ENERGIZING ALL STAKEHOLDERS:
AN INCLUSIVE APPROACH FOR SUSTAINABLE ENERGY IN ARUBA

IMPLEMENTING THE RELIABLE-AFFORDABLE-SUSTAINABLE (RAS) ENERGY APPROACH

CONTRIBUTING TO THE
SUSTAINABLE DEVELOPMENT GOALS
ACKNOWLEDGMENTS

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SYNOPSIS

This case study discusses the policies and strategies adopted by the Government of Aruba to move the country from 20 percent to 100 percent renewable energy use by 2020. The study focuses on the Reliable, Affordable and Sustainable (RAS) approach, an approach designed to facilitate and enhance cooperation between stakeholders, manage political expectations, create a common framework of understanding and enable informed decision-making and realistic planning for the transition to renewable energy. The study concludes with key lessons and the measures to be taken to replicate or adapt Aruba's approach to green energy in other Small Island Developing States (SIDS).
Affordable, Reliable, Sustainable and Modern Energy for All
Against the backdrop of increasing extreme weather events caused by human activities that are harmful to the environment, in 2015 the United Nations (UN) introduced the Sustainable Development Goals (SDGs). **SDG 7** aims to “ensure access to affordable, reliable, sustainable and modern energy for all”. According to the Barbados Declaration on Achieving Sustainable Energy for All in Small Island Developing States (SIDS), SIDS contribute least to climate change but they “are among those [countries] that would suffer most from the adverse effects of such phenomena”. The SIDS Accelerated Modalities of Actions (S.A.M.O.A.) Pathway described the reliance of SIDS on fossil fuels as a “major source of economic vulnerability and a key challenge for SIDS. The United Nations Environmental Programme (UNEP) also describes this energy dependence as “major source of vulnerability” for SIDS.

THE VISION
As one of the SIDS, Aruba is using its advantageous geographical location and other natural endowments to play a lead role in transitioning from fossil fuels usage to renewable sources of energy. During the United Nations Conference on Sustainable Development (Rio+20), the Government of Aruba and the Carbon War Room announced a partnership to enable Aruba’s transition from its high dependence on fossil fuels to a 100 percent reliance on renewable energy through its “2020 Vision.”

Acknowledging this visionary goal as “broad and aggressive”, the Government of Aruba introduced a new strategy for its implementation. Central to the strategy were reforms to its utility services aimed not only to address the island’s environmental concerns but to break free from dependence on a fluctuating oil market. In the past hundred years, Aruba experienced a remarkable economic and demographic growth, initially driven by refining oil, and later by tourism after the closure of the country’s refinery.
Aruba’s arid climate, lack of a natural source of fresh water and heavy reliance on imported fossil fuels for generating electricity, make the country’s ability to meet the rising demand for water and electricity by its growing population and the high influx of tourists a huge challenge. This gave rise to the desire to tap into the wealth of renewable energy sources that the island possesses.

Aruba’s location in the Caribbean, just seventeen miles off the coast of Venezuela, places it outside the hurricane belt and in the midst of trade winds, giving the island an astonishing **2,500 hours of sun and 5,000 hours of wind energy per year**. This makes year-round experimentation on renewable technologies possible. Such an advantageous location, in combination with the country’s accessibility, stable political and business environment, make Aruba an excellent site to serve as a laboratory for policies and strategies of transitioning from dependence on fossil fuels to renewable sources of energy.
The Government of Aruba has bolstered coordination of the energy sector as a means of facilitating the country’s transition to renewable energy. At the head of the transition process is Utilities Aruba N.V., the liaison between the Government of Aruba and the operational entities responsible for the country’s water and electricity: WEB N.V and N.V. Elmar. WEB N.V. is responsible for Aruba’s water supply and distribution and generates the country’s electricity. N.V. Elmar owns the power transmission and distribution grid and is responsible for the distribution of the electricity that it buys from WEB N.V.

Originally, water and power production as well as water distribution were in the hands of the Government of Aruba while power distribution was done by a private company. In 1990, the Government of Aruba set up Utilities Aruba N.V. when it privatized the department responsible for water and electricity which became WEB N.V., while retaining the shares of the enlarged company. At the same time the Government of Aruba bought up the majority of the shares of the private distribution company N.V. Elmar.

At its founding, Utilities Aruba was simply the liaison between the utility companies and the Government of Aruba and did not interfere in the strategies of individual utility companies. After the shift in the Government of Aruba’s vision, the main stakeholder, this arrangement changed, giving Utilities Aruba a leading role in the transition towards more sustainable energy.

The Hon. Mike de Meza, the Minister responsible for Energy, considers the coordinating role that Utilities Aruba plays to be pivotal in reaching the 2020 sustainability goals. Utilities Aruba acts as “as a conduit for the Government of Aruba’s strategy and helps facilitate the adoption of sustainable technologies and efficiency measures with innovative business models at the national utility services companies of Aruba.”
WEIGHING AMBITIONS AND FEASABILITIES

Policy guidance by the Government of Aruba plays a crucial role in mobilizing the private sector to participate in setting desirable goals with the means to achieve them. Before the Rio+20 conference both N.V. Elmar and WEB N.V. were already considering partially switching to renewable energy. Elthon, Business Development Officer at N.V. Elmar, recalls: “From the start we were looking into how we could add green technologies to the energy mix; we talked about 50, 60 and even 70 percent. After a few months, the Prime Minister went to Rio+20 in 2012 and came back with a new goal of 100 percent of renewable energy use before 2020.” Francis Ras, Manager, Technical Affairs at WEB N.V., explains that most people at WEB N.V. were initially a little startled when the Prime Minister announced the 2020 goals.

In their initial reactions to the Government of Aruba’s vision utility companies weighed the cost and benefits of switching to renewable energy. Ras estimates that in 2020 Aruba might have its first hours of 100% of green energy use but won’t be able to get to a full 100 percent. He explains that if one looks at the 2020 goal, there are some specific challenges for WEB N.V.. The company has invested a lot in the last few years in new technologies, an investment that they still have to earn back. “We can’t just disregard these investments,” Ras explains. “The financial impact of writing off these investments needs to be evaluated and dealt with accordingly.”

Ruurd Schoolderman, Strategic Energy Advisor at TNO Caribbean, an applied research institute, estimates that a realistic potential lies somewhere between 40 percent and 50 percent use of renewable energy. Ivan Flanegin, policy advisor at Utilities Aruba N.V estimates that approximately 50 percent will already be achievable around 2018 with all the projects that are currently in the pipeline. But after this, all extra investments in sustainable energy will require significantly more effort to avoid a loss of reliability or a rise in costs.
While some people were sceptical of the Government of Aruba’s renewable energy ambitions, Lampe from N.V. ELMAR is more optimistic. Having worked on the goal for a few years, he says that N.V. Elmar has seen an enormous increase in knowledge that presents positive possibilities: “If you aim a little high, you give yourself room to work towards the goal, if you aim low, people will be tempted to do nothing. That is why as a business developer, I try to introduce as many new ideas that have value, not only financial value, but also value on how you function as a company.”

Frank Hoevertsz, the managing director of Utilities Aruba, is equally optimistic and described the situation as follows: “Our mission is to reach 100 percent sustainability by 2020. Some will say that is too soon, but it doesn’t really matter; a target has been set and achieving it is what matters. US President John F. Kennedy said that in ten years the US would put a man on the moon. People laughed, but it happened in ten years. If it had taken 12 years, it wouldn’t have made any difference. It’s about the vision, creating targets, and the bigger picture. Whether we make it by 2020 or not, the most important achievement would be convincing the rest of the world.”
IMPLEMENTATION CHALLENGES

Despite the optimism expressed above, Aruba’s transition to renewable energy has encountered financial, institutional, and administrative challenges. One of the biggest problems with Aruba’s transition to renewable energy was the gap between policy targets and implementation capacity. This was confirmed at the Aruba Learning Event (ALE) organized in Aruba by the Clinton Climate Initiative, the Rocky Mountain Institute, the Carbon War Room, the Government of Aruba, Utilities Aruba, and the International Renewable Energy Agency (IRENA). Schoolerman, of TNO Caribbean, who assists Aruba with this transition, explains that it proved difficult to get all the different stakeholders aligned to the same conceptual approach. This resulted in a gap between expectations on the side of the Government of Aruba and what was seen as achievable on the implementation side.

The goal not only seemed technically complex, but would also create contractual and financial barriers for the stakeholders: WEB N.V. would for example be forced to write off its equipment faster than expected and on top of that, it would stand to lose income as a result of more costly efficiency targets.

Flanegin of Utilities Aruba explains, “There are crucial things that a lot of people don’t understand or take for granted about energy companies. Many don’t realize that energy is not the only thing that energy companies provide; they also provide reliability of energy, as much as is needed and whenever it’s needed. This can lead to all kinds of misunderstandings when comparing renewables with conventional energy.” He stressed that 1 kWh of wind or solar energy (intermittent) is not the same thing as 1 kWh of fossil fuel generated energy. In regard to renewables, “You always have to consider the back-up costs.”
Even though on most islands energy companies are government owned, most policy makers do not have sufficient insight in the workings of these companies. Such understanding is however essential for making informed decisions with the right stakeholders. Often governments get offers from outside parties on cleaner energy solutions, without realizing the full impact such decisions have on the whole energy system. This can result in miscommunications.

The small scale of Aruba’s energy needs makes reliability even more fragile, something most policy makers from bigger countries may not fully realize. Ras from WEB N.V., highlights the increased complexity resulting from innovations in the energy mix, such as flywheel technology, batteries, wind energy, solar photovoltaics, and new engines. Maximizing the use of these amenities makes good cooperation between the stakeholders more important than ever.
THE ENERGY TRILEMMA
The prioritization of renewable energy gives rise to a number of interrelated socioeconomic challenges that Aruba has had to address. In the past, Aruban energy companies focused on reliability and affordability. The Government of Aruba introduced a third component, sustainability, without being aware of the impact of this choice on the whole system, forcing the energy provider to find a new balance. Aspiring to add more renewable energy to the energy mix is often seen as contributing to environmental protection, enhancing reliability, and supplying affordable energy to the consumers. In reality, not all these goals are achievable at the same time. Aruba’s current situation makes it impossible to meet all the goals simultaneously. Achieving one of these goals always involves trade-offs with the other two, giving rise to what is known as the energy trilemma.

The key question is: how much affordability and reliability is a government or utility company able and willing to sacrifice for sustainability? Ras emphasizes that WEB N.V. is committed to reliability: “Our government is always referring to building a 5-star community, something we agree with”. He notes that water and electricity are important for sustainable development because having power outages and dirty water have direct adverse consequences for the economy. Tourists will complain, hotels will have higher costs owing to additional safety risks and the cost of running diesel generators when there are frequent power outages. Ras: “WEB N.V. had tried to explain this energy trilemma before, when the renewable energy portfolio expansion was put on the table. More stakeholders understood this when Hoervertsz of Utilities Aruba adopted and translated the energy trilemma into the RAS approach. Before that, many hours and meetings were dedicated to explaining the implications of the energy trilemma.”
THE RAS APPROACH

The RAS approach was introduced as a way to address human and institutional challenges as well as the impact of the energy sector on the wider economy. As such, it was designed to bring policy makers and implementing parties closer together and to provide them with insights on the effects that different policy choices would have on their respective institutional priorities.

The RAS approach is a tripartite-model to approach the energy-trilemma. Schoolderman describes the RAS approach in a nutshell as “a three-legged stool, of which all the legs have to be in balance. It depends on your perspective and on which of the legs you prefer. The utilities company will prefer reliability and affordability, while the government may prefer sustainability. Yet it, too, realizes there is a limit to how much additional cost or reduced reliability citizens and businesses will accept.” This approach enables different partners to have a dialogue and plan a renewable energy roadmap, together defining the boundary for the transition to a more renewable energy plan. It will create simple, understandable scenarios, which will enable government policy makers to make informed decisions.

In addition to its role as a qualitative tool, the RAS approach is also intended to serve as a quantitative instrument for measuring results. According to Flanegin, an important factor to take into account is that every stakeholder has a different time scale. The Government of Aruba thinks, for example, in four year periods; whereas the average consumer thinks more in months; while the timescale for establishing electrical generation or distribution systems covers a couple of decades. Change on the part of each actor is difficult, and affects the whole system. Clear communication and a shared conceptual approach are therefore key. This is exactly what the RAS approach’s primary function is: “a qualitative tool to have the right conversations that inform important long-term planning.” Now, after implementing the RAS approach as a conceptual tool, it will be applied for energy planning. Utilities Aruba intends to use the approach to make different energy scenarios. If stakeholders live up to the agreed scenarios, policy makers can make informed energy choices.
MACRO ECONOMIC IMPACT (MEI)

To make the RAS approach more comprehensive and responsive to the country’s needs, Utilities Aruba decided to add the Macro Economic Impact (MEI) component to analyze how energy choices influence the wider economy. An important issue for SIDS is the outflow of foreign reserves. Importing heavy fuels negatively affects the balance of payments; but the same is true, to a certain extent, for alternative energy sources like solar and wind power when the technology (and money) have to be imported as well. It is important to determine the actual economic effects of changing from fossil fuels to wind mills on an economy when wind mills also have to be imported and maybe the maintenance has to be imported as well. Another example is switching to biofuels: investments might initially make it an expensive solution, but through their widespread diffusion on the island, part of this money might still benefit the local economy.

Hence, Ras considers introducing the MEI as important, but politically sensitive. The MEI serves to calculate all the consequences of the national strategy. This raises a lot of important questions: Where does Aruba want to see the level of its energy prices? What is the impact of such prices on the whole economy? To address these questions, WEB N.V. asked businesses what they preferred because of the volatility of the oil market prices; variable or relatively stable energy prices? Most preferred stable energy prices. One of the tools WEB N.V. decided to use to achieve this was hedging the oil prices for two to three years. Despite the unfortunate turn of events as the price of oil dropped drastically, WEB N.V. managed to maintain the prices of power and water as low as possible compared to neighboring islands. “Price stability is important, especially for businesses as they must offer quality and be able to make a budget.” According to Ras, this is not so different from hedging, for instance the purchasing of wind energy. WEB N.V. is committed to a long term power purchase agreement (PPA) for the existing wind farm. This is the reason why whatever decision is made, the RAS approach and the MEI need to be evaluated together to have all stakeholders aligned on a price structure that will guarantee a 5 star economy.
DEMAND-SIDE MANAGEMENT

As a solution to address challenges arising from energy supply and demand, Aruba adopted a three-pronged approach to transitioning to renewable energy. One of the most important aspects of getting to the 100 percent mark is demand-side management. The first goal is to eliminate fossil fuels use, especially heavy fuel oil number six which is the worst fossil fuel category.

The second priority is to look for a cleaner fossil fuel and simultaneously start producing as much green energy as possible. One of the most important aspects of this approach is keeping the energy curve as flat as possible. WEB N.V. needs to maintain energy usage as constant as possible because peaks and lows lead to the loss of efficiency. Both Lampe and Ras emphazise the importance of demand-side management because educating customers to adjust to fluctuating energy supplies requires more resources. Demand side management is also important because it enables the supplier to influence the energy curve by reducing the peaks and lows in energy flows.

The effective management of energy supplies is not a problem that WEB N.V. can tackle on its own. There needs to be an alignment of all the stakeholders. Hence, WEB N.V. has developed a roadmap to 2020 together with TNO Caribbean, Utilities Aruba and N.V. ELMAR to introduce smart meters.

N.V. ELMAR has already introduced 8,000 smart meters for 38,000 consumers. WEB N.V. is also evaluating the introduction of smart water meters.

Another major challenge is that none of these ideas has enough popular support and collaboration remains difficult. From the side of the Government of Aruba, enforcing new regulations is not always popular among energy suppliers and customers. Lampe explains that to achieve this, the Government of Aruba could offer incentives through flexible rates that would regulate the demand side in addition to relieving stress from the supply side machinery. Currently, N.V. Elmar is paying a flat rate to WEB N.V., which would mean that Elmar has little to gain by introducing flexible rates. N.V. Elmar and WEB N.V. have had several discussions about the subject and may soon start offering these services.
EMPLOYEE BUY-IN

For the implementation of the transition to renewables and for the RAS approach to be successful, it is important to get internal as well as external support. Ras explains that processes of change are challenging in everything WEB N.V. does. In addition to the requisite large investments, WEB N.V. also has to get its employees on board. Ras describes this as the biggest challenge. “People have sometimes worked here for over thirty years, if you change the process, you take away a part of their life. You have to give them time to mourn and adapt.” Lampe recalls that “the director did get a lot of opposition from the unions at first.”

A person introducing a change that is different from standard practice can expect opposition from all sides. The differences in point of view between N.V. Elmar and WEB N.V. also played a role in reducing resistance to change. Lampe explains that “N.V. Elmar was enthusiastic from the beginning and still is. The whole trajectory of sustainability and solar energy is really technical and for electrical engineers this is the Holy Grail. For WEB N.V. this is different, because they do not have as many electrical engineers as N.V. Elmar; rather they have mechanical engineers who had a different view of the subject from the beginning. They were not impressed by solar energy back then; we can see a lot of changes now from WEB N.V. regarding green energy.”

COMMUNITY SUPPORT

However, cooperation between WEB N.V. and N.V. Elmar is not enough. According to Lampe, the technological possibilities are there but the challenge is on the social side. The planned wind park in Urirama is an example. There was a lot of opposition by residents and NGOs in the area to a wind park, which resulted in big delays. People asked that, since Aruba has little land left, is there an alternative site for this wind farm? Should it be built in the sea because there was no popular support for a wind park on land? These are problems that have little to do with technology.

The fact that a potential solution is technologically feasible does not mean that it does not have other consequences. Lampe does not see sufficient social support for green energy in Aruba. “A study from the University of Aruba showed that eco-sensitivity was not strong. This is not something that is going to change fast and Lampe thinks it could take 10 to 20 years. Aruba used to be more altruistic, but it seems nowadays people want comfort for a low price. There is little support to pay more for energy to help the environment.”
The building of the second wind park at Urirama has not started due to a legal battle. “Everybody is catching up with Aruba and we want more renewable energy, but we have social issues. Everybody is ok with the wind mills, but ‘not in my back yard’, Ras explains. “If you live on a small island, you need to influence people’s behavior to reach 100 percent sustainability.”

Therefore, it is not only important to change the attitude of the utility companies, but also the need to change the mindset of the population. Going green is seen as a responsibility of WEB N.V.. “We need to educate people; a lot of our problems are behavioral problems.” With this goal in mind, WEB N.V. reached out to schools. Their public relations department made a book for schools (primary education) and they do projects together with the national Bureau of Innovation. “The best thing is to start with the children,” Hoevertsz describes the importance of awareness and consciousness. “To change a lightbulb to a LED is easy, but when it comes to changing people’s behavior, there is need for a broader approach.”
### BENEFICIARIES

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<th><strong>The Government of Aruba</strong></th>
<th><strong>Local Aruban Community</strong></th>
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<tr>
<td>By introducing more renewable energy in the mix, Aruba can become less dependent on external factors, making Aruba’s economy more stable and sustainable.</td>
<td>Aruba is highly depended on the fluctuations of the oil market. Introducing renewable energy could mean more stable, and perhaps in the future, a more affordable energy bill and a more sustainable living environment.</td>
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<td>More renewable energy means less heavy fossil fuels, which means that Aruba will hugely reduce its environmental footprint.</td>
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STAKEHOLDERS AND THEIR CONTRIBUTIONS

The Government of Aruba
Sustainable Development is one of the basic principles of government policy. The government aspires to policies that are both economically and environmentally sustainable.

PM Mike Eman
The Prime Minister of Aruba and Minister of General affairs, Science, Innovation and Sustainable development, is the initiator of the 100% sustainability goal and chairman of the Council of Ministers.

Minister Mike de Meza
The Minister of Economic Affairs, Communication, Energy and Environment is responsible for the country’s energy policy.

Utilities Aruba
This is the main company responsible for implementation. Utilities Aruba acts as a conduit between the government and WEB and Elmar, and is sole shareholder of WEB N.V. and N.V. Elmar.

WEB N.V
WEB N.V. is responsible for Aruba’s water supply and distribution and generates the country’s electricity.

N.V. Elmar
N.V. Elmar owns the power transmission and distribution grid and is responsible for the distribution of the electricity that it buys from WEB N.V.

TNO
The Netherlands Organization for Applied Scientific Research (TNO) helps Aruba with projects as well as with identifying opportunities for the island and is supporting Aruba to achieve its goals for renewable energy with applied technology research together with (local) partners.

Carbon War Room
Aruba’s partnership with the Carbon War Room (CWR) started Aruba on the road to 100% sustainability. The CWR is an international NGO that attempts to find market-based solutions to the challenges of global warming. Aruba and the Carbon War Room work together to find solutions to the challenges that the transition to sustainable energy brings.

The CWR was later joined by the Rocky Mountains Institute, the Clinton Climate Initiative and the International Renewable Energy Agency (IRENA)

Consumer
Introducing renewable energy could mean more stable, and perhaps in the future a more affordable energy, and a cleaner environment for its consumers.
SCALING UP THE RAS APPROACH IN OTHER SIDS

Not all SIDS have the same opportunities to successfully transition to renewable energy. Although most SIDS have access to renewable energy sources, this is not always the case. Another difference lies in the institutional arrangements in the energy sector. The power sector in most SIDS was originally state owned; in some instances this led to privatization and in others to separating the state owned company into several different utility companies, into generation, distribution/transmission and retail components. This means that what works for some of the SIDS does not necessarily work for others. The key is to be aware that although transitioning to sustainable energy is necessary, it has to be balanced with other factors and priorities.

For SIDS aiming to transition to renewable energy, below are the recommendations worth considering based on the Aruban experience. The advice from Ras is not to neglect the current core business that gives any existing utility company its stability. Every organization must realize what it is responsible to maintain: “stability (reliability) and growth (sustainable development).” Ras further explains that it is important to ask at the very beginning: how to be more efficient, starting with the effective control of energy consumption as the first step. After that, he recommends taking a critical look at the demand curve and from there evaluating what this means for the company.

Aruba is a tourism dependent island; other islands might depend more on industry; each of the SIDS has to determine how this affects its energy consumption. “If a policy maker from another SIDS would invite me as an advisor, my first question would be: what is the daily demand curve for energy?” says Ras.

Aruba also shows that setting the right priorities, is the pathway to effective energy policies. According to Flanegin, “it should not be about green energy at all costs. It’s about finding a balance between the three elements, about what the island can carry.” Flanegin emphasizes that much of what is done in Aruba, is done from scratch. “We are experimenting; we want to be an experimental garden. We want new technologies, but with the right amount of caution.”

SIDS must consider the long-term consequences of energy planning. If for instance, a country opts to stimulate the private use of solar panels, there is always the costs of backup batteries. This expense can lead to an unintended result of widening social inequality. Solar panels are expensive and only affordable for a certain part of the population. The rising costs of backup batteries, which must be calculated and included in regular power generation expenses, could mean that the people who cannot afford solar panels will be paying for the backup costs of those who can.
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After having a techno-economic model of the whole system, it is possible to distinguish what is desirable from what is feasible. The rest of the process can then be broken down into the following four steps:

01 First, before contemplating the switch to renewables, focus on the efficiency of the existing entities producing electricity. This will benefit the financial health of utility companies. Without healthy utility companies at the negotiation table, it is very hard to get a realistic energy roadmap.

02 The second step is introducing the RAS approach as a qualitative tool. Get all the stakeholders informed of the effect of certain choices on the energy grid and the wider economy.

03 After everybody is aligned, one can start using the RAS approach as a quantitative tool or a technical model to see what change would mean for reliability and affordability.

04 The last step is incorporating this into a roadmap, defining your goal and setting targets to get there.

On handling the many decisions arising from the surge in technological innovations, Lampe advises SIDS to keep an open mind; considering the trends in batteries, transitioning to a high level of usage of renewables in Aruba will be possible in a couple of years. “As an electrical engineer, I know technology is not the problem; the price is.”

Lampe continues: “There are choices to be made; but one has to be open to various options. It is possible to innovate, especially when you start using biofuel instead of fossil fuel. Try to look at as many options as possible, and periodically revisit such options. Maybe biofuel was five times more expensive than fossil fuels five years ago and it’s now two times; who knows what it is going to be in two years? But because it was expensive then, people keep thinking it is still expensive. You have to have a current view of prices. I see changes coming; other islands are also waking up when they see Aruba, they see that 30 percent penetration of green energy is possible, and now many islands are already at 30 percent, because they realized it was possible.”
LESSONS LEARNED

There is a need to start with a joint fact finding mission. Begin by getting all the stakeholders at the same table and share all the relevant information.

The challenge is not necessarily technical, but lies more on the human side. Try to get a common approach of understanding by investing time in the alignment of perceptions and expectations.

Feedback and involvement of stakeholders is a requirement for successful collaboration.

It’s important to be clear about the trade-offs to be made and determine what is desirable and what is feasible.

The energy trilemma shows that adding sustainability to today’s energy equation creates trade-offs with affordability or reliability. How much affordability and reliability is a country able and willing to sacrifice for sustainability keeping in mind that renewable energy may become cheaper and more reliable?

Get support from the community. If you want to change the way your island deals with energy, you cannot do it alone. It is essential to have community support. Start early with investing in communication and in educating society.

Switching to green energy must be done in balance with other factors and priorities. A sustainable energy policy requires financially healthy energy companies that can provide stable and affordable services today and in the future. The focus on sustainable energy should not lead to the neglect of other pressing challenges an island is facing.

Stay open to new developments. Technology keeps progressing, but the prices of fossil fuels and those of renewables such as eco-gas are also subject to change. An expensive option today might not be that costly in a few years.
CHECKLIST

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<tr>
<td>Get all the primary stakeholders at the table to align roles and expectations</td>
</tr>
<tr>
<td>Use these deliberations to create realistic scenarios, with targets and a joint roadmap</td>
</tr>
<tr>
<td>Ensure support from the local community and other secondary stakeholders</td>
</tr>
<tr>
<td>Create policy based on the most feasible scenarios after input from all stakeholders</td>
</tr>
<tr>
<td>Use a v for continued engagement (like the RAS approach) with stakeholders</td>
</tr>
</tbody>
</table>