited **from January 1, 2027**; it does not apply to coking coal mines for which applicable rules will be adopted within 3 years.

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 (**4,5m³** methane per ton of coal), other than coking coal mines, shall be prohibited **from 1 January 2031**.

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

By **five years** from the date of entry into force of this Regulation, the Commission shall adopt a delegated act to supplement this Regulation by setting out **methane venting thresholds** from ventilation shafts for **coking coal mines**.

Major challenges for the Polish coal mining sector in respect of the new EU regulation

A. MITIGATION OF METHANE EMISSIONS FROM OPERATING UNDERGROUND COAL MINES

1. **Methane drainage stations** – after the introduction of revisions, meeting the requirements of the Regulation is **technically possible but still quite difficult and certainly very costly**. (So far 1/3 of emission is not utilized on average, which is roughly 100 million m³ of methane per year).
2. **Ventilation shafts** – even after the introduction of revisions, **the emission thresholds** (5 t CH₄/kt from 2027 and 3 t CH₄/kt from 2031) **are still inadequate** and will either impose **additional costs** or the **necessity to close down some of the gassy mines**. (In the Polish coal mining industry the average level of emission will still remain above 8 t CH₄/kt in near future).

B. MONITORING AND REPORTING IN OPERATING MINES

1. **Post-mining emission factors** – measurements of coal gas content, which have not been practiced in the Polish mining industry so far, **require development of an appropriate methodology and costly equipment, including non-gassy mines**.
2. **Emission measurements in ventilation shafts and methane drainage stations** – rigorous requirements concerning measurement quality and accuracy will **generate additional cost for the mining industry, including non-gassy mines**.

C. CLOSED AND ABANDONED MINES – will be addressed in the next presentation.



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Thank you for your attention



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