Energy Efficiency Policy 2024 - 2025	
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Introduction

The importance of energy efficiency and conservation in Saba cannot be overemphasized. Saba's long-term vision is to become a 100% sustainable energy island. Saba has adopted the following elements as pillars of its sector strategy:

Sustainability	• Reducing the emission of greenhouse gases and local pollutants from fossil fuels • Creation of a resilient, self sufficient community
Affordability	• Reduces cost of energy service for consumers • Enhances economic growth by reducing energy costs • Reducing investments needed for power generation by promoting energy effeciency and conservation
Reliability	• Improving energy security by reducing the dependancy on imported fossil fuels

This policy has been carefully developed to strengthen the key pillars of sustainability and affordability. Efficient energy use, sometimes simply called energy efficiency, is the process of reducing the amount of energy required to provide products and services. The goals of this energy efficiency policy are as follows:

- Increase Consumer Awareness and Education
- Reduce Energy Consumption
- Increase affordability of Energy
- Lower Carbon Footprint

Through the adoption of this policy, it will provide positive returns to consumers and the environment through the reduction of environmental pollution, energy costs, and reduction of the carbon footprint of the energy sector.

Energy on Saba

Background on the Saba energy situation

The current energy landscape in Saba in terms of renewable sources is steadily advancing. Saba Electric Company N.V. (SEC) is the sole supplier of electricity to the Public Entity Saba, operating a power plant and an expansive transmission and distribution network throughout the island. With its power plant at Fort Bay Harbor, SEC provides electricity to approximately 1300 customers.

Saba's Energy Sector Strategy 2020-2025

The entire island of Saba is powered by solar energy from 2 solar parks and battery energy storage systems, that became fully operational in 2019. Saba is one of the Caribbean islands leading the way in renewable energy. Dutch company Ecorus facilitated the photovoltaic (PV) module, while SMA Sunbelt Energy GmbH was responsible for setting up the battery storage systems.

On days with abundant sunlight, the solar park effectively supplies the entire island with electricity during majority of the daylight hours. However, once the sun starts to set and the batteries are depleted, diesel generators are utilized to meet the demand of the energy grid, which unfortunately drives up costs due to the global inflationary pressures affecting fuel prices. Currently, Saba's energy mix comprises approximately 40% renewable energy and 60% fossil fuels.

Public Entity Saba remains steadfast in its commitment to transitioning to sustainable energy solutions. The integration of renewable energy sources into the electricity production mix serves two vital purposes: enhancing supply reliability and curbing overall electricity expenses across the island. Saba is actively developing additional renewable energy infrastructure, currently in the third phase of the renewable energy project, with plans to establish a third solar photovoltaic park in 2026. This forthcoming park will not only have the capacity to power the entire island through renewable means but may also generate surplus energy. This surplus energy can be earmarked

for potential future initiatives, such as introducing electric vehicles to the island, which can contribute to a more sustainable and resilient energy future.

The first Energy Efficiency Program spearheaded by the Ministry of Interior and Kingdom Relations commenced in 2022. The focus of this program was to provide LED light bulbs to Saba Electric Company 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 can lower their energy consumption. In addition to this, during stakeholder consultations, both energy efficiency tips and the third phase of renewable energy were 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.

Purpose and objectives of the energy efficiency policy

The purpose of this energy efficiency policy is to:

- **Reduce the consumption of electricity** – The most fundamental aim of this policy is to reduce the overall energy consumption which can allow individuals, businesses, and other industries can achieve higher levels of productivity and comfort while consuming the same energy.
- **Reduce the cost of electricity (achieve cost savings for electricity) –** Energy efficiency will lead to cost savings for consumers, businesses, and government. Lower energy bills can free up resources for other investments that can boost economic stability and growth.
- **Reducing Environmental Impact-** This policy will assist in reducing the total greenhouse gas emissions and other pollutants associated with energy production and consumption.
- **Improved quality of life for residents –** As energy costs decrease this will assist in lowering the overall costs of living for residents, which has a direct correlation to their quality of life.

This energy efficiency policy plays a critical role in addressing energy-related challenges, including reducing consumption, cutting costs, mitigating environmental impacts, and fostering economic development.

Scope and applicability of the policy

This policy applies to all residents, businesses, and governmental entities on Saba encompassing both new and existing structures, as well as infrastructure projects.

Energy Targets

Energy Efficiency Goals

Due to Saba's unique geographical location, the island faces distinct energy challenges, including limited access to raw materials and the high costs associated with running the power plant on fossil fuels. However, these challenges have sparked significant efforts to transition towards renewable energy sources, paving a more sustainable and secure energy future. In response, clear targets have been established to meet the aforementioned objectives and the growing need for renewable energy and to promote energy-efficient practices, ensuring long-term energy security for the island.

To implement this policy effectively, three strategic areas were prioritized:

1. **Improved Efficiency of Energy Sources**: Enhancing the energy efficiency of both public and private sectors to reduce waste and maximize energy use.
2. **Expanded Infrastructure for Renewable Energy**: Developing and upgrading infrastructure to ensure a reliable supply of modern, renewable energy across the island.
3. **Adaptation of Energy Infrastructure to Climate Change**: Strengthening energy systems to withstand the impacts of climate change, ensuring resilience and continuity.

The following table outlines the main targets and corresponding indicators for each of these areas:

Results Chain	Indicator	Baseline	Target
1. Improved Efficiency of Energy Sources	1.1 100% Public Lighting to be powered by LED	1.1 – 2023 – 69%	1.1 – 2025 – 100%
	1.2 Reduction in Incandescent Light Bulbs	1.2 – 2023 - Unknown	1.2 – 2025 – 100%
	1.3 100% Energy Efficiency Appliances in Social Housing	1.4 – 2023 – 50%	1.4 – 2024 – 100%
2. Expanded infrastructure adequate for the supply of modern, renewable energy services.	2.1 Renewable Energy 60%	2.1 – 2020 – 40%	2.1 – 2026 – 60%
	2.2 Smart Metering	2.2 – 2025 – 0%	2.2 – 2026 – 100%
	2.3 Energy Efficiency Campaign	2.3 – 2024 - None	2.3 – 2024 - Launched
3. Adaptation of energy infrastructures to climate change	3.1 Public Transport Program	3.1 – 2022 – None	3.1 – 2024 - Launched
	3.2 Public Entity Buildings A/C Inverters	3.2 – 2024 - Unknown	3.2 – 2025 – 100%

	3.3 100% LED Lighting in Public Entity Buildings	3.3 – 2024 – 88%	3.3 – 2025 – 100%
	3.4 Energy Audits for Public Entity Saba	3.4 – 2024 - None	3.4 – 2025 - Launched

Public Lighting

The public lighting system is expanding and upgrading to light-emitting diode (LED) technology. The upgrading of the lighting fixtures offers a reduction of the overall capacity of the public lighting system because of energy savings, while in addition, it allows for an overall lighting efficiency performance. This also reduces the risk of fires or other unexpected occurrences.

Furthermore, as part of the commitment to energy saving, focus will be given on enhancing public lighting, particularly in low-traffic areas during nighttime. Exploring innovative options, the implementation of motion-sensor lights after a designated time is being actively considered to ensure both efficiency and heightened security.

Reduction in Incandescent Light Bulbs and Eventual Ban

The shift from incandescent bulbs to LED bulbs brings forth numerous benefits, not only diminished energy consumption but also consequential reductions in electricity bills and enhanced safety through the mitigated emission of heat.

The Public Entity aims to inform residents on the drawbacks associated with this form of lighting. With the ultimate objective of guiding Saba toward a more sustainable future, there is a strategic goal to encourage residents to refrain from the use and sale of non-LED lights.

Social Housing Project

Saba currently hosts two social housing projects, the latest an 18-unit complex which incorporates funding to encourage the adoption of Energy Efficient (EE) Appliances. In this initiative, every apartment unit has been upgraded with cutting-edge EE appliances, including:

- Refrigerators
- Freezers.
- Washing machine,
- Toaster oven
- Microwave
- Water Kettles
- Light Fixtures

This not only aligns with Saba's commitment to environmental responsibility but also enhances residents' living standards with the latest in energy-saving technology. By integrating these solutions, Saba positions itself as a leader in sustainable community development, contributing to global efforts to reduce energy consumption and carbon footprints.

Public Entity Saba

The Public Entity Saba, as the governing body, recognizes the importance of proactively incorporating energy efficiency into its infrastructure. To spearhead this initiative, focus will be directed toward the following key areas

- **Energy Audits:** Implementation of energy audits for each government building, including but not limited to archives, agriculture facilities, administration buildings, public works,

hydroponics facilities, the airport, and the tourist bureau. This strategic measure aims to meticulously track and analyze energy consumption, fostering a data-driven approach to efficiency enhancement.

- **A/C Inverters for HVAC Efficiency:** Ensuring that all government buildings are equipped with A/C inverters. This technology not only enhances the overall energy efficiency of Heating, Ventilation, and Air Conditioning (HVAC) systems but also aligns with the commitment to sustainable practices. By incorporating A/C inverters, energy conservation and responsible environmental stewardship is promoted.
- **Transition to LED lighting –** Currently Public Entity has 88% of LED lighting in all government buildings. The goal of this policy is to reach 100% by 2025 which ensures energy efficiency in our lighting systems.

Light Survey		
Government Building	**Non - LED**	**LED lights**
Public Works	0	33
Administration Building	6	150
Tourist Office	0	15
Harbor Office	0	23
Customs Office	2	22
Fishermen Shed	2	16
Public Harbor Bathrooms	0	6
Airport	11	93
SHS	3	135
SCS	2	202
Cove Bay	16	22
Technical School	60	8
Agriculture Building	12	4
Day Care Center	0	40
Farmers	0	12
Community Development	0	30
Totals	114	811

Total Lighting	925
Total Percentage of LED lighting	88%

Public Transportation Program

Saba's existing public transportation program represents a pivotal step towards fostering sustainable mobility and bolstering energy efficiency initiatives within the community. By providing residents with accessible and reliable transportation options, Saba not only enhances connectivity but also significantly reduces the carbon footprint associated with individual vehicle travel.

The current fleet comprises a single bus operated by a dedicated driver. This foundational setup already showcases the commitment to efficient transportation practices. However, recognizing the growing demand for such services and the importance of scaling up efforts to accommodate more residents, Saba plans to expand its public transportation system with the introduction of two smaller vehicles. The aim is for one vehicle to serve the villages of Windwardside and Hellsgate

and the other to serve the Bottom and St.Johns. By expanding the service, it is the intention to increase passenger frequency and lower road congestion and the use of private vehicles.

Smart Meters

In the future, the Saba Electric Company (SEC) has plans to enhance its demand-side management systems. To achieve these objectives, investments will be directed towards implementing smart meters. The primary goal is to empower consumers with the ability to monitor energy prices as they fluctuate throughout the day and adjust their consumption accordingly. This monitoring can be easily done through a smart screen installed in consumers' homes.

As a part of this initiative, specific locations on the island will require the installation of base stations. These base stations are essential for transmitting the necessary data to different households, enabling them to stay connected to the system and access real-time information about energy prices.

Transitioning to smart meters is a long-term goal that involves securing funding and conducting research and development efforts. To realize this vision, SEC has engaged in discussions with other energy stakeholders. They anticipate that this vision could become a reality with the implementation of the third solar photovoltaic plant.

Key Performance Indicators

Key Performance Indicators are essential for measuring the effectiveness of the policy and defined targets. With the specific targets defined, KPIs are included to track progress.

LED Public Lighting

- Percentage of Lighting Transition: Measure the percentage of public spaces, residential areas, or businesses that have transitioned from traditional lighting to LED lighting.
- Energy Savings: Track the overall reduction in energy consumption resulting from the shift to LED lighting.
- Cost Savings: Calculate the cost savings achieved by using LED lighting compared to traditional lighting sources.

Public Transport

- Increase in Bus Users: Monitor the percentage increase in public transport ridership compared to the baseline period before the policy implementation.

EE Appliances in Social Housing

- Energy Consumption Reduction: Track the reduction in energy consumption in social housing units due to the use of energy-efficient appliances.
- Affordability Impact: Assess the impact of the policy on the affordability of energy bills for residents in social housing.

Reduction of Incandescent Bulbs Sold

- Compliance Rate: Monitor the percentage of businesses that don't offer incandescent bulbs.

Energy Efficiency Policy:

- Total Energy Savings: Calculate the cumulative energy savings across all implemented measures and policies.
- Greenhouse Gas Emission Reduction: Assess the reduction in greenhouse gas emissions resulting from the overall energy efficiency policy.

Energy Efficiency Campaign

- Public Awareness: Measure the level of awareness among the public about the benefits of energy efficiency and specific policy measures.
- Education Programs Participation: Track the participation rate in education programs aimed at promoting energy efficiency practices.

Regularly monitoring and evaluating these KPIs will help policymakers assess the impact of the energy efficiency policy, identify areas for improvement, and make informed decisions to enhance overall energy efficiency in the community.

Energy Efficiency Program

Following the implementation of the Energy Efficiency Policy, Saba Electric Company will roll out an energy efficiency campaign (See Appendix 1 for SEC implementation plan). The goals of the campaign are to reiterate the current targets mentioned and facilitate the transition towards a more energy-efficient Saba. This energy efficiency program is divided into three phases:

Phase 1 - Increase General Awareness

Phase 2- Data Collection

Phase 3 - Targeted Education and Awareness

Phase 1 – SEC 10th Anniversary Celebration

SEC successfully executed Phase 1 of its 10th Anniversary Celebration with a week-long series of engaging activities aimed at showing appreciation for its clients and raising awareness about electricity consumption and sustainability. The following activities were organized:

- Tours to Saba Electric Company Power Plant: Members of the community were invited to tour the SEC power plant, providing them with a firsthand experience of how electricity is generated and distributed on the island. These tours not only offered insights into the technical aspects of power generation but also fostered transparency and trust between the SEC and its consumers.
- Open House at Saba Electric Company: SEC hosted an open house event at its facilities, welcoming residents to explore the operations and infrastructure of the company. Visitors had the opportunity to interact with SEC staff, ask questions, and gain a deeper understanding of the services provided by the utility.
- Presentations in Primary and Secondary Schools on Energy Transition: SEC conducted informative presentations in local schools to educate students about the importance of energy transition and sustainability. These sessions included discussions on renewable energy sources, energy conservation practices, and the role of electricity in shaping the future of Saba.
- Distribution of Information Regarding Energy Consumption: SEC distributed educational materials and resources throughout the community, including brochures, pamphlets, and flyers, to raise awareness about energy consumption patterns and ways to reduce energy usage. These materials served as valuable tools for empowering residents to make informed decisions about their energy consumption habits.
- Ceremony to Thank Consumers: The week concluded with a heartfelt ceremony to express gratitude to consumers for their continued support and cooperation. SEC officials, along with community leaders, extended their appreciation to consumers for their contributions to the success of the utility over the past decade.

Phase 2 – Data Collection

Building on the momentum generated during the anniversary celebration, Phase 2 of the program will focus on collecting data to gain insights into consumer behavior on Saba. Questions will be distributed to the community via many different avenues. A multifaceted questionnaire will be distributed across the community to gather information on energy usage patterns, preferences, and challenges.

Saba Electric will launch phase 2 of the campaign on November 8th, through an event at their headquarters. During this launch, the community will be given a chance to learn about energy efficiency and what it looks like for Saba. The Table below provides an overview of the focus areas.

Topic	Focus
What is EE?	This includes terminology, what EE looks like in the Caribbean Context, climate/environmental justice and energy efficiency. Why should it matter when we aren't emitters?
EE on Saba: Tips and Tricks	Tips on addressing and resolving some of the energy consumption practices on Saba.
EE: Outside of the Home	What are the ways to implement EE practices in your office, on vacation, etc.? How do practices change when your bill isn't directly affected?
Vampire Suckers	Explains that appliances left plugged in when not being used are constantly using electricity
EE & RE: The Overlaps	Explain how EE practices and implementation are crucial as Saba shifts to a higher percentage of energy generated by renewables. (Lower cost should not equate to higher consumption, etc.)

Following this launch, a knowledge-sharing campaign will commence on social media to increase education and awareness in the Saban Community. The areas have been mentioned above. The final step of the data collection and provision phase will be to offer a questionnaire to the public to understand their consumption and the depth of their knowledge where energy efficient practices are concerned. This information will feed into the "EE on Saba Tips and Tricks" Section.

The data collected will serve as a foundation for designing targeted initiatives in Phase 3 of the program.

Phase 3 – Education and Awareness

Phase 3 will center around education and awareness-building efforts aimed at promoting energy efficiency and conservation practices among residents. Key activities planned for this phase include:

- Seminars/Workshops: SEC will organize seminars and workshops to provide residents with practical tips and strategies for minimizing energy waste and maximizing efficiency in their homes and businesses. These sessions will cover topics such as energy-efficient lighting, appliance usage, and insulation techniques.
- Distributing Information on Proper Usage: Informational materials will be distributed to educate residents on the proper usage of household appliances and electronic devices. Tips and guidelines for optimizing energy efficiency will be provided to empower individuals to make environmentally responsible choices in their daily lives. SEC employees will produce an "Energy Efficiency in Practice" video to visually demonstrate how this could be implemented on Saba.
- Importance of Turning Off Household Appliances: Emphasis will be placed on the importance of turning off household appliances when not in use to conserve energy and reduce electricity bills. Educational campaigns will highlight the benefits of simple actions such as unplugging chargers, switching off lights, and using programmable thermostats to minimize standby power consumption.
- Conducting Educational Workshops, Seminars, and Community Events: SEC will host a series of educational workshops, seminars, and community events to engage residents in conversations about energy conservation and sustainability. These events will provide opportunities for dialogue, knowledge-sharing, and collaboration among stakeholders, fostering a culture of energy consciousness and environmental stewardship in Saba. For the Youth, SEC will campaign in primary and secondary schools to help students understand energy efficiency and how to implement it at home.
- Energy Consumption Competition: SEC will launch a competition to incentivize the community to reduce their energy consumption. Participants will be encouraged to adopt energy-saving behaviors and practices, with rewards offered to those who demonstrate the greatest reductions in energy usage. The competition will be separated into two categories commercial usage and residential usage.

Conclusion

In conclusion, the energy landscape in Saba is undergoing a significant transformation, guided by a comprehensive strategy aimed at enhancing sustainability, reducing costs, and promoting environmental stewardship. With Saba Electric Company N.V. (SEC) at the forefront, the island is making substantial strides towards achieving its energy goals.

The implementation of renewable energy sources, including solar parks and battery storage systems showcases Saba's commitment to a clean and sustainable energy future. However, challenges such as reliance on diesel generators and rising fuel costs underscore the importance of further diversifying and expanding renewable energy infrastructure.

The energy efficiency policy outlined by the Public Entity Saba outlines clear objectives and strategies to address these challenges. By focusing on reducing energy consumption, cutting costs, mitigating environmental impacts, and improving the quality of life for residents, the policy aims to foster a culture of energy consciousness and responsible consumption.

Key initiatives such as transitioning to LED lighting, promoting energy-efficient appliances in social housing, and implementing smart meters demonstrate Saba's proactive approach to energy efficiency and sustainability. Moreover, the establishment of performance indicators will enable policymakers to track progress, identify areas for improvement, and ensure accountability in achieving energy efficiency targets.

As Saba continues its journey towards a more sustainable and resilient energy future, collaboration between government entities, utility providers, and the community will be crucial. By working together to implement innovative solutions and embrace energy-saving practices, Saba can pave the way for a brighter, greener future for generations to come.

Appendix

Appendix 1 – Implementation Plan Timeline EE