ABOUT THIS ISSUE

This issue adapts remarks by Agus P. Sari, CEO of Landscape Advisory, at COP31 in Antalya on how energy security should shape the energy transition.

It draws on the Landscape Advisory model of a Middle East oil shock routed through Indonesia's fixed fuel prices.

It follows our November 10 issue on high-integrity carbon markets and Perpres 110/2025.

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COP31 ANTALYA 2026

Energy Transition under Energy Security Concerns

Indonesia's exposure to a Middle East oil shock
value and origin of imported oil and gas, 2025

$32.77bn
OIL AND GAS IMPORTS, 2025
Indonesia imports most of its liquid fuel

38 percent
ORIGINATES IN THE MIDDLE EAST
share of imported energy from the Gulf region

Singapore
REFINES MUCH OF ITS FUEL
gasoline and diesel used in Indonesia

Origin of imported oil and gas energy

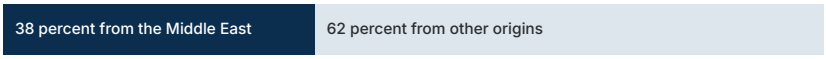


Figure 1. Indonesia's exposure to the 2026 oil shock. Value of oil and gas imports in 2025 and the share of imported energy that originates in the Middle East, as stated in the remarks.

A war Indonesia did not fight

In February 2026, war broke out in the Middle East and the Strait of Hormuz closed. Indonesia was not a party to the war. Yet the shock reached its budget and its households within weeks.

Indonesia imports most of its liquid fuel. It imported $32.77bn of oil and gas in 2025, and about 38 percent of that energy originates in the Middle East (Figure 1). Much of the gasoline and diesel Indonesia uses is refined in Singapore, so a disruption in the Gulf also reaches Indonesia through its neighbor's refineries.

The cost of $100 oil

Landscape Advisory modeled oil at $100 a barrel, close to what Indonesia lived through in mid-2026 (Figure 2). Because the prices of fuel, liquefied petroleum gas (LPG) and electricity are fixed, the subsidy bill rises by about Rp270 trillion. The budget deficit reaches 3.4 percent of gross domestic product (GDP), above the 3 percent legal ceiling, and household purchasing power falls by about 1 percent. At $150 oil, the deficit reaches 4.7 percent of GDP.

This issue sets out how Indonesia can protect itself by importing less fuel. It covers the choice between biofuel and electricity, the power market reform that solar needs, and the regional cooperation that keeps energy trade reliable.

3.4
PERCENT OF GDP BUDGET DEFICIT AT $100 OIL
Above the 3 percent legal ceiling, in the Landscape Advisory model.

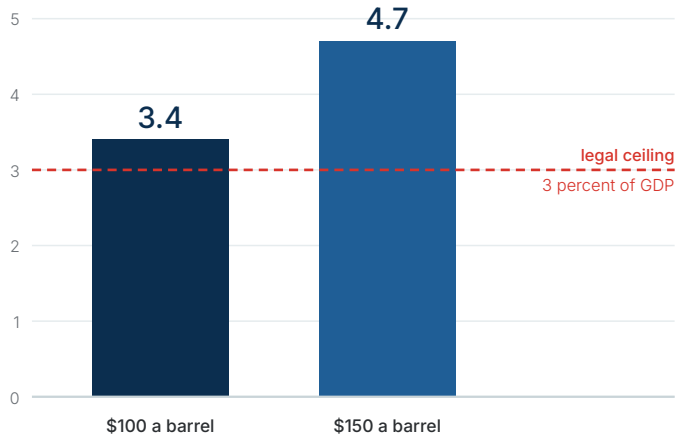
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Fixed Prices Move the Oil Shock Onto the Budget

A war Indonesia did not fight pushed its deficit above the legal ceiling.

Budget deficit under two oil price scenarios
percent of GDP, Landscape Advisory model



Rp270tn
RISE IN THE SUBSIDY BILL
at $100 oil, because fuel, LPG and electricity prices are fixed

1 percent
FALL IN PURCHASING POWER
for households at $100 oil

Figure 2. Budget deficit when oil sells at $100 and $150 a barrel, against the 3 percent of GDP legal ceiling, with the rise in the subsidy bill and the fall in household purchasing power at $100. Landscape Advisory model.

How the shock reaches the budget
the deficit loop in the Landscape Advisory model

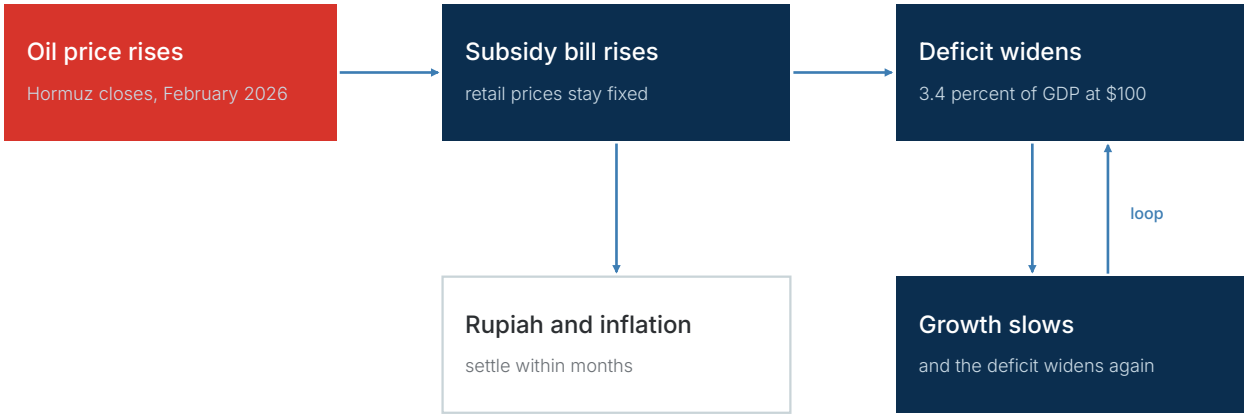


Figure 3. How a higher oil price passes through fixed retail prices to the subsidy bill, the deficit and growth. Exchange rate and inflation effects fade within months, while the deficit and growth feed on each other.

The budget channel

Fixed retail prices protect households in the short run. They also move the price shock onto the state budget. When the world oil price rises, the gap between the cost of fuel and its fixed retail price grows, and the government pays the difference.

In the model, the rupiah and inflation settle within months. The budget keeps getting worse, because a larger deficit slows growth and slower growth widens the deficit again (Figure 3). The lasting fix is to import less fuel. Each liter of imported fuel that Indonesia replaces with a domestic resource lowers its exposure to the next shock.

Two Ways to Import Less Fuel

Biofuel cuts imports quickly but needs safeguards. Solar with batteries replaces imported diesel with a domestic resource.

Two ways to import less fuel
as set out in the remarks

Biofuel (ROUTE ONE)	
STATUS	Diesel at the pump has been a 50 percent palm biodiesel blend (B50) since July 2026
GAIN	Cuts diesel imports directly
RISK	Raises palm oil demand, and new plantations can push into forests and peat. Fires burned nearly two million hectares through September 2026
NEEDS	Strict safeguards that keep feedstock out of forests and peat

Electricity (ROUTE TWO)	
STATUS	About 5.6 GW of diesel and oil-fired capacity still runs, much of it on remote islands
GAIN	Solar with batteries uses a domestic resource and lowers the subsidy bill, the import bill and pressure on the rupiah
RISK	Fewer of the biofuel risks. Panels, batteries and inverters come from very few places
NEEDS	Power market reform and transparent subsidies

Figure 4. The two routes to lower fuel imports, with their status, gains, risks and what each needs.

The scale of the solar initiative
gigawatts of capacity

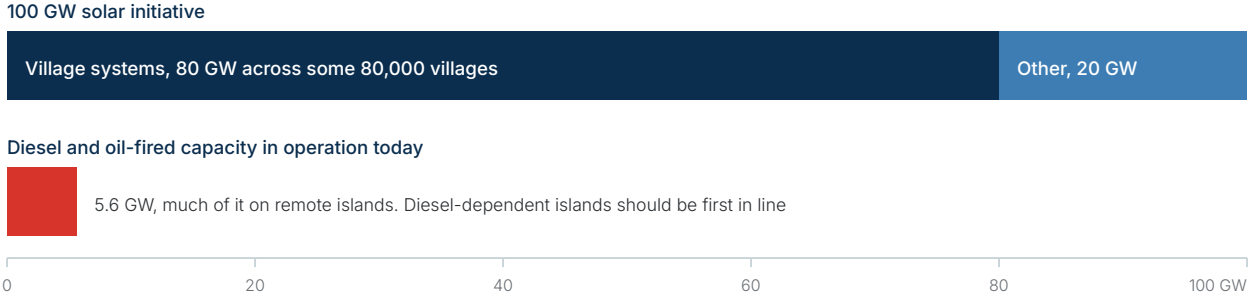


Figure 5. The 100 GW solar initiative compared with the diesel and oil-fired capacity still in operation.

Biofuel

Indonesia has two main ways to import less fuel (Figure 4). The first is biofuel. Since July 2026, diesel at the pump has been a 50 percent blend of palm biodiesel, known as B50. The blend cuts diesel imports directly.

It also raises demand for palm oil, and new plantations can push into forests and peat. This year fires burned nearly two million hectares through September, and the haze reached neighboring countries. Biofuels need strict safeguards, so that energy security at home does not become a problem for the region.

Electricity

The second way is electricity, and it carries fewer of these risks. Indonesia still runs about 5.6 gigawatts (GW) of diesel and oil-fired capacity, much of it on remote islands. Solar power with batteries replaces that imported fuel with a domestic resource.

Each kilowatt-hour of diesel power replaced lowers the subsidy bill, the import bill and the pressure on the rupiah. That makes dedieselization energy security policy as much as climate policy. The government's 100 GW solar initiative gives the shift its scale, with 80 GW planned as village systems across some 80,000 villages (Figure 5). Islands that depend on diesel should be first in line.

Power Market Reform Turns Targets Into Projects

Open distribution, neutral transmission and public costs let solar compete where diesel runs today.



Figure 6. Reserve margins in two island grids. Without transmission between islands, surplus in one cannot serve another.

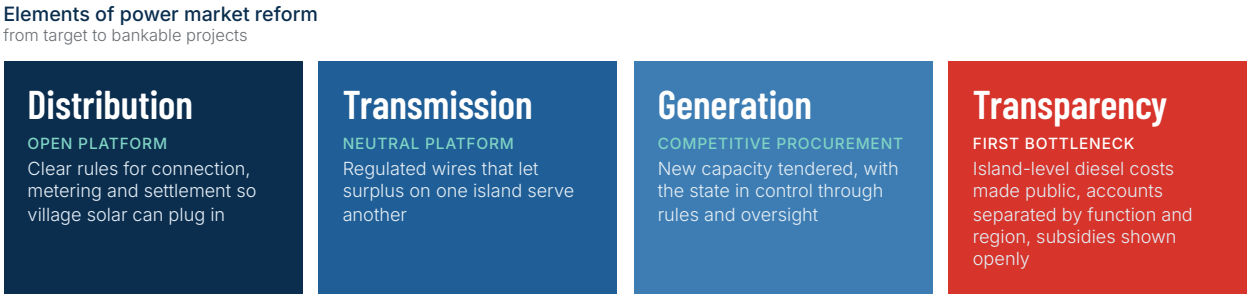


Figure 7. Four elements of power market reform. Transparency on island-level diesel costs is the first bottleneck to clear.

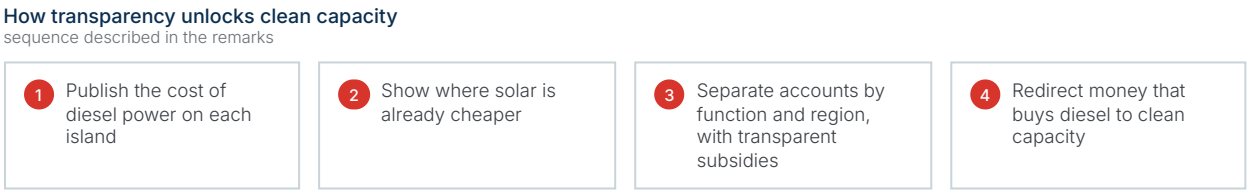


Figure 8. How transparency on costs and subsidies redirects diesel spending to clean capacity.

An open power market

Turning the 100 GW target into projects requires reform of the power market (Figure 7). Village solar needs a distribution network that works as an open platform, with clear rules for connection, metering and settlement. The state keeps control through rules and oversight, and new generation is procured competitively. Transmission should also run as a neutral, regulated platform.

Indonesia's grids are still semi-separate islands. Sulawesi carries a reserve margin of 71 percent, while Maluku, Papua and Nusa Tenggara carry about 18 percent (Figure 6). Surplus power on one island cannot help another without wires between them.

Transparency first

The first bottleneck to clear is transparency (Figure 8). The cost of diesel power on each island is not public today, so it is hard to show where solar is already cheaper. Separate accounts by function and by region, together with transparent subsidies, move the debate from ideology to numbers. Then the money that now buys diesel can pay for clean capacity.

Regional Energy Trade Depends on Trust

Each supply cut weakens the trust that a regional power grid needs.



Figure 9. Progress and cost of the ASEAN Power Grid. a, priority links in operation. b, share of regional power demand traded across borders. c, annual cost of delay estimated by Ember.



Figure 10. Selected export restrictions and supply shocks in regional energy trade. Red marks the shock that set off the 2026 crisis.

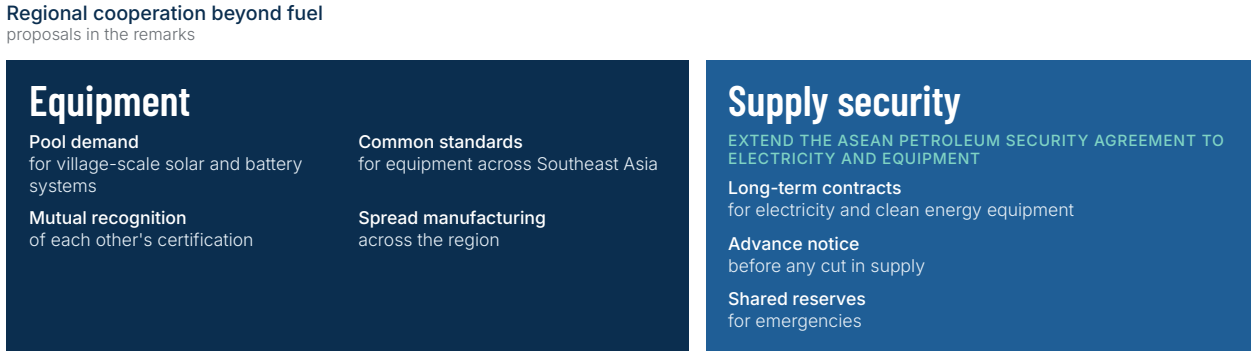


Figure 11. Regional cooperation proposed in the remarks, covering clean energy equipment and the security of supply.

The ASEAN Power Grid

The same grid logic applies across borders. The Association of Southeast Asian Nations (ASEAN) Power Grid has nine of its 18 priority links in operation. Yet cross-border trade covers only about 0.5 percent of regional power demand (Figure 9). Ember, an energy think tank, estimates that each year of delay costs the region $2.6bn.

Trust in regional trade

A regional grid depends on trust, and energy trade in Southeast Asia is fragile (Figure 10). In March 2026, China halted refined fuel exports and Thailand banned fuel exports. Indonesia has made similar choices, with a coal export ban in January 2022 and a cut in pipeline gas to Singapore in October 2026 to meet demand at home. Indonesia and its neighbors depend on each other in both directions. Each cut protects citizens at home, and each one tells partners that supply may stop when they need it most.

Equipment and grids

Renewables change where this risk sits. A solar farm has no fuel to embargo, but its panels, batteries and inverters come from very few places, and the power it trades travels on shared cables. Regional cooperation should therefore cover equipment and grids as well as fuel (Figure 11).

Southeast Asian countries can pool demand for village-scale systems, agree on common standards, recognize each other's certification and spread manufacturing across the region. ASEAN already has a petroleum security agreement for emergencies. The same idea can extend to electricity and clean energy equipment, with long-term contracts, advance notice before any cut, and shared reserves.

Four Items for National Climate Plans

Treat the replacement of imported fuel as a climate commitment and an energy security commitment together.

Four items for NDCs and implementation plans
recommended in the remarks

1
DATED TARGET
A dated target to replace diesel and imported fuel in power, reported next to the emissions target

2
BANKABLE PIPELINE
A pipeline of projects for the 100 GW solar initiative, backed by power market reform and transparent subsidies

3
BIOFUEL SAFEGUARDS
Safeguards that keep biofuel feedstock out of forests and peat

4
REGIONAL COMMITMENTS
Commitments on grids, equipment and trade rules, so that neighbors can rely on each other

Figure 12. Four items that NDCs and implementation plans should include, as recommended in the remarks.

The recommendations

Nationally determined contributions (NDCs) and their implementation plans should include four items (Figure 12). The first is a dated target to replace diesel and imported fuel in power, reported next to the emissions target. The second is a bankable pipeline for the 100 GW solar initiative, backed by power market reform and transparent subsidies. The third is a set of safeguards that keep biofuels out of forests and peat. The fourth is a set of regional commitments on grids, equipment and trade rules, so that Indonesia's neighbors can rely on it and Indonesia can rely on them.

The remarks in numbers
as stated in the remarks

$32.77bn
OIL AND GAS IMPORTS
in 2025

38 percent
FROM THE MIDDLE EAST
share of imported energy by origin

4.7 percent
DEFICIT AT $150 OIL
of GDP, against a 3 percent ceiling

B50
BIODIESEL BLEND
at the pump since July 2026

2 million ha
BURNED BY FIRE
nearly, through September 2026

5.6 GW
DIESEL AND OIL-FIRED
capacity still in operation

80,000
VILLAGES
to host 80 GW of village solar

$2.6bn
COST OF GRID DELAY
for Southeast Asia each year

Figure 13. Key numbers from the remarks.

Sources and method

Remarks. Sari, A.P., 2026. Energy Transition under Energy Security Concern. Remarks at COP31, Antalya. This issue adapts the remarks into brief form.

Model. Landscape Advisory, 2026. Far Away Conflict, Jakarta's Budget. Geopolitics Series #1. Jakarta. Source of the oil price scenarios, subsidy bill, deficit and purchasing power estimates in Figures 2 and 3.

Grid. Ember, 2026. Estimate of the annual cost of delay to the ASEAN Power Grid, as cited in the remarks.

Context. Landscape Advisory, 2026. From Regulation to Market, Landscape 360, COP31 Antalya 2026 (November 10, 2026). Jakarta.

Method. Figures redraw numbers stated in the remarks. Figure 10 is a sequence of events and is not drawn to scale. Other figures are as stated in the remarks.