Global Climate Action Summit Commitments

4000+ Delegates
25+ Sessions
325+ Affiliate Events
500+ Major Climate Commitments

Taking Ambition to the Next Level

Charles Sheehan, Policy and Public Affairs
San Francisco’s Re-Affirmed Commitments

- Achieve **net zero emissions** by 2050
- Develop an **inclusive climate action** plan by 2020
- Source **100% renewable electricity** by 2030
San Francisco’s New Commitments

**Net Zero Carbon Buildings**
- Ensure all new buildings operate at net zero carbon by 2030 and all-existing buildings by 2050

**Advancing Towards Zero Waste**
- Reduce waste generation 15% and disposal to landfill and incineration 50% by 2030

**Green Bonds**
- Issue more Green Bonds
Zero Waste Commitment
Zero Waste Goal Drives Progress

- **2003**: Zero Waste goal set
- **2006**: Construction & demolition debris recovery ordinance adopted
- **2009**: Mandatory recycling and composting ordinance adopted
- **2012**: Bag reduction ordinance expanded
- **2016**: Food service waste reduction ordinance expanded
- **2017**: Smaller trash bins rolled out
What is Zero Waste?
Taking Ambition to the Next Level

GLOBAL CLIMATE ACTION SUMMIT

HEALTHY ENERGY SYSTEMS
INCLUSIVE ECONOMIC GROWTH
SUSTAINABLE COMMUNITIES
LAND AND OCEAN STEWARDSHIP
TRANSFORMATIVE CLIMATE INVESTMENTS
Zero Waste Pledge 1

Reduce Generation 15% by 2030
Zero Waste Pledge 2

Reduce Disposal 50% by 2030
SF Environment

Our home. Our city. Our planet.

A Department of the City and County of San Francisco
Green Bonds Presentation to the San Francisco Commission on the Environment, Policy Committee

Richard Morales, Debt Manager
Michael Brown, Environmental Finance Manager

San Francisco Public Utilities Commission
October 22, 2018
What are Green Bonds?

- Green bonds are like conventional bonds in how they are sold and repaid.
- Proceeds are designated to projects that address climate change through adaption or mitigation.
- Bonds may be self-certified or independently certified against outside criteria, i.e., Climate Bonds Initiative (CBI), Green Bonds Principles.
- In 2017, $162B Certified Green Bonds issued, US tax-exempt municipal issuance about 10% of total (UN climate goal is $1T by 2020).
## CBI Sector-Specific Criteria

<table>
<thead>
<tr>
<th>ENERGY</th>
<th>TRANSPORT</th>
<th>WATER</th>
<th>BUILDINGS</th>
<th>LAND USE &amp; MARINE RESOURCES</th>
<th>INDUSTRY</th>
<th>WASTE</th>
<th>ICT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar</td>
<td>Private travel</td>
<td>Water monitoring</td>
<td>Residential</td>
<td>Agriculture</td>
<td>Cement production</td>
<td>Preparation</td>
<td>Broadband networks</td>
</tr>
<tr>
<td>Wind</td>
<td>Public transport</td>
<td>Water storage</td>
<td>Commercial</td>
<td>Commercial Forestry</td>
<td>Steel, iron &amp; aluminium production</td>
<td>Reuse</td>
<td>Telecommuting software and service</td>
</tr>
<tr>
<td>Geothermal</td>
<td>Freight rail</td>
<td>Water treatment</td>
<td>Products &amp; systems for efficiency</td>
<td>Ecosystem conservation &amp; restoration</td>
<td>Glass production</td>
<td>Recycling</td>
<td>Data hubs</td>
</tr>
<tr>
<td>Bioenergy</td>
<td>Aviation</td>
<td>Water distribution</td>
<td>Urban development</td>
<td>Fisheries &amp; aquaculture</td>
<td>Chemical production</td>
<td>Biological treatment</td>
<td>Power management</td>
</tr>
<tr>
<td>Hydropower</td>
<td>Water-borne</td>
<td>Flood defence</td>
<td>Supply chain management</td>
<td>Fuel production</td>
<td>Waste to energy</td>
<td>Landfill</td>
<td>Radioactive waste management</td>
</tr>
<tr>
<td>Transmission &amp; distribution</td>
<td>Storage</td>
<td>Storage</td>
<td>Storage</td>
<td>Storage</td>
<td>Storage</td>
<td>Storage</td>
<td>Storage</td>
</tr>
</tbody>
</table>

- **Certification Criteria approved**
- **Criteria under development**
- **Due to commence**

Source: CBI (Sept 2018)
A Global Effort:
2017 Green and Climate Aligned Bonds

Source: CBI (July 2018)
SFPUC: Three Enterprise Credits  
Over $1.4B Green Bonds Issued (20% of total)

Water Enterprise provides drinking water to nearly 2.7 million people in Bay Area
  • $765M Green Bonds Issued (CBI Certified)

Wastewater Enterprise operates City’s stormwater and sewage collection and treatment system
  • $648M Green Bonds Issued (CBI Certified)

Power Enterprise operates three hydroelectric generation facilities for municipal purposes
  • $32M Green Bonds Issued (Self Certified)
Why Issue Green Bonds?

• Broadens investor base for SFPUC and other SF agencies
• Opportunity for lower cost of capital
• Aligns with San Francisco climate leadership
  • SF has reduced greenhouse gas emissions by 30% from 1990 levels during 20% population increase
  • SF Mayor recently committed to four key policy goals:
    • **Zero Waste**: Reduce waste by 15% and landfill disposal by 50% by 2030 (on top of current 97% green waste diversion)
    • **Decarbonizing Buildings**: Net-zero buildings by 2050
    • **Green Bonds**: City signed Green Bonds Pledge to finance all eligible projects with green bonds
    • **100% Renewable Energy**: All renewables by 2030
## Green Bonds Considerations

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Attract New Investors</td>
<td>• Time and Expense for Certification</td>
<td>• Potential for lower borrowing costs, especially for taxable bonds</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Marketing and PR Benefits</td>
<td>• Ongoing Reporting Requirements</td>
<td>• Finance low-carbon, climate resilient infrastructure to meet Paris Agreement target</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Reputational Benefits</td>
<td>• Liability Concerns</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Rewarded if already taking climate change into account</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What’s Next?

• SFPUC
• CCSF
• Other Departments
Questions