Report and Recommendation of the President to the Board of Directors

Project Number: 49043-001
September 2015

Proposed Programmatic Approach and Policy-Based Loans for Subprogram 1
Republic of Indonesia: Sustainable and Inclusive Energy Program

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 1 September 2015)

Currency unit	–	rupiah (Rp)
Rp1.00	=	$0.0000709471
$1.00	=	Rp14,095.00

ABBREVIATIONS

ADB	–	Asian Development Bank
AIF	–	ASEAN Infrastructure Fund
ASEAN	–	Association of Southeast Asian Nations
CCS	–	carbon capture and storage
CPS	–	country partnership strategy
kWh	–	kilowatt-hour
MEMR	–	Ministry of Energy and Mineral Resources
PLN	–	Perusahaan Listrik Negara (State Electricity Corporation)
PFM	–	public financial management
SOE	–	state-owned enterprise
TA	–	technical assistance

NOTE

In this report, "$" refers to US dollars.

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PROGRAM AT A GLANCE

1. Basic Data — **Project Number:** 49043-001

Project Name	Sustainable and Inclusive Energy Program (Subprogram 1)	**Department /Division**	SERD/SEEN
Country	Indonesia	**Executing Agency**	Coordinating Ministry for Economic Affairs
Borrower	Republic of Indonesia		

2. Sector	**Subsector(s)**	**ADB Financing ($ million)**
✓ **Energy**	Energy sector development and institutional reform	400.00
	Total	**400.00**

3. Strategic Agenda	**Subcomponents**	**Climate Change Information**	
Inclusive economic growth (IEG)	Pillar 1: Economic opportunities, including jobs, created and expanded	Climate Change impact on the Project	Medium
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns		

4. Drivers of Change	**Components**	**Gender Equity and Mainstreaming**	
Governance and capacity development (GCD)	Institutional systems and political economy	No gender elements (NGE)	✓
Knowledge solutions (KNS)	Knowledge sharing activities		
Partnerships (PAR)	International finance institutions (IFI) Official cofinancing		
Private sector development (PSD)	Conducive policy and institutional environment Promotion of private sector investment Public sector goods and services essential for private sector development		

5. Poverty Targeting		**Location Impact**	
Project directly targets poverty	No	Nation-wide	High

6. Risk Categorization: Complex

7. Safeguard Categorization **Environment:** B **Involuntary Resettlement:** C **Indigenous Peoples:** C

8. Financing

Modality and Sources	**Amount ($ million)**
ADB	**400.00**
Sovereign Program loan: Ordinary capital resources	400.00
Cofinancing	**913.00**
ASEAN Infrastructure Fund	100.00
Agence Francaise de Developpement	113.00
KfW Bankengruppe	200.00
World Bank	500.00
Counterpart	**0.00**
None	0.00
Total	**1,313.00**

9. Effective Development Cooperation

Use of country procurement systems	Yes
Use of country public financial management systems	Yes

Source: Asian Development Bank

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on (i) a proposed programmatic approach for the Sustainable and Inclusive Energy Program; (ii) a proposed policy-based loan from the ordinary capital resources of the Asian Development Bank (ADB) (A-loan); and (iii) a proposed policy-based loan funded through the participation of the Association of Southeast Asian Nations (ASEAN) Infrastructure Fund (AIF) (B-loan), to the Republic of Indonesia for subprogram 1 of the Sustainable and Inclusive Energy Program.[1]

2. Indonesia has set an ambitious target to raise its annual economic growth rate to 8% by 2019. Achieving this target will depend to a large extent on the government's ability to revive an underperforming energy sector. The government initiated a series of sector reforms in 2013–2014 and is seeking to accelerate them during 2015–2019 with the aim to (i) expand energy production through greater private sector investment and more effective public sector investment; (ii) bolster the sustainability of the energy sector through increased reliance on domestic gas, renewable energy, and energy efficiency investments; and (iii) provide access to modern energy to all Indonesians. The program closely aligns with the government's key priorities and will cement a sustained partnership between ADB, the government, and several development partners.

II. THE PROGRAM

A. Rationale

3. **Development problems.** Indonesia's energy sector is suffering far-reaching, interrelated problems throughout the value chain from the supply of primary energy to the delivery of electricity to the country's people and enterprises.[2] Oil production continues to decline while consumption skyrockets, causing the country to become a net oil importer in 2004. Despite being a world-leading exporter of liquefied natural gas from 1976–2006, the country signed agreements in 2013 to begin importing sizeable amounts of liquefied natural gas in 2018 to meet rising demand for liquefied natural gas to fuel power generation and industrial use. Lack of sufficient capacity expansion and supply constraints in the electricity sector have led to brownouts in several high-density areas. Per capita electricity consumption and electricity access are low compared with the rates in other countries in Southeast Asia. Electricity production relies heavily on coal, and this dependence is expected to grow from 54% in 2014 to 65% by 2019, even though the country possesses a variety of renewable energy resources. Poor access to reliable and affordable electricity ranks among the top impediments faced by the manufacturing sector. Investment in the energy sector overall remains greatly below what is needed, and new projects often face long delays in permitting, financing, and construction.

4. **Inadequate investment in the energy sector.** The underinvestment by the public sector is the result of widespread government subsidies for fuels and electricity, which peaked at nearly $30 billion in 2013, and an inability to recover costs. Low energy tariffs have combined with challenges in permitting, licensing, land acquisition, and environmental approvals, to restrict private sector investment in the sector to inadequate levels as well. So has the perceived financial risk posed by monopolistic, subsidized public sector offtakers. For example, low

[1] The design and monitoring framework is in Appendix 1.

[2] Recent analyses of the energy sector that highlight the persistent challenges and provide potential policy solutions and road maps include the following: (i) National Development Planning Agency (BAPPENAS). 2014. *Medium-Term Economic Infrastructure Strategy–Background Report for RPJMN, 2015–2019.* Jakarta; (ii) ADB. 2014. *Energy Sector White Paper*. Manila; and (iii) International Energy Agency. 2015. *Energy Policies beyond IEA Countries: Indonesia 2015.* Jakarta.

domestic prices, aging fields, and an uncertain regulatory framework have discouraged private sector investment in the upstream and downstream gas markets. In the power subsector, underinvestment has been compounded by delays in completing the few large and small fossil-fired, geothermal, and hydropower projects initiated during 2009–2014.[3]

5. **Constraints to scaling up renewable energy and energy efficiency.** Renewable energy deployment is lagging despite an abundance of renewable energy resources and a national target to increase the use of renewables from just 6% of the country's primary energy mix in 2014 to 23% by 2025. This has been the result of low tariffs, delays in permitting, and protracted negotiations with the State Electricity Corporation (PLN), which is the offtaker in power purchase agreements in the country. During 2012–2015, the government began establishing pricing mechanisms to incentivize private investment in small-scale hydropower, solar photovoltaic, biomass, geothermal, and waste-to-energy systems. The government has also set economy-wide energy efficiency targets. However, it has yet to enact guidelines to implement a national energy conservation master plan published in 2005 that would, for example, promote energy-efficient equipment or appliance standards and labeling in the household and commercial sectors. This and the disincentive of low economy-wide energy costs have made energy efficiency measures seem financially unviable.

6. **Impediments to achieving 100% modern energy access.** Indonesia's energy sector scores low on inclusiveness. Its 84% electrification ratio in 2014 was low relative to those of its neighbors.[4] In many small power markets and rural areas, supply is limited to a few hours a day. While PLN did a commendable job by adding more than two million customers a year during 2004–2014, connecting the remaining population will require a paradigm shift. The high cost of delivering fossil fuels to small islands and remote areas—when combined with low power loads, limited household ability to pay, lack of interconnected grids that can support larger generating units, and an unfavorable policy environment—means that business-as-usual simply will not work. The government's electrification effort lacks a comprehensive least-cost electrification plan that integrates on-grid and off-grid approaches, a suitable regulatory framework that incorporates the private sector, an appropriate institutional framework, and the necessary budgetary resources.

7. **Energy sector at a crossroads.** While it was once a significant energy exporter that subsidized domestic energy prices, Indonesia must now import a substantial amount of its energy needs at global market prices. This has occurred at a time when it is trying to transition from being a bulk commodity producer for global markets to becoming an exporter of manufacturing products and a more services-oriented economy. The government believes that expanding manufacturing and services will provide greater opportunities for all the country's citizens, but it will also require greater access to reliable energy sources. The country has struggled to put in place an appropriate planning or policy framework to meet its energy challenges in an affordable and inclusive manner during its period of economic growth in 2000–2014. The lack of comprehensive planning to integrate fuel- and electricity-related issues had led to lopsided priorities, ad hoc decision making, and the resulting suboptimal investments. Regulatory uncertainty and an uneven playing field favoring state-owned companies meant that the private sector mostly stayed away from the energy sector. In addition, those projects that did get under way often ground to a halt as they encountered a tangle of permitting and licensing obstacles and poor coordination between central and local government agencies. Subsidized

[3] PLN estimates that the power subsector needs it and the private sector to invest almost $100 billion during 2015–2019, about $50 billion of which PLN plans to deploy itself.

[4] In most other large Association of Southeast Asian Nations countries, the rate is close to 100%. In Indonesia, over 35 million people still do not have access to electricity.

energy and electricity prices fueled runaway demand. State-owned monopolies that were being regulated on a cost-plus margin formula had no incentive to manage this demand or become more efficient.

8. **The government's medium-term national development plan, 2015–2019.** The government recognizes the crucial role the energy sector must play in realizing the country's economic growth aspirations. It has made the sector a key part of its national medium-term development plan for 2015–2019.[5] The plan aims to (i) expand electricity access to 96% of Indonesians and increase per capita consumption from 843 kilowatt-hours in 2014 to 1,200 kilowatt-hours in 2019; (ii) bolster domestic energy security by boosting the production of gas, improving supply of downstream oil and oil products, and increasing the use of renewable energy; and (iii) scale up energy efficiency. ADB is aligning its strategies and operations with the plan, whose goals will require a sustained, multiyear effort with a clear road map of actions required for each subsectors. This is included in the Indonesia Country Operations Business Plan for 2015–2017; and will be reflected in ADB's country partnership strategy (CPS) for Indonesia for 2015–2019, and its energy sector assessment, strategy, and road map, which are both being finalized.

9. **ADB's value added in the energy sector.** During 1967–2014, ADB has financed 21 investment projects in Indonesia's energy sector through $2.81 billion in loans. During 1999–2015, these investments included six loans totaling $1.04 billion.[6] In the policy arena, ADB's Infrastructure Reform Sector Development Program during 2006–2010 supported high-level strategic, policy, and regulatory reforms in a variety of sectors that included energy.[7] ADB's private sector operations have provided financing for large geothermal projects during 2013–2014. During 2013–2015, ADB also provided technical assistance to Indonesia's energy sector that helped the government kick off its reform agenda. Support included (i) policy dialogue on reducing subsidies and cost-recovery tariffs for fuels and electricity, (ii) the revision of the geothermal law and an improved tariff scheme, (iii) developing proposals for a tariff scheme for wind energy and solar photovoltaic rooftop plants, (iv) exploring opportunities for regional power trade and interconnections within the ASEAN, (v) establishing an energy efficiency market, and (vi) evaluating prospects for carbon capture and storage.

10. ADB's experience in the sector clearly indicates that an appropriate enabling policy environment is a prerequisite for scaling up clean energy deployment and making access to energy more inclusive. This need is best exemplified by the geothermal sector where, during 2010–2014, very few new projects were initiated despite the availability of concessional and long-term finance. In addition, the government has asked ADB to consider providing a mix of lending modalities during the new CPS period that have a strategic impact at the sector level, scale, and flexibility—namely, policy-based lending, multitranche financing facilities, and results-based lending. The programmatic approach and policy-based loan for this program incorporate the lessons ADB has learned in the sector. By focusing on a series of subsector reforms, the program aims to translate the high-level sector regulatory reform that was implemented under ADB's Infrastructure Reform Sector Development Program into sustained subsector actions (footnote 7).

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[5] Government of Indonesia. 2015. *National Medium-Term Development Plan (RPJMN 2015–2019)*. Jakarta.

[6] List of ADB Loans and Technical Assistance Programs since 1999 (accessible from the list of linked documents in Appendix 2).

[7] ADB. 2006. *Report and Recommendation of the President to the Board of Directors: Proposed Program Cluster, Loans, Technical Assistance Grant, and Administration of Grant from the Government of the Netherlands to the Republic of Indonesia for the Infrastructure Reform Sector Development Program.* Manila; and Linkages between the Sustainable and Inclusive Energy Program and the Infrastructure Reform Support Development Program (accessible from the list of linked documents in Appendix 2).

11. Looking ahead, promoting energy security is one of three strategic pillars in the CPS now being prepared for 2015–2019. To improve energy security, ADB will help the government to (i) undertake sector policy reform to make access to energy sustainable and inclusive; (ii) strengthen the reach, reliability, and efficiency of the nation's electricity grid; and (iii) enable greater use of clean sources of primary energy, particularly in hydropower, geothermal, and gas-fired power generation. ADB will also provide TA for activities to expand energy efficiency, carbon capture and storage (CCS), and access to electricity. These priorities align with ADB's 2014 Midterm Review of Strategy 2020, which emphasizes the need for inclusive economic growth, infrastructure development, and policy-based engagements in middle-income countries.[8] In addition, ADB plans private sector operations to support the expansion of liquefied natural gas production in eastern Indonesia and other gas and renewable energy projects.

12. **The policy-based loan approach and budget support.** The program will help ensure the planned increased contribution of clean energy from gas, renewable energy and energy efficiency to the energy mix by 2025, while putting in place measures that will limit the environmental impact of the country's growing fossil fuel reliance.

13. A programmatic approach will be pursued through three subprograms over the 5-year 2015–2019 medium-term plan period. The program will complement and underpin ADB's proposed project loans during 2015–2019 for geothermal, hydropower, and gas-fired power generation projects, as well as results-based loans for strengthening the electricity grid that will use a new government modality providing a sovereign guarantee to state-owned enterprises (SOEs). This lending program and ADB's overall energy sector strategy are also designed to support PLN's electricity power supply business plan for 2015–2024, which calls for 35 gigawatts of additional capacity to be installed by 2019.[9] To support these objectives, ADB approved a policy and advisory TA in December 2014 for targeted policy dialogue and to prepare the subsequent subprograms.[10] The program represents a coordinated effort by several development partners to support the government's reform agenda.[11]

14. Subprogram 1 aims to lock in prerequisite enabling policies, such as those needed to set cost-reflective tariffs and improve regulatory certainty in the extension of gas production-sharing contracts. In some cases, it will also carry out diagnostic work and planning to guide subsequent policy actions. The subsequent subprograms will then seek to implement measures to further improve sector governance, expand domestic gas production, increase the use of renewable energy, establish an energy efficiency marketplace in the public and private sectors, expand inclusive energy access by streamlining public funding and expanding private sector participation, and scale up measures to lower greenhouse gas emissions from fossil fuel operations.

B. Impact and Outcome

15. The impact will be greater domestic energy security and an increase in access to modern forms of energy. They reflect the objectives of the government's medium-term plan for 2015–2019. The outcome will be increased power supply from sustainable and more accessible energy sources. This will be measured through several indicators, including the percentage of

[8] ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific*. Manila.
[9] Government of Indonesia, PLN. 2014. *Electricity Power Supply Business Plan (RUPTL 2015–2024)*. Jakarta.
[10] ADB. 2014. *Technical Assistance to the Republic of Indonesia for the Sustainable and Inclusive Energy Program.* Manila.
[11] Development Coordination (accessible from the list of linked documents in Appendix 2).

people with access to electricity, with the target set at an increase from 84% in 2014 to 96% by 2020. Other indicator targets will be increases in the percentage of renewable energy in the electricity generation mix from 6% in 2014 to 10% by 2020 and annual private sector investment in the oil and gas sector raised from $14 billion in 2014 to $18 billion in 2020.

C. Outputs

16. Subprogram 1 supports the government's energy sector reform agenda to achieve the following outputs: (i) improved sector governance, (ii) the enabling of markets for private participation, and (iii) improved regulatory environment for expanding access to clean energy and energy efficiency. The government began undertaking reforms related to all three outputs in June 2013, and all 17 policy actions (including 13 policy triggers) required for subprogram 1 have been accomplished.[12]

1. Output 1: Sector Governance Improved

17. Output 1 activities support government efforts to (i) adopt economic tariffs for fuels and electricity, and (ii) improve the performance of public sector enterprises in the energy sector.

18. **Cost-recovery-based tariffs for fuels and electricity adopted**. In January 2015, the government removed subsidies on gasoline and established a fixed per-liter subsidy scheme of Rp1,000 ($0.08) for diesel. The retail fuel prices will be adjusted periodically by the Ministry of Energy and Mineral Resources to reflect the global prices of the fuel products, including taxes. In the case of electricity, the government removed subsidies for industrial, commercial, and large residential consumers in late 2014. It then established a system of monthly automatic price adjustments for these consumers in early 2015 that accounts for the exchange rate, the Indonesian crude oil price, and inflation. The government has started these price increases.[13] Subprograms 2 and 3 will phase in price adjustments for all classes of consumers. ADB has supported the government in this effort through regional benchmarking of the fiscal burden of subsidies and elaborating alternatives for phasing out subsidies.

19. **Performance of public-sector enterprises in the energy sector improved.** To try to improve the efficiency of state-owned energy companies and regulate them based on performance, the government instituted service quality standards for PLN in 2014. Subprograms 2 and 3 will establish an economic regulation for PLN and other SOEs in the energy sector. The government is attempting to benchmark PLN's controllable costs for a 5-year tariff period. It will then seek to incentivize it to improve efficiency by allowing it to keep eventual differences between allowed (regulatory) and actual costs of service provision as additional profit until the end of the tariff period. Subprograms 2 and 3 will also work to restructure energy sector SOEs along regional lines or business divisions to allow for more efficient operations.

2. Output 2: Markets for Private Participation Enabled

20. Output 2 involves support for government efforts (i) to increase private sector participation in the electricity business by streamlining the licensing and permitting of private power projects and enabling greater private sector participation in the electricity transmission

[12] Policy triggers are prior reforms that are to be completed as a prerequisite for the disbursement of loan proceeds.
[13] The government will phase in adjustments for 1,300 volt-ampere (VA) and 2,200 VA households in 2016. It is also working on a road map for phasing in market prices (with direct cash transfer payments) for the 450 VA and 900 VA customers who are currently being subsidized. These actions are included in subprogram 2. Currently, of total electricity sales, about 52% in kWh terms and 60% in revenue terms are unsubsidized.

and generation business; and (ii) to promote domestic gas production and an increase in the delivery of gas into the domestic market, in part through greater private sector involvement.

21. **Increased private sector participation in the electricity business enabled**. During March–May 2015, the government delegated the licensing and permitting of private power projects to a new one-stop-shop within the Indonesia Investment Coordinating Board. Recognizing that this itself was not enough, the government also began streamlining regulations that govern project permits to reduce approval times.[14] In addition, while a 2009 electricity law had allowed the private sector to access PLN's transmission lines, the requisite implementing regulations were not enacted until early 2015. The government has now established the basis for wheeling arrangements that could allow private power producers to use PLN's transmission system to sell power directly to end users in distant locations. Under the subsequent subprograms, it will set up rates and settlement rules and the basis for cross-border trade.

22. **Domestic gas production and increased delivery of gas into the domestic market promoted.** The government is keen to reverse the plateauing trend in domestic gas production by increasing investment in exploration and production and facilitating greater investment in the pipelines, liquefied natural gas infrastructure, and fueling stations needed to make greater domestic use of the country's gas resources. It is currently preparing a new oil and gas law. It has also addressed delays in decision making on expiring production-sharing contracts that have thwarted private sector interest in Indonesia's gas sector by imposing a transparent, time-bound process for these decisions. ADB provided key inputs for drafts of this new regulation (footnote 10).

3. Output 3: Regulatory Environment for Increased Access to Clean Energy and Energy Efficiency Improved

23. Activities under output 3 aim to help the government (i) expand generation from indigenous forms of renewable energy that can offset fossil-fired generation and imports of oil, (ii) improve standards and policies for energy efficiency, (iii) expand access to electricity, and (iv) minimize the environmental impacts from the use of fossil fuels.

24. **Incentives for renewable energy generation established.** In 2014, the government revised its law governing geothermal resources to reduce barriers to the large-scale deployment of geothermal energy. The obstacles were inadequate information on such resources, which led to failed tendering for projects; and a lack of ownership by local governments due to the lopsided prescribed division of revenue from potential projects between them and the national government. The government also issued an improved tariff scheme based on the principle of avoided costs by region. ADB helped develop the basis for the new tariff scheme and continues to support work in related areas.[15] In 2014–2015, the government established tariff incentives for hydropower, biomass, and biogas projects with a capacity of less than 10 megawatts. Under subprograms 2 and 3, additional incentives for new renewable energy sources such as wind power and solar photovoltaic will be enacted, and existing related regulations will be updated.

25. **Standards and policies for energy efficiency improved.** The government reduction of electricity subsidies and rising tariffs are expected to spur increased investments in energy efficiency investments. The government issued minimum efficiency performance standards for key household appliances (air conditioners and compact fluorescent lamps) and established a

[14] Key regulations that have been amended include those relating to acquiring land for buildings, land-use permits within forestry areas, and jetty permits for water-based transport.
[15] ADB. 2015. *Unlocking Indonesia's Geothermal Potential.* Manila.

green building code that includes energy efficiency requirements. ADB is helping the government develop these regulations.[16] Subsequent subprograms will support the establishment of energy services companies, energy-efficient building codes, and a national energy-efficient street lighting program.

26. **Access to electricity expanded.** The government has begun creating a comprehensive regulatory framework to deploy public and private sources of finance for inclusive energy access. It is preparing a national least-cost electrification road map and increasing budgetary resources for rural electrification. It has included these elements in its new national energy plan to be issued in 2015 and has launched a pilot activity on Sumba Island with ADB's support to evaluate innovative financing and project designs and a multi-stakeholder approach for electrification.[17] Subsequent subprograms will lead to a national electrification program involving both the public and private sectors.

27. **Environmental impacts of fossil-fueled generation minimized.** The government has also recognized the need to minimize carbon emissions from fossil fuel-based activity. It has identified CCS as an important means to limiting carbon emissions from the industrial sector. Since 2012, ADB has been supporting the government in its CCS development efforts.[18] The government will seek to establish regulations for CCS activity in the gas sector, scale up other clean fossil fuel technologies, and develop plans for a low carbon future for the energy sector through pricing of carbon, participations in emission trading programs etc.

28. **Triggers for subprograms 2 and 3.** Subprograms 2 and 3 have been designed to scale up the reforms initiated in subprogram 1 in a flexible, incremental way. The government and ADB have agreed that subprograms 2 and 3 will include 37 indicative policy actions that are to be completed by the end of the program—22 under subprogram 2 by 2017, and 15 under subprogram 3 by 2019. A medium-term framework, which includes anticipated achievements, is included in the policy matrix.

D. Development Financing Needs

29. To support its energy sector reform initiatives, the government has requested a single-tranche loan of $400,000,000 from ADB's ordinary capital resources (A-loan) and a single tranche loan of $100,000,000 funded through the participation of AIF (B-loan), to help finance subprogram 1. The A-loan will have a 15-year term, including a grace period of 3 years, a straight-line repayment method, an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility, a commitment charge of 0.15% per year, and such other terms and conditions set forth in the loan agreement. Based on this arrangement, the average loan maturity is 9.25 years, and there is no maturity premium payable to ADB. The B-loan will have the same term and repayment schedule as the A-loan and an interest rate determined in accordance with the LIBOR-based lending facility. The government has provided ADB with (i) the reasons for its decision to borrow under ADB's LIBOR-based lending facility based on these terms and conditions, and (ii) an undertaking that these choices were its own independent decision and not made in reliance on any advice from ADB. The proceeds of the loans will be used to finance the full foreign exchange cost (excluding local taxes and duties) of items produced and procured in ADB member countries, excluding

[16] ADB. 2013. *Technical Assistance for Asia Energy Efficiency Accelerator.* Manila.
[17] ADB. 2012. *Technical Assistance to the Republic of Indonesia for Scaling Up Renewable Energy Access in Eastern Indonesia*. Manila.
[18] ADB. 2013. *Technical Assistance to the Republic of Indonesia for Planning a Pilot Carbon Capture and Storage Activity.* Manila.

ineligible items and imports listed in the negative list attached to the loan agreement. The proceeds of the loans will be withdrawn in accordance with ADB's simplification of disbursement procedures and related requirement for policy-based loans.[19] Per AIF requirements, the proceeds of the loans should be withdrawn concurrently.

30. The size of the program loan is based on (i) the importance of the sector to the economy and the program's projected benefits, (ii) the need to conform to the overall financing requirement of ADB's country operations business plan, and (iii) the development expenditure supported by the program. Based on its 2015 revised budget, the government's net development financing needs are $40.6 billion (deficit plus debt and non-debt payments). The government is required to restrict its budget deficit to 3% of gross domestic product. Development assistance loans from external development partners are expected to contribute $3.9 billion to this amount. With a larger deficit expected as a result of slower economic growth and continued volatility in the financial market, the government has requested additional budget financing to the tune of $3.6 billion, from development partners. For the program, in addition to ADB's loan, development partners have confirmed their contribution of about the equivalent of $813 million in collaborative parallel financing (Agence Française de Développement of France–$113 million equivalent, German development cooperation through KfW–$200 million equivalent, and the World Bank–$500 million).

E. Implementation Arrangements

31. The Coordinating Ministry for Economic Affairs will be the executing agency. This will allow for inter-ministerial cooperation on energy sector issues. The Ministry of Energy and Mineral Resources, the Ministry of Finance, the Ministry of Environment and Forestry, and the Indonesia Investment Coordinating Board will be the implementing agencies. The executing agency will be responsible for overall program implementation. The program implementing agencies will be responsible for undertaking certain program-related actions. The Coordinating Ministry for Economic Affairs will establish a program management unit to oversee overall program monitoring and reporting. The program implementation units at the implementing agencies will report to the program management unit and monitor the progress on the implementation of reforms within their agencies. The implementation periods are June 2013–September 2015 for subprogram 1, October 2015–September 2017 for subprogram 2, and October 2017–September 2019 for subprogram 3.

III. DUE DILIGENCE

A. Economic and Financial

32. The program's three outputs will each make positive macroeconomic contributions. Electricity tariffs based on cost recovery will lead to (i) fiscal savings that can be used for infrastructure development and welfare programs, which in turn will have multiplier effects across the economy; and (ii) stimulation of increased investment and capacity expansion in the electricity sector that will directly boost gross domestic product. Better sector governance will improve efficiency in public sector energy companies, lower borrowing costs, and improve financial sustainability. Greater private sector investment in the energy sector will help increase domestic production of energy and lead to economy-wide employment benefits. Finally, by increasing access to clean energy from renewable energy and gas in Indonesia, the program will help avoid some expansion in coal-fired power generation and the emissions of air pollutants and greenhouse gases that these plants would have produced. To the extent that

[19] ADB. 1998. *Simplification of Disbursement Procedures and Related Requirements for Program Loans.* Manila.

clean energy will displace diesel generation, the program will also help save on oil imports and the country's balance of payments. Saving energy through energy efficiency measures will reduce total added generation capacity needs and expand access to energy to unserved sections of the population. The program's economic benefits will average $5.5 billion per year and readily exceed its annual economic costs of $3.3 billion. The program is expected to add more than $113 billion to Indonesia's overall gross domestic product cumulatively by 2023.[20]

B. Governance

33. Indonesia has made steady progress in strengthening its public financial management (PFM). The Government Financial Management and Revenue Administration Project, under implementation by the government of Indonesia since 2004, has supported reforms aimed at strengthening efficiency, governance, and accountability in PFM. In addition, the government's 2012 medium-term strategy note called for improving the oversight of PFM reforms designed to strengthen the process of allocating the budget resources of priority sectors, the link between planning and budgeting, and the budget's results orientation. PFM reforms are also increasingly aligned with the priorities identified in Indonesia's 2015–2019 medium-term development plan (footnote 5). The majority of SOEs are fully owned by the government, and SOE operations are linked to the government budget because many receive significant subsidies. The government also monitors the performance of SOEs due to the potential fiscal risks they represent.[21] Technical assistance provided by ADB to review the country's energy sector-wide procurement system found SOEs in the energy sector to have satisfactory institutional frameworks, management capacity, procurement operations, and market practices.[22] ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government.

C. Poverty and Social

34. The reforms supported under the program will increase access to modern forms of energy, stimulate economic growth, and help create jobs, all of which are key elements in reducing poverty. The program is classified as a general intervention, since its proposed outputs will benefit all citizens, including the poor and vulnerable. In the case of tariff increases, low-income households will have access to direct cash transfers. The third output will have particularly positive impacts on the poor by increasing their access to energy. This will stimulate rural and peri-urban small businesses and create jobs; add value within the agriculture, fishing, and forestry sectors; and reduce household exposure to the indoor air pollution that comes from burning biomass for heat and cooking. Subprogram 1 is classified as having no gender elements. Better access to energy will benefit women along with the population at large.[23]

D. Safeguards

35. The program has been classified as category B for environment and category C for both involuntary resettlement and indigenous people. The envisaged reforms will not entail involuntary land acquisition or activities in indigenous peoples' areas. Any potential indirect social and environmental impacts arising from increased investment in the energy sector will be evaluated on a project-by-project basis as required by Indonesia's environmental and land

[20] Program Impact Assessment (accessible from the list of linked documents in Appendix 2).
[21] Government of Indonesia and Development Partners. 2012. *Indonesia: Public Expenditure and Financial Accountability. Public Financial Management Performance Report and Performance Indicators*. Jakarta (December, p. 12).
[22] ADB. 2012. *Technical Assistance for Developing Procurement Capacity for Improved Procurement Outcomes into Regional Cooperation.* Manila.
[23] Summary Poverty Reduction and Social Strategy (accessible from the list of linked documents in Appendix 2).

acquisition legislation and the requirements of the lenders and project sponsors. The government has the institutional capacity and commitment to manage these impacts.[24]

E. Risks and Mitigating Measures

36. The main risks to the program's success arise from the potential for (i) macroeconomic instability, (ii) a lack of coordination in policy formulation and project implementation, and (iii) regulatory backsliding and resistance within the legislative process to increased private sector participation in the energy sector. These and the other pertinent risks are categorized as medium and described in detail in the risk assessment and risk management plan.[25] Mitigation measures taken include TA to support improved coordination and support the design of regulations and policies that are well-aligned with government priorities and tenets of the constitution. The program's overall risk level is considered to be medium, and its benefits outweigh its costs.

IV. ASSURANCES AND CONDITION

37. The government has assured ADB that implementation of program shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the loan agreement. No disbursement shall be made unless ADB is satisfied that the government has completed the policy actions specified in the policy matrix relating to the program.

V. RECOMMENDATION

38. I am satisfied that the proposed programmatic approach and policy-based loans would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve

(i) the programmatic approach for the Sustainable and Inclusive Energy Program;
(ii) the A-loan of $400,000,000 to the Republic of Indonesia for subprogram 1 of Sustainable and Inclusive Energy Program, from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's Interbank offered rate (LIBOR)-based lending facility; for a term of 15 years, including a grace period of 3 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan agreement presented to the Board; and
(iii) the B-loan of $100,000,000 to the Republic of Indonesia for the Sustainable and Inclusive Energy Program to be funded through the participation of the ASEAN Infrastructure Fund on terms and conditions as are substantially in accordance with those set forth in the draft loan agreement presented to the Board.

Takehiko Nakao
President

8 September 2015

[24] Environmental and Social Impact Assessment of the Policy Matrix (accessible from the list of linked documents in Appendix 2).
[25] Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

DESIGN AND MONITORING FRAMEWORK

Impacts the Program is Aligned with Increased domestic energy security and access to modern forms of energy (National Medium-Term Development Plan, 2015–2019)[a]			
Results Chain	**Performance Indicators with Targets and Baselines**	**Data Sources and Reporting Mechanisms**	**Risks**
Outcome Supply from sustainable and more accessible energy options increased	By 2020: a. Number of large power projects led by independent power producers that reach financial closure increased to at least five per year (2014 baseline: 2) b. Total sector investment in oil and gas increased to $18 billion (2014 baseline: $14 billion). c. Percentage of the population with access to electricity increased to 96% (2014 baseline: 84%) d. Renewables account for 10% of the electricity generation mix (2014 baseline: 6%)	a. Bank of Indonesia annual report b. Annual RUPTL (PLN),[b] MEMR annual report c. Central Bureau of Statistics website[c] and development partner reports d. BKPM annual report	Declines in oil prices and gas prices could limit private sector interest in increased oil and gas exploration. Downward pressure on the rupiah might increase PLN's debt service ratio and constrain borrowing for expansion.
Outputs 1. Sector governance improved	By 2019: 1a. An economic tariff for power for all consumer classes adopted (2014 baseline: not established) 1b. An economic regulation for PLN adopted (2014 baseline: Not established)	1a. Website of DG Electricity (MEMR)[d] 1b. RUPTL, MEMR annual reports	**Risks** Inadequate coordination among ministries at the central level and between the central and local governments. Political commitment to private investments in the energy sector could waver.
2. Markets for private participation enabled	By 2019: 2a. At least three regulations that streamline the planning, financing, and delivery of private sector projects in the power sector adopted (2014 baseline: not established) 2b. Two power wheeling agreements by PLN signed (2014 baseline: not established) 2c. Three regulations that increase private sector investment and the production and supply of gas adopted (2014 baseline: drafts in circulation)	2a. Annual RUPTL (PLN) 2b. Annual RUPTL (PLN) 2c. Website of DG Oil and Gas (MEMR),[e] MEMR annual reports	
3. Regulatory environment for increased access to clean energy and	By 2019: 3a. Three regulations to scale up geothermal energy-based power generation issued (2014 baseline: drafts in circulation)	3a. EBTKE website,[f] MEMR annual reports, development	

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
energy efficiency improved		partner reports	
	3b. Pricing mechanisms for two additional renewable energy technologies (e.g., wind, solar) established (2014 baseline: two renewable energy feed-in tariffs established)	3b. EBTKE website, MEMR annual reports, development partner reports	
	3c. Two decrees relating to national electrification plans issued (2014 baseline: not established)	3c. EBTKE website, MEMR annual reports, RUKN	
	3d. At least two new regulations promoting energy efficiency and conservation enacted (2014 baseline: not established)	3d. EBTKE website, MEMR annual reports, development partner reports	
	3e. Regulation requiring carbon capture and storage to be undertaken in gas processing plants (2014 baseline: not established)	3e. EBTKE website, MEMR annual reports, development partner reports	

Activities with Milestones

Refer to policy matrix

Inputs

Asian Development Bank:
Subprogram 1: Ordinary capital resources–$400 million; ASEAN Infrastructure Fund–$100 million
Subprogram 2: $300 million
Subprogram 3: $300 million

Assumptions for Partner Financing

World Bank—$500 million
German development cooperation through KfW—$200 million equivalent
Agence Française de Développement (French Development Agency)—$113 million equivalent
These partners' financing will be available as and when required by the program to finance the overall reform actions under subprogram 1.

BKPM = Badan Koordinasi Penanaman Modal (Indonesia Investment Coordinating Board), EBTKE = Direktorat Jenderal Energi Baru Terbarukan dan Konservasi Energi (Directorate General of New and Renewable Energy and Energy Conservation), MEMR = Ministry of Energy and Mineral Resources, PLN = Perusahaan Listrik Negara (State Electricity Corporation), RUKN = Rencana Umum Ketenagalistrikan Nasional (National Energy Plan), RUPTL = Rencana Usaha Penyediaan Tenaga Listrik (Electricity Power Supply Business Plan)

[a] Government of Indonesia, Financial and Development Supervisory Agency. 2015. *National Medium-Term Development Plan (RPJMN 2015–2019)*. http://www.bpkp.go.id/sesma/konten/2254/Buku-I-II-dan-III-RPJMN-2015-2019.bpkp

[b] Government of Indonesia, PLN. 2014. *Electricity Power Supply Business Plan (RUPTL 2015–2024)*. Jakarta.

[c] Central Bureau of Statistics. http://www.bps.go.id/

[d] Ministry of Energy and Mineral Resources. Directorate General of Electricity. https://www.djk.esdm.go.id

[e] Ministry of Energy and Mineral Resources. Directorate General of Oil and Gas. http://www.migas.esdm.go.id/

[f] Ministry of Energy and Mineral Resources. Directorate General of New and Renewable Energy and Energy Conservation. http://www.ebtke.esdm.go.id/

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

http://www.adb.org/Documents/RRPs/?id=49043-001-3

1. Loan Agreement
2. Sector Assessment (Summary): Energy
3. Contribution to the ADB Results Framework
4. Development Coordination
5. Country Economic Indicators
6. International Monetary Fund Assessment Letter
7. Summary Poverty Reduction and Social Strategy
8. Risk Assessment and Risk Management Plan
9. List of Ineligible Items

Supplementary Documents

10. Linkages between the Sustainable and Inclusive Energy Program and the Infrastructure Reform Support Development Program
11. List of ADB Loans and Technical Assistance Programs Since 1999
12. Program Impact Assessment
13. Environmental and Social Impact Assessment of the Policy Matrix

MINISTER OF FINANCE
OF THE REPUBLIC OF INDONESIA

DEVELOPMENT POLICY LETTER

MINISTRY OF FINANCE

Jakarta, 27 August 2015

No.: S-648 /MK.08/2015

Mr. Takehiko Nakao
President
Asian Development Bank

Dear Mr. President

1. Since taking office in October 2014, the government of Indonesia has placed a particular emphasis on energy sector development, recognizing its crucial link with the country's economic and broader development performance. The purpose of this Development Policy Letter is to provide an update on the Government's recent progress towards implementing its reform program and its medium term agenda with regard to strengthening the energy sector.

2. On behalf of the government of Indonesia, we would like to express our appreciation for the support provided by development partners to energy sector reforms in Indonesia over the recent and longer term. The estimated cost of the reform program on an annual basis is within a range of $3 billion to $4 billion. Therefore, we would like to seek the support of our development partners, including the Asian Development Bank (ADB), the International Bank for Reconstruction/World Bank (IBRD/WB), Agence Française de Développement (AfD) and KfW-Entwicklungsbank (KFW) for the Sustainable and Inclusive Energy Program (SIEP) – Subprogram 1. We propose ADB to provide policy-based loans in the amount of $500 million, which consist of $400 million from ADB's Ordinary Capital Resources (OCR) and $100 million from the ADB-administered ASEAN Infrastructure Fund.

Economic and Fiscal Situation

3. Indonesia's economic growth averaged a respectable 5.8% over the last decade. Investment picked up strongly and returned to the pre–Asian financial crisis level of 33% of gross domestic product (GDP) in 2012. However, GDP growth has decelerated gradually since peaking at 6.5% in 2011 to 5.0% in 2014, its slowest pace since 2009. The more recent slowdown was caused by the decrease in global commodity prices, declining exports and weakening of investment growth. Private consumption continued to be a stable source of growth supported by Indonesia's growing middle class. The contribution of public spending to growth was modest as the government's fiscal space and investment in capital were limited by subsidy spending.

4. In recent years, government finances have also come under increasing pressure due to the high costs of providing subsidies, particularly for energy consumption as well as declining growth in government revenues. Adversely impacted by the fall in commodity prices in recent years, revenue collection has fallen short of targets in 2013 and 2014. The shortfall in revenue is expected this year as well, as the slowdown in the economy continues and global commodity prices remain subdued.

5. The energy sector reflects many of the constraints facing the country's economy. For example, reflecting broader challenges in the quality of spending; for many years, energy subsidies have diverted funds away from much-needed investment in infrastructure and social welfare. This has adversely affected our country's ability to, among other things, provide access to electricity for around 35 million of our people. In addition, the private sector often ranks the lack of access to reliable electricity and the resultant need to opt for expensive captive generation as a major impediment to expanding industrial activity in the country. Regulatory uncertainty is often cited as a factor limiting investment in the energy sector.

6. The direct contribution of the sector to GDP growth, exports and revenues has been declining in recent years. Oil production has declined steadily and the country lost its status as a net oil exporter in 2004. Without significant additional refining capacity, Indonesia is expected to become one of the world's largest importers of gasoline by 2020. Similarly, without a significant increase in gas infrastructure investment, Indonesia will not be able to optimally develop its natural gas potential. The performance of the sector has not been contributing to its potential in supporting overall development of the country, whether energy is exported or consumed domestically. The average oil and gas sector's share of real GDP declined from over 10 percent in 2000-2005 to slightly above 5 percent in the last five years. Similarly, the sector's share of export earnings declined from an average of 22.2 percent in 2000-2005 to 18.5 percent in 2010-2014.

Government Response and Medium Term Agenda

7. Since October 2014, President Joko Widodo has embarked on an ambitious reform program. The government has produced a bold nine point *Nawa Cita* vision for Indonesia that among other things promises to give our nation a competitive edge, and provide material improvements for our people, particularly for those living below the poverty line.

8. The government recognises that the country is undergoing a shift from being a net energy exporter to one that is importing increasing amounts of energy to meet domestic needs. Therefore, rather than being seen as mere commodities to be extracted and exported, what is required is a concerted effort to develop the country's energy resources by making it economic to supply these to domestic energy, oil and gas markets, so that it becomes a key enabler of productivity and sustained and inclusive national economic development.

9. The government initiated a series of energy sector reforms in 2013–2014 which will be accelerated during the 2015–2019 period. In particularly, strengthening of the energy sector is highlighted as one of the main priorities within the government's National Medium Term Agenda (RPJMN 2015-2019). Key goals for the sector are to: (i) reliably and efficiently meet rising energy demand by expanding domestic supply of primary energy; (2) transition towards a sustainable energy sector development path through increased use of domestic gas, renewable energy and scaling up energy efficiency measures, and making the energy sector more efficient and competitive; and (3) achieve nearly universal access to electricity. As part of these broader objectives, the Government has placed a high priority on increasing generation capacity by 35 GW by 2019.

10. Strengthening energy pricing fundamentals is the first step towards using it sustainably, and the government has already made some sweeping reforms in this regards. In late 2014 and early 2015, we took the decisive step of implementing a cost recovery pricing system, and dramatically reduced energy subsidy costs that had ballooned to an annual level of around Rp.310 trillion in 2013. These initiatives were confirmed by the revised budget that was approved in February 2015. They are expected, combined with the sharp decline in crude oil prices, to save Indonesia around Rp.200 trillion in 2015. For 2016, the government plans to lower PLN's subsidy even further. This has allowed the government to shift spending from energy subsidies to economic development priorities, especially energy infrastructure development.

11. The government has also moved to improve regulatory certainty in the energy sector by (i) outlining clear procedures to manage expiring oil and gas production sharing contracts, (ii) drafting a new oil and gas law to replace the Law of 2001, (iii) streamlining the licensing of new private sector-led power projects, and putting in place improved purchase prices for power produced from various indigenous and renewable sources of energy.

Improved Sector Governance and Reducing the Fiscal Cost of Electricity

12. In January 2015, the government removed subsidies on gasoline and fixed the subsidy for diesel at Rp.1,000 per liter. In the future, the retail fuel prices will be adjusted periodically by the Ministry of Energy and Mineral Resources (MEMR) to reflect the cost recovery basis of the fuel products. In the case of electricity, the government first removed subsidies for industrial, commercial and large residential consumers in late 2014. In early 2015, the government established a system of monthly automatic tariff adjustments for these consumers that accounts for the exchange rate, the Indonesian crude oil price, and inflation, and has started phasing in these increases. The immediate impacts of subsidy removal measures are: (i) increases in the average electricity tariff to support sector sustainability and improved quality and reliability of supply, (ii) reducing the fiscal cost of electricity provision (with savings reallocated to other government programs), (iii) dampened growth in electricity demand with attendant savings from the avoided economic and environmental costs of electricity supply; and (iv) strengthened incentives for efficient use of electricity across the economy.

13. The removal of subsidies makes it possible for PLN to reduce its reliance on government subsidies and to focus on improving its efficiency and financial performance. Improvements in PLN's financial performance are in turn expected to improve PLN's borrowing capacity and its ability to support essential investment and development of power supply facilities, including new connections. We are already taking steps to improve PLN's performance by (i) putting in place service and quality standards for PLN, (ii) identifying key operational performance indicators, and (iii) improving economic regulations impacting PLN's performance

Private Participation in Energy Sector Further Enabled to Enhance Economic Competitiveness

14. We have streamlined the licensing and permitting of private sector power projects by setting up a national one-stop shop for permitting and licensing at the national level, and then by simplifying some related regulations and empowering the one-stop shop to take decisions based on these simplified regulations. Integration of licensing procedures and other requirements under a one-stop-shop will enable a significant reduction in project preparatory activities with a corresponding reduction in development costs. As required by the Electricity Law 30/2009, government has now established the basis for executing wheeling arrangements which would facilitate private power producers to access PLN's transmission system to sell power directly to end users in distant locations.

15. In the gas sector, the government is keen to reverse the plateauing trend in domestic gas production by ensuring that exploration and production activities are ongoing despite the low oil prices, and by paving the way for greater investment in pipelines, liquefied natural gas infrastructure and fuelling stations required for increased domestic use of gas. In May 2015, the government addressed the uncertainty surrounding the expiring of production sharing contracts (PSCs) by issuing a regulation that establishes a transparent and time-bound process for making decisions on expiring production sharing contracts. The government is preparing a new oil and gas law for the legislature to review which will aim to assure reliable and sustainable supply of oil, gas and fuels to domestic end-users on the basis of private and public investment in upstream, mid-stream and downstream parts of the supply chain. The government recognizes that the law will seek to strike a judicious balance between the need to incentivize investment and achieve secure and affordable domestic supply. To this end, the government will review upstream fiscal terms in order to incentivize development of marginal fields, deepwater projects, and unconventional resources while preserving government revenue generation from successful, high-return projects.

16. To secure the economic benefits of gas production and consumption, government intends to institute midstream reforms that emphasize efficiency and transparency. Investments in gas transportation and storage infrastructure will be guided by a strategic plan. Government will form a gas aggregation entity in order to facilitate transactions between producers and consumers and to implement pricing and gas allocation policies fostering efficient production and consumption of gas. Regulatory measures will be put in place to guard against accumulation of monopoly rents or excessive margins in transportation and aggregation, assure non-discriminatory access to pipeline capacity, maximize capacity utilization, and achieve transparency in gas pricing, allocation of capacity rights, and tariff-setting.

17. To avoid generating uncertainty the government will in consultation with stakeholders move quickly to put in place regulations to implement the oil and gas law.

Access to Modern and Clean Energy Increased

18. We are addressing a number of factors that have hampered geothermal development. The Geothermal Law 21 of 2014 has reclassified geothermal activity as a "non-mining" activity, and streamlines the process for tendering of new projects. In addition, a regulation has been issued that establish regional price ceilings for geothermal power. Going forward, other reforms envisaged in the revised geothermal law will be implemented including a mechanism to improve the quality of resource data prior to the launch of tenders, and the centralization of tendering within the national government. These measures have enabled the inclusion of 4,815 MW new geothermal generating capacity in PLN's electricity supply business plan (RUPTL 2015–2024). Efforts are also underway to expand generation from mini-hydro power plants (less than 10 MW), solar power (by the deployment of rooftop PV), wind-power, biomass/biogas, and waste-to-energy schemes.

19. We are embarking on a comprehensive national electrification effort. The goal is for Indonesia to increase the current electrification rate from 84% of households (end 2014) to over 96% by 2019. The government has initiated the process of creating a comprehensive regulatory framework for public and private sources of finance, and preparing a national electrification roadmap, and increasing budgetary resources for expanding access. The national energy plan issued in 2015 highlights the new innovations that will be pursued by the government. Further, the government has launched pilot activities to evaluate innovative financing schemes, project design, and a multi-stakeholder approach to electrification.

20. With the decrease in electricity subsidies, it is expected that there will be a resultant increase in demand for energy efficiency. The government issued minimum efficiency performance standards for key household appliances (air conditioners, and compact fluorescent lamps) and established a green building code that includes energy efficiency requirements in 2015. We are now working on: (i) additional energy efficiency standards for other appliances; (ii) establishing a legal basis for the registering and operating of energy service companies; (iv) a requirement for municipalities to adopt efficient street lighting, and (v) are preparing a national efficient building code and related guidelines for adoption by municipalities.

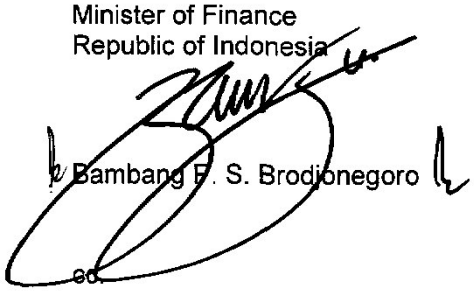
21. The government continues to explore ways to lower emissions from the energy sector through cleaner fossil-fuel technologies.

Conclusions

22. In summary, the government is firmly committed to expanding the energy sector in ways that are financially more viable and environmentally sustainable, which in turn can help to reduce poverty and contribute to broad-based economic growth. The policies that we plan to pursue during 2015-2019 under SIEP will help the country bolster the security and sustainability of its energy sector through expanded utilization of clean energy sources, improved energy efficiency and conservation measures, and increased access to electricity for all our citizens.

23. Our Government greatly values the support provided by the development partners over the years to help finance Indonesia's energy sector and the provision of technical assistance that is helping us to analyse issues and develop a comprehensive and well-coordinated reform program. In closing, we reiterate our Government's strong ownership and commitment to the SIEP. We look forward to your continued engagement and support in the coming years.

Minister of Finance
Republic of Indonesia



Bambang P. S. Brodjonegoro

cc:

1. Coordinating Ministry for Economic Affairs
2. Minister of Energy and Mineral Resources
3. Director General of Budget Financing and Risk Management, MoF
4. Country Director of Word Bank Office Jakarta
5. Country Director of Agence Française de Développement (AFD) Indonesia
6. Country Director of KfW-Entwicklungsbank (KFW) office Jakarta

POLICY MATRIX

Outputs	*Subprogram 1 Accomplishments*[a]	*Subprogram 2 (by 2017) (indicative)*	*Subprogram 3 (by 2019) (indicative)*	*Medium-term directions and expected results 2019 to 2023*
Pillar 1: Sector governance improved.				
1.1. Adoption of economic tariffs for electricity • Asian Development Bank's (ADB) Southeast Asia Department's knowledge initiative in 2014 has been supporting a dialogue on subsidy management and the need for market-based prices for fuels and electricity • ADB's Economic Research Department technical assistance (TA) program on impacts of fuel subsidies in three countries, including Indonesia, helped support a dialogue with the Ministries of Finance and Energy and Mineral Resources (TA 7834-REG)	The government reduced its fiscal burden for energy subsidies by eliminating electricity subsidies for all but the poorest categories of consumers. The measures undertaken included: 1. The Ministry of Energy and Mineral Resources (MEMR) phased out the subsidy for industrial, business and large residential consumers. (Permen ESDM 19/2014) 2. MEMR established automatic indexation of tariff to ensure continued full cost recovery for industrial/business and large residential consumers. (Permen ESDM 31/2014 and 9/2015)	The government completes the transition to economic tariffs for power. This will be achieved through: 1. MEMR approves multi-year tariff policy from 2016 that will apply full cost recovery based tariffs for electricity for business, commercial and large residential consumers on a permanent basis and move towards full cost recovery tariffs for the remaining category of residential consumers in line with the prevailing laws and regulations.	The government mainstreams automatic indexation. This will be achieved through: 1. MEMR revises tariff based on automatic indexation in a timely manner as specified in the regulations. 2. The government establishes a cash transfer program or direct subsidy program to support vulnerable sections of society from the electricity tariff increases.	• Tariff increases will reduce the government subsidy to the State Electricity Corporation (Perusahaan Listrik Negara, or PLN) from Rp 101.2 trillion in 2013 (audited) to Rp 66.15 trillion in 2015 (budgeted). It is expected that by 2016, 1200 volt-amperes (VA) and 2300 VA household consumers will also be brought under the automatic price adjustment scheme. And by 2023 it is expected that only the first 60 kWh of consumption of R-1 450 VA and 900 VA households will be subsidized.

Outputs	*Subprogram 1 Accomplishments*[a]	*Subprogram 2 (by 2017) (indicative)*	*Subprogram 3 (by 2019) (indicative)*	*Medium-term directions and expected results 2019 to 2023*
1.2. Improve financial and service delivery performance of state-owned enterprises (SOEs) in the energy sector • The World Bank has been supporting the Ministry of Finance (MOF) to develop an economic regulation for PLN.	The government initiated reforms to improve the performance of SOEs in the energy sector. Measures taken include: 3. MEMR required PLN to (i) improve metrics relating to its electricity distribution performance; and (ii) regularly report performance against those standards. (Permen ESDM 33/2014)	The government further strengthens performance of PLN. Measures include: 2. MOF establishes a pilot implementation period for an economic regulation for PLN along with an Inter-Ministerial Committee for the implementation of the economic regulation. 3. PLN and the Ministry of SOEs adopt a roadmap for restructuring PLN including regionalization or splitting of PLN into its various businesses.	The government consolidates its reform of energy sector SOEs. Measures include: 3. MOF mainstreams an economic regulation for PLN for the period of 2020-2025. 4. The Ministry of SOEs adopts a roadmap for the restructuring of other energy sector SOEs.	The economic regulation of PLN will focus on power plant efficiency gains and reduction in other controllable costs such as technical and non-technical losses in transmission and distribution and will leave more cash with PLN which it can use to leverage additional borrowing for its capital expansion plans. The energy sector SOEs will be better able to raise capital, manage its expansion activities and improve on their performance.
Pillar 2: Markets for private participation enabled.				
2.1. Facilitating planning, financing, and the delivery of projects in the energy sector. ▪ ADB's Stepping Up Investments for Growth Acceleration Program (SIGAP) TA is providing technical assistance to the Investment Coordinating Board (BKPM)	The government streamlined investments by the private sector. Measures taken include: 4. *MEMR delegated 10 electricity project licensing activities to BKPM as the national one-stop shop (Permen ESDM 35/2014)* 5. Ministry of Transport reduced the steps and time required to obtain licenses that are relevant for setting up independent power producer (IPP) projects. (Permen Perhub 73/2014).	Further streamlining of investments by the private sector: 4. MEMR delegates licensing activities for oil and gas projects to the one stop shop. 5. The Government establishes additional Provincial level one-stop shops.	Completion of the streamlining effort across central and local governments. 5. The Government harmonizes all licensing steps and requirements for electricity projects between the one-stop-shop at the national level and those at the provincial levels.	Integration under the one stop shop and simplification of regulations would result in a significant reduction in license processing time with a corresponding reduction in development costs and greater certainty that new capacity will be commissioned as planned.

Outputs	*Subprogram 1 Accomplishments*[a]	*Subprogram 2 (by 2017) (indicative)*	*Subprogram 3 (by 2019) (indicative)*	*Medium-term directions and expected results 2019 to 2023*
	The government enabled greater private sector participation in the electricity sector, including in the transmission sector. Measures include: 6. *MEMR permitted electricity wheeling and power trade activities as required under the Electricity Law 2009. (Permen ESDM 1/2015).*	6. MEMR establishes wheeling charges as stipulated under Permen ESDM 1/2015.	6. MEMR allows cross-border electricity trading as stipulated under Law 30/2009.	• Development of private generation to supply domestic industrial consumers, thereby reducing the amount of PLN investment required. This is desirable due to the financial covenants PLN faces on its commercial debt, which limit its ability to borrow. • Development of IPPs for cross-border power export, would improve the country's balance of payments.
2.2. Promoting domestic gas production and increased delivery of gas into the domestic market, including through greater private sector involvement. • ADB is providing technical assistance to MEMR and CMEA under the ADB TA 8826-INO	Government signaled its intent to enhance the domestic supply of gas by creating a market place that is consistent with the expected revisions to the governing legal and regulatory framework in the sector ("the Oil and Gas Law"): 7. MEMR stipulated a systematic and time-bound process for managing expiring production sharing contracts (PSCs) (Permen ESDM 15/2015). 8. *MEMR established market rules for utilization of compressed natural gas (CNG) for land transport*	Enabling regulations to support infrastructure to bring gas to markets. 7. Government enacts a new oil and gas law to attract investment and promote enhanced energy security 8. Government issues decision on expiring PSCs consistent with the process defined in the Permen ESDM 15/2015. 9. MEMR issues a new gas supply chain management regulation which will cover domestic gas pricing, the establishment of gas aggregators, and the	Consolidating regulations to support infrastructure to bring gas to markets. 7. Government issues regulation for the development of a gas tolling structure and road map for putting in place national gas transmission. 8. Government issues the required implementing regulations for the new oil & gas law.	The increased availability of gas for domestic consumers facilitates development of additional gas-fired power generation capacity as well as consumer use of gas to displace other fuels. Specifically: • Gas production increases from 1,224,000 barrel of oil (BOE) /day to 1,295,000 BOE/day in 2019 and 1,450,000 BOE/day in 2023 • Domestic share of gas use increases from 53% in 2015 to 64% in 2019 and 74% in 2023. • The length of gas

Outputs	*Subprogram 1 Accomplishments*[a]	*Subprogram 2 (by 2017) (indicative)*	*Subprogram 3 (by 2019) (indicative)*	*Medium-term directions and expected results 2019 to 2023*
	(Permen ESDM 8/2014)	development of gas infrastructure 10. MEMR issues an integrated gas infrastructure plan including liquefied natural gas (LNG) transportation and distribution in eastern Indonesia.		pipelines increases from 11,960 km to 18,322 km in 2019 and 25,773 in 2023 • Expansion of CNG use in Java-Bali and concomitant reduction of imported oil consumption in the country
Pillar 3: Regulatory environment for increased access to clean energy and energy efficiency improved.				
3.1. Enable the scale up of geothermal energy-based power generation. ▪ ADB TA, Geothermal Power Development Project (TA 7583-INO)	Government addressed key constraints that persist in the geothermal sector. Measures included: 9. Government issued new Geothermal Law that streamlines licensing and tendering of geothermal projects. (Geothermal Law 21/2014) 10. MEMR established a new geothermal pricing regime using bidding under a regional ceiling price, and stipulated that PLN shall (i) purchase the power from those plants; and (ii) build the transmission required for geothermal power plants (Permen ESDM 17/2014).	Government continued to implement reforms envisaged in the new Geothermal Law. 11. MEMR specifies the process for tendering of concessions and defines a mechanism to improve quality of resource data in advance of tendering, as stipulated under Geothermal Law 21/2014. 12. Government requires private concessionaires to share revenue from geothermal projects through payments to local governments as stipulated under Geothermal Law 21/2014. 13. Government establishes a process for accessing conservation forest areas for geothermal activity, and detailed requirements therein, which is in line with existing environmental and forestry regulation.	Government consolidates reform in the sector. 9. MEMR periodically reviews price ceilings for tendering of new geothermal locations.	These measures aim to ensure that renewable energy will contribute at least 10% to the energy mix by 2020. PLN's RUPTL 2015-2024 identifies 4,815 MW of new geothermal capacity additions by 2024. If these new laws and regulations were not in place, development of this capacity could not proceed, requiring further reliance on non-renewable sources of power such as coal.

Outputs	*Subprogram 1 Accomplishments*[a]	*Subprogram 2 (by 2017) (indicative)*	*Subprogram 3 (by 2019) (indicative)*	*Medium-term directions and expected results 2019 to 2023*
3.2. Expand other renewable energy-based power generation. • ADB TA, Sustainable Infrastructure Assistance Program (TA 8484-INO) • ADB LOAN 1982: Renewable Energy Development Sector Program	Government provided tariff incentives for the development of new forms of renewable energy. The measures include: 11. MEMR established a feed-in tariff for biomass and biogas projects ≤ 10 MW and requires PLN to purchase this power. (Permen ESDM 27/2014). 12. MEMR established a feed-in tariff for hydro projects ≤ 10 MW and requires PLN to purchase this power. (Permen ESDM 12/2014 and Permen ESDM 22/2014).	Government reviews performance of existing schemes for promoting renewable energy and issues revisions. Measures include: 14. MEMR establishes a feed-in tariff or ceiling prices with tendering scheme for wind power projects. 15. MEMR issues tariff incentives for rooftop photovoltaic (PV) deployment.	Government addresses larger sectoral and landscape-level issues relating to renewable energy deployment. Measures include: 10. MEMR strengthens the licensing and permitting of hydropower plants taking into account river basin development considerations.	• Based on on-going studies and PPA negotiations, PLN estimates that preparation of a regulatory framework for wind power will result in 280 MW of wind capacity installed by 2022.[b] • Solar PV deployment will increase from modest levels to upwards of 1 GW by 2022 based on a recent government target to deploy up to 7 GW of solar PV power plants by 2022. • PLN forecasts uptake of 1,481 MW of small (≤ 10 MW) hydro and 363 MW of small biomass/biogas by 2022.

Outputs	*Subprogram 1 Accomplishments*[a]	*Subprogram 2 (by 2017) (indicative)*	*Subprogram 3 (by 2019) (indicative)*	*Medium-term directions and expected results 2019 to 2023*
3.3. Establish institutional, planning and budgeting framework for scaling up electricity access. ▪ ADB TA, Expanding Energy Access in Eastern Indonesia (TA 7583-INO) ▪ ADB's Sustainable Development and Climate Change Department's Energy for All program.	Government initiated a comprehensive national electrification effort. Key measures included: 13. *Government submitted to Parliament the draft national electricity plan (RUKN 2015-2034) that provides policy direction for expanding access and securing supply of electricity through public and private initiatives. (Government letter to Parliament and draft national electricity plan).* 14. MEMR launched a pilot electricity access program in Sumba Island. (Kepmen ESDM 3051 k/30/MEM/2015)	The Government rolls out a national electrification plan with adequate institutional, budgeting and planning preparation. Measures include: 16. MEMR issues a national electrification road map with appropriate funding plans, with mobilization of non-PLN suppliers for off-grid electrification efforts. 17. MEMR streamlines public funding for rural electrification through PLN, and facilitates increased private sector involvement for off-grid electrification programs.	The government consolidates the national electrification effort: 11. MEMR rolls out a nationwide program with public and private sector led initiatives.	• Indonesia achieves near-universal electricity access with an electrification ratio >97% by 2020 and >99% by 2023, up from 84% in 2015. This requires between $3 to $18 billion in capital investment excluding transmission and on-grid generation (ADB TA 8287). • Substantial private sector investment for electrification is needed to help achieve the above electrification targets.
3.4. Improved policies and standards for energy efficiency ▪ ADB TA, Asia Energy Efficiency Accelerator (TA 8483-REG)	Government established a market for key energy efficiency services. Key measures included: 15. MEMR adopted minimum efficiency performance standards (MEPS) for at least two household appliances along with related appliance labeling protocols. (Permen ESDM 18/2014 for Compact Fluorescent Lamps and Permen ESDM 7/2015 for Air Conditioners).	Government scales up energy efficiency measures across the country through the following measures: 18. MEMR establishes additional MEPS for other household appliances, and upgrades its appliance testing labs and puts a labelling enforcement regime in place. 19. MEMR requires municipalities to adopt efficient street lighting projects based lessons learnt from pilot activities being conducted in	Government consolidates energy efficiency efforts by including programs involving the utility (PLN) and local governments. 12. MEMR issues regulation on demand side management programs including smart metering and time of use tariffs. 13. Government announces a nation-wide municipal energy efficiency program involving ESCOs.	• Quality of appliances sold in the market improves as measured by independent evaluations. This is expected to reduce average household electricity consumption by 20%. • At least 10 municipalities launch large street lighting or public energy efficiency programs. • MEMR estimates that energy efficient building codes could result in energy savings of

Outputs	*Subprogram 1 Accomplishments*[a]	*Subprogram 2 (by 2017) (indicative)*	*Subprogram 3 (by 2019) (indicative)*	*Medium-term directions and expected results 2019 to 2023*
	16. Ministry of Public Works and Housing established definitions, standards and a certification program for green buildings in the country, including required energy efficiency measures. (Permen MPWH 02/2015)	Semarang and Batang in Java. 20. MEMR establishes the basis for energy services companies (ESCOs) to register themselves, raise funds, and enter into energy savings performance contracts (guaranteed and shared savings programs) for the public sector and private sector.		between 5-16% if implemented for hotels, hospitals, malls, private offices, and/or public offices.
3.5 Cleaner fossil fuel technologies and improved environmental standards implemented ADB TA 8484-INO and TA 8407 – Designing a pilot CCS program in Indonesia.	Government introduced novel ways to lower emissions from fossil fuel operations. Measures include: 17. MEMR assigned Pertamina to pilot Carbon Capture and Storage (CCS) activities as a way to lower greenhouse gas emissions. (Letter of assignment to Pertamina issued by MEMR in March 2015).	Government strengthens its CCS focus and improves the environmental performance metrics for fossil fuel operations. 21. MEMR establishes a CCS national center of excellence and establishes the basis for environmental permitting of carbon capture and storage projects in Indonesia. 22. Government prepares an analysis of options for cleaner fossil fuel development.	Government encourages the scaling up of CCS. 14. MEMR implements CCS demonstration projects in gas processing plants. 15. Government pilots clean fossil fuel technologies.	At least 2 new CCS pilots and a demonstration project are initiated and increased funding and more market entrants in the CCS area. The government begins to mainstream a comprehensive economy-wide decarbonization strategy with 5 year and 10 year targets, cost estimates, subsector level targets and actions.

ADB = Asian Development Bank, BOE = barrel of oil equivalent, BKPM = Indonesia Investment Coordinating Board, CCS = carbon capture and storage, CMEA = Coordinating Ministry of Economic Affairs, CNG = compressed natural gas, CO_2 = carbon dioxide, EIA = Environmental Impact Assessment, ESCOs = energy services companies, GHG = Greenhouse Gas, GOI = Government of Indonesia, IP = indigenous people, IPP = independent power producer, Kepmen ESDM = Ministerial Decree of MEMR, LNG = liquefied natural gas, MEMR = Ministry of Energy and Mineral Resources, MEPS = minimum efficiency performance standards, MOF = Ministry of Finance, MW = megawatt, NA = Not applicable, Permen ESDM = Ministerial Regulation of the Ministry of Energy and Mineral Resources, PLN = State Electricity Corporation, Pertamina = State Oil and Natural Gas Mining Company, PSC = production sharing contract, PV = photovoltaic, RUKN = National Energy Plan, RUPTL = Electricity Power Supply Business Plan (PLN), SIGAP = Stepping Up Investments for Growth Acceleration Program (ADB), SOEs = state-owned enterprises, TA = technical assistance, UKL/UPL = Environmental Management and Monitoring Effort, VA=volt-amperes.

[a] Policy actions identified in plain font in the matrix are triggers for disbursement. Those shown in italics represent non-disbursement milestones.