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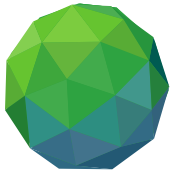
Water Security Guide

The Role of GCF in Water Finance-New Asset Class

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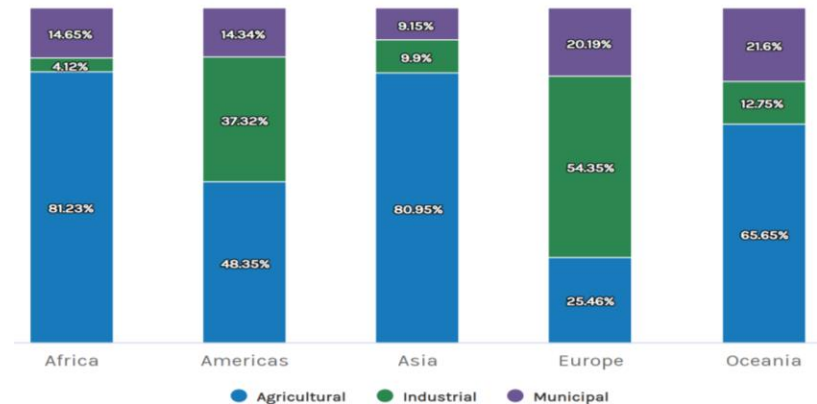
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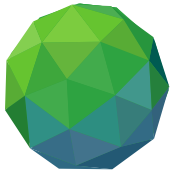
Water Sector is the Connector

“Water is the **best investment** we can make to **improve** Climate, water and food security, health, gender equality, and the environment while **transforming** lives and communities to be more **resilient**.”



Agriculture accounts for 70% of global water withdrawals





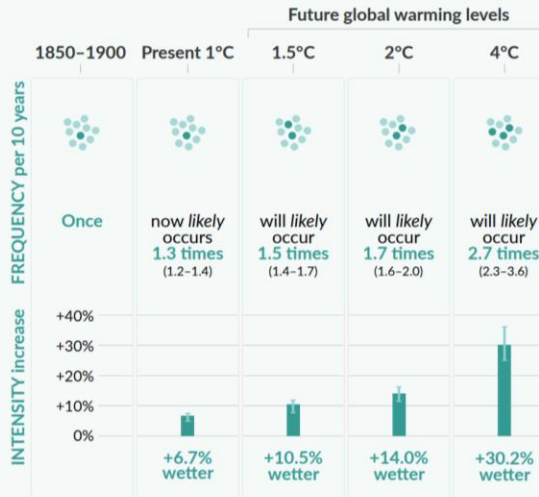
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The world faces
unavoidable multiple
climate hazards over the
next two decades with
global warming of **1.5°C**
(2.7°F).

Heavy precipitation over land

10-year event

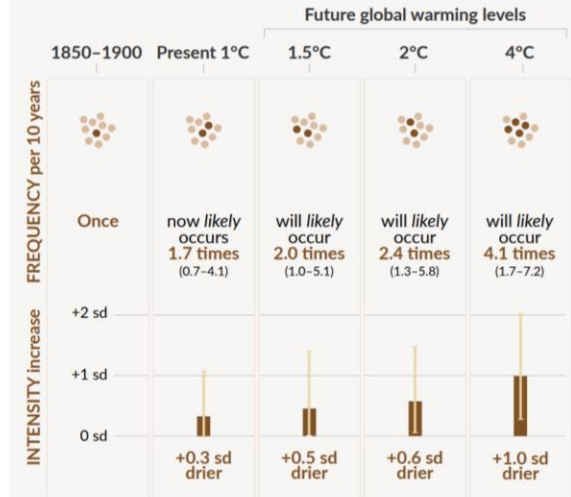
Frequency and increase in intensity of heavy 1-day precipitation event that occurred **once in 10 years** on average in a climate without human influence



Agricultural & ecological droughts in drying regions

10-year event

Frequency and increase in intensity of an agricultural and ecological drought event that occurred **once in 10 years** on average across drying regions in a climate without human influence



IPCC report

More than half of the planet has been facing increase of heavy precipitation

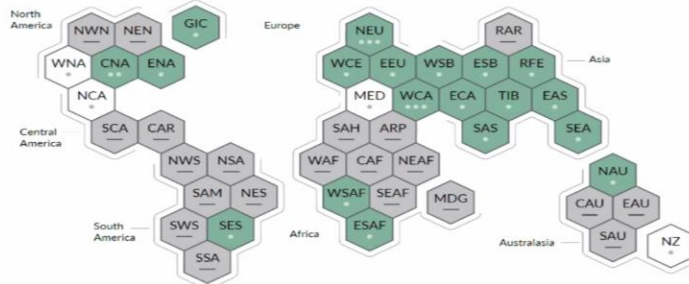
Confidence in human contribution to the observed changes

- ● ● High confidence
- ● Medium confidence
- Low confidence
- No assessment

Type of observed change

- Increase (19)
- Decrease (0)
- No significant change (4)
- Insufficient evidence (21)

b) Synthesis of assessment of observed change in **heavy precipitation** and confidence in human contribution to the observed changes in the world's regions



Increase of agricultural drought has been observed in all continents

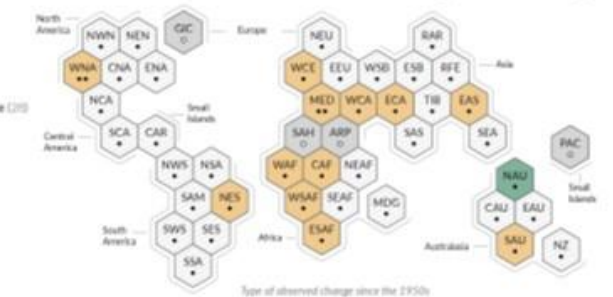
Type of observed change in agricultural and ecological drought

- Increase (12)
- Decrease (1)
- Low agreement in the type of change (10)
- Limited data and/or literature (4)

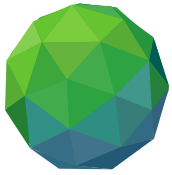
Confidence in human contribution to the observed change

- ● ● High
- ● Medium
- Low due to limited agreement
- Low due to limited evidence

c) Synthesis of assessment of observed change in **agricultural and ecological drought** and confidence in human contribution to the observed changes in the world's regions



Type of observed change since the 1950s



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The Global Water Challenges-Financial Lens

Annual economic losses

USD 260 bn

due to inadequate
water supply and
sanitation



USD 120 bn

due to urban
property flood
damages



USD 94 bn

due to water
insecurity to
existing irrigators



Sadoff et al (2015)

Poor sanitation, water
and hygiene lead to
**675 000 premature
deaths annually...**



...and **losses
of up to 7%
in GDP of
certain
countries.**



WB (2016b)



Water-related losses in
agricultural, health,
income and property
could result in decline
by as much as 6% of
GDP by 2050 in some
regions of the world

Sadoff et al(2015)

4.5 bn people lack access to sanitation
compatible with SDG6 objectives.



2.1 bn people lack access to safe
drinking water.

WHO-UNICEF (2017)

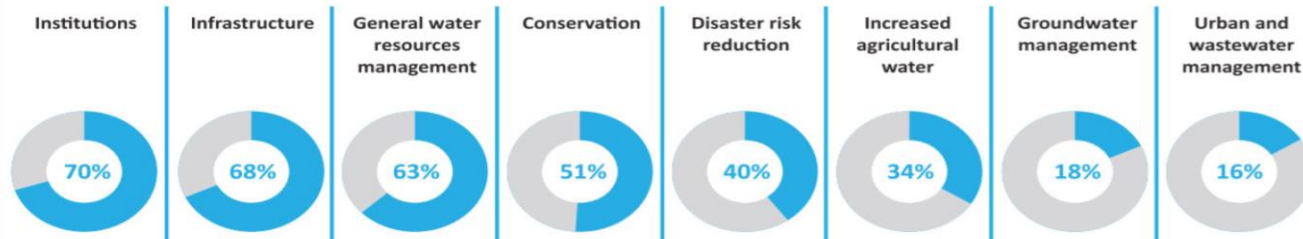
Benefit-cost ratios for
**investments in water
sanitation services** have
been reported to be as
high as **7 to 1** in
developing countries.



OECD (2011)

*The infrastructure gap worldwide could reach
USD 3 to USD 6 trillion by 2040 !!*

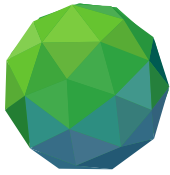
Figure 4: Proportion of first round NDCs that prioritised water actions for adaptation



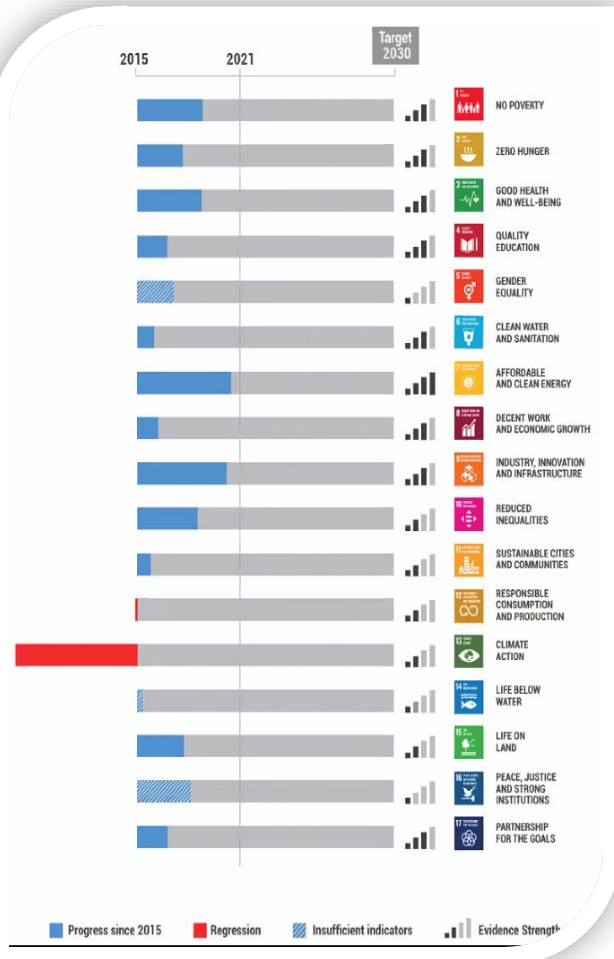
Source: GWP (2018).

*Nations around the
world (development
countries) are facing
**40% shortfall in
water by 2030 !!***

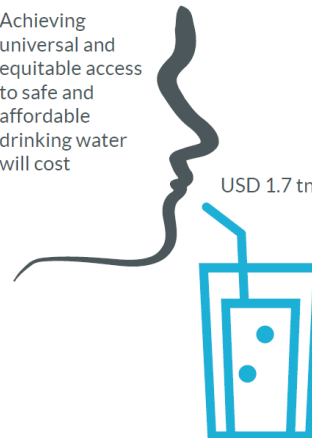
We need to Act Fast :Financial Need!



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Achieving universal and equitable access to safe and affordable drinking water will cost



Hutton et al (2016)



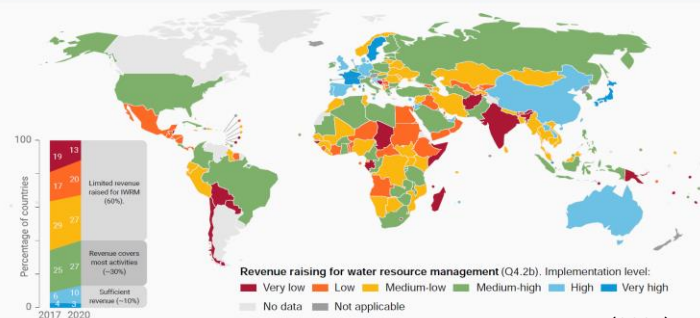
Winpenny (2015)



We only have
8 Years to
harvest



Figure 5.10. Revenue raising for water resources management (Q4.2b) (2020)

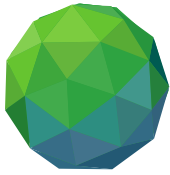


UNEP (2021)



Achieving SDG WASH targets by 2030 will require a quadrupling of current rates of progress (WMO& UNICEF, 2021)

A systemic crisis requires a Systemic approach!!!



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Barriers to financing water security infrastructure projects

Identifying the 'True Cost' of Water

Even though groundwater is FREE, there are hidden costs...

- Pumping Cost
- Chemical Costs
- Water/Wastewater Treatment
- Product Wastage
- Heating Costs
- Steam Losses Cost

Under-pricing of water: Water is a **public good** and generally an under-valued resource, **not properly accounted** for by the government and the investors that depend on or affect its availability in other sectors such as urban development, agriculture, and energy.

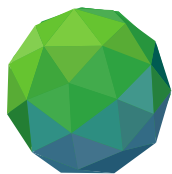
Water services are often under-priced, **resulting in low cost-recovery for water investments.**

Capital-intensive Water resources, irrigation, water supply, and wastewater **infrastructures are generally capital intensive, with high sunk costs and long pay-back periods.**

Monetising benefits: Water management **provides both public and private co-benefits, many of which cannot be easily monetised. This reduces potential revenue flows.**

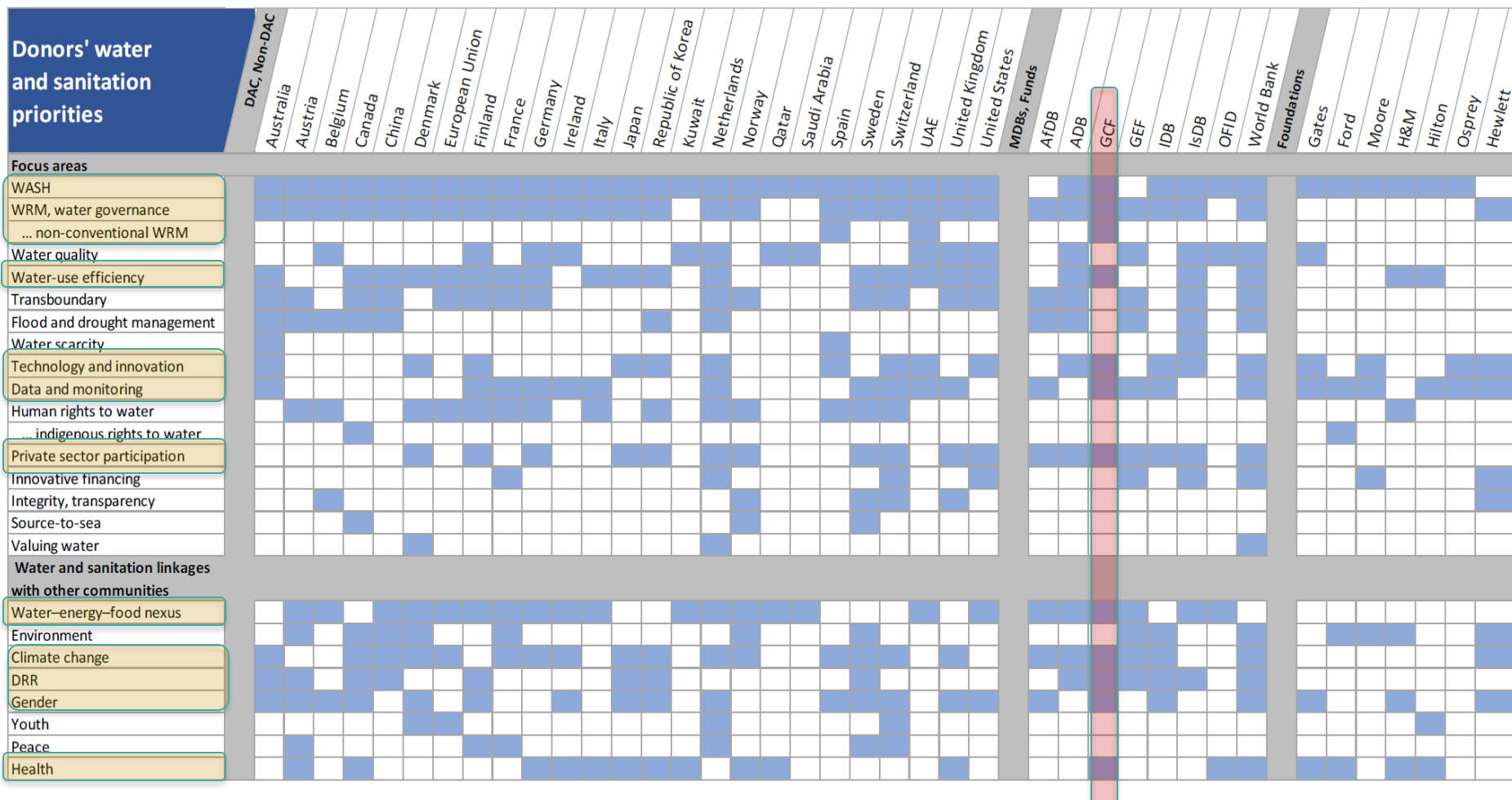
Context-specific projects: Water projects are often **too small or too context-specific, raising transaction costs and making innovative financing models difficult to scale-up.**

Poor business models: Business models often fail to **support O&M efficiency, hampering the ability to sustain service at least cost over time.**

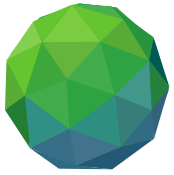


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Key Water and sanitation thematic priorities



Increase of quantity and quality
Disbursements vs Commitments



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Mobilising finance at scale

A FLEXIBLE RANGE OF INSTRUMENTS



Loans



Guarantees

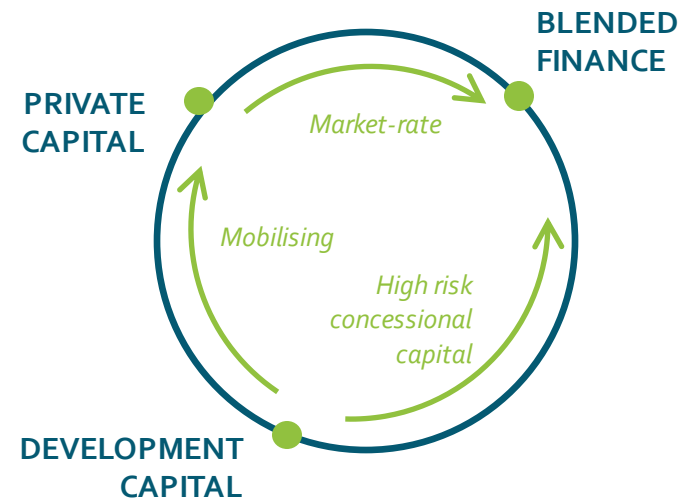


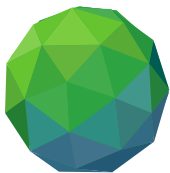
Equity



Grants

TO MAKE BLENDED FINANCE WORK





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GOAL STATEMENT- Water Security



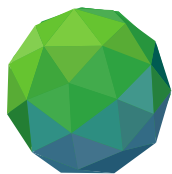
IF the GCF creates an **enabling investment environment** to *identify, design and implement* public and private funded **transformational water security interventions** as a new asset class,

THEN recipient countries can *mitigate and adapt* to climate change through: (i) **water conservation**; and (ii) **preservation** of water,

BECAUSE an increasing share of **investment in water security** will be catalyzed to **deliver systemic change and maximize impact** across the GCF four drivers of change.

A Paradigm Shift in Water Security is achieved by scaling-up **climate smart water conservation** interventions in demand management, water efficiency and water re-use

A Paradigm Shift in Water Security is achieved by scaling-up water security interventions supporting **integrated water resources management**, alternative water sources and water related-hazards



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Paradigm Shifting Pathways WATER SECURITY: SDG6 meets SDG 13

Pathway 1: Enhance water conservation, water efficiency and water reuse

(Mostly Mitigation)



Demand Management

- Reduces energy & emissions from treating less water and developing alternative water supplies,
- Reducing non-revenue water losses
- Promoting water saving fixtures
- Water re-use systems for irrigation



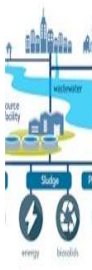
Smart-Digital water Management

- Enhances efficiency of water management,
- Smart water meters for monitoring daily water consumption and real-time leak detection
- Automated irrigation



Decentralized models

- Large-scale water re-use / water recycling models can be tailored to meet the water quality requirements of a planned use:
- Agricultural irrigation
- Replenishing groundwater basins (MAR)



Resource Recovery

- From wastewater: Biogas from anaerobic digestion and thermal conversion of biosolids
- Treatment plants also provide opportunities for solar PV, floating solar, wind etc.



Ecosystem-based Management (EbM)

- Reduce flooding impacts
- Mitigate droughts
- Improve water quality



Alternative water sources

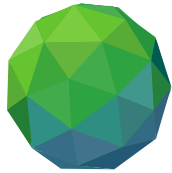
- Water re-use systems can utilize greywater, blackwater, rainwater harvesting, and stormwater harvesting for **non-potable uses**, including Cooling buildings, irrigating landscapes, and flushing toilets



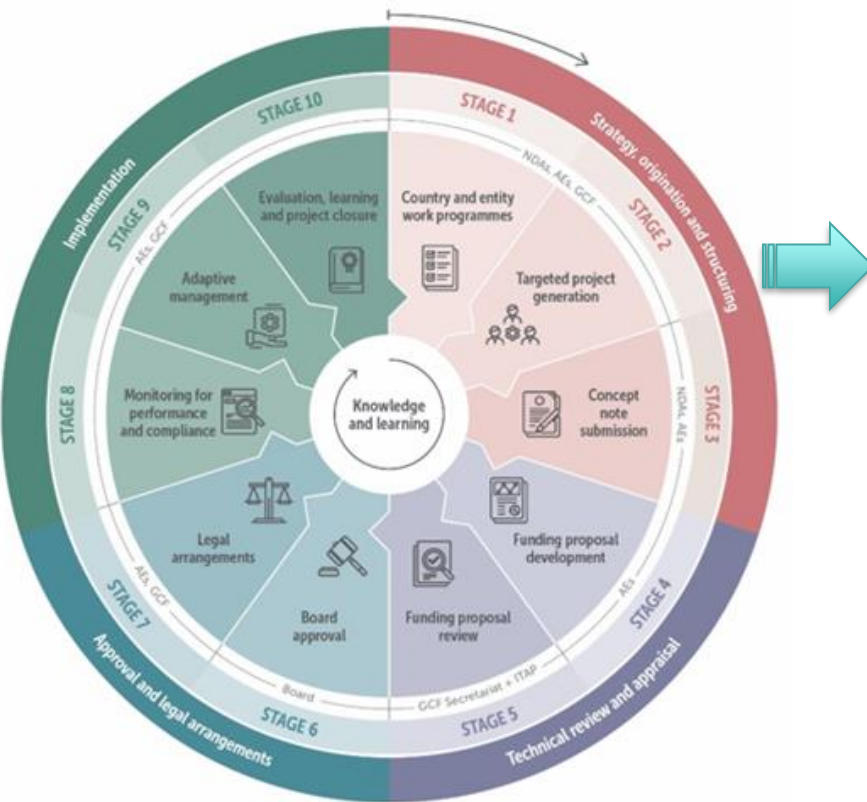
Integrated Water Resources Management (IWRM)

- coordinated development and management of water, land and related resources to **maximize sustainable development**
- involves **preserving** water in the water cycle using circular economy-thinking, e.g., water efficiency in agriculture
- Involves **adaptive planning** across land and water to ensure water security for both humans and nature in a changing climate

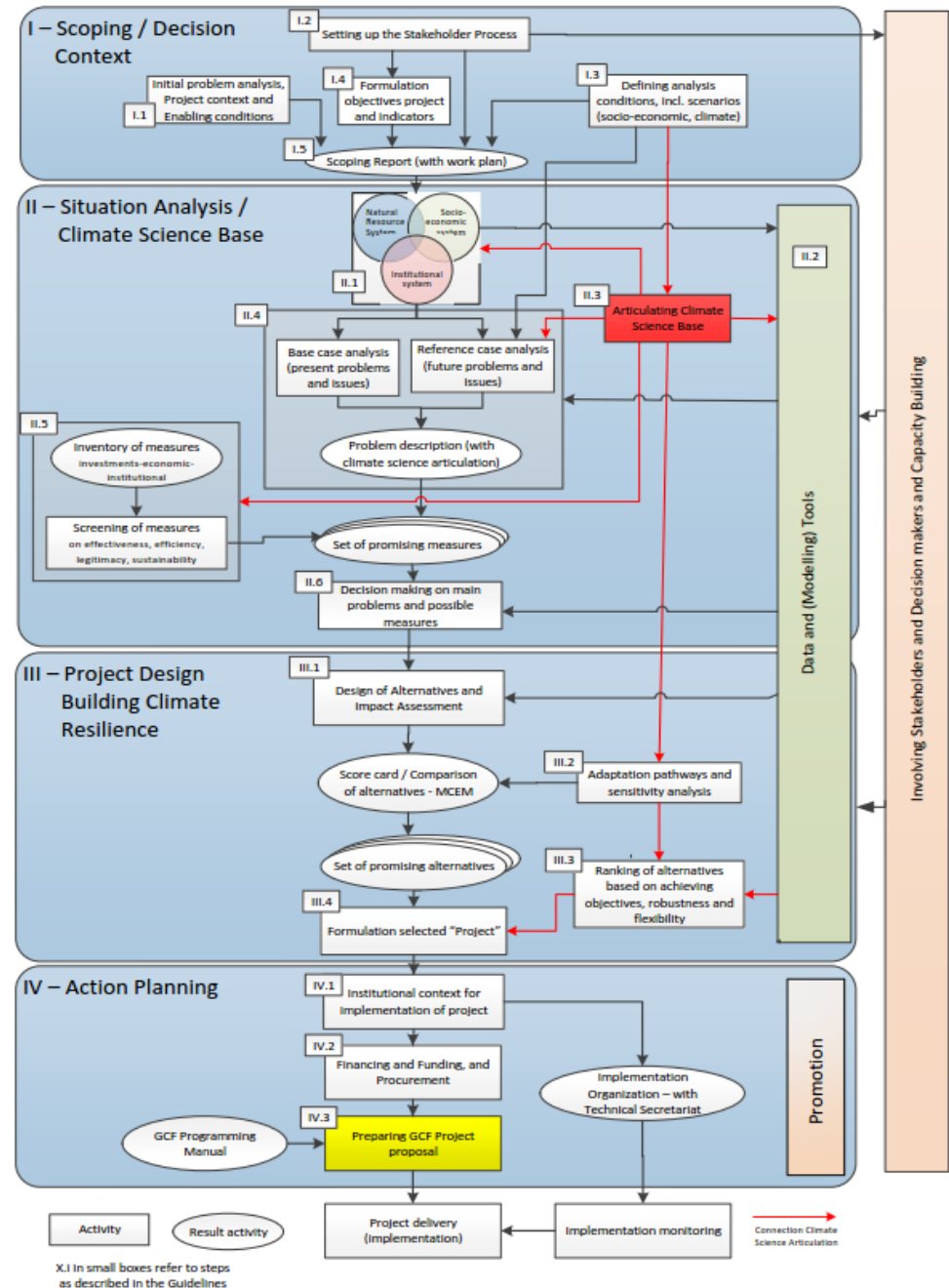
Project Design guideline

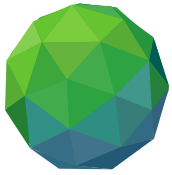


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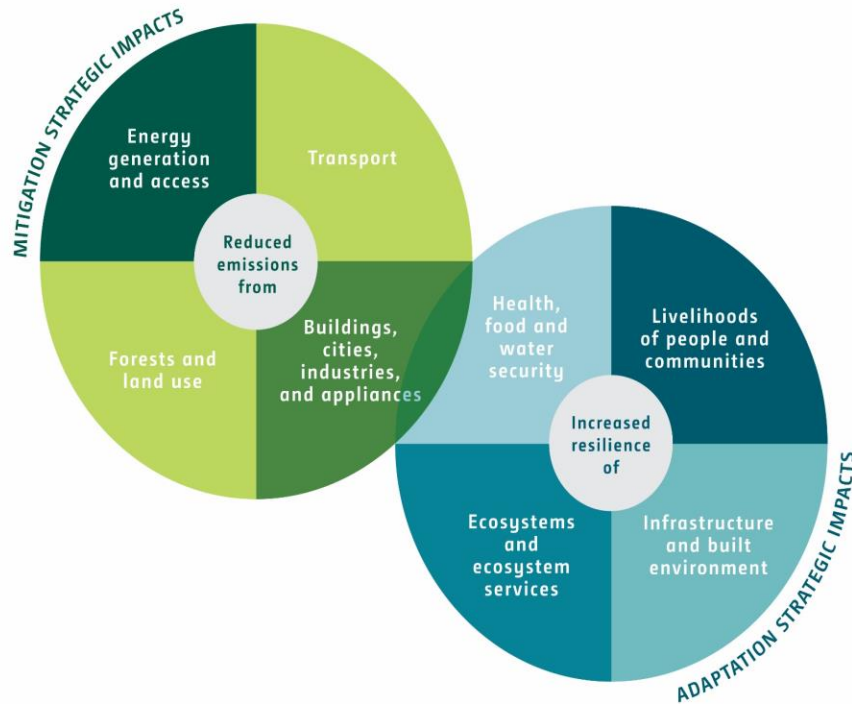
- IWRM projects
- Climate Resilient WASH projects
- Drought Management projects
- Flood Management projects



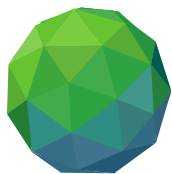


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GCF Investment criteria for Water Security Sector

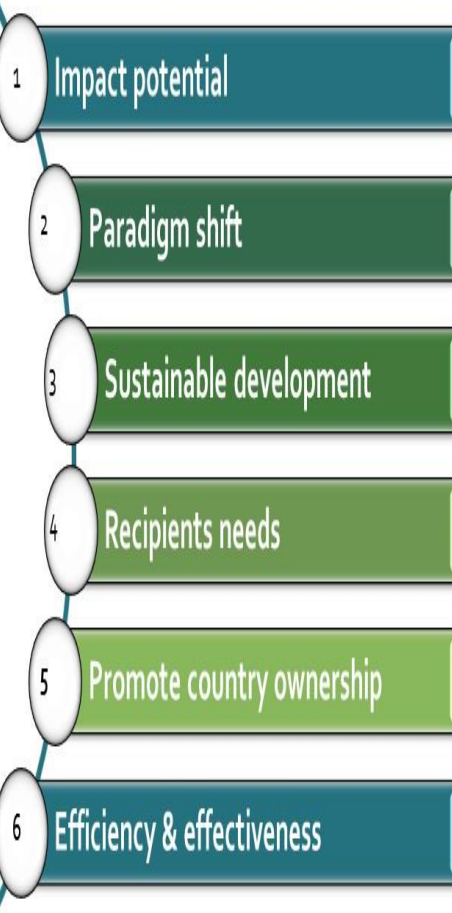
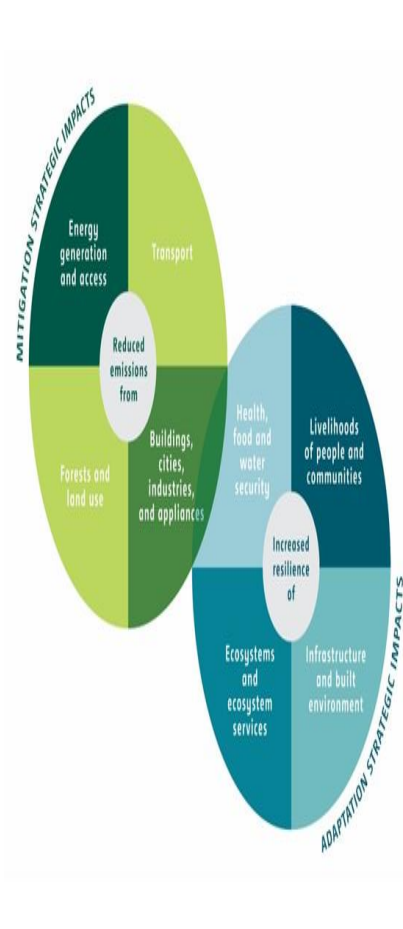


- 1 Impact potential
- 2 Paradigm shift
- 3 Sustainable development
- 4 Recipients needs
- 5 Promote country ownership
- 6 Efficiency & effectiveness



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GCF Investment criteria for Water Security Sector



High-impact areas in water security are countries and project areas with high to extreme water stress

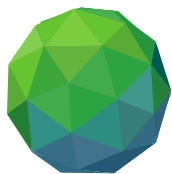
Move climate finance from grant funding to concessional finance and then enable private finance for scaling-up

724 climate actions identified under UN-SDG6 combined with gender and minority sensitive development impacts

Limitations in institutional support; need for developing capacity; and mechanisms for monitoring compliance

Bring together ministries, National Designated Authorities & constituents going beyond climate policies

Project design builds on best practices and lessons learned



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How we drive change

01

Transformational
planning



02

Catalyzing
innovation



03

Mobilizing
finance



04

Coalition and
Knowledge to
Scale-up Success

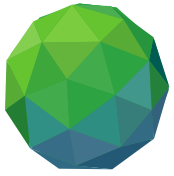


Integrated **climate**
development **policies**
promoting **climate**
finance coherence.

Technology
development and
transfer with **enabling**
institutional
environments, including
conservation,
preservation, sanitation
asset class, EbM, and
smart utilities

scaling-up successful
climate investments to
de-risk investments
through strengthening
domestic capital
markets and climate
financing institutions

creating and sharing
knowledge to
harmonise valuation
methodologies with
climate risks built into
financial decisions for
sustainable
development.



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How we drive change-Paradigm Shift related to WASH

Transformational planning

- **Promote WASH** to be included more in upstream planning process (i.e. from the onset in the IWRM, RBM, NAP and NDC planning process to ensure that **sustainable WASH** is prioritized in **sectoral policies and investments**)
- Prioritize policy interventions in water quality in national adaptation planning.



Catalyzing innovation

- Engage with AEs to ensure that **water projects** are designed to address the **full water supply-waste cycle** and build in **mitigation benefits**
- Prioritize **investment** in municipal, agricultural and industrial **water use efficiency**
- Engage with **MDBs and private sector** in **multipurpose projects** that address multiple hazards and deliver additional co-benefits.



Mobilizing finance

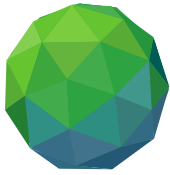
- Pilot **blended finance and PPPs** to **scale up** investments that deploy **self-sustainability of WASH services**
- Engage **local private sector** in **more-income generated WASH activities** (e.g. waste as a resource)



Coalition and Knowledge to Scale- up Success

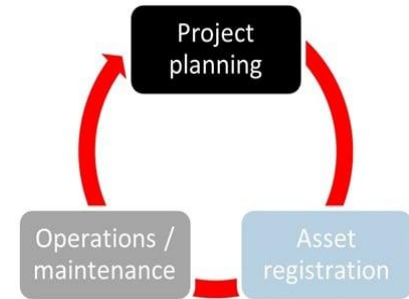
- Establish **community of learning** on climate-responsive WASH planning, project design and financing
- Conduct regional **project preparation** workshops for DAEs, NDAs and Ministries responsible for WASH, to ensure projects are designed to **optimize adaptation and mitigation outcomes** and **facilitate public-private partnerships**.





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Focus Areas

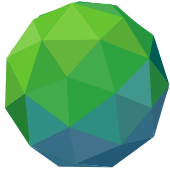


Integrated Grey-Green infrastructure

- Pilot and implement a *well-managed mix and integration of the Grey-Green Infrastructure* to **enhance** the *adaptability and resilience of coastal and upstream communities* to climate change (Drought and Flooding) and **mitigate** *energy-intensive grey infrastructure* including **increasing storage** of carbon through *promoting, designing and financing resilient grey-natural water infrastructure projects* that demonstrated *improvements to water and climate risk resilience*
- Support countries adapt ***policies and legislation*** to promote Grey-green resilient infrastructure within coastal and upstream communities and **take it to market** and private investors and
- Support countries and AEs with ***innovative assessment tool and methodology*** for NBS hotspots and effectiveness
- (finance the transition to Grey-Green mix infrastructure and ***de-risk private investment*** in Grey-green resilient infrastructure,
- ***Enhancing knowledge and Decision-making*** of ecosystem-based management, coastal management, rehabilitation of upstream catchment and its suitability to manage water related hazards mostly in urban areas (e.g., sponge cities and constructed wetlands vs. grey infrastructure) and
- ***Piloting adaptation projects*** on flood and coastal protection and
- ***Designing and Expanding blended finance for infrastructure adaptation projects*** on water hazard protection (reduce cost and improve efficiency) to effectively and equitably invest in water natural infrastructure.

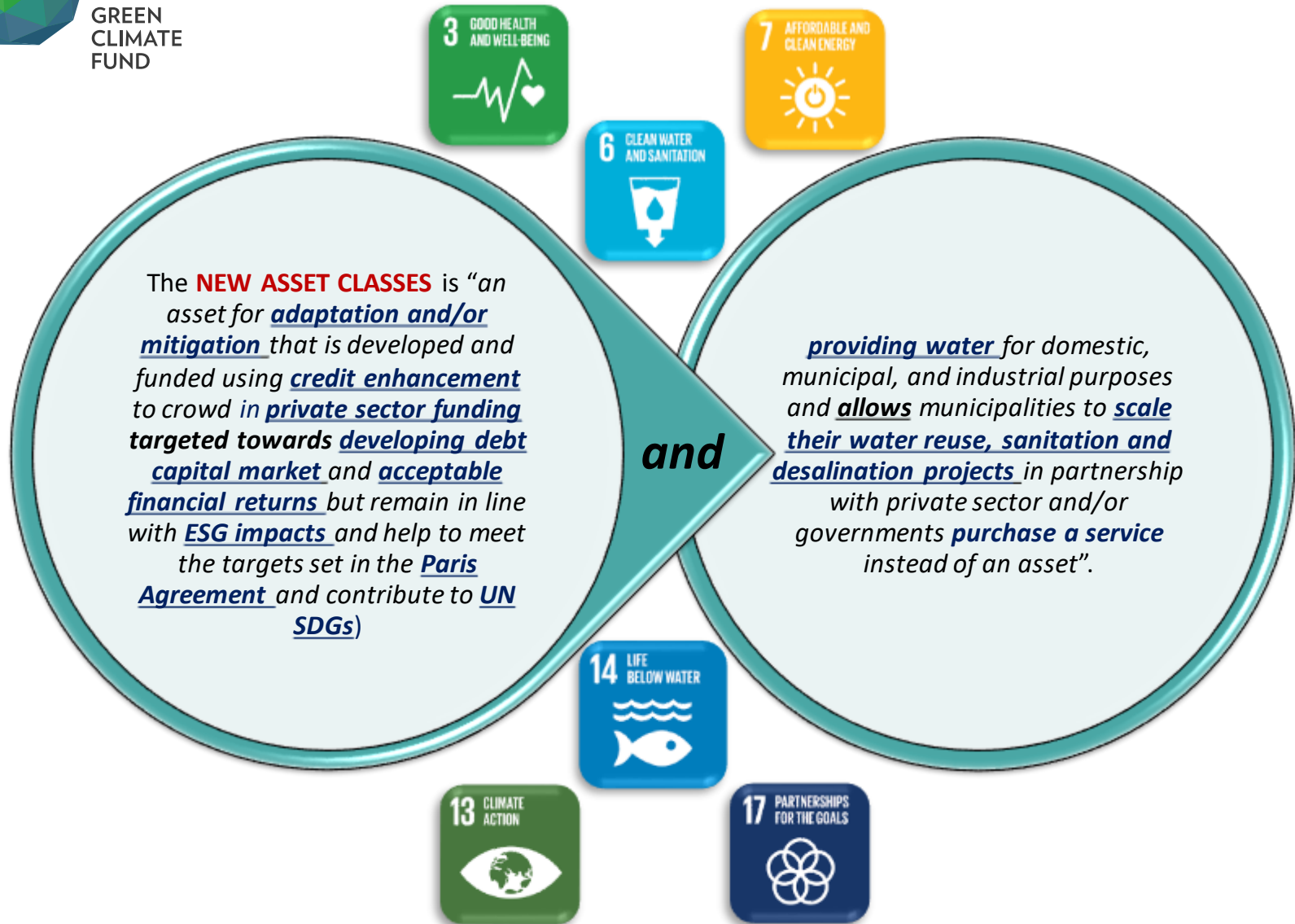
Water Asset Transition

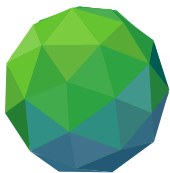
- Treat water as "***a new asset class***" for water reuse and sanitation, using ***credit enhancement*** towards ***developing debt capital market and acceptable financial returns*** but remain in line with ***ESG impacts and the Paris Agreement and contribute to UN SDGs*** that will allows municipalities and private sector to **scale up** water reuse, sanitation and desalination projects and/or governments **purchase a service** instead of an asset.
- ***support countries develop, adapt policies and legislation*** to creates an enabling investment environment to identify, design, and implement public and private ***funded transformational water security interventions as a new asset class***
- ***finance the transition*** and ***de-risk private*** investment in ***address financial market barriers and ensure affordability and bankability*** to unlock water reuse investment,
- Supporting ***new financial models accompanied with acceptable revenue*** in line with Paris agreement targets and SDGs



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Innovative Approach for Asset classes





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New Asset Class

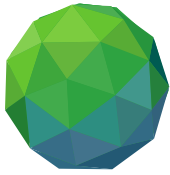
IF *finance* is deployed to **reduce risks** and **barriers** of water security *interventions*,

THEN financial resources will **catalyze private and commercial finance at scale** to support the **paradigm shifting pathways** of water conservation and preservation of water and ***treating water as a new asset***

BECAUSE the **financial viability of new asset classes** in water security will be **demonstrated**.

The **creation of a new asset class through** the development of a **blended finance** and an effective **'take-it-to-market' approach** would ensure:

- De-risk water security investments.
- Scale-up blended finance into water security interventions.
- Increase collaboration with financial partners.



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Water Innovative Approach: New Asset Class

- **Crowd in** Private Sector (affordable and Bankable)
- **Blended Finance** (Grant, Concessional, Equity, Guarantees, Senior)
- Mechanism (**PPP**-Private Public Partnership, **SPV**- Special Purpose Vehicle)

Financial

Acceptable
Revenue

New Asset Class

SDGs

Paris
Agreement
Targets

- **Goal 3:** Energy
- **Goal 6:** Clean water and sanitation;
- **Goal 7:** Affordable and clean Energy
- **Goal 13:** Climate action;
- **Goal 14:** Sustainable oceans and
- **Goal 17:** Partnerships with the involvement of the private sector

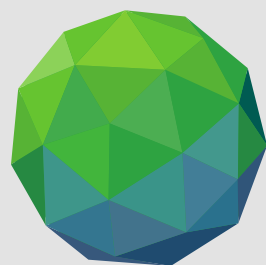
- **Water Tariff**
- **Purpose of Use** (Industrial, Commercial, Recreation facilities, Agricultural, Aquacultural, Supply augmentation, MAR, etc)
- **By-products** (nutrients, fertilizers)
- **Feed-in Tariff** (Energy)
- **Carbon Credit**

- **Adaptation:** Beneficiaries
- **Mitigation:** tCO₂eq



Take home Messages

- The Water Security Guide, released and layouts the GCF: Strategy, Priority investment areas and the GCF position in the Water Sector as well as the financial and implementation mechanisms that GCF supports
- GCF can *de-risk investments and mobilize the private sector, improve water security and community resilient while help reduce the GHG emissions and support carbon market* through promoting Treating water as a NEW Asset Class for wastewater and sanitation services by:
 - *support countries develop, adapt policies and legislation* to creates an *enabling investment environment* to identify, design, and implement public and private *funded transformational water security interventions as a new asset class*
 - *finance the transition* and *de-risk private* investment in *address financial market barriers and ensure affordability and bankability* to unlock water reuse and desalination investment,
 - Supporting **new financial models accompanied with acceptable revenue** in line with Paris agreement targets and SDG



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