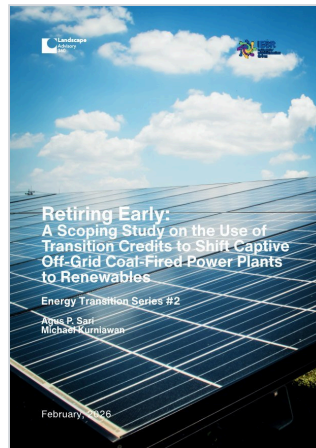


A LANDSCAPE 360 HIGHLIGHTED PUBLICATION

Retiring Early

Transition credits and the early closure of the coal plants that power Indonesia's smelters



The report. *Retiring Early*, Energy Transition Series #2, February 2026. Download it at landscape.id/retiring-early.html.

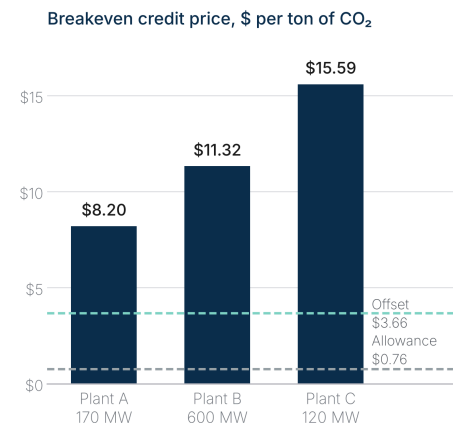


Figure 1. The credit price each modeled plant needs to cover the loss from closing five years early, against the two carbon prices seen in Indonesia in 2023. Source: Landscape Advisory modeling.



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BREAKEVEN CREDIT PRICE

\$8.20 to \$15.59

Per ton of carbon dioxide, for the three modeled plants.

OFFSET PRICE IN 2023

\$3.66

Average per ton on IDXCarbon.

CAPTIVE CAPACITY IN 2024

25.9 GW

More than three quarters coal, with 11 GW more in development.

The Report in Brief

Retiring Early is a scoping study by Landscape Advisory, prepared with the Institute for Essential Services Reform (IESR) and funded by the United Kingdom. It asks whether transition credits can help pay for closing coal plants early. A transition credit is a carbon credit earned for the emissions a plant no longer releases once it closes ahead of schedule.

The Plants Beside the Grid

Captive coal plants sit inside smelters and industrial parks and serve them alone, outside the grid run by PLN. Captive capacity reached about 25.9 GW in 2024, more than three quarters of it coal, and another 11 GW is in development, mostly in Sulawesi and Halmahera. Nickel processing drives the growth.

The Price of Closing Early

The study models three typical captive plants. Closing one five years early costs its owner \$11 million to \$49 million in lost value. To cover that loss, a credit would have to sell for \$8.20 to \$15.59 per ton of carbon dioxide. Offset certificates on IDXCarbon averaged about \$3.66 per ton in 2023, so credits cannot yet pay for an early closure on their own.

The Making of a Credit

A transition credit counts the emissions a plant would have released had it kept running. The baseline is the plant running to the end of its life. The project is the plant closed early with its power replaced. The credits equal baseline emissions minus the emissions of the replacement power and any leakage, such as extra power drawn from the grid. They are issued over a set crediting period once an independent body verifies the results.

The Methods and the Path to Market

Four methodologies can credit an early coal closure today. They were written for grid plants or small generators, so captive plants need adjustments, and every credit must pass through Indonesia's registry before it can be sold.

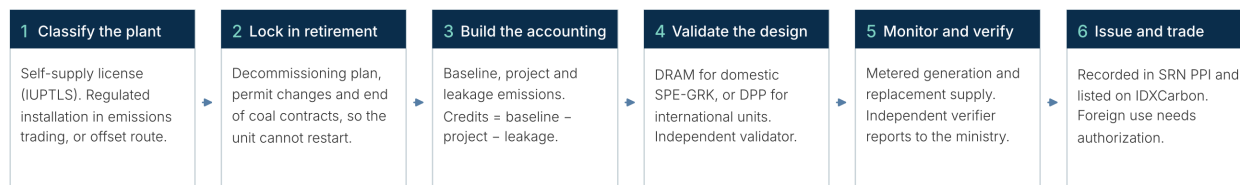


Figure 2. The steps to produce and sell a transition credit from a captive coal plant in Indonesia, under Presidential Regulation 110/2025 and the IDXCarbon rules. Source: *Retiring Early*.

Table 1. The methodologies that can credit the early retirement of coal power.

METHODOLOGY	ASSETS COVERED	CREDITS START	REPLACEMENT POWER	FIT FOR CAPTIVE PLANTS
PROJECT BASED				
Verra VM0052	Grid coal plants	When the plant stops	10 to 40 percent renewable	Not applicable
Gold Standard Just Coal Decommissioning	Grid coal plants	Renewables over half of output	At least equal output	Not applicable
Gold Standard Just Fossil Fuel Generators	Small generators, mini-grids	When renewables start	At least equal output	Applicable
JURISDICTIONAL				
STEPS, Winrock International	A whole power system	When a jurisdiction joins	No minimum	As a captive microgrid

Note. VMD0060 sets the baseline and additionality tests for VM0052 and VMD0061 its just transition requirements. Gold Standard crediting periods are 5 years, renewable twice. Source: *Retiring Early*, Table 5.1.

The Fit for Captive Plants

The study proposes four changes. Base the baseline on the smelter's power demand and the cost of the grid power it avoids buying. Draw the project boundary around all power serving the industrial load, so leakage falls inside it and the credits equal baseline minus project emissions. Limit fossil replacement power. Test additionality against industrial expansion plans. Metered power data makes monitoring simpler than on the grid.

The Price Paths

On the low carbon price path, credit income covers no plant's loss. The medium path covers Plants A and B, and only the high path covers all three. Solar with batteries loses money at smelter scale. Hydropower pays without credits, which weakens additionality, so geothermal makes the strongest case.

Sources and method

Report: Sari, Agus P., and Michael Kurniawan, 2026. *Retiring Early: A Scoping Study on the Use of Transition Credits to Shift Captive Off-Grid Coal-Fired Power Plants to Renewables*. Energy Transition Series #2. Landscape Advisory and IESR, Jakarta. <https://landscape.id/retiring-early.html>

The Rules and the Risks

Deals for grid plants such as Cirebon-1 have stalled over who bears the cost. If captive plants enter the national trading system without allowance cancellation, closing one would free permits for others to use. A credit sold abroad for another country's target needs government authorization and a corresponding adjustment.

The Way Forward

The study recommends methods built for off-grid industry, clear rules linking credits to the trading system, use alongside green bonds and concessional finance, and pilot deals. About 30 GW of captive coal by 2031 could yield 250 to 400 million tons of credits a year, more than buyers now take.

Method: Discounted cash flow at 11.35 percent over each plant's remaining life. Breakeven is value lost divided by the present value of avoided emissions. Plants are anonymized. Funded by the UK Foreign, Commonwealth and Development Office.