



# WATER SAVERS FOR SMART CONSUMERS

## TECHNOLOGY DESCRIPTION

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Modern **water saving** technologies employ the use of water efficient appliances, fixtures and devices to augment water conservation efforts. Water savers have a variety of commercial and residential applications in buildings, landscaping, pools and factories. They range from installation of low-flow faucets, shower heads, toilets and household appliances, to retrofitting older plumbing with aerators, high efficiency check valves and flow restrictors or regulators. Water savers are most effective when combined with improved practice by conscientious consumers and can help to reduce water usage up to 70%.<sup>1</sup> According to *Home Water Works*, the highest in-home water usage include kitchen (15.7%), bathroom (18.6%), laundry (21.7%) and undiscovered or difficult to address leaks (13.7%). Successful use of water saving devices assumes that the property owners will target these high usage areas in overall conservation efforts.<sup>2</sup>



Source: Akruthi Enviro Solutions – How to Save Water at Home

### CURRENT COMMERCIAL READINESS INDEX

The **Commercial Readiness Index (CRI)** is a framework used to assess the *commercial maturity* of the technology under investigation using six (6) indicators (*see figure*). It complements and is often used in tandem with the **Technology Readiness Level (TRL)** method which measures the technology's *technical* maturity.



**Water saving devices** are currently at **Level 3 commercial scale up** – which indicates that devices and equipment are commercially available in retail stores across Antigua and Barbuda. They are, however, accessible among a variety of other fixtures and appliances which are less efficient and marketed at lower prices; and there is currently limited verifiable data about what factors most often influence consumer choice.

\*CRI Level 3 indicates that, water saving devices are in the *Deployment* phase of **Technology Readiness**.

<sup>1</sup> Akruthi Enviro Solutions Pvt. Ltd., <http://neoakruthi.com/blog/how-to-save-water-at-home.html>

<sup>2</sup> Home Water Works, *A Project for the Alliance for Water Efficiency*, <https://www.home-water-works.org/indoor-use>



## CLIMATE RATIONALE OF THE TECHNOLOGY

Antigua and Barbuda is a drought prone State, with prolonged periods of little or no precipitation, which is exacerbated by the increasing effects of climate change and variability. The Water Utility has struggled for decades to keep up with increased demand as surface water stores dry and groundwater becomes increasingly affected by saltwater intrusion. It is therefore imperative that residents become more shrewd water users and employ every available means to allow volumes to do more and last longer. **Water efficient appliances, fixtures, and devices** are useful in strengthening conservation efforts around the property. Water savers have a variety of commercial and residential applications, with each device either dispensing or utilizing smaller volumes. A range of water savers are available at local retailers across the country, with a few being identified by the *water saving* green tag. However, consumer choice is often not based on efficiency; hence, specialized messaging may result in residents becoming more prudent consumers who would be inclined toward more efficient choices.

## AMBITION OF THE TECHNOLOGY

### SCALE FOR IMPLEMENTATION AND TIME-LINE

**Water saving devices** will be deployed in residential and commercial properties, with a goal of influencing up to 5% of population and 25% of private sector businesses to switch to water efficient devices on their next purchase. To achieve this target a water efficiency labelling system – that rates devices based on volumes of water saved, will be developed and piloted with retail partners, along with an educational water usage chart that provides conservation tips. The focus will be on increasing education and awareness with the expected result of creating a nation of wiser water consumers. The activities for the TAP will be executed in thirty-six (36) months with a budget of approximately USD 165 000 | XCD 443 553, while the timeline for attaining the quantitative target is conservatively set at five (5) years – as this will be dependent on consumer need for new appliances.

### AMBITION FOR COMMERCIAL READINESS INDEX

The proposed goal for commercial readiness of water savers after the five (5) year period is to achieve **Level 4 multiple commercial applications** indicating that in the majority of cases, consumers will opt to purchase and install a water efficient device, with a strong upward tendency to **Level 5 widespread acceptance and application** where this consumer choice becomes intuitive. This goal represents the installation of at least one water saver in up to fifteen hundred (1,500) households or 5% of the population and 25% of private sector businesses.

## EXPECTED IMPACTS OF THE TECHNOLOGY

Adoption of **water saving devices** will promote more efficient water usage and reduce wastage. This will in turn reduce demand on the Utility's supply and allow harvested water stores to last longer during periods of Utility outages. There are expected financial benefits to the consumer – a lower monthly bill, and to the Utility – surplus can be utilized to increase network coverage. Additionally, a key social impact is that residents will become more conscientious and educated water users, and the raised level of awareness may lead to the adoption of additional water conservation methods.



## POLICY ACTIONS FOR TECHNOLOGY IMPLEMENTATION

### EXISTING POLICIES IN RELATION TO THE TECHNOLOGY

Antigua and Barbuda does not have currently have enforceable policy standards that govern the types and quality of fixtures and appliances that are approved for import. Instead, there is a reliance on retailers and consumers to determine acceptability of goods based on value for money. As such technology deployment will focus on increased education and awareness around **water saving devices** to aid retailers and consumers make more water smart choices when acquiring fixtures and appliances.

### PROPOSED POLICIES TO ENHANCE TECHNOLOGY IMPLEMENTATION

Successful technology deployment will necessitate the development of a water efficiency labelling system for devices and appliances, which will be piloted in-store with retail partners. The culminating sub-activity will see the development of a National Implementation Scheme for scaling up water efficiency labelling for retailers nationwide and will be presented to lawmakers in *Cabinet Paper*. It is anticipated that this *Paper* will stimulate a much-needed push for legislation that regulates the types of fixtures and appliances that are allowed to be imported. While the approved guidelines are outside the scope initial deployment, the activities completed over the initial three (3) year period will form the foundation for future policy reform. It should be noted that TNA stakeholders agreed that this action may also form a part of a larger regional programme – implemented by CARICOM<sup>3</sup> or the OECS<sup>4</sup>, that seeks to establish water efficiency standards across the Caribbean.

### COSTS RELATED TO THE IMPLEMENTATION OF POLICIES

The cost associated with the water efficiency labelling system is estimated at USD 125 000 | XCD 336 025. This includes development of the labels and the pilot programme, the result of which will be used to draft the *Cabinet Paper*.

## USEFUL INFORMATION

### CONTACT DETAILS

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3 Caribbean Community

4 Organization of Eastern Caribbean States



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