WR2: Support Water Conservation

Brief Summary:
This measure will promote water conservation, including reduced water consumption and increased on-site water recycling, in residential, commercial and industrial buildings for the purpose of reducing greenhouse gas (GHG) emissions.

Purpose:
The purpose of this measure is to reduce indirect emissions of GHGs associated with the electricity use required to capture, use, convey, store, conserve, recycle and treat water and wastewater in the Bay Area.

Source Category:
Water conveyance and wastewater treatment.

Regulatory Context and Background:
California's water system includes a complex infrastructure that has been developed to support the capture, use, conveyance, storage, conservation, recycling and treatment of water and wastewater. Statewide, the majority of developed water resources (80 percent) are used for agriculture. However, a significant amount of water is also used to support residential, commercial, and industrial activities. The State Water Resources Control Board (State Water Board) ensures high water quality by setting statewide policy for waste and storm water discharge. Regional water quality control boards make water quality decisions for their regions, issuing permits and setting standards for water discharge.

In 2009, Governor Schwarzenegger signed into law the Water Conservation Act, which requires that urban water demand be reduced by 20 percent by the year 2020. The Act also requires urban water suppliers to calculate their baseline water use and set water use targets for 2015 and 2020 based on guidance from the Department of Water Resources (DWR). A report to the Legislature on progress meeting these targets is scheduled for 2016. On April 1, 2015, Governor Brown issued an Executive Order directing the State Water Board to implement mandatory water reductions in urban areas to reduce urban water use by 25 percent statewide. In response, the State Water Board adopted an emergency conservation regulation setting this target, taking effect on May 18, 2015.

In the Bay Area, over 400 billion gallons of water is used each year. Energy associated with this water consumption results in air pollutant emissions, including GHGs, criteria air pollutants, and toxic air contaminants. Greenhouse gas emissions from the water sector are primarily associated with the energy required to pump, convey, recycle, and treat water and wastewater throughout the Bay Area. These are referred to as *indirect* GHG emissions, as they are generated at electric power plants, rather than at the point of water use. Greenhouse gases are also *directly* emitted from publicly owned treatment works (POTW) that treat water and wastewater (see WR1).

The Air District does not have regulatory authority over water consumption and the resulting indirect GHG emissions. Therefore, the Air District is taking a supportive and collaborative role to encourage reductions in water use throughout the Bay Area.

Implementation Actions:
Air District will:

- Support efforts of local governments in achieving and exceeding state water use reduction goals by:
  - Disseminating best practices that reduce water consumption and increase on-site water recycling in new and existing buildings;
  - Encouraging the adoption of water conservation ordinances; and
  - Incorporating public outreach and education on water conservation into the Air District's outreach programs.
- Incorporate best practices for water use into local plan guidance, CEQA guidance, and other resources for cities and counties.

Emission Reductions:
Due to the voluntary nature of this measure, estimating potential emission reductions would rely on many assumptions and speculations, and is therefore not possible at this point in time.

Emission Reduction Trade-offs:
None identified.

Cost:
Costs would vary. Available resources would be determined through the Air District's budget process.

Co-Benefits:
Aside from reducing indirect GHGs, this measure has the potential to reduce water consumption throughout the Bay Area which is increasingly important during periods of drought. Water conservation and recycling will continue to be crucial as population and demand increase. In addition, a Stanford University study has argued that the on-going drought in California is linked to climate change, which could mean that future periods of drought could be more frequent or prolonged. Thus, water conservation helps reduce GHGs *and* is a critical adaptation strategy.

Issues/Impediments:
It is not anticipated that there would be significant impediments due to the voluntary nature of this control measure.

Source(s):

1. California Air Resource's Board Scoping Plan: http://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf
2. SPUR, "The Future of Water", March 2013: http://www.spur.org/publications/article/2013-03-07/future-water
3. Bay Area Integrated Water Management Plan, September 2013: http://bairwmp.org/docs/2013-bairwm-plan-update/2013-final-plan/San%20Francisco%20Bay%20Area%20IRWMP%20Final_September%202013.pdf/view
4. Bulletin of the American Meteorological Society, "The Extraordinary California Drought of 2013/2014: Character, Context, and the Role of Climate Change"Tsiang, M., Haugen, M., Singh, D., Charland, A., Rajaratnam, B., Diffenbaugh, N. S. 2014; 95 (9): S3-S7