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UNDERSTANDING COMMERCIAL
AND DEVELOPMENT OBJECTIVES
IN THE DELIVERY OF ELECTRICITY
IN PAPUA NEW GUINEA

Ronald Sofo

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Key Points

- The objectives of the state electricity entity in Papua New Guinea (PNG) are to provide electricity to generate profit and to meet development needs.
- The inefficiency in power generation and distribution, and citizens' limited capacity to pay in PNG, make it difficult for the state electricity company to provide electricity for profit.
- To achieve the government's electrification target, the state electricity company should focus on its development objective.
- The state electricity entity needs continued financial and technical assistance to improve capacity to meet the development objective.

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UNDERSTANDING COMMERCIAL AND DEVELOPMENT OBJECTIVES IN THE DELIVERY OF ELECTRICITY IN PAPUA NEW GUINEA

By Ronald Sofo

At the recent 35th Australia Papua New Guinea Business Forum ‘The Road Ahead: Optimising Infinite Opportunities’, the state electricity entity, PNG Power Limited (PPL), underlined its commitment to expand accessibility, improve reliability and reduce the cost of electricity in the country. In the ensuing Speaker’s Summit, the new government tasked all state-owned enterprises (SOEs) including PPL to generate profit and declare dividends to the state. These are daunting tasks requiring the state electricity entity to set clear objectives and focus to drive needed improvement in its operational and financial performance. Entities undertaking commercial activities on behalf of the PNG government have been persistently constrained by challenges, one of which is unclear objectives. While PPL is expected to operate as a commercial entity with profit-oriented objective, the development need for electrification throughout rural areas as the default service provider is overwhelming. Drawing on a recent paper by Fallon and Sofo (2019) on electricity reform in PNG, this paper attempts to put into perspective the dilemma between commercial and development objectives and the potential conflict in associated roles of key agencies and reform proposals in the delivery of electricity in the country.

Electricity in the development process

Both the PNG government’s Development Strategic Plan 2010–2030 (DSP) and the National Energy Policy 2018–2028 (NEP) place strong focus on increasing electricity access to reach a target of 70 percent of households in PNG by 2030. To achieve this ambitious target, the National Electrification Roll-out Plan (NEROP) has been put in place as the development strategy to identify and prioritise projects that need to be implemented.

Electricity is widely recognised as a critical catalyst for social and economic development. However, electric power has not penetrated the entire landmass of PNG despite its wealth of energy assets including natural

gas, hydro and renewables. Compounded by a severely stressed network with limited capacity to support ongoing expansion of access to reliable and affordable electricity, the country remains one of the least energy intensive in the Asia-Pacific Economic Cooperation (APEC) region.

To realise electricity benefits, it is a prerequisite that a large investment cost on trunk infrastructure and network will have to be incurred by the service provider. Electricity sectors around the world evolved with SOEs that dominate generation, transmission, distribution and retailing segments. They were challenged to ensure delivery of the essential service in pursuit of development, despite high costs and inefficiencies in the supply of electricity (Besant-Jones, 2006). According to the standard reform paradigm, the extent to which it is appropriate and feasible to make SOEs providing essential services in developing countries adopt a more commercial, profit-oriented focus depends on the extent of market and institutional development.

Commercial versus development objectives

PPL has been responsible for the generation, transmission, distribution and supply of electricity in PNG. It operates three major grids supplied by hydro systems and other mini-grids predominantly fuelled by diesel and has exclusive right to supply up to 10 megawatts within 10 km of its network throughout PNG.

The state electricity entity’s performance has, however, been a concern for some time. Common problems such as frequent power outages reflect the need for major overhauls, maintenance and upgrading of power stations as well as the transmission and distribution system. It is acknowledged that there are also significant system losses associated with illegal off-take and losses due to non-payment of bills. In its recent review, the Asian Development Bank (2017) highlights ongoing issues relating to organisational, financial management and technical capacity within the state electricity entity.

The state electricity entity’s performance is constrained by limited funds for expansion and maintenance. As a regulated utility service provider, PPL expects that electricity

prices will usually be constrained to help ensure tariffs are affordable. Indeed, the government froze electricity retail tariffs in 2013 and they have remained that way since (*The National*, 2018). Under such uncertain circumstances, it may not be feasible for PPL to undertake significant investments given the financial constraints it has faced in the past.

As a commercial SOE, the policy intention over 30 years has been for PPL to be commercially successful. This is reflected in the company's existing Power Development Plan (2014–2028) as one of its strategic goals. However, as Fallon and Sofo (2019) note, PPL's publicly specified corporate objective is different. According to PPL's Information Handbook (2016), this is "To enhance the economic and social development of Papua New Guinea through leading the development and expansion of electricity supply throughout the nation". This is clearly a development objective and not a commercial, profit-oriented one. Indeed, the scope for market failure – the inefficient generation and distribution of electricity across the country, citizens' limited capacity to pay and limited institutional development mean that PPL, as the SOE, has been the central means of development and operation of power systems in the country in recent years.

Given the concerns associated with PPL's performance and limited capacity, the tendency has been to recommend commercialisation of electricity generation and supply. For example, the NEP advocates reforms to make PPL more commercially oriented and to create separate commercially oriented entities in the generation, transmission, distribution and retailing segments. However, to progress nationwide electrification, someone still needs to pursue the development objective as a priority. It is clearly premature to pursue substantial unbundling of PPL's functions. It is worth noting that a development objective can be pursued subject to cost discipline (Fallon and Sofo, 2019). The essential difference with a typical commercial objective, however, is that primacy is not given to maximising profits. Still, the overriding development focus is also important for ensuring community acceptance of overall policy and progress for electricity sector reforms.

The NEP proposes creating a National Energy Authority (NEA) to take charge of all energy-related matters involving the development, conversion and transportation of energy. This suggests that the NEA would be responsible for the development objective but in relation to electricity supply, it would require extensive technical operational and planning capacity which currently is the responsibility of PPL. In addition, the state of electrification, network penetration and overall economic and institutional development means that the task requires sufficient capacity in planning and coordination of considerable investment in situations where there is very limited scope for meaningful competition.

Need to clarify roles of key authorities

There is need to clarify roles and responsibilities of key authorities pivotal in the delivery of electricity service. The proposal to establish the NEA has come out of the recognition that there was no central power planning function, including plans to substantially increase access in rural regions. PPL has an extensive 15-year Power Development Plan for 2014-2028 but at the same time the NEROP has been developed and assigned as a responsibility of the NEA.

The implementation of the NEROP is clearly a major development task. It is instructive to note that in preparing the NEROP, the implementation responsibility was identified as a major challenge by the National Stakeholders Consultation Workshop (2013) report but at that time no entity had been designated to take responsibility for implementation. The current and proposed activities and capacity of the Energy Wing of the Department of Petroleum and Energy and PPL suggest that the key responsibilities for implementation of the NEROP still need to be clarified. In preparing the NEROP, the National Stakeholders Consultation Workshop (2013) noted that the entity responsible for implementation would also be responsible for detailed activity planning. It also resolved that the state electricity entity has the expertise to carry out and accomplish the task, provided there are additional financial and manpower resources.

PPL has a default development objective and is best placed in terms of technical skills and planning capacity to develop and implement the electrification exercise (National Stakeholders Consultation Workshop, 2013). This could be complemented by the introduction of competition in feasible segments notably generation and retailing to allow participation of the private sector to preferably avail additional capabilities and resources.

The scope for introducing competition in PNG's electricity sector is very limited (Fallon and Sofo, 2019). This has been addressed with the third-party access code currently supervised by the Independent Consumer and Competition Commission (ICCC). Power system planning is a highly technical exercise. While the country's main capacity for power planning is currently at PPL, that capacity needs to be strengthened to meet the NEP goals. It is likely to be difficult for NEA to develop effective capacity for system-wide planning within the timeframe envisaged in the NEP.

Potential conflict of interest

As default planner, PPL would have a potential conflict of interest if it is responsible for overall planning when the NEP also promotes competition. If the state electricity entity had a commercial objective to maximise

profits it would also have an incentive to favour planning arrangements that favoured its business over opportunities to facilitate competition from the independent power producers. Nonetheless, there can still be conflicts of interest at the planning stage over whether small grids should be established, or existing networks expanded. This implies that the NEA or similar entity would need to have oversight responsibilities if PPL had primary responsibility for overall power system planning. Therefore it is important to establish the primacy of a development objective for PPL as it would help ameliorate concerns about the conflict of interest between planning and commercial outcomes.

There is the issue of the role of Kumul Consolidated Holdings (KCH) that has overall responsibility for the performance of SOEs, particularly from a commercial perspective. In light of the discussion here, KCH would need to recognise the priority of an overall development objective for the state electricity entity and develop and monitor suitable development and cost performance benchmarks as part of the annual operating plans that it reviews. Although it is considered most appropriate for PPL to have a development objective, it still needs to achieve good commercial standards for management, technical delivery and cost discipline. Both KCH and the ICCC would have input in to setting and monitoring cost benchmarks and performance for PPL with a view to promoting cost efficiency.

Conclusions

The electrification target set in the government's policy and development strategies requires considerable work to be undertaken in planning and coordinating investments and connections. PPL, the state electricity entity, is in a difficult position to be guided by a commercial objective while striving to meet the pressing development need of ensuring access to electricity service to the bulk of the rural population in PNG. To achieve the government's ambitious electrification target of reaching 70 percent of households by 2030, it is important that the primary objective of the state electricity entity is focused on pursuing its development objective. However, it should be made more accountable to achieve commercial standards in management, cost discipline and efficient delivery. This means that the primacy is not given to maximising profits but rather to its overriding development focus. Continued assistance such as the recent

Electrification Partnership (reached by development partners Australia, Japan, New Zealand and the United States) will be needed to bolster operational and technical capacity to meet the development objective on electrification.

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About the Author

Ronald Sofe is a Research Fellow of the Economic Policy Research Program at the PNG NRI. He also serves as the interim Manager of the PNG APEC Study Centre, housed within the PNG NRI.