

Redirecting Our Energy

A practical pathway
for energy subsidy
reform in Indonesia



ABOUT CPD

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Our vision is a fair, sustainable society and wellbeing economy that serves current and future generations in Australia and Southeast Asia.

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We acknowledge and celebrate Australia's First Peoples.

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ACRONYMS

ACRONYM	BAHASA INDONESIA	ENGLISH
BDT	<i>Basis Data Terpadu</i>	Integrated Database
BKKN	<i>Badan Kependudukan dan Keluarga Berencana Nasional</i>	Ministry of Population and Family Development
BLSM	<i>Bantuan Langsung Sementara Masyarakat</i>	A one-off 2013 direct cash transfer program
BLT	<i>Bantuan Langsung Tunai</i>	A direct cash transfer program (later renamed BLSM)
BPNT	<i>Bantuan Pangan Non Tunai</i>	Non-Cash Food Assistance
BPS	<i>Badan Pusat Statistik Indonesia</i>	Central Bureau of Statistics of Indonesia
CPI	<i>Indeks Harga Konsumen</i>	Consumer Price Index
DTKS	<i>Data Terpadu Kesejahteraan Sosial</i>	Integrated Social Welfare Data
DTSEN	<i>Data Tunggal Sosial Ekonomi Nasional</i>	National Single Socio-Economic Data System
GPN	<i>Gerbang Pembayaran Nasional</i>	National Payment Gateway System
HET	<i>Harga Eceran Tertinggi</i>	Maximum Retail Price
HJE	<i>Harga Jual Eceran</i>	Retail Selling Price
IDR	<i>Mata Uang Rupiah</i>	Indonesian Rupiah
JISDOR	<i>Kurs Referensi Dolar Terhadap Rupiah (Nilai Tukar)</i>	Jakarta Interbank Spot Dollar Rate (exchange rate)
KKS	<i>Kartu Keluarga Sejahtera</i>	Prosperous Family Card
LPG	<i>Gas Minyak Cair</i>	Liquid Petroleum Gas
MBG	<i>Makan Bergizi Gratis</i>	Free Nutritious Meals program
NIK	<i>Nomor Induk Kependudukan</i>	Indonesia Identity Card Number
PBDT	<i>Pemutakhiran Basis Data Terpadu</i>	Integrated Database Update
PKH	<i>Program Keluarga Harapan</i>	Family Hope Program
PLN	<i>Perusahaan Listrik Negara</i>	State Electricity Company
PPLS	<i>Pendataan Program Perlindungan Sosial</i>	Social Protection Program Database
P3KE	<i>Program Percepatan Penanggulangan Kemiskinan Ekstrem</i>	Extreme Poverty Eradication Acceleration Program

ACRONYM	BAHASA INDONESIA	ENGLISH
QRIS	<i>Kode Respon Cepat Standar Indonesia</i>	Quick Response Code Indonesian Standard
Raskin	<i>Beras untuk Rakyat Miskin</i>	Rice assistance program
Regsosek	<i>Registrasi Sosial Ekonomi</i>	Socio-Economic Registration
SLTS	<i>Subsidi Listrik Tepat Sasaran</i>	Targeted electricity subsidy
SUSENAS	<i>Survei Sosial Ekonomi Nasional</i>	National Social Economic Survey
TNP2K	<i>Tim Nasional Percepatan Penanggulangan Kemiskinan</i>	National Team for the Acceleration of Poverty Eradication
UCT	<i>Bantuan Tunai Tanpa Syarat</i>	Unconditional cash transfer
VA	<i>Volt-Amper</i>	Volt-Ampere
VAT	<i>Pajak Pertambahan Nilai</i>	Value Added Tax

EXECUTIVE SUMMARY

For more than 50 years, Indonesia has relied on energy subsidies, largely for fossil fuels, as a central plank of its social and economic policy. Originally designed to reduce poverty, expand access to modern energy, and support industrial development, these subsidies played an important role in shifting households away from kerosene and firewood toward gas and electricity.

Today, however, the policy is no longer delivering on its original promise.

Indonesia now spends IDR 203.5 trillion (USD 12.2 billion) each year on household LPG, electricity and fuel energy subsidies alone—around 40% of total social assistance spending, nearly 6% of the state budget, and roughly equivalent to the entire health budget. Although framed as a tool for social equity, the subsidies disproportionately benefit higher-income households.

These subsidies are also locking Indonesia into a fossil-fuel dominated energy mix. With 72% of domestic electricity generation coal-based, subsidised prices disadvantage renewable energy, weaken emissions-reduction efforts and slow growth in the clean energy sector that is critical to Indonesia's long-term economic competitiveness.

The result is a policy that has become a growing burden on the state budget with limited returns for equity, productivity, or long-term development.

Fortunately, the government already has all the tools it needs to reform the subsidy system.

This report sets out a practical, phased pathway to reform household electricity and LPG subsidies by shifting support from subsidising energy products to supporting people directly.

Key recommendations include:

- **Shift subsidies from commodities to families**, providing support directly to eligible families as a fixed, conditional monthly cash transfer, rather than subsidising specific products such as LPG canisters. Any unused subsidy should be retained by families to be used for other energy-related expenses, including upgrades to renewable energy or energy-efficient technologies.
- **Enable households without access to LPG or grid electricity** to use the subsidy to invest in off-grid renewable energy solutions, expanding energy access in remote and underserved areas.
- **Integrate energy subsidies into the national social protection system**, improving targeting, transparency, and efficiency.
- **Phase in reforms over time**, supported by the establishment of a Cross-Ministerial Socialisation and Education Team to lead a coordinated public awareness and engagement campaign.
- **Redirect fiscal savings from subsidy reform** to high-impact investments in education, health, and clean energy that deliver long-term benefits for families, communities, and productivity.

Implementing these reforms would deliver substantial benefits. An estimated IDR 95.97 trillion (USD 5.8 billion) per year could be freed from the state budget and redirected to more productive uses. Subsidies would become fairer and more inclusive, with support concentrated on low-income families rather than the wealthy. Households in remote and underserved areas would gain new access to clean energy sources. Reduced reliance on coal-fired power would support Indonesia's emissions-reduction goals and strengthen its renewable energy industry.

While the rewards will be significant, successfully implementing these reforms will require political will, bold leadership and strong public engagement. Resistance is likely from households and businesses who currently benefit from subsidised LPG prices but would no longer be eligible under a more targeted system. Clear and consistent communication will be essential to explain the direct benefits of reforms, demonstrating the scale of budget savings, and showing how this funding will be redirected to higher-impact investments that benefit everyone, like renewable energy, education and health.

If done right, a reformed energy subsidy system would not only protect Indonesia's most vulnerable citizens; it would also strengthen fiscal sustainability, accelerate the energy transition, and help build a more productive, resilient, and prosperous economy.

RINGKASAN EKSEKUTIF

Selama lebih dari 50 tahun, Indonesia mengandalkan subsidi energi, yang sebagian besar untuk bahan bakar fosil, sebagai pilar utama kebijakan sosial dan ekonominya. Awalnya dirancang untuk mengurangi kemiskinan, memperluas akses ke energi modern, dan mendukung pembangunan industri, subsidi ini memainkan peran penting dalam mengalihkan rumah tangga dari minyak tanah dan kayu bakar menuju gas dan listrik.

Namun saat ini, kebijakan tersebut tidak lagi memenuhi tujuan awalnya.

Indonesia saat ini menghabiskan IDR 203,5 triliun (USD 12,2 miliar) setiap tahun hanya untuk subsidi energi rumah tangga LPG, listrik, dan bahan bakar—sekitar 40% dari total pengeluaran bantuan sosial, hampir 6% dari anggaran negara, dan kira-kira setara dengan seluruh anggaran kesehatan. Meskipun dibingkai sebagai alat untuk keadilan sosial, subsidi tersebut secara tidak proporsional justru lebih banyak dinikmati oleh rumah tangga berpenghasilan tinggi.

Subsidi ini juga mengunci Indonesia dalam bauran energi yang didominasi bahan bakar fosil. Dengan 72% pembangkit listrik domestik berbasis batu bara, harga yang disubsidi merugikan energi terbarukan, melemahkan upaya pengurangan emisi, dan memperlambat pertumbuhan di sektor energi bersih yang sangat penting bagi daya saing ekonomi jangka panjang Indonesia.

Hasilnya adalah kebijakan yang menjadi beban yang semakin besar pada anggaran negara dengan hasil yang terbatas untuk keadilan, produktivitas, atau pembangunan jangka panjang.

Untungnya, pemerintah telah memiliki semua instrumen yang diperlukan untuk mereformasi sistem subsidi.

Laporan ini menguraikan peta jalan yang praktis dan bertahap untuk mereformasi subsidi listrik dan LPG rumah tangga dengan mengalihkan dukungan dari mensubsidi produk energi menjadi mendukung masyarakat secara langsung.

Rekomendasi utama meliputi:

- **Mengalihkan subsidi dari komoditas kepada keluarga**, memberikan dukungan langsung kepada keluarga yang memenuhi syarat sebagai transfer tunai bersyarat bulanan tetap, alih-alih mensubsidi produk tertentu seperti tabung LPG. Setiap sisa subsidi yang tidak terpakai harus dipertahankan oleh keluarga untuk digunakan untuk pengeluaran terkait energi lainnya, termasuk peningkatan ke energi terbarukan atau teknologi yang lebih efisien.
- **Memungkinkan rumah tangga tanpa akses ke LPG atau listrik jaringan** untuk menggunakan subsidi guna berinvestasi pada solusi energi terbarukan mandiri (*off-grid*), memperluas akses energi di daerah terpencil dan kurang terlayani.
- **Mengintegrasikan subsidi energi ke dalam sistem perlindungan sosial nasional**, meningkatkan penargetan, transparansi, dan efisiensi.

- **Melakukan reformasi secara bertahap seiring waktu**, didukung oleh pembentukan Tim Sosialisasi dan Edukasi Lintas Kementerian untuk memimpin kampanye kesadaran dan keterlibatan publik yang terkoordinasi.
- **Mengalihkan penghematan fiskal dari reformasi subsidi** ke investasi berdampak tinggi pada pendidikan, kesehatan, dan energi bersih yang memberikan manfaat jangka panjang bagi keluarga, komunitas, dan produktivitas.

Menerapkan reformasi ini akan memberikan manfaat yang besar. Diperkirakan IDR 95,97 triliun (USD 5,8 miliar) per tahun dapat dibebaskan dari anggaran negara dan dialihkan ke penggunaan yang lebih produktif. Subsidi akan menjadi lebih adil dan inklusif, dengan dukungan terfokus pada keluarga berpenghasilan rendah daripada yang kaya. Rumah tangga di daerah terpencil dan kurang terlayani akan mendapatkan akses baru ke sumber energi bersih. Berkurangnya ketergantungan pada pembangkit listrik berbahan bakar batu bara akan mendukung tujuan pengurangan emisi Indonesia dan memperkuat industri energi terbarukannya.

Meskipun imbalannya akan signifikan, keberhasilan implementasi reformasi ini akan membutuhkan kemauan politik, kepemimpinan yang berani, dan keterlibatan publik yang kuat. Perlawanan kemungkinan akan datang dari rumah tangga dan bisnis yang saat ini mendapat manfaat dari harga LPG yang disubsidi tetapi tidak lagi memenuhi syarat di bawah sistem yang lebih terarah.

Komunikasi yang jelas dan konsisten akan sangat penting untuk menjelaskan manfaat langsung dari reformasi, menunjukkan skala penghematan anggaran, dan menunjukkan bagaimana dana ini akan dialihkan ke investasi berdampak lebih tinggi yang menguntungkan semua orang, seperti energi terbarukan, pendidikan, dan kesehatan.

Jika dilakukan dengan benar, sistem subsidi energi yang direformasi tidak hanya akan melindungi warga negara Indonesia yang paling rentan; tetapi juga akan memperkuat keberlanjutan fiskal, mempercepat transisi energi, dan membantu membangun ekonomi yang lebih produktif, tangguh, dan makmur.



PART 1

CURRENT STATE: A POLICY THAT LEADS NOWHERE

1.1 BACKGROUND

Over the past four decades, household-level fossil fuel subsidies have become an intrinsic part of Indonesia's energy ecosystem; warping the energy market and making it harder to transition to renewable energy. While the policy is legally required to support poor and vulnerable groups,¹ in practice it disproportionately benefits the wealthy. Over time it has expanded to a point where it is hard to wind back, causing huge strain on the national budget.²

Indonesia is among the world's largest users of fossil fuel subsidies. In the 2025 State Budget, IDR 503.2 trillion was allocated to social assistance, with 40% (IDR 203.5 trillion) of that amount going to energy subsidies (for household LPG and electricity and for fuel), almost equivalent to the health budget (218.5 trillion), and much higher

than the food security budget (IDR 144.6 trillion).³

However, a lack of effective targeting means that - despite intending to benefit the poor and vulnerable - in practice higher income groups benefit more from these household energy subsidies.⁴

The government provides extensive energy subsidies, primarily for fossil fuels and electricity, delivered through a mix of tax incentives, direct transfers, investment credits, and subsidised commodities such as gas. The full breadth of these subsidies is comprehensively documented in a 2026 report by the International Institute for Sustainable Development (IISD), which estimates the total cost of all energy-related subsidies in Indonesia to be IDR 713.5 trillion (USD 45 billion) in 2024.⁵

Rather than attempting to assess all subsidy mechanisms, this report focuses specifically on household-level energy subsidies

delivered through commodity-based price reductions for consumers:

- **LPG:** The smallest size canisters (3kg) are all subsidised by the government and available to anyone for purchase. Larger size canisters (5.5kg and 12kg) are not subsidised and therefore much more expensive and far less popular among consumers. Not only are the smaller canisters cheaper, they are also more easily portable and convenient.
- **Electricity:** Consumers are classified into different groups (social, residential, business, industry and government) who each receive different rates of subsidy. For instance households using 450 Volt-Ampere (VA) receive the highest rate of subsidy, those in the next tier (900 VA) receive a lower rate of subsidy, etc.



In both cases, the price that consumers see is already subsidised, meaning there is low awareness of how much the government is spending on these subsidies. In addition to direct fuel, electricity, and LPG subsidies, the government also allocates a significant portion of the budget to “compensation” to cover the gap between the actual cost of electricity and fuel and the administered price, as well as for the coal subsidy through the domestic market obligation.⁶

There have been several attempts at reforming this system over the years; however most have been walked back or delayed due to social and political pressure. Overall, reforms have been piecemeal, lacking long-term vision and consistency, and largely driven by external pressures like global oil prices and domestic politics.

This report demonstrates how household energy subsidies can be reformed to make them part of a progressive and effective long-term social

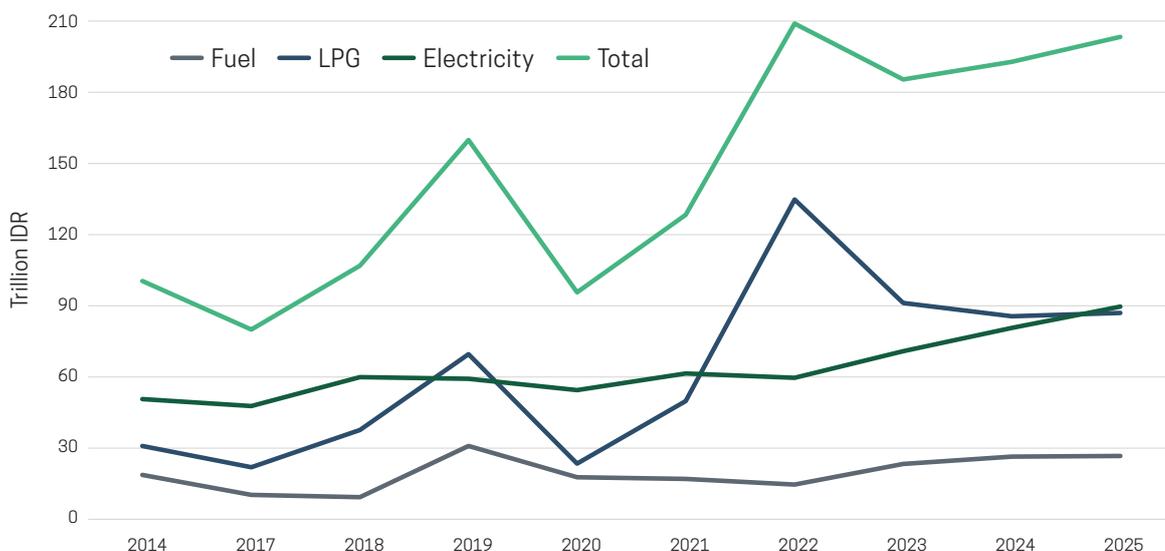
policy; one that supports Indonesia's transition to renewable energy. This work extends CPD's past work in this space to demonstrate not only that energy subsidy reform is crucial for Indonesia's just transition, but to describe how it can be implemented and outline what the benefits would be.⁷

1.2 AN ENDLESS SPIRAL OF FISCAL DYNAMICS AND BUDGET PRESSURES

Despite recognition of its flaws, Indonesia's energy subsidy spending continues to increase. As Graph 1 demonstrates, over the last decade there has been an increase in spending of more than IDR 100 trillion. Spending increased sharply in 2022, mostly on LPG subsidies. This was due to President Widodo's efforts to manage the cost of living after world oil prices rose sharply in response to Russia's invasion of Ukraine. Despite decreasing in 2023, spending has again been steadily increasing.

Graph 1.

Trends in energy subsidy spending 2016 - 2025 (in trillion IDR, not including compensation)



Source: Ministry of Finance, Kompas. CPD processed.

Most of the domestically consumed subsidised energy in Indonesia is imported: the share of imported LPG increased from 58.9% in 2014 to nearly 80% in 2023 (see Graph 2). President Prabowo's administration has made reducing dependence on imported fuel a priority for his time in office, in addition to targets for high economic growth.⁸ Reliance on imported LPG and other fossil fuels renders the country vulnerable to external price fluctuations, adversely affecting the economy through higher inflation, currency depreciation, and slower economic growth.

As Indonesia's electricity grid is still dominated by coal, subsidising electricity also locks in the continued use of fossil fuels, making it harder for renewables to enter the market.⁹

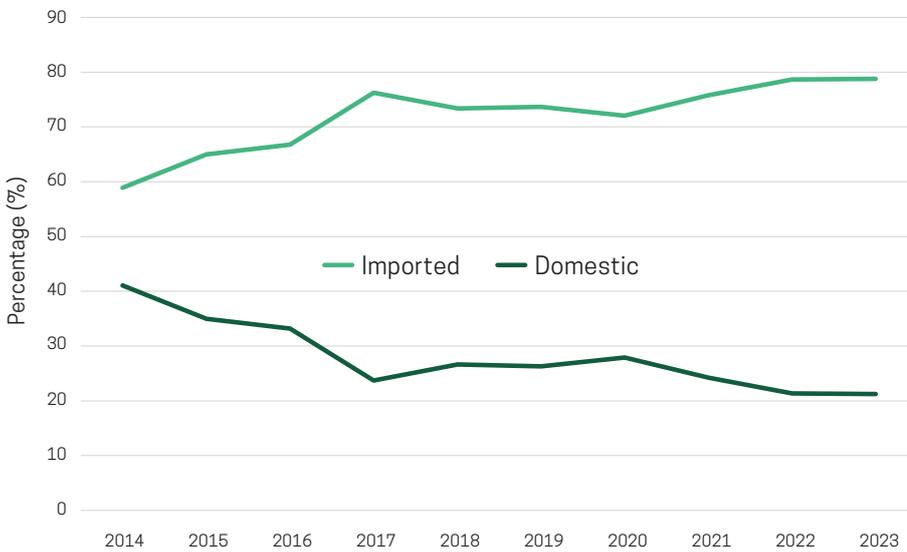
There is no clear "exit strategy" to this system - just a new compensation cycle every time global prices change.

1.3 INEQUALITY AND INJUSTICE

Although household energy subsidies are ostensibly meant to benefit the poor, in reality they serve to widen inequality.

Graph 2.

LPG source 2014 - 2023 (in million metric tons)



Source: Ministry of Energy and Mineral Resources, CPD processed.



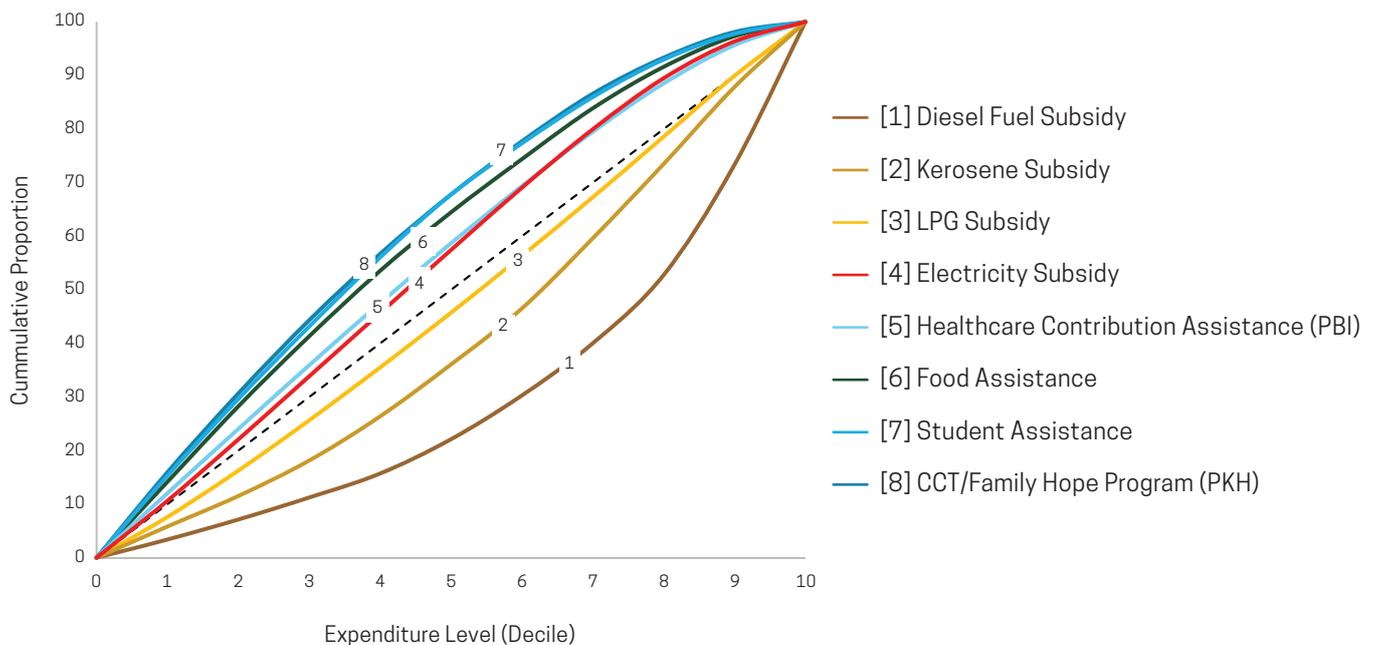
Figure 1 plots Indonesia’s household LPG and electricity subsidies based on how they benefit families from the poorest (Decile 1) to wealthiest (Decile 10) cohorts in society. Plotted on the same graph are key Indonesian social assistance programs (like Food Assistance [6], Student Assistance [7], and Healthcare Contribution Assistance [5]). Programs above the ‘equality line’ are nominally progressive, benefiting those in

lower socioeconomic categories more than those in higher socioeconomic categories.

Figure 1 clearly shows that subsidies for energy including diesel [1], kerosene [2], and LPG [3] are all regressive, meaning they benefit higher-income households more. Indeed, Figure 1 demonstrates that the diesel subsidy is particularly unequal: the poorest 50% only receive 20% of the subsidy. However this policy is not a household-based subsidy and is mostly used by the transport industry. Poor and vulnerable

households are less likely to own cars, therefore less likely to access the diesel subsidy. Further, the total amount spent annually on the diesel subsidy in Indonesia is far lower than on LPG and electricity. Thus while addressing diesel subsidies is important for the transition, it is outside the scope of this report.¹⁰

Figure 1. Benefit Incidence Analysis: Energy subsidy and other social assistance programs.

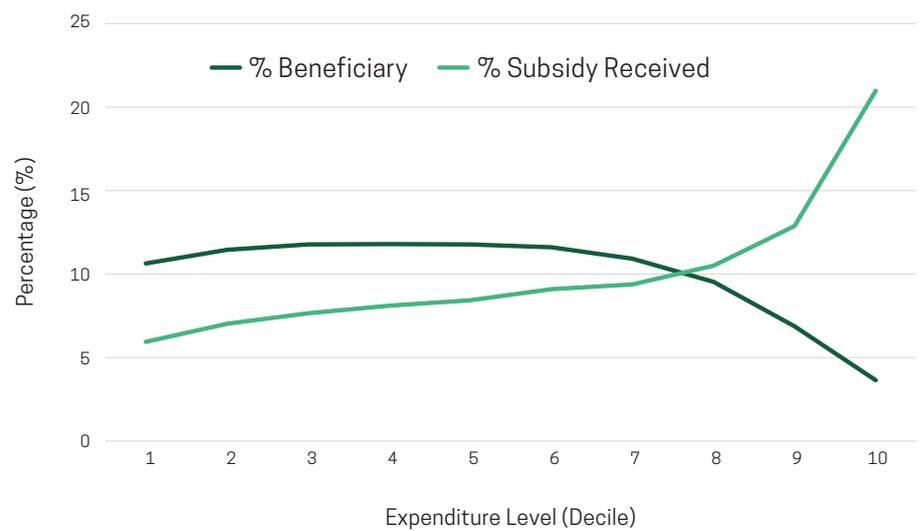


Source: National Social Economic Survey (SUSENAS), BPS 2024. Analysed by CPD.¹¹

The electricity subsidy [4] has improved since reforms in 2017: it is now progressive due to tightening of the targeting of eligible subsidy recipients. However, as Graph 3a shows, more than 50% of the beneficiaries of the electricity subsidy are still from the top 50% (Deciles 5-10), and the top 20% (Deciles 9-10) receive the most amount of subsidy.

Graph 3a.

Distribution of electricity subsidy recipients between expenditure groups (as %).

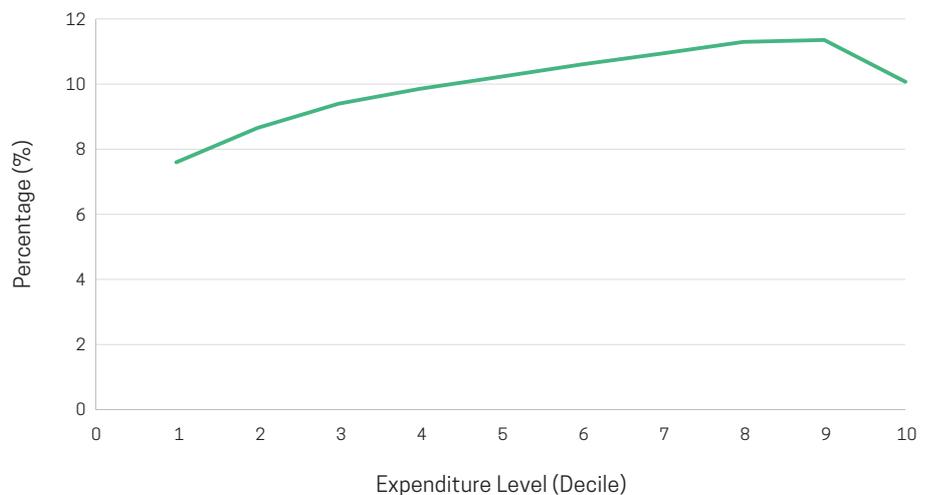


Source: National Social Economic Survey (SUSENAS), BPS 2024. Analysed by CPD.

Graph 3b illustrates the case of the LPG subsidy, which is particularly stark. Only 35.5% of LPG subsidies go to the 40% (Deciles 1 - 4) of households with the lowest socioeconomic status, while the remaining 64.5% are enjoyed by more affluent groups (Deciles 5 - 10).

Graph 3b.

Distribution of LPG subsidy recipients between expenditure groups (as %).

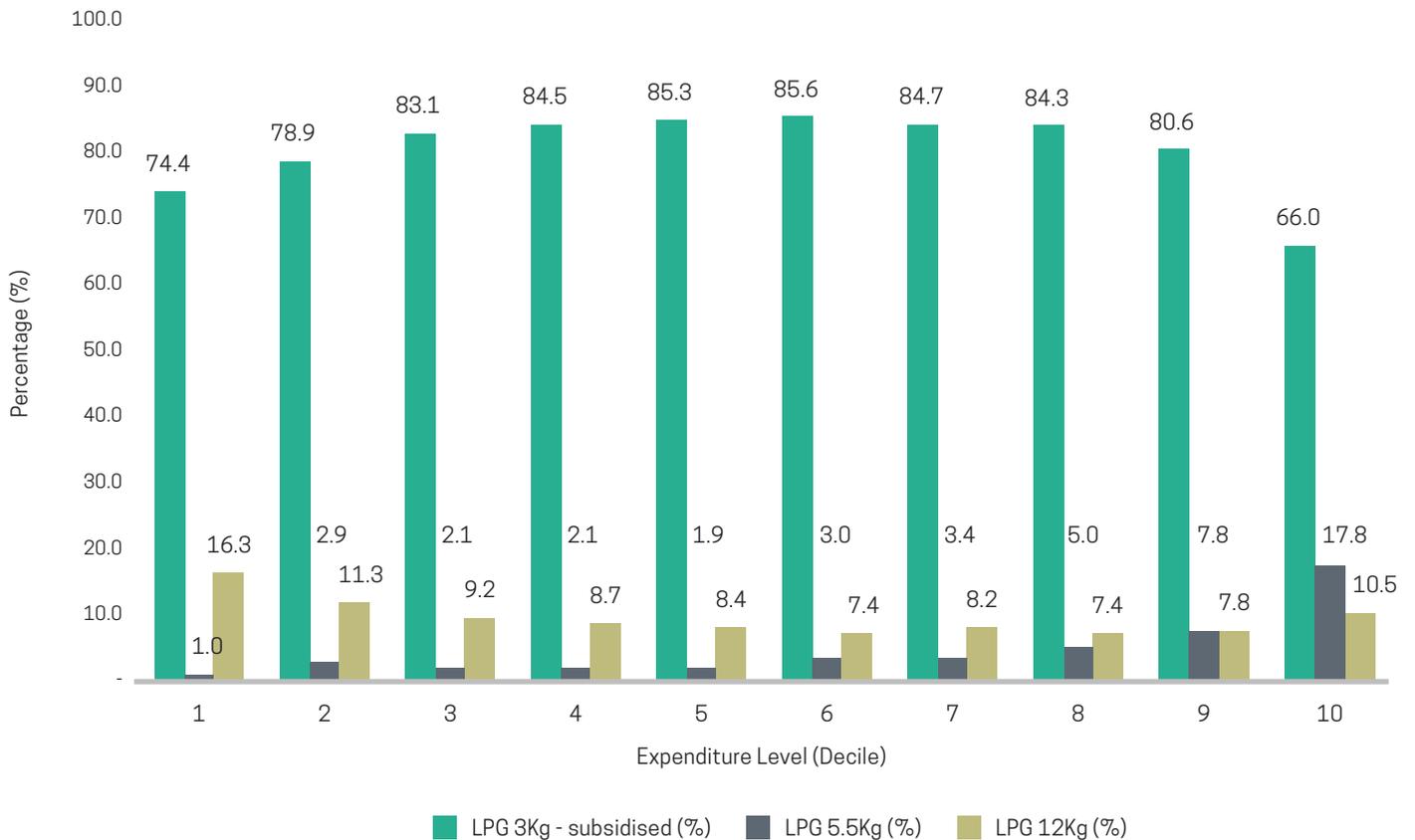


Source: National Social Economic Survey (SUSENAS), BPS 2024. Analysed by CPD.

The popularity of subsidised 3kg LPG canisters is consistent across income brackets, demonstrating the ineffectiveness of the subsidy in targeting those most in need. Again, this is not only because they are cheaper, but also because the 3kg canisters are much easier to transport and store in the home, making them a preferred choice of many middle and even upper income households.

Graph 4.

LPG consumption comparison between 3kg (subsidised), 5.5kg and 12kg canisters.



Source: National Social Economic Survey (SUSENAS), BPS 2024. Analysed by CPD.

Another way that inequality is evident is that many poor and vulnerable groups - particularly those living in remote or regional areas - do not have access to the 3kg canisters and still rely on firewood for cooking. This means that they are structurally unable to benefit from the huge amount spent on subsidised LPG (and often for electricity too as remote areas may also be off-grid). Those living in remote or regional areas including Indigenous communities often already face energy poverty, financial exclusion, lack access to formal banking services and irregular internet access.¹² The current household subsidy system is not tailored to support these communities.

Female-headed households and women generally also face an added burden in regional and remote communities without access to subsidised LPG. Table 1 shows that 11.11 million Indonesian households (15.28%) use firewood and other outdated energy sources like charcoal or kerosene as their main cooking fuel, implying a lack of access to LPG and electricity. These cooking methods are more damaging for both individual health and the environment. It is often women who are disproportionately negatively impacted due to traditionally gendered roles in the home and kitchen making them more exposed to dangerous cooking practices.¹³

+ Only 35.5% of LPG subsidies go to the 40% of households with the lowest socioeconomic status, while the remaining 64.5% are enjoyed by more affluent groups.

Table 1.
The main energy source for cooking.

Household type	Do not cook	Cook with 3kg LPG	Cook with electricity	Cook with firewood	Other (kerosene, charcoal)	Total
Male-headed household	0.37%	84.26%	0.45%	7.73%	7.19%	64,094,130
Female-headed household	1.09%	80.31%	0.66%	10.69%	7.25%	8,622,489
Total	0.45%	83.79%	0.47%	8.08%	7.20%	72,716,619

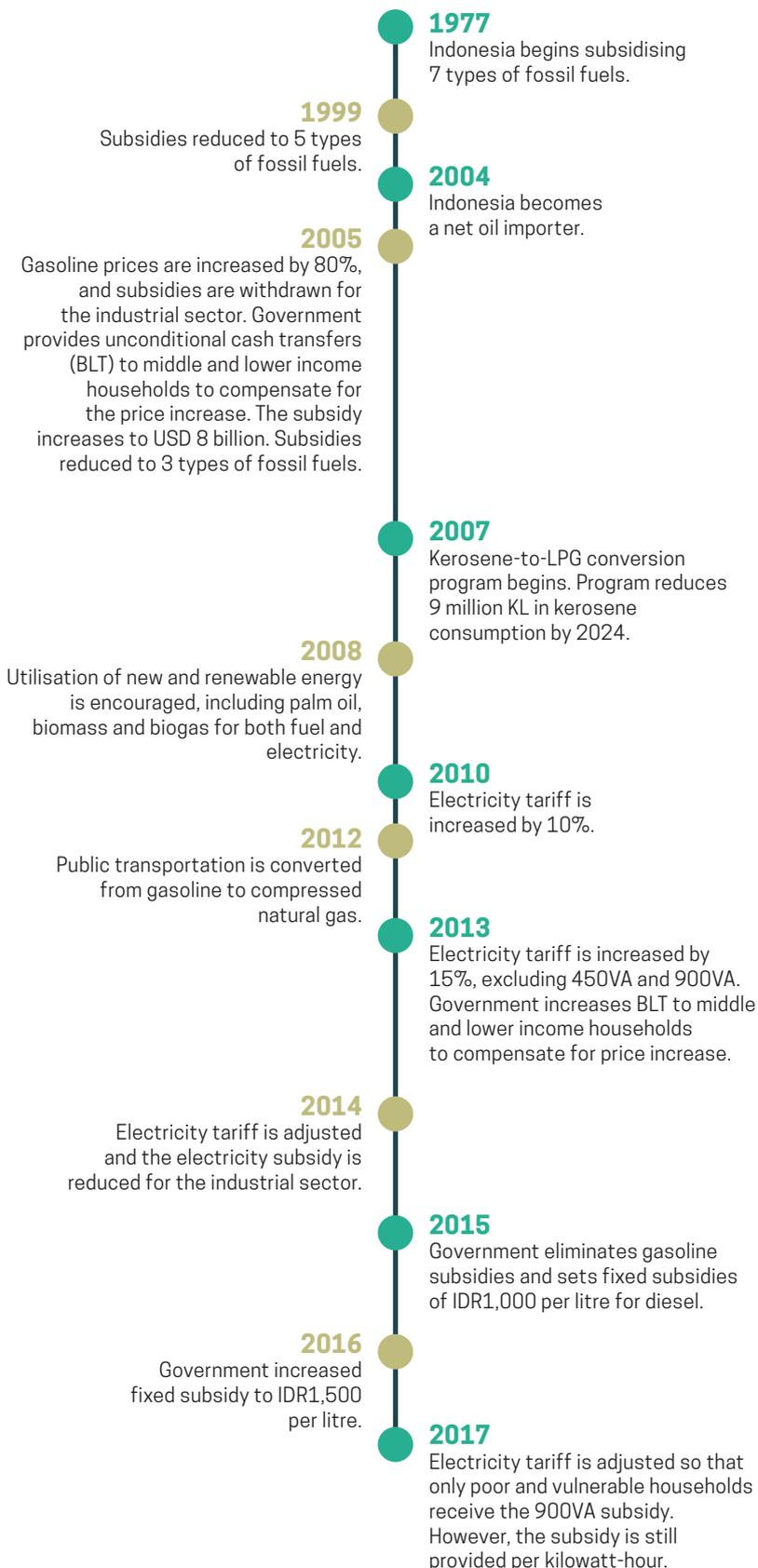
Source: National Social Economic Survey (SUSENAS), BPS 2024. Analysed by CPD.

1.4 UNFINISHED BUSINESS: A BRIEF OVERVIEW OF SUBSIDY REFORM ATTEMPTS

Indonesia’s energy subsidy history dates back to 1977, when the only instrument the government had for reform was raising fuel prices. Historically, Indonesia’s energy subsidy reforms have largely been reactive, typically triggered by fiscal crises due to rising global oil prices.

For example, in 2005, the government raised fuel prices when oil prices increased from USD 40 to USD 50 per barrel. Similarly, in 2008, when oil prices soared to USD 140 per barrel, the government implemented further fuel subsidy reductions and made additional price adjustments. To mitigate the social impact, the government introduced unconditional cash transfer programs like *Bantuan Langsung Tunai* (BLT) to help the poor and vulnerable cover this price increase. About one third of Indonesian households received BLT in 2005, which was distributed in four payments over the course of a year.¹⁴ BLT was again used in 2008, however was never intended to be a long-term policy response. Later when oil prices rose, subsidies swelled again.

Figure 2. History of Indonesia's energy subsidy policy, adapted from Indonesia G20 self-report, 2019.¹⁵



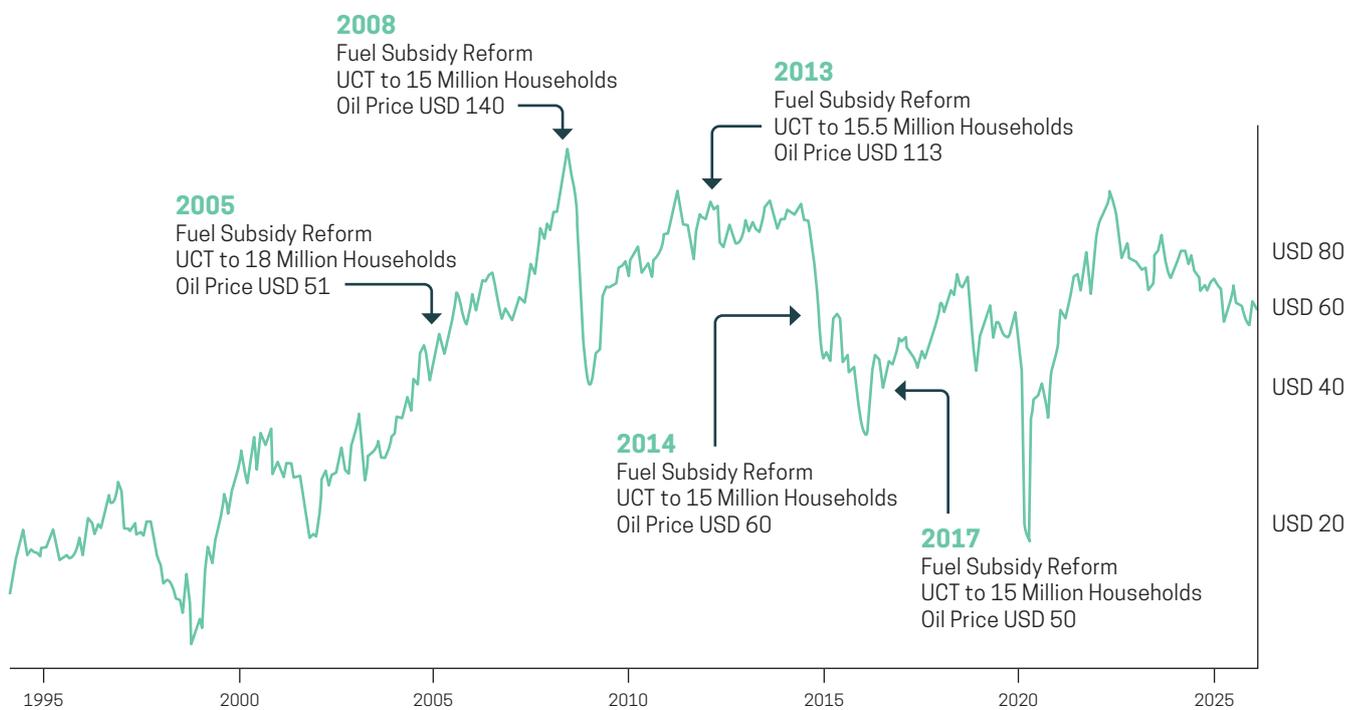
This pattern of reactive policy-making continued in 2013. With oil priced at USD 112 per barrel, subsidies decreased, fuel prices increased, and 15.5 million households received cash transfers from the government in the form of a renamed BLT (now called BLSM). Although these measures tackled the immediate fiscal challenges, they did not address any of the underlying issues.

2014 fuel reforms reduced the fiscal burden, but the effect did not last long. The government again increased subsidies and compensation when oil prices rose, or ahead of the political year. This pattern was repeated, forming an endless cycle between populism and fiscal realism.¹⁶

As with any policy reform, attempting subsidy reform during crises involves substantial political and social considerations

which often lead to temporary or flawed policy solutions. Conversely, reforming subsidies during periods of relatively stable economic conditions and stable oil prices offers a better opportunity for sustainable reform.¹⁷

Figure 3. Global oil price trend and energy subsidy reform response.



Source: [Macrotrends Crude Oil Price 1946-2026](#), additional text from CPD.

2017 targeted electricity subsidy reforms

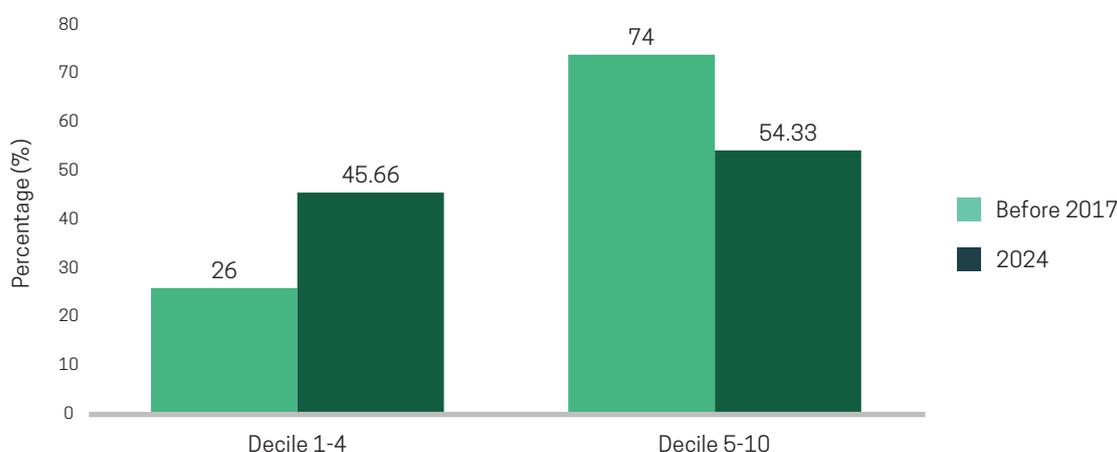
Aside from the above reactive decisions, the only relatively fundamental reform to be carried out was the Targeted Electricity Subsidy (*Subsidi Listrik Tepat Sasaran/SLTS*) reforms of 2017.

Using verification based on Integrated Social Welfare Data (*Data Terpadu Kesejahteraan Sosial/DTKS*), more than 18 million households were removed from the list of electricity subsidy beneficiaries on the grounds that their income level rendered them ineligible. Despite some concern this reform would lead to public protests, it ended up gaining support even from pressure groups.¹⁸

After the 2017 reform, the share of poor and vulnerable groups receiving the electricity subsidy increased from 26% to 45.66% of all recipients, while the richer groups decreased from 74% to 54.33% (Graph 5).

Graph 5.

Recipients of electricity subsidy policy by income decile before and after 2017.



Source: National Social Economic Survey (SUSENAS), BPS 2024. Analysed by CPD.

While this is a significant improvement, the fact that over 50% of beneficiaries are still in the richest 50% (Deciles 5 to 10) means the policy can still be made more equitable. Further, the 2017 reforms missed an opportunity to expand to the 450 VA consumer group, and the improved targeting was not applied to LPG subsidies.

2019 targeted distribution trial

In 2019 there was a promising trial of targeted distribution of LPG and electricity subsidies, however the COVID-19 pandemic prevented this from moving beyond a pilot. The trial was carried out collaboratively by the National Team for the Acceleration of Poverty Reduction (TNP2K), the Ministry of Energy and Mineral Resources, Pertamina and state-owned electricity company PLN, under the coordination of the Coordinating Ministry for Human Development and Culture, with involvement from the Ministry of National Development Planning (Bappenas), Ministry of Home Affairs, and Ministry of Social Affairs. It involved more than 14,000 households across 7 locations with intentionally diverse characteristics, including urban, rural, less populated and highly populated, and with different levels of internet coverage.

The trial was conducted using a merchant-based smartphone app - which are run by the vendor and therefore do not require users to own a smartphone themselves. Customers would both register in the app and use it to make transactions in store.

The pilot was deemed a success. 82% of users successfully registered with the program, and 80%

successfully completed a transaction through the program in the trial period.¹⁹ Of the different locations, Tomohon City had the highest successful transaction rate at 96%, which researchers attributed to the local government's support and close involvement.²⁰

Table 2.

Trial results of LPG and electricity distribution using an electronic system.

No.	Location	Target	Registration		Transaction	
			Success	%	Success	%
1	Bukittinggi	1,290	1,052	82%	850	81%
2	Tangerang	3,756	3,094	82%	2,657	86%
3	Tomohon	1,092	896	82%	862	96%
4	North Jakarta	4,028	3,366	84%	2,813	84%
5	Bogor	1,366	1,085	79%	607	56%
6	Gunung Kidul	1,443	1,112	77%	770	69%
7	Kediri	1,218	1,057	87%	767	73%
Total		14,193	11,662	82%	9,326	80%

Source: 2019 LPG distribution trial report²¹

That trial was followed by another trial to integrate the electricity and LPG subsidy with the food assistance program BPNT. BPNT (*Bantuan Pangan Non Tunai*, literally “Non-Cash Food Assistance”) is a conditional cash transfer to poor and vulnerable households for the purchase of food. This trial was deemed a success, demonstrating that a targeted mechanism for poor and vulnerable households is

feasible. Unfortunately the success of this trial in 2019 was overshadowed by the COVID-19 pandemic in 2020, and the oil price spike following Russia’s invasion of Ukraine. These external shocks led to reprioritisation within government, and the trial was not converted into ongoing policy.

Reform attempts since 2020

Between 2020-2022 there was another effort to improve LPG subsidies through the use of data-based digital platforms (including the *MyPertamina* app). In theory, this was a step towards a single national identity (NIK)-based subsidy delivery system.²² However, although promising, this reform stalled at the pilot stage due to technical challenges, political resistance, and lack of public communication leading to some social resistance.²³

The latest effort at subsidy reform was undertaken in early 2025. Led by the Ministry of Energy and Mineral Resources, the government attempted to restrict the sale of subsidised 3kg LPG canisters to official Pertamina agents and outlets, and prevent unofficial agents from selling the product to ineligible customers. However, the vast majority of LPG is sold by unofficial agents, and Pertamina's supply chain is not designed to meet the full distribution needs of the country. This reform effort therefore quickly resulted in major supply shortages and significant public protest. Ultimately the reforms were wound back within weeks.²⁴

This reform attempt failed because it targeted the wrong issue. As the commodity itself (3kg LPG canisters) remained

subsidised, the incentive for excess distribution in the market remained strong. Tightening distribution policies therefore only created congestion. Efforts to intervene in the supply chain without reforming the subsidy itself ultimately make household supply vulnerable. The current system distorts the market and creates inefficient allocation, reinforcing the case for providing subsidies directly to eligible individuals rather than commodities.²⁵

1.5 REMOVING OBSTACLES TO THE ENERGY TRANSITION

The Indonesian Government has committed to achieving net zero emissions by 2060 by minimising use of fossil fuels and transitioning to renewable energy.²⁶ However, subsidies for fossil fuel-based energy continue increasing each year, creating an uneven playing field for renewables.

Reforming the subsidy system will require significant political will. Fortunately opportunities already exist. Since coming to power in 2024, President Prabowo Subianto has raised reforming the energy subsidy as a priority.²⁷ The President has also identified ambitious and costly policies like the 'Free Nutritious Meals' (MBG) program, and goal of achieving 100 gigawatts of solar power nationwide, both of which require

significant additional spending. While we recognise that the decision of what to spend the savings on is at the government's discretion, this report strongly recommends investing the savings in productive activities like supporting the energy transition using the just transition framework laid out in CPD's report *Powering Prosperity* to ensure that communities across the country stand to benefit.²⁸ Other productive uses of the savings would be to other social goods like healthcare, education and social protection.

There is now an opportunity to build on the technological progress made over the past decade, and learn from the successful trials mentioned above, including the growth in digital identification systems, data integration, and the establishment of the National Socio-Economic Single Data System (DTSEN), which has improved how accurately government programs can target the poor.²⁹ With these tools in place, and political ambition behind it, this reform pathway is eminently possible.

It's not just about "what," but "how." The next section of this report focuses on that question: the "how".



PART 2

THE HOW: TECHNICAL DESIGN FOR POLICY REFORM

Part 1 of this report outlined the problems with commodity-based subsidies. It demonstrated that they are very expensive, they disproportionately benefit the wealthy, and they maintain dominance of fossil fuels over renewable energy.

Part 2 of this report now outlines how these can be reformed in a way that continues to support poor and vulnerable families (defined in this report as comprising those in the bottom 40% of socioeconomic status) to access energy, as required by Indonesian Law, while also incentivising a shift to clean energy which would benefit people and planet. We show how support can be delivered to this group in a way that is integrated with existing social assistance programs, via a common digital payment platform.

This policy is informed by CPD's proposed just transition framework as outlined in *Powering Prosperity*:³⁰

1. Enable those affected by the transition to have a voice and access to choices;
2. Ensure those who face vulnerability are not made worse off;
3. Ensure the benefits and costs of the transition are shared equitably.

Concretely this report proposes providing IDR 58,209 per month for LPG and IDR 120,245 for electricity, amounts calculated based on current monthly average consumption. This combined monthly flat subsidy of IDR 178,454 will be transferred to poor and vulnerable families and be tied to energy consumption. Those who do not spend the full amount will be able to keep the difference to spend it on energy related expenses like upgrading

their infrastructure to renewables, or investing in solar panels.

To address those living in energy poverty, this reform proposes that those living in areas without access to LPG or in off-grid areas would have the flexibility to use the subsidy to access locally available renewable energy or to cover entry barrier costs such as the initial installation. This helps to incentivise the shift to renewable energy.

We estimate that shifting from commodity-based to direct targeted subsidy will lead to a saving in the range of IDR 75.78 to 116.15 trillion annually. This saving results from stopping those in the top 60% from accessing the subsidy as they do now. Once implemented, the subsidy received by those in the lowest 40% of is estimated to actually be slightly higher than what they receive now.



Part 2 outlines the technical detail of how this policy can be developed and implemented. Section 2.8 specifically deals with considerations around sequencing the reform to ensure stability and a smooth transition for all, and Section 2.7 covers public messaging strategies to help ensure popular support to the reform.

2.1 TECHNICAL IMPLEMENTATION AND POLICY DESIGN

The design of this policy is informed by the Just Transition Framework above and is based on principles of:

- **Equity:** Subsidies benefit those who need it most, and address energy access gaps.
- **Target accuracy:** Funds are channelled directly to recipients using a verified single social registry, preventing access by those who are ineligible.
- **Transparency and accountability:** Transactions are recorded electronically and are publicly auditable; the amount of subsidy is determined based on the needs of poor and vulnerable groups through publicly transparent calculations and accountable through a complaints mechanism.

- **Fiscal efficiency:** Budget savings are used to accelerate the energy transition and fund productive programs in climate, health, education, and social protection.
- **Energy efficiency:** Subsidies support energy efficiency and productive activities.

Technical implementation of this policy is based on four key elements:

1. The subsidy is provided in a fixed monthly amount, based on average consumption

This fixed-transfer approach simplifies administration and promotes energy efficiency. At the time of writing, we calculate the LPG subsidy to be IDR 58,209 and the electricity subsidy IDR 120,245 per month, making the total subsidy transferred to a family IDR 178,454 per month (See Annex B for more detailed calculations). Those who spend less than the monthly average are able to keep the difference to spend on their next bill or on other energy-related purchases, creating an incentive to be more energy efficient and removing cost hurdles to investing in energy efficient upgrades.

The calculation of the total subsidy is based on the family unit, not the household unit. In Indonesia, a household is defined

by address or living place, meaning that two or more families can occupy a single house. For example, if a husband and wife have three children, and two of the children are married but still live in the same house, the household count remains one, but the number of families is three. Using the family as a unit will yield a larger beneficiary base than using households, and will more accurately reflect the energy needs of a household. DTSEN uses the family as the unit.

2. Energy subsidies are transferred directly to eligible beneficiaries, and integrated with other government assistance programs

Although a simple cash transfer is one option for distribution, this report recommends the transfer be conditional - locked only for energy commodity-related purchase transactions. This is for three main reasons: first, to align with Indonesia's legal obligation for the government to enable poor and vulnerable people to access energy, second, to align it with existing social assistance programs thereby making it administratively easier to manage, and third because a conditional or 'locked' cash transfer is more politically viable in the present climate.

The report proposes the subsidy amount be transferred directly from the government to beneficiaries through a bank account linked to a digital wallet. A digital wallet can be created directly by the bank that opened the account or by the app provider (if using financial technology services). As of May 2025, 76.3% of Indonesians have a bank account, and 88.7% have used formal financial services.³¹

However the reforms also consider the inclusion of those without bank accounts. First, the reforms use merchant-based apps rather than a beneficiary-based app, to allow access for those without mobile phones or banking services. Second, for those in remote or off-grid areas without electricity and internet, it is proposed that the subsidy be distributed via energy service providers, such as village cooperatives (see below).

For the purchase of LPG, access will be controlled through the use of merchant-based apps where eligibility must be proven to access subsidised 3kg canisters.

For the purchase of electricity, the locking method can be carried out through synchronising the recipient's data with the PLN customer identity. Payment would be slightly different depending on whether the customer was pre-paid or post-paid:

- For pre-paid customers, the subsidy amount would be transferred into 'electricity tokens' in the digital wallet.

Each time a purchase is made, a number of electricity tokens will be deducted until the subsidy limit is reached, without the need for cash payment. If the subsidy limit has been exceeded, the subsidy recipient then must pay any excess.

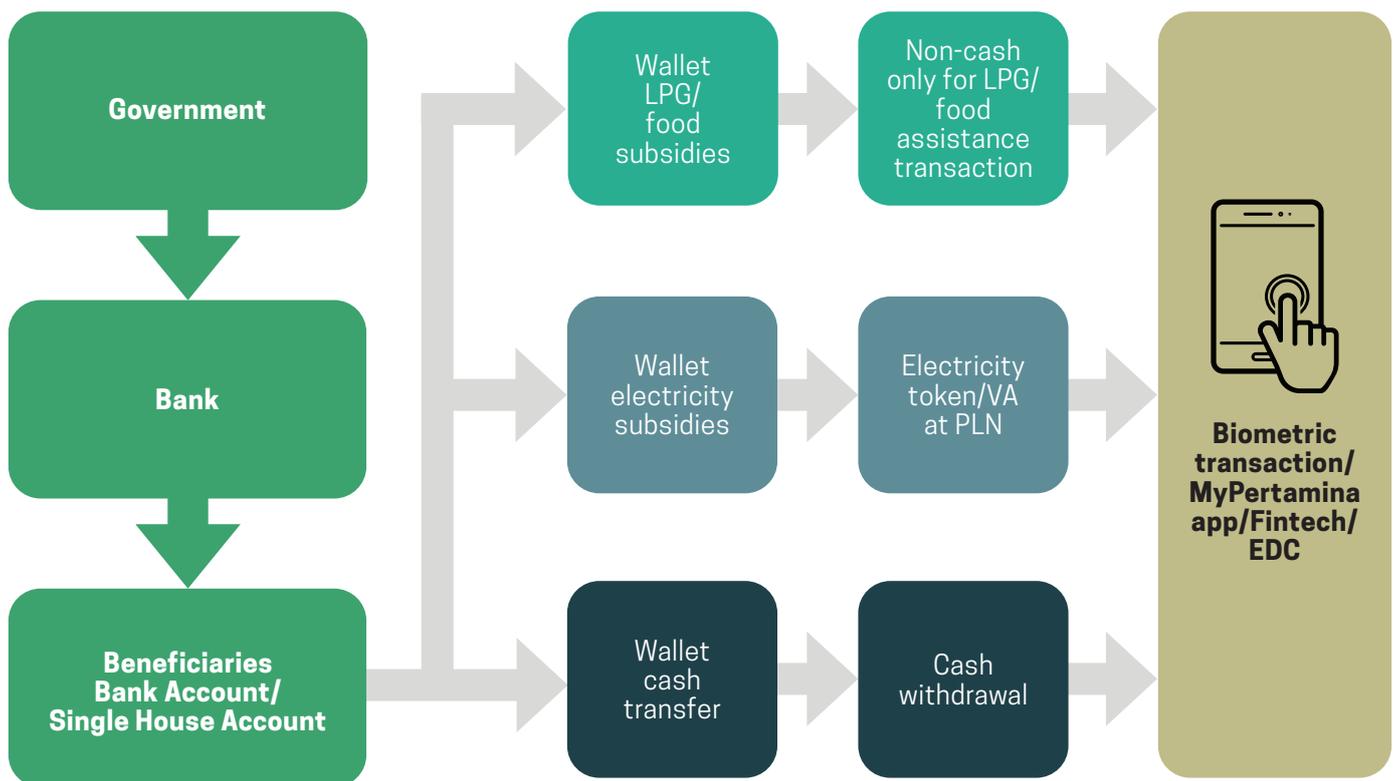
- For post-paid customers, a usage quota equivalent to the subsidy value would be provided. The subsidy recipient only needs to pay if their usage exceeds the quota. With this method, electricity subsidy recipients will be encouraged to only consume electricity within their allocated quota to avoid payment.

Using this approach, the government can leverage the existing social assistance ecosystem. For example, the government already implements a 'BPNT Food Assistance' system, which is a conditional cash transfer targeting people in the lowest 20-30% socioeconomic bracket to help purchase basic foodstuffs.³²

Since government transfers can come from numerous sources and be used to purchase different goods, we propose multiple digital wallets be established within a Single Family Account, as depicted below. This will make it easier for users to understand their entitlements, and also improve transparency and accountability of subsidy provision and use.



Figure 3.
 Technical design of household-based energy subsidy distribution using the banking and electronic transaction system.



Source: TNP2K, Modified by CPD

More detail about how the subsidy can be integrated with existing programs is covered in Section 2.4 below.

3. Remote and regional households have flexibility in the use of subsidies

Energy access in remote and regional areas poses its own challenges. As noted above, many households still predominately use firewood for cooking, and

much of that population does not have access to a traditional bank account. Under the proposed reforms, people living in these areas would be able to pool their subsidies and pay in installments to cover large capital investments such as stoves, regulators, or to cover installation costs. In areas without a modern energy network, the subsidy could be used to access local alternative energy sources, such as biogas or solar home systems. This system will improve the feasibility of off-grid

renewable energy projects, as subsidies would serve to increase the collective purchasing power of local communities and their ability to pay for ongoing access. This flexibility of utilisation is an important element in ensuring equity and encouraging the shift to locally available renewable energy, hence supporting the energy transition. It is important to recall that many of these communities are completely excluded from accessing the current household subsidies.

This model may prove particularly beneficial to support implementation of the government's new 100 Gigawatt Solar Power Plant Programme, which aims to deliver 80 gigawatts of solar energy through village cooperatives (*Koperasi Desa Merah Putih*).³³ This is relevant because the main challenge with the village Solar Power Plant programme is not the technology or initial funding, but rather securing the long-term sustainability of the community's purchasing power, to ensure ongoing maintenance of the new assets.³⁴

Thus under the proposed reforms, energy subsidies could be pooled and collectively used in remote and regional areas through village cooperatives, in line with existing government priorities. The cooperatives could act as energy service providers rather than as beneficiaries of subsidies. The household subsidy funds entrusted to them are transferred periodically based on the number of households served and may be used only for energy service provision, including funding for the operation and maintenance of the Solar Power Plant system, replacement of critical components such as batteries, and local operator management. This deposit mechanism ensures that the capacity of the built Solar Power Plant does not end at installation; it can operate sustainably.

This model is similar to the existing scheme in the national healthcare programme, through which the government transfers funds directly to health centres to provide healthcare services to the community, rather than transferring them to the individual.³⁵ For this model to be effective there would need to be genuine community ownership and support of the village cooperatives, and accountability measures in place to ensure the cooperatives act according to the village's best interests.

4. Energy prices are adjusted to market prices

With the shift to beneficiary-based subsidies, the price of LPG and electricity would be adjusted to the level of market prices. 3kg LPG canisters would be available to everyone as they are now, but at the price of non-subsidised LPG - ie. around IDR 16,000 per kg.³⁶ Those in the lowest 40% would receive support to pay for energy via the transfer method explained above, while those in the top 60% would pay the market price. This step removes the high fiscal burden on the government every time global oil prices fluctuate, and simplifies oversight. It would also likely reduce the risk of hoarding or counterfeiting of subsidised LPG which happens under the current system.

2.2 LEARNING FROM THE PAST

This report makes the case for beneficiary-based subsidies to replace commodity-based subsidies on the grounds that this enhances policy effectiveness, energy efficiency, and sustainability. Two prior reform experiences in Indonesia are useful examples to support this case.

2007 kerosene-to-LPG conversion policy: an argument for public awareness campaigns, and against commodity-based subsidies

The kerosene-to-LPG conversion policy in 2007 aimed to reduce dependence on heavily subsidised kerosene, in order to encourage the use of lower-emission energy, and also save the government money. The nationwide rollout took years and involved supplying over 50 million 'starter packages' - including stoves and LPG canisters - to households and small businesses, and a huge public awareness campaign, including using business voices to encourage take-up.³⁷

In the short term, this policy succeeded in reducing kerosene consumption by 9.9 million kiloliters per year; thereby reducing emissions and leading to a budget saving of IDR 40 trillion.³⁸ However, in the long term, the policy created new problems.

The main issue was that the significant price gap between subsidised (3kg) and non-subsidised LPG (5.5kg and 12kg) persisted, making the 3kg subsidised LPG the primary choice for all customers, regardless of their socioeconomic status.³⁹ Past attempts to establish a “closed distribution system” to restrict the access of subsidised LPG to certain groups failed because they were difficult to implement and met with public opposition.⁴⁰

Further, logistics and distribution remained major challenges to fully phasing out kerosene.⁴¹ LPG supply is concentrated in urban centres, while in remote areas prices are higher, supply is limited, and oversight of price-gouging and counterfeiting behaviour is weaker. Coupled with the low purchasing power of

remote communities and a lack of awareness about LPG safety, many poor households still rely on kerosene or firewood.⁴²

This reform attempt demonstrates the importance of public awareness campaigns and harnessing voices from the private sector, while also showing the limitations of a commodity-based subsidy model. It also demonstrates the importance of political will to any successful policy transition, as this rollout took years and a huge logistical effort.

2017 electricity subsidy reforms: An argument for improved targeting and use of technology

The 2017 targeted electricity policy was a milestone; as it shifted energy subsidies to poor households using welfare data instead of tariff groups.

This was done through a large-scale data-matching process between PLN customer data and the government’s Integrated Social Welfare Data (DTKS) for 18.9 million customers. The process identified eligible households based on income level, and resulted in 18.25 million 900VA customers being found to be ineligible and therefore removed from the beneficiaries list. This more accurate picture of income reduced the number of recipients from 45.1 million to 26.85 million. Again, a large public education campaign accompanied this policy change, which led to less social pushback.

Table 3. Comparison of energy subsidy spending with other programs after the 2017 electricity subsidy reforms

	Education	Infrastructure	Health	Energy Subsidy
2017 State Budget	416.1	387.3	104.3	77.3
%Δ From 2016 State Budget	↑ 27.4%	↑ 123.4%	↑ 83.2	↓ 66.2%

Data from the DTKS (now DTSEN) is regularly synchronised every six months, to maintain an accurate database of recipients in the 900 VA category. Households identified as no longer being eligible continue receiving the subsidy until the end of the calendar year to account for potential variance in their income. As noted above, this reform was never extended to other VA customer groups, and thus can be considered a positive but incomplete reform.

This reform returned approximately IDR 21 trillion to the government budget, which allocated the funds to productive programs such as education, health and rural electrification infrastructure (Figure 2). The budget for the latter program rose to IDR 6 trillion the year after the reforms, helping to boost the national electrification rate from 91.2% in 2016 to 95.4% in 2017 and 97.5% in 2018.⁴³ Increasing electrification has important social benefits: empowering women through productive home enterprises, strengthening small businesses, enhancing children’s study time, and fostering stronger community bonds.⁴⁴

Although these reforms maintained a commodity-based subsidy (still given per kWh), this policy shows that with a better targeting mechanism, the effectiveness of subsidies

can be greatly enhanced. The social welfare data-driven approach makes subsidies fairer and more measurable, thereby increasing public confidence in energy reform.

2.3 BUILDING ON EXISTING POLICY FOUNDATIONS

After many stalled reform attempts in the past, the government now has a rare opportunity to make progress in this space. It has inherited a relatively complete set of tools to implement the data-based, system-wide reforms necessary. These tools include lessons from previous pilots and taskforces, policies specific to energy subsidies, and policies to improve targeting of poor and vulnerable families and households. A full list of evidence is outlined in Annex A.

Subsidy reform pilots and policy trials

During the first term of President Joko Widodo’s administration, government agencies including the Fiscal Policy Agency, TNP2K, and the Ministry of Energy and Mineral Resources developed and submitted proposals for a direct targeted energy subsidy mechanism. Coordinating structures were also set up within the bureaucracy, and a series of discussions with the House of Representatives took place, receiving notable support.

During this period trials were carried out, including an ‘LPG closed distribution mechanism’, and subsidised LPG and fuel user registration in 2022 via the *MyPertamina* app. The 2018-2019 LPG and electricity subsidy distribution trial mentioned in Section 1.4 above also had useful lessons from its use of technology to link distribution with social assistance programs.

Improvements in digital payment capability

Previous administrations also carried out reforms that provide a foundation for a new targeted subsidy. These include the 2017 targeted electricity subsidy policy which enhanced recipient accuracy, and the 2014 shift of the Raskin program to a conditional transfer scheme for food assistance (BPNT), which used a bank debit card to benefit 15.5 million households. Recent years have also seen crucial developments in the use of digital payment and transaction systems. This includes a national financial inclusion initiative aimed at poor and vulnerable households,⁴⁵ a 2017 National Gate Payment System for more efficient fund transfers; digitisation of payments via a QR code payment system (QRIS); and integration of electronic data across government agencies for better distribution of government assistance.

Improvements in accuracy of targeting

Over the past decade, efforts have also been made to develop a comprehensive national targeting system for social assistance. This started with the development of a Social Protection Program Database (*Pendataan Program Perlindungan Sosial/PPLS*) in 2011, and resulted in a new Integrated Individual Database (*Basis Data Terpadu/BDT*) of those in the lowest 40% nationwide. In 2015, the database was updated, the methodology improved, the recipient base broadened, and the name changed

to *Pemutakhiran Basis Data Terpadu (PBDT)*. That same year, data was matched with PLN electricity customer records to identify subsidy beneficiaries, reaching 95% accuracy.

By 2017, PBDT became what is known today as Integrated Social Welfare Data (DTKS), which is regularly updated by the Ministry of Social Affairs. A beneficiary complaint system was also added for the electricity subsidy program to handle any errors or mistakes in implementation.

In 2021, the Socio-Economic Registration Initiative (*Regsosek*) expanded data coverage to

nearly the entire population, incorporating extreme poverty data (P3KE) and family survey information from the National Population and Family Planning Agency, shifting the database's focus from individual households to family units. At the beginning of President Prabowo Subianto's administration, all individual data was integrated into the National Socio-Economic Single Data (*Data Tunggal Sosial Ekonomi Nasional/DTSEN*). Taken together, this provides a strong foundation for implementing any targeted government assistance program (this is elaborated upon in Box A).

Box A.

Does Indonesia have sufficiently reliable individual data for a direct targeted subsidy scheme to work?

A precondition to implementing any targeted policy is the availability of accurate data. To send direct government assistance, you need to know who the beneficiaries are, where they live, their social welfare status and their bank account details. Fortunately Indonesia has sufficient and reliable data to meet this precondition.

Prabowo's administration currently uses DTSEN, an individual-based system that comprises name, address, and social welfare variables including their financial inclusion status. DTSEN covers around 285.6 million people (about 93 million families). It is regulated by Presidential Instruction No. 4 of 2025 and Minister of National Development Planning (Bappenas) Regulation No. 7 of 2025, which serves as a guideline. This policy emphasises security by design and alignment with Law No. 27 of 2022 on Personal Data Protection.

DTSEN combines three major databases: DTKS, Regsosek, and P3KE, which are all managed by the National Statistical Agency (*Badan Pusat Statistik/BPS*). The data are matched with population data (SIAC - managed by the Ministry of Home Affairs), student data (DAPODIK - from the Ministry of Education), electricity subsidy beneficiary data (from PLN and the Ministry of Population and Family Development (BKKBN), and other sector-specific data.

DTSEN uses the 'Proxy Means Test', not the Means Test, to assess social welfare status. Means tests evaluate eligibility based on direct income and asset information, relying on verified records such as payslips, tax filings, or property ownership documents. This method works well in formal economies where reliable income data are available. However a better approach for countries like Indonesia with high proportions of informal workers is the 'Proxy Means Test', which estimates household welfare indirectly through observable characteristics like housing conditions, ownership of assets (like motorcycles or televisions), education level, consumption patterns, or household size. These variables are combined into a welfare score, which is then compared to a predefined threshold to determine welfare eligibility.

Although the integration of different individual-level data into the DTSEN system marks significant progress in Indonesian data capability, there is still more to be done to ensure consistency and standardisation across all income deciles. The government should continue to prioritise data standardisation and ensure the DTSEN is a comprehensive resource to use for social welfare.

However even when updated, no dataset can be perfect, and it is likely that there will be people or families who fall through the cracks, or are mistakenly classified. Poverty data can also change rapidly as individuals in insecure and informal work change their income status week by week, or day by day. In recognition of these shortcomings, this proposal also includes a Complaints Mechanism which can help people to register issues. The complaint-handling and updating mechanism of PLN's existing electricity subsidy system can serve as a reference. Further, regular monitoring and evaluation of the policy's implementation will serve to identify problems with the system as it is rolled out.

2.4 INTEGRATING WITH EXISTING INFRASTRUCTURE

The success of these reforms depends heavily on integrating support systems across data, technology, and institutions. Smooth integration of digital and institutional infrastructure will enable efficient, transparent, and easily auditable subsidy transfers.

Integration with other social assistance programs:

With a Single Family Account, each family receiving assistance will be registered in a centralised system, facilitating distribution, monitoring and evaluation, and oversight. Combining energy subsidies with other social programs creates a comprehensive safety net that enhances welfare, reduces duplication, promotes fiscal discipline, and strengthens accountability.

Over the past decade, Indonesia has established a robust ecosystem of social assistance programs that target poor and vulnerable families and households through digital and data-driven systems. Among them, three flagship programs: *Program Sembako*, the Family Hope Program, and the Smart Indonesia Program have achieved nationwide coverage and share a unified beneficiary database in DTKS:

- **Program Sembako or BPNT (Food Assistance)** is a monthly conditional cash transfer for food assistance of approximately IDR 150,000 per household via bank transfer, with transactions made using a bank debit card or *Kartu Keluarga Sejahtera* (KKS). The program targets the lowest 40% of households, and beneficiaries can purchase staple foods from regular shops. The program reaches around 20 million households via their bank accounts.⁴⁶
- **The Family Hope Program (Program Keluarga Harapan (PKH))** is a conditional cash transfer program for poor and vulnerable groups, providing quarterly benefits to pregnant women, children, persons with disabilities, and the elderly. The assistance, also distributed through the KKS, is linked to increased school attendance and health check compliance.
- **Smart Indonesia Program (Program Indonesia Pintar (PIP))** offers annual financial assistance to school-age children from poor and vulnerable families to prevent drop-outs and support educational continuity. The program operates through a bank debit card or *Kartu*

Indonesia Pintar (KIP) system, linked to PKH and DTKS data, and reaches around 17 million students.

These three programs are ideal for integrating with household energy subsidy provision because they already share infrastructure, target beneficiaries effectively, are well known and enjoy public trust. They use different but overlapping beneficiary databases - some targeting the bottom 10-15%, others 20-30% etc - enabling smooth integration without the need for new registries.⁴⁷ Each program already employs electronic transfers via banks and e-wallets, compatible with direct energy subsidy transfers.

Adopt robust, user-friendly and cost-effective digital technology for banking transaction systems, including Indonesia's QR code payment system QRIS. With this cashless payment system, beneficiary households can easily receive subsidies directly into bank accounts or digital wallets linked to popular apps like *MyPertamina* or *PLN Mobile*. Internet penetration and smartphone use in Indonesia is high: around 98.7% of people aged 16 and over use mobile phones to access the internet.⁴⁸ As of May 2025, data indicates that 76.3% of Indonesians have a bank account, and 88.7% have used formal financial services.⁴⁹

While these numbers are high, it is also important to consider integration of families without bank accounts or access to digital financial services. The use of merchant-based apps rather than a beneficiary-based app allows users without mobile phones or banking services to still participate in urban areas. For those in remote or off-grid areas without electricity and internet, it is proposed that the subsidy will be distributed via energy service providers, such as village cooperatives (this is explained in more detail in Section 2.1 above). This should be coupled with existing ongoing programs working to boost financial inclusion of people living in remote and regional areas.

Coordination between institutions is crucial to ensure the smooth implementation of subsidy reforms. The Ministry of Energy and Mineral Resources, the Ministry of Finance, the Ministry of Social Affairs, the National Development Planning Agency, PLN, and Pertamina must collaborate closely to ensure accurate beneficiary identification, proper subsidy distribution, and ongoing monitoring and evaluation. The roles of the Financial Services Authority and Bank Indonesia are also crucial in safeguarding digital transaction security and ensuring the accessibility of the payment system.

Engaging the community and providing public education on digital data systems used for subsidy distribution and transactions are essential. Public participation in the complaint process and to gather feedback on the reforms and their implementation will also be enhanced through online complaint forms and transparent public service systems.

2.5 A PHASED PATHWAY TO REFORM

This report recommends the reform be gradually implemented over four phases: development, preparation, implementation and consolidation:

Table 4.
Timeline of energy subsidy reform implementation, developed by CPD

Phase	Steps To Take	Outputs
<p>Phase 1: Development Consolidate evidence, strengthen policy foundations through data and system integration</p>	<ul style="list-style-type: none"> Gather existing evidence and lessons from previous reform attempts to refine policy design. Based on this evidence, decide the target range and the cut-off number of eligible beneficiaries from DTSEN. Design a digital transfer system that can be integrated with existing systems (ie. MyPertamina and PLN Mobile) and used by people without bank accounts. Design and prepare a temporary compensation scheme for those in the 40-60% income bracket to smooth the transition. Conduct direct subsidy distribution pilots for LPG and electricity in 5 to 10 provinces, for fewer than 100,000 beneficiaries. Revise and update relevant regulations, including Presidential Regulations No. 70/2023 which updates Regulation 104/2007 (on the “Supply, Distribution, and Stipulation of 3 Kilogram Cylinder LPG”) and Presidential Regulation No. 38/2019 (“Types of Planned Businesses and/or Activities Plans which Require an Environmental Impact Analysis”) and derivative ministerial decrees. 	<ul style="list-style-type: none"> Policy design and implementation blueprint. Integrated beneficiary data dashboard (DTSEN). Proof of concept for this digital, verified cashless payment system.

Phase	Steps To Take	Outputs
<p>Phase 2: Preparation Prepare new regulations and test systems and institutional alignment, including national-level pilots</p>	<ul style="list-style-type: none"> • Prepare and finalise technical guidelines to ensure consistent implementation, including Standard Operating Procedures and a Safeguard Mechanism. • Validate beneficiary data through DTSEN and work with the financial authority on programs to open bank accounts for remaining unbanked beneficiaries. • Establish a Cross-Ministerial Socialisation and Education Team, including at least the Ministries of Energy and Mineral Resources, Home Affairs, Social Affairs, Communication and Digital, Pertamina and PLN, ideally led by the President, Vice President or senior Minister. • Launch intensive public outreach and consultation with local governments and distribution agents across the country, particularly with local <i>Koperasi Desa Merah Putih</i> (cooperatives) to prepare them to manage pooled funds. 	<ul style="list-style-type: none"> • Reformed regulations. • Standard Operating Procedures and Safeguard Mechanism. • Full testing of the national digital payment system. • Recommendations for improvement based on pilot results. • Cross-Ministerial Socialisation and Education team established.
<p>Phase 3: Implementation Phase in the national rollout from commodity-based to direct targeted subsidies</p>	<ul style="list-style-type: none"> • Continue public awareness and outreach. • Phase in national rollout of a flat subsidy of IDR 178,454 per family per month for electricity and LPG. Begin gradually with the bottom 10-20% of beneficiaries, or from certain regions, before expanding. • Integrate delivery with other social programs (PKH, BPNT, PIP) • Operationalise the Single Family Account mechanism. • Establish real-time monitoring through a cross-agency dashboard and ensure the public complaints mechanism is widely known about and available. 	<ul style="list-style-type: none"> • The national digital subsidy system is operational. • Real-time monitoring and evaluation reports (M&E Dashboard). • Fiscal adjustments and social impact evaluation completed.

Phase	Steps To Take	Outputs
	<ul style="list-style-type: none"> During this time the three sizes of LPG canister will remain available, but prices of the 3kg canister will be phased back to market price over the course of one year (so as not to increase too rapidly) 	
<p>Phase 4: Consolidation Monitor implementation of the new policy, ensure benefits are optimised</p>	<ul style="list-style-type: none"> Reallocate fiscal space from price subsidies to productive programs (education, health, clean energy transition). Fully harmonise energy subsidies as part of the wider National Social Protection System. Conduct ongoing monitoring and evaluation of the new policy. Strengthen public grievance mechanisms and digital social audits. 	<ul style="list-style-type: none"> Energy subsidies are integrated into the National Social Support Framework. Annual fiscal and social benefit reports are published.

2.6 PROJECTIONS OF BENEFICIARIES, SUBSIDY BUDGET AND POTENTIAL SAVINGS

One benefit of these reforms is that the total subsidy can be calculated transparently based on the number of beneficiaries. According to CPD

calculations, a monthly flat subsidy of IDR 178,454 per family could lead to a saving in the fiscal range of IDR 75.78 to 116.15 trillion annually, based on the current total LPG and electricity subsidy of IDR 176.7 trillion.

Table 5. Projections of the number of beneficiaries, annual subsidy budget and consequent savings

% Beneficiaries From DTSEN	Number of Beneficiaries (Family-Based)	Annual Subsidy Budget (IDR Trillion)	Consequent Savings (IDR Trillion)
30% (Decile 1-3)	28,275,499	60.55	116.15
40% (Decile 1-4)	37,700,665	80.73	95.97
50% (Decile 1-5)	47,125,832	100.92	75.78

Source: DTSEN, analysed by CPD⁵⁰

Based on the calculations in Table 5, this report recommends the subsidy is targeted at those families in the lowest 40% (Deciles 1-4) in the DTSEN database. Global evidence indicates that cash transfer and subsidy reform programs tend to perform best when coverage reaches 30 to 40% of the population.⁵¹ Further, while Indonesia's structural poverty rate is around 9 to 10%, if we include those who are defined as at risk of falling into poverty, the number increases to 40%.⁵² Coverage below 30% may increase fiscal savings but is likely

to face stronger social resistance and political backlash from lower-middle-income groups reluctant to lose access to subsidised energy.

Nonetheless, if needed the policy can be adjusted to different decile levels in times of economic stress. For example during external events like major economic downturns, pandemics, or commodity price shocks, the government may wish to lift the threshold to 50%, to provide additional support to the middle class. Something similar happened during COVID-19, when the government expanded

certain social assistance programs to a 60% cut-off, and gave 100% and 50% electricity bill discounts for electricity beneficiaries in the 450VA and 900VA tariff groups respectively. Since DTSEN is considered to reliably cover the entire population, targeted subsidy distribution can be tightened without major issues related to registration and mobilisation. This built-in flexibility enables the government to respond to inflation or employment shocks without altering the core policy framework.⁵³

Box B. **Explaining the difference between SUSENAS and DTSEN**

In order to successfully develop and implement a policy of targeted direct subsidies, two complementary data systems are needed that serve distinct but interconnected purposes.

The first is SUSENAS, which provides Indonesia's official macro-level welfare indicators. It is an aggregate, sample-based dataset that enables policy-makers to understand the extent and distribution of social welfare. SUSENAS data is essential for designing national strategies, monitoring trends, and evaluating policy impacts. However, because it does not contain individual data, it cannot be used to identify who should receive assistance directly.

In contrast, the National Energy Subsidy Unified Database (DTSEN) contains individual-level data. It extends the older Unified Database (BDT) by integrating verified socioeconomic information at both the family and individual levels, covering approximately the lowest 40-50% of households. DTSEN identifies beneficiaries, where they live, and their social welfare status, enabling individuals to be selected through a ranking system.

While SUSENAS provides the macro-level statistical foundation for policy formulation, DTSEN offers the operational basis for policy implementation through micro-level accuracy. The two systems are not substitutes but complement each other. Together, they enable Indonesia to shift from broad-based subsidies to a household-centred, data-driven system of targeted social support — where fiscal efficiency and social justice reinforce one another.

2.7 MANAGING PUBLIC MESSAGING

One of the most significant challenges in implementing this reform is its public reception. When the price of subsidised LPG and electricity tariffs aligns with market prices, bills will increase for those in the middle class, and the public impression will be that the government has raised prices. While those in the lowest 40% will receive government support to cover these costs, the other 60% who do not may push back, particularly during the current period of greater pressure on the middle class.⁵⁴

If not managed properly, this perception could lead to resistance and short-term inflationary impacts. However, this challenge is not new and we can learn from past reform attempts by being proactive and designing an ongoing and effective public education campaign.

For example, the 2017 electricity subsidy reform process mentioned above (see Section 2.2) shows the importance of a unified narrative to achieve public acceptance. During that time, the government created a standard information package for each ministry to deliver a consistent

message. This coordination prevented confusion and strengthened public trust in the reform process.⁵⁵ Other strategies at that time included direct outreach across more than 200 districts and cities, where local governments and PLN branches distributed easy-to-understand materials to communities, explained the rationale for the reform, and listened to public feedback. Widespread use of television, radio, print, and online media amplified these messages and ensured nationwide coverage.⁵⁶ Beyond government channels, campus roadshows and town hall meetings enabled direct engagement with civil society organisations, student groups, and consumer associations to build trust. This inclusive engagement not only enhanced transparency but also mobilised social support from key opinion leaders and oversight groups.⁵⁷

To ensure public acceptance of the proposed reforms, this report suggests the government establish a Cross-Ministerial Socialisation and Education Team, including at least the Ministries of Energy and Mineral Resources, Home Affairs, Social Affairs, Communication and Digital, Pertamina and PLN. This team can maintain consistent messages, design outreach strategies, and share information nationwide.

Effective public communication should prioritise transparency. The reforms will be more likely to win support of the middle class if it is made clear that the savings will support programs like social protection, education, and clean energy. Messaging should also emphasise that poor and vulnerable groups will continue to receive support through a transparent mechanism.

As was successful in the LPG trial in Tomohon City mentioned above (see Section 1.4), the communication campaign should also work with and empower local governments, civil society, and community leaders to work with communities to explain the reform in simple language, using relatable examples. Finally, public messaging will be assisted by providing regular data on the policy impact, fiscal savings and reallocation, highlighting improvements in healthcare, education, and energy access to reinforce public confidence. Implementing these strategies together will boost social legitimacy and public understanding of fairness and efficiency in energy policy.

2.8 CONTROLLING INFLATION AND ENSURING MACROECONOMIC STABILITY

When implemented well, targeted direct subsidies can assist families to offset energy price increases by increasing the purchasing power of those who receive them. However the reform will also result in the price of LPG and electricity reverting to market prices, leading to short term price instability, which will need to be managed carefully.

While the reallocation of subsidies to more productive sectors like education, health and clean energy will bring greater economic and social benefits in the medium and long term, we calculate that the rise in the prices of 3kg LPG and electricity as a result of the new system could cause short-term direct inflation increase of 0.16% and a total inflation increase of 0.22% (including indirect inflation).⁵⁸

Evidence from other countries indicates that increases in energy commodity prices have a limited effect on overall inflation.⁵⁹ However, short-term inflation control still needs to be considered, to prevent negative public impacts. Stronger policy coordination between fiscal and monetary authorities will be key, including through providing temporary compensation to certain families who are not receiving the subsidy. This could be provided through top-ups to BPNT (food assistance) or the Family Hope Programme.

We propose that in the first year of the program, these temporary payments are made three times to families in the 40-60% brackets, as a means of smoothing the transition, although the amount and duration could be adjusted. These kinds of temporary payments were also made during other reform periods, including in 2013 and 2014, and did not contribute to inflation.⁶⁰ We recommend additional detailed modelling on this point be carried out early on as part of the Development Phase (see Table 4).

To get a sense of what to expect we can reflect on the impact of the 2017 electricity subsidy reforms. At that time people using 900 VA electricity saw a 130% price increase in their energy bills, (IDR 586/kWh to IDR 1,352/kWh). Bank Indonesia estimated likely inflation impacts month-to-month to be 0.32%.⁶¹ While the Statistics Agency (BPS) does not calculate the impact on inflation of energy only, it does calculate the impact of the group containing housing, water, electricity, gas, and fuel, which was at: 0.75%, 0.30%, 0.93%, and 0.35% in February, March, April, and May 2017, respectively: lower than Bank Indonesia's initial estimate. By the end of that year, the total inflation was relatively manageable at 3.61%.⁶² Part of the success of this reform period was likely the gradual approach taken to increasing energy prices: the electricity tariff was phased up to market price over a period of three months (January to March).



PART 3
**THE IMPACT:
 FISCAL, SOCIAL AND
 ECONOMIC BENEFITS**

Part 1 of this report demonstrated that the current energy subsidy policy benefits the wealthy more than those who need it most. Part 2 then demonstrated the pathway to shifting to a direct targeted subsidy, focusing on those families in the lowest 40% of socioeconomic brackets. Part 3 will outline the impact of these reforms on this cohort and how it will lead to a more equal society.⁶³

- Scenario 1 is minor reform, keeping the subsidy commodity-based, but continuing the success of the targeted electricity subsidy in 2017 to only include the bottom 40% who access 900VA and 450VA electricity.
- Scenario 2 is more substantial reform, shifting entirely to a direct targeted subsidy aimed at the bottom 40%.

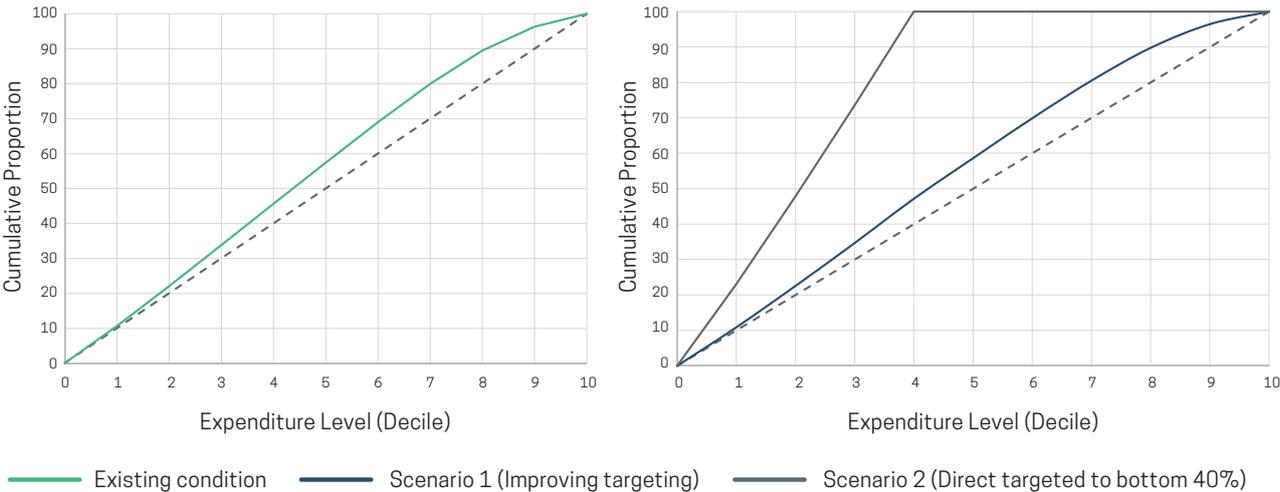
3.1. MORE EQUAL POLICY

Shift in the distribution of beneficiaries

Starting with the electricity subsidy, we consider two scenarios:

Figure 4 below indicates that Scenario 1 does not lead to major improvement for those in the lowest socioeconomic brackets, while the direct targeted approach in Scenario 2 leads to greater improvements.

Figure 4. Comparison between the current electricity subsidy, and the proposed direct targeted subsidy policy for the bottom 40%.

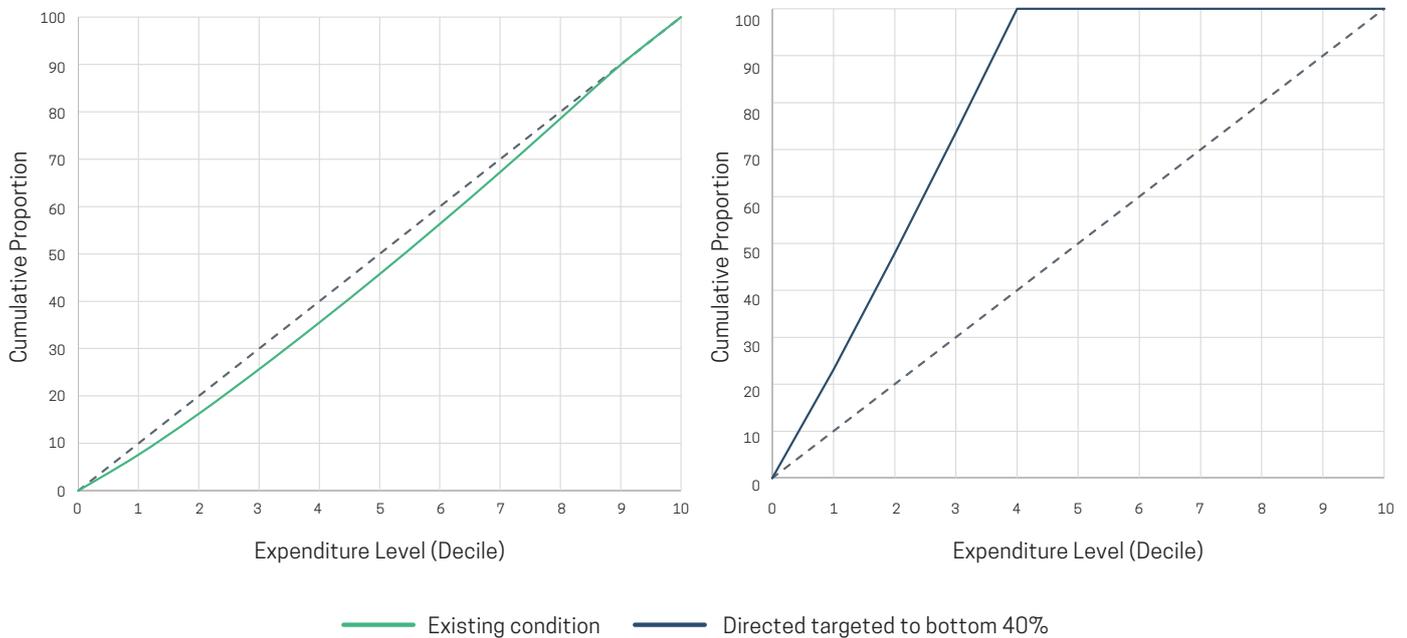


The LPG reforms are more straightforward, as the existing policy has resulted in unequal LPG subsidies. The direct targeted subsidy scheme for the lowest

40% will significantly improve the targeting (Figure 5).

Figure 5.

Comparison between the current LPG subsidy, and the proposed direct targeted subsidy policy for the bottom 40%.



Based on the above analysis, under the proposed reform scenario, the composition of beneficiaries shifts dramatically toward greater equality. Our simulation results indicate a substantial shift in the distribution of benefits after subsidies are directly allocated to beneficiary families.

Effects of inter-regional distribution

In addition to improving the distribution of subsidies based on welfare status, these reforms also reduce regional and sectoral disparities in access to subsidies. Currently, households in Java’s urban

areas — which have better access to electricity and higher LPG consumption — absorb a much larger share of the subsidy, while households in rural and remote areas of Java, especially Eastern Indonesia, receive much smaller benefits despite their higher levels of energy poverty. The shift in benefits can be observed across regions, especially in areas that struggle to access affordable modern energy and face higher energy costs due to reliance on fuel and diesel (Table 6).

Table 6.

Shifts in the distribution of energy subsidy benefits before and after reform for the bottom 40% (based on region).

Region	Existing beneficiaries among the bottom 40% of households (number of households)		Estimated number of households benefiting after the proposed reform (receiving both electricity and LPG)	
	Electricity	LPG		
Western				
1	Java and Bali	2,855,669	2,375,403	16,045,538
2	Sumatera	962,406	903,973	4,791,086
	Total	3,818,075	3,279,376	20,836,624
Central and Eastern				
1	Kalimantan	158,712	149,910	961,142
2	Sulawesi	329,133	234,888	2,080,105
3	NTB & NTT	290,564	137,176	1,450,311
4	Maluku & Maluku Utara	29,060	-	202,321
5	Papua	49,532	-	320,659
	Total	857,001	521,974	5,014,538

Source: CPD estimated using SUSENAS data 2024.

After the reform, beneficiaries from poor and vulnerable groups and households in rural areas without electricity access will have the ability to invest in off-grid solutions or renewable energy infrastructure through using the subsidy to pool resources. This is important because, while there have been gains made in rural electrification over recent years, according to the National

Statistics Agency (BPS), there are still 13,852 villages and subdistricts without electricity in Indonesia.⁶⁴

The provision of electricity to these unelectrified villages can also help to achieve some of the President's other current priorities, including the 100 GW Solar Power Plant Programme initiative. Related to this new initiative, the President also aims to establish "Red and White Village Cooperatives" (KDMP)

across 80,000 villages, which could be useful vehicles to coordinate the collectivisation of the subsidy at the village level to increase the community's purchasing power to access electricity from renewable energy sources. For the integrity of the system it will be important to ensure the accountability of these Cooperatives and that there is a mechanism to monitor them for misuse of funds.

3.2. SUPPORTING POVERTY REDUCTION: THE IMPACT OF REFORM ON THOSE LIVING BELOW THE POVERTY LINE

Energy, especially LPG and electricity, is an important component of a family's regular spending. 2023 data shows energy expenditure accounts for around 3.82% of total household spending for poor households.

Therefore, changes in energy prices resulting from subsidy reform directly affect the poverty line — both in terms of expenditure and income.

In the reform scenario where beneficiary families receive a monthly cash subsidy of IDR 178,454, we estimate this could drive a decline in energy consumption among those receiving the subsidy from 3.82% to 3.80%. With this mechanism, the burden of energy expenditure

for poor groups decreases from an average of IDR 22,768 to IDR 22,373 per capita, depending on the level of LPG and electricity consumption in each household. This reduction directly improves purchasing power and increases the real income of poor families, hence reducing the poverty line by 0.35 percentage points, or 0.37 percentage points after inflation stabilises (Table 7).

Table 7.

Contribution of energy subsidy to the poverty line and family energy expenditure among the poorest households.

Indicator	Before reform	After reform	Change
Proportion of energy expenditure to total expenditure of the poorest households (ie. those living below the poverty line)	3.82%	3.80%	-0.02 p.p.
Average energy expenditure per capita among the poorest households (IDR/month)	22,768	22,373	- IDR 394
BPS definition of the “effective poverty line” ⁶⁵ (IDR/month)	595,242	587,848	- IDR 7,394
National poverty rate (%)	8.57	8.22	-0.35 p.p.
Long-term poverty rate (after inflation stabilises)	8.57	8.20	-0.37 p.p.

Source: Simulation by CPD

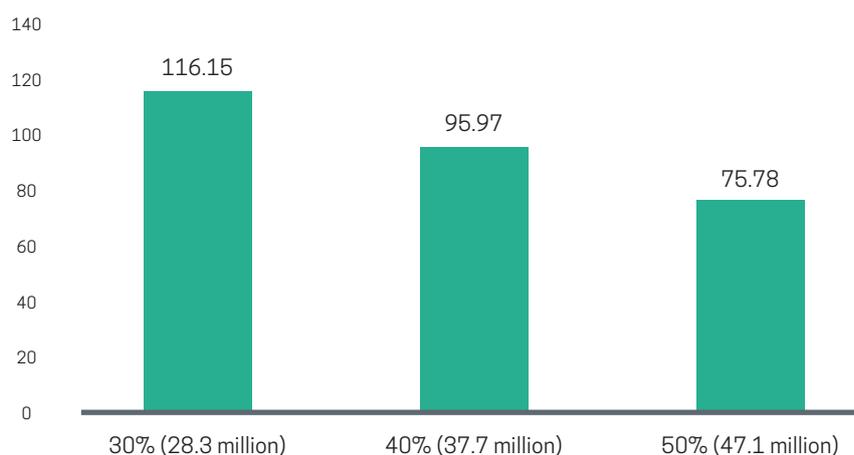
The above table was calculated to simulate the offset in energy prices that can be achieved through direct transfers, leading to a net effect that lowers poverty rates.⁶⁶ A similar analysis was carried out by the Ministry of Finance’s Fiscal Policy Agency, which evaluated the impact of direct household LPG subsidies on poverty and inequality. Those results are consistent with this analysis. They show that providing a monthly LPG subsidy (IDR 60,000 per household) directly to households would lower the poverty rate by around 0.32 percentage points and the Gini ratio by 0.001 percentage points.⁶⁷

3.3. FISCAL EFFICIENCY AND MACROECONOMIC IMPACT

Switching from commodity-based to family-based direct subsidies offers significant opportunities to improve fiscal efficiency. Based on the simulation, the budget savings from LPG and electricity subsidy reform per year are estimated to reach IDR 95.97 trillion if applied to those in the lowest 40% socioeconomic brackets (comprising about 37.7 million families).

Graph 5.

Comparison of subsidy coverage in DTSEN versus fiscal savings.



Source: Calculated by CPD

Such fiscal space offers governments the flexibility to adjust the national spending mix; prioritising social and economic investments over unproductive expenditure, thereby generating a greater multiplier effect on growth and wellbeing. Research consistently indicates that reallocating unproductive expenditure to productive programs such as education, health, and clean energy fosters stronger economic growth and improves people's wellbeing.⁶⁸

This section examines the economic impact of three energy subsidy-savings scenarios if reallocated to productive sectors. In each scenario, 70% of the savings are allocated to three productive sectors:

education (30%), health (30%), and clean energy (60%), while the remaining 30% is allocated to sectors outside these three. The economic impact is assessed using various fiscal multiplier methods for each sector. The multiplier values applied in the analysis are education (1.5 to 1.8), health (1.5 to 2.0), and clean energy (1.0 to 1.3).⁶⁹ To demonstrate the potential economic impact of reductions in energy subsidy budgets, a 0.6 multiplier is applied as a deduction factor in the calculation.⁷⁰

From the current starting point of Indonesia's GDP at IDR 22,139 trillion (approximately USD 1.3 trillion),⁷¹ our analysis shows

that greater investments in education, health and clean energy projects could positively impact GDP growth from

approximately 0.17 to 0.39%, depending on the scenario and multiplier approach (Table 8).

Table 8. Economic impact of reallocating energy subsidies to the education, health, and clean energy sectors.⁷³ (Analysed by CPD)

	Total reallocation (IDR Trillion)	Impact - low (IDR Trillion) ⁷²	Impact - high (IDR Trillion)	Contribution to GDP – low (%)	Contribution to GDP – high (%)
Scenario 1	53.05	37.13	66.84	0.17	0.30
Scenario 2	67.18	47.03	71.21	0.21	0.32
Scenario 3	81.30	56.91	86.18	0.26	0.39

This analysis demonstrates that reallocating energy subsidy savings to more productive sectors has a significant impact on driving national economic growth. There is also evidence to show that shifting funds from high income populations to low income populations is better for long-term economic health and growth.⁷⁴

The above calculation is only intended as an illustration of how diverting fiscal spending would impact society, and does not fully account for the possible impacts of removing the subsidy amount from the energy sector.

The sectoral multiplier approach used above also did not account for all dynamics of the general

equilibrium, including shifts in household and industrial behaviour, relative price effects, and more complex cross-sector interactions.

3.4 BENEFITS FOR INDONESIA'S MIDDLE CLASS

Consideration is also given in this policy recommendation to those in the middle class who are above the bottom 40% bracket but still may be struggling with the cost of living. This group will lose their privilege to buy energy commodities at artificially low prices, which will increase their spending. That is why we argue for short-term time-limited

compensation payments to those in the 40-60% cohort for the first year of the policy's implementation, to cover the initial phase-in period, and to create a Complaints Mechanism to ensure that anyone incorrectly classified can have their payments rectified.

Ultimately once the policy is rolled out, all groups should benefit, including those in the middle class. One key benefit is greater certainty in energy supply.⁷⁵ Currently LPG experiences inconsistent availability, as each region has a quota of subsidised 3kg canisters that cannot be

exceeded. Thus when the supply runs out, people can stockpile and sell it on at inflated prices, encouraging hoarding particularly during busy periods like Ramadan. Removing the subsidy from the commodity will remove this incentive and allow Pertamina to provide as much supply as there is demand, rather than being restricted by an artificial quota. For electricity, the chances of improved PLN service quality are also higher because this reform will boost the predictability of PLN's cash flow. In the current system subsidies are billed to the government and frequently delayed or slow to arrive, which causes PLN challenges.

There are also significant long-term benefits to removing the subsidy for the health and wellbeing of all in Indonesia. Removing fossil fuel subsidies at a global level has been estimated to lead to an increase in revenue of 4% of global GDP and raising social welfare by 2.2% of global GDP.⁷⁶ The positive health impacts also stand to be significant. The Institute for Essential Services Reform (IESR) in Indonesia estimates that air pollutant emissions from coal-fired power plants in 2022 were responsible for 10,500 deaths in Indonesia and cost the health system USD 7.4 billion.⁷⁷ By removing the artificial reliance on fossil fuel based energy and leveling the playing field for renewables, major gains can be made for air quality and people's health and wellbeing.



CONCLUSION

Indonesia's energy subsidy policy has reached a critical juncture. For more than four decades, energy subsidies have been trapped in a fiscal cycle that promotes consumption, rather than equality or access.

The current commodity-based subsidy policy is unfair, expensive, fiscally inefficient, and counter-productive to the energy transition. Reform is urgent, not merely for budget efficiency, but also to accelerate the national energy transition agenda.

The analysis and technical design presented in this report indicate that a direct targeted subsidy policy is not only possible, but can significantly improve policy effectiveness. By utilising the National Social and Economic Single Data (DTSN) and the existing electronic social

assistance infrastructure, the government can transparently calculate the number of recipients and deliver subsidy amounts to verified families.

With a combined monthly subsidy scheme of IDR 178,454 per family for both LPG and electricity, transferred directly to eligible beneficiaries, the government would save an estimated IDR 95.97 trillion per year, while at the same time giving the poorest and most vulnerable groups greater support than they receive under current policy settings.

These proposed reforms have a number of benefits:

1. They eliminate the regressive nature of current subsidies, ensure a fairer, more equitable distribution, and remove barriers to access for eligible families particularly in regional and remote areas.

2. They deliver a net transfer to eligible families, reducing their energy expenditure, increasing their disposable income to spend on other types of energy access, thereby helping to address energy poverty.
3. They boost fiscal efficiency, particularly if savings are reallocated to productive programs in clean energy, education and health. This not only creates significant positive impacts on the overall economy, but will also increase the palatability of reforms among the middle class.

The reform pathway laid on in this report is not only pragmatic but is aligned with the current administration's economic priorities, and is accompanied by a detailed implementation roadmap.

Summary of recommendations:

- Gradually phase in a direct family-based energy subsidy policy (for both LPG and electricity, in one package) to the lowest 40% of the population, using DTSEN verification and electronic transfer systems.
- Provide a fixed monthly subsidy of IDR 178,454 direct to families based on the monthly average rate of consumption, allowing consumers to keep any unused subsidy to spend on other energy-related expenses.
- Adjust the price of LPG and electricity to their market rates, while temporarily providing direct compensation to middle class families to ensure smooth transition of the policy without causing social unrest.
- Integrate energy subsidies into the national social protection system (PKH, BPNT, and PIP) through the Single Family Account to make it more efficient, transparent, and easily auditable.
- Provide families living in areas without access to LPG or electricity the freedom to pool their subsidy to make investments in off-grid renewable energy, to overcome entry barriers to accessing LPG (such as purchasing gas stoves and regular cylinders) and to electricity installation costs.
- Redirect the fiscal savings from subsidy reform to productive sectors like education, health, and clean energy, to strengthen economic growth and support Indonesia's energy transition, and to ensure benefits flow back to all sectors of society particularly the middle class.
- Establish a Cross-Ministerial Socialisation and Education Team to lead a public awareness campaign, including at least the Ministries of Energy and Mineral Resources, Home Affairs, Social Affairs, Communication and Digital, Pertamina and PLN.
- Work with local communities, village cooperatives, leaders and NGOs to deliver messaging on the ground about the reforms and their benefits, and ensure robust monitoring and evaluation from the start.

The success of this reform requires political courage. Transforming subsidies that support fossil fuels into direct, targeted subsidies requires consistent, communicative leadership oriented towards justice. The tools for reform are all in place—experience, data systems, and technical designs have been proven. What is needed now is a political decision to implement it decisively and sustainably.

ANNEX A: LIST OF EVIDENCE FROM PILOTS AND POLICY TRIALS

To develop and implement this policy the government can draw from a wealth of past initiatives and pilots that have expanded the evidence base for reform, including:

Energy sector developments:

- The development of a direct targeted subsidy model carried out by the Fiscal Policy Agency of the Ministry of Finance, the National Team for the Acceleration of Poverty Reduction (TNP2K), the Coordinating Ministry for Human Development and Culture, Pertamina, PLN, and other government and non-government institutions.
- The establishment of a Cross-Ministerial Team in 2022, coordinated by the Presidential Staff Office (KSP), to prepare a roadmap for energy subsidy reform.
- The “LPG closed distribution” mechanism trial conducted by the Directorate General of Oil and Gas of the Ministry of Energy and Mineral Resources.
- The 2018-2019 trial of targeted LPG and electricity subsidy distribution, which involved over 14,000 beneficiaries across seven

districts and cities. The trial used technology and digital transactions and integrated the distribution with other social assistance programs. In this trial, digital technologies, including biometrics and fintech, were tested for beneficiary verification and demonstrated promising results.

- The introduction of a direct targeted subsidy on energy and fertiliser in 2021, supported by the Budget Committee of the House of Representatives.
- Registration of subsidised LPG and fuel users through the MyPertamina app in 2022, including data matching with social assistance recipients.

Related policies supporting energy subsidy reform:

In addition to evidence and trials in the energy sector, a number of other policy reforms have strengthened the ecosystem for implementing energy subsidy reforms, including:

- The 2017 Targeted Electricity Subsidy reforms contributed to budget savings, improved the accuracy of recipients, and provided lessons in how to successfully plan, execute and monitor a targeted subsidy program.

- The transformation of the *Raskin* (Rice for the Poor) program into BPNT (Non-Cash Food Assistance) in 2014, along with the introduction of the bank-debit-based Prosperous Family Card (*Kartu Keluarga Sejahtera/KKS*) for 15.5 million households. This contributed to the establishment of an electronic bank-based social assistance transfer system.
- A national financial inclusion initiative led by the central bank that encourages poor and vulnerable groups to join their payment system, supporting more unbanked individuals to open their first bank account in their own name.⁷⁸
- The establishment of interoperability of the banking system through the National Payment Gate System (*Gerbang Pembayaran Nasional/GPN*) in 2017 enabled more efficient cross-bank government assistance transfers and reduced transaction costs.

- Digitisation of the national payment system through QRIS, along with expanding internet coverage and rural electrification.
- Integration of electronic data across institutions—including population data, social security beneficiary data (BPJS), and tax data—enables more accurate data matching for the distribution of aid and subsidies.

Improvements in systems to target welfare to poor and vulnerable groups

Efforts to develop a national targeting system have spanned more than a decade, with this social individual data evolving into the main backbone for a direct targeted subsidy reform. For example:

- The 2011 data collection of the Social Protection Program (*Program Pendataan Perlindungan Sosial/PPLS*), which produced the first generation of an Integrated Individual Database (*Basis Data Terpadu/BDT*). This contains the names and addresses of poor and vulnerable groups, focusing on the lowest 40% (Deciles 1-4) using the Proxy Means Test.
- The 2015 Integrated Database Update (*Pemutakhiran Basis Data Terpadu/PBDT*), the second generation of an individual integrated database for social assistance programs, improved the methodology and increased the base number of recipients in the list.
- Data matching between PBDT and PLN customer data in 2015 to identify electricity subsidy recipients, with an accuracy rate of 95%.
- The transformation of PBDT into the Integrated Social Welfare Data (DTKS) in 2017, as well as the implementation of the Ministry of Social Affairs' updating mechanism.
- Establishment of the beneficiary complaint handling system for the 2017 electricity subsidy program by PLN, providing a workable mechanism for updating beneficiaries.
- The Socio-Economic Registration Initiative (*Registrasi Sosial Ekonomi/ Regsosek*) in 2021, the development of data on extreme poverty (*Program Percepatan Penanggulangan Kemiskinan Ekstrem/P3KE*), and the integration of family survey data (*Pendataan Keluarga*) owned by the National Population and Family Planning Agency into the social assistance database. This expanded the individual database to cover nearly the entire population. These initiatives also changed the individual database unit from household to family.
- The integration of all individual “by name by address” data through the National Socio-Economic Single Data (*Data Tunggal Sosial Ekonomi Nasional/ DTSEN*) at the beginning of President Prabowo Subianto's administration. This provides a strong foundation for implementing any targeted government program (See Box A).

ANNEX B. HOW TO CALCULATE LPG AND ELECTRICITY SUBSIDY AMOUNTS

The calculation of the LPG subsidy in this report was carried out using the following methodology:

1. Calculate the benchmark price of LPG using the component of the market price index based on the official formula of the Ministry of Energy and Mineral Resources.⁷⁹

The benchmark price is calculated using Aramco's reference price for propane and butane with a composition of 50-50.⁸⁰ After being converted using the Jakarta Interbank Spot Dollar Rate (JISDOR) exchange rate, this produces the base price of LPG per kilogram that reflects international market conditions.⁸¹

The formula then adds certain adjustment components to better reflect a realistic economic cost. The first adjustment is an uplift of 3.85%, which accounts for additional import and handling costs. The next adjustment is an international add-on of USD 50.11 per metric tonne converted to Indonesian rupiah, along with a domestic add-on of IDR 1,879 per kilogram, which is a fixed

element of the Ministry of Energy and Mineral Resources' formula.

The total of all these components gives a subtotal of the benchmark price before VAT. With a VAT rate of 12% in 2025, the subtotal is then multiplied to arrive at a final benchmark price of around IDR 12,800 per kilogram. This figure represents the economic price of 3kg LPG if all subsidies are abolished or shifted to a household-based mechanism.

Based on the calculation, the benchmark price is IDR 12,801 per kilogram. For a 3kg subsidised cylinder, this means a cost of IDR 38,403 per cylinder.

2. Calculate the subsidy amount by comparing it with the current retail LPG price set by the government. Based on 2025 data, the retail price for subsidised LPG is IDR 19,000 per 3kg cylinder. (IDR 6,333 per kilogram). Therefore, the subsidy per cylinder is IDR 38,403 minus IDR 19,000 = IDR 19,403 per 3kg, or IDR 6,468 per kilogram.⁸²

When calculating LPG prices, two types are used: HJE (*Harga Jual Eceran/Retail*

Selling Price) and HET (*Harga Eceran Tertinggi/Maximum Retail Price*). HJE is set by the government as the reference price but doesn't fully capture last-mile costs and market deviations, especially in non-urban areas. HET, set by regional authorities, is the maximum price stations can charge and more closely reflects actual retail prices. This report uses HET to estimate household LPG subsidy needs, focusing on actual consumer costs rather than upstream prices. Most LPG is traded above HJE, often outside official channels. Since reforms shift subsidies to direct household transfers, using HET aligns transfers with real out-of-pocket expenses, avoiding underestimation and matching affordability.

3. Finally, calculate the fixed subsidy amount each month using the average consumption data of the poor and vulnerable groups at 3 cylinders per month.⁸³ The total subsidy amount is IDR 58,209 per month (IDR 19,403 x 3).

The calculation of the electricity subsidy in this report was carried out using the following methodology:

To calculate the subsidy that should be provided to poor and vulnerable households we need to have an estimate of their average monthly use, and an estimate of the cost of electricity use. These are then multiplied together to come to a value of the subsidy to be provided. Our calculations err on the side of being more generous rather than less.

Quantity: Calculating the average monthly electricity use of poor and vulnerable households in Indonesia is an imperfect science. There are two measures we can use which are both imprecise:

- The first is PLN data of monthly use for the lowest levels of electricity (450 VA and 900 VA categories, which are currently subsidised). However this is imperfect because it is not only the poor and vulnerable who use these low levels; they are frequently used by wealthy people for parts of their household energy like gardening.

- The other possible measure is the SUSENAS data of median electricity consumption for the lowest 40% income groups. However this is imperfect as it is survey based and constitutes a self-report, and measures how much households spend on energy, rather than their usage.
- To balance this imprecision, in this report we use the average of the PLN data and the SUSENAS data.
 - The data from PLN of average use of the 450 VA and 900 VA categories equates to 90 kWh per month.
 - The median electricity expenses for SUSENAS Decile Groups 1-4 is IDR 103,346 per month. Applying the tariff of IDR 1,352 this leads us to an average use of 76.43 kWh.⁸⁴
 - The average amount of the two estimates is $90 + 76.43$ divided by two. This comes to 83.2 kWh.

Value: To calculate the value of the subsidy, we are seeking to come to an amount that would bring costs down to zero. Rather than use the 450 VA or 900 VA values, this report uses the 1300 VA category in order to err on the side of being generous. This amount in 2025 is IDR 1,445/kWh.⁸⁵

Total: Therefore to calculate the total subsidy poor and vulnerable households should receive we multiply the average usage value from PLN and SUSENAS (83.2 kWh) with the monthly value of IDR 1,445. This gives us a subsidy amount of IDR 120,245.

ANNEX C. CALCULATIONS OF INFLATION

The calculation of the impact of inflation is carried out to capture how electricity and LPG price adjustments affect the national inflation rate through two main tracks: direct and indirect inflation. Direct inflation is calculated by multiplying the increase in energy prices by the weight of each commodity in the CPI basket. Because electricity and LPG have a significant weight in household consumption, the price increase directly contributes to a 0.16% inflation rate.

Beyond that, the increase in energy prices also affects the prices of other goods and services through the pass-through mechanism. This process was captured using a pass-through coefficient of 0.36, which resulted in additional indirect inflation of 0.0594%. When the two components are combined, the total impact of inflation from electricity and LPG price adjustments reaches 0.2243%. This figure serves as a basis for calculating short-term cost-of-living pressures and assessing their effects on poverty lines and household welfare.

The step-by-step calculation is as follows:

1. **Calculate the increase in energy prices.** The increase in energy prices is calculated from the difference between the normal price and the subsidy price, then divided by the subsidy price to obtain the percentage increase.
2. **Calculate the direct inflation.** Direct inflation is obtained by multiplying the percentage of price increase by the weight of each commodity in the CPI. The weight is taken from the BPS inflation structure. The CPI weights are 0.05 for electricity and 0.04 for LPG, following the Housing, Water, Electricity, and Household Fuel categories.
3. **Calculate the indirect inflation.** Indirect inflation is calculated using a pass-through coefficient of 0.36, which represents the impact of energy price increases on the price of other commodities.
4. **Calculate the total inflation impact.** The total impact of inflation is the sum of direct and indirect inflation, which is used in poverty impact analysis and poverty line adjustment.



ANNEX D. CALCULATING THE CONTRIBUTION OF THE ENERGY SUBSIDY TO THE POVERTY LINE AND FAMILY ENERGY EXPENDITURE

To determine the impact, we first calculate the per capita transfer value by dividing the total household transfer by the average household size. At the same time, the increase in electricity and LPG tariffs is recalculated based on energy consumption based on the poverty line, leading to an additional energy burden from direct price increases and the effects of temporary inflation over three months.

We then calculate the difference between the per capita transfer and the extra energy burden resulting in a net benefit to poor households. The value of this net benefit lowers households' basic needs, effectively reducing the poverty line.

With a poverty sensitivity of 0.48 percentage points per IDR 10,000 net transfer, the poverty line reduction translates into a decline in the national poverty rate.

The final results show that the direct transfers provided – despite rising energy prices – still positively impact welfare, reducing poverty by about 0.35 percentage points in the first year and about 0.37 percentage points in the long term after inflation stabilises.

A more step-by-step calculation process is as follows:

1. **Calculate the per capita transfers.** These are calculated by dividing the total household transfers (IDR 178,454/month) by the national average household size, as reported by BPS (4.71 people).
2. **Calculate the additional energy load.** It comes from two components: a) an increase in electricity and LPG prices multiplied by the minimum consumption at the poverty line; b) a temporary inflation adjustment for three months using a pass-through factor of 0.224.
3. **Calculate the net transfers by subtracting the total transfer** with the increased cost from per capita transfers, calculated separately for the inflation phase (months 1–3) and the stable phase (months 4–12). Assuming that inflation is stable after 3 months, the short-term estimate uses the average first net transfer, which accounts for temporary inflation. In contrast, the long-term estimate uses the net value after inflation stabilises in the 4th month.
4. **Calculate the effective poverty line** by subtracting the net transfer from the poverty line, since the transfer reduces the minimum expenditure requirement.
5. **Calculate the impact on the poverty rate** by using the multiplier of 0.48 percentage points per IDR 10,000 net transfer.

ENDNOTES

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