

Identifying finance needs for a just transformation of Indonesia's power sector

An analysis using the Just Energy
Transition Finance Needs tool // JET-FIN

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Our analysis takes electricity sector pathways and steps through key elements of the energy transition that require financing



Electricity sector pathways

Infrastructure
Fossil phase-out

Annual quantitative analysis to inform key priorities for finance needs over time across critical dimensions of the transition

- Potential losses from early retirement or reduced operation of fossil assets (coal plants) against a baseline

Infrastructure
Clean build-up

- Investment requirements broken down by technology (generation, storage, grid)
- Comparison of costs and their evolution over time

Just social transition

- Employment impacts + labour market support needs
- Health impacts
- Mining rehabilitation

Institutional capacity



Menu of Financial Instruments

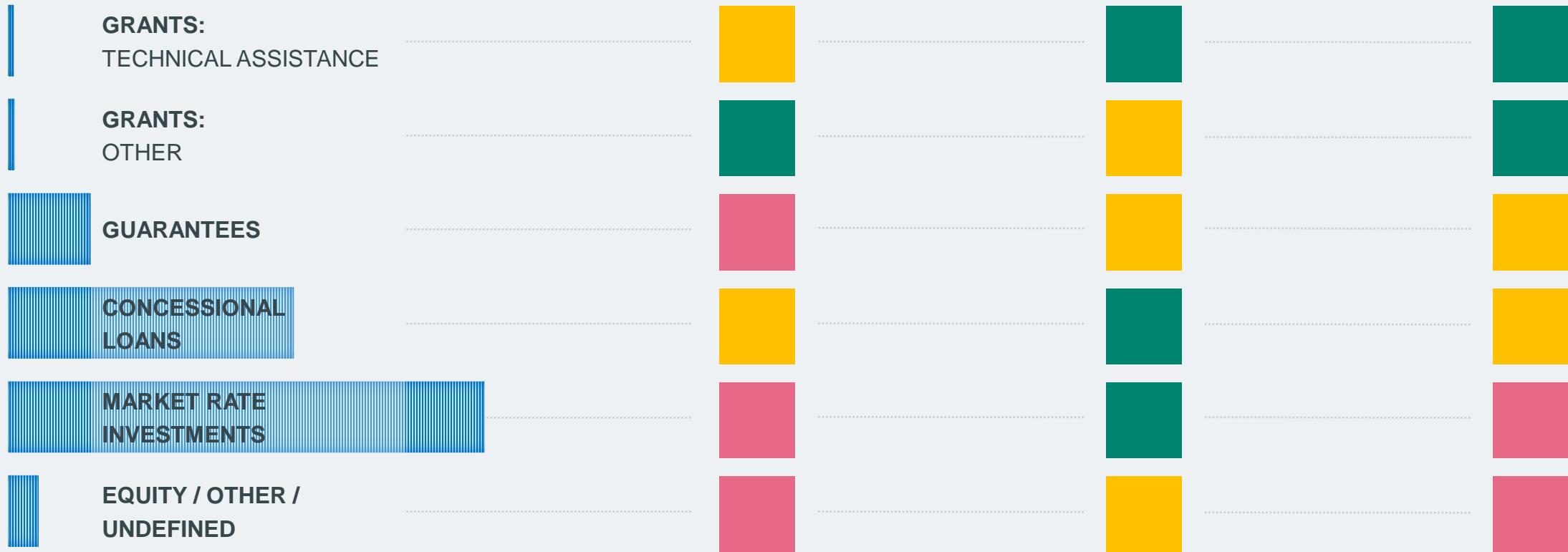
- Relevant
- Limited relevant
- Not relevant

Infrastructure
Fossil phase-out

Infrastructure
Clean build-up

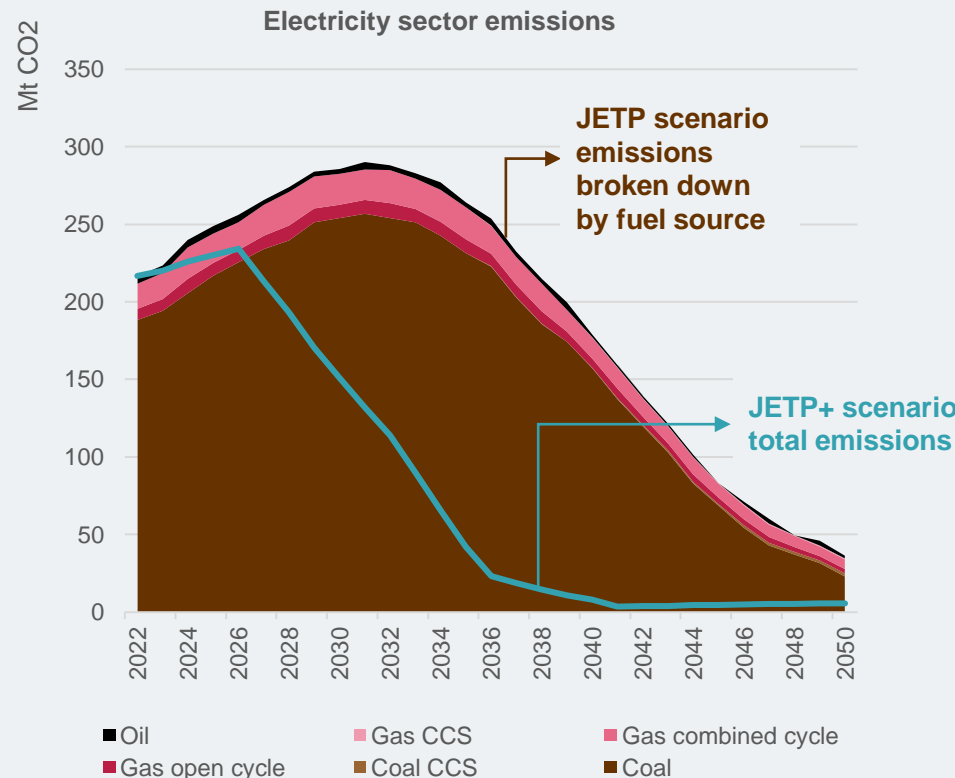
Just social
transition
Employment

Breakdown of available JETP funding



Electricity sector pathways

Indonesia's JETP sets out a pathway to first limit, and then cut, emissions from Indonesia's electricity sector and help drive its economic growth through rapid scaling-up of renewable energy, firmly grounded in a vision to become a developed country by the time it marks 100 years of independence in 2045



- Analyse finance needs for two scenarios:
 - 'JETP scenario' that aligns with the JETP targets
 - 'JETP+ scenario' that aligns with a 1.5°C temperature trajectory
- Both scenarios represent a **major transformation of Indonesia's electricity sector**

Source: NewClimate, IESR.

As the JETP pathway entails socio-economic reform extending beyond the core of the energy sector it offers an opportunity to address long standing structural injustices and promote more equitable outcomes for all.

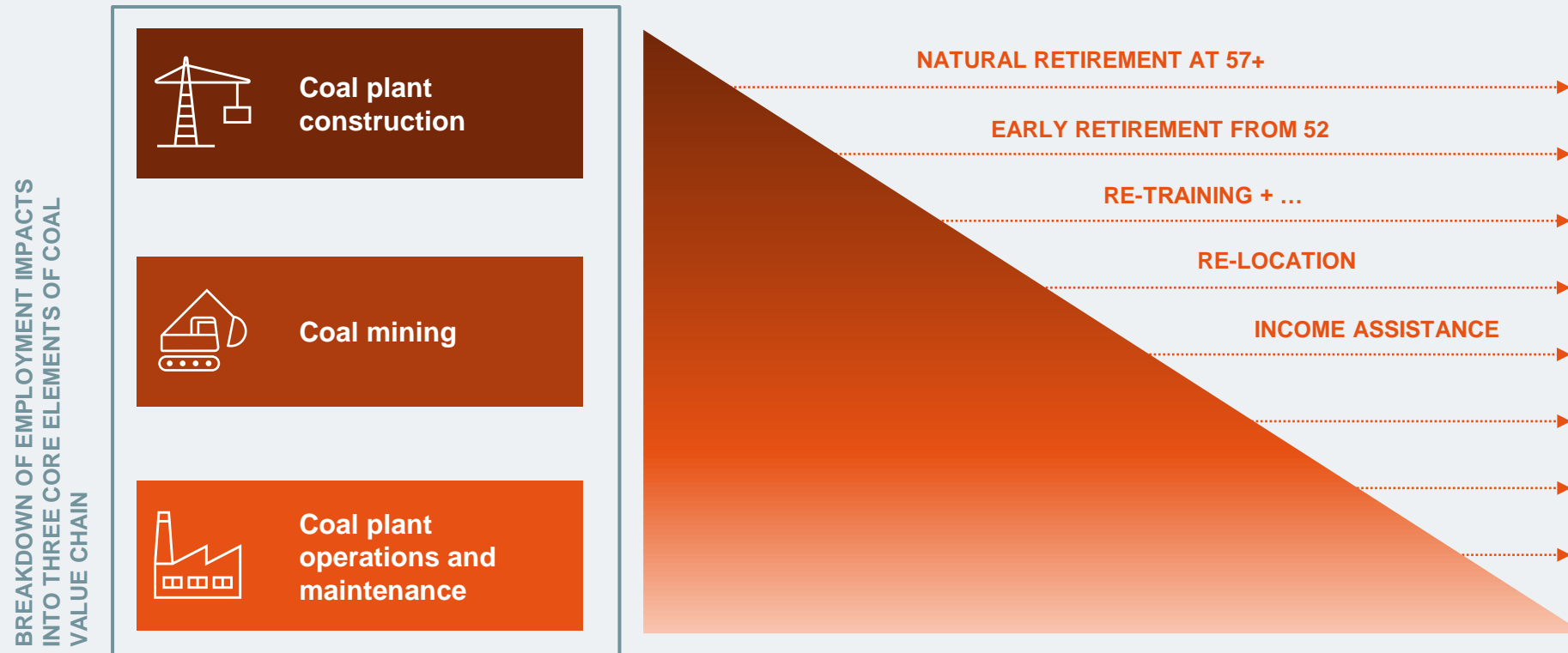
Our analysis focuses on a limited set of finance needs and indicators, zooming in on the domestic coal sector.



- Justice needs to be understood across all levels of governance
- It is crucial to examine local contexts and give a voice to those typically structurally underrepresented in planning and decision processes
- We focus our analysis on identifying finance needs to support **workers and communities dependent on coal value chains**, the **rehabilitation of coal mining sites** and the **health impacts of operating coal plants**

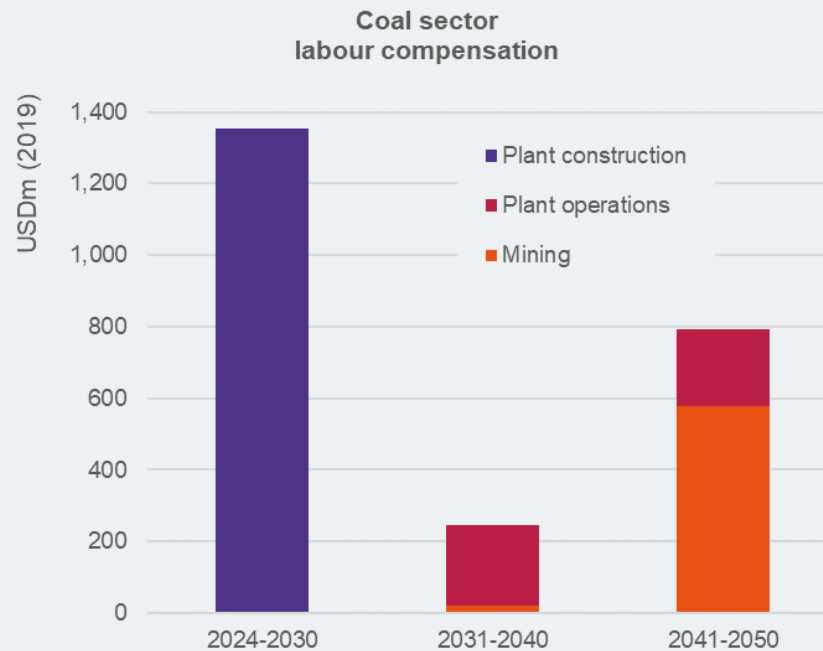


Natural retirement, early retirement and re-training provide pathways for workers to transition out of the coal industry in the long-term and can be accompanied by further measures that compensate workers' financial losses directly





Empowering workers dependent on coal-value chains to take advantage of the new job opportunities created by the transition requires early planning and mobilising financial and institutional capacities today



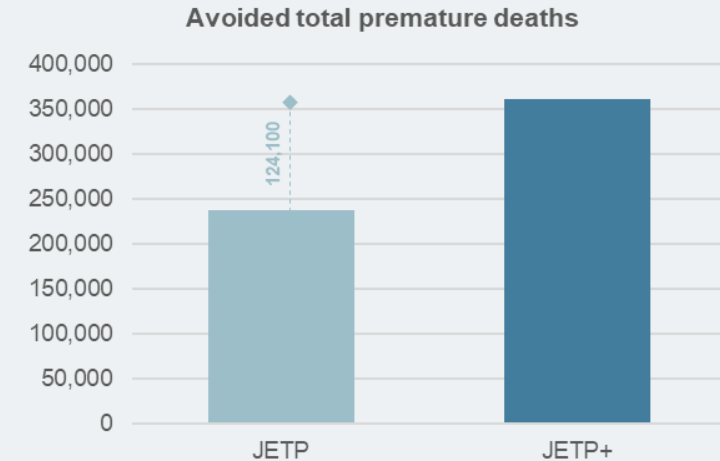
Source: NewClimate, IESR.

- The domestic coal value chain **maintains hundreds of thousands of jobs**
- Coal workers **risk being left behind in Indonesia's energy transition without targeted investments**
- Our analysis of a selection of measures for the JETP scenario indicates a potential need to offer support packages totalling around **USD 2.4 billion**
- Under the more ambitious JETP+ scenario support requirements may be similar or even fall



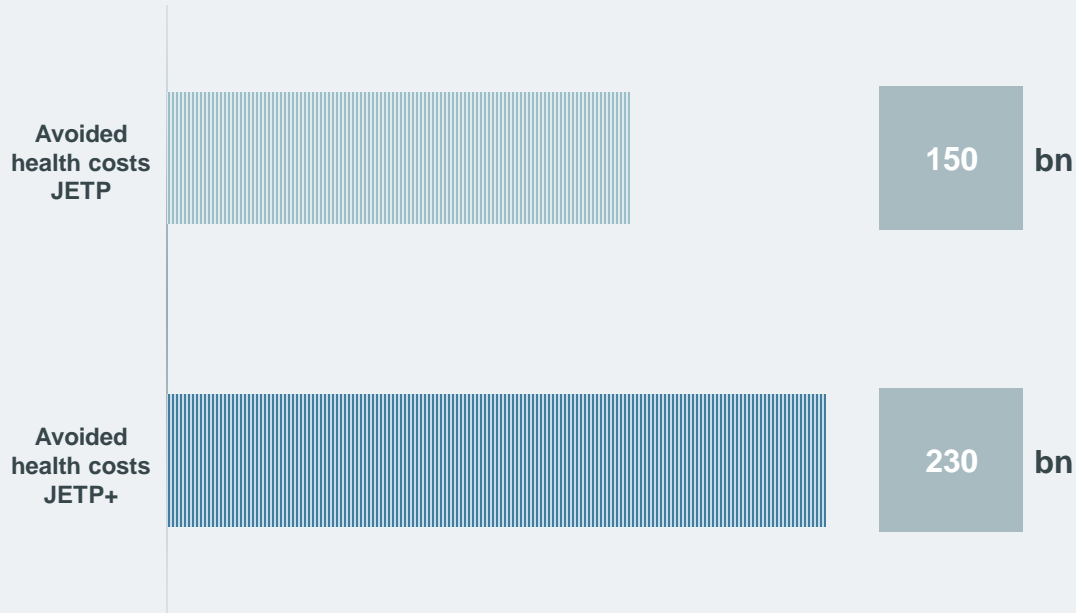
Coal phase-out and the accompanying reduction of air pollution significantly reduces the mortality risk from air pollution, saving hundreds of thousands of lives and delivering major socioeconomic benefits

- Combustion of coal is associated with dangerously high levels of air pollution
- Early phase-out of coal leads to substantial health benefits and improvements in economic well-being
- Our analysis shows that phasing-out coal to align with the JETP scenario can avoid at least **240,000 premature deaths** until 2050
- Increased ambition in the JETP+ scenario can save an additional **120,000 lives** until mid-century





Cost from avoided health impacts through the reduced operation of coal plants accumulate to more than USD 150 billion in the JETP scenario and to around USD 230 billion in the more ambitious JETP+ scenario



- Avoided economic costs from reduced levels of air pollution account for **12%** (JETP scenario) **and 18%** (JETP+ scenario) of **Indonesia's current annual GDP**
- That translates into an **economic welfare benefit of approximately USD 30 for each MWh** of reduced coal combustion
- Avoided costs from reduced air pollution alone are several times greater than the JETP funding of USD 22bn

Institutional capacity

Successful implementation of a just energy transition requires the development and strengthening of institutional capacity, with a specific focus on fostering collaboration between all levels of governance

- Indonesia's energy transition can provide many transformational benefits of a cleaner and more sustainable energy system
- Institutional capacity-building is key for Indonesia to take advantage of the wealth of opportunities and safeguard against key risks
- A successful energy transition is dependent on political and institutional integration into the overarching planning process



All countries need to rapidly limit and then cut the use of fossil fuels this decade to achieve the goals enshrined in the Paris Agreement.

The urgency to decarbonise the Indonesian energy system implies a fundamental shift in the technologies, governance structures and stakeholders that underpin the sector today.

- Installed coal capacity is projected to almost double during the 2020s to approximately 70GW
- Some of this capacity needs to **retire well before its technical lifetime** and much of it will need to **limit their operations**
- Renewable energy sources need to ramp up at pace
- And major **upgrading and additions to transmission and distribution grids** are needed



Indonesia's JETP represents a major step on this journey.

The process and first iteration of the CIPP demonstrate recognition of the challenge and provide an increasing body of work to steer the direction of new investments and policy reform.

- The transition has a huge potential to provide **commercial opportunities** to investors, to **create jobs** and provide **health benefits**
- But many vulnerable groups will require **support to navigate the changes**
- **Our analysis indicates the magnitude of finance needed across a number of areas to deliver a just transition**
- **And critically, mainstreaming justice is required** across all levels of governance

Summary

- Adanya skema JETP membantu Indonesia untuk dapat meningkatkan energi terbarukan secara signifikan dan juga mendorong pertumbuhan ekonomi rendah karbon
- Adanya pemensiunan dini PLTU, membawa dampak kesehatan yang cukup besar. Dengan melakukan pembatasan penggunaan PLTU dapat mencegah 240.000 kematian prematur di 2050 serta menghemat pengeluaran terhadap kesehatan sampai USD 150 miliar
- Mempersiapkan pekerjaan baru/transisi bagi para pekerja yang terdampak dari adanya penghentian PLTU diperlukan perencanaan yang lebih awal dan Pendanaan untuk institusi. Setidaknya untuk memberikan kompensasi kepada tenaga kerja, melakukan pelatihan sebesar USD 2.4 miliar
- Peningkatan kapasitas pemerintahan serta pembentukan lembaga menjadi aspek penting dalam perencanaann, pembuatan kebijakan, Hal ini juga termasuk sistem tata kelola dan perlindungan lingkungan

Thank you

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