5T (Five Teams)

What Every Organization Needs to Fight Climate Change

Baltimore, MD
Dec 7, 2021

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Agenda

- ❑ Team 1. **Strategy Team:** Why climate change is a quality issue.
- ❑ Team 2. **Adaptation Team**: How to protect our vulnerable assets.
- ❑ Team 3. **Mitigation Team**: How to lower our greenhouse gases emissions.
- ❑ Team 4. **Reporting Team**: Managing greenhouse gas data.
- ❑ Team 5. **Opportunity Team**: How to profit from the fight against climate change.

Please type your questions in the CHAT

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1. How to conduct an adaptation project

U.S. Climate Resilience Toolkit

1. Explore Hazards
2. Assess Vulnerability & Risks
3. Investigate Options
4. Prioritize & Plan
5. Take Action

National Oceanic and Atmospheric Administration (NOAA)

Source: https://toolkit.climate.gov/

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Cambridge, Maryland, October 2021

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"Nuisance Flooding"
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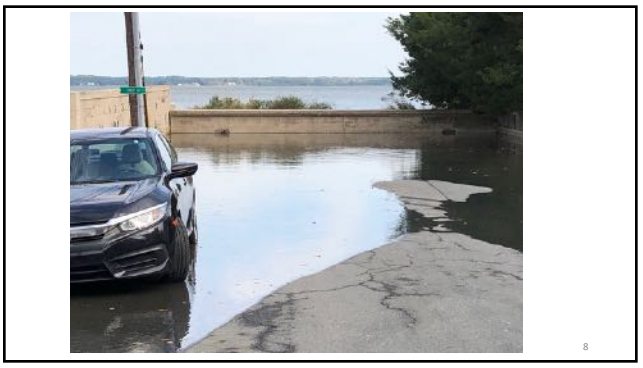
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The 1-percent annual chance flood is also referred to as the 100-year flood.
GREAT MARSH PARK
FLOOD VULNERABILITY
Sources and geographic extent of flooding.
WAVES AT GREAT MARSH PARK
Photograph of waves taken at Great Marsh Park boat launch and parking area. Photo Credit: Bruce O. Benson
1% ANNUAL CHANCE FLOOD
The FEMA regulated 1% annual chance floodplain impacts the shoreline, roadway and properties within this area. The park's interior, due to increased land elevation, is not impacted.
CLIMATE READY ACTION BOUNDARY (CRAB)
The FEMA floodplain limit remains inundated with an additional 3 feet of water added to it. The Newly Inundated area shows how 3 additional feet of water moves new areas of the landscape based on the land elevation profile.
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Great Marsh Park & 1 % Annual Chance Floodplain
FEMA provides communities with updated Flood Insurance Rate Maps (FIRMs) and Flood Insurance Study (FIS) Reports that focus on the probability of floods and that show where flooding may occur as well as the calculated 1-percent-annual-chance flood elevation. The 1-percent-annual-chance flood, also known as the base flood, has a 1% chance of being equaled or exceeded in any given year.
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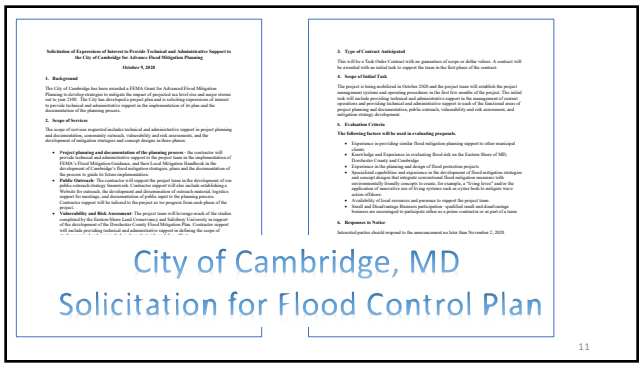
Solicitation of Expressions of Interest to Provide Technical and Administrative Support to the City of Cambridge for Advance Flood Mitigation Planning
October 9, 2020
1. Background
2. Scope of Services
3. Type of Contract Anticipated
4. Scope of Initial Task
5. Evaluation Criteria
6. Responses to Notice
City of Cambridge, MD
Solicitation for Flood Control Plan
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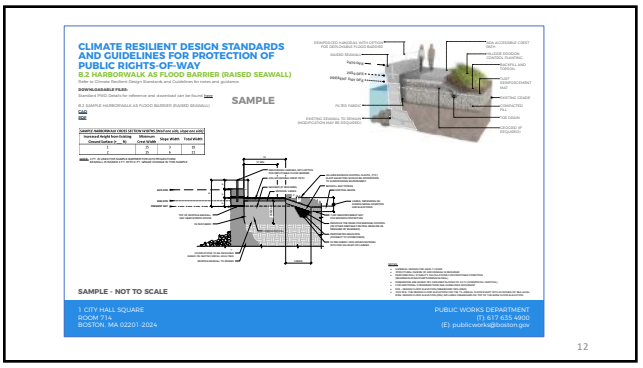
CLIMATE RESILIENT DESIGN STANDARDS AND GUIDELINES FOR PROTECTION OF PUBLIC RIGHTS-OF-WAY
B.2 HARBORWALK AS FLOOD BARRIER (RAISED SEAWALL)
SAMPLE
SAMPLE - NOT TO SCALE
1 CITY HALL SQUARE
ROOM 714
BOSTON, MA 02201-2024
PUBLIC WORKS DEPARTMENT
(T) 617 635 4900
(E) publicworks@boston.gov
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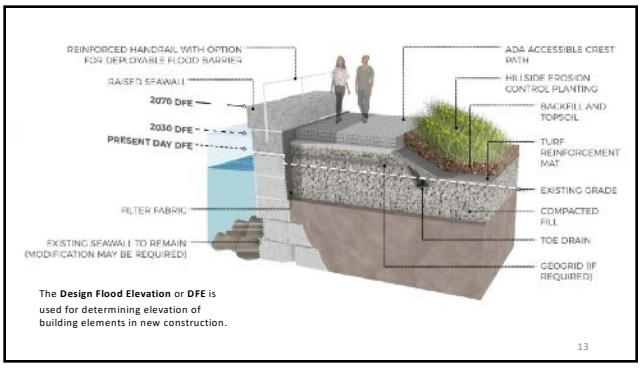

The **Design Flood Elevation** or **DFE** is used for determining elevation of building elements in new construction.

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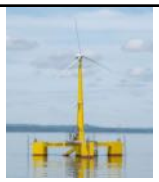

Agenda

- Team 3. **Mitigation Team**: How to lower our greenhouse gases emissions.

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CO_2 from Burning Coal

- Coal (carbon content of 78%)
  1.00 short ton (2,000 pounds) of co
  2.86 short tons of carbon dioxide
- Atomic weight

Carbon	12	12
Oxygen	16	32
Carbon Dioxide (CO_2)		**44**

- My House
  1026 Therms of "natural gas"
  5.6 tons of CO_2 (equivalents) for 100 years

Source: U.S. Energy Information Administration

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THE BALTIMORE SUN

BGE needs smart grid, not natural gas infrastructure

Letter to the Editor
10-07-2021

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Greenhouse Gases (GHGs)

GWP = Global Warming Potential

Kyoto Gases:

- Carbon dioxide (CO_2) GWP 1
- Methane (CH_4) GWP 21
- Nitrous oxide (N_2O) GWP 310
- Hydrofluorocarbons (HFCs) (HFC 134a) GWP 1,300 → 1,430
- Perfluorocarbons (PFCs) (CF_4) GWP 6,500
- Sulphur hexafluoride (SF_6) GWP 23,900

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- Nitrogen trifluoride (NF_3) GWP 17,200
- Hydrofluorinated ethers (HFEs) GWP 11 → 14,900

Live Online CC-P® Prep Program #3
GHG-101: Basics of GHG Accounting, Reporting & Disclosing GHG Emissions (July 27, 2020)

ACCO

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How to drive fossil fuels out of the US economy, quickly

In the runup to World War II, President Franklin Delano Roosevelt enlisted the entire US economy in an effort to scale up production of war material. All of the country's resources were bent to the task. In 1939, the US had 1,700 aircraft; in 1945, it had 300,000 military aircraft and 18,500 B-24 bombers.

Source: https://www.vox.com/energy-and-environment/21349200/climate-change-fossil-fuels-rewiring-america-electrify

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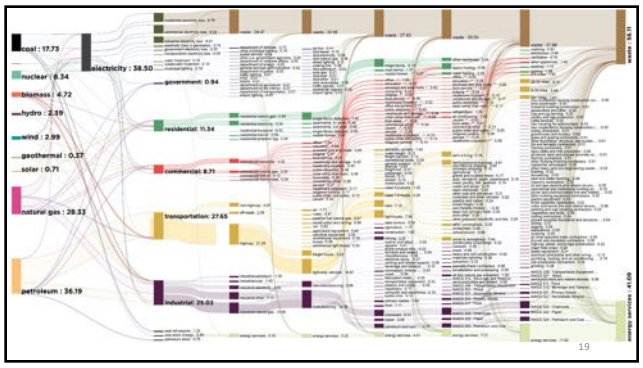
coal : 17.73
nuclear : 8.34
biomass : 4.72
hydro : 2.19
wind : 2.99
geothermal : 0.37
solar : 0.71
natural gas : 28.53
petroleum : 36.19
electricity : 38.50
government : 0.94
residential : 11.34
commercial : 8.71
transportation : 27.65
industrial : 29.03
19

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amazon
Electrify: An Optimist's Playboo
Clean Energy Future Hardcover
2021
ELECTRIFY
AN OPTIMIST'S PLAYBOOK FOR OUR CLEAN ENERGY FUTURE
SAUL GRIFFITH
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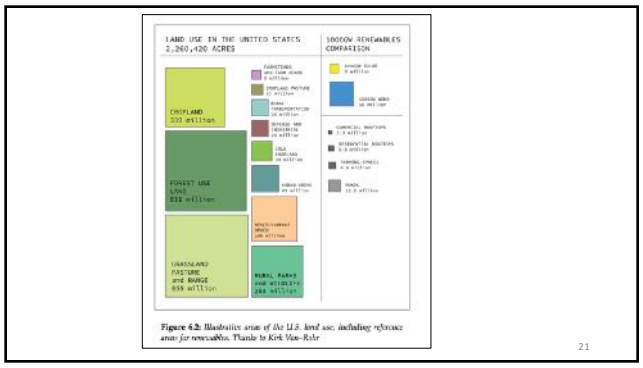
LAND USE IN THE UNITED STATES
2,260,420 ACRES
100GW RENEWABLES
COMPARISON
CROPLAND
300 million
FOREST USE
850 million
GRASSLAND
PASTURE
AND RANGE
655 million
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