ESG 101: Why and How Water Utilities are Shifting from Sustainability Reports to ESG Reporting

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AGENDA

- What is ESG?
  - Impact vs. Value: Where They Intersect
  - Standards vs. Frameworks
- Influence of Investors, Insurers and Other Stakeholders
- Why Should You Pay Attention to ESG Factors?
- Measuring Social Impact: Buffalo's RainCheck 2.0 Program
- Managing Risk and Opportunity: DC Water's 2nd ESG Report
- Taking the First Steps in ESG Reporting

ESG = Environmental, Social & Governance

"ESG criteria and factors—**people, planet and trust**—are the full-systems results that we deliver in our mission. ESG typically drives financial value, even if not on the financial statements.

-Paul Herman, Founder, HIP Investor

ESG measures…

IMPACT (external)

Economy, Environment, Society

VALUE (internal)

Risk and Opportunity

SUSTAINABLE DEVELOPMENT GOALS

GRI

SCIENCE BASED TARGETS

SASB STANDARDS

International Sustainability Standards Board (ISSB)

TCFD

Standards that Measure External Impact: United Nations Sustainable Development Goals

Standards that Measure External Impact: GRI 303: Water & Effluents Excerpt

Reporting requirements

Disclosure **303-1**

The reporting organization shall report the following information:

a. A description of how the organization interacts with water, including how and where water is withdrawn, consumed, and discharged, and the water-related impacts caused or contributed to, or directly linked to the organization's activities, products or services by a business relationship (e.g., impacts caused by runoff).

b. A description of the approach used to identify water-related impacts, including the scope of assessments, their timeframe, and any tools or methodologies used.

c. A description of how water-related impacts are addressed, including how the organization works with stakeholders to steward water as a shared resource, and how it engages with suppliers or customers with significant water-related impacts.

d. An explanation of the process for setting any water-related goals and targets that are part of the organization's management approach, and how they relate to public policy and the local context of each area with water stress.

Reporting recommendations

1.2 The reporting organization should report the following additional information:

1.2.1 An overview of water use across the organization's value chain;

1.2.2 A list of specific catchments where the organization causes significant water-related impacts.

Guidance

Guidance for Disclosure 303-1

Through its value chain, an organization can affect

If applicable, the organization can describe its environmental impacts caused by runoff, and how they

Standards that Measure Internal Risk and Opportunity: Sustainability Accounting Standards Board (SASB)

Environment
- GHG emissions
- Air quality
- Energy management
- Fuel management
- Water and wastewater management
- Waste and hazardous materials management
- Biodiversity impacts

Social capital
- Human rights and community relations
- Access and affordability
- Customer welfare
- Data security and customer privacy
- Fair disclosure and labeling
- Fair marketing and advertising

Human capital
- Labor relations
- Fair labor practices
- Diversity and inclusion
- Employee health, safety, and wellbeing
- Compensation and benefits
- Recruitment, development, and retention

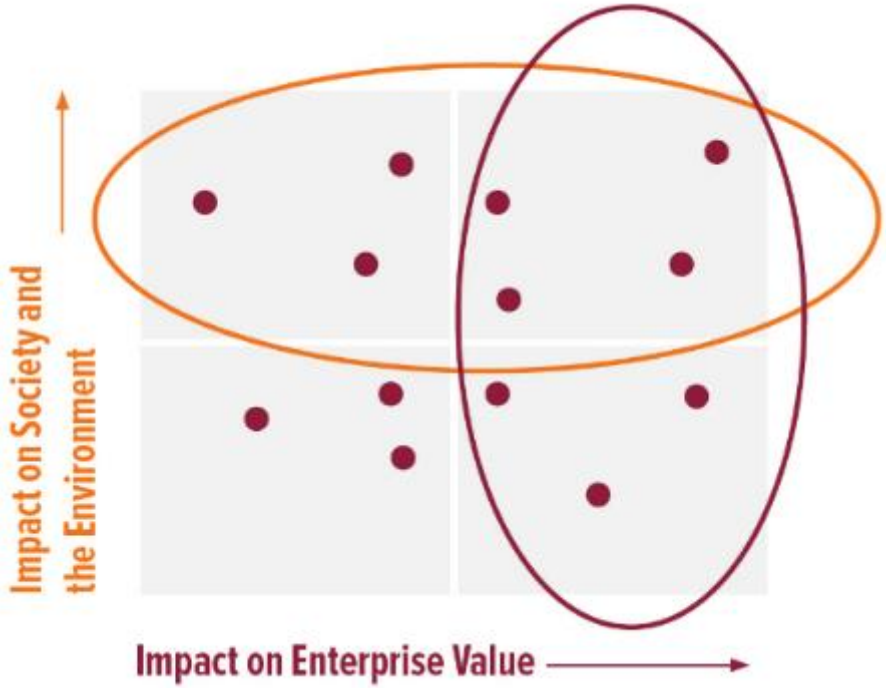
Business model and innovation
- Lifecycle impacts of products and services
- Environmental and social impacts on assets and operations
- Product packaging
- Product quality and safety

Leadership and governance
- Systemic risk management
- Accident and safety management
- Business ethics and transparency of payments
- Competitive behavior
- Regulatory capture and political influence
- Materials sourcing
- Supply chain management

Prioritize Where External Impact and Internal Value Intersect:

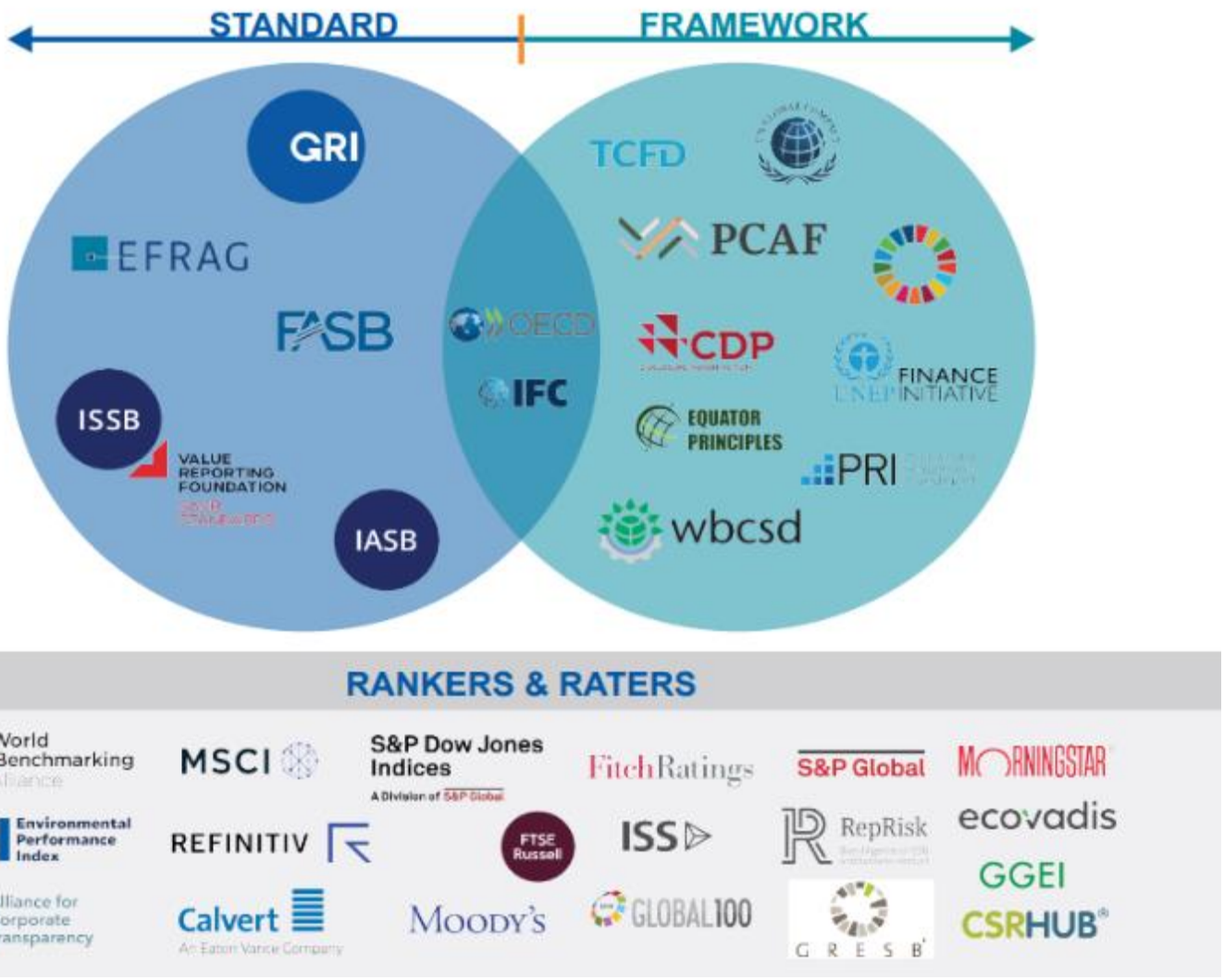
- Considers the company's impacts outwards;
- Uses the GRI definition: "topics that reflect its most significant impacts on the economy, environment and people, including impacts on human rights." (draft)
- Presented in the sustainability report
- For multiple stakeholders

- Considers the company's impacts inwards;
- Uses the SASB definition: "expected to influence investment or lending decisions that users make on the basis of their assessments of short-medium-,and long-term financial performance and enterprise value." (draft)
- Presented in the annual report
- For investors, lenders and other creditors



Source: BSR.org

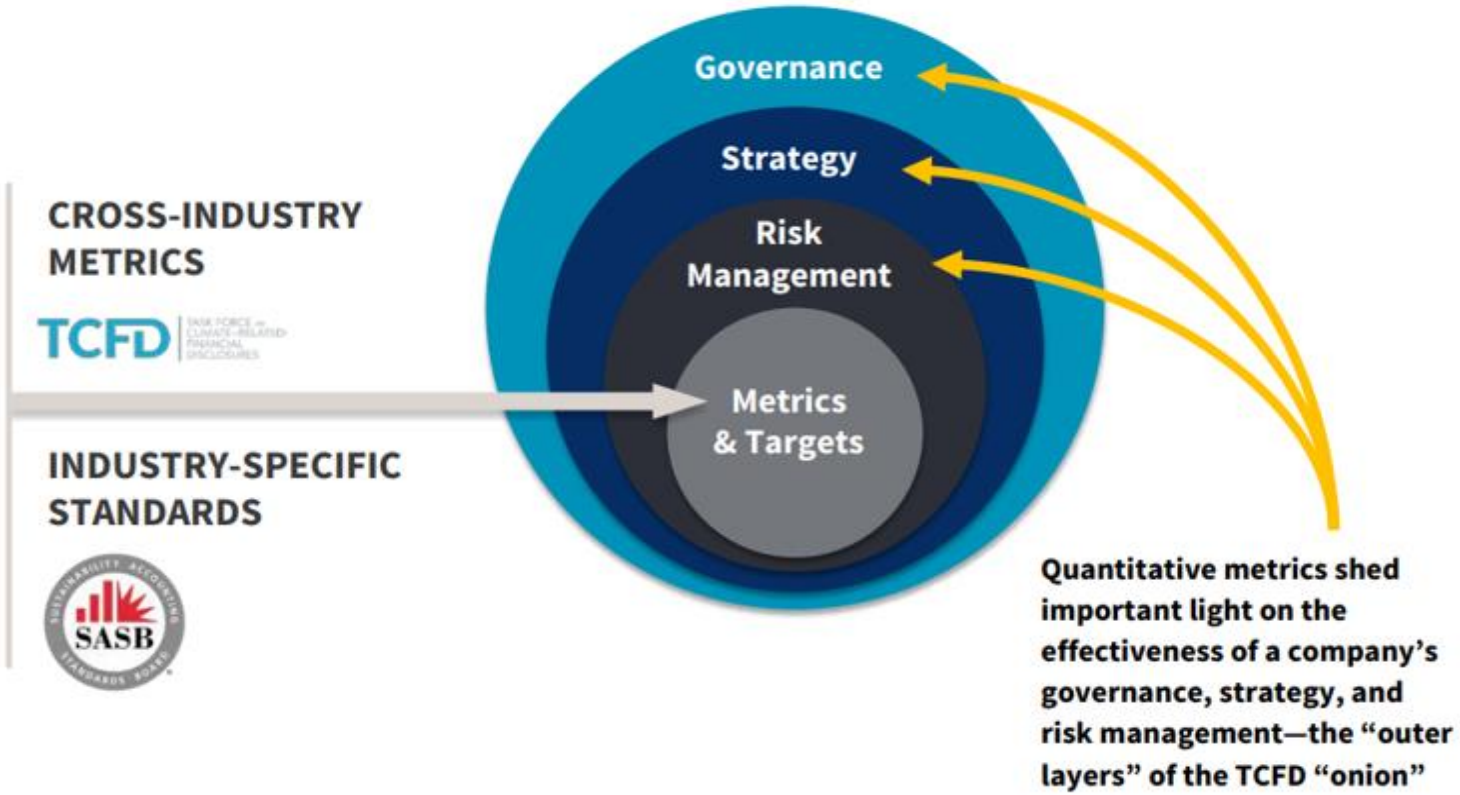
ESG Standards and Frameworks



Four Framework Pillars of the Task Force for Climate-related Disclosures (TCFD)

Governance	Strategy	Risk Management	Metrics and Targets
Disclose the organization's governance around climate-related risks and opportunities.	Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material.	Disclose how the organization identifies, assesses, and manages climate-related risks.	Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.
Recommended Disclosures	**Recommended Disclosures**	**Recommended Disclosures**	**Recommended Disclosures**
a) Describe the board's oversight of climate-related risks and opportunities.	a) Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.	a) Describe the organization's processes for identifying and assessing climate-related risks.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.
b) Describe management's role in assessing and managing climate-related risks and opportunities.	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.	b) Describe the organization's processes for managing climate-related risks.	b) Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	c) Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

SASB Metrics within a TCFD Framework



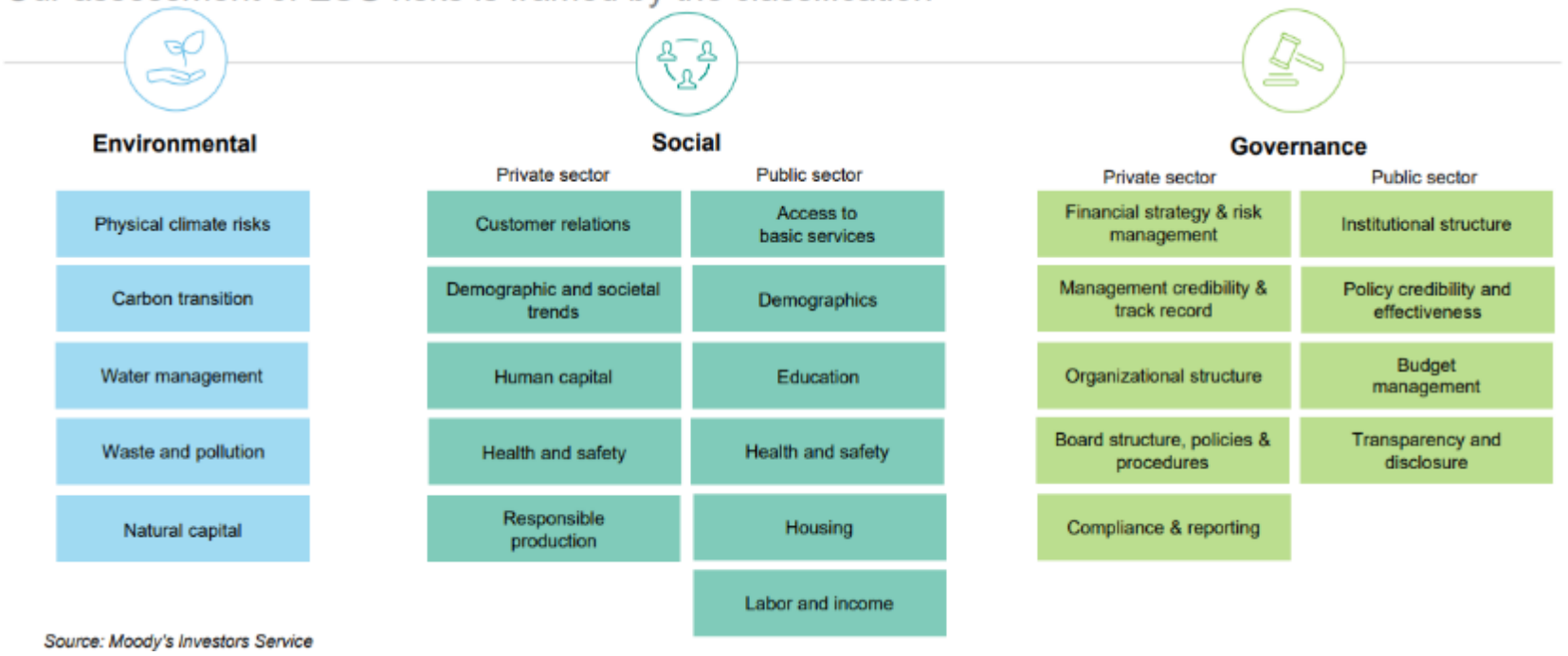
SASB metrics are among the most frequently referenced tools cited by TCFD for implementing its recommendations

Source: TCFD.org

Influence of Investors, Insurers and Other Stakeholders

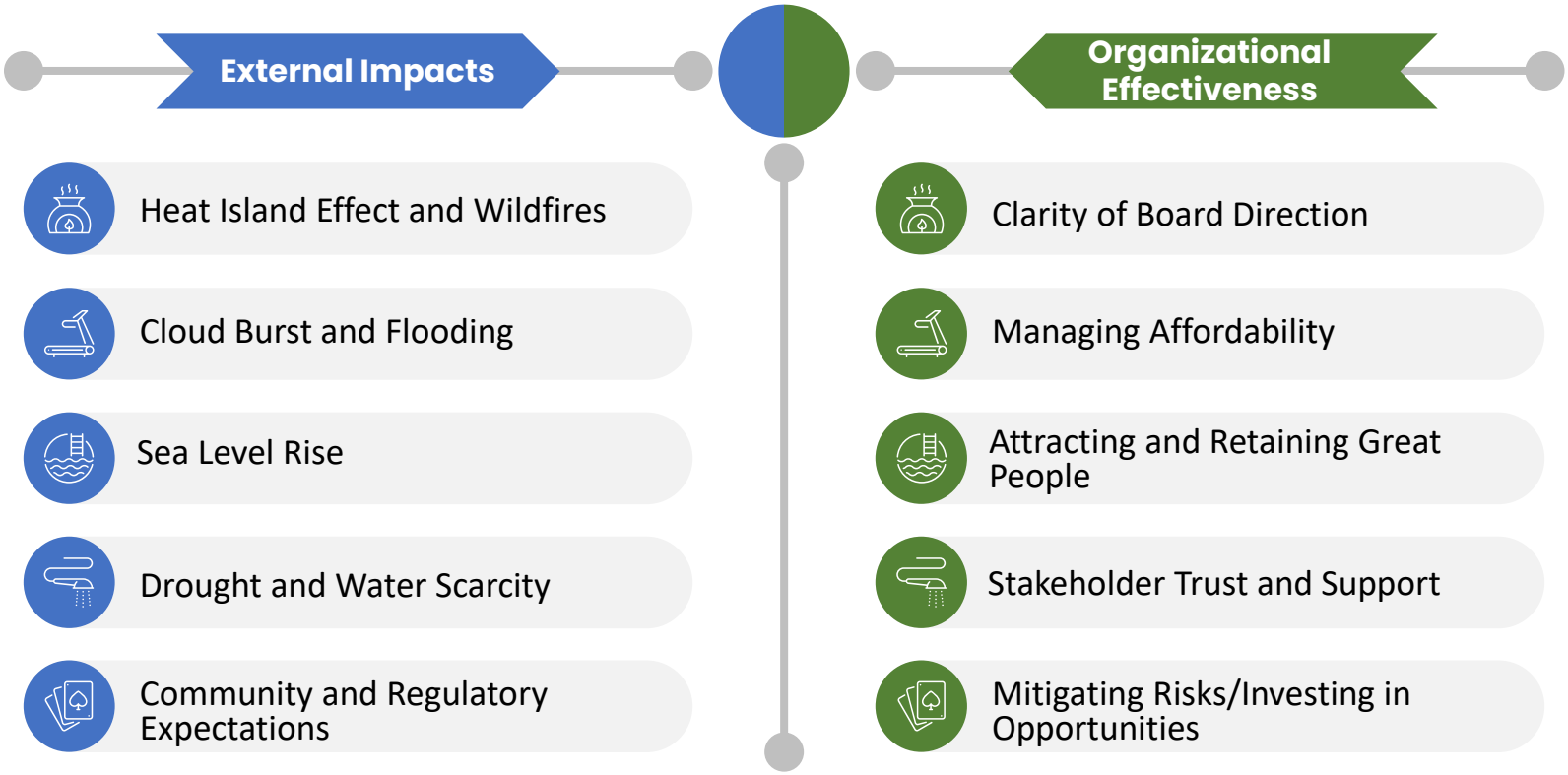
ESG Classification System Incorporates Credit Relevant Considerations

Our assessment of ESG risks is framed by the classification



Source: Moody's Investors Service

Why Should You Pay Attention to ESG Factors?

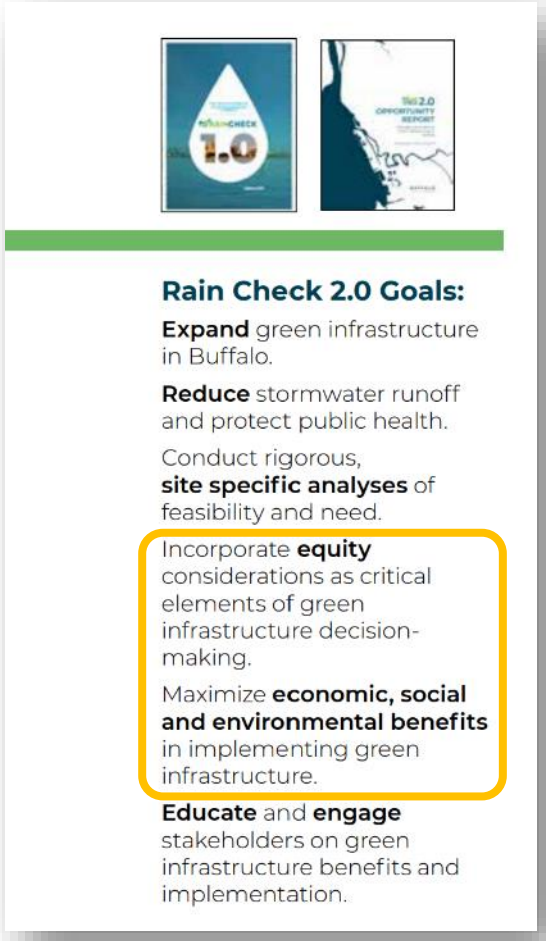


BUFFALO
SEWER AUTHORITY

RAINCHECK 2.0

Using equity to prioritize mitigation of CSO impacts while working to meet LTCP goals

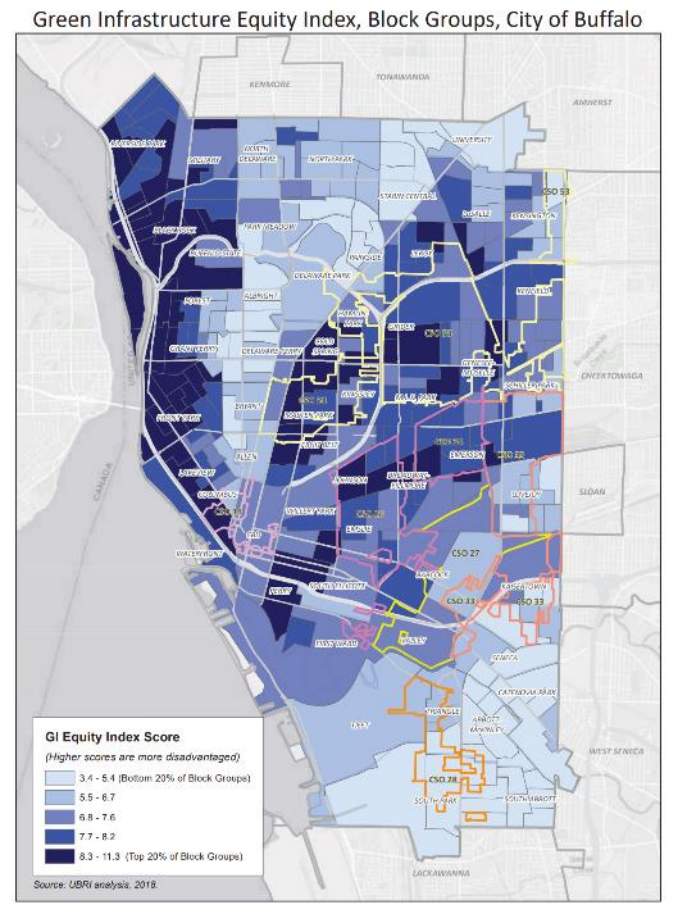
Realizing All Benefits of Green Infrastructure (GI)



RainCheck 2.0 Opportunity Report: https://raincheckbuffalo.org/app/uploads/2019/05/190515-RC2-OpportunityReport_sml.pdf

- Using green infrastructure to reduce CSOs and meet regulatory LTCP goals
- In addition to engineering and environmental considerations, intentionally used **social equity lens** to select communities most in need of GI benefits
- Supplemented by analyses of economic impacts and development trends, also citywide tree canopy study
- Engaged private sector, local government stakeholders, and general public

Equity Lens in Project Siting



Appendix A – Equity Index:
https://raincheckbuffalo.org/app/uploads/2019/05/RC2_Appendix_A_EquityIndex.pdf

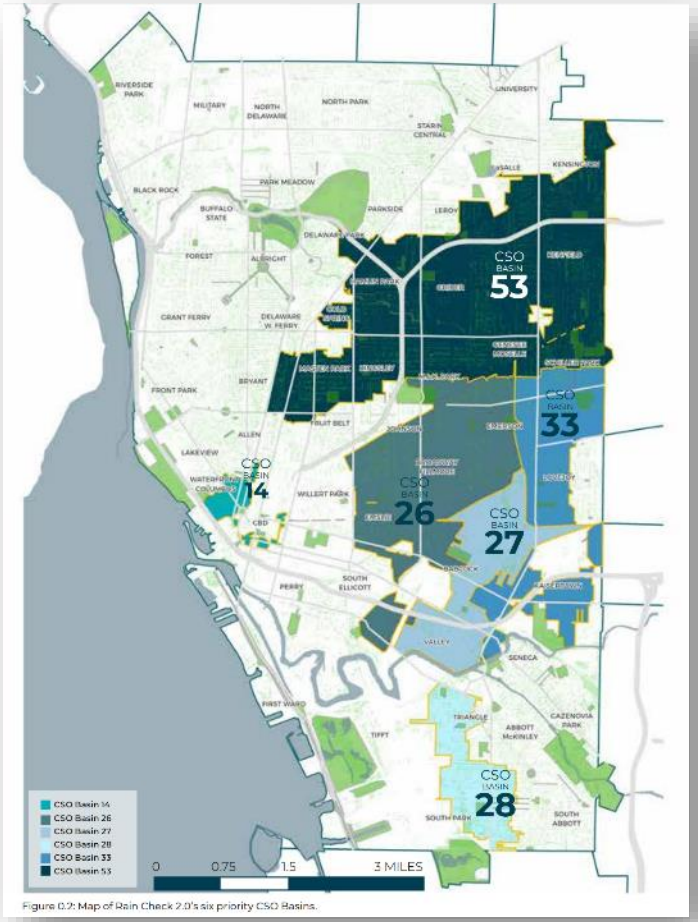
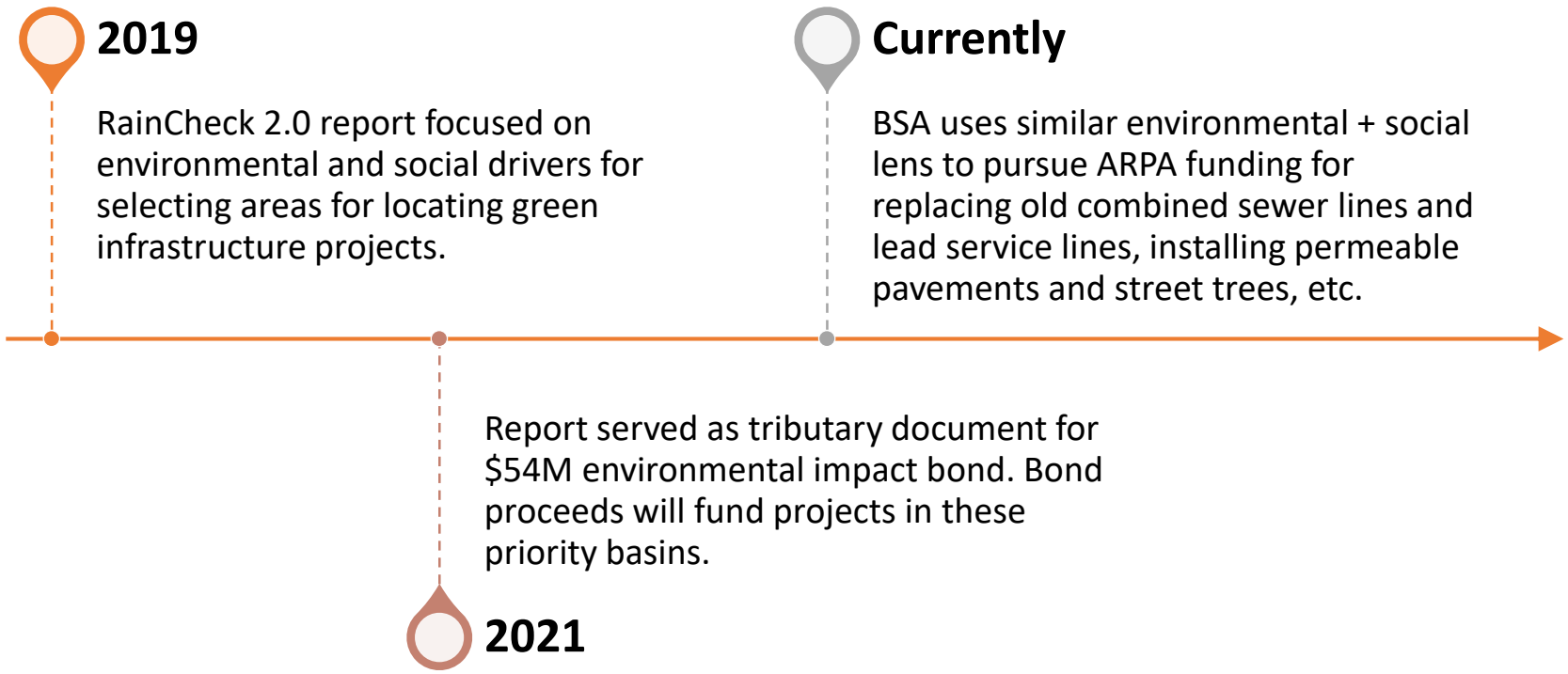


Figure 0.2: Map of Rain Check 2.0's six priority CSO Basins.

RainCheck 2.0 Opportunity Report:
https://raincheckbuffalo.org/app/uploads/2019/05/190515-RC2-OpportunityReport_sml.pdf

Road from Report to Funding Projects



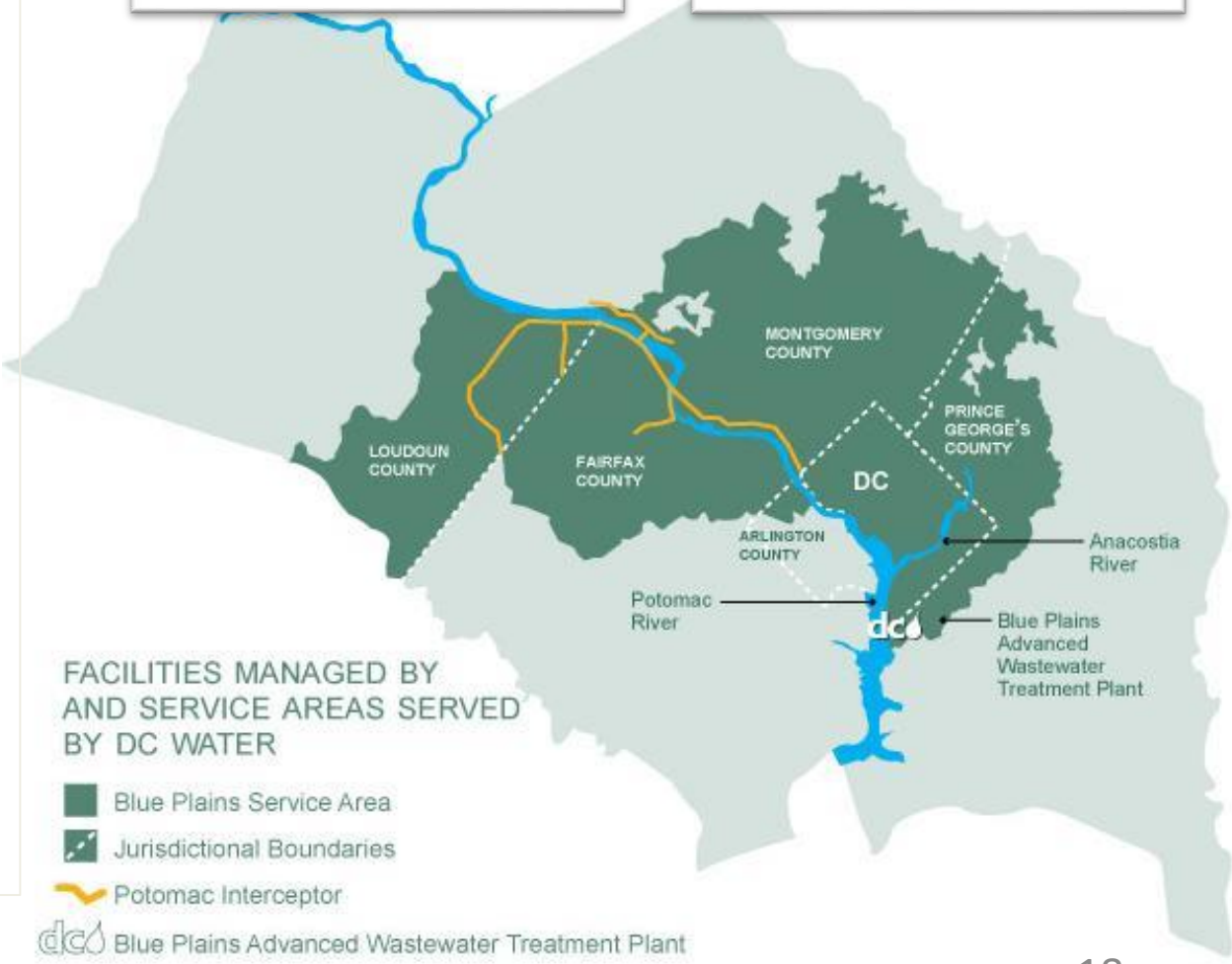
Managing Risk and Opportunity: DC Water's ESG Reporting

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY

Matthew Ries, PhD, PE @MatthewRies
Acting Chief Strategy & P rmance Officer
www.dcwater.com/esg-reporting

dc water is life

- **Regional service area:**
  - **725 sq mi**
- **Services:**
  - **DC's Drinking water distribution, wastewater collection, & stormwater system operation & maintenance (*700,000 people*)**
  - **Regional Wastewater treatment (*1.6 million ppl)***
  - **Stormwater system operation and maintenance**
- **Combined Sewer Overflow (CSO) deep tunnel project:**
  - **"DC Clean Rivers"**
- **Operates Blue Plains Advanced Wastewater Treatment Plant**
  - **300 mgd**
- **1350 employees**



Drivers & Timeline for DC Water's ESG Reporting

2014
First Green Bond Issued

2nd Party Opinions on Green Bond Sustainability

Spring 2021
Input from investment bankers, rating agencies, etc. on ESG market drivers

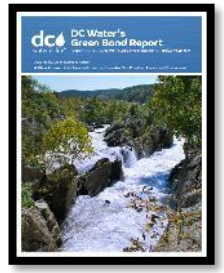
Oct. 2021
Green Bond Framework adopted

December 2021:
ESG Report released

Oct. – Dec. 2021
ESG Report developed

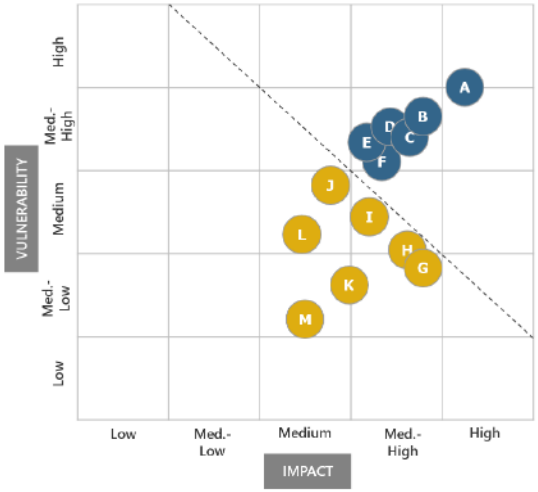
January 2022:
Rating agency meetings

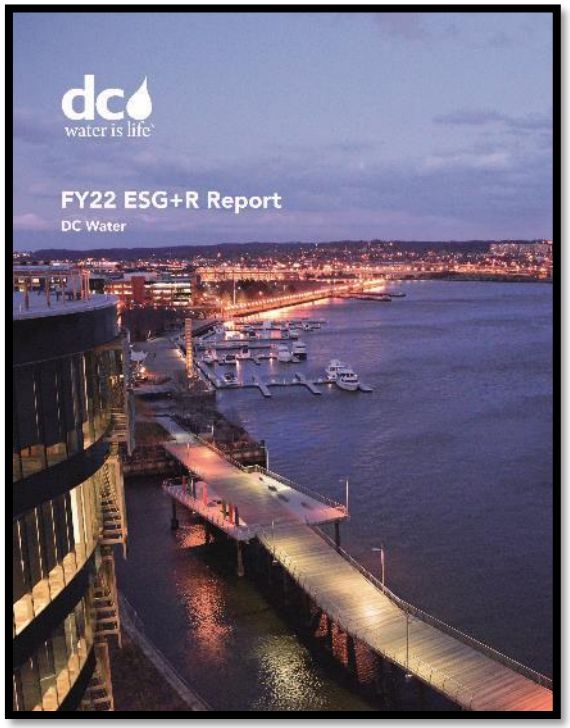
March 2022:
FY21 Green Bond Report released



Evolution of DC Water's ESG Reporting

Enterprise Risk Management (ERM) mobilization





FY21 ESG Report

- ESG Framework
- SASB Metrics

FY22 ESG+R *(Resilience)* Report

- ESG Framework
- TCFD Framework
- SASB Metrics

Environmental

Water
Maintaining clean, safe, and reliable water for our customers and ecosystems is crucial to everything we do as a water utility.

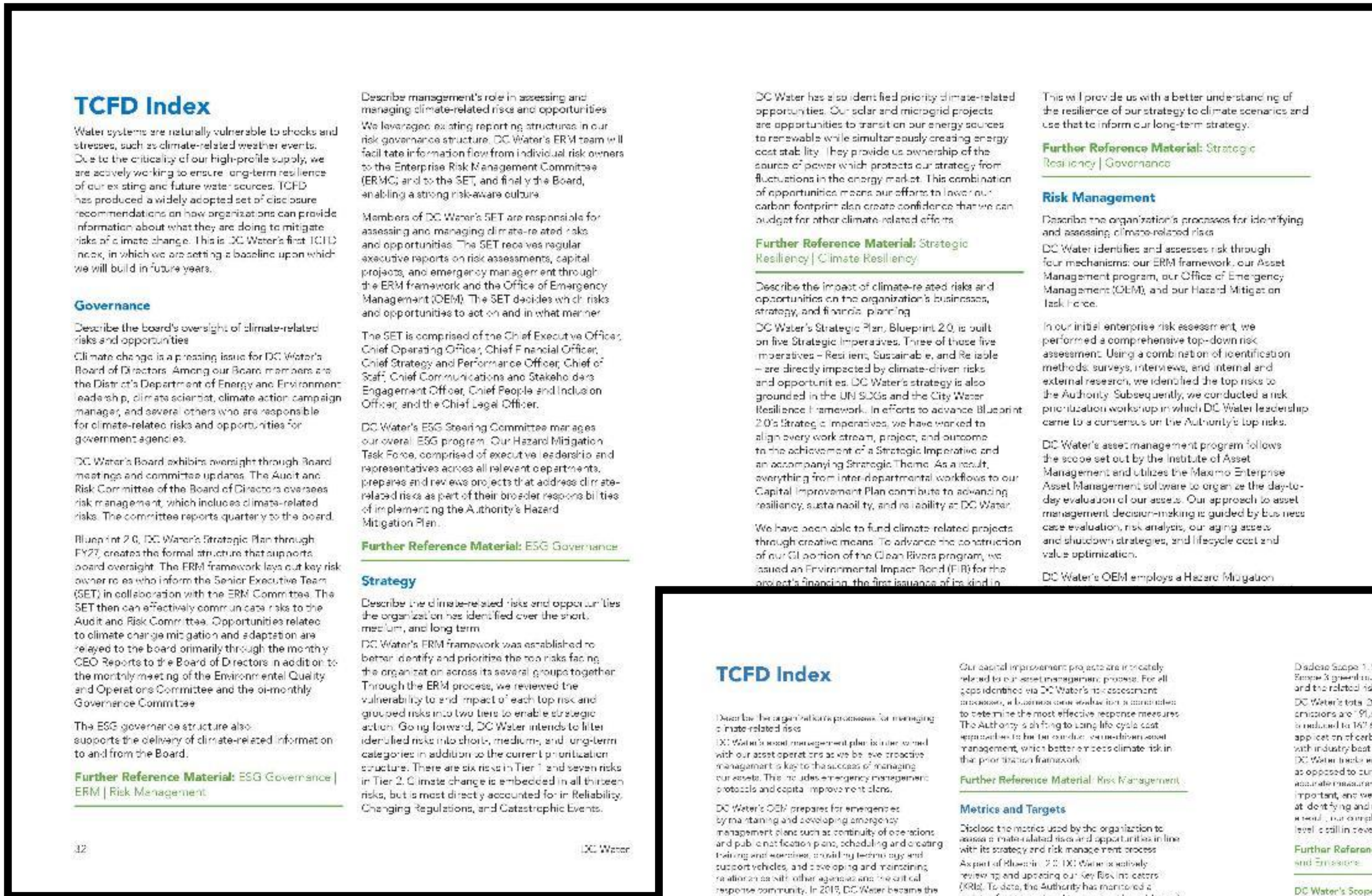
Energy and Emissions
As the largest single site consumer of energy in the District of Columbia, we have an important role to reduce fossil fuel energy consumption and associated emissions.

Infrastructure
We complete impactful projects, large and small, through our various initiatives (such as Lead-Free DC) and our $6.4b Capital Improvement Plan.

Biodiversity
Maintenance and improvement of our waterways and our actions above land is key to supporting improved biodiversity and the health of our ecosystems.

Waste and Resources
We utilize waste as a resource to minimize our footprint, increase revenue, reduce costs, and contribute to the

Example of “E” (Environmental) disclosure pages


TCFD Index

Water systems are naturally vulnerable to shocks and stresses, such as climate-related weather events. Due to the criticality of our high-profile supply, we are actively working to ensure long-term resilience of our existing and future water sources. TCFD has produced a widely adopted set of disclosure recommendations on how organizations can provide information about what they are doing to mitigate risks of climate change. This is DC Water's first TCFD index, in which we are setting a baseline upon which we will build in future years.

Governance

Describe the board's oversight of climate-related risks and opportunities

Climate change is a pressing issue for DC Water's Board of Directors. Among our Board members are the District's Department of Energy and Environment leadership, climate scientist, climate action campaign manager, and several others who are responsible for climate-related risks and opportunities for government agencies.

DC Water's Board exhibits oversight through Board meetings and committee updates. The Audit and Risk Committee of the Board of Directors oversees risk management, which includes climate-related risks. The committee reports quarterly to the board.

Blueprint 2.0, DC Water's Strategic Plan through FY27, creates the formal structure that supports board oversight. The ERM framework lays out key risk owner roles who inform the Senior Executive Team (SET) in collaboration with the ERM Committee. The SET then can effectively communicate risks to the Audit and Risk Committee. Opportunities related to climate change mitigation and adaptation are relayed to the board primarily through the monthly CEO Reports to the Board of Directors in addition to the monthly meeting of the Environmental Quality and Operations Committee and the bi-monthly Governance Committee.

The ESG governance structure also supports the delivery of climate-related information to and from the Board.

Further Reference Material: ESG Governance | ERM | Risk Management

Describe management's role in assessing and managing climate-related risks and opportunities

We leveraged existing reporting structures in our risk governance structure. DC Water's ERM team will facilitate information flow from individual risk owners to the Enterprise Risk Management Committee (ERMC) and to the SET, and finally the Board, enabling a strong risk-aware culture.

Members of DC Water's SET are responsible for assessing and managing climate-related risks and opportunities. The SET receives regular executive reports on risk assessments, capital projects, and emergency management through the ERM framework and the Office of Emergency Management (OEM). The SET decides which risks and opportunities to act on and in what manner.

The SET is comprised of the Chief Executive Officer, Chief Operating Officer, Chief Financial Officer, Chief Strategy and Performance Officer, Chief of Staff, Chief Communications and Stakeholder Engagement Officer, Chief People and Inclusion Officer, and the Chief Legal Officer.

DC Water's ESG Steering Committee manages our overall ESG program. Our Hazard Mitigation Task Force, comprised of executive leadership and representatives across all relevant departments, prepares and reviews projects that address climate-related risks as part of their broader responsibilities of implementing the Authority's Hazard Mitigation Plan.

Further Reference Material: ESG Governance

Strategy

Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term

DC Water's ERM framework was established to better identify and prioritize the top risks facing the organization across its several groups together. Through the ERM process, we reviewed the vulnerability to and impact of each top risk and grouped risks into two tiers to enable strategic action. Going forward, DC Water intends to further identify risks into short-, medium-, and long-term categories in addition to the current prioritization structure. There are six risks in Tier 1 and seven risks in Tier 2. Climate change is embedded in all thirteen risks, but is most directly accounted for in Reliability, Changing Regulations, and Catastrophic Events.

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DC Water has also identified priority climate-related opportunities. Our solar and microgrid projects are opportunities to transition our energy sources to renewable while simultaneously creating energy cost stability. They provide us ownership of the source of power which protects our strategy from fluctuations in the energy market. This combination of opportunities means our efforts to lower our carbon footprint also create confidence that we can budget for other climate-related efforts.

Further Reference Material: Strategic Resiliency | Climate Resiliency

Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning

DC Water's Strategic Plan, Blueprint 2.0, is built on five Strategic Imperatives. Three of those five imperatives – Resilient, Sustainable, and Reliable – are directly impacted by climate-driven risks and opportunities. DC Water's strategy is also grounded in the UN SDGs and the City Water Resilience Framework. In efforts to advance Blueprint 2.0's Strategic Imperatives, we have worked to align every work stream, project, and outcome to the achievement of a Strategic Imperative and an accompanying Strategic Theme. As a result, everything from inter-departmental workflows to our Capital Improvement Plan contribute to advancing resiliency, sustainability, and reliability at DC Water.

We have been able to fund climate-related projects through creative means. To advance the construction of our GI portion of the Clean Rivers program, we issued an Environmental Impact Bond (EIB) for the project's financing, the first issuance of its kind in

This will provide us with a better understanding of the resilience of our strategy to climate scenarios and use that to inform our long-term strategy.

Further Reference Material: Strategic Resiliency | Governance

Risk Management

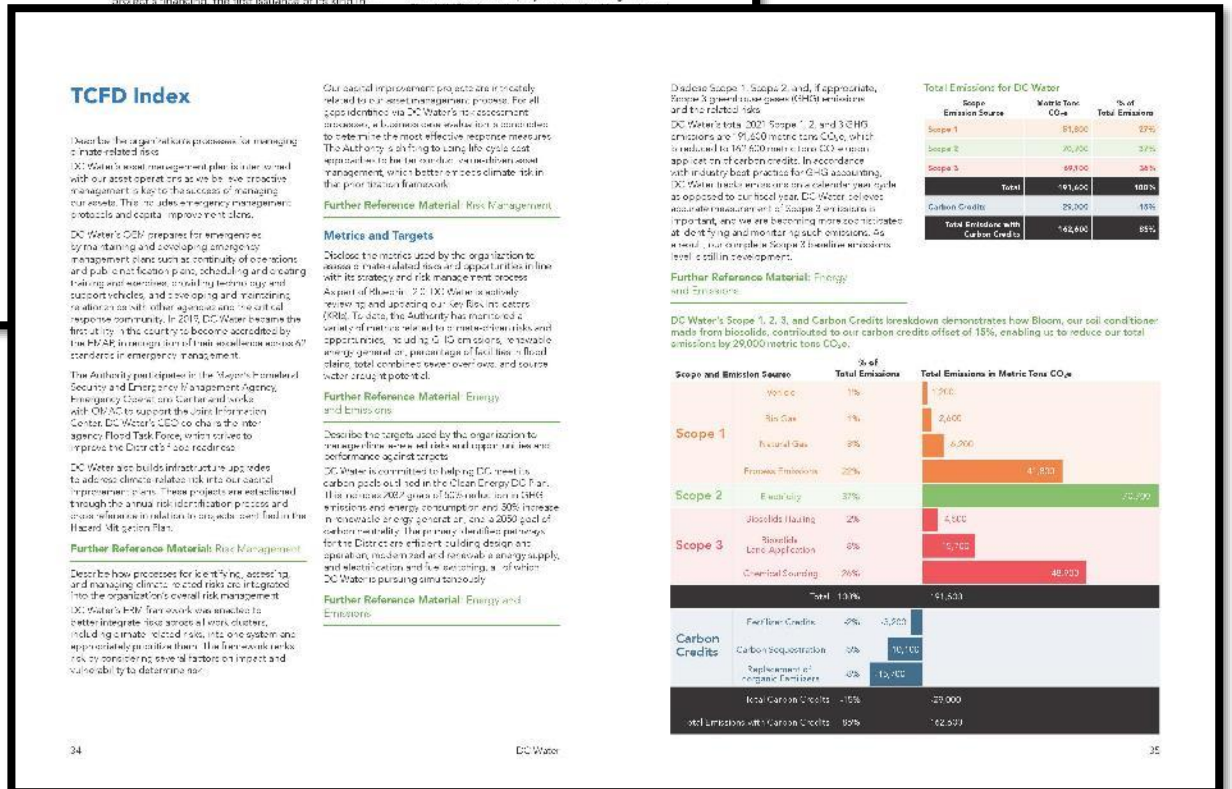
Describe the organization's processes for identifying and assessing climate-related risks

DC Water identifies and assesses risk through four mechanisms: our ERM framework, our Asset Management program, our Office of Emergency Management (OEM), and our Hazard Mitigation Task Force.

In our initial enterprise risk assessment, we performed a comprehensive top-down risk assessment. Using a combination of identification methods: surveys, interviews, and internal and external research, we identified the top risks to the Authority. Subsequently, we conducted a risk prioritization workshop in which DC Water leadership came to a consensus on the Authority's top risks.

DC Water's asset management program follows the scope set out by the Institute of Asset Management and utilizes the Maximo Enterprise Asset Management software to organize the day-to-day evaluation of our assets. Our approach to asset management decision-making is guided by business case evaluation, risk analysis, our aging assets and shutdown strategies, and lifecycle cost and value optimization.

DC Water's OEM employs a Hazard Mitigation


TCFD Index

Describe the organization's processes for managing climate-related risks

Metrics and Targets

Further Reference Material: Risk Management

Further Reference Material: Energy and Emissions

Total Emissions for DC Water

Scope Emission Source	Metric Tons CO_2e	% of Total Emissions
Scope 1	51,800	27%
Scope 2	70,700	37%
Scope 3	69,100	36%
Total	191,600	100%
Carbon Credits	29,000	15%
Total Emissions with Carbon Credits	162,600	85%

DC Water's Scope 1, 2, 3, and Carbon Credits breakdown demonstrates how Bloom, our soil conditioner made from biosolids, contributed to our carbon credits offset of 15%, enabling us to reduce our total emissions by 29,000 metric tons CO_2e.

Scope and Emission Source		% of Total Emissions	Total Emissions in Metric Tons CO_2e
Scope 1	Vehicle	1%	1,200
	Bio Gas	1%	2,600
	Natural Gas	3%	6,200
	Process Emissions	22%	41,800
Scope 2	Electricity	37%	70,700
Scope 3	Biosolids Hauling	2%	4,500
	Biosolids Land Application	8%	15,700
	Chemical Sourcing	26%	48,900
Total		100%	191,600
Carbon Credits	Fertilizer Credits	-2%	-3,200
	Carbon Sequestration	-6%	-10,100
	Replacement of Inorganic Fertilizers	-8%	-15,700
Total Carbon Credits		-15%	-29,000
Total Emissions with Carbon Credits		85%	162,600

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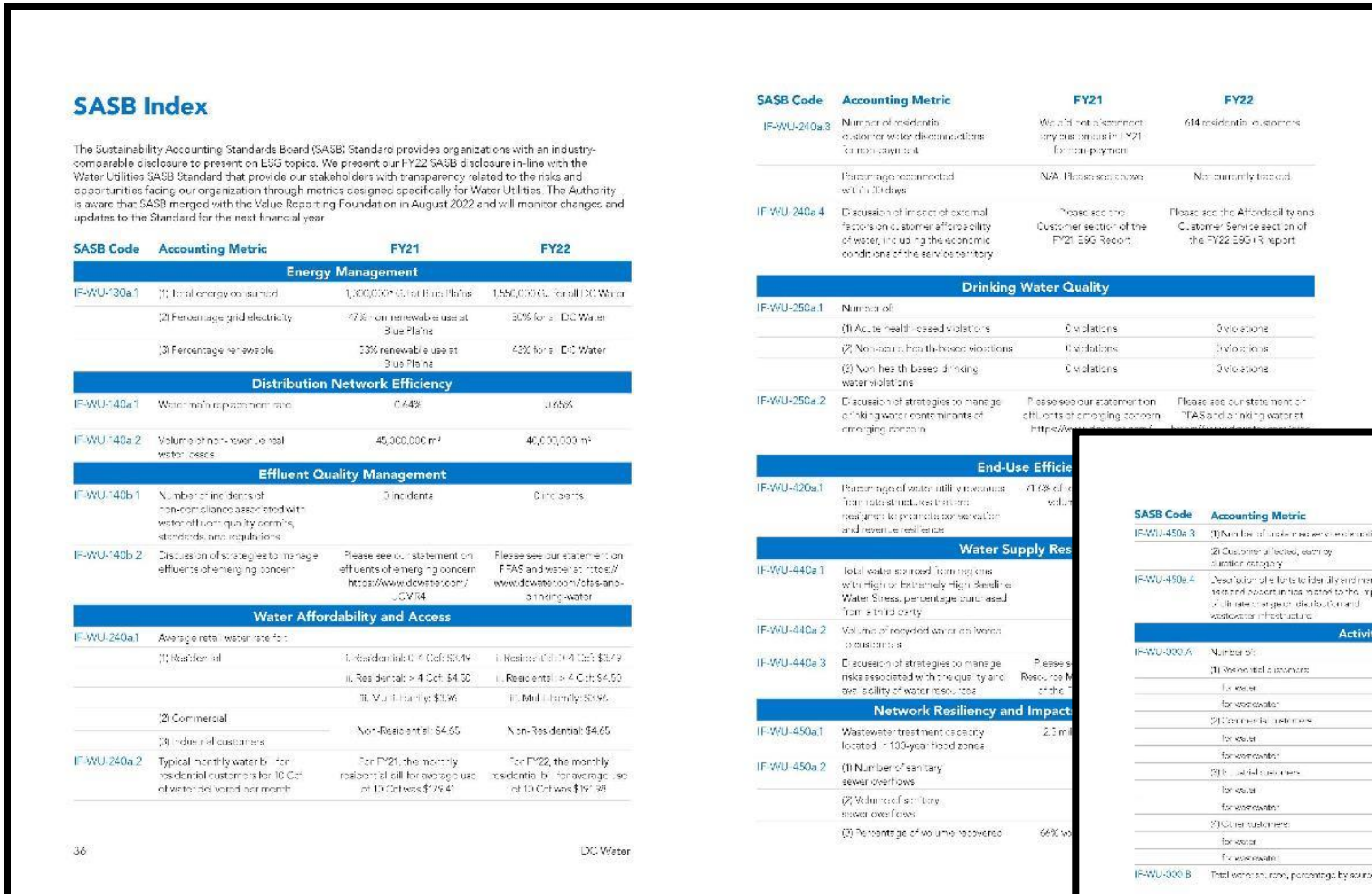
TCFD Index

(Task Force on Climate-related Financial Disclosures)



SASB Index

The Sustainability Accounting Standards Board (SASB) Standard provides organizations with an industry-comparable disclosure to present on ESG topics. We present our FY22 SASB disclosure in-line with the Water Utilities SASB Standard that provide our stakeholders with transparency related to the risks and opportunities facing our organization through metrics designed specifically for Water Utilities. The Authority is aware that SASB merged with the Value Reporting Foundation in August 2022 and will monitor changes and updates to the Standard for the next financial year.

SASB Code	Accounting Metric	FY21	FY22
Energy Management			
IF-WU-130a.1	(1) Total energy consumed	1,300,000* GJ at Blue Plains	1,550,000 GJ for all DC Water
	(2) Percentage grid electricity	47% non-renewable use at Blue Plains	50% for all DC Water
	(3) Percentage renewable	53% renewable use at Blue Plains	43% for all DC Water
Distribution Network Efficiency			
IF-WU-140a.1	Water main replacement rate	0.64%	0.65%
IF-WU-140a.2	Volume of non-revenue real water losses	45,000,000 m³	40,000,000 m³
Effluent Quality Management			
IF-WU-140b.1	Number of incidents of non-compliance associated with water effluent quality permits, standards, and regulations	3 incidents	0 incidents
IF-WU-140b.2	Discussion of strategies to manage effluents of emerging concern	Please see our statement on effluents of emerging concern https://www.dcwater.com/UCMR4	Please see our statement on PFAS and water at https://www.dcwater.com/pfas-and-drinking-water
Water Affordability and Access			
IF-WU-240a.1	Average retail water rate for:		
	(1) Residential	i. Residential: ≤ 4 Ccf: $3.49	i. Residential: ≤ 4 Ccf: $3.49
		ii. Residential: > 4 Ccf: $4.50	ii. Residential: > 4 Ccf: $4.50
		iii. Multi-family: $3.96	iii. Multi-family: $3.96
	(2) Commercial	Non-Residential: $4.65	Non-Residential: $4.65
	(3) Industrial customers		
IF-WU-240a.2	Typical monthly water bill for residential customers for 10 Ccf of water delivered per month	For FY21, the monthly residential bill for average use of 10 Ccf was $179.41	For FY22, the monthly residential bill for average use of 10 Ccf was $191.98

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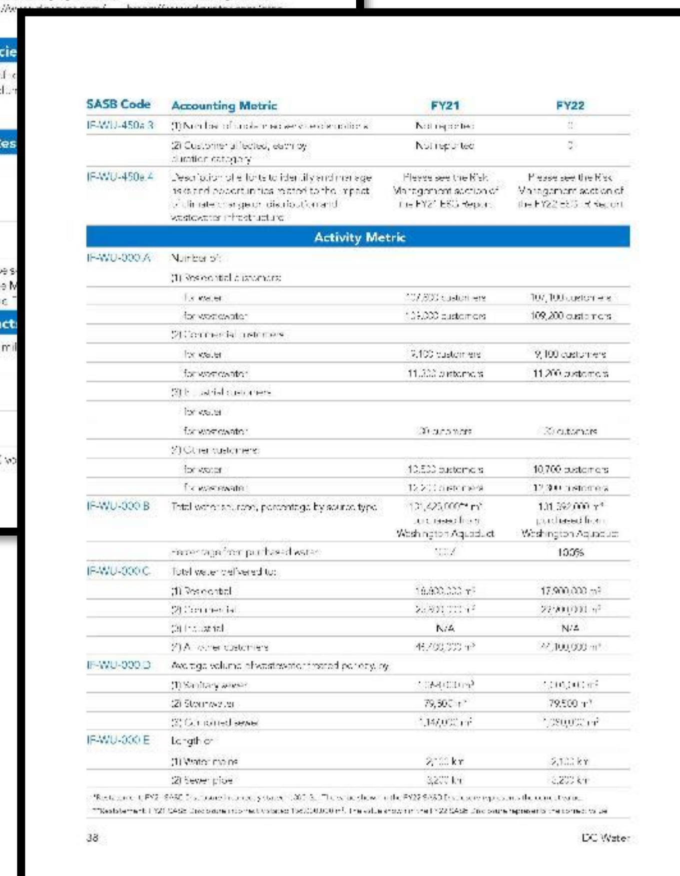
SASB Code	Accounting Metric	FY21	FY22
IF-WU-240a.3	Number of residential customer water disconnections for non-payment	We did not disconnect any customers in FY21 for non-payment	614 residential customers
	Percentage reconnected within 30 days	N/A. Please see above	Not currently tracked
IF-WU-240a.4	Discussion of impact of external factors on customer affordability of water, including the economic conditions of the service territory	Please see the Customer section of the FY21 ESG Report	Please see the Affordability and Customer Service section of the FY22 ESG Report
Drinking Water Quality			
IF-WU-250a.1	Number of:		
	(1) Acute health-based violations	0 violations	0 violations
	(2) Non-acute health-based violations	0 violations	0 violations
	(3) Non health based drinking water violations	0 violations	0 violations
IF-WU-250a.2	Discussion of strategies to manage drinking water contaminants of emerging concern	Please see our statement on effluents of emerging concern https://www...	Please see our statement on PFAS and drinking water at https://www...
End-Use Efficie...			
IF-WU-420a.1	Percentage of water utility revenues from rate structures that are designed to promote conservation and revenue resilience	71.6% of ...	
Water Supply Res...			
IF-WU-440a.1	Total water sourced from regions with High or Extremely High Baseline Water Stress, percentage purchased from a third party		
IF-WU-440a.2	Volume of recycled water delivered to customers		
IF-WU-440a.3	Discussion of strategies to manage risks associated with the quality and availability of water resources	Please s...	
Network Resiliency and Impact...			
IF-WU-450a.1	Wastewater treatment capacity located in 100-year flood zones	2.3 mil...	
IF-WU-450a.2	(1) Number of sanitary sewer overflows		
	(2) Volume of sanitary sewer overflows		
	(3) Percentage of volume recovered	66% vo...	



SASB Code	Accounting Metric	FY21	FY22
IF-WU-450a.3	(1) Number of unplanned service disruptions	Not reported	0
	(2) Customers affected, each by duration category	Not reported	0
IF-WU-450a.4	Description of efforts to identify and manage risks and opportunities related to the impact of climate change on distribution and wastewater infrastructure	Please see the Risk Management section of the FY21 ESG Report	Please see the Risk Management section of the FY22 ESG Report
Activity Metric			
IF-WU-000.A	Number of:		
	(1) Residential customers		
	for water	107,600 customers	107,100 customers
	for wastewater	109,000 customers	109,200 customers
	(2) Commercial customers		
	for water	9,100 customers	9,100 customers
	for wastewater	11,300 customers	11,200 customers
	(3) Industrial customers		
	for water		
	for wastewater	30 customers	30 customers
	(4) Other customers		
	for water	10,500 customers	10,700 customers
	for wastewater	[illegible]	[illegible]
IF-WU-000.B	Total water sourced, percentage by source type	131,420,000** m³ purchased from Washington Aqueduct	131,392,000 m³ purchased from Washington Aqueduct
	Percentage from purchased water	100%	100%
IF-WU-000.C	Total water delivered to:		
	(1) Residential	16,600,000 m³	17,900,000 m³
	(2) Commercial	25,600,000 m³	27,900,000 m³
	(3) Industrial	N/A	N/A
	(4) All other customers	46,700,000 m³	47,100,000 m³
IF-WU-000.D	Average volume of wastewater treated per day, by:		
	(1) Sanitary sewer	1,064,000 m³	1,010,000 m³
	(2) Stormwater	79,500 m³	79,500 m³
	(3) Combined sewer	1,140,000 m³	1,090,000 m³
IF-WU-000.E	Length of:		
	(1) Water mains	2,100 km	2,100 km
	(2) Sewer pipe	3,200 km	3,200 km

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SASB Index

(Sustainable Accounting Standards Board)

Benefits from ESG Reporting

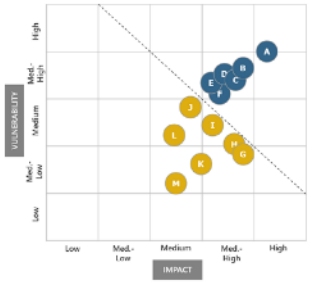
External

Public Relations

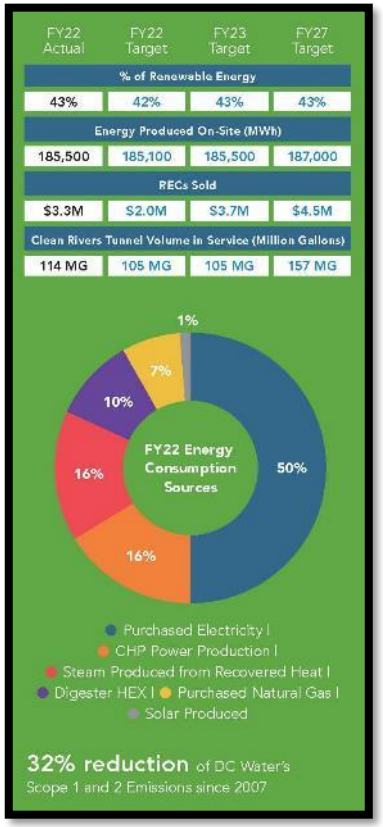
Financial

Internal

Alignment & strengthening of enterprise-wide programs (strategic plan, ERM, etc.)



Data, performance, & transparency cultural shift



ESG: Road Map to ESG Maturity & First Five Steps

1. **Start with What and Why:**
    1. Look up ESG reports from your peers. What and how are they reporting?
    2. What about these other ESG reports resonates with you in how you'll tell your story? What standards and frameworks are they using?
    3. Who do you want to read this and why?
2. **Identify and Engage Your Stakeholders:**
    1. What about your organization to you want to communicate?
    2. What information are they looking for? Ask them.
3. **Assess Your Impact:** Consider aligning with one of the existing standards or frameworks to determine your organization's impact in key areas and create an opportunity to benchmark. (Your choice in a standard could be driven by your stakeholders) (ESG Report Year 1)
4. **Complete an Internal Valuation:** In the same key areas, assess your vulnerabilities, risks and opportunities. (ESG Report Year 2)
5. **Verify and Validate:** Have a 3rd party assess your impact and valuation. (ESG Report Year 3 or beyond)

Thank You!

Questions?

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