

## PROGRAM ECONOMIC ASSESSMENT

1. This document describes the economic context for the Asian Development Bank (ADB) Proposed Policy-Based Loan and Administration of Technical Assistance Grant to Palau: Palau Public Utilities Corporation (PPUC) Reform program. The policy loan of \$10 million is divided into two subprograms of \$5 million each. This analysis refers to subprogram 1 and reflects Palau's development financing needs, the breadth of reform, the expected development impact, and program implementation costs. In the midst of a coronavirus disease (COVID-19) recovery, the program takes on a heightened importance.

### A. Project Objectives and Rationale

2. PPUC, responsible for both energy and water services, is experiencing significant losses, which are a drag on government resources and the economy. Inadequate corporate governance of PPUC is negatively impacting sector growth by contributing to poor investment decisions, and operational and network inefficiencies that limit revenues. The inefficiencies amplify the utility's liquidity gap and place the state-owned enterprise (SOE) in a cycle of circular debt, creating the need for unsustainable government support. Sector constraints are also hindering investment in renewable energy, which could help the nation reduce its dependence on expensive fossil fuels.

3. The reforms of the program target tariff reforms, PPUC financial management and corporate governance, and market access for private sector participation. Collectively, these reforms will increase revenues (and liquidity), establish corporate governance guidelines, including procedures for capital investment and risk management, strengthen operational and technical performance, and eliminate the need for government support. The reforms will open the sector to outside investment, beginning with renewable energy installations. These objectives are foundational to the national renewable energy plan,<sup>1</sup> and fiscal risk management.<sup>2</sup>

4. The reforms are also important in assisting the nation with its COVID-19 recovery. Removing the fiscal obligation of government support for PPUC will free up public money for direct COVID-19 recovery needs. Furthermore, sector improvements will ensure a reliable and growing energy supply, a crucial element for long-term economic recovery.

### B. Macroeconomic Overview

5. Palau's economic growth over the past decade had trended upward, but recently stalled due to a slow-down in tourism caused by COVID-19, a significant aspect of the economy—between 2010 and 2018 receipts from the sector averaged 49% of gross domestic product (GDP).<sup>3</sup> Now that the response to COVID-19 has effectively closed off tourism, Palau's economy will contract further. It is estimated that in fiscal year (FY) 2020 real GDP contracted by 9.5%, and it is projected to fall again in FY2021 by an additional 12.8%.<sup>4</sup> These expectations are driven by an assumption that tourism arrivals will drop by 50% for FY2020 and nearly 100% for FY2021 as travel restrictions remain in place.

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<sup>1</sup> Hornby. 2019. "TA-9242 REG: Pacific Renewable Energy Investment Facility: Palau Energy Administration (49450-001)."

<sup>2</sup> International Monetary Fund (IMF). 2019. Republic of Palau, IMF Country Report No. 19/43, 2018 Article IV Consultation – Press Release; Staff Report; and Statement by the Executive Director for the Republic of Palau.

<sup>3</sup> World Bank Development Indicators. 2020. Palau. Available at <https://data.worldbank.org/country/palau> (accessed 05 June 2020).

<sup>4</sup> IMF. 2020. Republic of Palau - Assessment Letter for the Asian Development Bank.

6. Palau has maintained a budget surplus, which was 2.5% of GDP in 2019. External public debt-to-GDP was 32.5% in 2019, and expenses were 40.5% of GDP.<sup>5</sup> However, due to revenue declines and increased expenditures, a fiscal deficit was incurred in FY2020, the first in 10 years. A deficit of 12.2% of GDP was recorded in FY2020 and another equivalent to 23.8% of GDP is expected in FY2021 as tax revenues fall and expenditures related to the COVID-19<sup>6</sup> recovery rise.<sup>7</sup> Palau's 2019 current account deficit, at 28% of GDP is the highest since at least FY2000 (footnote 5). The nation's labor market was close to full employment (pre-COVID-19) and employment had grown by an average of 0.4% since 2000.<sup>8</sup> Now, job losses will be an estimated 18% for Palauan nationals and 35% for foreign workers (due to the higher percentage employed in the hospitality sector).<sup>9</sup> Women employees are expected to comprise about 39% of all job losses. The 2018 poverty rate was 12%, but is forecast to increase to 29% of households by FY2021 (footnote 9).

7. The policy actions are particularly vital in the context of a post-COVID-19 environment. Electricity price reductions and energy efficiency can reduce costs across all sectors allowing for investment in growth-oriented activities and assist the economic recovery. Examples can be found in both commercial and public sectors, as well as among residential users. Poor service quality and inefficient production/delivery of electricity place added costs on commercial enterprises, further encumbering enterprises that are already dealing with disrupted markets. Fiscal resources, now required to sustain the electricity sector, could be more productively spent on recovery efforts such as job creation efforts or programs to protect the most vulnerable. For residential customers, long-term lowered costs of electricity reduces household costs of lighting and cooling, freeing resources to invest in recovery related items such as basic needs or skills training for a new job.

### **C. The Energy Sector in Palau**

8. Palau faces energy challenges often shared by other Pacific nations. Its dependence on imported diesel for power generation means exposure to high and volatile fuel prices, and high carbon dioxide emissions from the sector. At the same time, limited generation capacity, outdated power infrastructure, geographical dispersion of consumers, and small economies of scale, have resulted in high electricity tariffs (or costly subsidies), transmission and distribution losses, and diminished quality of service. COVID-19 will have an ongoing effect on the electricity sector with energy demand falling, especially in the commercial sector. With tourism arrivals essentially at zero, demand from the hospitality sector will remain low until arrivals return to normal levels in 2022, at the earliest. Reduced demand will result in fuel cost savings, however lower revenues will be problematic for PPUC, which uses a cross subsidy from commercial customers (together with delayed operating and maintenance expenditures) to help pay for lower tariffs among residential users.<sup>10</sup>

9. To overcome energy constraints, the government has embarked on a shift toward renewable energy, and structural enhancements to attract private investment. Palau has introduced a goal of 20% renewable energy by 2020, and 45% by 2025. The transition to renewable energy will reduce dependency on imported fossil fuel, increase access to affordable

<sup>5</sup> Graduate School USA. 2020. Palau, FY2019 Statistical Appendixes.

<sup>6</sup> In response to COVID-19, the government has taken robust action through the recent Coronavirus Relief One-Stop Shop (CROSS) Act (RPPL 10-56), a series of temporary relief measures administered by the Ministry of Finance. See para 29 for a summary.

<sup>7</sup> ADB. 2020. *Report and Recommendation of the President to the Board of Directors: Proposed Countercyclical Support Facility Loan Republic of Palau: Health Expenditure and Livelihoods Support Program*. Manila.

<sup>8</sup> Graduate School USA. 2019. Palau FY2018 Economic Review.

<sup>9</sup> Graduate School USA. 2020. Technical Note; Assessing the Impact of COVID-19 on the Palauan Economy.

<sup>10</sup> Palau. 2012. Palau Sustainable Economic Development through Renewable Energy Applications.

and reliable electricity. Over time this will reduce generation costs, decrease diesel consumption, and eliminate significant amounts of carbon dioxide emissions. The enhancements will also help to attract private capital to finance the significant investment needs of the sector estimated at \$150 million.<sup>11</sup>

#### **D. Policy Reform Areas**

10. **Reform area 1: Tariff reforms managed.** The objective of the reform area is to improve financial sustainability of PPUC through essential energy tariff reforms. The Palau Energy Administration (PEA) approved (i) new regulation for setting of cost recovery electricity tariffs for PPUC and (ii) guidelines for electricity tariff petition by PPUC. The purpose of the new tariff regulation is to a set cost recovery principle under which PEA will be reviewing PPUC tariff petition. The new regulation will enhance the operational and financial sustainability of PPUC enabling it to generate sufficient revenue to recover its fixed and variable costs for network infrastructure development and maintenance. The new guidelines for electricity tariff petition are intended to supplement the regulation for the setting of cost recovery electricity tariffs providing guidance on the tariff petition process and PEA's review and approval. Furthermore, the new petition guidelines set procedures for (i) implementation of subsidy program for poor and low-income households with clear and explicit instructions on types of subsidies, households' eligibility criteria and procedures for application for allocated subsidies; (ii) awareness raising campaign for poor and low income households about the subsidy program, eligibility requirements and application for subsidized electricity consumption; and (iii) communication on a grievance redress mechanism for receiving and resolving potential complaints from the customers. To comply with new regulation, the PPUC management board prepared its first-time electricity tariff petition for PEA review and approval.

11. These actions are important for PPUC sustainability. The regulations will create the legal framework for cost-recovery on the part of PPUC and other energy suppliers, enabling assurance that cost of operations can be covered. The guidelines for tariff petition provide a clear set of procedures for the submission of tariff requests, and a clear guidance on whether cost recovery will be supplied by the end user or a subsidy. In either case cost recovery will be achieved, including a return on capital investment. Finally, the actual submission of the petition by PPUC allows the company to address its own cost-recovery needs, while also demonstrating the process to potential independent power producers (IPP). Together the policy actions allow for a consistent and transparent process by which tariff adjustments are requested and approved for all energy providers, with the effect of sustainability for PPUC and assurances for IPPs, leading to increased investment interest in the sector.

12. **Reform area 2: Palau Public Utilities Corporation financial management enhanced.** This reform area aims to enhance financial management of PPUC complying with control, reporting and disclosure norms and industry requirements. The PPUC board approved PPUC's accounting policy and procedures consistent with US Generally Accepted Accounting Principles that will be used to maintain its financial records comprehensively and accurately. The new accounting policy and procedures will standardize PPUC's accounting function, measurement system, and procedures for presenting disclosures. The PPUC board also approved the corporate annual revenue required model for electricity operations in 2021–2023. This model will support the PPUC management in financial projections based on revenue requirement, i.e. total amount of revenue required to recover its costs of electricity supply, where such costs include prudent operating and maintenance costs, capital expenditure, and reasonable rates of returns on debt

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<sup>11</sup> ADB. 2020. *Project Concept Paper for Proposed Policy-based Loan for Palau Public Utilities Corporation Reform Subprogram 1*. Manila.

and equity required to finance the capital investments. PPUC's projected revenue requirement is determined by comparing the PPUC total revenue to its operating and capital costs during FY2021 to estimate the adequacy of existing tariffs to recover its costs. The PPUC board approved PPUC's revenue enhancement action plan for 2021 prioritizing two high value actions to improve the financial sustainability of the company.

13. These actions are also vital for PPUC sustainability. The annual revenue model is a precedent to the cost-recovery tariff petition, providing the method to calculate required revenues for sustainability at the utility. Furthermore, the revenue enhancement action plan provides two high-impact and executable strategies for increasing PPUC revenues and liquidity position, in the near term. These are projects that PPUC has indicated as high priority in recent years but has been unable to pursue due to cost constraints. The accounting policies are necessary to maintain internal control and transparency over records and corporate financial management. The transparency will be crucial for performance reviews and other corporate-style audits, which are key aspects of achieving sustainability goals. The actions also help support government's objectives for sustainable SOEs, by providing a model of SOE financial management.

14. **Reform area 3: Palau Public Utilities Corporation corporate governance and transparency strengthened.** To comply with Palau Policy for State-Owned Enterprises (2014), the PPUC board approved PPUC's code of corporate governance in line with the Organisation for Economic Co-operation and Development (OECD) Guidelines for Corporate Governance of State-Owned Enterprises (including a minimum 30% representation by women). The corporate governance code aims to ensure that PPUC's board members represent the interests of the corporation and comply with laws free of political or self-interest in an independent manner. To comply with transparency requirements, the PPUC board approved procedures for audit, risk and compliance supporting the board with oversight of (i) the integrity of the financial reporting of the PPUC; (ii) the independence, qualifications and performance of the corporate's external independent auditor and the performance of the internal auditor; (iii) evaluating risk in operations and investment decisions; and (iv) PPUC's compliance with legal and regulatory framework of Palau.

15. To promote gender equality, the PPUC board approved PPUC's gender strategy for 2020–2023 consistent with the Palau National Gender Mainstreaming Policy (2018). The PPUC will take affirmative measures provided in this gender strategy to promote and apply the principles of gender equality in the workplace as well as in relations with customers. PPUC will support developing a skilled and diverse workforce that will contribute to efficient business processes and organizational productivity. Also, PPUC board approved the new corporate gender sensitive human resource procedures, including flexible working, introduction of parental leave and workplace harassment and discrimination policies (including gender-based discrimination and sexual harassment). The new human resource procedures aim to ensure a supportive workplace environment for all employees irrespective of gender, free from discrimination and harassment related to gender bias, race, age and other diversity, in which all employees can realize their full potential.

16. The Guidelines will "corporatize" PPUC, requiring it to operate on commercial principles (when SOEs are not required to operate on commercial principles, productivity and efficiency are often low). The expected result is much higher levels of financial and operational performance. The OECD guidelines provide necessary managerial oversight for audit, risk and compliance to fully ring-fence the company, creating an independent entity. With independence, PPUC can serve as offtaker for IPPs in the future, putting energy purchase decisions at the appropriate market level (when the offtaker is not central in energy purchase decisions, those decisions may

be out of step with market realities). Furthermore, in the absence of a financially responsible utility, IPPs must pursue contractual agreements with the central government, leading to a confusing array of agency stakeholder arrangements on the part of the IPP, and the exposure to contingent liabilities for power purchase agreements (PPAs) on the part of the government. With PPUC as a separate company, responsible for executing PPAs, the central government can avoid the position of guarantor for the power offtake.

17. **Reform area 4: Market access for private sector participation improved.** The objective of the reform area is to improve market access for private sector participation in the energy sector of Palau. The President of Palau approved a new regulation for development of renewable energy facilities by IPPs. Under the new regulation, PEA is mandated for (i) leading the process for soliciting renewable energy from the IPPs through a formal tender procedure; (ii) review and approval of PPUC applications for unsolicited proposals for the development of renewable energy facilities connected to the national grid; (iii) setting licensing requirements applying to IPPs and (iv) review and approval of PPAs between PPUC (offtaker) and IPPs, ensuring appropriate risk exposure. To comply with new regulations for development of renewable energy facilities by IPPs, the PEA approved the PPUC's capacity plan with the objective to confirm grid capacity available for renewable energy producers and IPPs and measures required to expand power transmission infrastructure.

18. The regulations provide the legal framework for IPPs to invest in the sector, and the capacity plan ensures that the right proposals are sought. These documents are also important to PPUC financial sustainability because they provide a clear roadmap for capital investments that will maximize corporate revenues. In the past, investments have not always been clearly vetted, resulting in projects that do not necessarily maximize system performance. Investment in evacuating new renewable energy is essential to recruit investment in generation by reducing offtake risk of the provider. The network investments will also help to bring down electricity costs (addressing the core sector problem) in at least two areas: (i) renewable installations provide cheaper energy over time; and (ii) new network capacity will reduce line losses, allowing PPUC to save money on fuel (with high line losses electricity is generated that cannot be billed).

## **E. Transmission Mechanism**

19. These reforms are a baseline, without which the ability to attract investment to the sector remains very limited. The policies drive a financially independent PPUC and a viable electricity sector, which in turn is able to attract much needed financing, for increased capacity and improved inefficiencies.<sup>12</sup> Therefore, the transmission mechanism for the Policy proposal centers on creating an independent, transparent and financially viable PPUC, which is a required first step to overcoming sector constraints and realizing program benefits of expanded capacity, improved efficiency, and environmental and other benefits.

20. First, strong financial management and transparency at PPUC are required to open new investment possibilities, beginning with renewable power expansion and extending to other aspects of the value chain including network efficiency. The accounting and disclosure policies of

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<sup>12</sup> The reforms are partially based on the "OECD Guidelines on corporate Governance of State-Owned Enterprises," (2015), which links financial management and board governance directly to sector performance. The IMF also suggests governance standards to enhance sector performance, especially when private investment is required to meet performance targets (see IMF, "State-Owned Enterprises: The Other Government." Date unknown.) Finally, independent research, such as that of Pergendler, (Pergendler et al., "In Strange Company: The Puzzle of Private Investment in State-Controlled Firms," Cornell International Law Journal. Vol. 46. 2015.) show the more corporate managerial and governance structure of the SOE, the more private capital it can attract.

Reform Area 2 will improve investor confidence in PPUC, which will function as the power offtaker for developers. Transparent cost-recovery rules, Reform Area 1, will further help to attract these investments. Without these rules, investors have no institutional assurance that expenses can be recovered or a return on capital can be provided. Reform area 4 establishes improved market access rules especially designed to attract renewable energy investors. As IPPs respond to these rules, the result will be expanded generation capacity, and lower percentages of greenhouse gas emissions from the sector.

21. Second, governance and financing reforms at PPUC will drive performance improvements, leading to improved service delivery. Currently, sector investments are not always driven by market-based decision making. The result can be a politicized investment decision process that does not efficiently meet the need of the end user. Governance recommendations will ringfence PPUC and put in place a rigorous process for budgeting and investment, eliminating politicized aspects of decision-making (Reform area 3). Instead, investment decisions will be vetted by the investment committee, with full transparency to shareholders (the public). The process aims to ensure service-minded investments, such as expanded capacity and improved network efficiency. This disciplined investment process will, over time, enhance the creditworthiness of PPUC and the sector, open vital new sources of capital, allow investments to occur more quickly, all of which improves service delivery. Without the policy interventions, a business as usual scenario prevails, and PPUC would remain under the strain of circular debt, limited capital availability, and sector dependence on imported fossil fuels.

22. In this way, three of the program Reform areas directly enhance the financial independence of PPUC, resulting in performance improvements, and generating these benefits, and the fourth paves the way for private investment. First, approved tariff reform (Reform area 1) provides national regulations and guidelines for a cost recovery electricity tariff petition to PEA; Reform area 1 also includes the submission of such a petition by PPUC, to ensure the pathway to sustainability begins as soon as possible.<sup>13</sup> Second, a revenue requirement model and the capital investment plan is a precedent to calculating a cost-recovery tariff (Reform area 2). Further, the revenue enhancement action plan provides two high impact strategies designed to quickly improve PPUC revenues and liquidity.<sup>14</sup> Third, strengthening governance and transparency rules (Reform area 3) will ring-fence PPUC and create systems allowing for performance reporting, risk assessment and management, and internal and external audits. Currently these activities rarely occur, resulting in low, overall performance. Fourth, all previous policies combined with a smooth pathway for private providers incentivizes investment. Together, these policy actions help to drive the economic benefits listed below.

## **F. Project Economic Benefits of Reforms**

23. Benefits from full program implementation emanate from a financially sustainable PPUC and come from four primary sources: (i) expanded capacity, (ii) fuel savings from improved efficiency and new renewable installations, and (iii) environmental benefits. The full value of these benefits is not attributed to the reforms; rather, the reforms constitute a foundational step, without

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<sup>13</sup> The reforms aim for a transparent cost recovery calculus for all electricity providers, to indicate the tariff required for sustainability. This allows PEA and the government to decide how to achieve sustainability—whether through end-user tariffs or a subsidy. The measure does not mean end users will necessarily face increased prices for electricity, only that decision makers can make an informed selection of which strategy to pursue.

<sup>14</sup> Benefits of the two revenue enhancement strategies to PPUC can be estimated. The figures serve to illustrate the potential impact of the reform on PPUC performance: (i) The installation of 837 prepaid meters will improve liquidity position at PPUC by over \$6 million and improve the days of sales outstanding from 33 to 8 days. Replacing two engine control systems at the main power plant results in a potential savings of \$3.5 million in case of plant failure.

which other necessary steps toward the realization of benefits may never occur. Neither are benefits fully quantifiable for this policy-based loan.

24. **Demand forecast.** To assess benefits, future demand has been estimated, considering the effect of COVID-19. Prior to COVID-19 the electricity sector had been expected to grow by approximately 3.5% per year over the next decade.<sup>15</sup> However, under a reduced demand resulting from COVID-19, growth will likely stall for at least 2 years before resuming a positive trend. Furthermore, due to the uncertainty of the economic recovery, a conservative growth path has been adopted<sup>16</sup> (Table 1). Baseline energy generation in 2019 was 88.6 gigawatt hours, and net consumption, after losses, was 74.8 gigawatt hours. From the baseline, 2 years of zero growth are projected, followed by a slow growth trajectory that increases gradually by 0.5% every two years, until leveling at 1.5% which is consistent with Palau's projected economic recovery. For the baseline case, without the program, networks losses are maintained at 15.6% over 10 years.

**Table 1: Energy forecast**

Item		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
1	Growth rate	0.0%	0.0%	0.5%	0.5%	1.0%	1.0%	1.5%	1.5%	1.5%	1.5%
2	Generation GWh	88.6	88.6	89.1	89.5	90.4	91.3	92.7	94.1	95.5	96.9
3	Loss rates %	15.6%	15.6%	15.6%	15.6%	15.6%	15.6%	15.6%	15.6%	15.6%	15.6%
4	Net Consumption GWh	74.8	74.8	75.2	75.6	76.3	77.1	78.3	79.4	80.6	81.8

### 1. Expanded Capacity

25. The policy actions may lead to higher investments to expand the capacity of the power system, thereby increasing the amount of available electricity for existing and new consumers connecting to the national grid. Currently, existing generation struggles to fully meet demand, and in some areas, outages are beginning to emerge. The cost of power outages is high as productivity losses by commercial consumers can be substantial. With the program, the sector can attract the capital to anticipate new consumption.

### 2. Efficiency Savings

26. With the program, PPUC is able to improve efficiencies as, firstly, an improved network reduces losses and, secondly, renewable energy replaces expensive diesel generation. These non-incremental benefits are possible if investments are put in place to replace inefficient assets and proper operations and maintenance is restored. Energy efficiency can provide long-term benefits by lowering both baseload and peak demand. Without the program the utility will continue to struggle with system inefficiencies and unsustainable loss rates, weighing on an economy that already faces many challenges to overcome the effects of COVID-19. System losses currently result in higher levels of generated energy than would be required with lower loss rates. With the program, a fully viable PPUC will be able to make appropriate investment in network capacity to improve loss rates. Additional fuel savings accrue as diesel generation is replaced with solar power, in line with national objectives. The program supports renewable installations by

<sup>15</sup> Japan International Cooperation Agency. The Project for Study on Upgrades and Maintenance Improvements of National Power Grid in the Republic of Palau. 2018.

<sup>16</sup> Demand projections are challenging; due to the smallness of the economy, GDP projections are unavailable, and the volatility of past GDP growth has made it difficult to assess a meaningful energy elasticity figure. Average energy demand growth for the past six years is 2.5%. However, due to the COVID-19 impacts, and an expected slow recovery, the following projection has been adopted: Zero growth in demand is expected for two years, after which a slow growth rate that increases by 0.5% every 2 years until leveling out at 1.5% per year.

strengthening market access for renewable energy IPPs. Without the program, the country continues to produce electricity primarily from diesel powered plants.

### **3. Environmental Benefits**

27. The achievement of renewable energy targets also allows Palau to realize additional environmental benefits. These also come as the country replaces diesel generation with renewable energy. The benefit is supported by both Reform area 1, under which energy providers can petition for cost recovery tariffs, and Reform area 4, improved market access for private sector participation. The policy's new regulations offer a legal framework for IPP investments, and the capacity plan (Reform area 4) ensures that those investment will be highly strategic, and well-integrated with system needs. Improved energy efficiency can also positively affect air quality, and physical work environment, which ultimately lead to productivity improvement, across the economy.

### **4. Associated Benefits**

28. In addition to these benefits, there are others that emanate from the program. For example, an associated "fiscal" benefit may be leveraged as an economic benefit, if any avoided subsidies can be put to economically productive uses. Palau's government could realize budget savings averaging \$2.6 million annually (1% of GDP), through avoided subsidies (the average annual value of operations and capital grants since 2013). As a result of the program, both PPUC and the central government will have a clear picture on whether annual subsidies are required, and for what purpose; decisions can be made whether to cover costs with subsidies or end user charges. Without the program, Palau continues to provide subsidies to PPUC on an emergency basis. At the current rate, over the next 10 years total government transfers to PPUC would be \$26 million (10% of 2019 GDP). The savings may allow Palau to redirect resources to address other pressing issues, including the COVID-19 response.

29. In response to COVID-19, the government has taken robust action through its Coronavirus Relief One-Stop Shop (CROSS) Act (RPPL 10-56). CROSS is a series of temporary relief measures, addressing the health and socioeconomic impacts of COVID-19 and protect the most vulnerable population. The Act includes: (i) a revised budgetary allocation for emergency supplies, additional screening and testing, and bridging revenue shortfalls to maintain critical public services (health and social assistance programs); (ii) loans to affected businesses; (iii) unemployment benefits; (iv) wage funding for temporary employment schemes by the public sector and nongovernmental organizations; and (v) expanded lifeline utility subsidies.<sup>17</sup> Subsidies that would have gone to PPUC may be used more productively to implement or expand programs such as this.

30. As an additional fiscal benefit, a financially sustainable PPUC makes it possible for PPUC to function as the energy offtaker for new renewable energy installations, reducing the quasi-fiscal risk associated with government guaranteed PPAs. Reducing the risk exposure of the government enables better borrowing terms when the time comes to pursue additional loans for economically beneficial projects and programs.

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<sup>17</sup> CROSS is administered by the Ministry of Finance and funded by two supplementary budgets, the first for an additional \$6.9 million and the second for \$20 million, making the COVID-19 response equivalent to 10% of GDP. Congress passed legislation authorizing additional borrowing of up to \$60 million (22% GDP), to address COVID-19 related needs.

31. Further, many of the policy actions are designed to promote private investment. If fully applied these will result in the attraction of foreign direct investment to the sector (though delays due to COVID-19 are expected). Program policy actions will accelerate the bidding and contracting processes for IPPs to achieve the renewable energy target of 45% by 2025 with estimated private investment of \$31 million or 11.5% of GDP.

32. Finally, economic benefits will also accrue from improving water and wastewater services, especially among more remote populations. While 96% of Palau's population has access to public water supply systems, the delivery infrastructure outside the primary service areas are in poor condition and service delivery standards are low. Furthermore, the two sewerage systems in Koror and Melekeok only cover 60% of the country's population. Sewage collection and treatment practices have been inadequate and wastewater system maintenance is reactive rather than planned. Palau has established both legal and regulatory frameworks for water and wastewater operations on commercial principles and at full cost recovery;<sup>18</sup> however, inadequate accounting policies and poor asset management investment dollars prevent a clear picture of the cost of water and wastewater services. The reform areas' governance structure and financial management plans will allow PPUC to clearly assess and approve the necessary investments, tariffs, and targeted low-income subsidies<sup>19</sup> to upgrade the nation's water and wastewater services, leading to overall economic growth. The ADB, World Bank and World Health Organizations, among others, draw a clear and positive correlation between increased national income and the proportion of population with access to improved water supply.<sup>20</sup>

## **G. Conclusion**

33. The proposed ADB program will benefit Palau economically through policies that support a financially independent utility and a viable sector. These foundational reforms are a necessary first step to a more fully transformed sector. The benefits also address core problems of the sector, namely, expensive electricity resulting especially from an over-reliance of fossil fuel, and a lack of private sector financing available for renewable energy. Sector sustainability will lead to renewed investments that allows for expanded capacity, technical loss reduction, and mitigation of carbon emission. Improvements in the energy sector can deliver benefits across the economy, with direct and indirect impacts on economic activity including employment, trade balances and energy prices. As the policy actions take effect, an efficient sector can lead to enterprise cost reduction from falling electricity prices, reduction of expensive fuel imports, and more investment in growth. In addition to economic benefits, fiscal benefits may be realized that can create additional headroom for government investment in the economy at large plus a reduction in quasi-fiscal risk exposure. The impacts of COVID-19 may alter demand patterns and challenge the business model of PPUC; this should be monitored closely.

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<sup>18</sup> ADB. 2010. *Report and Recommendations of the President for Proposed Loan to Republic of Palau: Water Sector Improvement Program*. Manila.

<sup>19</sup> Currently, the government's lifeline tariff program is not efficiently used by poor and vulnerable households and the benefits of below cost recovery tariffs are shared by all consumers including wealthier households. Under the proposed program, the government approved cost recovery tariffs and improved accessibility to lifeline tariff program for poor and vulnerable consumers.

<sup>20</sup> World Health Organization. "Generating Economic Benefits with Improved Water Resources Management and Services" [https://www.who.int/water\\_sanitation\\_health/watandmacr2.pdf](https://www.who.int/water_sanitation_health/watandmacr2.pdf).