



Aruba

Five Star Island, Paradise of Sustainable Solutions

Known as the, "happy island," Aruba works towards making Earth a happy planet

Eight years into a national strategy enshrining a conversion to green energy and sustainable development, Aruba has been illuminated by a new spotlight. The Caribbean island known for pristine beaches, *savoir vivre* and five star hospitality has now been positioned as a hub of green initiatives with a rapidly developing knowledge society.

Though a destination where holiday makers enjoy a relaxed pace, Aruba has historically been a fast developer. After the island gained its status as an autonomous member of the Kingdom of the Netherlands in 1986, the tourism sector developed from 2000 to 8000 hotel rooms in 25 years. Today, since having anchored its national vision to sustainable development, in 2009, the island is on track to run wholly on renewable energy, by 2020.

While Aruba is a concerned stakeholder when it comes to preventing climate change, the small island being vulnerable to rising sea levels, the outset of Aruba's sustainable development mission coincided with the global economic crisis and oil prices being at all-time highs. Facing a knock on effect of recession in Aruba, instead of implementing austerity measures, the government invested in converting to running the island on renewable energy; protecting the environment and guarding against future fluctuations in the global energy market while creating jobs, and new skills, on the island.

The government also chose to invest in revitalising essential infrastructure to make the island five star, throughout.

"Our strategy really connects economic growth with the social well-being of people," said Aruba's Prime Minister Mike Eman. "We do not want to only have 5 star hotels but also, 5 star schools, 5 star neighbourhoods as well as 5 star public spaces where people can walk and enjoy themselves. We have achieved that over the last few years," he explained.

The strategy is a success. Today, the island has resurged from the crisis as a more competitive destination in spite of having taken on greater debt to make its investments. Aruba's budget deficit is decreasing steadily going from 6.3% of GDP in 2014 to 2% in 2016, on course for a historical low of 0.5% this year. Standard and Poor's revised their outlook for Aruba to positive last June.

"Aruba is recovering steadily thanks to the choice to invest in our own people," said Drs. Franklin Hoeverz, Managing Director of Utilities Aruba NV.

The shift from a traditional energy mix based on fossil fuels to a green energy mix comprised of renewable and alternative energy sources required not only new technologies but the support of the country's utility companies.

WEB Aruba NV, the island's sole producer of power and water, operates alongside power distributor Elmar under holding company, Utilities Aruba NV. 100% state owned, the utility company has been implementing the multi-faceted conversion and today, 50% of Aruba's power comes from renewable energy sources. The country's first wind park, Vader Piet, contributed 30 megawatts in capacity to the Aruban grid and a second wind park now in the pipeline aims to double that. A solar park has been introduced at Aruba's international airport aiding its efforts to become carbon neutral, a new solar park is being built and solar panels have been placed on existing buildings, adding 10% capacity.

"We are also going to build a biofuel Algenol algae-supported refinery which will capture the CO2 of hydrogen plants," said Mike de Meza, Aruba's Minister of Economic Affairs, Communications, Energy and Environment. An existing refinery is also being rehabilitated to become more environmentally friendly. "The refinery will utilize natural gas over heavy fuel oil seeing emissions drop significantly, (between 98% and upwards)," de Meza explained.

Aruba is also increasingly efficient in its energy use through new technologies as well as energy storage solutions to optimally manage wind and solar power. In the latter regard, Aruba has most recently signed an agreement with leading alternative energy company, Tesla, adding to the island's already impressive roster of leading international partners such as, The Netherlands Research Organization, Carbon War Room and the Rocky Mountain Institute.

Fostering local support for green endeavours and instilling a culture of sustainable development is an essential part of Aruba's green strategy particularly when it comes to the nation's youth who benefit from

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Aruba Marriott Resort & Stellaris Casino
venue of the Green Aruba Conference

programs such as the Green Schools project through which WEB sponsors educational packages for students.

Meanwhile, knowledge created via the process of implementing Aruba's green vision is exportable. Aruba has been sharing knowledge of the process of getting to where it is today with the rest of the world. Since 2010, the island has hosted the Green Aruba Conference where leading international participants share information, knowledge, experiences and discuss best practices. Since 2015, Aruba has also been home to the United Nations Development Program's Centre of Excellence for Sustainable Development of Small Island Developing States (SIDS).

Experience gained in Aruba helps improve technologies and processes available for transfer to other SIDS while solutions tested in Aruba are easily scalable for roll out in larger countries. Furthermore, the Aruban experience serves as a confidence building example to other nations wishing to follow a similar path but facing resistance to change.

Companies wishing to participate in the raft of new opportunities for partnership in Aruba's sustainable development projects and businesses operating in the region continue to be attracted by the island's strong legal framework, and asset protection. A new Free Zone package, coming out early this year, positions Aruba further as a Green Gateway to regional business.

"Our strategic location puts us very close to huge Latin American markets, the Caribbean and Central America," said Prime Minister Eman. "Meanwhile, our ties with Europe and The Netherlands mean we understand European culture as well as Latin American culture. Bolstered by our people speaking four languages, we can be a means of bringing diverse people together." ■

www.pmoaruba.com / www.utilitiesarubanv.com
www.greenaruba.org / www.tedxaruba.com

Want to brainstorm about the opportunities Aruba can offer you? Contact Bianca Peters at the Aruban Bureau of Innovation via: bianca@bi.aw

Wind Power Expertise

Leading wind energy expert Henk Hutting discusses NuCapital's Aruban project

In electricity generator WEB Aruba NV's vision of realising cleaner, greener and fuel-oil free power generation, green energy company NuCapital's Vader Piet wind park has played a significant role. With ten wind turbines producing 3 megawatts of electricity each, the project, which has capacity to comprise up to 20% of Aruba's total electricity generation, has surpassed initial expectations and forms part of ongoing proof that commonplace estimations of the potential contribution of wind parks to national grids continues to be undervalued.

In 2007, when Henk Hutting proffered the most competitive bid in the Aruban Government's tender offer for the construction of Vader Piet, the wind power vendor was able to bring decades of expertise in wind farm design, integration of wind energy into island systems and the development of greenfield national wind park projects to the table, as well as exclusive technology to enhance the efficacy of the project.

Having assisted in developing the first wind farm in the Netherlands and advised on the first wind farm in the Caribbean, in the 1980s and 1990s respectively, Hutting had also conducted feasibility studies for wind farms on Aruba in 1996 and 2003. By 2007, the same year as Hutting had commenced the design of a 365 turbine flagship wind farm project in Kenya, he was best placed to offer Aruba, through his own company, the opportunity of producing energy for a third of the price then obtained by oil.

"The break-even price for Aruba was at a price per barrel of oil of something like \$48," said Hutting. "The global oil price was then in the \$150 range so they paid only one third to the wind farm. Now, Aruba is also more protected against future oil price rises.

"In the economic evaluation from the five bids submitted during the tendering process, our bid was \$100 million better over the lifetime of the project than the second best bid," Hutting recounts. "Much of that has to do with unique innovations that we offered such as giving the control of the wind farm output to WEB Aruba itself and, on top of that, we provided accurate power output predictions," said Hutting.

As such, while Vader Piet is run by NuCapital, of which Hutting is CEO, with Aruba as the exclusive purchaser of the power produced,

the project has also generated jobs and created knowledge for the Aruban workforce as the grid connection, electrical interconnection and related aspects are all done locally.

Furthermore, Hutting's expertise in advanced feasibility studies allows him to take on all the development risk. "We take on the full risk of the investment," said Hutting. "Then the islands can save money. When we discussed the second wind farm,

Prime Minister Eman commented that he loves not having the burden of risk and investment but still makes a million a month," Hutting relayed.

Enhancing efficiency further, Vader Piet also benefits from a technology, custom built for NuCapital in Australia, the Lidar system, that measures wind speeds up to 10KM away so that less diesel fuel needs to be burnt in guarding against dips in the system.

"Nobody else has made wind energy a reliable source in an affordable way before," explained Hutting. "Our knowledge on how to integrate a wind farm into the total supply and demand system is our competitive advantage."

The establishment of Aruba's second wind park, Urirama, is now also in progress under Hutting's leadership.

www.nucapitalvcs.com ■



Vader Piet



The Aruba Marriott Resort & Stellaris Casino caters to every need from large-scale conference organisation to beautiful beach holidays.

Relax in scenic tranquility at the adult exclusive H2Oasis pool and Tradewinds Club comprising ocean view rooms, a private lounge with dedicated concierge, five food and beverage

servings throughout the day and a reserved beach area while children enjoy the rest of the resort. Sumptuous dining includes Caribbean and Latin American cuisine, a sushi bar and steak house.

Speaking of Aruba attracting record rates of repeat visitors to its idyllic beaches, natural parks and cultural heritage, Tom Calame, General

Mix business with pleasure

Manager of the Aruba Marriott Resort and Stellaris Casino said, "The friendliness of the Aruban people is a big reason why many visitors keep coming back. The island's safety record is also a big draw, the steady sunshine is a great benefit and the island is outside the hurricane path."

www.arubamarriott.com