



## Additional Financing

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Project Number: 46044-003  
Grant Numbers: 0370/0371/0373-SAM  
October 2015

# Proposed Administration of Grants Independent State of Samoa: Renewable Energy Development and Power Sector Rehabilitation Project

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Asian Development Bank

## CURRENCY EQUIVALENTS

(as of 28 September 2015)

Currency units – euro (€)/New Zealand dollar (NZ\$)/tala (ST)

€1.00	=	\$1.12
\$1.00	=	€0.89
NZ\$1.00	=	\$0.64
\$1.00	=	NZ\$1.57
ST1.00	=	\$0.38
\$1.00	=	ST2.63

## ABBREVIATIONS

ADB	–	Asian Development Bank
EPC	–	Electric Power Corporation
EU	–	European Union
IEE	–	Initial Environmental Examination
MW	–	megawatt
SHP	–	small hydropower plant

## NOTE

In this report, "\$" refers to US dollars, unless otherwise stated.

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## PROJECT AT A GLANCE

<b>1. Basic Data</b>		<b>Project Number: 46044-003</b>	
<b>Project Name</b>	Renewable Energy Development and Power Sector Rehabilitation Project (additional financing)	<b>Department /Division</b>	PARD/PATE
<b>Country Borrower</b>	Samoa Independent State of Samoa	<b>Executing Agency</b>	Ministry of Finance
<b>2. Sector</b>	<b>Subsector(s)</b>	<b>ADB Financing (\$ million)</b>	
✓ <b>Energy</b>	Renewable energy generation - small hydro		0.00
		<b>Total</b>	<b>0.00</b>
<b>3. Strategic Agenda</b>	<b>Subcomponents</b>	<b>Climate Change Information</b>	
Inclusive economic growth (IEG) Environmentally sustainable growth (ESG)	Pillar 1: Economic opportunities, including jobs, created and expanded Natural resources conservation	Climate Change impact on the Project	High
<b>4. Drivers of Change</b>	<b>Components</b>	<b>Gender Equity and Mainstreaming</b>	
Governance and capacity development (GCD) Knowledge solutions (KNS) Partnerships (PAR)	Civil society participation Knowledge sharing activities Bilateral institutions (not client government) Official cofinancing	Some gender elements (SGE)	✓
<b>5. Poverty Targeting</b>		<b>Location Impact</b>	
Project directly targets poverty	No		
<b>6. Risk Categorization:</b>	Low		
<b>7. Safeguard Categorization</b>	<b>Environment: B</b>	<b>Involuntary Resettlement: B</b>	<b>Indigenous Peoples: C</b>
<b>8. Financing</b>			
<b>Modality and Sources</b>		<b>Amount (\$ million)</b>	
<b>ADB</b>		<b>0.00</b>	
<b>Cofinancing</b>		<b>7.55</b>	
New Zealand Grant		2.49	
European Union		5.06	
<b>Counterpart</b>		<b>1.21</b>	
Government		1.21	
<b>Total</b>		<b>8.76</b>	
<b>9. Effective Development Cooperation</b>			
Use of country procurement systems		No	
Use of country public financial management systems		No	



## I. BACKGROUND

1. On 15 November 2013, the Board of Directors of the Asian Development Bank (ADB) approved grant financing of \$18.21 million from ADB's Special Fund resources<sup>1</sup> and the administration of a grant of \$1.00 million provided by the Multi-Donor Clean Energy Fund under the Clean Energy Financing Partnership Facility for the Renewable Energy Development and Power Sector Rehabilitation Project.<sup>2</sup> The Government of Samoa provided a contribution equivalent to \$4.62 million to bring the total investment cost to \$23.83 million. The grants became effective on 26 May 2014 and are expected to close on 30 June 2019.

2. The impact of the current project will be increased energy security. The outcome will be that customers have access to a higher share of electricity generated by hydropower. The current project will: (i) rehabilitate three small hydropower plants (SHPs) on Upolu Island damaged by Cyclone Evan in 2012; (ii) construct three new SHPs on the islands of Upolu and Savai'i; (iii) help the implementing agency, the Electric Power Corporation (EPC), implement the project efficiently by recruiting the project owner's engineers; and (iv) provide training to the EPC on operation and maintenance of the SHPs for up to 2 years after plant commissioning.

3. Overall implementation progress since effectiveness is satisfactory and the current project is not facing any major risks that threaten the successful delivery of expected outputs. Since effectiveness, 7 procurement packages (1 consulting and 6 shopping packages) have been awarded. All shopping contracts have been completed and fully disbursed. As of the third quarter of 2015, the current project was classified as on track in the project performance rating system. The turnkey contract for the rehabilitation of three damaged SHPs amounting to \$9.58 million is expected to be awarded in December 2015. The second turnkey contract for the three new SHPs is expected to be awarded in the first quarter of 2016.

## II. ADDITIONAL FINANCING

### A. Rationale

4. The European Union (EU) has agreed to provide a grant not exceeding €4.61 million (\$5.06 million equivalent) and the Government of New Zealand has agreed to provide a grant not exceeding NZ\$3.76 million (\$2.49 million equivalent) to expand the scale of the current project and deliver greater benefits.<sup>3</sup> A contribution agreement between ADB and the EU was concluded on 23 April 2014. The contribution agreement between ADB and the Government of New Zealand will be prepared, setting out the administration arrangements.<sup>4</sup> Both grants will be fully administered by ADB as part of overall project administration.

5. The proposed additional financing will allow the building of an additional grid-connected Fuluasou SHP on Upolu Island with a preliminary capacity of the 0.68 megawatts (MW). The

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<sup>1</sup> The grants comprise (i) \$10.00 million from ADB's Special Funds resources, and (ii) \$8.21 million from the Disaster Response Facility under ADB's Special Funds resources.

<sup>2</sup> The contributors to the Multi-Donor Clean Energy Fund are the governments of Australia, Norway, Spain, and Sweden.

<sup>3</sup> The grants from the European Union (EU) and the Government of New Zealand will be denominated in US dollars pursuant to ADB's standard accounting practices. \$5.06 million from the EU and \$2.49 million from the Government of New Zealand are the US dollar equivalent amounts at the exchange rate in effect as of 24 July 2015. The dollar equivalent amounts may be adjusted for currency fluctuations to match the grant amounts received by ADB.

<sup>4</sup> The letter of intent from the Government of New Zealand was submitted on 22 September 2015. The contribution agreement is expected to be signed after ADB Board approval of the proposed administration of the grant from the Government of New Zealand.

proposed additional site had been identified during project appraisal but was not included in the original project scope because cofinancing could not be confirmed at the time of project approval. This site is proposed based on (i) its potential to add the largest amount of capacity and energy to the EPC, (ii) its technical and financial feasibility, and (iii) the readiness of ADB project processing.<sup>5</sup>

6. The EU grant will be used to implement the new SHP on Fuluasou stream in accordance with the signed contribution agreement between ADB and the EU. The grant from the Government of New Zealand will be used for the implementation of the overall project. The proposed cost sharing by both cofinancing partners will be useful from cash-flow and risk management perspectives for the overall project as the amounts required for turnkey packages can be timely contributed by different financiers.

7. The proposed additional financing will support the government's efforts to reduce Samoa's reliance on imported fossil fuels for power generation by providing clean and reliable electricity. The government's Strategy for the Development of Samoa, 2012–2016; the Samoa Energy Sector Plan, 2013–2016; and the EPC's corporate plan, 2013–2015 all emphasize the development of indigenous and renewable energy resources as a high priority to reduce the economy's risk exposure to foreign exchange fluctuations and fuel price increases. The proposed additional financing is included as a firm 2015 project in ADB's country operations business plan, 2015–2017 for Samoa.<sup>6</sup>

## **B. Impact, Outcome, and Outputs**

8. The aggregate impact and outcome of the overall project will be enhanced as a result of the additional financing. The revised outputs include the construction of the new grid-connected Fuluasou SHP on Upolu Island with a preliminary capacity of 0.68 MW. The changes are reflected in the revised design and monitoring framework in the Appendix.

## **C. Revised Investment and Financing Plans**

9. The additional grants, as well as the additional contribution from the Government of Samoa of \$1.21 million, will increase the overall project investment by 36.8% to \$32.59 million from the current \$23.83 million on a cost sharing basis. The revised investment and financing plans are in Tables 1 and 2.<sup>7</sup> The detailed cost estimates and financing plan are in Supplementary Appendix A.

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<sup>5</sup> Only environmental and social safeguards due diligence were required as technical, financial, and economic due diligence had been undertaken during the project preparatory technical assistance stage of the current project.

<sup>6</sup> ADB. 2014. *Country Operations Business Plan: Samoa, 2015–2017*. Manila.

<sup>7</sup> The financing tables for the original financing in the project administration manual have been updated.



**Table 1: Revised Investment Plan**  
(\$ million)

Item	Current Amount <sup>a</sup>	Additional Financing <sup>b</sup>	Total
<b>A. Base Cost<sup>c</sup></b>			
1. Rehabilitation of SHPs in Upolu	11.14	0.00	11.14
2. New SHPs on Upolu and Savai'i: Faleaseela, Tafitoala, and Faleata	9.97	0.00	9.97
3. Additional SHPs on Upolu: Fuluasou	0.00	7.43	7.43
4. Operation and maintenance knowledge transfer program	0.20	(0.05)	0.15
5. Efficient project implementation	0.80	0.05	0.85
<b>Subtotal (A)</b>	<b>22.11</b>	<b>7.43</b>	<b>29.54</b>
<b>B. Contingencies<sup>d</sup></b>	<b>1.72</b>	<b>1.33</b>	<b>3.05</b>
<b>Total (A+B)</b>	<b>23.83</b>	<b>8.76</b>	<b>32.59</b>

( ) = negative, SHP = small hydropower plant.

<sup>a</sup> Refers to the original amount and any previous additional financing. Includes taxes and duties through exemption as well as administrative and land lease costs of \$3.23 million to be financed from government resources.

<sup>b</sup> Includes taxes and duties of \$1.21 to be financed from government resources through exemption. The safeguard consulting component of turnkey contract is reallocated to the project owner's engineers.

<sup>c</sup> In mid-2015 prices (exchange rate as of 24 July 2015)

<sup>d</sup> Physical contingencies computed at 5.0%. Price contingencies computed at 2.2% on foreign exchange costs and 4.0% on local currency costs. Any cost overrun and cash shortfall will be borne by the Government of Samoa.

Source: Asian Development Bank estimates.

**Table 2: Revised Financing Plan**  
(\$ million)

Source	Current <sup>a</sup>		Additional Financing		Total	
	Amount	Share of Total (%)	Amount	Share of Total (%)	Amount	Share of Total (%)
Asian Development Bank	19.21	80.62	0.00	0.00	19.21	58.95
ADF (grant)	10.00	41.97	0.00	0.00	10.00	30.69
Disaster Response Facility under the ADF (grant)	8.21	34.45	0.00	0.00	8.21	25.19
Multi-Donor Clean Energy Fund (grant)	1.00	4.20	0.00	0.00	1.00	3.07
European Union <sup>b</sup>	0.00	0.00	5.06	57.80	5.06	15.54
Government of New Zealand <sup>c</sup>	0.00	0.00	2.49	28.39	2.49	7.63
Government of Samoa <sup>d</sup>	4.62	19.38	1.21	13.81	5.83	17.88
<b>Total</b>	<b>23.83</b>	<b>100.00</b>	<b>8.76</b>	<b>100.00</b>	<b>32.59</b>	<b>100.00</b>

ADF = Asian Development Fund.

Numbers may not sum precisely and percentages may not total 100% because of rounding.

<sup>a</sup> Refers to the original amount and any previous additional financing.

<sup>b</sup> Administered by the Asian Development Bank. This amount includes ADB's administration fee, audit cost, bank charges, and a provision for foreign exchange fluctuations (if any), to the extent that these items are not covered by the interest and investment income earned on this grant, or any additional grant from the European Union (exchange rate as of 24 July 2015).

<sup>c</sup> Administered by the Asian Development Bank. This amount includes ADB's administration fee, audit cost, bank charges, and a provision for foreign exchange fluctuations (if any), to the extent that these items are not covered by the interest and investment income earned on this grant, or any additional grant from the Government of New Zealand (exchange rate as of 24 July 2015).

<sup>d</sup> Includes taxes and duties of \$4.43 million through exemption to be financed from government resources. Any cost overrun and cash shortfall will be borne by the Government of Samoa.

Source: Asian Development Bank estimates.

## D. Due Diligence

10. Due diligence for the additional SHP was undertaken as part of the project preparatory technical assistance for the current project.<sup>8</sup> Additional environment and social safeguards due diligence has been undertaken for the site of the new Fuluasou SHP to be funded by the proposed additional financing.<sup>9</sup>

11. **Technical.** The overall project has been assessed as technically viable, based on an extensive study of load and energy demand records, and field investigations. The equipment design options have been carefully analyzed. The design will incorporate adequate climate-proofing measures to lessen the potential negative impacts of extreme weather events throughout the project life cycle. An additional visual inspection of the Fuluasou Dam found that the concrete in the arch dam and spillway gravity section is generally in sound condition.

12. **Economic and financial.** The new Fuluasou SHP to be funded by additional financing is considered financially viable as the derived financial internal rate of return (9.52%) is greater than the weighted average cost of capital (9.25%). The proposed additional financing is also economically viable as the economic internal rate of return (12.19%) is greater than the economic discount rate of 12%. The financial internal rate of return and economic internal rate of return for the overall project including additional financing are estimated at 17.48% and 21.40%. The overall project including additional financing is considered to be financially and economically feasible under any sensitivity cases.

13. **Safeguards.** The new Fuluasou SHP is classified as category B for both environment and involuntary resettlement, and category C for indigenous peoples. An ecology study was prepared to confirm the environmental safeguards categorization and to provide information for the initial environmental examination, which among other things (i) determined there are no critical habitats in the project area, (ii) identified impacts and recommended mitigation measures, and (iii) proposed an appropriate environmental flow or ecological flow.<sup>10</sup> For social safeguards, the resettlement plan was prepared for the new Fuluasou SHP (i) clearly defined the proposed scheme areas, (ii) identified and consulted affected persons, and (iii) determined market compensation values for land anticipated to be acquired for the project. The overall project is not expected to impact distinct and vulnerable groups of indigenous peoples.

## E. Implementation Arrangements

14. There will be no change in the implementation and fund-flow arrangements of the project. The Government of Samoa will be the grant beneficiary. The executing agency will be the Ministry of Finance. The implementing agency will be the EPC. The current project management unit and project steering committee will remain for the implementation of the overall project. ADB, the EU, and the Government of New Zealand will participate in the project steering committee meetings as observers.

15. A new turnkey package with a value of about \$6.22 million for the Fuluasou SHP will be procured using international competitive bidding in accordance with ADB's Procurement

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<sup>8</sup> ADB. 2013. *Technical Assistance to Samoa for Preparing the Renewable Energy and Power Sector Rehabilitation Project*. Manila.

<sup>9</sup> In accordance with ADB. 2010. *Additional Financing: Enhancing Development Effectiveness*. Manila.

<sup>10</sup> The volume of water that is left in a river ecosystem, or released into it, for the specific purpose of maintaining the conditions of that ecosystem.

Guidelines (2015, as amended from time to time).<sup>11</sup> To expedite implementation, EPC has requested advance contracting for the Fuluasou SHP turnkey contract.<sup>12</sup> EPC has been advised that approval of advance contracting does not commit ADB to finance the proposed additional financing. The revised S-Curve for cumulative contract awards and disbursements is in Supplementary Appendix B, and the updated procurement plan is in Supplementary Appendix C. EPC will be assisted by the project owner's engineers to implement the additional SHP.

### III. THE PRESIDENT'S RECOMMENDATION

16. The President recommends that the Board approve
- (i) ADB administering a grant not exceeding €4,610,000 to the Independent State of Samoa for the additional financing of the Renewable Energy Development and Power Sector Rehabilitation Project, to be provided by the European Union; and
  - (ii) ADB administering a grant not exceeding NZ\$3,760,000 to the Independent State of Samoa for the additional financing of the Renewable Energy Development and Power Sector Rehabilitation Project, to be provided by the Government of New Zealand.

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<sup>11</sup> Since ADB is administering cofinancing resources in the form of grants from EU and the Government of New Zealand for operations financed by the Asian Development Fund (ADF), universal procurement will apply to all procurement packages. ADB. 2013. *Blanket Waiver of Member Country Procurement Eligibility Restrictions in Cases of Cofinancing for Operations Financed from Asian Development Fund Resources*. Manila

<sup>12</sup> The advance contracting was approved on 24 August 2015.



Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
<p><b>Overall project</b> Unchanged</p> <p><b>Output 2</b> <b>Current project</b> EPC builds and connects to the grid 0.81 MW of hydropower capacity</p> <p><b>Overall project</b> In addition to the current project output 2, EPC builds and connects to the grid 0.68 MW of hydropower capacity</p>	<p><b>Overall project</b> Unchanged</p> <p>2a. <b>Current project</b> <b>By the end of 2018</b> New SHPs are constructed and installed: (i) a total of 0.65 MW is connected to the existing electricity distribution network in Upolu (0.19 MW Faleaseela plant and 0.46 MW Tafitoala plant); (ii) the 0.16 MW Faleata plant is connected to the existing electricity distribution network in Savai'i.</p> <p>Women make up at least 5% of the workforce for local construction contracts for hydropower installations in the project area.</p> <p><b>Overall project</b> <b>By the end of 2018:</b> Output 2: Construct and install four new SHPs with a total preliminary capacity of 1.49 MW.</p>	<p>2a. Project progress reports EPC annual report</p>	<p>EPC staff leave the company after completing the knowledge transfer program.</p> <p>Support, performance, and coordination at the EPC are weak and inadequate.</p>



**Key Activities with Milestones****1. EPC rehabilitates and reconnects to the grid 4.69 MW of hydropower capacity**

- 1.1 Carry out tender process for turnkey contract for rehabilitation of 4.69 MW in Upolu Island: evaluate and report on bids and award contract (by Q4 2015) (changed)
- 1.2 Prepare technical designs of electromechanical, hydro-mechanical, and civil works (by Q2 2016) (changed)
- 1.3 Supply equipment and carry out civil works (by Q3 2016) (changed)
- 1.4 Install, test, and commission systems, including trial operation of equipment (by Q1 2017) (changed)

**2. EPC builds and connects to the grid 0.81 MW of hydropower capacity**

- 2.1 Carry out tender process for turnkey contract for construction and installation of new 0.81 MW SHPs on the islands of Upolu and Savai'i, evaluate and report on bids and award contract (by Q1 2016) (changed)
- 2.2 Prepare technical designs of electromechanical, hydro-mechanical, and civil works (by Q3 2016) (changed)
- 2.3 Supply equipment and carry out civil works (Q3 2016–Q2 2017) (changed)
- 2.4 Install, test, and commission systems, including trial operation of equipment (by Q2 2018) (changed)

**3. O&M knowledge transfer program complete**

- 3.1 Turnkey contractor develops and implements capacity strengthening program for staff of EPC (annually until Q4 2018) (changed)
- 3.2 Turnkey contractor designs O&M program and prepares O&M manual for EPC (by Q1 2017) (changed)
- 3.3 Turnkey contractor conducts O&M training for hydropower electromechanical equipment starting 3 months before SHP commissioning and continuing up to 2 years after commissioning (Q1 2017–Q4 2018) (changed)
- 3.4 Turnkey contractor evaluates training programs and prepares report (once a year until Q4 2018) (changed)

**4. Project implemented efficiently**

- 4.1 Select the project owner's engineers (June 2014) (completed)
- 4.2 Assist in the preparation of bidding documents for turnkey contracts for rehabilitated SHPs (Q1–Q3 2015) (completed)
- 4.3 Assist in the bidding process and bid evaluation of turnkey contracts (Q1 2015–Q2 2016) (changed)
- 4.4 Supervise project design, supply, construction, and commissioning; monitor safeguards compliance (up to Q4 2018) (changed)

**5. EPC builds and connects to the grid 0.68 MW of hydropower capacity**

- 5.1 Carry out tender process for turnkey contract for construction and install of new 0.68 MW SHP on Upolu Island: evaluate and report on bids and award contract (by Q2 2016) (changed)
- 5.2 Prepare technical designs of electromechanical, hydro-mechanical, and civil works (by Q4 2016) (changed)
- 5.3 Supply equipment and carry out civil works (Q3 2016–Q2 2017) (changed)
- 5.4 Install, test, and commission systems, including trial operation of equipment (Q4 2018) (changed)

<b>Inputs</b>	
<b>ADB:</b>	
<b>ADF Grant</b>	\$18.21 million (current) \$ 0.0 (additional) \$18.21 million (overall)
<b>Multi-Donor Clean Energy Fund under the Clean Energy Financing Partnership Facility, administered by ADB:</b>	
<b>Grant</b>	\$1.00 million (current) \$0.00 (additional) \$1.00 million (overall)
<b>European Union:</b>	
<b>Grant</b>	\$0.00 (current) \$5.06 million (additional) \$5.06 million (overall)
<b>Government of New Zealand:</b>	\$0.0 (current) \$2.49 million (additional) \$2.49 million (overall)
<b>Government of Samoa:</b>	\$4.62 million (current) \$1.21 million (additional) \$5.83 million (overall)

ADB = Asian Development Bank, ADF = Asian Development Fund, EPC = Electric Power Corporation, GWh = gigawatt-hour, MW = megawatt, O&M = operation and maintenance, Q = quarter, SHP = small hydropower plant.

Notes:

1. "Current project" refers to the original project.
2. "Overall project" refers to the original project and proposed additional financing.

Source: Asian Development Bank.