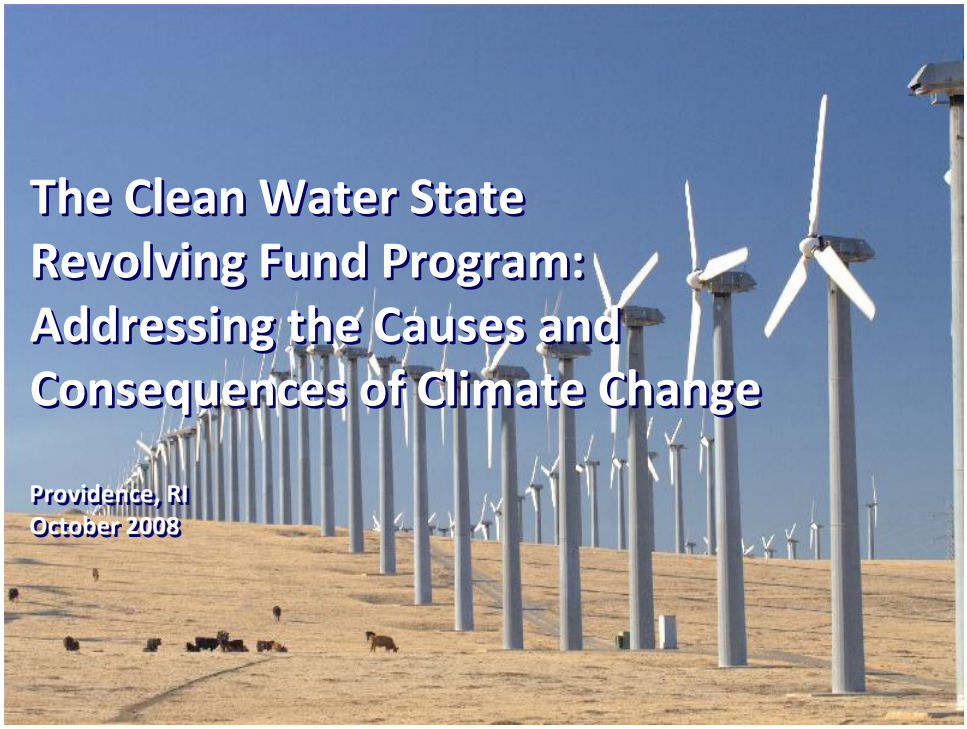
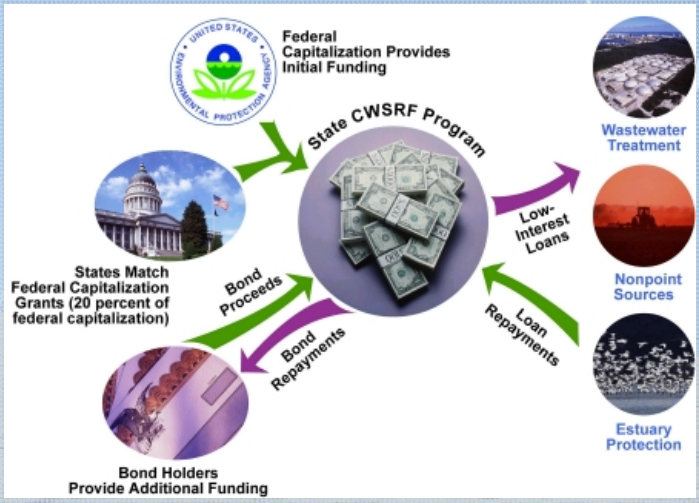


CWSRF Overview

Clean Water State Revolving Fund

- Established by CWA Amendments of 1987
- 51 separate state programs
- Low interest loans for water quality
- Borrowers include municipalities, businesses, non-profits, and individuals
- $5.8 billion in assistance in 2008
- $69 billion in assistance since 1988 (22,700 loans)

How the CWSRF Works



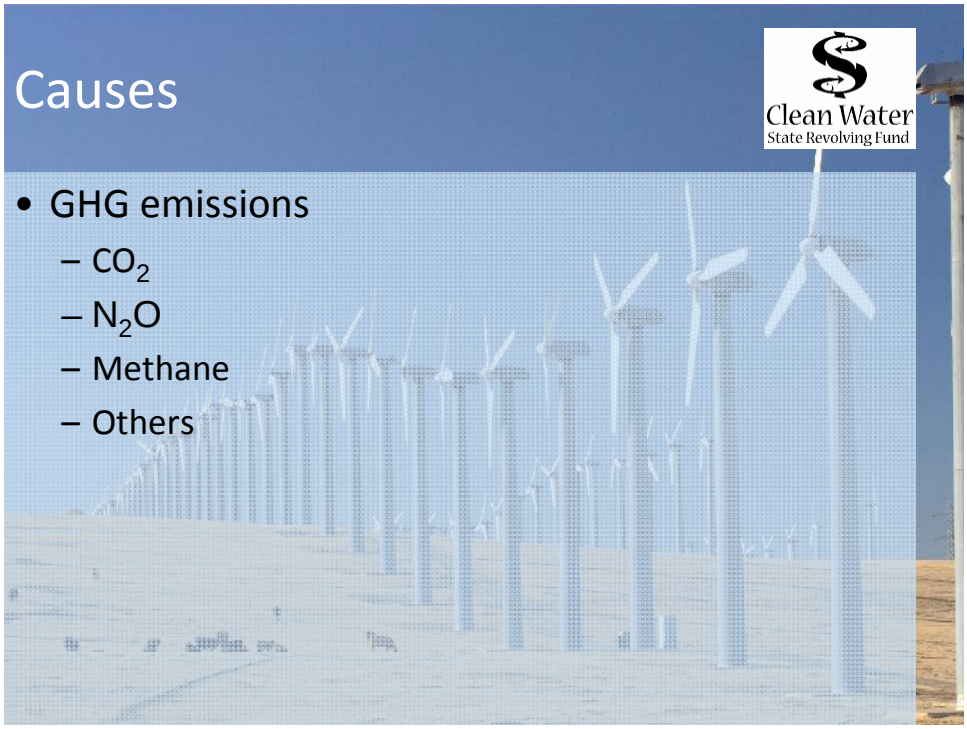
Method

Causes and Consequences

Prevention and Response

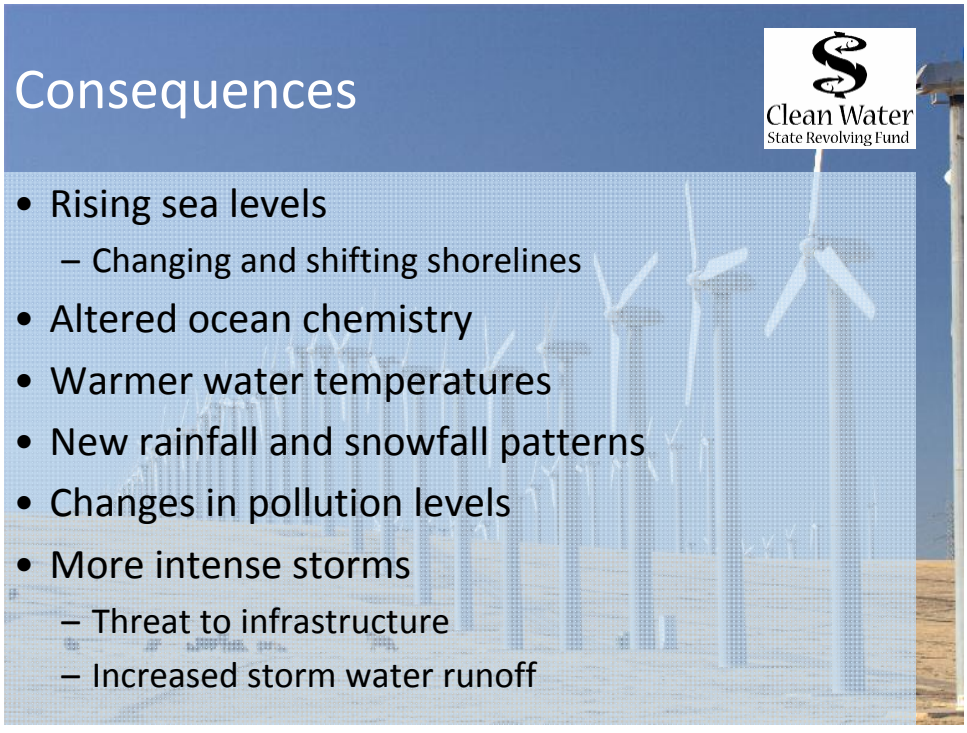
Causes

- GHG emissions
  - CO_2
  - N_2O
  - Methane
  - Others



Consequences

- Rising sea levels
  - Changing and shifting shorelines
- Altered ocean chemistry
- Warmer water temperatures
- New rainfall and snowfall patterns
- Changes in pollution levels
- More intense storms
  - Threat to infrastructure
  - Increased storm water runoff



Role of the CWSRF

- Prevention
  - Energy Conservation
  - Water Efficiency
  - Carbon Sequestration
  - Methane Capture
  - N_2O reduction
- Response
  - Stormwater management
  - Water conservation and reuse
  - Infrastructure relocation

Water Conservation and Reuse

- Capital projects to reduce the water use and diffuse discharge of nonpoint source pollution
- Incentive programs to conserve water, including the development and implementation of public education programs on water conservation and efficiency
- Reduced energy needs result in reduced GHG emissions
- Reduction in use of limited water resources

Water Conservation and Reuse

- Before a POTW
  - Publicly owned projects to reduce water use
  - Publicly owned stormwater treatment and reuse
- At a POTW
  - Wastewater treatment up to and including water quality sufficient to meet drinking water standards
- After a POTW
  - Publicly owned distribution lines to support effluent reuse/recycling uses, including piping the effluent to the property line of a privately owned effluent consumer
  - Publicly owned equipment to reuse effluent at public facilities

Water Conservation and Reuse

- Cheyenne, Wyoming
  - $40 million CWSRF loan to renovate and upgrade water reclamation facilities to remove ammonia
  - Reclaimed water meets WDEQ standards for land application to irrigate green spaces in the community
    - Golf courses
    - Ball fields
    - Greenways
  - Conserves water
  - Extends the life of the City's recently constructed water treatment facility

Energy Conservation and Efficiency

- Traditional wastewater and stormwater treatment facilities consume energy
- The CWSRF can fund capital costs needed to power these publicly owned treatment works (POTWs) and strongly encourages the implementation of energy conserving technology
  - Energy efficient pumps
  - Clean energy technology (i.e. solar, wind, hydroelectric, geothermal, etc.)
  - Purchase of energy audits that have a reasonable prospect of resulting in a capital project
  - Pro-rata share of capital costs for offsite publicly owned clean energy facilities that provide power to a POTW

Energy Conservation and Efficiency

- Atlantic County, New Jersey
  - $2.25 million CWSRF loan to install solar panels at its wastewater treatment facility
  - 660,000 kilowatt hours of electricity generated each year
    - Equal to electricity for 62 homes or 388 barrels of crude oil per year
  - Energy cost savings projected at $115,000 per year

Carbon Sequestration

- Aquatic environments, green spaces, and geologic carbon storage are efficient carbon sinks
- Eligible projects:
  - Wetlands restoration
  - Land Conservation
  - Tree plantings, green roofs, etc.

Methane Capture

- Landfills, treatment facilities, and animal feeding operations (AFOs) emit significant amounts of methane into the atmosphere
- Eligible projects:
  - Facilities that treat and/or make beneficial use of AFO waste
  - Capping and capture of methane from landfills

Nitrous Oxide

- Wastewater treatment plants are a leading anthropogenic source of nitrous oxide (N_2O)
- Eligible projects:
  - Any method employed by a publicly-owned wastewater treatment facility to reduce N_2O emissions

Stormwater Management

- Protecting the ability of the environment to naturally sequester carbon
- Eligible projects:
  - Implementation of Agricultural Better Management Practices
  - Construction of Green Infrastructure
  - Clean up and containment of contaminated sites, such as brownfields, abandoned mines, underground storage tanks, and landfills

Stormwater Management

- Washington
  - Soil erosion on cultivated and heavily plowed land in Eastern Washington
    - Releases large amounts of CO2 trapped in organic matter
  - Spokane County Conservation District of Eastern Washington
    - CWSRF loans to provide growers with access to direct seed equipment.
    - Minimizes soil disturbances, reducing erosion and sustaining soil on the farm.

Relocation

- Increase of storm frequency and intensity, as well as the projections of sea level rise, threatens coastal infrastructure
- 2007 Intergovernmental Panel on Climate Change (IPCC) identifies the “gradual inundation” of natural systems and human infrastructure as the primary impact of sea level rise.
- Eligible projects:
  - Relocation of a POTW to drier and higher elevations

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