



# HIGH-LEVEL POLITICAL FORUM ON SUSTAINABLE DEVELOPMENT

#HLPF #SDGs #GlobalGoals [sustainabledevelopment.un.org/hlpf/2018](http://sustainabledevelopment.un.org/hlpf/2018)

## 2018 HLPF Thematic Review - Transformation Toward Sustainable and Resilient Societies: SIDS Perspective

### Introduction

This session will examine the issue of building island and community resilience through the lens of water and sustainable energy, two of the SDGs under review this year. Many of the challenges and shortfalls that jeopardize resilience in these areas for SIDS arise due to reasons that also make resilience difficult in the context of other dimensions as well in these countries.

### A. Water Governance in SIDS

#### *Setting the Context*

Water features in almost all the 17 Sustainable Development Goals (SDGs). Embedding water in this way demonstrates its central role in all aspects of development and its importance to achieving the SDGs. The inclusion of the 'Water Goal' (SDG 6) puts responsibility for water resources management into the hands of the water and water-using sectors. It also champions the need for an integrated approach to water resources management as the means of equitably sharing limited water resources among many, often conflicting, demands from people, industry, agriculture, and the environment when demand exceeds supply. For Small Island Developing States (SIDS), realizing this goal will be challenging as these states are particularly vulnerable to increased stresses on their water resources through the limitations of land, population, and water resources and the need for economic development and social well-being.

SIDS have for the most part pursued individual water resource management strategies including for wastewater management, drought management, rain water harvesting, and non-revenue water management (water losses), with varying degrees of success. Despite the support of various regional and international financial agencies, limited human and financial resources and a tendency toward supply side management of water resources have hindered efforts. Over the last decade however, policy makers have increasingly





# HIGH-LEVEL POLITICAL FORUM ON SUSTAINABLE DEVELOPMENT

#HLPF #SDGs #GlobalGoals [sustainabledevelopment.un.org/hlpf/2018](http://sustainabledevelopment.un.org/hlpf/2018)

recognized the importance of demand side management as a necessary part of any comprehensive solution for water resources management.

A feature of water resources in most SIDS is the diverse organisational arrangements governing management. A few SIDS have a ministry dedicated to water management, but in most states, water management forms just one part of a ministry portfolio, and often, responsibility is spread across more than one ministry. Responsibility for tariffs and economic regulation is rarely exercised independently of ministerial/cabinet control. In most states, water service providers also undertake water resources management. Water supply and wastewater services are undertaken by a government-owned company or statutory authority, with little independent oversight and evaluation. Little distinction is made between responsibilities for water services and water resources management, as they are centralized within the same organisation. This reflects the predominant supply-side paradigm that sees water resources as an integral extension of water supply services.<sup>1</sup>

For most SIDS governments, the problems now being encountered include quality of service, maintenance and operation of existing infrastructure, ageing infrastructure, high levels of unaccounted for water, and quality of potable water. This suggests difficulties with the management of water services and with securing the necessary levels of investment to address the supply–demand gap. Climate change also introduces threats to freshwater resources that must also be considered and managed within any framework for the management of the resource. Climate change impacts will also have implications for water infrastructure. The already ageing infrastructure in SIDS is likely to be ill equipped to cope with the projected changes in the hydrological regime where for example pumping arrangements may need to be reconfigured and more distribution or storage provided. The projected increase in frequency and intensity of tropical cyclones will result in further damage to infrastructure (pipelines, pumping stations), silting of storage reservoirs and damage to wastewater treatment facilities. While SIDS already contend with these impacts following the passage of a tropical cyclone, any increase in frequency and intensity of these weather conditions will have deleterious effects<sup>2</sup>.

## *A Role for Water Resources Management*

<sup>1</sup> GWP, (2014). Integrated Water Resources Management in the Caribbean: The challenges facing Small Island Developing States

<sup>2</sup> Cashman, A. (2014). Water Security and Services in the Caribbean





# HIGH-LEVEL POLITICAL FORUM ON SUSTAINABLE DEVELOPMENT

#HLPF #SDGs #GlobalGoals [sustainabledevelopment.un.org/hlpf/2018](https://sustainabledevelopment.un.org/hlpf/2018)

With increased water demand, wastewater management and its impact on ground water resources will become a greater issue and must be addressed. In this regard, adherence to water quality standards and the role of monitoring and surveillance will assume even greater importance at national and regional levels to mitigate against potential threats to human health and safety. Proper collection, treatment, and disposal of wastewater is also essential for protecting the natural environment, including coral reefs and other critical ecosystems and for supporting industries such as tourism and fishing, which are vital to SIDS's economies. Increased water demand potentially means greater water losses and therefore the focus on non-revenue water management must be considered and addressed in the immediate to short term. Most SIDS record an average range of 45-65% percent of water resources being lost through leakage, due to aged infrastructure.<sup>3</sup>

Water resources management faces challenges that affect water availability and long-term freshwater security. An example is the increasing threat to streamflows caused when catchments are converted for development and agriculture. Overall water security is an emerging challenge, which present challenges for institutional frameworks and for which current enabling environments are increasingly ill-equipped to deal with. Although many governments acknowledge the need for change and to develop plans, existing efforts to put these plans into practice have not proved sufficient.

With the onset of the widely-accepted principle of Integrated Water Resources Management, one practical step could be for SIDS to develop explicit water policies and regulations based on the principle of IWRM. There has been a growing realization that IWRM offers an opportunity to address the challenges inherent in the sector, and a number of countries are moving towards reviewing their institutional frameworks, preparing water polices and updating legislation based on this principle. Over the last decade several SIDS have implemented IWM interventions with support from international development partners, and as a result, it has become clear that changes are necessary in order to ensure the sustainability of water resources, avoid adverse impacts on human health, promote economic development, and address the effects associated with climate change.

## Guiding Questions:

---

<sup>3</sup> Ibid





# HIGH-LEVEL POLITICAL FORUM ON SUSTAINABLE DEVELOPMENT

#HLPF #SDGs #GlobalGoals [sustainabledevelopment.un.org/hlpf/2018](https://sustainabledevelopment.un.org/hlpf/2018)

1. What enabling environment (legislative and institutional) is necessary for effective water governance in SIDS?
2. How can integrated water resources management be used to address impacts from climate change, improve overall water security, including re-use of wastewater, health and wellbeing.

## B. The Energy Paradigm in SIDS

### *Setting the Context*

Most SIDS depend almost exclusively on imported petroleum for their electricity generation and transportation needs. This dependence leaves these countries vulnerable to volatility in international oil prices and is a tremendous drain on capital for imports. Although each country has a unique set of economic and energy sector conditions, they all share several common characteristics that are critical to understand. These include *inter alia* small population sizes, low to moderate income levels, single monopoly electric utilities (whether state or private), small overall electricity generation capacity (installed capacity range 22 MW to 140 MW), and persistently high average electricity costs (U.S. \$0.21 to U.S. \$0.46 per kilowatt hour). The high costs are as a result of outdated power systems (the bulk of the power grids are old and not adequately maintained, leading to significant technical and transmission losses), isolated grids and a lack of technical expertise. These, together with episodes of high and volatile oil prices, have resulted in the high average electricity costs that have eroded the competitiveness of SIDS.

Another constraint in most SIDS is that the power market structure is undiversified and underregulated. Most SIDS electricity markets are served by a mix of state-owned and private utility companies. For the most part, electric utilities are vertically integrated monopolies that hold exclusive licenses for generation, transmission, distribution and sale of electricity. Some of these monopolies are unable to finance necessary investments in generation capacity and the national grid, leaving consumers without access to reliable and affordable energy. The absence of adequately-staffed and independent national energy regulators in many countries leaves regulatory gaps unbridged.

Despite the deterrent of high prices, energy consumption in most SIDS has been growing, putting further pressure on total energy bills. A country's energy intensity depends on its economic structure. On a per capita basis, tourism-dependent economies appear more energy intensive than commodity-exporting countries; largely explained by how much larger the tourist population is in tourism-dependent economies relative to their small





# HIGH-LEVEL POLITICAL FORUM ON SUSTAINABLE DEVELOPMENT

#HLPF #SDGs #GlobalGoals [sustainabledevelopment.un.org/hlpf/2018](https://sustainabledevelopment.un.org/hlpf/2018)

indigenous population. The most energy intensive users include hotels in tourism-based economies, and the industrial sector in those SIDS with a manufacturing sector. In tourism-based economies, commercial consumers, namely hotels and tourist establishments, are the most intensive energy users, absorbing around 41% of ex-transportation primary energy, with air conditioning accounting for almost half of consumption. Residential consumers are the second largest users. In commodity-exporting countries—where the productive base is larger—the industrial sector is the largest energy consumer with a share of about 57% of total primary energy consumed in the region, around 36% percent is for transportation<sup>4</sup>.

The literature has long shown that improvements in energy efficiency as well as investment in the energy sector both have a positive impact on long-run GDP. Improving energy efficiency, including through diversification of the generation mix with cheaper and more efficient alternative energy sources and the adoption of energy efficient technologies, will have a significant impact on GDP in the long run. In this regard, several SIDS have in the last 2 decades introduced small scale grid installed renewables and small hydro installations and most have significant renewable energy (RE) potential that can be used on a cost competitive basis for power, heating and cooling, and transportation applications. Further, in all SIDS regions there is tremendous opportunities to reduce energy consumption through energy efficiency measures.

## *Energy Strategies and Policies*

In all SIDS national energy sector strategies or policies exist, most of which reflect international best-practice advice on policies to achieve energy sector transformation i.e. regulatory reforms, improving energy efficiency and diversification of the generation mix. In some SIDS regions, regional energy policies exist that are aligned with national energy policies developed by individual member states e.g. The CARICOM Energy Policy. These policies foster a framework for coordinated actions to achieve a range of the most important objectives, including i) increased energy efficiency and conservation in all sectors, including the transportation sector; ii) establishment and enforcement of labeling and standards for the importation of electrical appliances as well as standards for vehicles importation; and iii) accelerated deployment of renewable and clean sources of energy to improve diversification and affordability.<sup>5</sup> Most SIDS energy policies also establish action plans to achieve specific objectives and set ambitious specific energy targets in the

<sup>4</sup> IMF working paper WP/16/53 Caribbean Energy : Macro related Challenges

<sup>5</sup> Ibid





# HIGH-LEVEL POLITICAL FORUM ON SUSTAINABLE DEVELOPMENT

#HLPF #SDGs #GlobalGoals [sustainabledevelopment.un.org/hlpf/2018](https://sustainabledevelopment.un.org/hlpf/2018)

areas: of energy efficiency, renewable power generation, renewable power capacity and CO<sup>2</sup>. Therefore most SIDS already have in place most of the key building blocks needed to achieve substantial energy reform, with some important exceptions on the regulatory side

## *The Necessary Reforms*

Reform of the legal and regulatory framework for power sector in SIDS is the first important prerequisite for sustainable and affordable energy solutions. In particular, reforms that address regulatory gaps relating to Independent Power Producers (IPPs) are key. Although independent generation is permitted in many SIDS economies, no clear framework governs the licensing of utility-scale IPPs and their ability to sell to the grid<sup>6</sup>. Facilitating licensing procedures and introducing feed-in tariffs and net billing schemes are likely to be critical to the development of private sector-led projects that supply electricity to the grid at competitive cost. IPPs are particularly instrumental for exploiting the renewable energy potential in the region and since these projects involve large upfront capital cost and no fuel cost, feed-in tariffs and net-billing schemes should aim to establish adequate cost recovery mechanisms to ensure viability while reducing the overall cost of energy. Few SIDS have introduced net metering.

Creation of independent national and/or regional regulators would help promote a predictable and transparent regulatory environment for energy investors. The lack of an independent regulator in many SIDS is an impediment to new market entrants, given the need to assure them of a level playing field. Establishing an independent power sector regulator requires building sufficient institutional capacity to competently perform key functions of tariff-setting, license issuance and effective market oversight.

Energy efficiency measures are a focus in most country strategies and are likely to be the most feasible short-and-medium-term way to reduce energy costs. Energy efficiency can be improved on both the energy generation side and the consumption side. On the generation side, countries should strive to reduce technical losses, by replacing old and inefficient power plants and transmission/distribution lines, which cause major technical losses for the grid. On the consumption side, it is important to improve the energy consumption patterns of heavy energy users. In small tourism-dependent countries,

---

<sup>6</sup> Ibid





# HIGH-LEVEL POLITICAL FORUM ON SUSTAINABLE DEVELOPMENT

#HLPF #SDGs #GlobalGoals [sustainabledevelopment.un.org/hlpf/2018](https://sustainabledevelopment.un.org/hlpf/2018)

improving the energy efficiency of hotels can significantly reduce the national energy bill. Based on a study carried out in Barbados, air conditioning alone accounts for 48% of total electric consumption by hotels. The adoption of energy-efficient technologies, e.g. smart window technology, can have a material impact on reducing overall energy consumption and improve tourism competitiveness by directly lowering hotels' overhead costs. Meanwhile, limiting commercial losses in the form of unmetered electricity consumption would help enforce proper price signaling for all consumers and reduce energy intensity in the economy. Despite the potential gains from energy efficiency, most SIDS have not taken decisive action to implement rules-based policies. Generally, policies to promote efficiency improvements should focus on: (i) encouraging households and businesses to buy energy efficient appliances; (ii) energy-efficient building codes; particularly for hotels; and (iii) energy labeling for consumer goods and appliance efficiency standards to encourage the use of energy efficient items.

## Guiding Questions

1. How can SIDS transform their energy sectors to ensure access to sustainable and secure energy supplies and facilitate economic growth and sustainable development? What support is needed from the international community for the development of comprehensive sustainable energy policies and programmes in SIDS?
2. What enabling environment (legislative and institutional) is necessary for effective water governance in SIDS?
3. How can integrated water resources management be used to address impacts from climate change, improve overall water security, including re-use of wastewater, and better health and wellbeing?
4. What are the prospect for SIDS to reach the SDGs and make societies resilient and sustainable?

