Climate Bonds Standard Water Criteria: Nature-Based Water Infrastructure

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Technical Working Group and Industry Working Group members include:

AGWA Alliance for Global Water Adaptation allianceforwater.org

EARTH SECURITY GROUP

San Francisco Water Power Sewer Services of the San Francisco Public Utilities Commission

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Ceres *Sustainability is the bottom line.*

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Climate Bonds Standard Water Criteria

Phase 1 Engineered water infrastructure – released
Covers *engineered* water infrastructure for water collection, storage, treatment or distribution, or for flood protection or drought resilience.

Released to the market in October 2016.

Phase 2 Nature-based and hybrid water infrastructure – released

Extends the Water Criteria to incorporate nature-based solutions, which includes green and hybrid water infrastructure for water collection, storage, treatment or distribution, flood protection, and drought resilience.

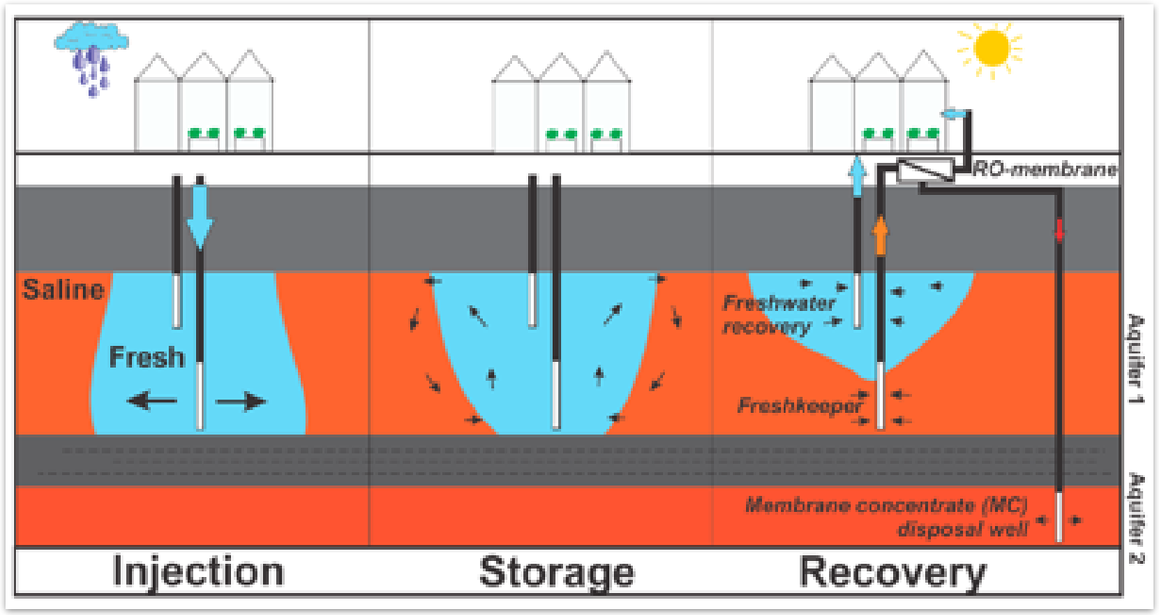
Released to the market in May 2018.

Climate Bonds Standard Water Criteria Phase 2

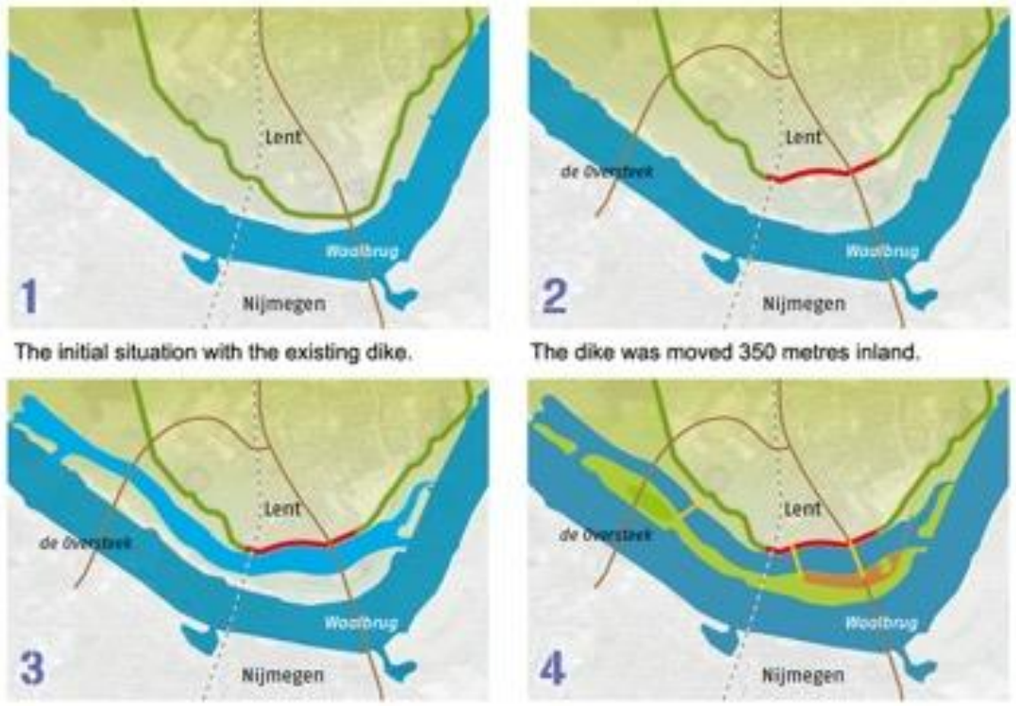
Water storage	Active snowpack management program; Using parks, natural areas for storm water management; Creating groundwater recharge areas for aquifer storage
Flood defences	Restoration of riparian wetlands for flood storage; Creation of safe delta flood zones as natural habitat for the river to expand into; Altering flow mechanics to reduce the force of flood stage flows
Drought defences	Use of pumps to transfer waters to / from natural aquifers; Planting trees, other vegetation explicitly to reduce water temperatures, evaporation rates
Water treatment	Construction of nature-based wetland using native plants for water filtration, nutrient management
Storm water management	Removal of pavement, creation of new substrate to improve groundwater absorption & reduce runoff; Creation of wetland retention ponds
Ecological restoration / management	Development of an environmental flows regime; Sediment transport to reduce / restore downstream deposition

Examples of nature-based solutions

Urban stormwater



Aquifer storage



"room for the river"

Sewer System Improvement Program (SSIP)
Received Programmatic Green Bond Approval

SSIP Phase 1 $3B
80+ Projects

Dedicated Green Infrastructure
8 Projects, $57M

Baker Beach Green Street
Richmond Watershed

Sunset Blvd Greenway
Sunset Watershed

Holloway Green Street
Lake Merced Watershed

Chinatown Green Alley
North Shore Watershed

Wiggle Neighborhood Green Corridor
Channel Watershed

Mission & Valencia Streets Green Gateway
Islais Creek Watershed

Upper Yosemite Creek Daylighting
Yosemite Watershed

Visitacion Valley Green Nodes
Sunnydale Watershed

Climate Bonds Standard Water Criteria Phase 2

Will your project meet the Water Criteria? It's an easy two-step

STEP 1

Comply with Mitigation Component

GHG emissions from water projects do not increase and comply with business-as-usual baseline or aim at emission reduction will be delivered over the operational lifetime of the water asset or project.

STEP 2

Comply with Adaptation & Resilience Component

Water infrastructure and its surrounding ecosystem are resilient to climate change, and have sufficient adaptation to address climate change risks.

To demonstrate that, issuers should complete a **scorecard** made up of five sections:

Section 1. Allocation: Addressing how water is shared by users within a given basin or aquifer.

Section 2. Governance: Addressing how/whether water will be formally shared, negotiated, and governed.

Section 3. Technical Diagnostics: How/whether changes to the hydrologic system are addressed over time.

Section 4. Nature-based Solutions: (for nature-based and hybrid infrastructure only) addressing whether issuers have sufficient understanding of ecological impacts at/beyond project site with ongoing monitoring and management capacity.

Section 5. Assessment of the Adaptation Plan: Checking the completeness of the coping mechanisms to address identified climate vulnerabilities.

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Eligibility for certification depends on the efficacy and thoroughness of the issuer's Vulnerability Assessment and Adaptation Plan, and the underlying climate risk assessment and management plans that they capture. This is assessed via a Scorecard, or checklist, consisting of a series of binary questions.

Section 1, 2, 3, and 5 should be completed for all water infrastructure projects, whereas section 4 should only be completed for nature-based and

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Nature-based solution issuances must meet two basic ground rules before proceeding with relevant criteria

A. It reflects the intentional use of natural and/or nature-based features, processes, and functions (see Section 1) as an integral part of addressing a human need and doing so in a manner that protects, manages, restores, and/or enhances natural features, processes, and systems in a functioning and sustainable manner.

B. Where feasible, the project prioritises natural features over nature-based features. Such features include the protection, restoration, expansion, and/or creation of natural systems and processes as an explicit component of the desired project outcomes.

Where are we to date?

Gray Infrastructure

More than 2 billion USD issued: USA, South Africa, China

Important shift noted by SFPUC: *resilience pays*

In their last two issuances, SFPUC has received lower interest rates from higher bond ratings

Rating agencies have just recognized that climate risk is not an environmental benefit but a core financial risk

NBS

About 400 M embedded within the investments to date, but not using the new criteria

Several cities have expressed strong issuance — expecting issuance later later 2018 or early 2019 at the latest

New partnership between WRI and AGWA to help support the process

Both

China and the EU have adopted our general framework and both will promote these criteria formally through regulatory agencies

How to learn more

https://climatebonds.net/standard/water

Interview with Anna Creed, CBI

https://en.unesco.org/courier/

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Join AGWA!

http://alliance4water.org
http://AGWAguide.org

MANY THANKS

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