



Leading Change

RELIABLY
AFFORDABLY
SUSTAINABLY
& SAFELY

Lighting Up the Future

Past achievements and outlook of the
Future Water and Energy supply of Aruba

Stakeholder Encounter with WEB Aruba Management
Augustus – November 2019



[Click to see video](#)



Tree of Content

Outlook Beyond 2022

Business cases currently in development. Potential future major projects

4. Outlook 2019 – 2022

Projects in Execution

What's in it for Aruba?

The OUTCOMES and BENEFITS of the program compared to the RISKS of the program

3. WEB Aruba NV Today

Current asset conditions and upcoming challenges in power and water production – an outlook

1. Great Expectations

“Take nothing on its looks; take everything on evidence. There's no better rule.”

Great Expectations – Charles Dickens

2. Achievements

Real Achievements in real time



Great Expectations – Wishes & Desires

RELIABLE
INCREASE IN RELIABILITY
REDUCED RISK FOR
BLACKOUTS/BROWNOUTS



R

A



AFFORDABLE
LOWER TARIFFS
TARIFF STABILITY
IMPROVED TARIFF
MANAGEMENT

SUSTAINABLE
IMPROVED PRODUCTION EFFICIENCY
IMPROVED ORGANIZATIONAL EFFICIENCY
OPTIMAL MIX OF RE & NRE



S

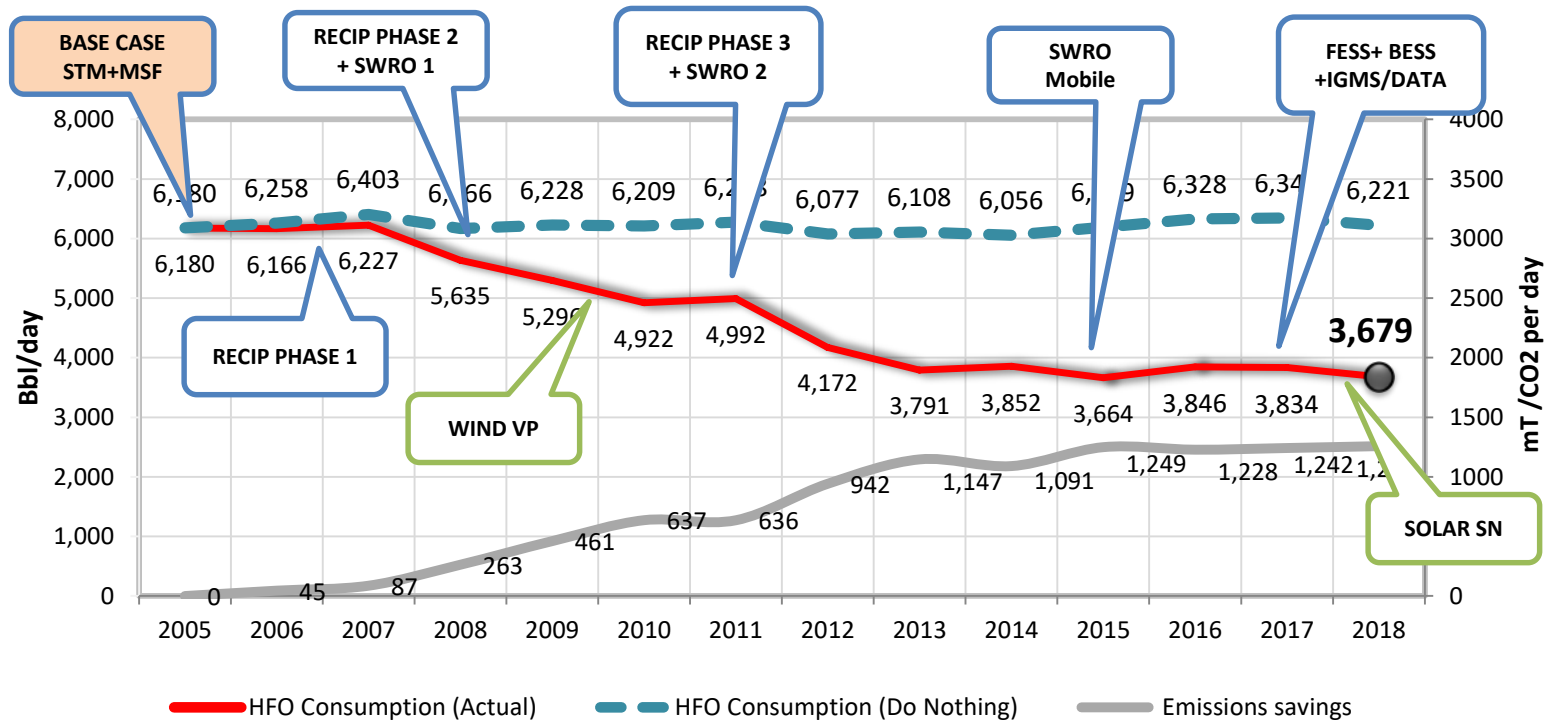
S



SAFE
IMPROVED SAFETY
IMPROVED WORK
ENVIRONMENT

Our Stakeholder's Expectations are Central – RAS(S) Framework

Real Achievements in Real Time



Real Achievements in Real Time

Investments & Results

COMPLETED in **13** years

Total Investments:

\$ 268

Million

Total estimated Savings:

\$ 620

Million

Results:



40%

less Fuel Consumption*

**from 2005*

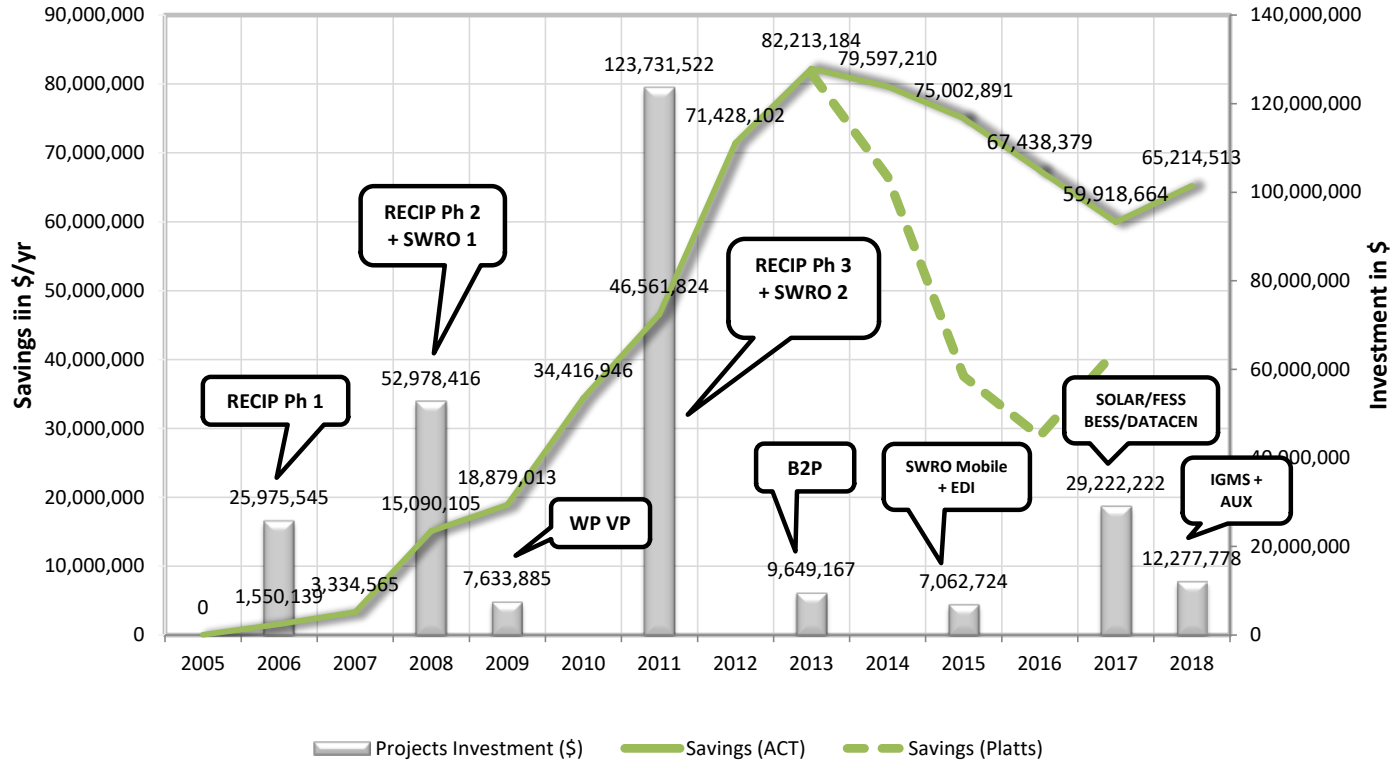


18%

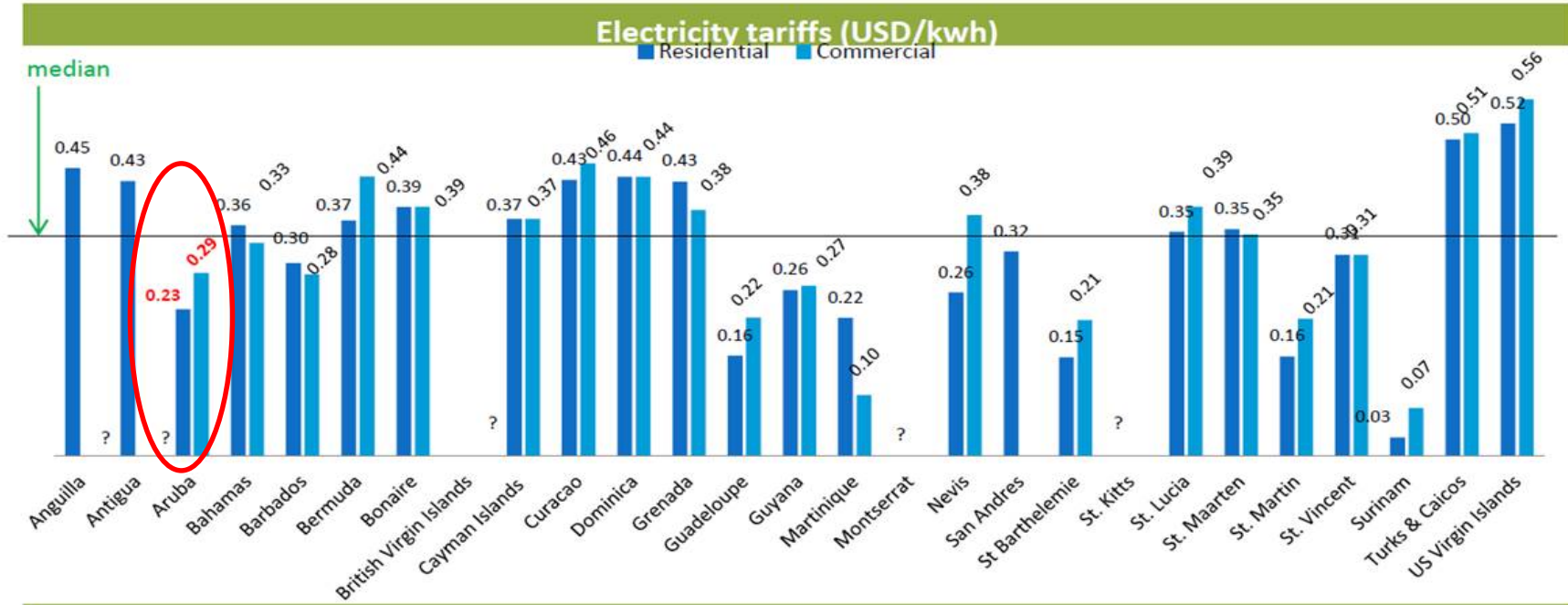
Renewable
Energy penetration*

** AVG per year*

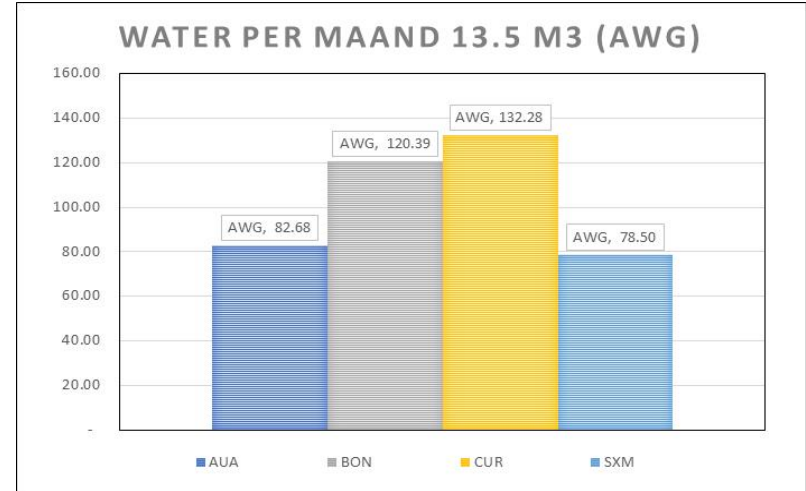
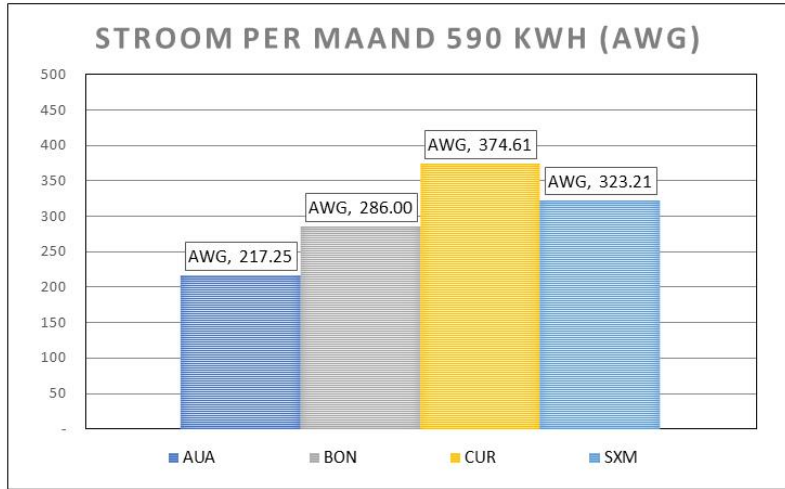
Savings compared to Base-scenario



Power Tariff comparison in Caribbean

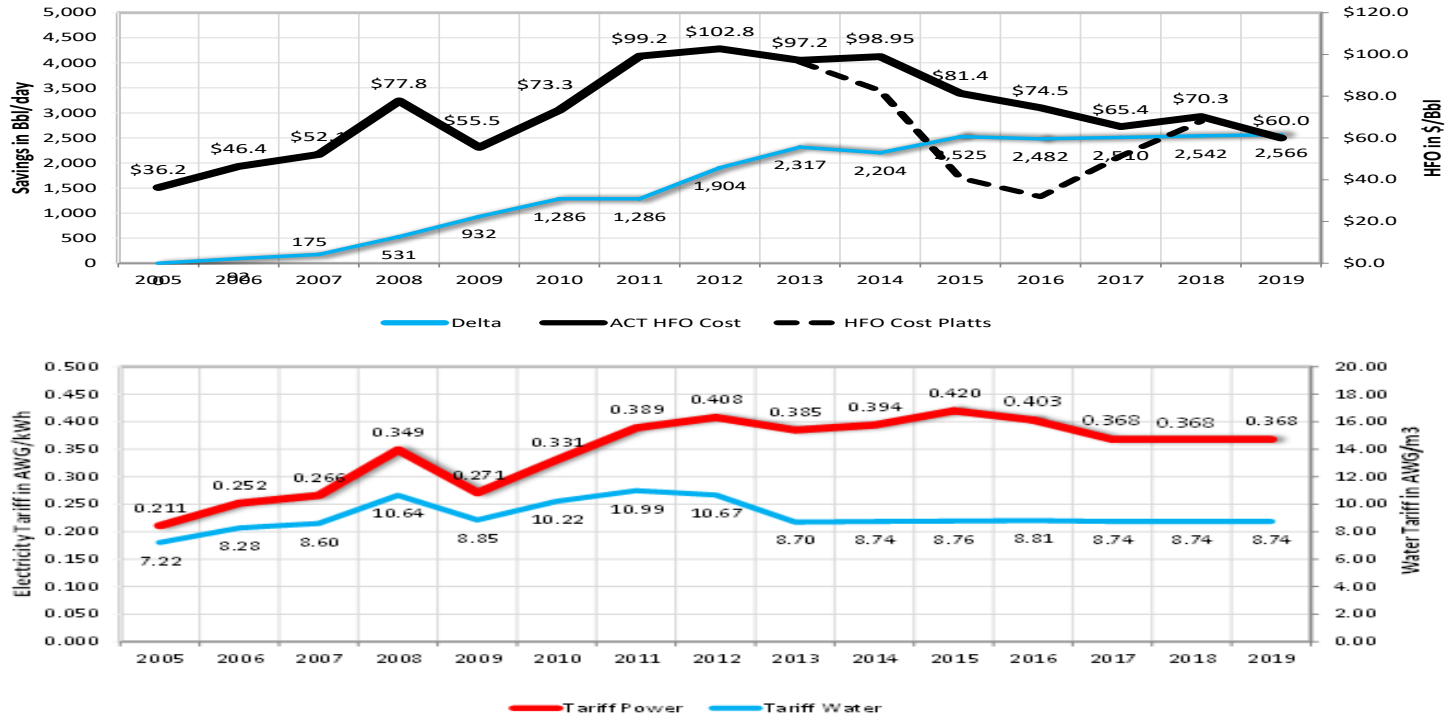


Power & Water Tariff comparison Locally



Source: WEB Aruba, WEB Bonaire, Aqualectra, GEBE per Jan. 1, 2019

Historical Trend Fuel Price & Tariffs



IMO 2020 starts 1st January 2020, future of HFO price & supply more uncertain

WEB Aruba Today

Pressures & Challenges

Reliable & Efficient

Reliable reserves and efficient fuel consumption are antagonistic forces. Peak demand and average demand gap is widening.

Fuel Oil Volatility & O&M Cost

Fuel oil volatility and Geopolitics.
Rising O&M cost on fuel oil.
Fuel oil market instability.

Tariff Pressure & Elasticity

Tariff lowering pressure.
Poor or no tariff elasticity.
Financial hedging just buys time and not tariff sustainability.



The Competition

Decreasing cost of distributed RE
Companies with deep pockets offering lease deals.

Age of Production Assets

Old and inefficient production assets.
Boilers are practically all written off.
No gains in renovating old and inefficient assets.

Mindset

No more Monopoly.
The sky is not the limit.

WEB Aruba Today

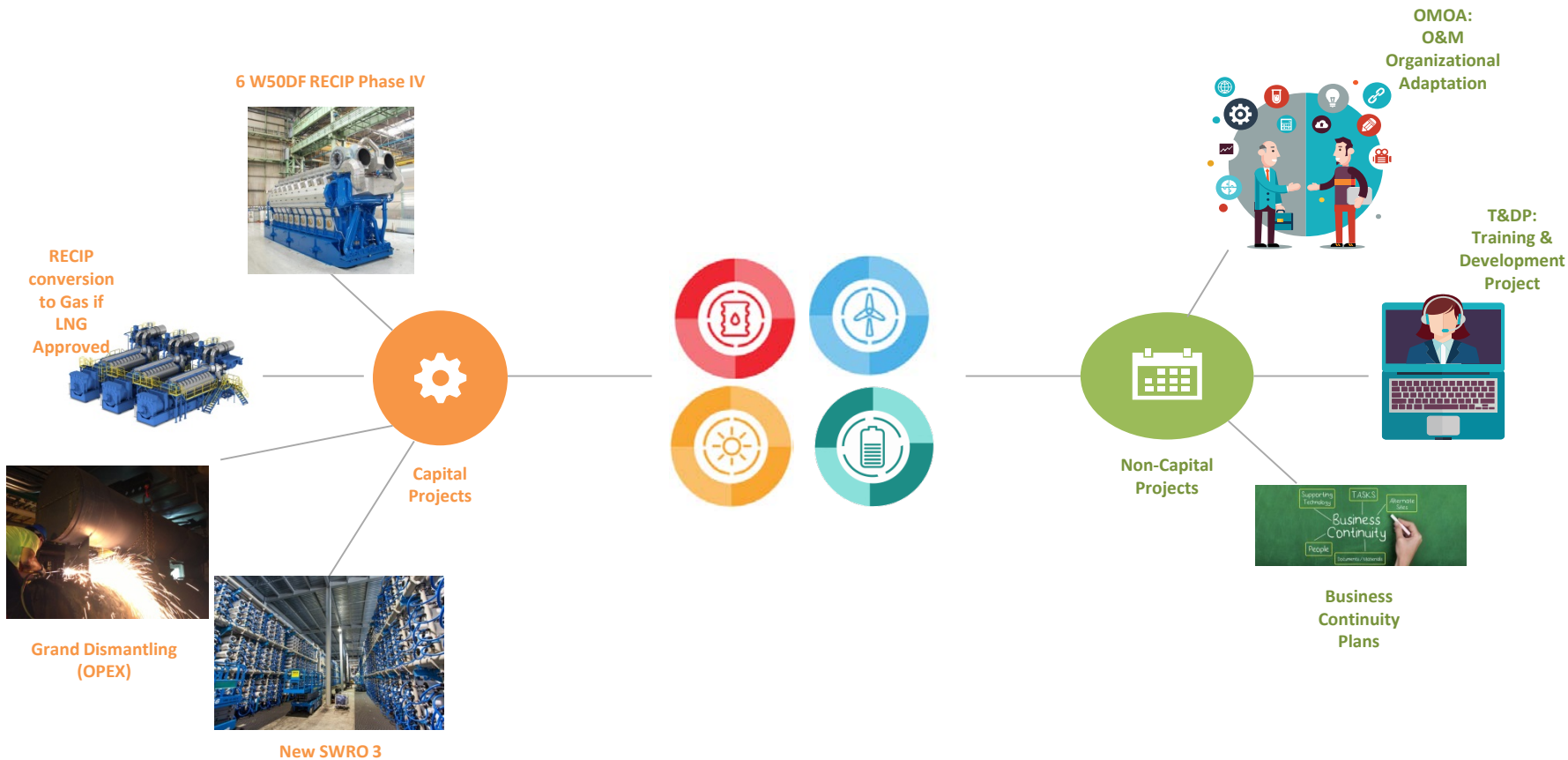
Changing Landscape of the Electricity Market

Rise of the Autonomous distributed Renewables Market

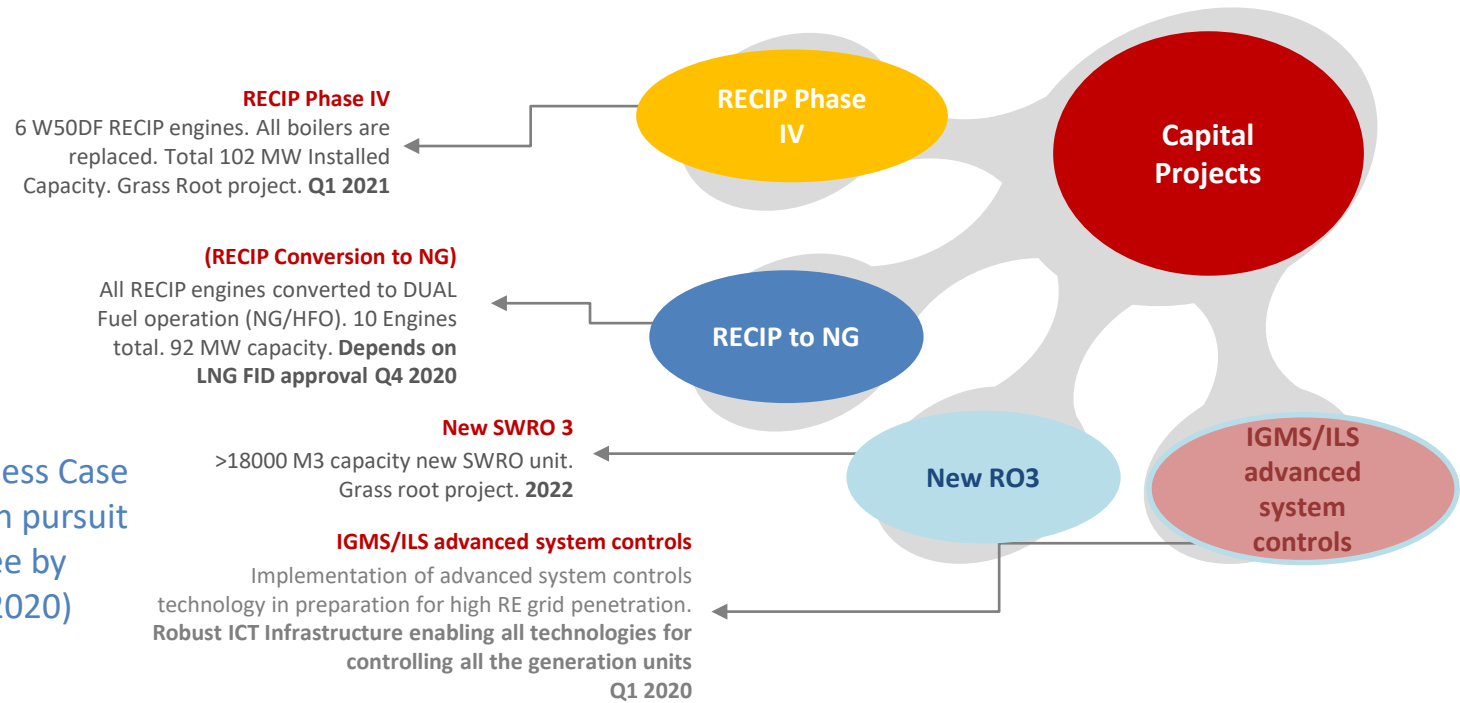
Lease Agreements with fixed monthly tariffs. Net-Zero and Grid Defection options are becoming more feasible for the Low & Middle Class Consumers.



Outlook 2019 - 2022



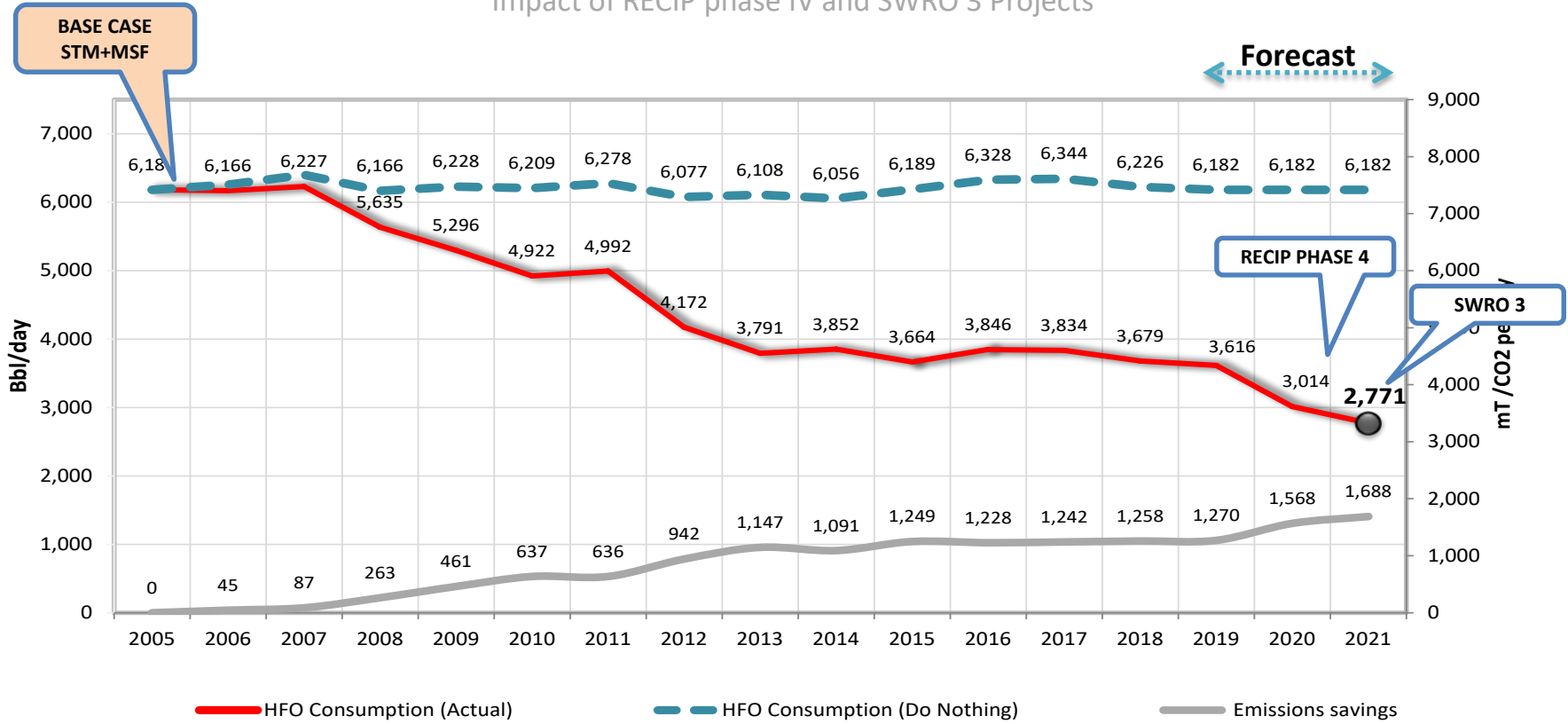
Outlook 2019 - 2022



LNG Import Business Case in Development in pursuit of going HSFO Free by 2023 (Programa 2020)

Outlook 2019 - 2022

Impact of RECIP phase IV and SWRO 3 Projects



Outlook 2019 - 2022

Impact of RECIP phase IV and SWRO 3
Projects

PROJECT IN EXECUTION

Total Investments:

\$ 147

Million

Total add. Savings per year*:

\$ 27

Million

*At \$60/Bbls (RECIP4 + SWRO3)

Results:



55%

less Fuel Consumption*

*from 2005



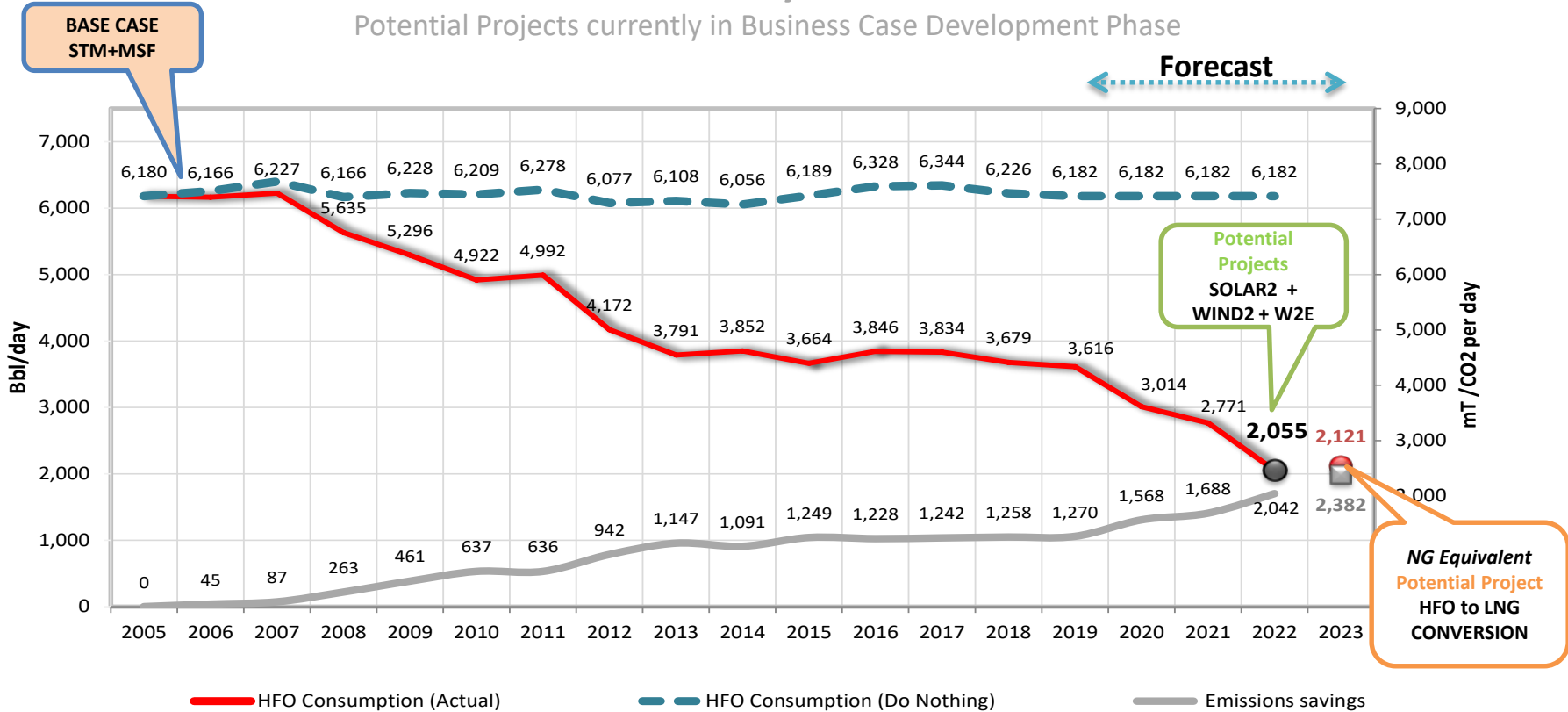
18%

Renewable
Energy penetration*

* AVG per year

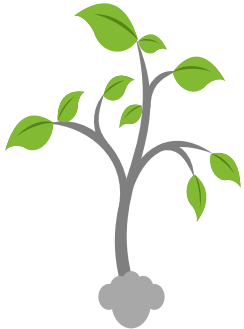
Outlook Beyond 2022

Potential Projects currently in Business Case Development Phase





What's in it for ARUBA



The environmental value of the WHOLE is incalculable and its IMAGE as a Caribbean FIRST in Tourism is of great value.

Affordable and Sustainable Water Tariffs

The Water Tariff is largely determined by the cost of electricity. With the increase in power production efficiency the water tariff management and stability is improved. This realistically increases the possibilities for a responsible downward trend in water tariffs.

Affordable and Sustainable Power Tariffs

The crux of the electricity tariff is 3-fold: The price of fuel, the thermal efficiency, and the organizational O&M efficiency. The Programa 2020 is designed to improve on all three influential parameters. Affordable and innovative new power tariff structures are made possible. Power Tariff stability, responsible downward pressure, and Power Tariff competitiveness is improved.

Balanced Mix RE & NRE Improving Tariff stability

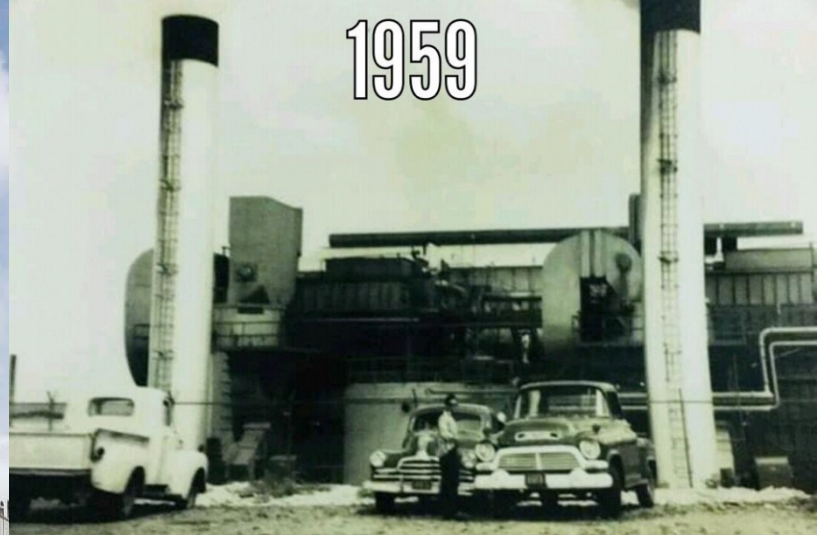
In conjunction with the projects led by the ARES Group, a technically and financial responsible mix in RE and NRE is achieved in an economic justifiable way. By negotiating favorable RE capital cost projects and/or IPP tariffs, the supplement of RE in the mix results in improving the robustness of power tariffs.

Improved Power Generation Reliability

New and Modernized Power Generation Assets, in conjunction with state of the art system controls will considerably improve the reliability and flexibility of power generation across the board. Faster ramping and responding units (RECIPS) practically guarantee a continuity of power production that is currently unavailable but necessary.

Outlook 2019 - 2022

Photographic View





Flywheel Park



Battery Energy Storage System' (BESS)



Sunrise Solar Park – Lago Heights



Renovation Pipe Bridge Spans Lagoen





RECIP ENGINE



Project RECIP IV

History in the Making

'59, '91, 2006, and now 2019!

Cleaner, more Agile, more
Competitive.

Renewables & Natural Gas
fully Integrated at most
Competitive Tariffs.

A FIRST in the Caribbean!



MASHA DANKI