

# ENABLING POLICIES FOR FINANCING WATER-RELATED SUSTAINABLE DEVELOPMENT GOALS

REGIONAL DISCUSSION PAPER



## **ENABLING POLICIES FOR FINANCING WATER-RELATED SUSTAINABLE DEVELOPMENT GOALS**

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## Foreword

The Asia and the Pacific region is facing critical water and development related challenges, including increased competition for limited freshwater across key sectors, water and sanitation access, aging irrigation systems, and untreated wastewater discharges. The region also endures the most number of people affected by water-related disasters of any in the world. Governments of the region are facing severe pressures to provide more services, to fund their continuous water operations and maintenance, and to brace for extreme water-related events.

The 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs) provide a unique opportunity for the region to stimulate progress towards health and well-being for all, as water-related Sustainable Development Goals centre explicitly on enhancing access for all to safe water and sanitation, and the sound management of freshwater ecosystems.

The 3rd Asia-Pacific Water Summit and the 8th World Water Forum emphasized that governments need to mobilise public resources and expand opportunities for impactful investments to achieve the water related SDGs. This discussion paper is an outcome of those two regional sessions and provides an overview of existing policies and an enabling approach for financing water-related SDGs. The evidence shows that, at present, existing sources of funding do not match the need for investments to meet our region's water-related commitments with a business as usual approach. Indeed, current financing is directed primarily towards water supply and sanitation infrastructure schemes, while the achievement of all other water-related SDG targets by 2030 remains fragmented and project-based.

Considering the magnitude of the financial requirements to meet these challenges, and based on recommendations of the respective sessions, this paper proposes that public policy frameworks be enhanced to help leverage own sources of funds, creatively tap into new sources and develop innovative financing frameworks. In this regard, the policy-makers in the region have repeatedly shown an interest to create conducive policy environments that ensure certainty for institutions and businesses and robust returns on investments in their water markets.

The region also needs to strengthen integrated water resources management processes to build coherence and promote better management of its water cycles, so that investments can be mobilized to help attain the water-related SDGs. Secretariats of ESCAP and the Asia Pacific Water Forum (APWF) network remain committed to supporting Member States and sharing solutions to help achieve the 2030 Agenda for Sustainable Development.

We look forward to continued collaboration and accelerating action throughout the region.



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## Executive Summary

This discussion paper is focused on exploring policies, actions, and strategies to attain the Sustainable Development Goals (SDGs) by improving the resilience of water systems and infrastructure. This requires strategic mobilization of public resources and augmenting the opportunities for private investment. The contents of this discussion paper were developed and refined based on the outcomes of two regional sessions, coordinated by ESCAP at the 3rd Asia-Pacific Water Summit (3rd APWS, Yangon, 2017) and the 8th World Water Forum (Brasilia, 2018).

To attract investments and make progress towards the achievement of the water-related SDGs, countries in the region need to focus on policy actions and define strategic frameworks to improve the financial sustainability and resilience of water systems and infrastructure. In all presentations, shared at various intergovernmental platforms, speakers pointed out that governments should strategically mobilize public resources and expand opportunities for private investment.

Experts also shared various regional initiatives, including the lessons learned from macroeconomic perspectives as well as local level innovations. The World Bank proposed a step-by-step framework to improve the credit-worthiness of utilities; the Asian Development Bank shared the lessons learned in financing of the irrigation sector (the primary water-user of the region), which involves institutional, structural and financial reforms.

Apart from regional and national level experiences, various experts also shared practices for possible replication, such as: (i) the experiences of Japan and other disaster-prone countries in the region; (ii) the experience in developing ODA financing tools to improve water security and financing of water infrastructure of the Republic of Korea and the Peoples' Republic of China in collaboration with several developing countries; (iii) the example of privatization of operations as conducted by Manila Water; and (iv) the decentralised financing schemes for wastewater treatment systems, as shared by Indonesia. **Effective regional examples are highlighted in water cycle management, raising attention to the multiple entry points for impactful investments within water cycle loops, namely in the local water cycle loop (short, such as in water recycling in a city and at the community management scale), the medium loop (in water services for food and industrial use), or in the long cycle (such as in storage, or in using cascading effects of nature in the wastewater treatment).**

Common approaches that focus on solutions to improve the overall sustainability of the water sector were identified. And, discussions covered opportunities to increase partnerships at the regional level to identify regional needs, share knowledge and foster partnerships to support the water-related SDGs in Asia-Pacific, with the following potential areas of regional interventions:

- improving the planning and implementation processes by creating an overall strategy and scenarios to enhance sustainable business models for water infrastructure;
- creating funding and oversight programs and policy frameworks to incentivize decentralized water management financing systems and collaborative partnerships; and
- leveraging the role of the private sector to help attain water-related SDGs and to implement impactful investments from public and private sources.

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**Box 12: Crafting Communities for Change in a Megacity**

*Case Study from Bangalore on Interventions for Sustainability in Water and Sanitation Infrastructure: The Case of CoEvolve and ECOSTP Technologies. Simar Kohli Das.*

In the last 40 years, Bangalore has shown 525 per cent growth of built up area, 78 per cent decline of vegetation and 79 per cent loss of its water bodies. A very recent report by BBC<sup>57</sup> listed the city amongst the 11 globally to potentially run out of water. When Bangalore decides to reuse its wastewater, it can easily meet half the city's water demands. (See Figure 12))

ECO-STP (Eco-Sewage Treatment Plant) is a Patent Pending sewage treatment technology based on gravity and natural processes and works independent from power supply and daily surveillance while complying to the stringent Pollution Control Board norms. Drought resistant plants are also being used to reduce water consumption in irrigation. Additionally, there are water -efficient fixtures and fittings in all toilets to reduce water consumption (See Table A). The commodes used are dual flushing mode of 3 l and 5 l whereas all faucets are fitted with water aerators that reduce water flow without compromising on user experience.

**Table A: CoEvolve Northern Star's annual savings per apartment**

RESOURCE	Quantity	Unit	Rate	Savings
Electricity	2953.7	Kwh/y	6	17,722
Water	160.5	KLD	10	1605
Organic Compost	77	Kgs	10	768
Diesel	45.3	Lts	60	2721

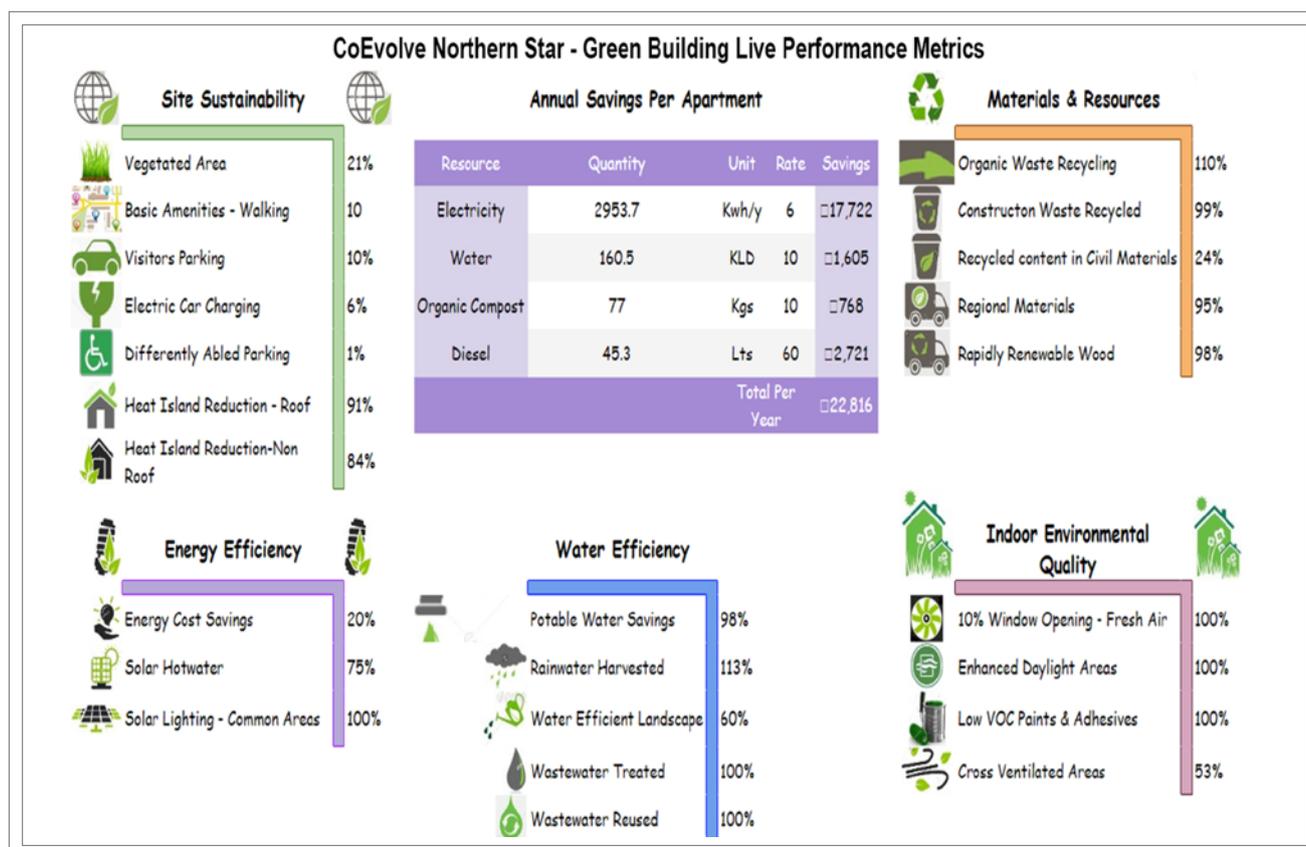
This project intends to be a zero-water discharge facility where the community can create a self-sustainable local hydrological cycle utilising all water to the maximum via rainwater harvesting (a water softener plant will treat all incoming water from bore wells or tankers). All rainwater runoff is directed to Deep Recharge Pits via a network of storm water drains, replenishing the groundwater (See Table B)

**Table B: Water Efficiency**

<b>Potable Water Savings:</b>	98 percent	<b>Rainwater harvested:</b>	113 percent
<b>Water efficient landscape:</b>	60 percent	<b>Wastewater treated:</b>	100 percent
		<b>Wastewater reused:</b>	93 percent

The ECO-STP treats about 80 kilo litres of water every day and has completely removed the dependency on power and a trained team to run the treatment plant. It has also resulted in zero space used for the STP as the unit will be built below the ramp and car parking with no operators involved. This will allow the targeted community to use biological processes to recycle sewage for flushing, gardening and car washing. The intention is to take the treated grey water and further treat it including filtration and ozonisation bringing it up to drinking quality.

**Figure 12: CoEvolve Northern Star-Green Building Live Performance Metrics in Bangalore (see Box 12)**



## 4.2 Policy Actions and Measures for Achieving Water-Related SDGs

Rapidly increasing urbanisation, industrialisation and progress towards achieving universal access are resulting in more demand for limited water supplies. According to the world’s urbanisation prospects of 2018, the urban population is expected to grow to 68 per cent by 2050. Many urban areas face increasing water stress and water scarcity, as well as inadequate infrastructure and poor water resource management. Diminishing water resources could pose risks to urban development, continued economic wealth and prosperity, and social development, and threaten progress towards the SDGs. Regional cooperation can be instrumental in the establishment of the economic/financial paradigm proposed in this paper, to support investments for meeting the water SDGs.

ESCAP and the Asia Pacific Water Forum, as thematic leaders of the session on Financing Implementation of Water-Related SDGs at the 8th World Water Forum and through this discussion paper, aimed to inform on the financial challenges, as well as on opportunities that would assist relevant government agencies in the mobilization of funding for country-based water and sanitation projects through fostering public-public and public-private partnerships. In addition, ESCAP could help to facilitate dialogues on the development of sub-regional/regional financing mechanisms to support sound water cycle management, for example, through preparation of policy briefs for enabling water markets, water bonds, national water pricing schemes and reforms, payments for ecosystems services, and by proposing sustainable approaches for corporate river basin management.