

## FINANCIAL ANALYSIS

### A. Introduction

1. This financial analysis updates the analysis undertaken during appraisal of the South Tarawa Water Supply Project in 2018. The evaluation was carried out following the Asian Development Bank (ADB) guidelines for financial management and analysis of projects.<sup>1</sup>
2. The project will improve the reticulated water supply in South Tarawa. In particular, it will provide a climate-resilient water supply of 6,000 kiloliters per day (kL/day) from two desalination plants and rehabilitate and extend the distribution network to allow water to be delivered to households. Access to reticulated water will increase from 42% of households in 2022 to 100% of households over 3 years. The desalination plants' electricity consumption will be offset by a 2,500 kilowatt solar photovoltaic system.
3. The Ministry of Finance and Economic Development is the executing agency, and the Ministry of Infrastructure and Sustainable Energy and Public Utilities Board (PUB)—the state-owned enterprise responsible for providing electricity, water, and sewerage services in South Tarawa—are the implementing agencies.
4. Because the project is required to mitigate the impacts of climate change and is not principally revenue earning, the project's financial internal rate of return has not been calculated. Instead, the focus of this analysis is the financial sustainability of the project, of PUB (as operator of the project assets), and the ability of the government to fund operating costs if necessary.

### B. Assumptions

5. The currency of Kiribati is the Australian dollar, and this analysis has adopted the Australian dollar as the evaluation currency.
6. The forecast incremental operating and maintenance cost associated with the project is \$4.8 million per year, comprising desalination plant operations (excluding electricity) of \$1.6 million, network operating costs (excluding electricity) of \$2.7 million, and electricity operating costs (diesel fuel for the residual electricity not provided by the solar photovoltaic system) of \$0.5 million. The project costs include 5 years of operating and maintenance expenses (excluding electricity). Therefore, PUB must fund \$0.5 million operating expenses a year for the first 5 years and \$4.8 million a year for the remaining 15 years of the project.
7. PUB will earn incremental project revenue. Commercial, industrial, and government customers are likely to immediately connect to the rehabilitated network to avoid the cost of water tanker deliveries. However, households have not paid for water since 2013, and customers' willingness to pay has been eroded by poor service levels. Restoring customers' willingness to pay will require significant community engagement and advocacy as well as better service levels. PUB has developed water tariffs that will apply once the project is completed.<sup>2</sup>

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<sup>1</sup> ADB. 2019. *Financial Analysis and Evaluation: Technical Guidance Note*. Manila.

<sup>2</sup> PUB. 2020. *Electric Tariff Review and Analysis Final Report*. Betio. The residential tariff has a fixed charge of \$2.00 per month and an inclining rate block volumetric component. The first 2.5kL per month is priced at \$0.50/kL. The next 7.5kL per month is priced at \$1.25/kL. Consumption in excess of 10kL/month is priced at \$2.00/kL. The commercial tariff is \$10/kL, and the industrial and/or government tariff is \$15/kL.

### C. Sustainability Analysis

8. A sustainability analysis was conducted to demonstrate that project revenues are sufficient to meet project costs. Table 1 shows an operating cash flow analysis for the project. The revenue amount assumes a 90% collection ratio. Incremental revenue from commercial, industrial, and government customers is expected to greatly exceed the \$0.5 million needed up to 2027. However, to maintain operational sustainability after 2028, when the grant-funded operating costs period ends, PUB will need to ensure that it can recover at least 85% of billed amounts from customers. The required collection ratio is lower than PUB's collection ratio for electricity services for nongovernment customers in 2022.<sup>3</sup>

9. Even though the project is operationally sustainable, it does not support the long-term sustainability of PUB because it generates insufficient revenue to fund the replacement of the assets at the end of their lives.

**Table 1: Project Operating Cash Flows**  
(\$'000)

Year	Revenue		Costs		Net Cash Flow
	Households	Commercial, Industrial, and Govt	Asset O&M	Electricity	
2023	60	220	0	500	(220)
2024	320	840	0	730	430
2025	740	1,470	0	460	1,750
2026	1,090	2,130	0	460	2,760
2027	1,570	3,020	0	470	4,120
2028	1,620	3,110	2,950	470	1,310
2029	1,680	3,210	4,320	470	100
2030	1,700	3,250	4,320	470	160
2031	1,700	3,260	4,320	470	170
2032	1,700	3,270	4,320	470	180
2033	1,700	3,290	4,320	470	200
2034	1,700	3,300	4,320	470	210
2035	1,700	3,310	4,320	470	220
2036	1,690	3,320	4,320	470	220
2037	1,690	3,330	4,320	470	230
2038	1,690	3,340	4,320	480	230
2039	1,690	3,350	4,320	480	240
2040	1,690	3,370	4,320	480	260
2041	1,690	3,380	4,320	480	270
2042	1,680	3,390	4,320	480	270

( ) = negative, Govt = government, O&M = operation and maintenance.

Source: Asian Development Bank estimates.

<sup>3</sup> PUB reports collection efficiency of greater than 90% for nongovernment customers for electricity services. However, government departments and state-owned enterprises are slow to pay utility bills and are responsible for almost all of PUB's revenue arrears.

#### **D. Public Utilities Board's Financial Performance**

10. Table 2 forecasts PUB's operational surplus by business unit. PUB's operating surplus is lower than previously reported because it forecasts higher electricity generation (fuel) costs from 2022 and higher network operating and maintenance costs. The electricity business will return to a positive operating margin regarding ongoing government community service obligation payments after the commissioning of the South Tarawa Renewable Energy Project.

11. The water and sewerage business units demonstrate low (largely negative) cash operating margins throughout the forecast period. Moreover, the modest cash surpluses earned in the electricity business unit are insufficient to fund the replacement of assets as they reach the end of their lives; namely, cash flows are not sufficient to support the long-term sustainability of PUB.

#### **E. The Government of Kiribati's Ability to Fund Project Operating Costs**

12. To ensure financial sustainability of the project, the government has issued a cabinet decision formally committing it to meet the ongoing operation costs of the water supply system. Table 3 sets out the government's fiscal outlook for 3 years.

13. The forecast fiscal balance indicates that if the government is required to fund a shortfall in project cash flows of up to \$4.8 million, it can do so. However, the funding could only be achieved presently in the context of ongoing budget support from development partners. If ongoing budget support was not available, the financial support for the project would need to come from drawing down capital reserves of the Revenue Equalization Reserve Fund.

**Table 2: The Public Utilities Board's Operating Margin Projection**  
(\$ million)

Item	Unaudited Actual				Forecast											
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
<b>Revenue</b>																
Electricity	11.6	11.8	12.3	13.3	13.5	13.7	14.0	14.3	14.5	14.8	15.1	15.3	15.6	15.8	16.1	16.4
CSO payment	1.5	1.3	1.2	1.7	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1
Water	0.8	0.8	1.1	1.1	0.9	0.9	1.0	2.2	3.2	4.6	4.7	4.9	5.0	5.0	5.0	5.0
Sewerage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4
	<b>14.2</b>	<b>14.2</b>	<b>14.9</b>	<b>16.3</b>	<b>16.7</b>	<b>17.1</b>	<b>17.4</b>	<b>18.9</b>	<b>20.2</b>	<b>21.8</b>	<b>22.2</b>	<b>22.7</b>	<b>23.0</b>	<b>23.3</b>	<b>23.6</b>	<b>23.9</b>
<b>Expenses</b>																
Electricity				10.2	8.6	11.7	11.9	12.1	12.4	12.8	11.4	11.8	12.1	12.5	12.8	13.2
Water				1.5	1.7	0.8	0.3	2.5	2.2	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Sewerage				0.2	0.3	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Other				2.0	2.8	2.8	2.7	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.2
	<b>11.6</b>	<b>12.2</b>	<b>13.1</b>	<b>14.0</b>	<b>13.4</b>	<b>15.6</b>	<b>15.4</b>	<b>17.8</b>	<b>18.0</b>	<b>17.8</b>	<b>16.5</b>	<b>16.9</b>	<b>17.3</b>	<b>17.7</b>	<b>18.1</b>	<b>18.5</b>
<b>Cash Operating Surplus</b>																
Electricity				3.1	4.6	1.8	2.0	2.1	2.1	2.0	3.7	3.6	3.5	3.4	3.2	3.1
Water				-0.6	-1.0	0.0	0.5	-0.6	0.6	2.4	2.6	2.7	2.8	2.8	2.8	2.8
Sewerage				-0.2	-0.3	-0.3	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
	<b>2.5</b>	<b>2.0</b>	<b>1.8</b>	<b>2.3</b>	<b>3.3</b>	<b>1.5</b>	<b>2.0</b>	<b>1.1</b>	<b>2.2</b>	<b>4.0</b>	<b>5.8</b>	<b>5.8</b>	<b>5.7</b>	<b>5.6</b>	<b>5.5</b>	<b>5.3</b>
Operating ratio	1.0	1.1	1.1	1.2	1.2	0.9	1.2	1.2	1.2	1.3	1.2	1.0	1.0	1.0	1.0	1.0

– = negative, CSO = community service obligation (subsidy associated with electricity service provision).

Source: Public Utilities Board and Asian Development Bank estimates.

Note: Numbers may not sum precisely because of rounding.

**Table 3: Government of Kiribati's Fiscal Position**  
(\$ million)

Item	Actual		Budget	Forecast		
	2020	2021	2022	2023	2024	2025
<b>Tax Revenue</b>						
Personal income tax	12.4	10.7	12.5	13.0	13.5	14.0
Company tax	9.7	12.1	12.5	13.0	13.5	14.0
Excise tax	8.6	8.4	8.4	8.7	9.1	9.4
VAT	21.0	18.9	21.0	21.9	22.8	23.6
	51.6	50.0	54.3	56.6	58.9	61.0
<b>Non-Tax Revenue</b>						
Dividends	0.5	3.5	3.5	3.6	3.8	3.9
Interest income	1.2	1.5	1.5	1.6	1.6	1.7
RERF dividends	0.0	0.0	23.0	25.6	26.8	28.1
Fishing license revenue	170.7	160.0	193.1	196.9	200.9	204.9
Fish transshipment fees	12.0	4.5	6.0	6.3	6.5	6.7
Other fishing revenue	1.3	1.0	0.9	1.0	1.0	1.0
Other ministries' revenue	4.4	5.0	5.5	5.2	5.4	5.6
	190.2	175.5	233.5	240.1	246.0	252.0
Budget support	7.0	14.0	17.4	17.4	17.4	17.4
<b>Total Revenue and Budget Support</b>	248.9	239.5	305.2	314.1	322.3	330.4
<b>Operating Expenditure</b>						
Wages and salaries	85.0	106.1	106.6	109.7	111.8	114.0
Uses of goods and services	52.7	42.7	41.5	42.8	43.6	46.2
Interest	0.8	0.7	0.7	0.7	0.6	0.6
Subsidies	25.0	24.4	26.3	23.2	23.2	23.2
Grants	7.0	8.7	8.7	7.8	7.8	7.8
Social benefit	38.1	87.3	96.2	96.2	96.2	96.2
Other current expenses	4.3	10.2	10.0	10.0	10.0	10.0
	213.0	280.1	290.1	290.3	293.3	298.0
<b>Operating Balance</b>	35.9	(40.6)	15.1	23.8	29.0	32.4
Capital expenditure	23.5	21.8	11.7	13.9	15.0	15.0
<b>Fiscal Balance</b>	12.4	(62.5)	3.4	9.9	14.0	17.3
<b>Financing</b>						
Loan repayment	2.6	3.0	3.4	3.4	3.4	3.4
Operating account	7.4	(2.8)	(3.6)	3.2	7.1	10.3
Cash reserve account	2.3	(22.6)	3.7	3.3	3.5	3.7
RERF deposits/withdrawals	0.0	(40.0)	0.0	0.0	0.0	0.0
	12.4	(62.5)	3.4	9.9	14.0	17.3
RERF growth	19.0	129.8	64.0	67.0	70.3	73.8
<b>Net Change in Financial Position</b>	21.4	67.2	67.7	70.4	73.8	77.5
<b>Major Cash Balances</b>						
Operating account	27.1	24.2	20.6	23.8	30.9	41.2
Cash reserve account	251.2	228.6	232.3	235.7	239.1	242.8
RERF	1,172.4	1,302.2	1,366.2	1,433.2	1,503.5	1,577.3

( ) = negative, RERF = Revenue Equalization Reserve Fund (Kiribati's sovereign wealth fund), VAT = value-added tax.

Source: Government of Kiribati and Asian Development Bank estimates.