THE STATE OF CLIMATE CHANGE DISCLOSURE:

ISSUER APPROACHES AND PRACTICES

CDIAC BOND BUYER PRE-CONFERENCE
SESSION 2 | ORIGINALLY AIRED: OCTOBER 26, 2020

SPEAKER INTRODUCTIONS

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CLIMATE CHANGE & DISCLOSURE

THE LEGAL FOUNDATION

RUDY SALO | PARTNER | NIXON PEABODY, LLP

What will I discuss today?

- The applicable Federal securities laws that apply to issuer's disclosure documents
- The Securities Exchange Commission's position on Climate Change disclosure
- Where the Municipal Market is regarding Climate Change Disclosure

- ***The only Federal securities laws to which the muni issuers are subject are the Federal antifraud laws.***
  - ❑Unlike corporate issuers, the SEC cannot tell Issuers what to put in disclosure or require them to obtain SEC approval.

- ***The Federal antifraud laws require that:***
  - ❑Issuers use reasonable care to ensure…..
  - ❑That all of the information Issuers prepare in connection with bond offerings…..
    - ✓Is “materially” accurate….and
    - ✓Does not omit a “material” fact that makes that information misleading.

What Federal Securities Apply?

The Two Applicable Federal Securities Law Provisions

- ***Rule 10b-5***
  - The responsibility must be "scienter" which requires a finding of knowledge or recklessness.
  - Individual bondholders may bring a Rule 10b-5 claim if they have suffered damages
- ***Section 17(a)(2)***
  - The responsibility can be merely negligence.
  - Only the SEC can bring an action for a Section 17(a)(2) violation
  - Must be a finding that the statement was made to obtain money or property.

How does securities fraud differ from other kinds of fraud?

- ***Not just misstatements but also <u>omissions</u>***
    - Evaluates the totality of the statements and considers not just whether it is accurate but also if it is misleading.

- **What is material?**
    - Any fact a reasonable investor would consider to be important in making an investment decision.
    - Objective standard.
    - Forward-looking trends can be material—not just historical information.
    - Can look very different in retrospect than at the time!

What's the SEC's Position on Climate Change?

- **2010** SEC published interpretative guidance to assist public companies in preparing disclosure related to Climate Change.
- The interpretive release was intended for companies to consider climate change and its consequences
- Effects of climate change on severity of weather, sea levels, arability of farmland, and water availability and quality have the potential to affect a registrant's operation and results
- Registrants whose businesses may be vulnerable to severe weather or climate related events should consider disclosing material risks of, or consequences from, such events in their publicly filed disclosure documents

What is the State of Climate Change Disclosure in the Muni Market?

- **2018**: lack of climate change disclosure highlighted by ExxonMobil litigation against California issuers in their own disclosures as a counterattack for suit they filed against ExxonMobil for future damages from sea-level rise and coastal flooding due to greenhouse gas emissions from fossil fuels
  - Prompted public agencies to review and disclose their climate change risk in their offering documents
- **2019**: Increase in Climate Change Disclosure
- **2020**: No Standard/Boilerplate: Recent CDIAC Report on Climate Change disclosure found disclosure varies widely from ZERO to very robust

Sample Climate Change Risk Factor

- Numerous scientific studies on global climate change show that, among other effects on the global ecosystem, sea levels will rise, extreme temperatures will become more common, and extreme weather events, including, but not limited to, wildfires, will become more frequent as a result of increasing global temperatures attributable to atmospheric pollution. For example, the Fourth National Climate Assessment, published by the U.S. Global Change Research Program, in November 2018 (NCA4) finds that more frequent and intense extreme weather and climate-related events, as well as changes in average climate conditions, are expected to continue to damage infrastructure, ecosystems and social systems over the next 25 to 100 years. Sea level rise may particularly impact coastal areas throughout the District. The District cannot predict what impact climate change will have on Sales Tax Revenues or the Project's system in the future

Impacts of Climate Change on Issuers

- **The number of natural disasters costing at least $1 billion has increased since 1980**
- As climate change impacts become more frequent and intense, state and local governments are facing mounting infrastructure-related mitigation, adaption, and resiliency planning costs
- ***September 2020***:Charles Schwab article noted no issuer rated by Moody's has defaulted on its bonds due to a natural disaster.
  - Haven't seen yields rise across the board following past natural disasters.
  - Issuers with smaller tax or revenue bases are more at risk compared to issuers with broad revenue bases, like states.

CLIMATE CHANGE DISCLOSURE
AMONG CALIFORNIA ENTERPRISE ISSUERS

KELLY JOY | SENIOR RESEARCH SPECIALIST | CDIAC

CDIAC RESEARCH STUDY

To what extent are initial disclosure practices among enterprise revenue issuers accounting for risks of climate change?

Do practices vary based on factors such as issuance size, debt purpose, geography, etc.?

RESEARCH QUESTION BREAKDOWN

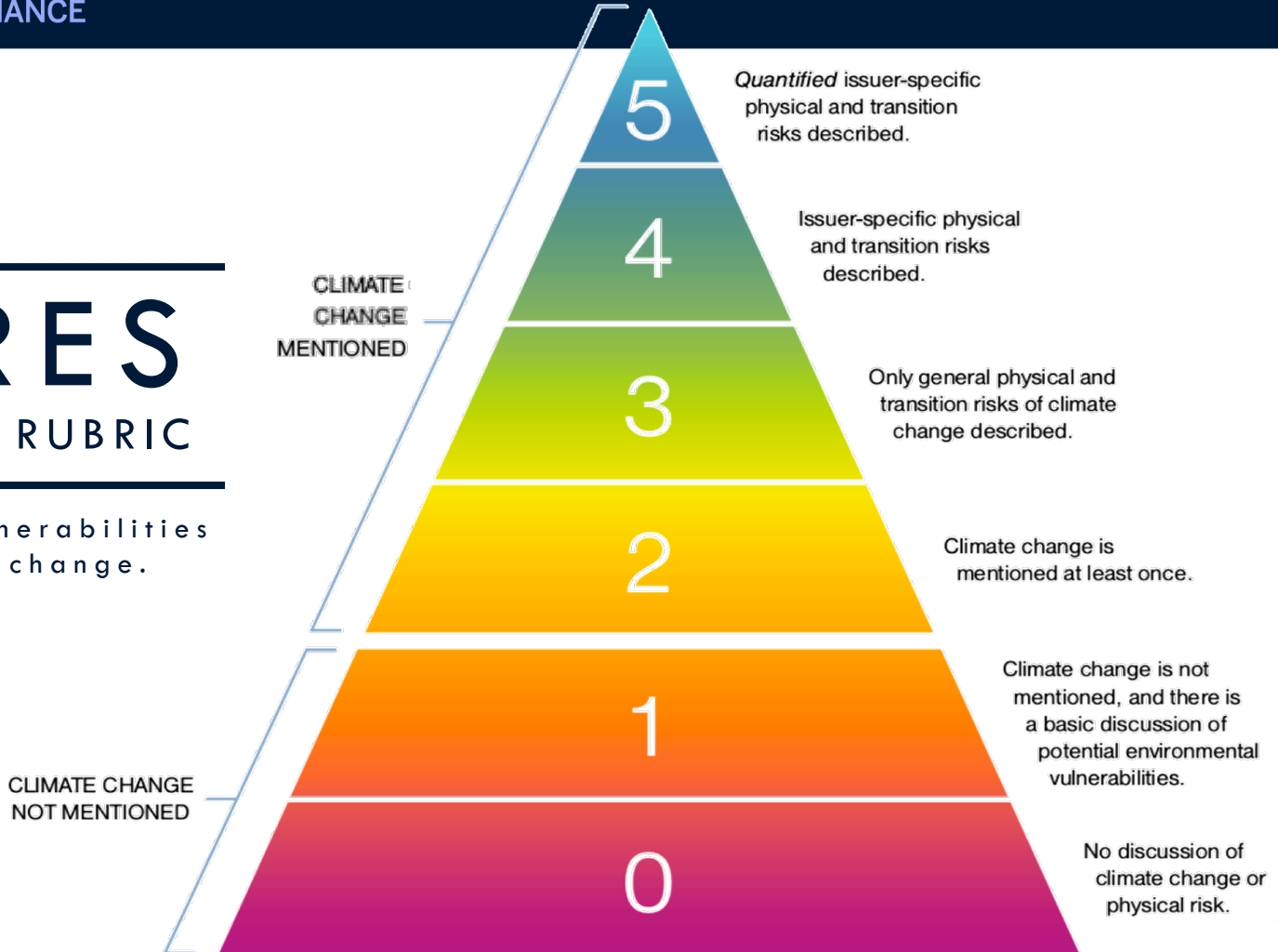
To what extent are initial disclosure practices among enterprise revenue issuers accounting for **risks of climate change**? The study accounted for potential **physical** and **transition** risks of climate change.

PHYSICAL: Risks due to environmental effects attributed to climate change such as sea-level rise, flooding, wildfires, severe drought, extreme weather, etc.

TRANSITION: Potential costs and other risks due to increased climate-policy regulation, changes in technology, and associated liabilities.

SCORES
IN THE CDIAC RUBRIC

97% discussed vulnerabilities linked with climate change.



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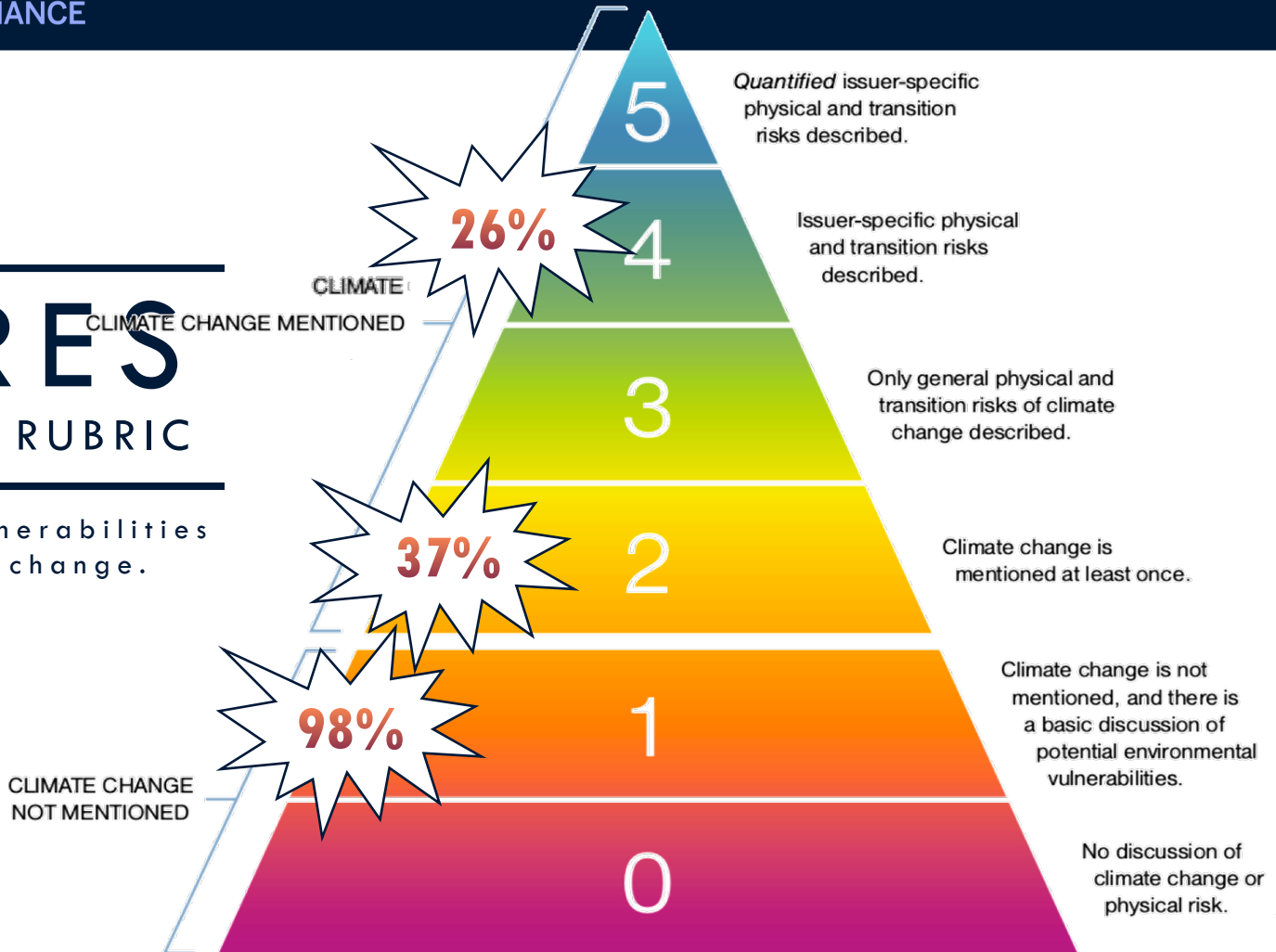
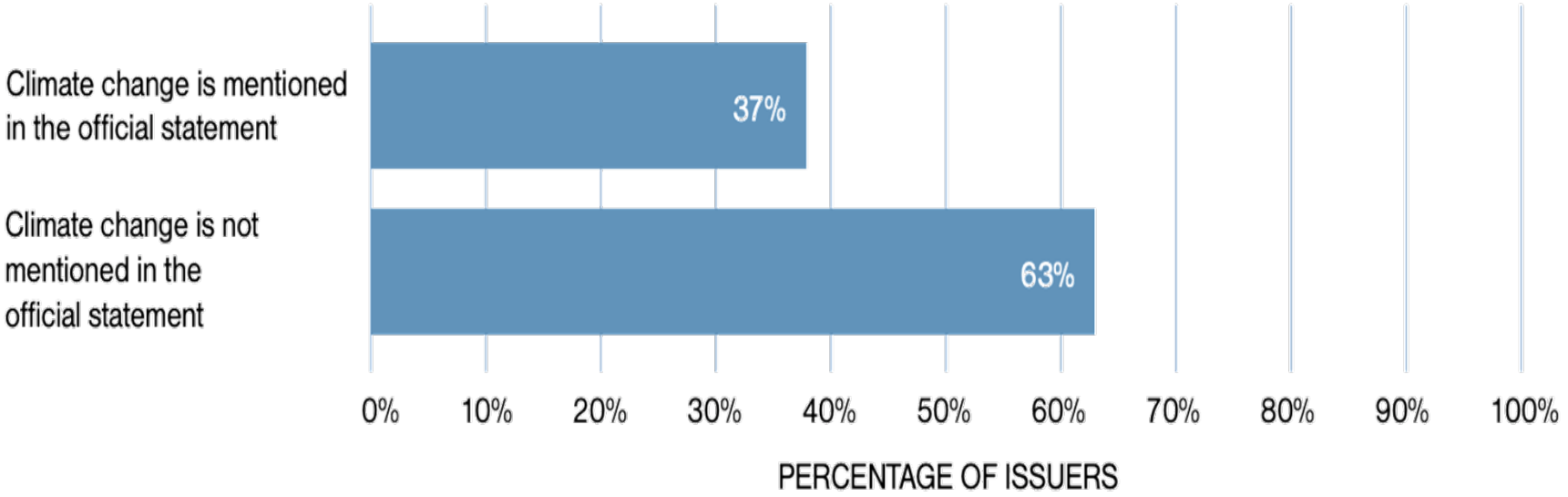
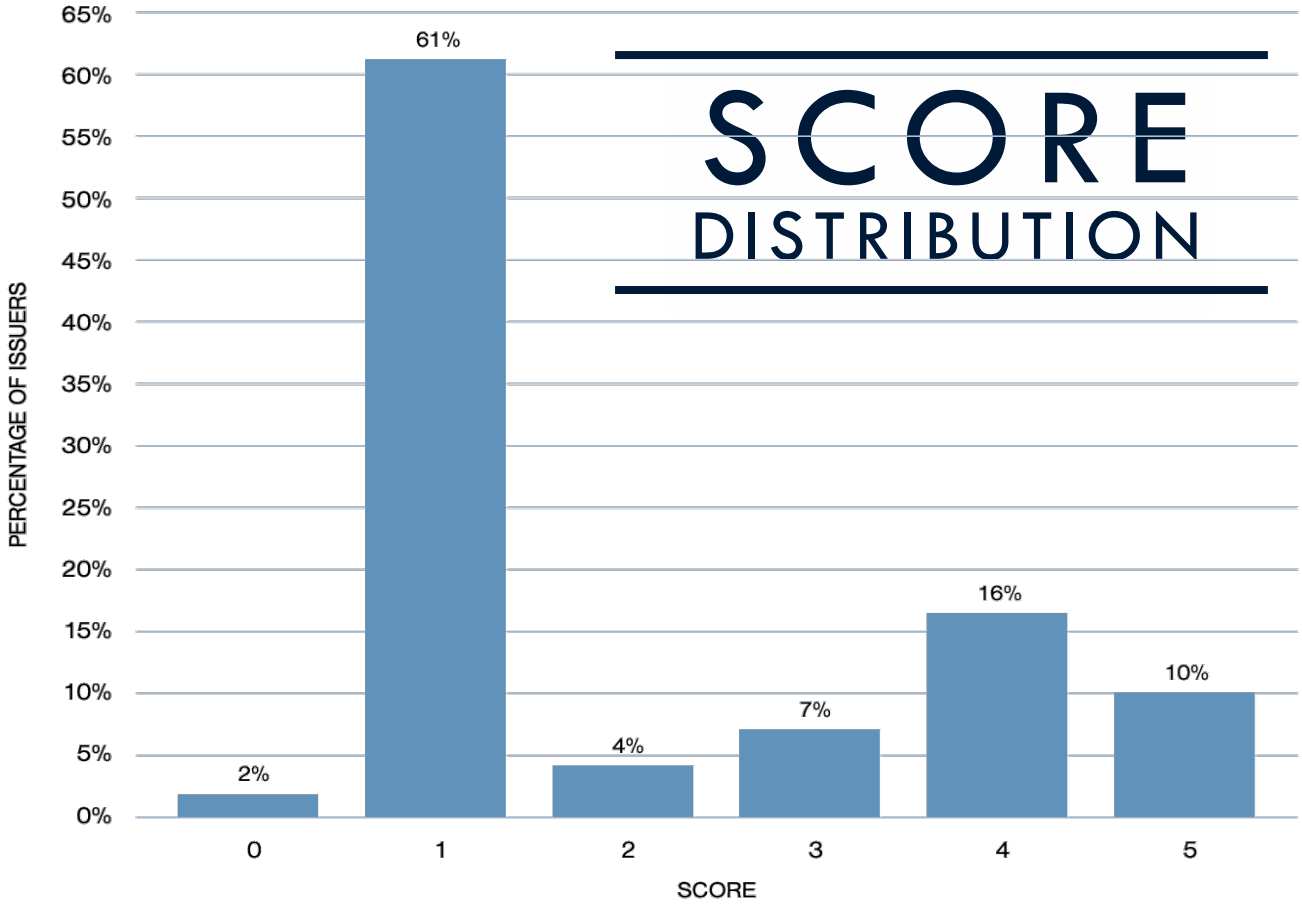


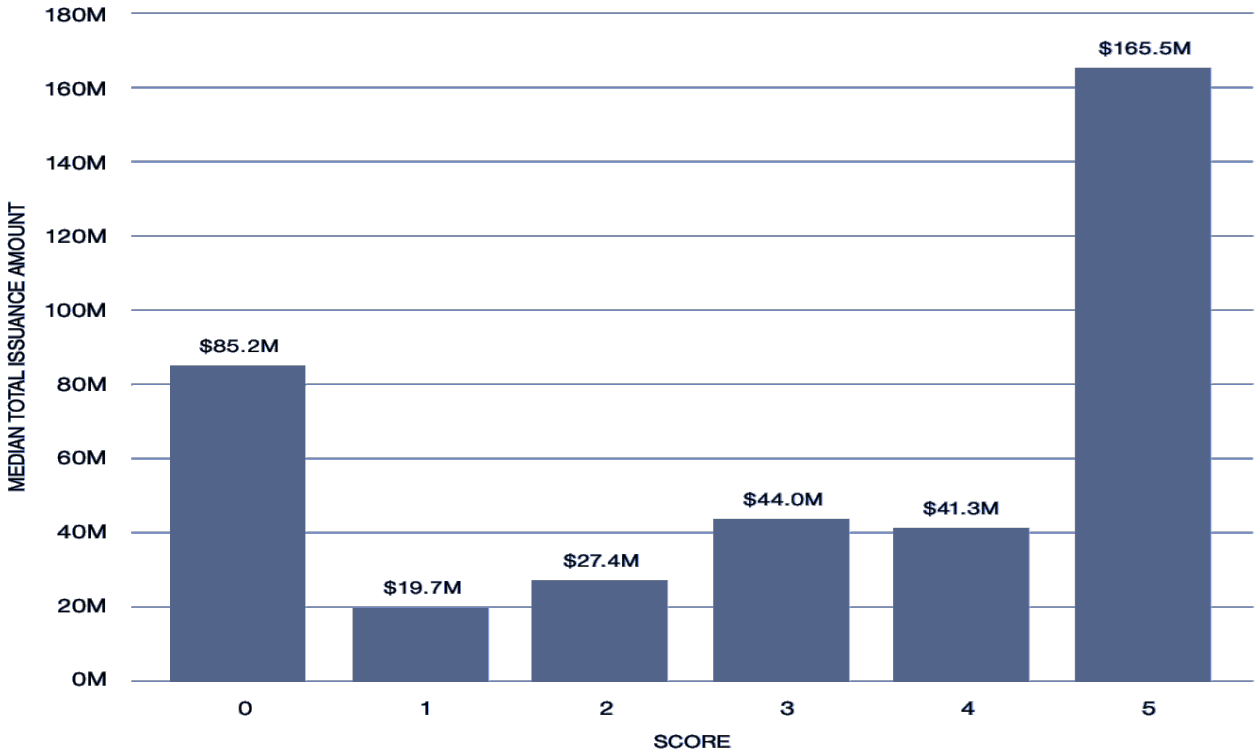
CLIMATE CHANGE MENTIONED IN OS



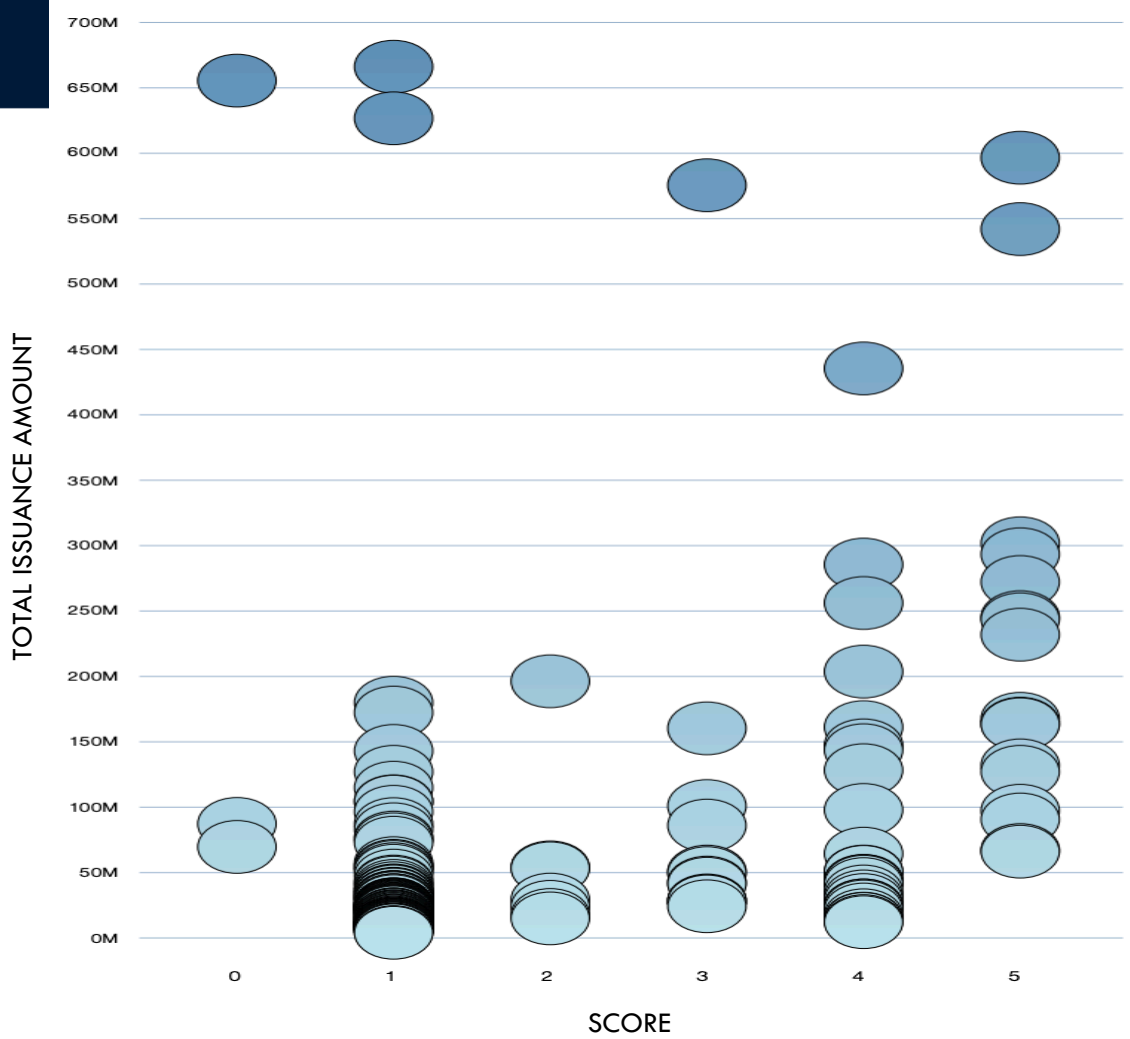
SCORE DISTRIBUTION



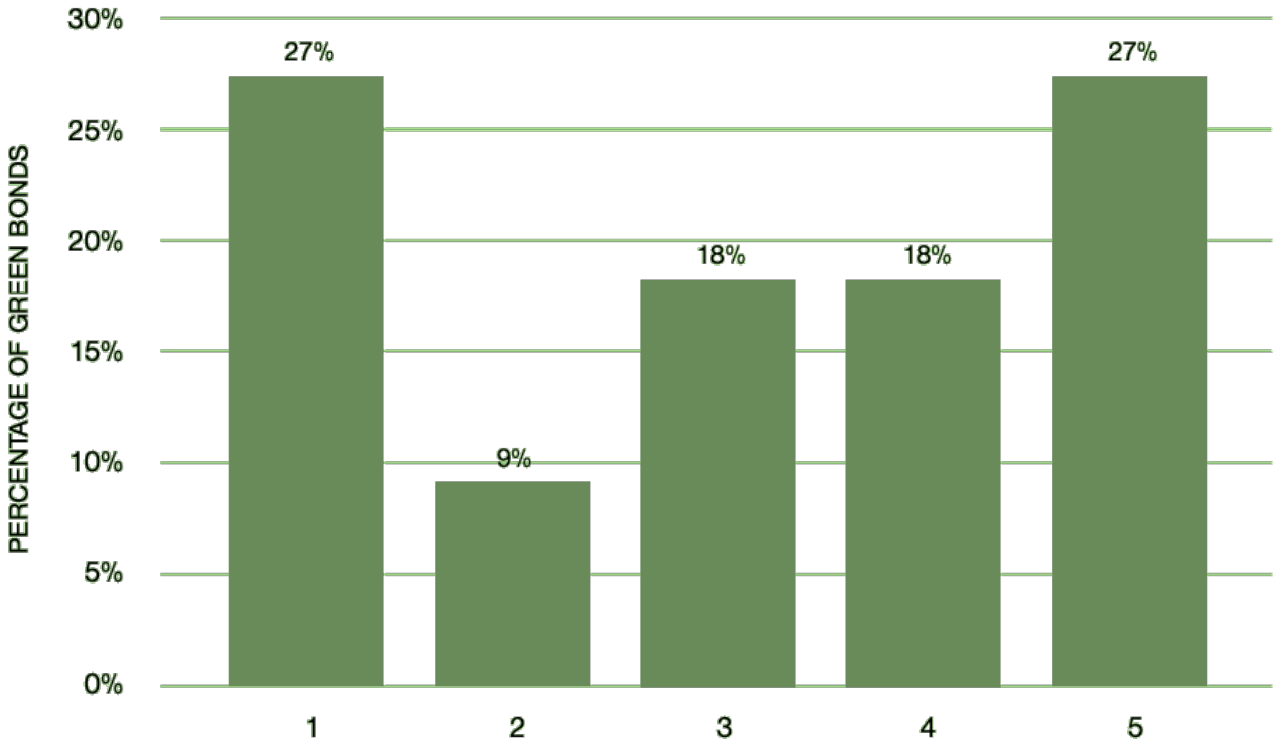
MEDIAN ISSUANCE BY SCORE



SCORES BY ISSUANCE SIZE: ALL SCORES



SCORES FOR GREEN BONDS



SCORES FOR GREEN BONDS OVER TIME

SCORE	FY 2017	FY 2018	FY 2019
1	2	1	
2			1
3			2
4	1		1
5			3

SCORES BY DEBT PURPOSE

PURPOSE TYPE	0	1	2	3	4	5
Airport		2	1	2	2	2
Bridges and Highways					1	
College, University Facility	1	1				
Health Care Facilities		4				
Hospital		1				
Multifamily Housing		1				
Multiple Capital Improvements, Public Works		4			2	
Parking		1				
Ports, Marinas		1			1	1
Power Generation/Transmission		1		3	9	3
Public Building		1				
Public Transit		1		1		
Solid Waste Recovery Facilities		1		1	1	
Street Construction and Improvements			1			
Wastewater Collection, Treatment	1	36	1	1	2	4
Water Supply, Storage, Distribution	1	49	4	4	10	7

AVERAGE SCORES BY COUNTY

TAKEAWAYS

DISCONNECT IN RISK VERSUS DISCLOSURE OF CLIMATE CHANGE

Most issuers discussed physical risks and vulnerabilities linked with climate change (Score 1). Yet, less than four in ten mentioned climate change in the OS.

ABILITY VS. ADOPTION

The distribution of scores implies an *adoption-based* issue in disclosing climate risks. Issuers who have adopted climate change into their disclosures tend to follow industry best practices.

CORRELATION WITH ISSUANCE AMOUNT

More developed disclosure practices are correlated with larger issuance amounts.

GEOGRAPHICAL VARIATIONS LIKELY NOT BASED ON RISK

Climate-related disclosure practices vary across California geographically, but variations do not appear to be based in actual geographic risk.

GREEN BONDS CORRELATION

Green bonds generally (though not always) had more developed disclosure of climate risks.

DISCLOSURE BY SECTOR

Power utilities and airports generally had the strongest disclosure practices for climate risk.

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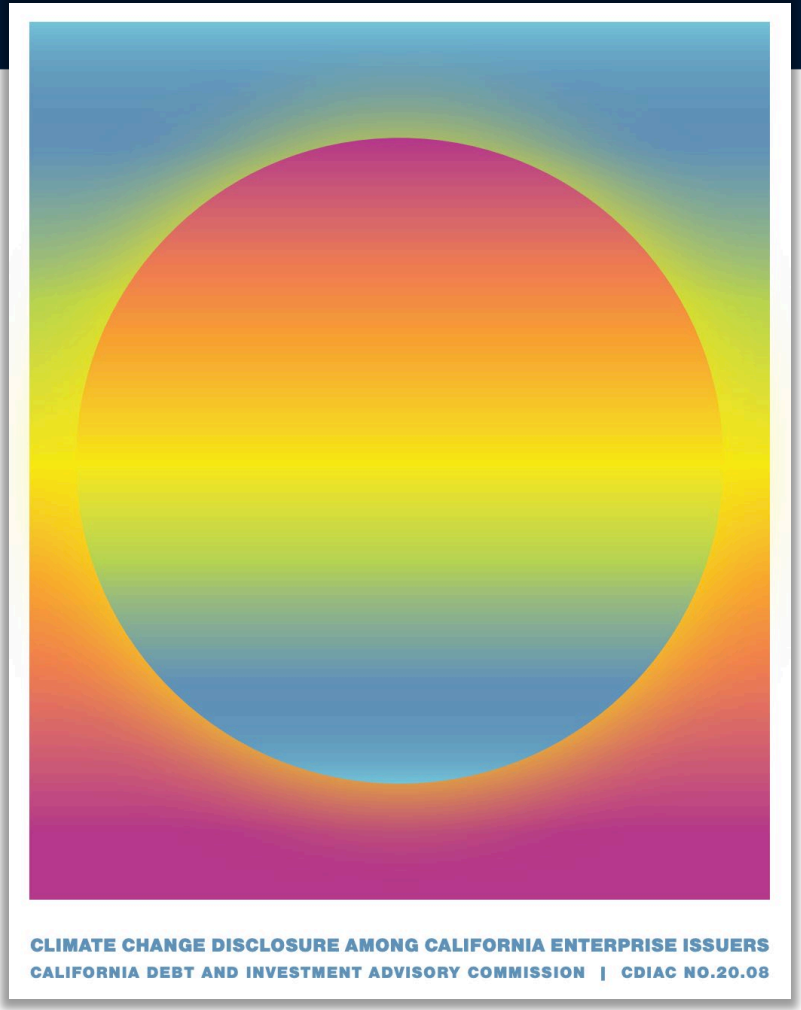


CALIFORNIA ISSUER PERSPECTIVES

MODERATOR: RICHARD FREUND | SUSTAINABLE INFRASTRUCTURE MANAGER | CDP

LAKSHMI KOMMI | DIRECTOR OF DEBT MANAGEMENT | CITY OF SAN DIEGO

MICHAEL BROWN | ENVIRONMENTAL FINANCE MANAGER | SAN FRANCISCO PUC

ABOUT CDP

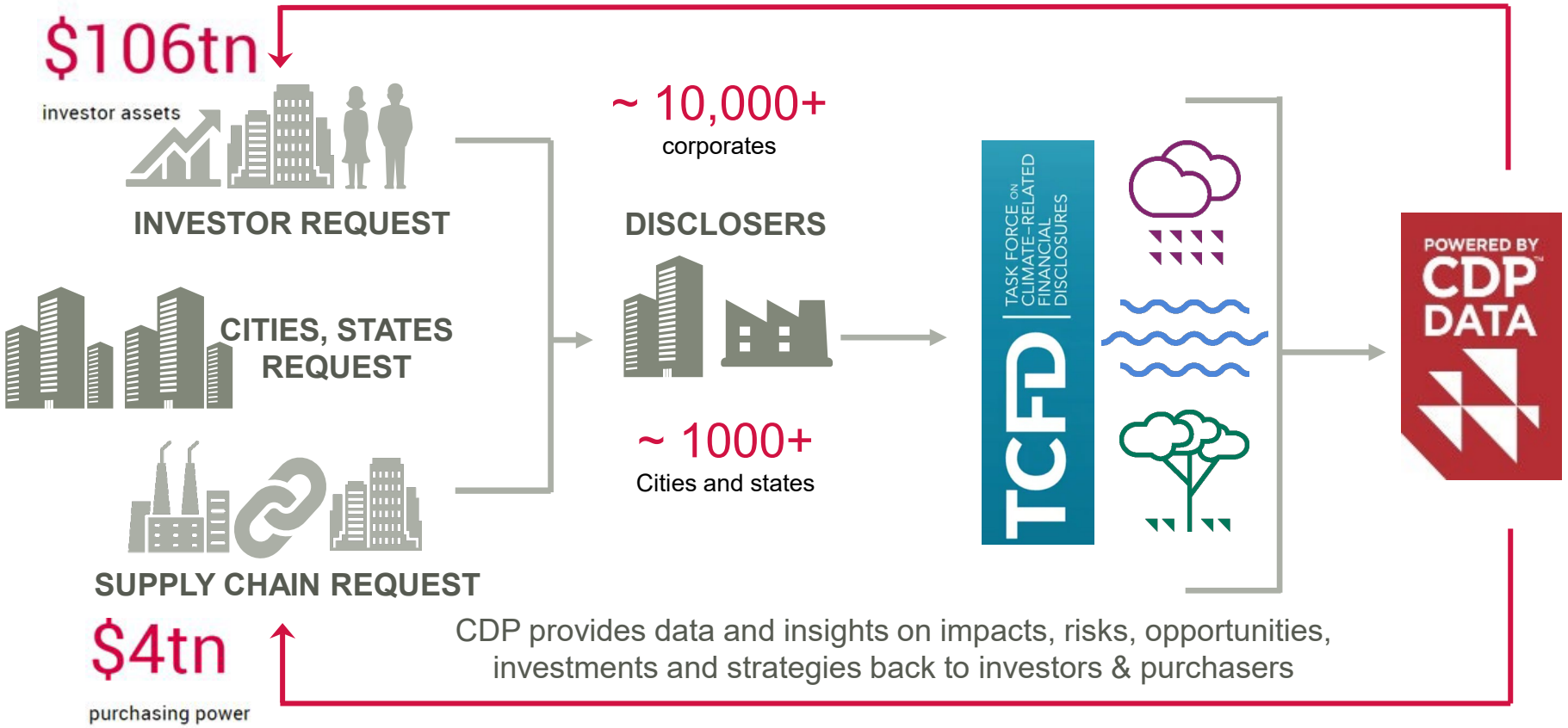
CDP is a global environmental impact non-profit working to secure a thriving economy that works for people and planet.

Information is the fundamental basis for action. We help investors, companies, states and cities to measure, understand and address their environmental impact.

The world's economy looks to CDP as the gold standard of environmental reporting with the most comprehensive dataset on corporate, state and city action.

We aim to make environmental reporting mainstream and provide detailed insights to drive action for a climate safe, water secure, deforestation free world.

HOW CDP WORKS: The Disclosure Request



OUR GLOBAL STAKEHOLDERS

560 investors with US$106 trillion in assets

150+ supply chain members with over US$4 trillion in purchasing power

10,000+ companies responded through CDP

860+ cities disclosed environmental information

125+ states measured their environmental impacts

CDP PRESENCE IN THE UNITED STATES

120+ investors with US$ 34.1 trillion in assets

60+ supply chain members with over US$1.8 trillion in purchasing power

2100+ companies responded through CDP

182 cities disclosed environmental information

7 states measured their environmental impacts

Session 2: Market Expectation for Climate Change Disclosure

City of San Diego
Lakshmi Kommi
Director of Debt Management

The City of SAN DIEGO

City of San Diego

- 8th largest city in the U.S.
- The region is a combination of mild climate, low rainfall, beautiful shorelines, mountains, and deserts in close proximity
- The City is taking a leadership position in the pursuit against climate change

Recent San Diego Bond Offerings:

Convention Center Lease Revenue Refunding Bonds Series 2020A

- Climate action information disclosed under budget related matters

Lease Revenue Refunding Bonds Series 2020A

- Climate action information disclosed under budget related matters

Senior Water Revenue Bonds Series 2020A and Refunding Series 2020B

- Climate action information disclosed under risk factors

Climate Change Disclosures:

- Assess recent studies for relevant information
- Discuss capital needs, system vulnerability, financial impacts
- Mitigation strategies, response plans
- Information concerning relative risk of repayment on bonds
- Risk Factors

Trends in Climate Change Disclosures

2012 Water Utility Bond Offering

- Water resource planning, sea levels rise, drought

Expanded disclosures from 2016-2018 for Water Utility and General Fund Offerings

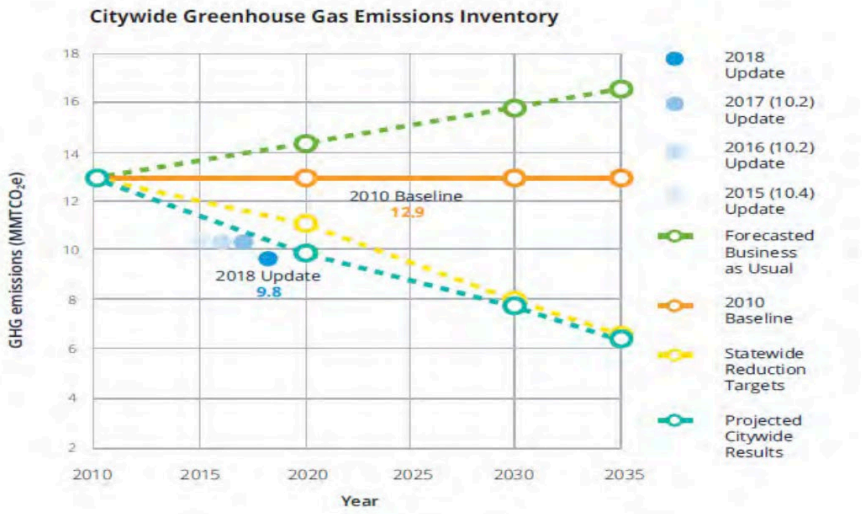
- Independent reports on sea level rise, vulnerability assessments
- Climate Action Plan adopted in 2015
- Budget priority

Recent Disclosures

- Expanded disclosures and reference any updates to the Climate Action Plan as well as new assessments

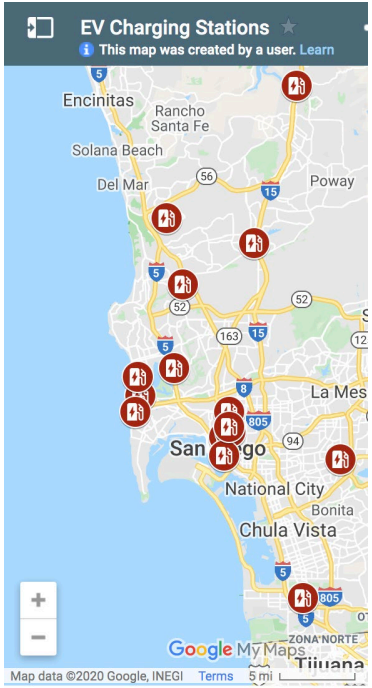
Climate Action Plan – Recent Milestones

- City adopted the Climate Action Plan in 2015
  - City is on track with actions as of 2019
    - 15% reduction in residential energy use since 2010
    - 24% reduction in greenhouse gas emissions since 2010
- San Diego Community Power JPA created in 2020 to create/purchase power



City's Green Programs

- **City Fleet Programs**
  - As of 2018, 29% of City waste trucks are Compressed Natural Gas (CNG)
  - As of 2018, 87 Zero Emission Vehicles (ZEV) and 68 hybrids are in municipal fleet
- **Qualified Energy Conservation Bonds**
  - $13.1 million installation of broad spectrum street lighting in 2010
- **Electric Vehicle (EV) Charging Stations**
  - City installed 57 EV charging stations with 68 ports at 15 locations
  - City awarded $500,000 grant from the California Energy Commission in 2014 to install 25 stations with 36 ports
- **Urban Forestry**
  - 1,798 trees planted in by City Departments in 2018
  - 13% tree canopy cover Citywide as of 2018



City's Green Programs

- **Many pedestrian and bicycle infrastructure improvements**
  - City constructed 8,800 linear feet of new sidewalks, and improved 54,000 linear feet of sidewalks in 2018
  - 294 miles of bike lanes added/improved between 2013-2018
  - New roundabouts added and traffic signal retiming to reduce emissions and improve traffic flow
  - City eliminated parking requirements for new multifamily developments within a half-mile of a public transit stop
- **Energy Programs**
  - The City is increasing installation of solar photovoltaics across City facilities
  - Solar sitting survey was completed to identify additional locations for solar photovoltaics installation
- **Pure Water Program**
  - Pure Water Program Phase 1 – North City is anticipated to produce 30 million gallons per day (MGD) of purified water for San Diego in 2025
  - Construction for the major components begins in March 2021

Sustainable City Departments

Sustainability Department

- The City's first Sustainability Officer
- Responsible for the coordination and implementation of the City's Climate Action Plan
- Lead and establish formation of Community Power

Planning Department

- Quantifies the "what-if's" to create strategies that combat climate change
- Responsible for creating and updating land use planning policies and programs that will help shape the future of the City

Environmental Services Department

- Pursues waste management strategies that emphasize waste reduction and recycling, composting, and environmentally sound landfill management
- Zero Waste Plan adopted in 2015 with the goal to reach zero waste by 2050

San Francisco Water Power Sewer

Services of the San Francisco Public Utilities Commission

Climate Change Disclosure San Francisco Public Utilities Commission

October 22, 2020
Michael Brown, Environmental Finance Manager

City and County of San Francisco

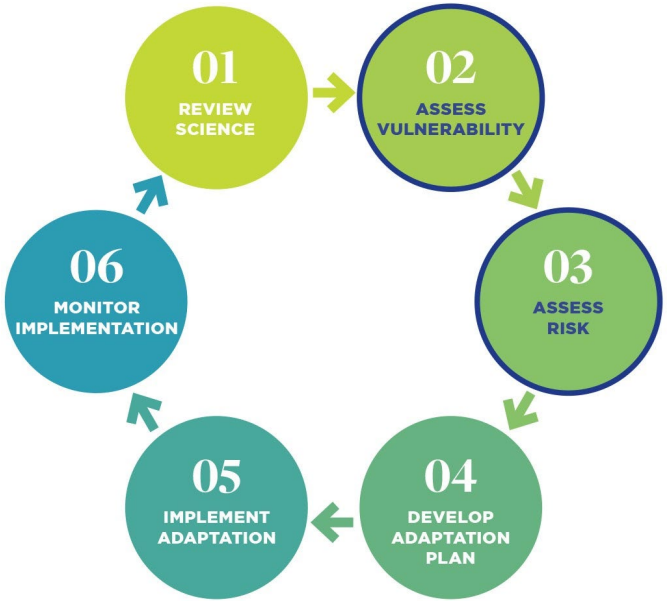
San Francisco is on a peninsula and encompass over 93 square miles, 49 square miles of land and the balance tidelands and bay. The City has a population of approx. 900,000

The San Francisco Public Utilities Commission (SFPUC) is a department of the City and County of San Francisco and is responsible for the operation, maintenance and development of three separate utilities:

- **Water Enterprise**. Provides drinking water to approx. 2.7M people in the Bay Area
- **Wastewater Enterprise**. Provides wastewater and stormwater collection, treatment and disposal services within the City's geographic boundaries
- **Power Enterprise**. Provides electric power to meet the municipal requirements of the City, as well as irrigation districts located in the central valley of California, and to certain commercial customers

Climate Change Science

- Sea levels will continue to rise in the future
- Coastal areas are at risk of substantial flood damage over time
- Four reports drive planning/disclosure:
  - *Sea Level Rise Vulnerability and Assessment Consequences (2020)*
  - *Fourth Climate Change Assessment* (2018, State of California)
  - *Rising Seas in California: An Update on the Rise in Sea Level Science* (2018)
  - *Sea Level Rise Action Plan* (2016)



Sea Level Rise Action Plan Framework

Source: Sea Level Rise Vulnerability and Assessment Consequences Report

Water Enterprise: Potential Climate Change Impacts

- Reduction in average snowpack due to a rise in the snowline and a shallower snowpack in the low- and medium-elevation zones, such as in the Tuolumne River basin, and a shift in snowmelt runoff to earlier in the year
- Changes in the timing, intensity and annual variability of precipitation, and an increased amount of precipitation falling as rain instead of as snow
- Long-term changes in watershed vegetation and increased incidence of wildfires that could degrade water quality
- Sea-level rise, which could cause inundation of Water Enterprise assets and/or an increase in saltwater intrusion into groundwater basins
- Increased water temperatures with accompanying adverse effects on some fisheries and water quality
- Changes in water demand

Wastewater Enterprise: Potential Climate Change Impacts

Flooding

- Climate change models show varied results in terms of projected rainfall patterns, making proactive, long-term planning difficult.
- Significant changes in rainfall (intensity, duration or frequency) could substantially alter the wastewater system's stormwater and wastewater collection and storage function.

Infiltration and sea level rise

- Projected rises in sea level and could result in a backflow (or inflow) of San Francisco Bay water into the wastewater system and increased infiltration due to higher groundwater in coastal areas.
- The enterprise has already begun to experience occasional inflows and infiltration from the San Francisco Bay into its wastewater system during certain high tides.

Power Enterprise: Potential Climate Change Impacts

- Low- and medium-elevation zones, such as in the Tuolumne River basin, will see a shift in snowmelt runoff to earlier in the year, that could alter power generation
- Changes in the timing, intensity, and variability of precipitation, increased amount of precipitation falling as rain, which could alter power generation
- Changes in water demand

Disclosure Process

Who is involved

- Staff - Finance
- Staff - content experts

When to report

- Primary Offerings
- Ongoing Market Disclosure (Annual and Voluntary Disclosure)

What is included

- Authoritative sources
- Evolving science
- Ensuring that we know what we are supposed to know
- City Attorney/Disclosure counsel consultation (for Primary Offering)

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PANEL DISCUSSION