



JOGMEC's Contribution to Stable Coal Supply in Carbon Neutrality

カーボンニュートラルを踏まえた石炭安定供給への貢献

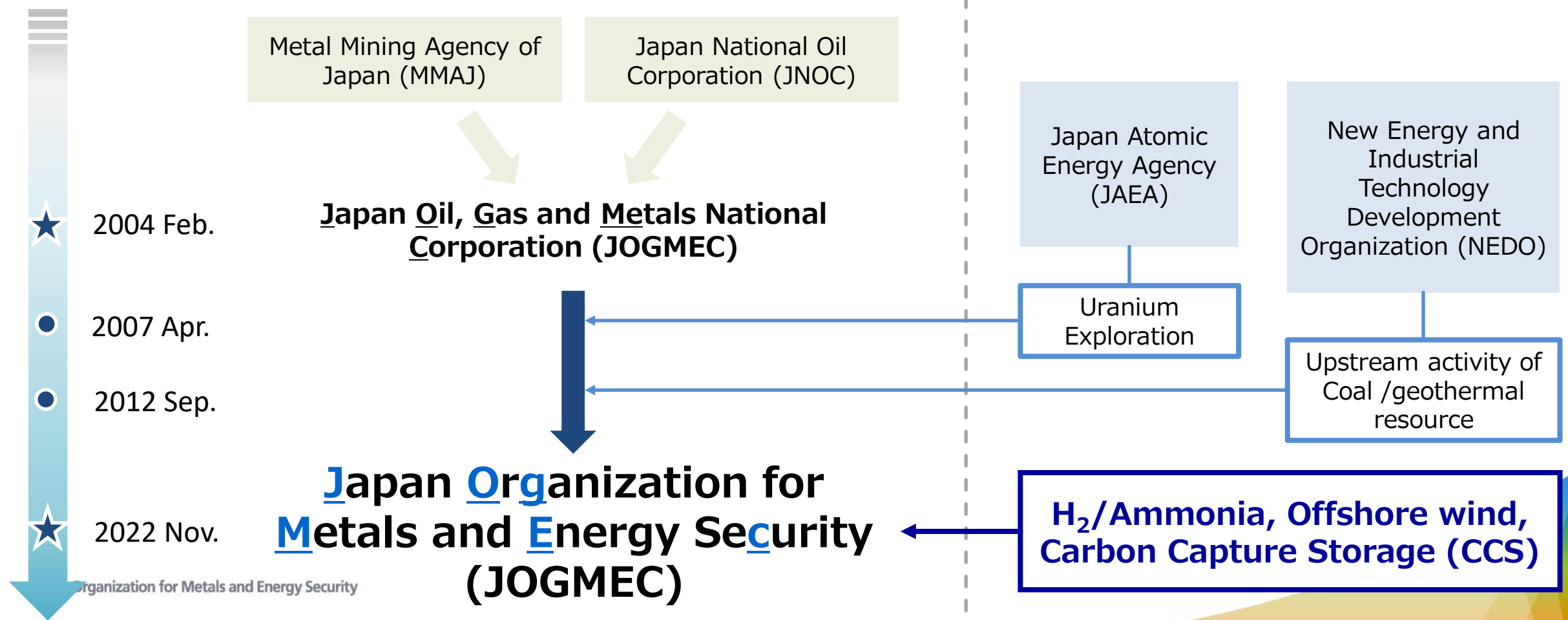
Japan Organization for Metals and Energy Security

IGARASHI Yoshiaki, Executive Vice President

September 6, 2023

History of JOGMEC

Mission: Governmental organization (1) to ensure stable supply of oil, gas, metals and coal resources to Japan, (2) to promote renewable energy development such as geothermal resources and offshore wind power plant inside Japan, (3) to promote CCS/CCUS project, and to promote production and storage of H₂/NH₃.



Activities



Support menu

- Geological surveys
- Technological development
- Financial support
- Stockpiling
- Environmental protection
- Gathering and provision of information

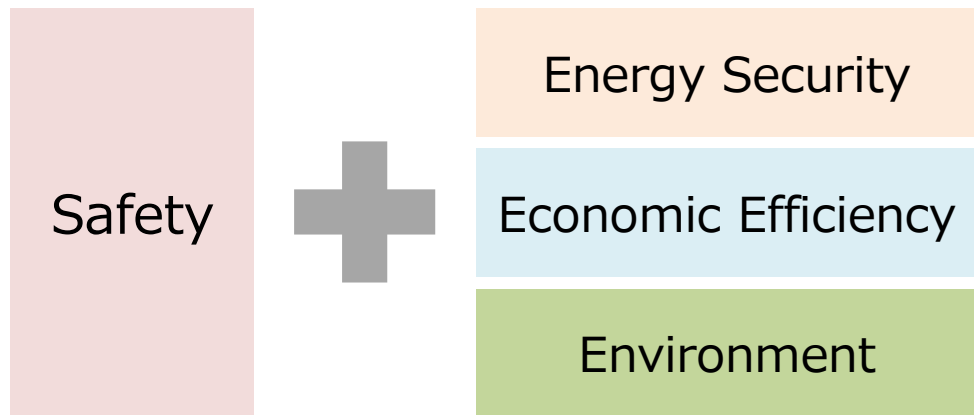
Overview of the Strategic Energy Plan

6th Strategic Energy Plan for Japan

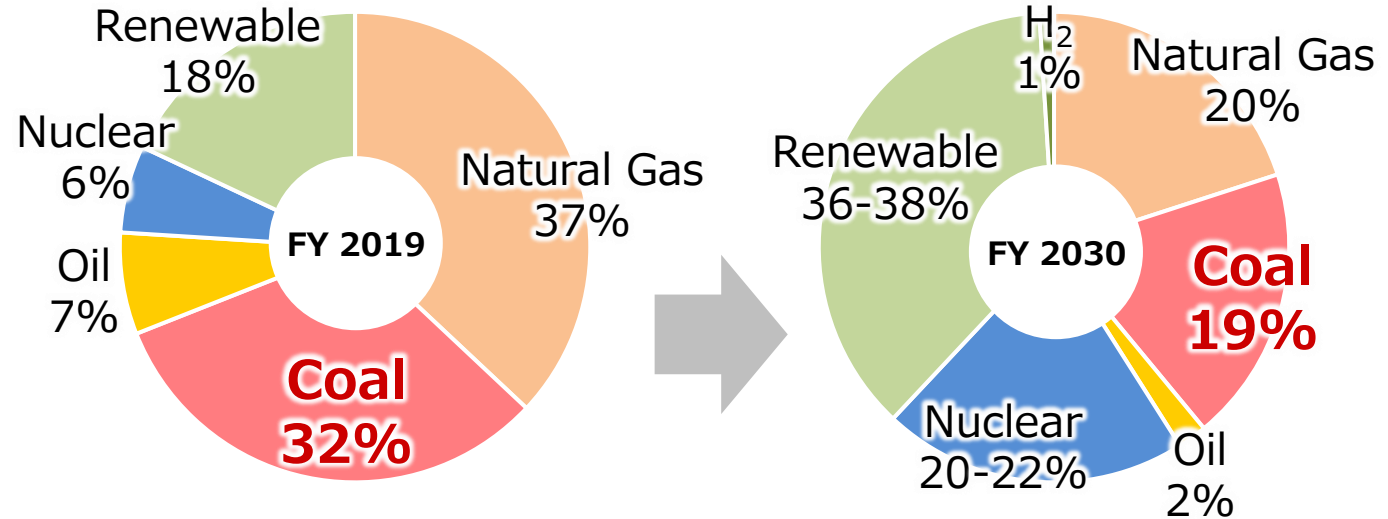
6th Strategic Energy Plan **to realize carbon neutrality by 2050;**

- **Reduce greenhouse gas emissions by 46% in FY 2030** from its FY 2013 levels,
- With **Safety** as a major premise, work on **Energy Security, Economic Efficiency, and Environment** in parallel.

S+3E



Composition of Power Generation



Composition of Power Energy Mix
 Left: in 2019 Right: target values in 2030

- “6th Strategic Energy Plan for Japan” endorsed by the Japanese Cabinet in Oct. 2021 declares to maintain 60% of coal’s independent development ratio in 2030.
- “Ambitious outlook of energy demand in 2030” released by METI in November 2021 explains that coal will contribute 19% of the energy mix.

Coal Business Trend in Japan

Thermal Coal

■ **Divestment from thermal coal enterprises & assets**

- Decarbonization policy of coal-related companies and investors towards carbon neutrality
- Credit policy of financial institutions (not to finance to thermal coal development / operation)
- Investors' requests to promote decarbonization

【Japanese companies' divestment】

Hunter Valley Op., Ravensworth, Bulga, Rolleston, Bara Alam Utama, Malinau, Drummond

■ **Trend to choose high-calorie coal for Japan's coal-fire power generators**

- Concentration to limited countries which produce high-quality coal

Metallurgical Coal

■ **COURSE50 project still needs coking coal**

■ **Credit policy of financial institution positive to metallurgical coal projects**

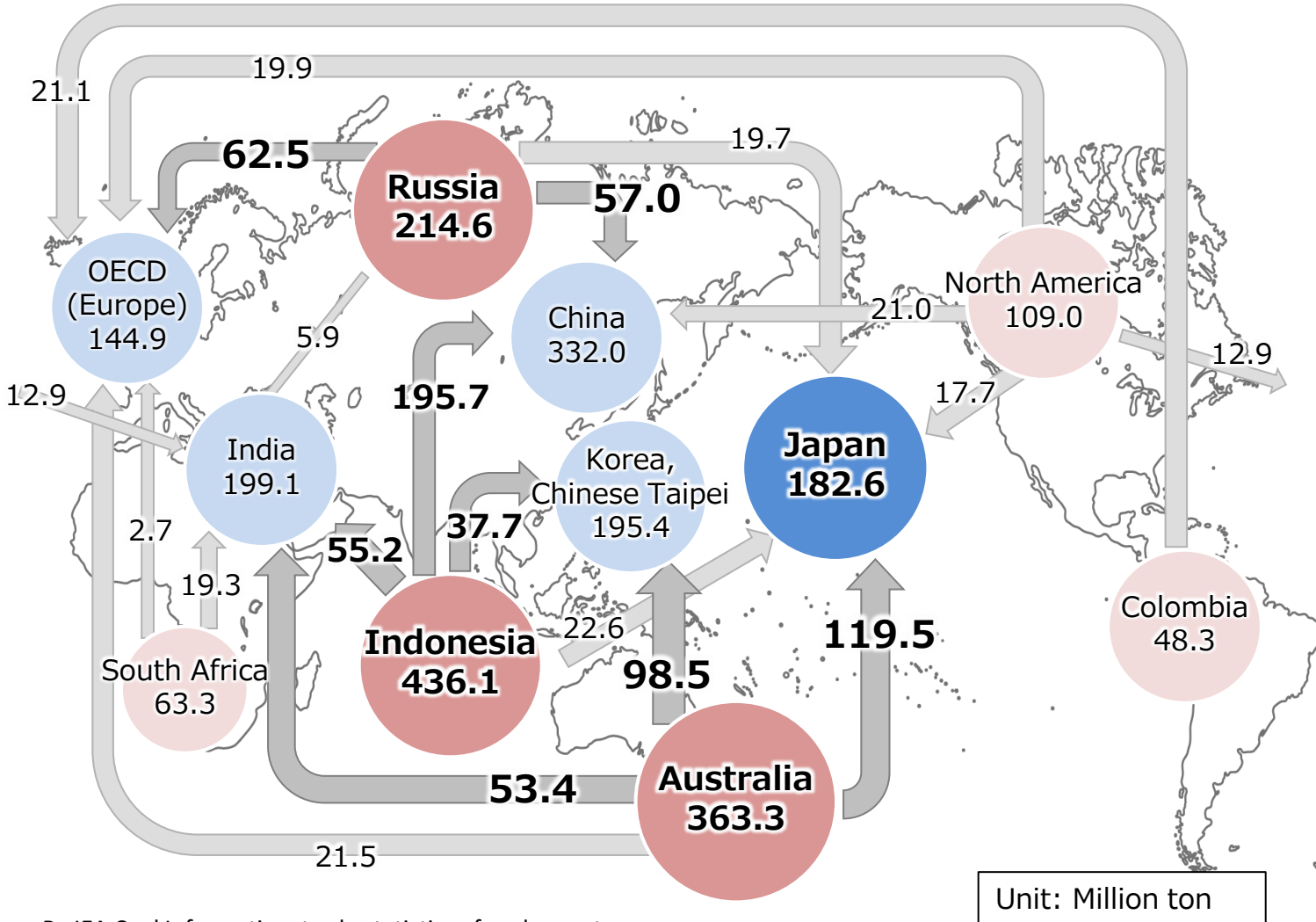
■ **New balance of metallurgical coal flow**

- After Russian invasion against Ukraine, which caused "new balance" of global coal flow, Japan depends metallurgical coal supply on Australia more

Japanese companies tend to maintain coking coal assets to secure the stable supply

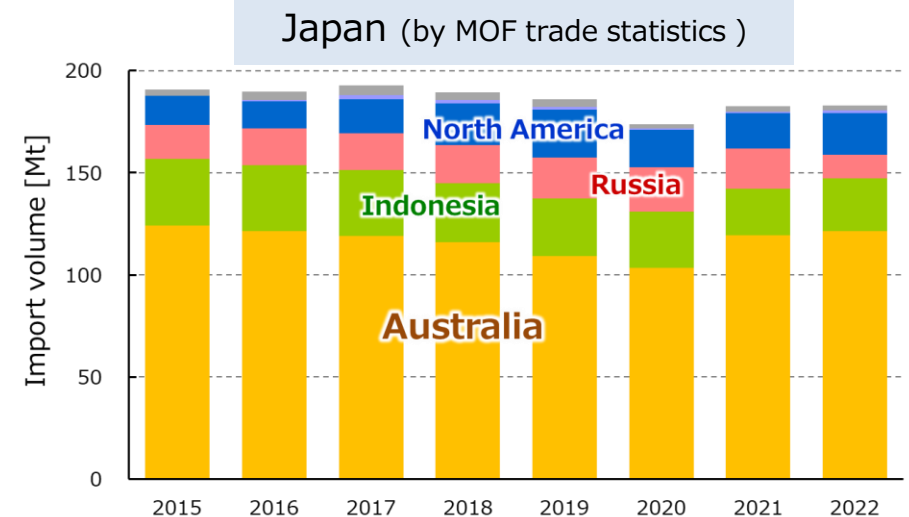
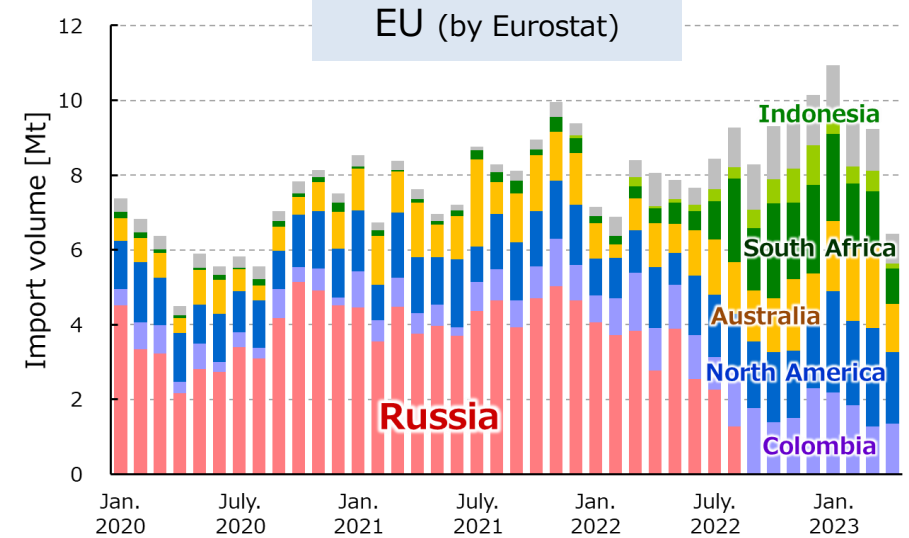
Current Status of Global Coal Trade

Coal flow (in 2021)

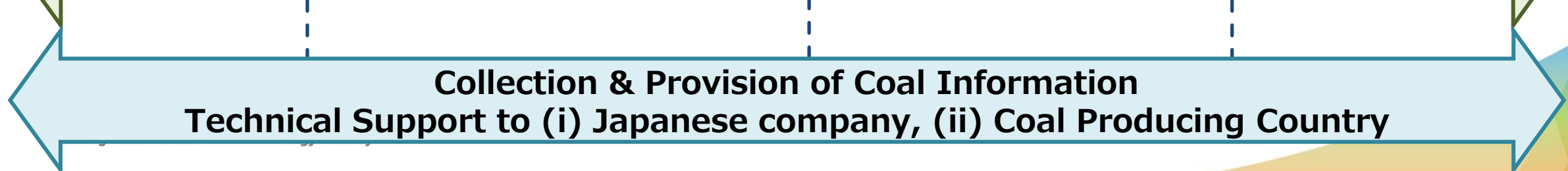


By IEA Coal Information, trade statistics of each country
 ※: Only major transportation

Coal import in EU and Japan



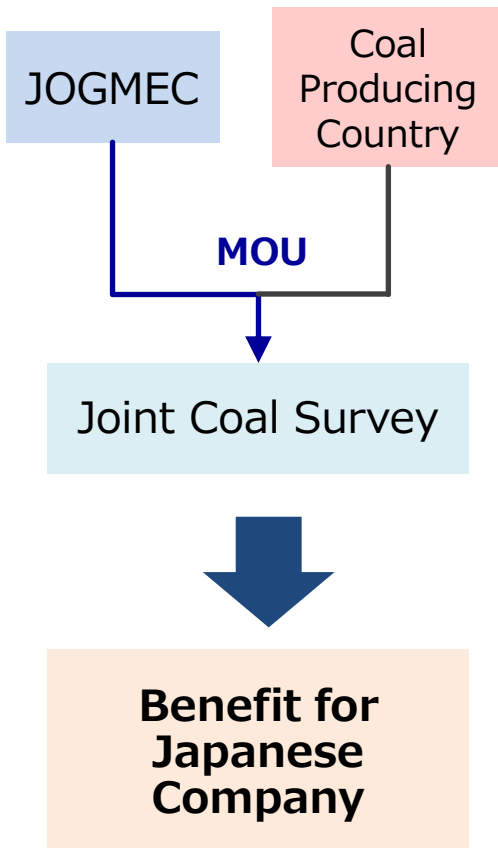
How to Support Stable Coal Supply



Support Scheme by Survey/Exploration & Subsidy

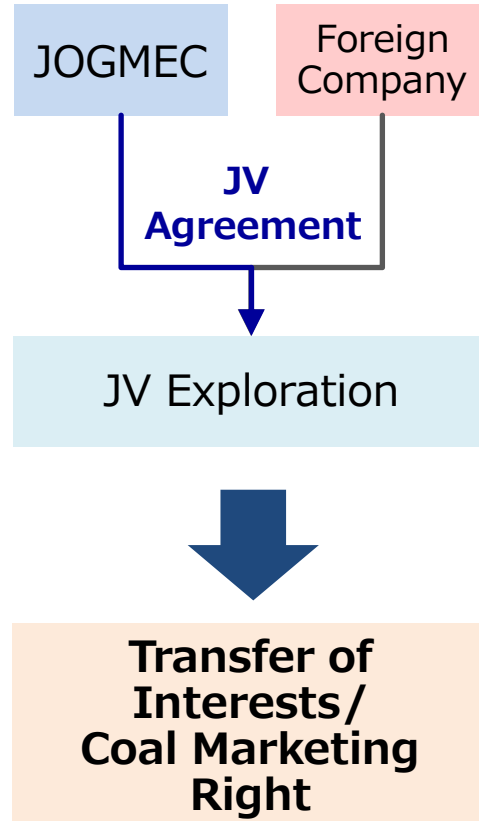
Survey and Exploration

Joint Coal Survey

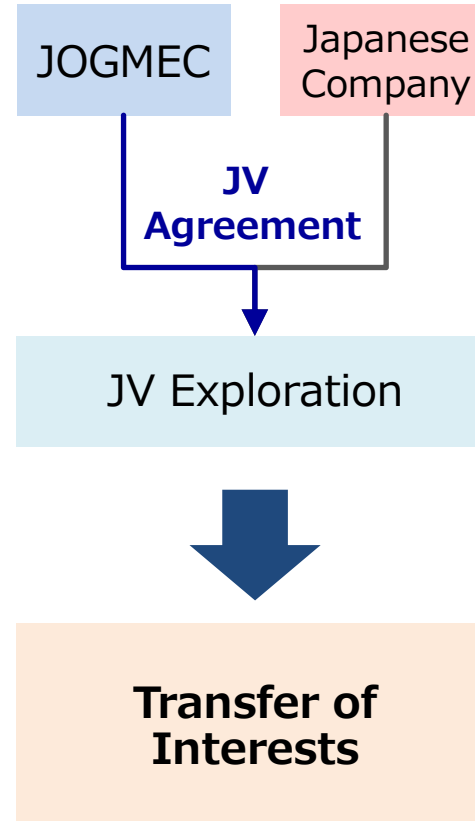


JV

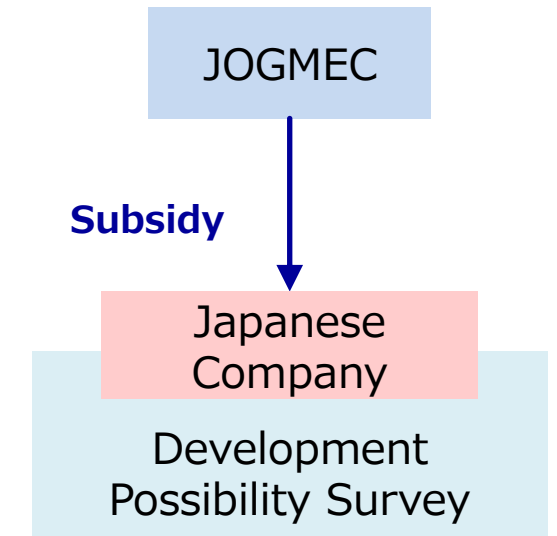
<Conventional JV>



<Nikkei JV>



Subsidy for Coal Exploration



- Drilling
 - Geophysics
 - Coal Quality Test
 - Infrastructure Study
 - Environmental Study
 - Project Evaluation
- etc.

Joint Coal Survey

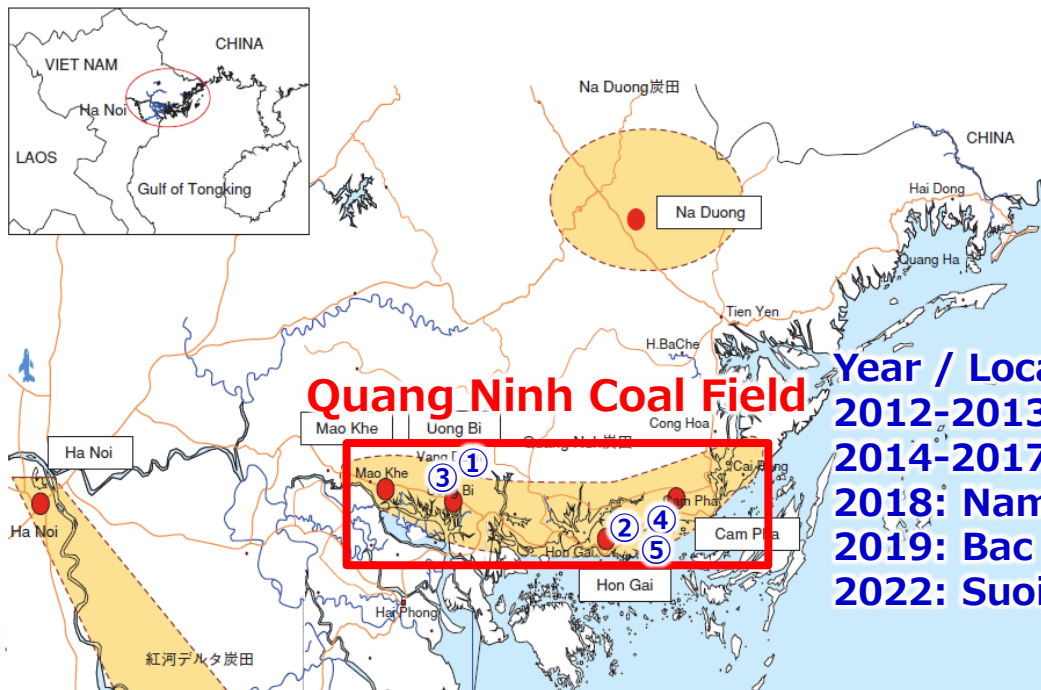


MOU



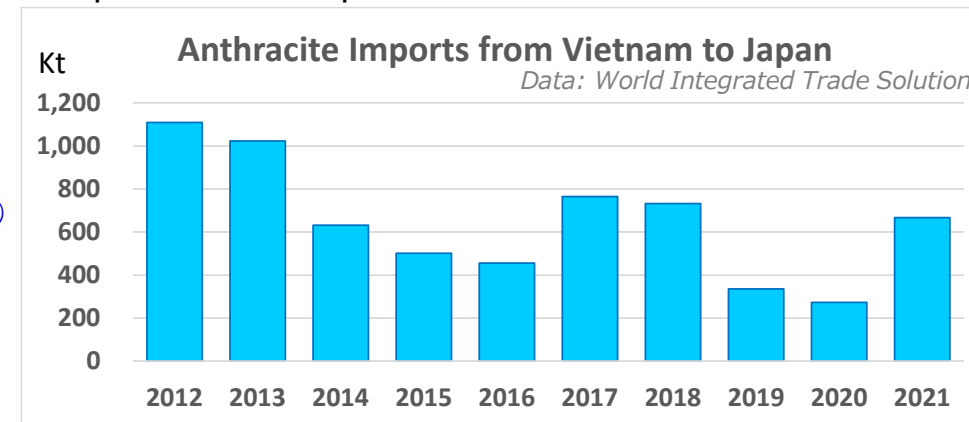
- ### Joint Coal Survey
- Geological survey,
 - Trenching,
 - Drilling,
 - Geophysical logging,
 - Coal property analysis, etc.,

Benefit for Japanese Company: Coal Purchasing Right

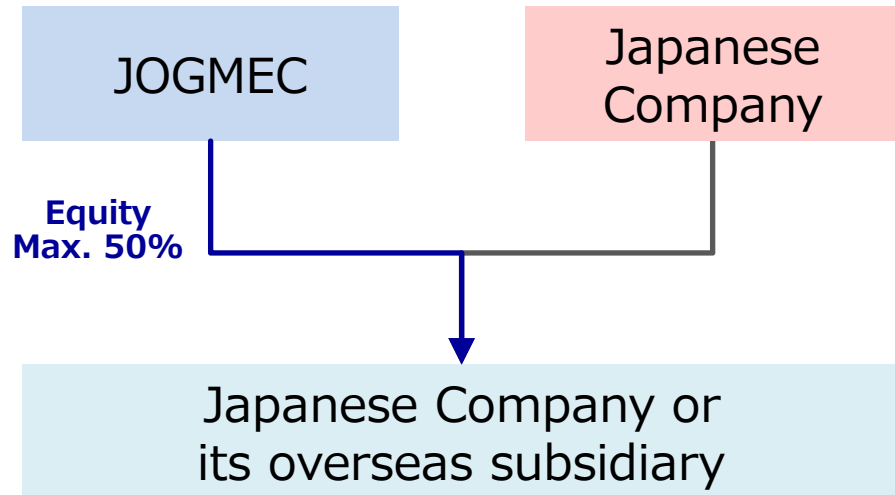


<Strengthening bilateral relations>

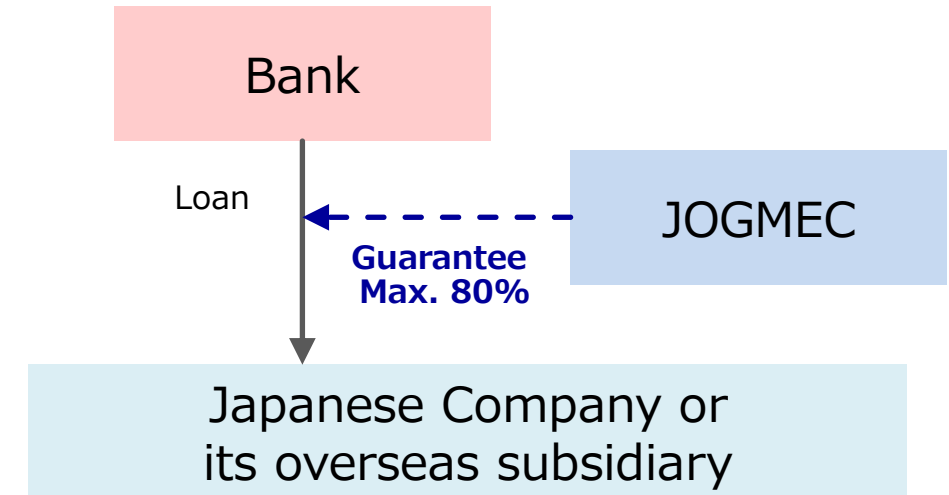
- ANTHRACITE imports from Vietnam are still important for Japan.



Equity Capital



Liability Guarantee



MOUs with QLD & NSW

- Discussion on coal policy & Japanese coal demand outlook
- Promotion of Japanese companies' funding

MOU with QLD since 2013

- Sep. 2022; Meeting@JOGMEC between QLD Treasurer and Minister for Trade and Investment and JOGMEC CEO
- Nov. 2022; On-line Investment Seminar co-sponsored with QLD
- Feb. 2023, Meeting@Brisbane on Japanese coal demand outlook and QLD's coal policy

MOU with NSW since 2017

- Mar 2023; Meeting@Sydney on Japanese coal demand outlook and NSW's coal policy

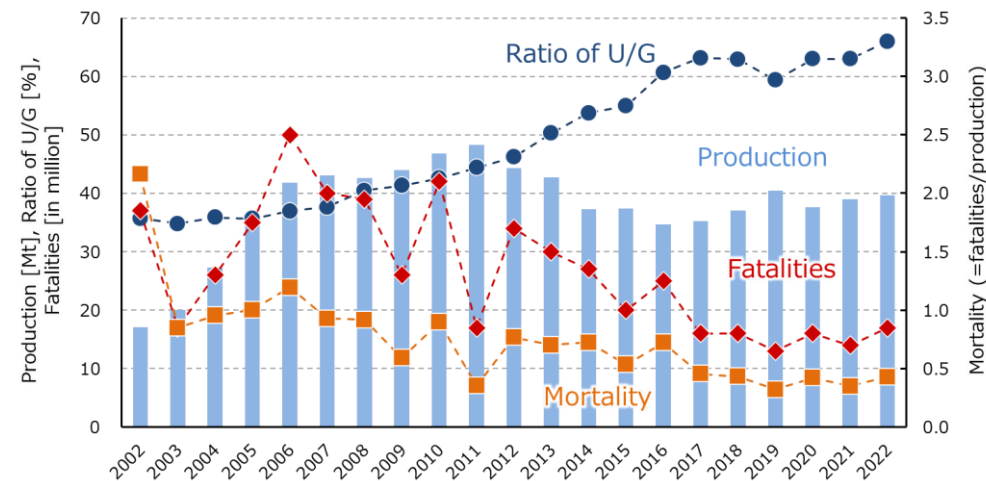


Human Resource Development on Coal Mining and Safety

- Training on Japanese coal mining and safety technology to coal producing countries for the stable supply of coal resources in Japan

No. of trainees from 2002-2022

	Training in Japan	Training in Overseas
Vietnam	2,363	144,837
China	1,836	25,408
Indonesia	662	44,458
Colombia	78	—



Reference by VINACOMIN data

Gathering and Providing Information

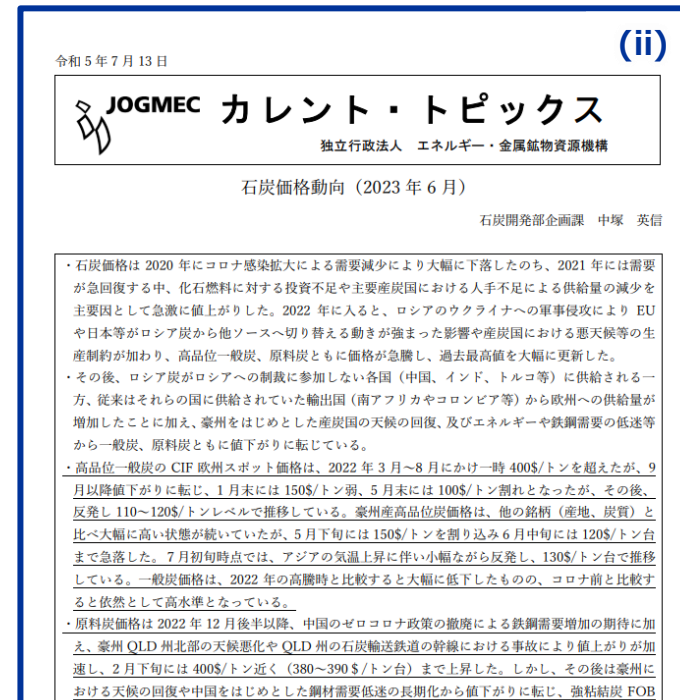
- News Flash; Daily news from JOGMEC overseas offices and overseas media
- Current Topics; Brief report by JOGMEC
- Research Report; 2023JFY's reports are (i) Coal market in the world, (ii) Utilization of low-quality coal in Colombia and Malaysia, and (iii) Safeguard Mechanism in Australia

Tool to provide information to Japanese companies

- (i) JOGMEC Homepage, (ii) email newsletter, (iii) Face-to-face or Online Seminar, (iv) YouTube



The screenshot shows the JOGMEC website homepage. At the top, there is a navigation bar with the JOGMEC logo and the text "独立行政法人エネルギー・金属鉱物資源機構". Below this is a main header "石炭資源情報" (Coal Resource Information). A green navigation bar contains buttons for "データベース検索" (Database Search), "レポート一覧" (Report List), "セミナー・講演会" (Seminar/Conference), "石炭基礎情報" (Coal Basic Information), "メール配信サービス" (Email Distribution Service), "資源外交" (Resource Diplomacy), and "支援制度" (Support System). The main content area features a large image of two men in suits at a table, with the JOGMEC logo in the background. To the right, there is a section titled "海外の最新動向" (Latest Overseas News) with a sub-header "国・地域別のレポート・資料・記事はデータベース検索よりご覧いただけます。" (Reports, materials, and articles by country/region can be viewed via database search). Below this are several news items with dates and titles, such as "2023年7月28日 海外石炭情報" and "2023年7月28日 海外石炭情報".



The screenshot shows an email newsletter titled "JOGMEC カレント・トピックス" (JOGMEC Current Topics). The header includes the date "令和 5年 7月 13日" (July 13, 2023) and the JOGMEC logo. The main title is "石炭価格動向 (2023年 6月)" (Coal Price Movement (June 2023)). Below the title, there is a list of news items with bullet points, such as "石炭価格は 2020 年にコロナ感染拡大による需要減少により大幅に下落したのち、2021 年には需要が急回復する中、化石燃料に対する投資不足や主要産炭国における人手不足による供給量の減少を主要因として急激に値上がりした。" (Coal prices fell sharply in 2020 due to a decrease in demand caused by the expansion of COVID-19 infection, but recovered sharply in 2021 as demand for fossil fuels increased. The main reason for the sharp price increase was a significant decrease in supply due to investment shortage in fossil fuels and labor shortage in major coal-producing countries.)



The screenshot shows a man in a white shirt and a white face mask speaking at a podium during an online seminar. The background features the JOGMEC logo and the text "独立行政法人 エネルギー・金属鉱物資源機構". The seminar is titled "石炭価格動向 (2023年 6月)" (Coal Price Movement (June 2023)).



The screenshot shows a YouTube video player displaying a video titled "JOGMEC Channel". The video content is a presentation slide titled "CONTENTS" with a list of topics: "1 Global coal consumption forecast for 2022-23", "2 EU coal production and consumption", "3 Impact of the embargo on Russian coal imports", "4 Coal imports are increasing", "5 New coal export possibilities?", "6 Restarting or extending coal power", "7 Examples of how governments have changed their plans", "8 European Coking coal supply and demand", "9 Case study - Poland", "10 Case study - Germany 1", "11 Case study - Germany 2", "12 Summary/The future?". A man in a suit is pointing at the slide.

Target Scope of Works

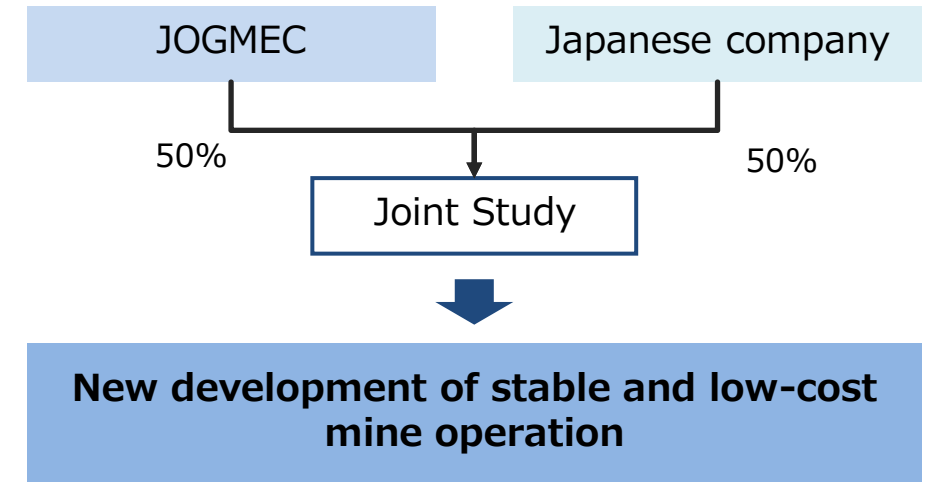
Technical issues of coal mine project associated with

- ① Evaluation and F/S
- ② Production Technology
- ③ Environmental Countermeasures

2 Joint Studies in JFY 2022

Study on new project for GHG reduction by reclamation/planting and biomass utilization at coal mine

- Quantitative evaluation of GHG reduction effect by reclamation/planting
- R/D of grass biomass utilization for black pellets and high-performance carbon products



Feasibility study on production of biomass carbon products for sustainable use of mine site

- Development of biomass carbon products, and coal blending technology for use in steel production
- Pre F/S based on the results of bench scale tests



Thermal Coal

- struggle to contribute to stable and steady thermal coal supply despite of divestment trend by;
 - Subsidy
 - Technical support
 - Gathering and providing Information

Metallurgical Coal

- continue to contribute to stable and steady Metallurgical coal supply to the Japanese steel makers by;
 - Equity Capital, Liability Guarantee
 - Geological Survey (JV)
 - Subsidy
 - Technical support
 - Gathering and providing Information

Possible Support to Japanese Companies

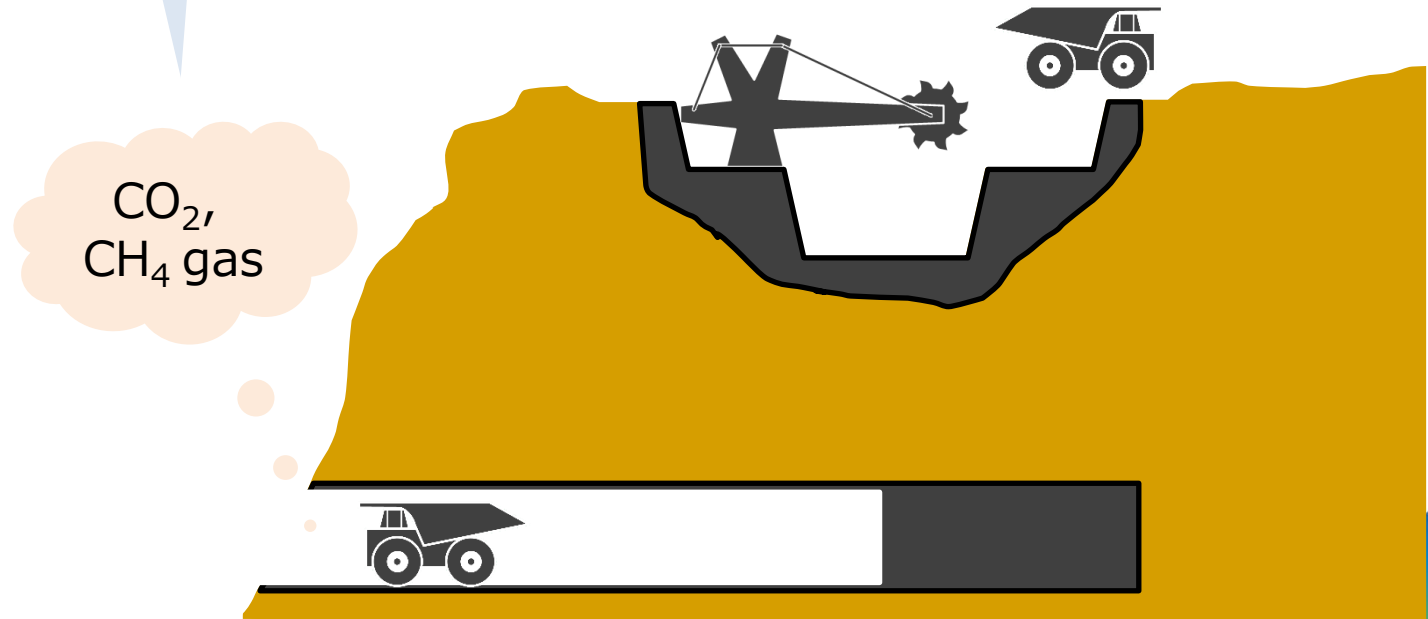
Technical support to coal mining operation towards Carbon Neutrality

- Reduction GHG by Capturing and using CH₄ gas

- Equipment electrification
- Utilization AI and IoT for mining

Joint Study item between Japanese company and JOGMEC

- Reduction of GHG from coal mine by
 - ✓ capturing and utilizing CH₄ gas
 - ✓ decarbonization of CH₄ gas
- Equipment electrification using green-energy
- Utilization AI and IoT





Thank you for your attention.

