THE WATER ENERGY NEXUS IN CARIBBEAN SIDS

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THE NEXUS GLOBALLY

- Water is essential to every stage of energy production
- 580 billion cubic metres of water used annually in energy related processes.
- This amounts to 15% of the water extracted globally and is second only to the volume of water extracted for use in agriculture.

THE NEXUS GLOBALLY C'TD

- Energy is vital for extracting, distributing, transporting, treating, sanitation, heating water, sewage disposal and desalination
- The majority of energy used globally derives either directly or indirectly from fossil fuels
- Water and fossil fuels are becoming more difficult and costly to extract, produce and distribute.
- World population of 7 billion expected to grow to 9 billion by 2050 – demand for potable water and energy for use by people will increase while demand for industrial use will also increase.

THE SHAPE OF POSSIBLE NEXUS GOALS

- Why the Nexus/Integrated Approach? – Important for mainstreaming sustainable development, ending silos, more collaborative and efficient resource use and management. Finding and applying interconnected solutions to development challenges which are interconnected.

- **The Nexus Goals**
- Ensure universal access to safe water
- Ensure that sustainable water and energy plans are developed responsibly and synergistically
- Pursue and promote the use of renewable energy sources such as solar and wind
- Establish and strengthen incentives for joint mapping and planning of natural resource availability
- Promote the use of green, efficient and integrated systems of food production and systems and technologies which reduce water and energy use.

THE SHAPE OF POSSIBLE NEXUS GOALS C'TD

- Encourage and create enabling frameworks and increased incentives for business innovation in renewable energy and technologies
- Encourage the development of innovative energy technologies to address GHG emissions
- Ensure coherence in policies and measures to address climate change

WHO is developing health-relevant targets and indicators to monitor progress in sustainable energy and cities.6 Examples include:

- **Target 1: Universal access to clean, sustainable energy in homes; Zero deaths from indoor air pollution Indicator 1:** Deaths attributable to indoor air pollution; *Global monitoring data source:* WHO's *household fuel data base* (+150 countries) is a basis for measuring clean energy access and related disease burden;1 it is being refined for even more sensitive tracking of trends.

The Stockholm Environment Institute has also developed a discussion paper around the desirability of the nexus/integrated approach, goals and targets for the water, energy, food nexus.

- **Please see:** http://www.sei-international.org/mediamanager/documents/Publications/Air-land-water-resources/SEI-DB-2014-Nexus-SDGs-integration.pdf

SE4ALL - GOALS, TARGETS, NEXUS

The Global Goal

Securing Sustainable Energy For All (SE4All)

Three Targets

- Target 1: Ensuring universal access to modern energy services
- Target 2: Doubling the global rate of improvement in energy efficiency
- Target 3: Doubling the share of renewable energy in the global energy mix

Cross-cutting Nexus Targets

- Energy-health Energy-water Energy-food Energy-women's empowerment nexus nexus nexus nexus

The approach of the UN SG's Sustainable Energy for All Initiative

THE NEXUS IN SIDS

Any reversal of negatives trends in SIDS will require policy and programmatic attention to the nexus issues and the mainstreaming of sustainable development.

THE NEXUS IN SIDS C'TD

- Water – Many SIDS are water scarce or water stressed
- Food – The majority of food consumed in SIDS is imported at high cost because of shipping and freight costs
- Climate – The inability to get a timely multilateral agreement on carbon emissions at a level which would limit global warming to 2 degrees Celsius further threatens SIDS which are already severely impacted by climate change
- Energy – SIDS are net importers of energy relying on fossil fuels as their primary energy source
- Energy costs in SIDS are amongst the highest globally.

POSSIBLE NEXUS GOALS IN SIDS

The small land and population size, scalability, abundance of renewable energy resources (RERs), climate change impacts, water stress and water scarcity, high energy costs and their tourism based economies, make SIDS ideally suited for the nexus approach.

Similar to general global nexus goals.

- Develop natural accounting strategies and approaches which conserve water, maximise renewable energy resources, reduce climate change impacts and enhance food production.
- Encourage and promote the use of technologies which are water and energy efficient.
- Transition to green economies with virtuous energy and water cycles with beneficial impacts on climate change and food production which reduce carbon footprints, enhance growth and development and protect social structures

THANK YOU