Annual Progress Report 2022

Energy Sector Strategy 2020-2025

Public Entity Saba
3-21-2023
Version 2

Contents

Introduction

Saba's Energy Sector Strategy covers the period 2020-2025. The Strategy was approved by the Executive Council of the Public Entity Saba on October 12th, 2019, decision number 225/2019. The target of the strategy is to achieve 60% energy sector sustainability by 2025, with a long-term vision to eventually become a 100% sustainable energy island.

The annual progress report for 2022 shows the progress of the execution and implementation of the combined effect of measures to achieve the target, as outlined in the energy transition action plan of the strategy.

Actions

Four actions are identified in the strategy that are required to achieve the goals. The progress of these actions for 2022 will be described in detail below.

1. **Construction of an additional 1 MW renewable energy infrastructure, focus on wind energy;**
   Several studies were conducted on the possibility of installing wind turbines on the island, such as the reports from Pondera and TNO. However, these reports were created during the COVID-19 period and the consultants were not able to physically come to the island which restricted their research. In the second quarter of 2022, Saba Electric Company contacted The Green World Company (hereinafter referred to as 'TGWC'), to discuss possibilities of conducting a pre-feasibility study on the best location to install wind turbines.

   During the discussions for the assignment of the study, a plot of land became available that would be ideal for the construction of renewable energy infrastructure. The plot of land was large (~34,000 sq m) and flat enough for the construction of a sizeable solar park, which was not a possibility before due to the topographical challenges of the island and the limited availability of suitable land. At the time the research was conducted by TNO and Pondera, PES and SEC were not aware of this property and therefore, the focus was solely on construction of wind turbines.

   After deliberation, it was decided to further investigate if installation of wind energy only, was the best option for increasing the renewable energy share and achieving the goals of the policy. It was determined that an assessment should be performed on options for only wind, wind & solar PV combined, only solar PV and BESS addition. Additionally, location options, challenges and assessment of nearest point of connection to the grid would be included. SEC, with the support of the Supervisory Board, OLS and EZK, agreed to move forward with the proposal of TGWC.

   In the meantime the OLS worked on obtaining funding for the project. A ministry request letter for a special allowance was sent to the Ministry of Economic Affairs and Climate Policy requesting support for the project. The action document was also submitted to the European Union Delegation for review and finalization.

   The report by TGWC was finalised in September 2022 and provided several scenarios to increase the renewable energy share on Saba. After reviewing the report and considering the multiple scenarios presented by TGWC, it was decided to focus on the scenario that included a combination

of wind and solar energy. The selected scenario aims to increase the renewable energy share to 89% with construction of 4MW Solar PV, 14MWH Battery Storage, 0.500 MW Wind Turbine Power.

At the end of November, the OLS received confirmation of funding for the project from the Ministry of Economic Affairs. A total amount of 13,500,000 million euros is made available for the execution of the project.

The decision to move towards a higher renewable energy share than indicated in the strategy is motivated by several reasons. The project is limited by budgetary constraints. It is reasonable to assume that a larger project will turn out to be more cost effective overall, due to volume of orders which will offer better pricing. Further to this, a larger project will attract more expertise and consultants. Smaller renewable energy projects typically have less interest, as has been the case with some projects in the region. Finally, with the available budget and land, aiming for a higher renewable energy share, which ultimately will contribute to the long-term vision of the policy, affordability, reliability and sustainability of the energy supply, will be beneficial to PES, SEC and all energy consumers on Saba.

2. **Upgrade electricity grid to ‘’smart grid” which will include energy storage**

In the last quarter of 2022, SEC contacted a consulting company specializing in supporting energy companies with their energy transition, to discuss possibilities for assistance with grid modernization. A presentation was provided to SEC regarding the options for support and thereafter, a proposal was sent to SEC for consideration. A decision on the proposal will be made in 2023.

3. **Energy Efficiency Programme**

The first Energy Efficiency Programme launched in 2021 by the Ministry of Interior and Kingdom Relations, Public Entity Saba (hereinafter referred to as ‘PES’) and Saba Electric Company (hereinafter referred to as ‘SEC’) continued in 2022 with providing LED light bulbs to SEC customers. Customers were able to bring in old incandescent or halogen lightbulbs and receive four LED lightbulbs in return. By replacing incandescent light bulbs with LED light bulbs, consumers are able to lower their energy consumption.

In addition to this, energy efficiency tips were shared during the several stakeholder consultations where the third phase of renewable energy was presented. These consultations took place during the final quarter of the year. It became evident through discussions that a new Energy Efficiency Program will need to be launched. The details and planning of the programme will be further worked on in 2023.

4. **Conclude feasibility and testing studies for geothermal energy and the associated electricity interconnections if required.**

Initial discussions for feasibility studies for geothermal studies, started at the end 2017 with the project entitled “’Creation of a Geothermal and Digital Interconnection Hub for the Leeward Islands”. This project was funded by the INTERREG Caribbean Programme 2021-2027. In 2018, a

letter of commitment to participate in the project was signed by the Executive Council of the Public Entity Saba. A few bottlenecks contributed to delays with starting the project. This included examination of the application for interreg aid, and most notably health restrictions due to COVID-19.

In the second half of 2022, the Public Entity Saba was contacted to re-confirm commitment to the project. Saba's participation was again committed. Discussions were then held with the company Theranov, that would be conducting geothermal resource assessment on the island with a magnetotelluric campaign. An assessment identified 34 survey locations. Before proceeding with the surveys, it must be known whether or not these locations are on private property. If any locations are indeed on private property, agreements have to be reached with the owners before any surveying can take place. The Public Entity has contacted Cadaster Saba, for support with identifying ownership of land locations.

Bottlenecks with Implementation

Renewable Energy projects usually encounter delays due to bottlenecks which can deflate progress of implementation. The Saba sustainable and renewable energy project implementation will experience its own challenges resulting from bottlenecks. Currently we foresee a bottleneck with identifying the owners of lands that historically had no legal notarized deeds and, in some cases, have many landowner claims to the same property. Land acquisition processes can be extremely cumbersome on the island of Saba. The Government of Saba is currently working closely with landowners who are laying claim to the proposed solar site in order to remove any bottleneck and assist Saba Electric Company in proceeding with the Project Development Activities, including road access to the property.

Conclusion

Clearly the progress of the Sustainable and Resilient Energy project in Saba is moving along slowly and engagements are currently happening with the public, stakeholders, landowners, Consultants and Government to identify any concerns and risk with the project development plans. The funding commitments have been established with the ministry of economic affairs and climate policy of the Netherlands Government and the EU-MIP. SEC is currently mobilizing its resources and engaging with third party consultants for support in the area of Project Development and Procurement management.

Appendix: Action Plan 2023

Action Plan for Saba's Energy Sector Strategy 2020 – 2025 under the MIP					
Priority Area /Objective	**Strategy/Activities**	**Priority**	**Time Frame**	**Responsibility**	**Actions**
A. Increase Production and Energy Security Through Reliable Renewable Energy	• A.1 Conducting Feasibility Studies for the Installation of 1-4MW, renewable energy generation capacity (Solar, Wind, Battery Storage)	Medium	Q3	SEC Engineering Consultant Contractors	Finalize Master Agreement for Consultant Service Tender Feasibility Study activities
	• A.2 Completing Grid Stability and Integration Studies improving the Distribution Grid integration	Medium	Q3	SEC Engineering Consultant	Finalize Master Agreement for Consultant Service
	• A.3 Completing Land Acquisition and Road Access Feasibilities	High	Q4	OLS SEC	Complete Land Ownership and Deed Issues Finalize a land settlement agreement
	• A.4 Renewable Energy Generation Capacity	High	Q2 2024	SEC/RMI	Draft Tender by Q2, 2024, and Tender documents published by Q4,2024 provided by Saba Electric Company
B. Improving the resilience of the grid through Grid Modernization	• B.1 Develop a grid modernization strategy	Low	Q3 2022	SEC NTCS	Complete an assessment of the Grid to determine application modernization technologies. Update Distribution System Maps
	• B.2 Conduct a Protection coordination Study for Grid Reliability	Medium	Q3	SEC	Run a Power Analysis Study Design areas for load breaker switch upgrade and replacement Research Switch equipment for Distribution Grid

	• B.3 Explore the Feasibility for Smart meter installation	Medium	Q3	SEC NTCS AQUELECTRA	Apply for Frequency Spectrum Band Complete a Smart Meter Infrastructure Study and Design Network
C. Implementation of Energy Efficiency and Conservation Program	• C.1 Drafting an Energy Efficiency Policy	Medium	Q1 2024	OLS	Officially launch of the Energy Efficiency Programme and Campaign
	• C.2 Energy Efficiency Programme Development	Medium	Q3/Q4 2024	SEC OLS	Provide educational material and conduct a customer educational campaign on Energy Efficiency and Conservation
	• C.3 Increase LED Public Lighting using Smart Lighting Technology	Medium	Q3 2024	SEC OLS	Evaluate the Smart Lighting for Public Lighting
D. Geothermal Energy Exploration	• D.1 Explore the possibilities of Geothermal Energy	Low	Q1 2023	OLS Third Parties	Explore Site for Geothermal Identified Landowners
	• D.2 Magnetotelluric survey	Low	Q2 2023	OLS Third Parties	Conducting geothermal resource assessment.