



Sustainability Report 2020

energising our nation



Our Vision:

Energising our nation.

Our Mission:

To provide a safe, reliable, affordable and accessible supply of electricity to the Solomon Islands.

Our Values:

- Respect for our customers and our people
- Improvement through change and innovation
- Meeting our service quality commitments
- Care for the environment
- Individual responsibility for our actions
- Honesty and Trust
- Teamwork

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About Solomon Islands Electricity Authority

(trading as Solomon Power)

Who we are

Solomon Islands Electricity Authority (SIEA) trading as Solomon Power (SP) is a State Owned Enterprise.

Our objectives

Under Section 4 of the State Owned Enterprises Act, the principal objective of the Company is 'operate as a successful business', and to this end, be:

- As profitable and efficient as comparable businesses that are not owned by the Crown.
- A good employer.
- An organisation that exhibits a sense of social responsibility by having regard to the interests of the community in which it operates.

To meet these objectives, SP strives to

Be as profitable and efficient as comparable businesses by:

- Within the Electricity and State-Owned Enterprises Acts, installing, operating and maintaining electricity supply systems that meet the needs of connected customers.
- Developing and implementing capital investment plans, to improve electricity system performance and increase the network coverage of agreed areas.
- Seeking to recover efficient costs of the service provision.
- Improving the efficiency of services, whilst improving asset reliability and availability.

Be a good employer by:

- Maintaining a well-qualified and motivated staff.
- Adopting HR policies that treat employees fairly and properly in all aspects of recruitment, retention and employment.
- Promoting a high level of safety throughout the organisation.

Act in a socially responsible manner by:

- Building effective relationships with landowners, customer groups and interest groups that are affected by our activities.
- Improving environmental reporting and performance on issues that are caused by our electricity supply activities.
- Incorporating sustainability into our business activities and working to improve sustainable outcomes in terms of resource management.

Nature and scope of our activities

SP's principal commercial activities, as defined under the Electricity Act, are the:

- Generation and distribution of electrical supply to connected customers in approved areas,
- Operation, maintenance and development of assets that are necessary to achieve these outcomes on a long-term, sustainable basis,
- Approved expansion of services to increased areas of operation.

Other regulatory functions

The Company is also mandated by the Electricity Act to perform the following regulatory functions:

- Be responsible for the registration of Electrical Contractors.
- Ensure that industries and contractors comply with the Electricity Act and the AS/NZS Wiring Standards, by inspecting all electrical installations before connecting to SP mains.
- Be responsible for the licensing of standby generators, Independent Power Producers (IPPs) and Cogeneration of power.

Celebrating Our 50th Golden Jubilee Anniversary in the Happy Isles

Solomon Power completed 50 years of operations in 2019. The 50th anniversary celebrations from 21 – 26 July were well received by the our customers and the general public.

The programmes to celebrate the 50th anniversary included:

- Radio talk back show;
- Presentation to stakeholders on SP's history;
- The present and future plans;
- The electricity tariff and green initiatives including Tina River Hydropower Project;
- Visits by form 6 and 7 science students (from St Nicholas, Betikama, Honiara High School & Selwyn College) to Lungga Power Station and Henderson Solar farm
- Two open days for the general public



Overview of Solomon Islands Electricity Authority

Business Status

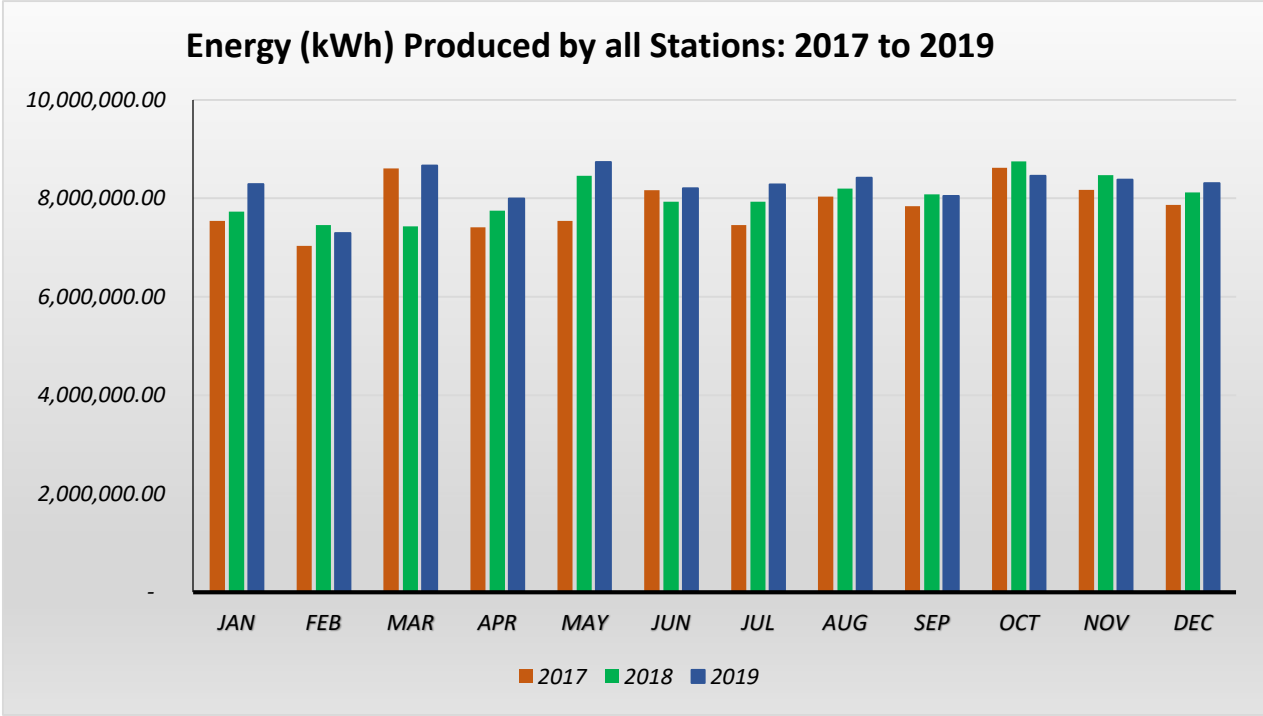
Currently Solomon Power has operations in Honiara, Auki, Buala, Gizo, Kirakira, Lata, Malu’u, Munda, Noro, Seghe, Taro and Tulagi. The head office of Solomon Power is in Ranadi and it has an outlet at Hyundai Mall. The number of permanent employees at the end of December 2019, was 278. The total generation in 2019 was 99.08 GWh, available for sale 95.76GWh and the annual sale in 2019 was 78.3 GWh. As at 31st December 2019 Solomon Power had 21,043 customers. The aim of Solomon Power is to increase the customer numbers to 30,000 by end of 2023.

Generation of power in Honiara is mainly from the four new MAN Diesel make generators, which are more fuel efficient, whilst the balance of power requirement is met from the old generators at Lungga and Honiara power stations. The Honiara grid is also supported by the Henderson 1.0MW and the Ranadi 50kW solar installations during daylight hours.

Energy produced in 2019 is shown in the table below. Lungga and Honiara operations produced a total of 85.84GWh (86.64%) whilst the Outstations and the Henderson solar plants produced 13.24GWh (13.364%).

Station	GWh (2018)	GWh (2019)
Lungga	81.75	83.04
Honiara	2.46	2.80
Outstations	11.17	11.77
Henderson Solar (1MW)	0.89	1.47
Ranadi Solar (50KW)	0.015	Not available
Independent Power Producer (IPP)	0	0
Total	96.285	99.08

Overall, the Energy produced by all Solomon Power stations during 2017 to 2019 is as per the histogram below.



The Sustainable Business Management

Our Commitment to United Nations Sustainable Development Goals

At Solomon Power, we have strong belief that sustainable business management is essential. We are therefore putting strategies in place to promote UN Sustainable Development Goals (SDGs) in our workplace. The SDGs, otherwise known as the Global Goals, are a universal call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. Our track record working across multiple areas provides us with valuable experience and proven working expertise to ensure we contribute to achieving the SDGs by 2030.

Solomon Power’s Corporate Social Responsibility activities are primarily aligned with SDGs No. 7. Affordable and Clean Energy and No. 13. Climate Action, which ensure ecofriendly growth and protecting the environment. While we are focusing on SDG 7 and 13, our sustainability strategies are also contributing to other SDGs including No. 3. Good Health and Well-being, No. 4. Quality Education, No. 5. Gender Equality, No. 8. Decent Work and Economic Growth, No. 9. Industry, Innovation and Infrastructure, No. 10. Reduced Inequalities and No. 17. Partnerships for the Goal.

Displacement of Diesel Fuel

Our greatest expense is diesel, which in 2019 accounts for 45.01% of our total expenditure. The amount of diesel SP consumed in 2019 was about 25,023,832 million litres.

Scheduled major overhauls on all four MAN Diesel make generators was completed during the first half of 2019. Other major overhauls were carried out on L7 Wartsila and L10 Niigata 4.2MW generators.

Solomon Power is diversifying the generation of energy and displacing diesel fuel annually as follows:

Stations	2018 (Litres)	2019 (Litres)
Buala mini hydro	30,000	85,000
Henderson 1 MW solar farm	350,000	365,000
50 kW solar installation at Ranadi	15,000	9,000
Hybrid at Taro	65,000	85,000
Hybrid at Seghe	18,000	25,000

All stations, except the 50 kW solar installation at Ranadi, had displaced more diesel in 2019, compared to 2018.

Targeting UN SDGs

7 AFFORDABLE AND CLEAN ENERGY



SDG 7. Affordable and Clean Energy

- Clean Energy Research
- Provision of Access to Affordable, Reliable, Modern Energy Sources
- Energy Efficiency
- Renewable Energy Generation/Use

13 CLIMATE ACTION



SDG 13. Climate Action

- Climate Risk Reduction Initiatives, Business Continuity Planning

SUSTAINABLE DEVELOPMENT GOALS



Electricity Tariff

The electricity tariff applied since 1 January 2017 is the gazetted Electricity Tariff (Base Tariff and Tariff Adjustments) Regulations 2016 which repealed The Electricity Tariff(Automatic Base Tariff and Fuel Price Adjustment) Regulations 2005. The Electricity Tariff (Base Tariff and Tariff Adjustments) Regulations 2016 is available on our website www.solomonpower.com.sb.

The electricity tariff 2016 which is comprised of two components – Fuel and Non-fuel, has dropped by 12.5% in comparison with the old Tariff 2005. The salient features are:

- Three Types – domestic, commercial and Industrial
 - The domestic one has 4 tiers.
 - The commercial one has 5 tiers.
 - And the industrial one has 3 tiers.

The non-fuel tariff is under review and we anticipate a reduction in the tariff effective 1 January 2021.

Targeting UN SDGs

7 AFFORDABLE AND CLEAN ENERGY



SDG 7. Affordable and Clean Energy

- Energy Efficiency

13 CLIMATE ACTION



SDG 13. Climate Action

- Climate Risk Reduction Initiatives, Business Continuity Planning
- GHG Inventory and Management, Carbon Reduction



Greenhouse Gas (GHG) emission management

Solomon Islands Government has committed to reduce GHG emission at the national level by 18,800 tons of CO₂ equivalent (tCO₂ equivalent) per year by 2025, and by 31,125 tCO₂ equivalent per year by 2030. In our quest to reduce GHG emissions and meet SIG's intended annual target, we operate a number of renewable energy installations. These are listed below together with the associated annual GHG reductions:

Stations	2018 (tons CO ₂ equivalent)	2019 (tons CO ₂ equivalent)
Henderson 1 MW solar farm	800	835
Taro Hybrid farm	155	200
Seghe Hybrid farm	35	48
Buala mini hydro	70	195
Ranadi solar installation	33	20

All stations, except Ranadi solar installation, displaced more CO₂ in 2019 compared to 2018.

Targeting UN SDGs

7 AFFORDABLE AND CLEAN ENERGY



SDG 9. Industry, Innovation and Infrastructure

- Investment in Quality, Reliable, Sustainable, Resilient Infrastructure
- Provision of Access to Affordable, Reliable, Modern Energy Sources

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



SDG 7. Affordable and Clean Energy

- Clean Energy Research
- Provision of Access to Affordable, Reliable, Modern Energy Sources
- Renewable Energy Generation/Use

13 CLIMATE ACTION



SDG 13. Climate Action

- Climate Risk Reduction Initiatives, Business Continuity Planning
- GHG Inventory and Management, Carbon Reduction
- Carbon Sequestration, Carbon Neutrality

Pursuing Sustainable Energy Initiatives

Solomon Power (SP) has an ambitious target to achieve 100% electricity generation in Honiara from renewable sources by 2030.

Currently SP has 18 renewable energy proposals on the table and when commissioned, these will reduce GHG emissions and reduce the electricity tariff. The proposals are listed below:

Mini-hybrids (Solar, battery storage and diesel backup)

SP has signed a design and construct contract for a total generation of 2000 kW peak solar energy at 5 sites; Kirakira (Makira/Ulawa Province), Lata (Temotu Province), Malu'u (Malaita Province), Munda (Western Province) and Tulagi (Central Islands Province). These are partly funded by the Asian Development Bank.

SP has also signed a design and construct contract for a total generation of approximately 800kW peak solar energy at 4 sites; Hauhui (Malaita Province), Namugha (Makira/Ulawa Province), Sasamunga (Choiseul Province), and Vonunu (Western Province). These 4 are partly funded by the New Zealand Government .

Additionally, SP has a design and construct contract for a mini hybrid in Afio (Malaita Province). Additionally together with World Bank SP is funding 5 mini hybrids at Tingoa (Rennell Bellona Province) ,Visale (Guadalcanal Province), Baolo (Isabel Province), Bina Harbour and Dala (Malaita Province) .

SP is also funding a solar farm at Ambu (Malaita Province).

Grid connect solar farms

Together with the World Bank SP is funding grid connected solar installations at Henderson (2000 kW) and on the roof top of SP's Ranadi Building (220 kW).



Solomon Power is funding a grid connect 1000kW Solar farm at Tanagai, Honiara and a 650kW solar installation at the Green Village in East Honiara.

The largest renewable energy initiative is the Tina River Hydropower Project.

Tina River Hydropower Project

We as the Offtaker signed a Power Purchase Agreement (PPA) with Tina Hydropower Limited, the Project Company, on 6th December 2018.

The features of the Tina River Hydro plant are a dam of 75 metre height , a 3.2 km tunnel, penstock, surge shaft and a power station. Three machines will be installed which will each produce 5MW. It is expected to operate from September 2024 and generate 78.84 GWh average energy per year, which will supply almost 70% of the energy needs of Honiara in 2025. Additionally, it is anticipated that this hydro dam will reduce GHG emissions by 49,500 tCO2 equivalent per year.

To transfer the energy, SP will fund and construct the 66kV transmission line from Tina Hydro Site to its Lungga Power Station.

Targeting UN SDGs



- SDG 7. Affordable and Clean Energy
- Clean Energy Research
 - Provision of Access to Affordable, Reliable, Modern Energy Sources
 - Renewable Energy Generation/Use



- SDG 9. Industry, Innovation and Infrastructure
- Investment in Quality, Reliable, Sustainable, Resilient Infrastructure
 - Provision of Access to Affordable, Reliable, Modern Energy Sources



- SDG 13. Climate Action
- Climate Risk Reduction Initiatives, Business Continuity Planning
 - Climate Change Education and Awareness
 - GHG Inventory and Management, Carbon Reduction
 - Carbon Sequestration, Carbon Neutrality



- SDG 17. Partnerships for the Goals
- Notable Partnership Relations that yield Significant Impact to Achievement of SDGs

Corporate Social Responsibility Policies

Training

To continually develop and update the knowledge, skills and competencies of its employees, SP has invested extensively in training and development.

(a) Long term training: Four employees continued with their long-term studies in 2019. One was at SINU doing a Bachelor of Accounting and the other was in his final year towards a Bachelor of Commerce in Accounting and Management and Public Administration at USP. Also, one was at University of Southern Queensland, doing Masters in Engineering Science specializing in Power and the other was at FNU pursuing a Bachelor of Engineering with honors majoring in electrical.

- (b) Short term training:** Some highlights of short-term trainings undertaken in 2019:
- **Renewable Energy and Diesel Power Operation in Small Islands:** One officer attended six (6) weeks training in Okinawa, Japan.
 - **Electrical Test and Tagging and Power Cad 5:** One officer attended the training in Australia.
 - **Solar and Wind Measurement Campaign in the Pacific Islands:** Three officers attended the training in Singapore.
 - **HomerPro Software:** Thirteen Officers attended the training in house
 - **Protection and Data Validation:** Twelve Officers attended the training in house

- (c) Apprenticeship:** The ten Apprentices continued with the Apprenticeship Program.
- Four of them undertook work rotation among the technical divisions
 - Two each are enrolled in Certificate in Mechanical and Certificate in Trade Electrical at SINU
 - Two are studying under scholarships for a Diploma in Power Engineering at Manukau Institute of Technology, Auckland, New Zealand.

(d) Graduate Trainees: Six Graduate Trainees were recruited in 2019 and are being trained in their respective areas.

(e) Line Mechanic Program: A total of 10 Trainees were recruited under the Line Mechanic Program. They all started in September and will have a mix of on and off the job training, mentoring, coaching, monitoring and assessment.

Developing professionals for the future

SP is running various programs to develop Solomon Islander professionals in the electricity industry. We are focusing on nurturing, training and mentoring young personnel. SP is collaborating with the Universities in the region to support scholarships.

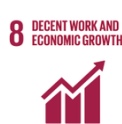
Targeting UN SDGs



- SDG 4. Quality Education
- Technical Skills Training



- SDG 5. Gender Equality
- Anti-discrimination policy



- SDG 8. Decent Work and Economic Growth
- Investments in High-labor Requirement Sectors



- SDG 10. Reduced Inequality
- Reducing Inequalities of women and children



Occupational Health and Safety

SP is committed to the safe supply of electricity to the Nation with its effective and robust OHS management framework, aimed at providing a safe environment for employees, contractors, customers and the community at large.

Two Lost Time Injury incidents were recorded in 2019 which incurred fifteen (15) Lost Days. The Lost Time Injury Frequency rate for 2019 closed at 3.96. An incident reporting, investigation and action verification framework was developed and is being implemented to manage all SP incidents.

Highlights in 2019 include:

- Continuation of First Aid Training and Fire Training for emergency wardens and First Aiders and Power Station Operators;
- Continued work on corrective action recommendations for serious accidents and trainings on identified areas highlighted in our investigation reports;
- OHS awareness training for staff and electrical safety awareness for schools and communities in SP locations;
- Electrical safety awareness conducted at new extension network sites in Honiara and the Outstations;
- Defensive Driver and Hands on Wheels training for newly authorised drivers as well as refresher trainings for other drivers;
- Pole Top Rescue and CPR training for new and ongoing Line mechanics;
- Timely servicing and testing of all fire protection systems in Honiara and at the Outstations;
- Training for Operators for both Honiara and Outstation Operations in fire protection system; and
- Job Safety Analysis (JSA) training for operational staff.

Targeting UN SDGs



- SDG 3. Good Health and Well-being
- Affordable Quality Healthcare





2020

Sustainability Report

Solomon Islands Electricity Authority

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