

STEEL METHANE PROGRAMME //
COAL METHANE DATABASE MINE DATA SHEETS

KAZAKHSTAN

May 2026

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ABOUT THIS DOCUMENT

Greater transparency on methane emissions from coal mines is essential to understand, manage and ultimately reduce the climate footprint of steel production.

The steel sector faces an urgent need to reduce its greenhouse gas emissions. Metallurgical (met) coal – a key ingredient in global steel production – adds on average a quarter to the climate footprint of steel through its methane emissions. At the same time, it represents a major, cost-effective mitigation opportunity: up to 90 per cent of abatable emissions could be reduced at less than 1 per cent of the retail price of steel. Despite this, global inventories continue to rely largely on default emission factors that do not adequately reflect real-world conditions, slowing targeted mitigation efforts.

The Steel Methane Programme (SMP) is a global initiative to make methane emissions from coal measurable, transparent and actionable across the steel supply chain. SMP is managed by the UN Environment Programme's International Methane Emissions Observatory (IMEO).

Robust quantification of methane emissions from met coal mining is essential. Existing estimates are often fragmented and inconsistent, reflecting methodological differences and variable data quality. To address these gaps, the United Nations Environment Programme's International Methane Emissions Observatory (IMEO) has developed an integrative modelling framework that combines different data sources to generate unified, probabilistic mine-level emission estimates.

Introducing mine data sheets

The Steel Methane Programme (SMP) increases methane transparency through its Coal Methane Database (database), hosted on IMEO's Eye on Methane data platform. The database compiles integrated, mine-level emissions estimates that draw on

scientific research, satellites and inventories. This provides mining companies, steel producers and policymakers with transparency to inform engagement and drive methane reductions.

The database now covers around 250 met coal mines globally, representing roughly half of global met coal production. The modelling framework is designed for operating mines and should be interpreted in that context. Mines included in the database span a broad geographic area, with priority given to operations with significant met coal output and relevance to the steel supply chain. Coverage and data availability vary by country and mine.

The mine data sheets presented in this document provide an overview of a country's methane emission estimates from individual met coal mines.

Data sources and methodology

Methane emission estimates draw on multiple, independent lines of evidence, including:

- Reported inventory data, where available.
- Peer-reviewed scientific literature.
- Satellite and aerial observations.
- Other publicly available data sources.

These inputs are integrated within IMEO's modelling framework to produce mine-level methane emission intensities and absolute emission estimates. Explicit uncertainty ranges reflect data availability and methodological uncertainty, providing insight into both emission magnitude and associated confidence.

Updates and further information

Mine data sheets are updated twice a year. Updates may include:

- Additional or improved data inputs.
- Methodological refinements.
- Expanded mine coverage.

The Coal Methane Database is an integral part of [Eye on Methane // GLOBAL](#). [Download Coal Methane Database data sets](#) or learn more about [IMEO's data integration approach](#).

For questions, feedback or to engage further, please contact: unep-smp@un.org.

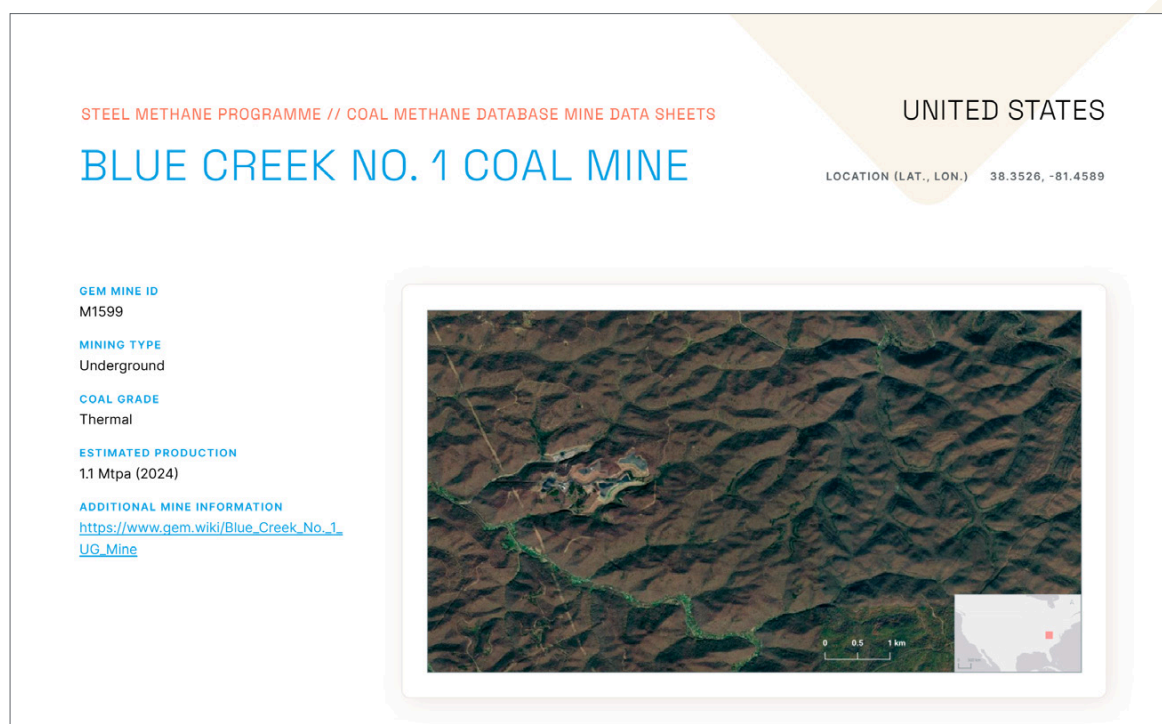
How to read mine data sheets

Each data sheet provides key information on mine, location, production and coal type, alongside IMEO's mine-level methane emission intensity estimate and a summary of the underlying evidence base for that estimate.

Mine information and context

The upper section summarizes key contextual information about the mine. The "Production Estimate" is reported in million metric tonnes per annum (Mtpa) and expressed as run-of-mine (ROM) equivalent production. For this section, IMEO uses the nearest-year production data available from Global Energy Monitor's mine wiki. In rare cases – for example, where GEM records very low or outdated production – the estimate may draw on the primary source referenced by GEM to identify the most recent available value.

Where production data or direct ROM data are not available, values are derived according to the Coal Methane Database methodology. This may include capacity-based estimates or conversion from saleable production to ROM-equivalent production, where needed.



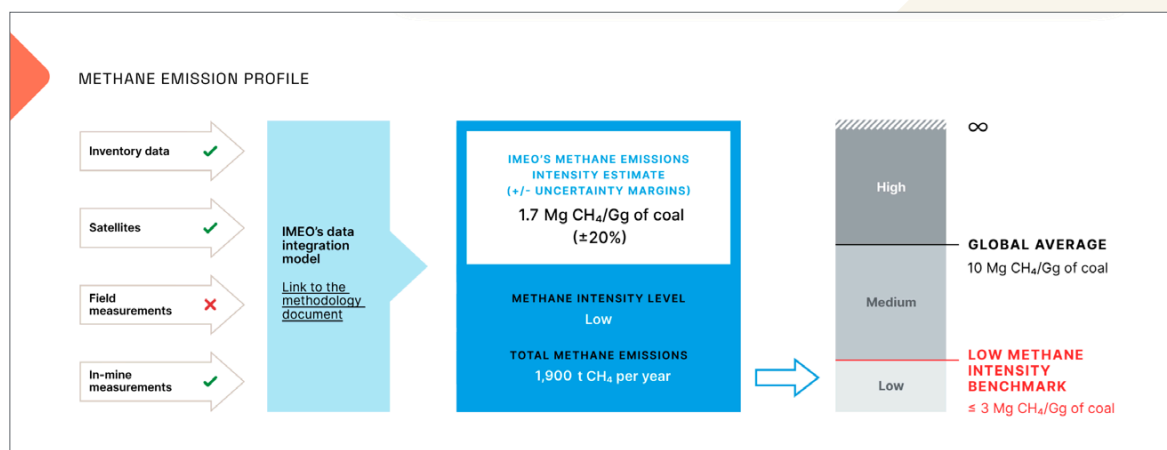
Methane emission profile

The methane emission profile presents IMEO's mine-level estimate of methane emissions intensity and absolute emissions:

- The central value represents IMEO's integrated methane emission estimate derived from multiple data inputs and its associated uncertainty margins (as a percentage). This value is based on nearest-year production data reported by Global Energy Monitor.
- The positioning of the estimate relative to global averages and **Low Methane Intensity Benchmark** thresholds provides contextual information on mine-level emissions in both quantitative and qualitative terms (Low, Medium, High) and is not a rating of compliance or performance.
- The arrows on the left-hand side indicate the types of data inputs that inform IMEO's data integration model for the mine.

Note:

- The **global average** of 10 Mg CH₄/Gg of coal shown on the right-hand side corresponds to the 2022–2024 average met coal methane intensity based on the International Energy Agency's Global Methane Tracker and its annual Coal analyses.
- The 3 Mg CH₄/Gg **Low Methane Intensity Benchmark** is an indicative low-intensity reference for metallurgical coal. It represents the average methane intensity of metallurgical coal production with full abatement of methane emissions, consistent with the IEA's Net Zero Emissions by 2050 Scenario.

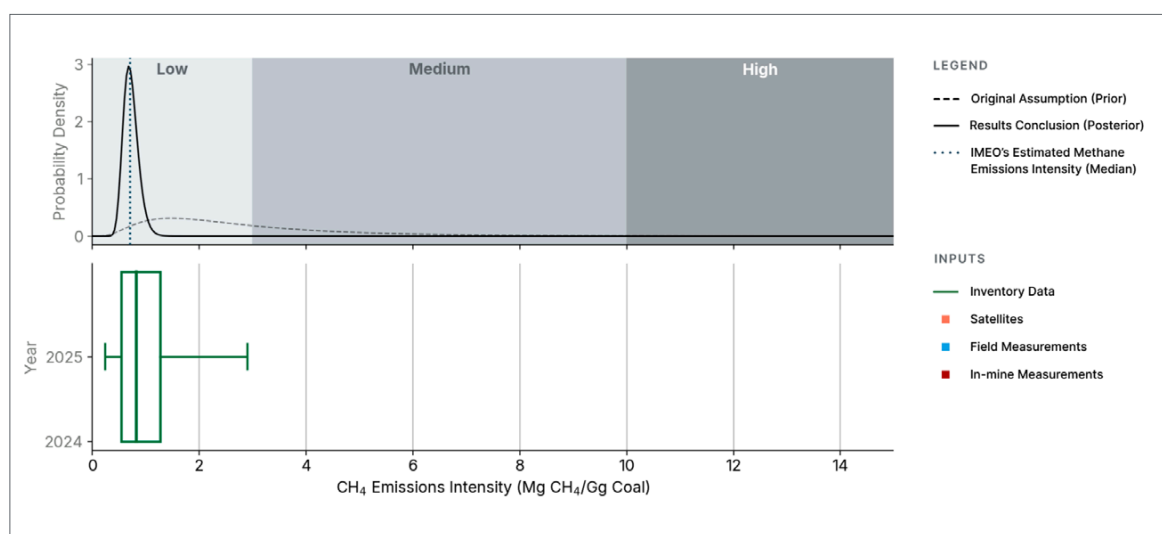


Data inputs and integration results

The charts illustrate how multiple data inputs are combined to produce IMEO's mine-level methane emissions intensity estimate:

- The lower chart shows the top 15 weighted data inputs, together with their associated uncertainty ranges, used to derive IMEO's methane emissions intensity estimate for the mine. The classification of these inputs is described in the Inputs section. Inventory estimates are presented as a single box-and-whisker representation.
- The upper chart presents the results of IMEO's data integration model, showing the probabilistic distribution of methane emission intensities consistent with the available evidence.

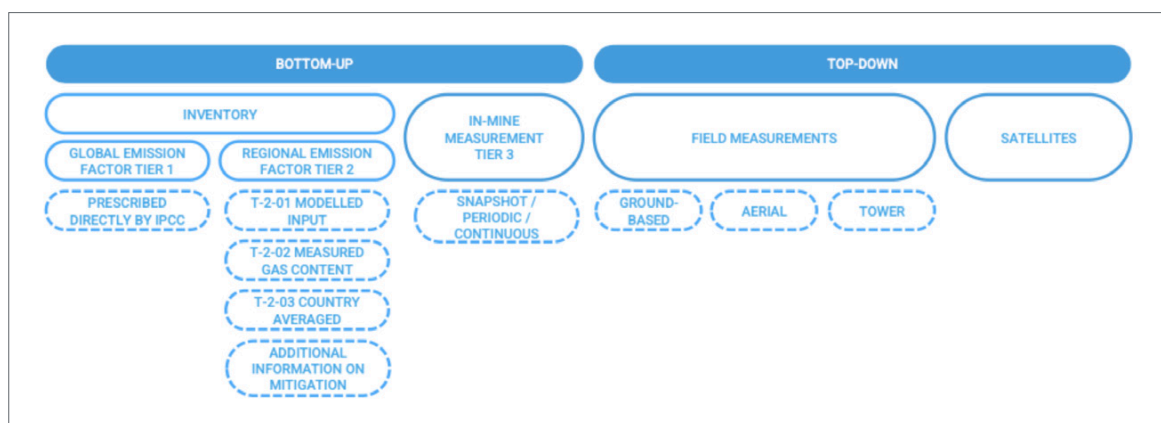
The relative influence of individual data inputs within the integration model is informed by their relative uncertainties, which have been attenuated by multiple factors including data recency, location of measurement in production chain (before or after potential mitigation), and data source trust.



Top data inputs table

The table lists the most influential data inputs used in the estimate and their identifiers including:

- **Data approach** – Method used to estimate the value
Examples:
 - Bottom-up;
 - Satellites;
 - Field measurements



- **Data category** – Sub-category of the method used to estimate the value

Data Approach	Reporting Period	Value	Uncertainty (%)	Unit	Data Category	Source Category	
Satellite	2025	1.2	38%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	

Examples:

- Bottom-up:
 - Inventory: Tier-1; Tier-2-01; Tier-2-02; Tier-2-03;
 - In-mine: Tier-3;
- Satellite
- Field measurements
 - Aerial;
 - Ground;
 - Tower
- **Data source** – Resource where the value was reported or published
Examples: Science study (external); Science study (IMEO); Company reporting; Independent reporting; IPCC; UNFCCC; IMEO MARS
- **Reporting period**
- **Emissions value and units**
- **Associated uncertainty**

Data categorisation is in line with the internal cataloguing presented above. Please note that for satellite entries, the values shown represent annualized mine-level estimates based on all available images (detects and non-detects), aggregated across the known emission sources associated with the mine. Additional data beyond those shown are available in the full data set.

Disclaimer

All emissions values presented in this document are model-derived estimates based on publicly available data sources, complemented by a limited set of third-party satellite data. They are subject to uncertainty and should not be interpreted as exact measurements or definitive representations of emissions at individual mines or companies. They are not a compliance or performance rating and are not a recommendation in view of procurement decisions.

Further information

For more details, please consult the full Coal Methane Database and the accompanying methodology documentation or contact IMEO at unep-smp@un.org.

KAZAKHSTANSKAYA COAL MINE

LOCATION (LAT., LON.) 49.7504, 72.5635

GEM MINE ID

M1439

MINING TYPE

Underground

COAL GRADE

Metallurgical

ESTIMATED PRODUCTION

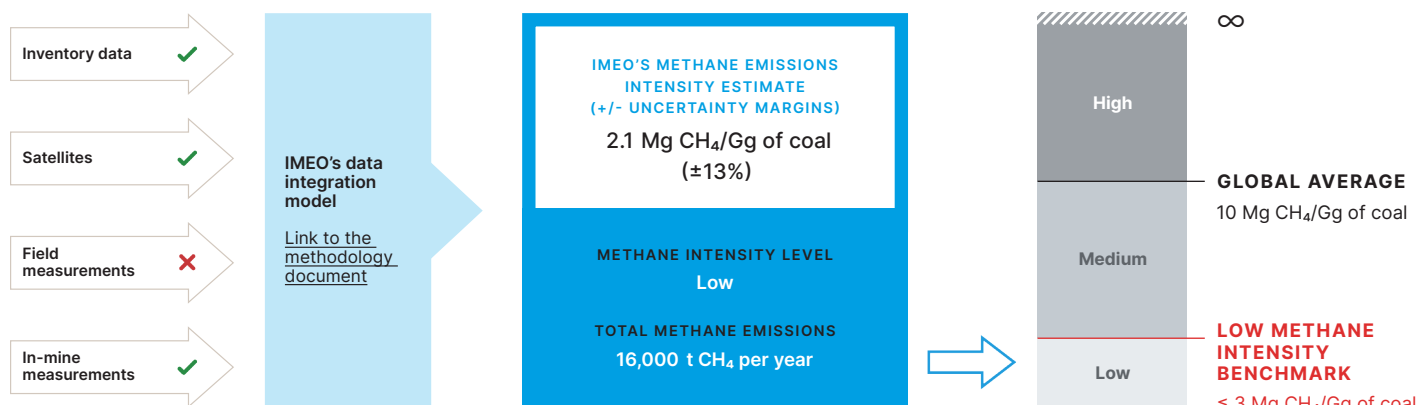
7.5 Mtpa (2024)

ADDITIONAL MINE INFORMATION

https://www.gem.wiki/Kazakhstanskaya_coal_mine



METHANE EMISSION PROFILE



The Steel Methane Programme (SMP), managed by the UN Environment Programme's International Methane Emissions Observatory (IMEO), is a global initiative to make methane emissions from coal measurable, transparent and actionable across the steel supply chain.

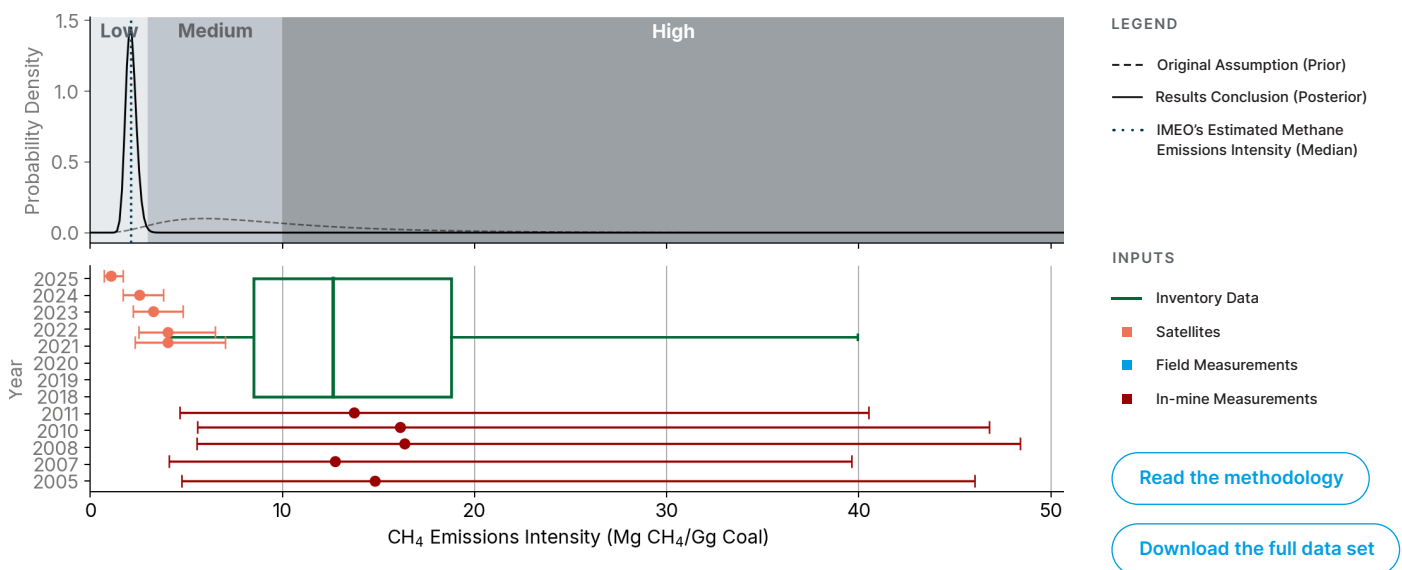
SMP increases methane transparency through its Coal Methane Database, hosted on IMEO's Eye on Methane data platform.

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[More information](#)

METHANE EMISSIONS DATA INPUTS

RESULTS OF IMEO'S DATA INTEGRATION MODEL FOR KAZAKHSTANSKAYA COAL MINE



TOP PUBLIC DATA INPUTS (WEIGHTED)

Data beyond top 15 data sources is available in the full data set.

Inventory inputs may appear more than once due to similarity indexing used to incorporate comparable data points into the model. See [methodology](#) for further detail.

Data Approach	Reporting Period	Value	Uncertainty (%)	Unit	Data Category	Source Category	
Satellite	2023	4	40%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2024	3	42%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2025	1.2	46%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2022	5	50%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2021	5	60%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Inventory	2024	0	0%	Mg CH ₄ /Gg Coal	Tier-2-01	GEM Tracker 2025	Link
Inventory	2024	0	0%	Mg CH ₄ /Gg Coal	Tier-1	IPCC 2006 guidelines	Link
In-mine measurements	2010	30	145%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
In-mine measurements	2011	20	149%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
In-mine measurements	2008	30	150%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
Inventory	2020	30	155%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link
Inventory	2019	30	159%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link
In-mine measurements	2005	30	162%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
Inventory	2018	30	162%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link
In-mine measurements	2007	20	162%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link

KUZEMBAEV COAL MINE

LOCATION (LAT., LON.) 49.8059, 72.9661

GEM MINE ID

M1437

MINING TYPE

Underground

COAL GRADE

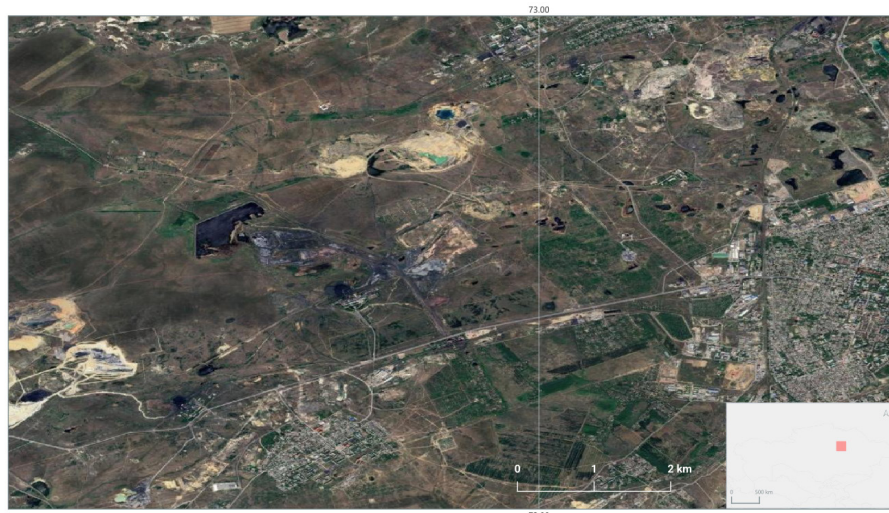
Metallurgical

ESTIMATED PRODUCTION

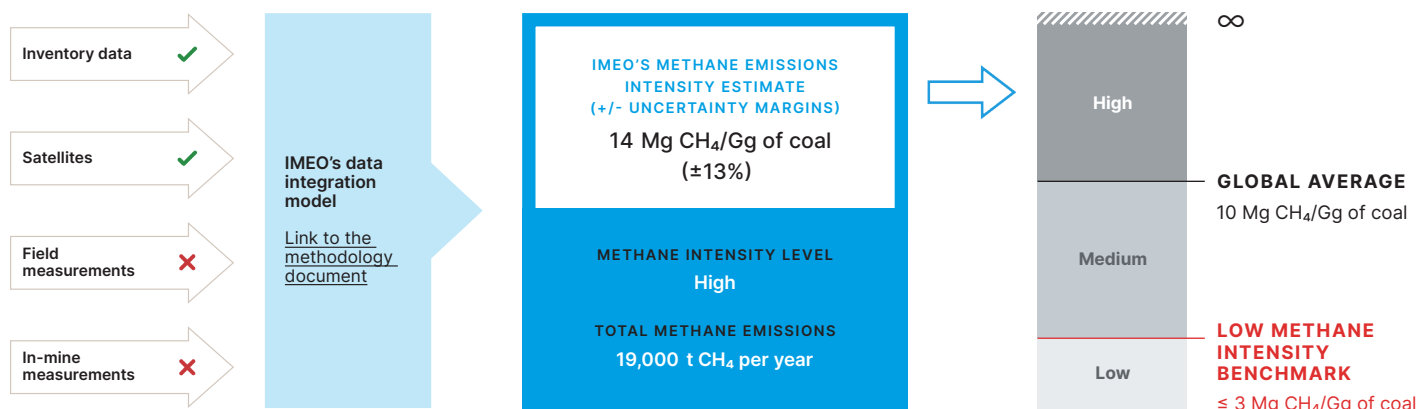
1.4 Mtpa (2024)

ADDITIONAL MINE INFORMATION

https://www.gem.wiki/Kuzembaev_coal_mine



METHANE EMISSION PROFILE



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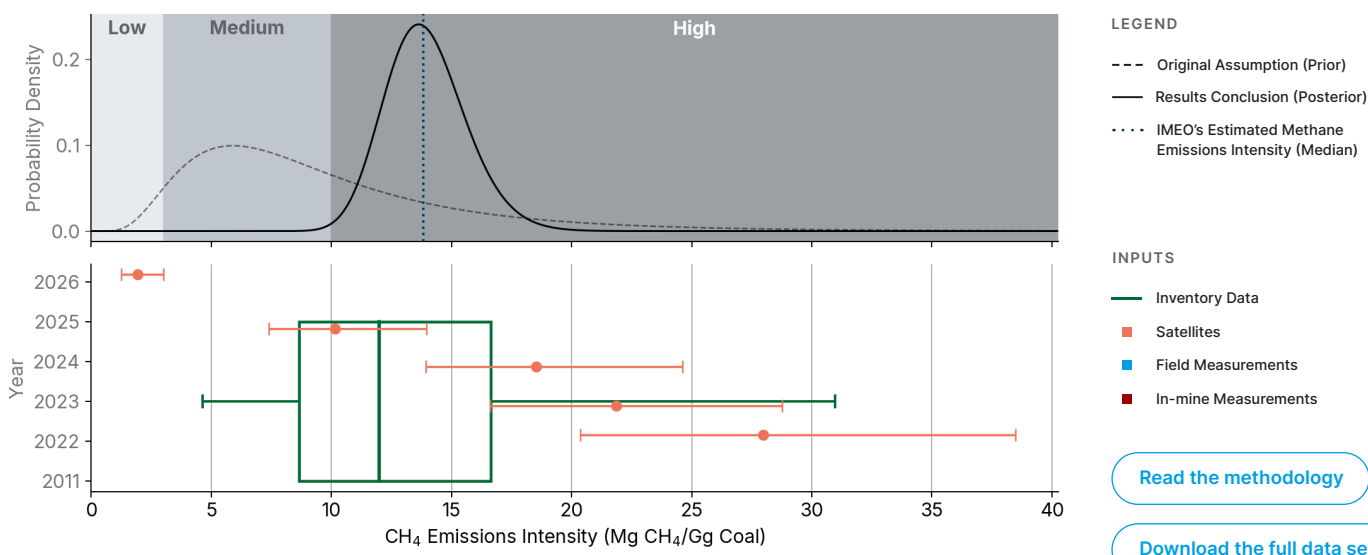
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[More information](#)

METHANE EMISSIONS DATA INPUTS

RESULTS OF IMEO'S DATA INTEGRATION MODEL FOR KUZEMBAEV COAL MINE



TOP PUBLIC DATA INPUTS (WEIGHTED)

Data beyond top 15 data sources is available in the full data set.

Inventory inputs may appear more than once due to similarity indexing used to incorporate comparable data points into the model. See [methodology](#) for further detail.

Data Approach	Reporting Period	Value	Uncertainty (%)	Unit	Data Category	Source Category	
Satellite	2023	23	28%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2024	19	29%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2022	29	33%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2025	11	33%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Inventory	2011	18	38%	Mg CH ₄ /Gg Coal	Tier-2-02	Maussymbaeva et al., 2024	Link
Satellite	2026	2.1	47%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Inventory	2011	13	54%	Mg CH ₄ /Gg Coal	Tier-2-02	Maussymbaeva et al., 2024	Link
Inventory	2024	10	97%	Mg CH ₄ /Gg Coal	Tier-2-01	GEM Tracker 2025	Link
Inventory	2024	10	120%	Mg CH ₄ /Gg Coal	Tier-1	IPCC 2006 guidelines	Link
Inventory	2023	10	160%	Mg CH ₄ /Gg Coal	Tier-2-01	GEM Tracker 2025	Link
Inventory	2023	10	203%	Mg CH ₄ /Gg Coal	Tier-1	IPCC 2006 guidelines	Link

ABAYSKAYA COAL MINE

LOCATION (LAT., LON.) 49.6863, 72.7592

GEM MINE ID

M1435

MINING TYPE

Underground

COAL GRADE

Metallurgical

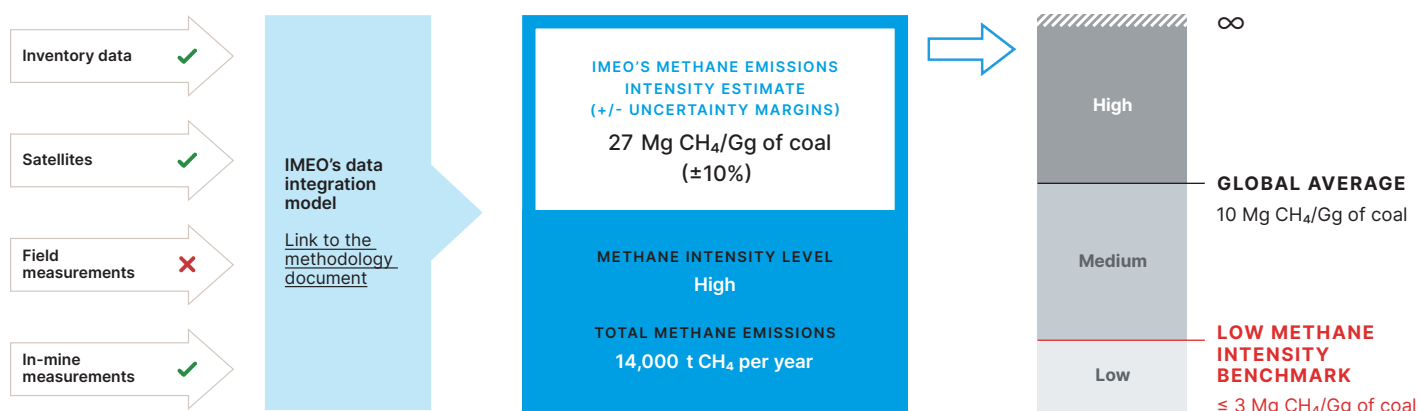
ESTIMATED PRODUCTION

0.5 Mtpa (2023)

ADDITIONAL MINE INFORMATION

https://www.gem.wiki/Abayskaya_coal_mine

METHANE EMISSION PROFILE



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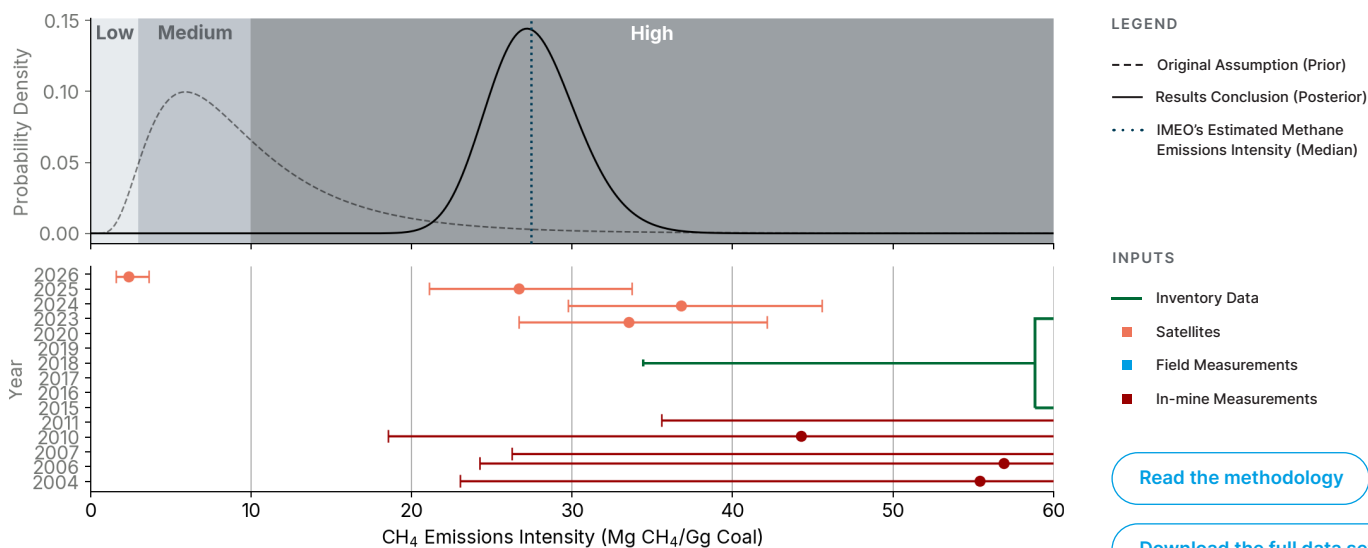
SMP increases methane transparency through its Coal Methane Database, hosted on IMEO's Eye on Methane data platform.

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[More information](#)

METHANE EMISSIONS DATA INPUTS

RESULTS OF IMEO'S DATA INTEGRATION MODEL FOR ABAYSKAYA COAL MINE



TOP PUBLIC DATA INPUTS (WEIGHTED)

Data beyond top 15 data sources is available in the full data set.

Inventory inputs may appear more than once due to similarity indexing used to incorporate comparable data points into the model. See [methodology](#) for further detail.

Data Approach	Reporting Period	Value	Uncertainty (%)	Unit	Data Category	Source Category	
Satellite	2024	38	22%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2023	34	23%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2025	27	24%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2026	3	44%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
In-mine measurements	2011	100	88%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
In-mine measurements	2007	90	100%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
Inventory	2020	90	102%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link
In-mine measurements	2006	80	104%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
Inventory	2019	90	104%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link
Inventory	2018	90	106%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link
In-mine measurements	2010	60	106%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
Inventory	2017	90	108%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link
In-mine measurements	2004	80	108%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
Inventory	2016	90	110%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link
Inventory	2015	90	112%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link

V. I. LENIN (KAZAKHSTAN) COAL MINE

LOCATION (LAT., LON.)

49.7255, 72.522

GEM MINE ID

M1438

MINING TYPE

Underground

COAL GRADE

Metallurgical

ESTIMATED PRODUCTION

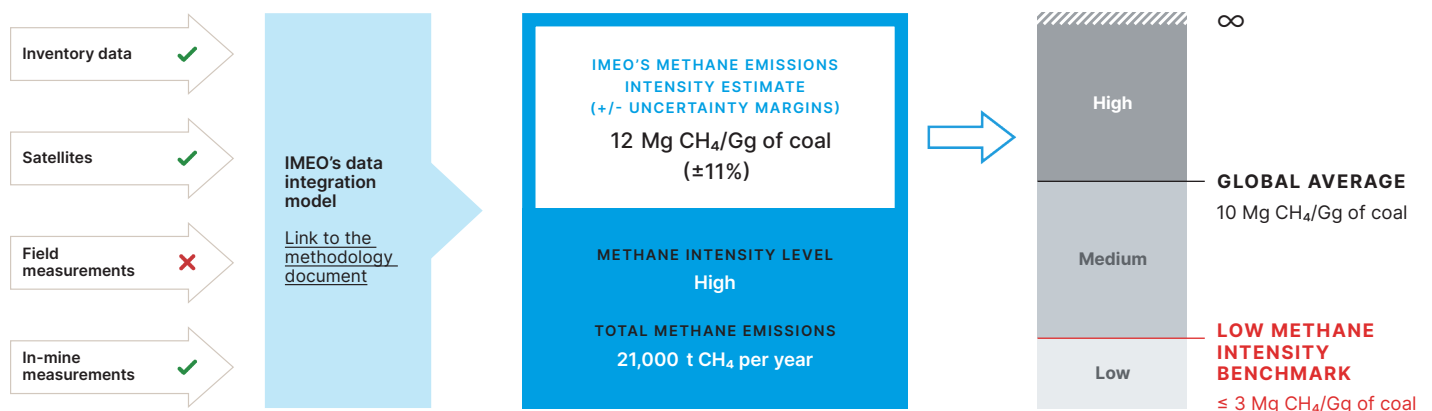
1.8 Mtpa (2024)

ADDITIONAL MINE INFORMATION

[https://www.gem.wiki/V._I._Lenin_\(Kazakhstan\)_coal_mine](https://www.gem.wiki/V._I._Lenin_(Kazakhstan)_coal_mine)



METHANE EMISSION PROFILE



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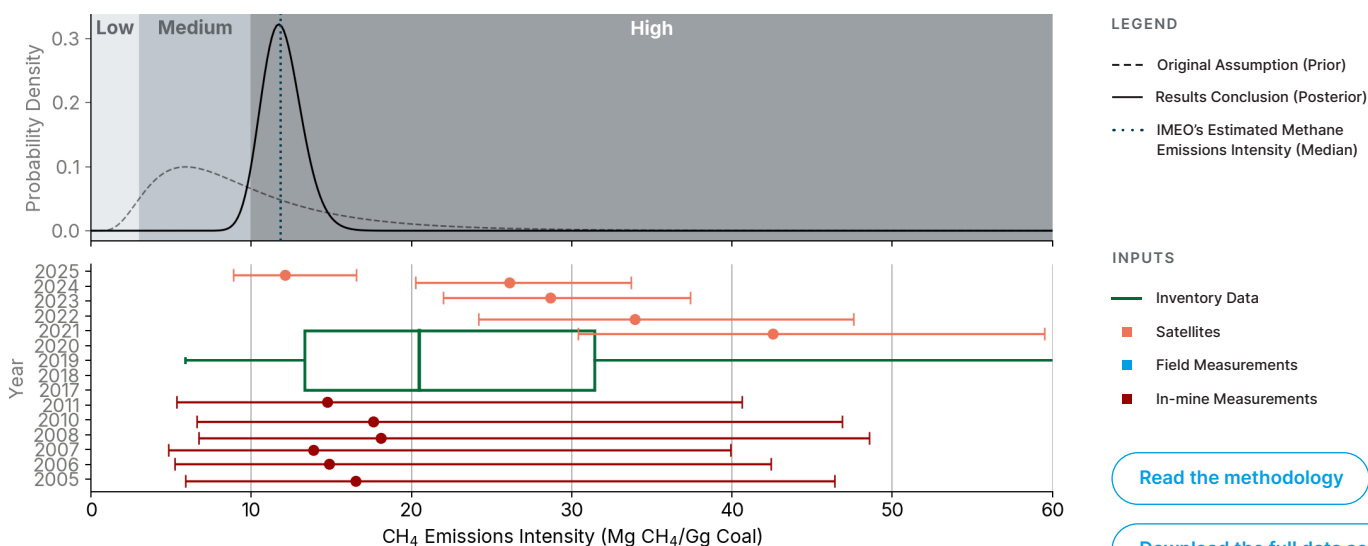
SMP increases methane transparency through its Coal Methane Database, hosted on IMEO's Eye on Methane data platform.

All emissions values presented in this document are model-derived estimates based on publicly available data sources, complemented by a limited set of third-party satellite data. They are subject to uncertainty and should not be interpreted as exact measurements or definitive representations of emissions at individual mines or companies. They are not a compliance or performance rating and are not a recommendation in view of procurement decisions.

[More information](#)

METHANE EMISSIONS DATA INPUTS

RESULTS OF IMEO'S DATA INTEGRATION MODEL FOR V. I. LENIN (KAZAKHSTAN) COAL MINE



TOP PUBLIC DATA INPUTS (WEIGHTED)

Data beyond top 15 data sources is available in the full data set.

Inventory inputs may appear more than once due to similarity indexing used to incorporate comparable data points into the model. See [methodology](#) for further detail.

Data Approach	Reporting Period	Value	Uncertainty (%)	Unit	Data Category	Source Category	
Satellite	2024	27	26%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2023	30	27%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2025	13	32%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2021	50	35%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2022	40	35%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
In-mine measurements	2010	30	127%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
In-mine measurements	2008	30	129%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
In-mine measurements	2011	20	134%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
Inventory	2020	30	138%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link
In-mine measurements	2005	30	138%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
Inventory	2019	30	140%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link
In-mine measurements	2006	30	141%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
Inventory	2018	30	142%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link
In-mine measurements	2007	20	143%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
Inventory	2017	30	144%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link

KOSTENKO COAL MINE

LOCATION (LAT., LON.) 49.8596, 73.1139

GEM MINE ID

M1434

MINING TYPE

Underground

COAL GRADE

Metallurgical

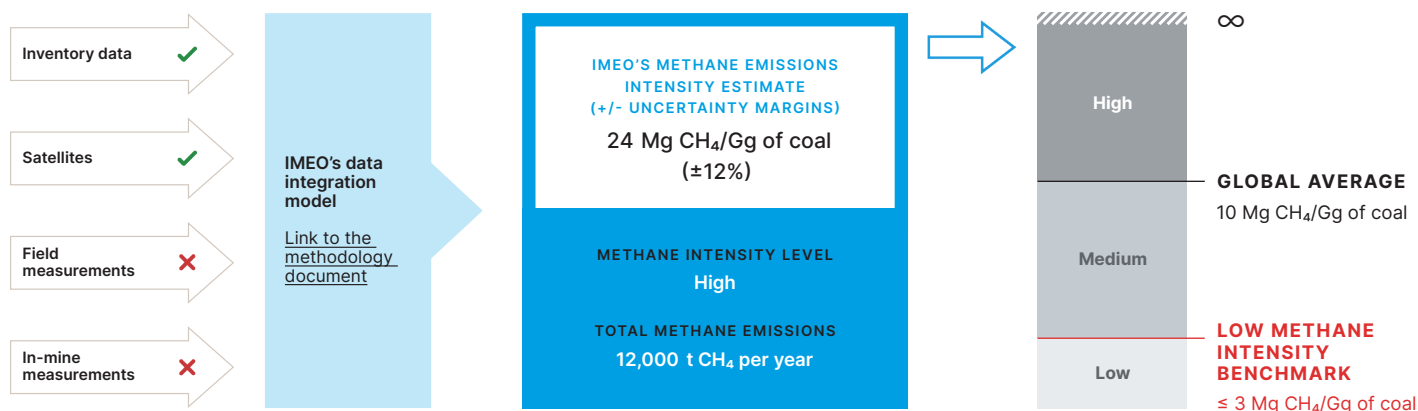
ESTIMATED PRODUCTION

0.5 Mtpa (2023)

ADDITIONAL MINE INFORMATION

https://www.gem.wiki/Kostenko_coal_mine

METHANE EMISSION PROFILE



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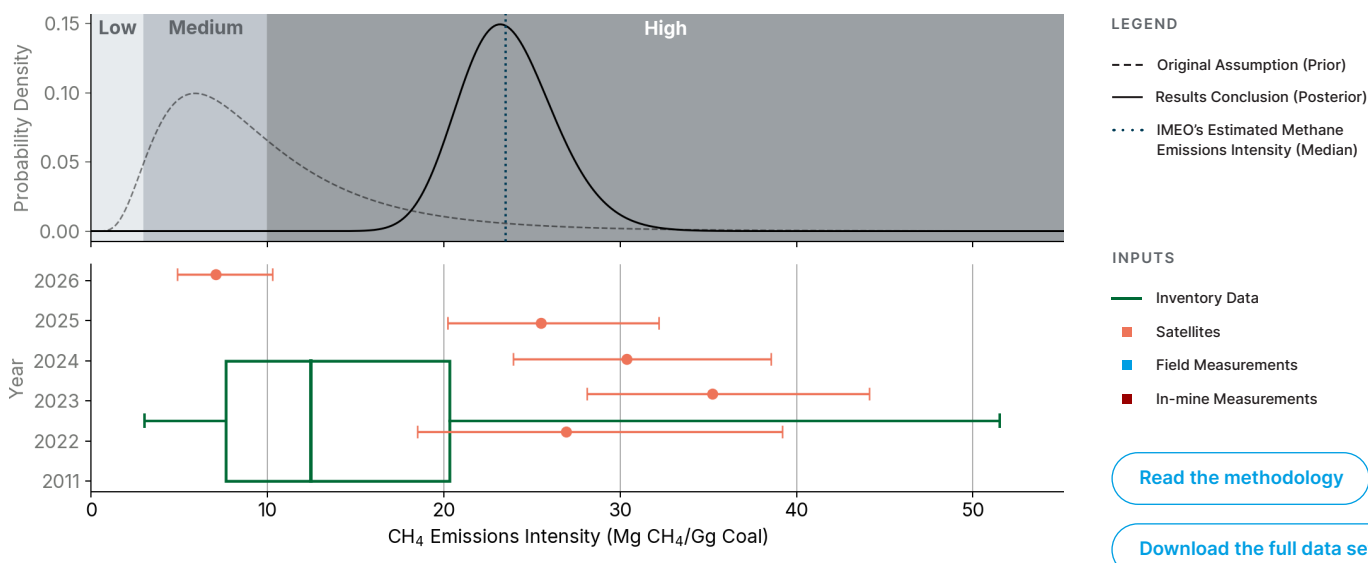
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[More information](#)

METHANE EMISSIONS DATA INPUTS

RESULTS OF IMEO'S DATA INTEGRATION MODEL FOR KOSTENKO COAL MINE



TOP PUBLIC DATA INPUTS (WEIGHTED)

Data beyond top 15 data sources is available in the full data set.

Inventory inputs may appear more than once due to similarity indexing used to incorporate comparable data points into the model. See [methodology](#) for further detail.

Data Approach	Reporting Period	Value	Uncertainty (%)	Unit	Data Category	Source Category	
Satellite	2023	36	23%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2025	26	24%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2024	31	24%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2026	8	39%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2022	30	39%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Inventory	2023	20	114%	Mg CH ₄ /Gg Coal	Tier-2-01	GEM Tracker 2025	Link
Inventory	2023	20	144%	Mg CH ₄ /Gg Coal	Tier-1	IPCC 2006 guidelines	Link
Inventory	2011	20	158%	Mg CH ₄ /Gg Coal	Tier-2-02	Maussymbaeva et al., 2024	Link
Inventory	2011	10	227%	Mg CH ₄ /Gg Coal	Tier-2-02	Maussymbaeva et al., 2024	Link

SHAKHTINSKAYA COAL MINE

LOCATION (LAT., LON.) 49.7643, 72.6178

GEM MINE ID

M1440

MINING TYPE

Underground

COAL GRADE

Metallurgical

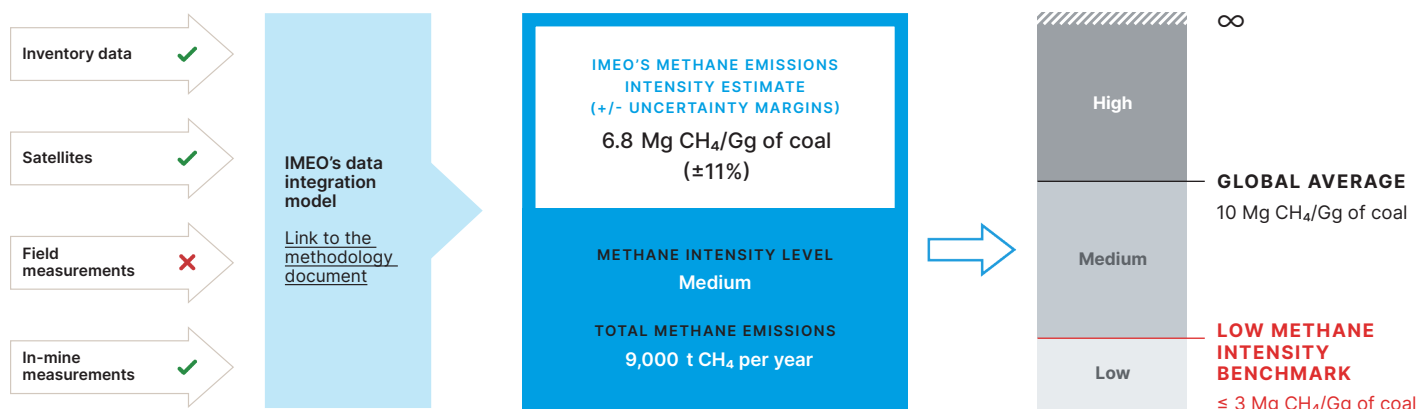
ESTIMATED PRODUCTION

1.3 Mtpa (2024)

ADDITIONAL MINE INFORMATION

https://www.gem.wiki/Shakhtinskaya_coal_mine


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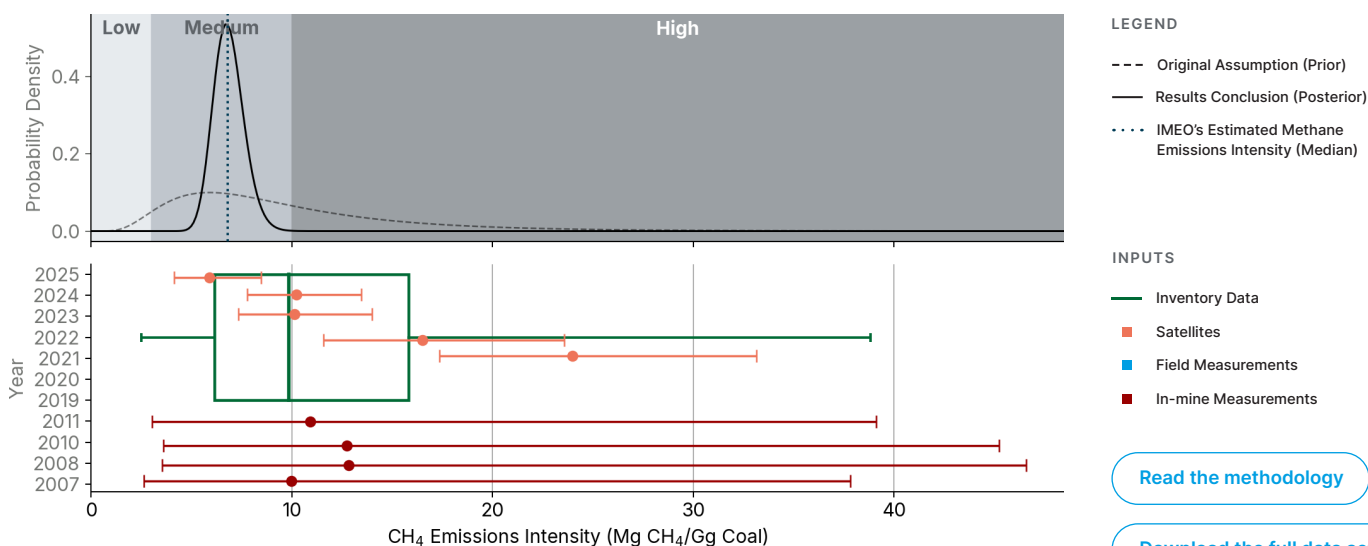
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[More information](#)

METHANE EMISSIONS DATA INPUTS

RESULTS OF IMEO'S DATA INTEGRATION MODEL FOR SHAKHTINSKAYA COAL MINE



TOP PUBLIC DATA INPUTS (WEIGHTED)

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Data Approach	Reporting Period	Value	Uncertainty (%)	Unit	Data Category	Source Category	
Satellite	2024	11	28%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2023	11	33%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2021	25	33%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2022	18	37%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2025	6	37%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Inventory	2024	0	0%	Mg CH ₄ /Gg Coal	Tier-2-01	GEM Tracker 2025	Link
Inventory	2024	10	183%	Mg CH ₄ /Gg Coal	Tier-2-01	GEM Tracker 2025	Link
Inventory	2024	10	196%	Mg CH ₄ /Gg Coal	Tier-1	IPCC 2006 guidelines	Link
In-mine measurements	2010	30	199%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
Inventory	2024	0	0%	Mg CH ₄ /Gg Coal	Tier-1	IPCC 2006 guidelines	Link
In-mine measurements	2011	20	202%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
In-mine measurements	2008	30	207%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
Inventory	2020	30	212%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link
Inventory	2019	30	217%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link
In-mine measurements	2007	20	222%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link

SARANSKAYA COAL MINE

LOCATION (LAT., LON.) 49.7731, 72.8952

GEM MINE ID

M1436

MINING TYPE

Underground

COAL GRADE

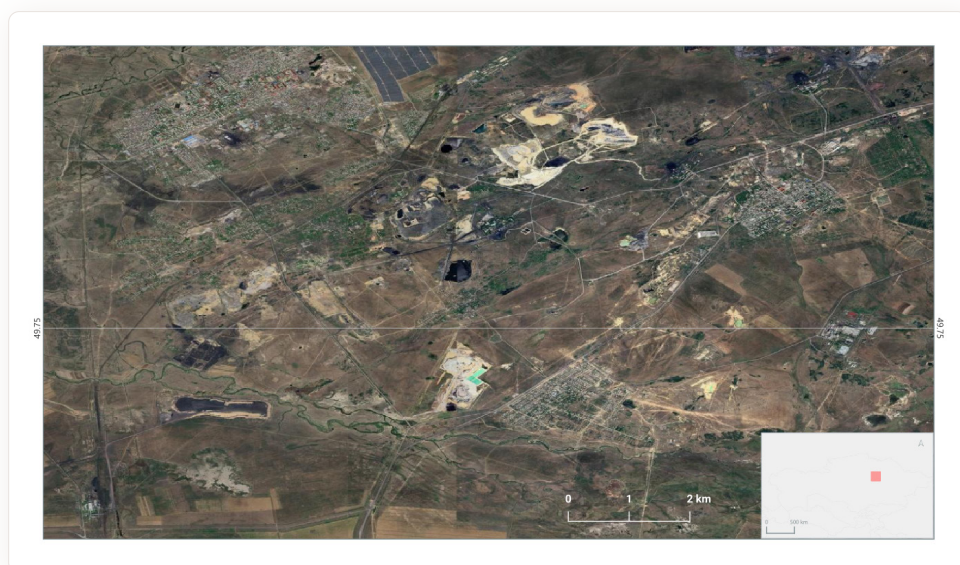
Metallurgical

ESTIMATED PRODUCTION

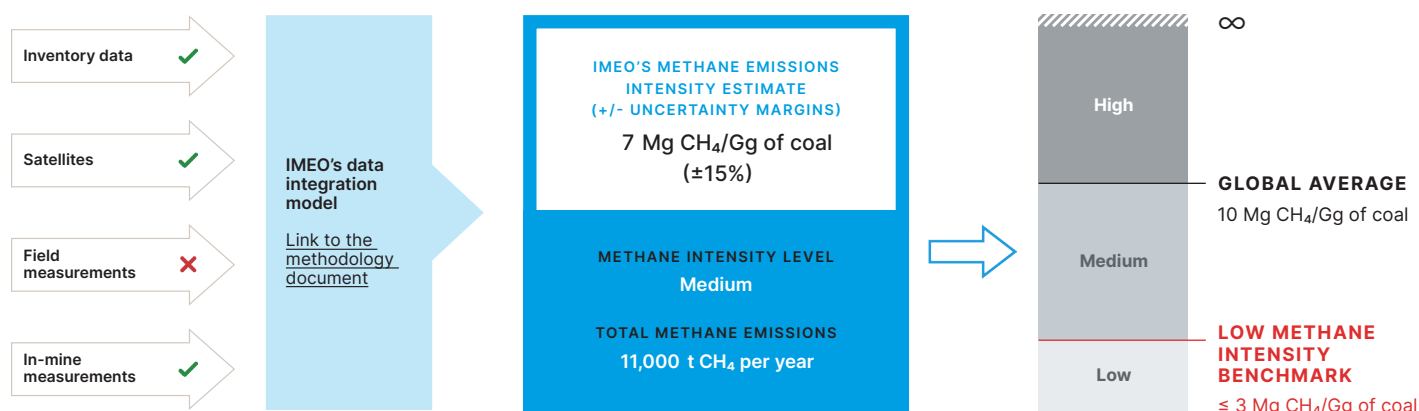
1.6 Mtpa (2023)

ADDITIONAL MINE INFORMATION

https://www.gem.wiki/Saranskaya_coal_mine



METHANE EMISSION PROFILE



The Steel Methane Programme (SMP), managed by the UN Environment Programme's International Methane Emissions Observatory (IMEO), is a global initiative to make methane emissions from coal measurable, transparent and actionable across the steel supply chain.

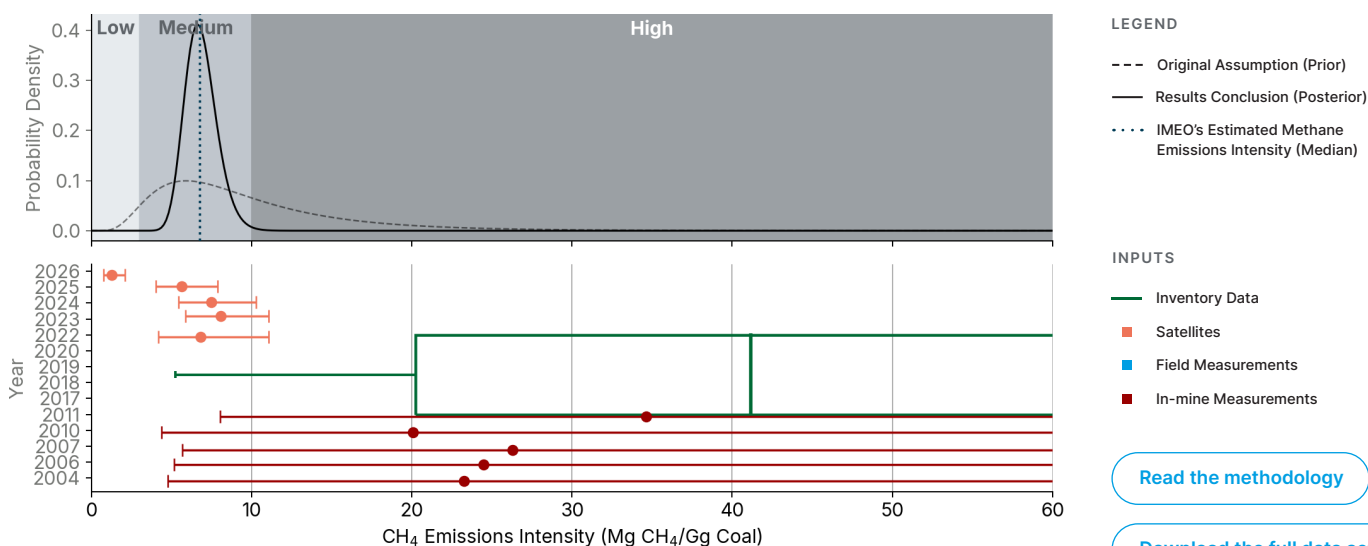
SMP increases methane transparency through its Coal Methane Database, hosted on IMEO's Eye on Methane data platform.

All emissions values presented in this document are model-derived estimates based on publicly available data sources, complemented by a limited set of third-party satellite data. They are subject to uncertainty and should not be interpreted as exact measurements or definitive representations of emissions at individual mines or companies. They are not a compliance or performance rating and are not a recommendation in view of procurement decisions.

[More information](#)

METHANE EMISSIONS DATA INPUTS

RESULTS OF IMEO'S DATA INTEGRATION MODEL FOR SARANSKAYA COAL MINE



TOP PUBLIC DATA INPUTS (WEIGHTED)

Data beyond top 15 data sources is available in the full data set.

Inventory inputs may appear more than once due to similarity indexing used to incorporate comparable data points into the model. See [methodology](#) for further detail.

Data Approach	Reporting Period	Value	Uncertainty (%)	Unit	Data Category	Source Category	
Satellite	2024	8	33%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2023	8	33%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2025	6	35%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2022	8	52%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
Satellite	2026	1.4	56%	Mg CH ₄ /Gg Coal	Satellite	Sub mine level quantification	
In-mine measurements	2011	100	273%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
Inventory	2011	20	280%	Mg CH ₄ /Gg Coal	Tier-2-02	Maussymbaeva et al., 2024	Link
In-mine measurements	2010	100	306%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
In-mine measurements	2007	100	309%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
Inventory	2020	100	315%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link
In-mine measurements	2006	100	319%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
Inventory	2019	100	323%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link
Inventory	2018	100	331%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link
In-mine measurements	2004	100	336%	Mg CH ₄ /Gg Coal	Tier-3 / In-mine	USEPA 2011	Link
Inventory	2017	100	339%	Mg CH ₄ /Gg Coal	Tier-2-01	USEPA 2011	Link