

I. EXECUTIVE SUMMARY

This Review seeks to examine all components of the energy sector in the Republic of Indonesia, and provide findings and recommendations for each. This Executive Summary suggests six areas for priority attention. These cover:

- domestic energy pricing and subsidies;
- policy co-ordination, decision making and implementation;
- energy sector investment;
- independence and authority of energy regulators;
- harnessing of a sustainable development agenda particularly through renewable energy implementation; and
- mainstreaming of energy efficiency and conservation policy.

The setting

Indonesia is the world's fourth most populous nation, with 240 million people spread over a large archipelago of more than 6 000 inhabited islands. The population within Indonesia is concentrated, with about 80% living on Java-Madura-Bali.

Indonesia is engaged in a radical transition from an autocratic, centrally planned economy to a democratic community with a much greater reliance on liberalised market principles. This transition is bold and necessary; it must succeed as it will improve the climate for investment in Indonesia. In many ways, the benefits of the reforms introduced to date are already visible: Indonesia is clearly a more open, confident society than it was before the reforms. After the significant dip as a result of the Asian financial crisis of 1997-99, economic growth has returned to a stable path of 5-6% annually.

However, the challenges for the Government of Indonesia (GOI) are still huge: the unemployment rate is persistently high; there is severe poverty in rural areas and on the urban margins; and access to the basic services of electricity, water, sewage, transport, trade, education, and health is still limited. The challenges in the energy sector are many and are discussed throughout the Review. Possibly the most important are Indonesia's declining oil and gas production and the fast increasing domestic requirements for oil and gas; the persistent electricity and petroleum subsidies and price controls; and the limited clarity in Indonesia's energy sector governance, co-ordination and decision making regime.

Domestic energy pricing and subsidies

Indonesia's energy price caps and subsidies keep prices for individual consumers below market levels for electricity and selected petroleum products, namely kerosene, automotive diesel oil for transport, and 88 RON gasoline. While these subsidies are no longer available for larger industrial consumers, they are equally accessible to Indonesia's poor and wealthy. In May 2008, the Co-ordinating Ministry of Economic Affairs of Indonesia advised that the top 40% of high income families benefit from 70% of the subsidies, while the bottom 40% of low income families benefit from only 15% of the subsidies. In essence, the subsidies are missing their target and benefiting the rich more than the poor.

Indonesia's long entrenched petroleum and electricity subsidies and price caps have made the country highly vulnerable to global energy price movements. This was particularly so during the rapid rise in international oil prices in 2007-08. While the country is meeting its short-term energy needs, the situation masks the critical problems of the subsidies and price caps and their knock-on impact on investment, efficiency, and diversification. They have inhibited investment in upstream and downstream energy sectors by new investors as well as existing public and private players, have undermined energy efficiency and renewable energy programmes for many years, and have reduced the ability of enterprises to accommodate the cost of environmental compliance.

As felt by the current and previous governments in Indonesia, these subsidies also incur major financial and political management costs for the state and for the state-owned companies responsible for their implementation. Most immediately, GOI expenditure on subsidies continues to reduce its ability to provide government services.

The vast majority of Indonesians have come to rely on low energy prices as part of their limited household budgeting and, as a consequence, the GOI has been reluctant to take necessary decisive action until a crisis loomed. The relatively widespread acceptance of subsidy reductions in October 2005 and May 2008 highlighted the growing awareness of Indonesian communities of the need for some level of reform.

The Review Team recommends the removal of the subsidies and price caps. Allowing cost-reflective pricing should be the critical priority. As recognised by the GOI, removal of price subsidies does not need to be undertaken in one painful step. A phased schedule that sets a medium-term goal for removal of the subsidies is necessary in this difficult political environment. The phased schedule must be widely publicised well in advance of price increases, and include a clear explanation of the negative impacts of subsidies on the GOI ability to fund services and infrastructure. This initiative also needs to be accompanied by well targeted social measures. While the higher energy prices have impacted on the poor, they appear to have been ameliorated somewhat by the better targeted direct compensation payments in 2005 and 2008.

Policy co-ordination, decision making and implementation

The GOI has the necessary ministries and agencies of government in place for effective energy policy-making and implementation. But co-ordination, decision making and overlapping/unclear division of responsibilities among these institutions remain serious issues. This situation has been further complicated over recent years by the decentralisation of some administration to the provincial and district governments.

In the central government, a system for co-ordination among relevant ministries exists (i.e. the three co-ordinating Ministries, for Economic Affairs, for People's Welfare, and for Political, Legal and Security Affairs), but it is not clear whether these Ministries have the ability to resolve serious conflicts without the intervention of the President of Indonesia. In the past, energy co-ordination proceeded through the National Energy Co-ordination Board (BAKOREN), which was a ministerial level body chaired by the Ministry of Energy and Mineral Resources. Participating members were a subset of the government's fifteen economic ministries that have special relevance to the energy sector. BAKOREN was generally seen as ineffective and the Review Team strongly supports the establishment of the new National Energy Council, chaired by the President and vice-chaired by the Vice President. The Council provides a much needed mechanism to break logjams and to make decisions at the highest level in a more timely fashion.

It is essential for the effectiveness of the National Energy Council that it receives expert and objective analytical advice and support in its deliberations and decision making. The Review Team recommends the creation of an energy policy unit within the Secretariat of the National Energy Council, within the Ministry of Energy and Mineral Resources. The energy policy unit should also monitor policy implementation with milestones, accountability, and transparency. This is discussed in detail in the Government Policy, Structure and Process chapter. Industry has a strong desire to feel confidence in government policy and its implementation.

Comprehensive, timely, and accurate energy data is the starting point for good energy policy. The multiplicity of statistical sources purporting to show the same (but often very different) energy data demonstrated the underlying need to strengthen the Centre for Data and Information on Energy and Mineral Resources (PUSDATIN) and the data units of each Directorate General and Agency of the Ministry of Energy and Mineral Resources. This would also include establishing the capacity of PUSDATIN to make full use of its data to provide the Ministry with expert energy demand forecasting and long-term scenario analysis.

Indonesia's high energy intensity levels demonstrate the immediate need to implement cost-effective, targeted sectoral and technology energy efficiency programmes. Accurate and comprehensive efficiency indicators for the relevant sectors and technologies are needed to target these programmes. This will require a special and sustained effort in PUSDATIN to build and populate such data. This is discussed further in the Government Policy, Structure and Process chapter and the Energy Efficiency and Conservation chapter.

Energy sector investment

Indonesia's energy sector is crucial to the Indonesian economy, both for earning export revenue and for meeting domestic energy demand. In the past, the focus has been on export revenue, but, since early this decade, there has been a rapid re-orientation by the GOI towards meeting Indonesia's domestic energy needs.

Indonesia has had only limited success in maintaining an attractive investment climate for its energy sector, resulting in insufficient investment to meet fast growing domestic demand and to compensate for declining production from maturing oil and gas fields. GOI legislation in recent years has recognised this shortcoming and has introduced a market orientation to Indonesia's energy sector. This effort has included the corporatising of the state-owned oil and gas company Pertamina, the sale of a portion of the state-owned gas distributor/retailer PGN, and the establishment of upstream and downstream oil and gas regulators, BP MIGAS and BPH MIGAS.

However, domestic and foreign investment in Indonesia's resource rich sector has not been robust. This is due to a mix of issues such as disputes over matters of claimable costings and tax rulings; a lack of transparency and coherence in investment regimes and tendering and approval processes; large parts of the energy sector remaining effectively "monopolised" by state-owned enterprises; high profile disputes over the management of some Production Sharing Contracts (PSC); and subsidised prices and tariffs. While the new Investment Law No. 25/2007 seeks to clarify these issues amongst others, the decisions by the Constitutional Court over the new Electricity Law No. 20/2002 and parts of the new Oil and Gas Law No. 22/2001 have added to uncertainty and sense of heightened risk.

The Review Team's discussions with industry suggested that lack of clarity and transparency due to inconsistency and insufficient details of legislation and poor co-ordination across government are key issues. The new National Energy Council provides a working mechanism for industry concerns to be heard at the highest level. The Review Team recommends that one or two of the Council members represent industry and that the Council periodically consult directly with industry and investors.

In tender and approval procedures, the Review Team recommends clarifying the tender selection criteria and approval standards, using third-party experts for tender evaluations, and providing feedback to unsuccessful tender applicants. Further, it would be advisable to undertake an independent comparison review of Indonesia's investment regime against world best practices.

Independence and authority of energy regulators

A transparently independent regulator that is able to operate separately from the government and consistently in the balanced interest of consumers and the supply industry is essential in a liberalising market. Review Team discussions revealed that many Indonesian energy policy makers consider this a priority for the electricity and

coal sectors, and would also like to see a more independent stance on the part of the oil and gas regulators. The Review Team strongly supports this objective and the need for independent regulation to provide transparency and demonstrable non-discriminatory treatment for all investors and new entrants.

Separation of the regulatory function into an independent authority also helps reassure investors and operators that state interests will not benefit from policy and regulation sitting side-by-side. While the 2001 Oil and Gas Law successfully transferred regulation to separate agencies, there is no such separation in the electricity industry. There is a partial separation in the mining industry, but responsibilities are not clear. This delineation should become more evident when the pending Mining Law is approved.

The decision of the Constitutional Court to annul the entire Electricity Law No. 20/2002 has restricted the possibilities for independent regulation in Indonesia. This being said, the Review Team recommends the development of a transparent timeline for the separation of policy and regulation of the sector and the establishment of a constitutionally acceptable electricity regulator. An interim stage would usefully separate regulation and government policy roles through a restructuring within the Directorate General of Electricity and Energy Utilisation within the Ministry of Energy and Mineral Resources. These issues are discussed in detail in the relevant sectoral chapters.

Energy efficiency

Indonesia's National Energy Policy to 2030 has an economy-wide target of a 1% per year reduction in energy intensity. This may be a difficult task given the need for improved energy services in all parts of the economy and the limited scale of Indonesia's energy efficiency and conservation (EE&C) efforts. Indonesia's EE&C policies are still developing and its challenges are not dissimilar to those in other economies. Best practice policy and programmes can be gleaned from other countries' EE&C programmes.

There are a number of key issues that need to be tackled. First, market-based pricing that reflects the supply and externality costs of a fuel are necessary for a sustainable EE&C programme. The second key challenge for Indonesia is in developing, with its multiple stakeholders, the necessary focus, authority, scale of activity and accountability to enable Indonesia's EE&C potential to be achieved. For this, the Team recommends that a Directorate General of Energy Efficiency, Conservation and Renewable Energy be established within the Ministry of Energy and Mineral Resources to ensure a strong focus on the demand side that has the authority to garner and mobilise the necessary resources.

Third, cost-effective targeting of EE&C programmes to high wastage industry and technologies is key to EE&C success. This requires a clear quantitative base to the targeting. An energy indicators database using detailed energy end-use data and economic data at the sub-sectoral and technology level is needed and would logically be located within PUSDATIN within the Ministry of Energy and Mineral Resources.

Similarly, while the expertise to understand and plan for longer-term least-cost energy efficiency technology options already exists within the Agency of Technology Assessment and Application (of the State Ministry of Research and Technology) and its MARKAL modelling team, both agencies should draw on international experience in the collection and analysis of energy indicators data and least-cost energy efficient technologies modelling.

Renewable energy in the energy mix

Indonesia's energy demand remains highly dependent on fossil fuels, although there is a huge potential for renewable energy (RE) to play a larger role in the energy mix. For much of Indonesia, with its relatively isolated islands and regions, provision of basic energy needs by RE is an appropriate option. The GOI Energy Blueprint 2005-2025 projects that the share of RE in the primary energy supply will grow from the current 4.3% to 17% in 2025, with RE playing an increasingly important role, particularly for geothermal and biofuels.

The GOI is commended for its efforts to shift policy to accelerate the penetration of RE technologies into the marketplace and to create jobs and generate income by using locally available energy sources. However, the great challenge now is to introduce cost-effective incentives that will attract the necessary investments and bring sustainability to the deployment of RE technology. This would be another task for a Directorate General of Energy Efficiency, Conservation and Renewable Energy in the Ministry of Energy and Mineral Resources.

Keys to sustainability in the deployment of RE technology are the removal of subsidies in fossil fuel retail pricing and electricity tariffs, and the establishment of a regulatory framework that will provide incentives and clarity to investors on issues related to the bidding procedure for new projects and the ongoing taxation and RE feed-in tariffs. The feed-in tariffs for RE systems should be based on the avoided cost as determined by an independent electricity regulatory body, rather than by the state-owned electricity company, PT PLN. This is equally applicable to all RE technologies and the incremental costs of these RE systems should be reflected in the tariff to the local electricity consumer rather than recovered from the government budget.

Indonesia is a key player in the field of biofuels. The production of palm oil has become economically very attractive as prices started to rise rapidly by the end of 2006. The Review Team was very conscious of the domestic and international concerns about the sustainability of this development, particularly from the viewpoint of deforestation and land management policy. Development of a biofuels industry and supply chain continues in Indonesia. Consequently, there is a need for the Ministry of Energy and Mineral Resources and associated ministries to be able jointly to answer critics through the development of a comprehensive policy that aims to create a sustainable biofuels market, taking into account economic, environmental and social considerations.