

# Preparing for the Future of Clean Water

*Leveraging Opportunities and Addressing Challenges*

*Gary W. Darling*

*President*

*California Association of Sanitation Agencies*



*National Association of Clean Water Agencies  
2012 Winter Conference : Los Angeles*

*February 15, 2012*

# California Association of Sanitation Agencies (CASA)



- CASA member agencies represent more than 90 percent of California's sewer population
- Provides leadership, advocacy and information to our members, legislators and the public
- A proactive voice for scientific solutions and best management practices for wastewater treatment, recycled water, biosolids management and more recently, climate change issues.
- Promotes partnerships on clean water and beneficial reuse issues that protect public health and the environment

# Clean Water Challenges

NACWA identifies the following 21<sup>st</sup> Century Challenges:

- Affordability – Financial Capability
- Clean Water Act Jurisdiction
- Climate Change
- Energy–Water Nexus
- Green Infrastructure
- Infrastructure Funding
- Watershed-Based Solutions



*Graphic courtesy of re-energy.ca*



# Obstacles to Clean Water and Energy

- Regulatory Silos
- “Patchwork” of regulations – local/state/federal
- Regulations Established Ahead of Science
- Political Issues
- “out of sight / out of mind”: need for outreach & education

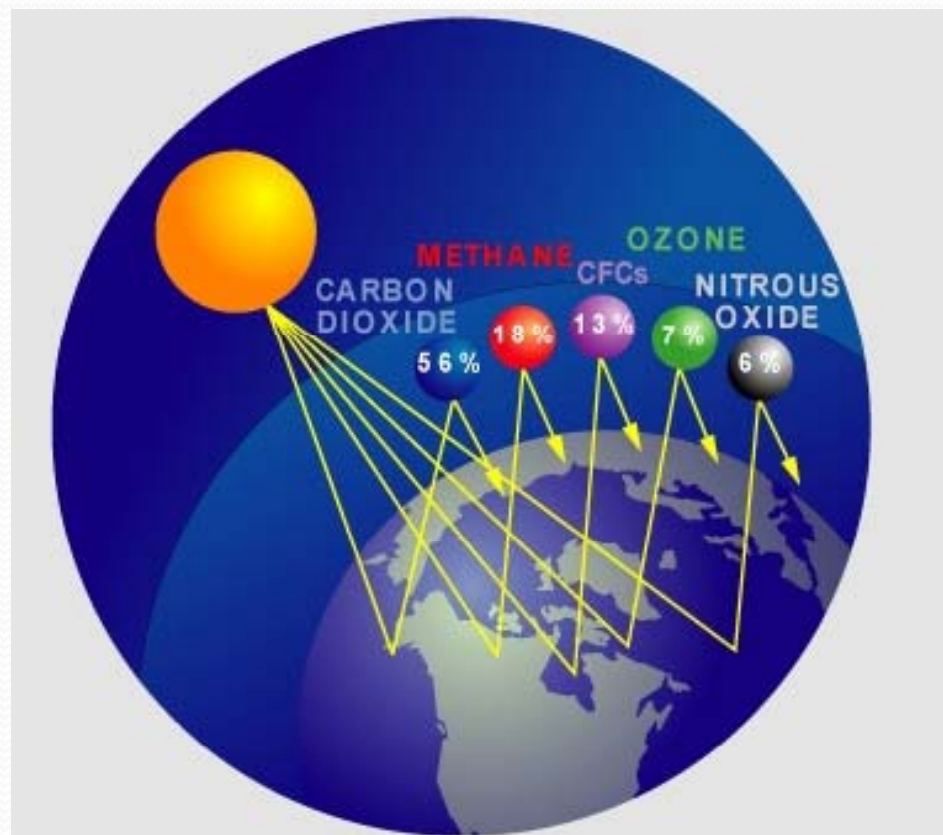


# Climate Change

Is it real?

Impacts on Energy and Water Resources?

How best to invest public dollars?





“WEF believes that wastewater treatment plants are not waste disposal facilities, but rather water resource recovery facilities that produce clean water, recover nutrients (such as phosphorus and nitrogen), and have the potential to reduce the nation’s dependence upon fossil fuel through the production and use of renewable energy.”

*Water Environment Federation, October 14 2011*





“.....just one-tenth of 1 percent of municipal wastewater nationally was recycled into local supplies in 2010.”

*The New York Times, Feb 9 2012*



# Emerging Technologies for Energy Recovery from Wastewater

- Pyrolysis
- Gasification
- Algae Culture
- Microbial Fuel Cells and Other Microbial Conversions





# Potential Incentives



- Clean Renewable Energy Bonds (**CREBs**) and Qualified Energy Conservation Bonds (**QECBs**)
- Renewable Energy Production Incentives (**REPI**)
- State Energy Programs (**SEPs**)
- State Renewable Portfolio Standards (**RPS**)
- Production Tax Credits (**PTCs**) or Investment Tax Credits (**ITCs**)
- Grants in Lieu of Tax Credits
- Modified Accelerated Cost Recovery System (**MACRS**) & Bonus

# Challenges for Biosolids to Energy

## 1. Technical

- Limited U.S. experience with thermal conversion-related technologies
- Variations in permitting requirements and restrictions by state

## 2. Financial

- Lack of financial incentives and support
- Little full-scale operating and cost history





# Challenges for Biosolids to Energy (cont.)



## 3. Legislative

- Wastewater biogas and biosolids are often overlooked as a potential renewable energy option in these policies
- Biosolids should be a renewable biomass fuel, but have not been identified as such under various federal energy policies
- Definitions that guide the federal and state programs and policies surrounding renewable energy are inconsistent and ambiguous

## 4. Public Perception and Awareness

- Biosolids technologies are not viewed as favorably as other renewable technology.

# CASA Clean Energy Initiative

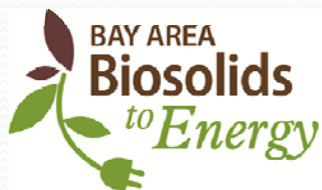
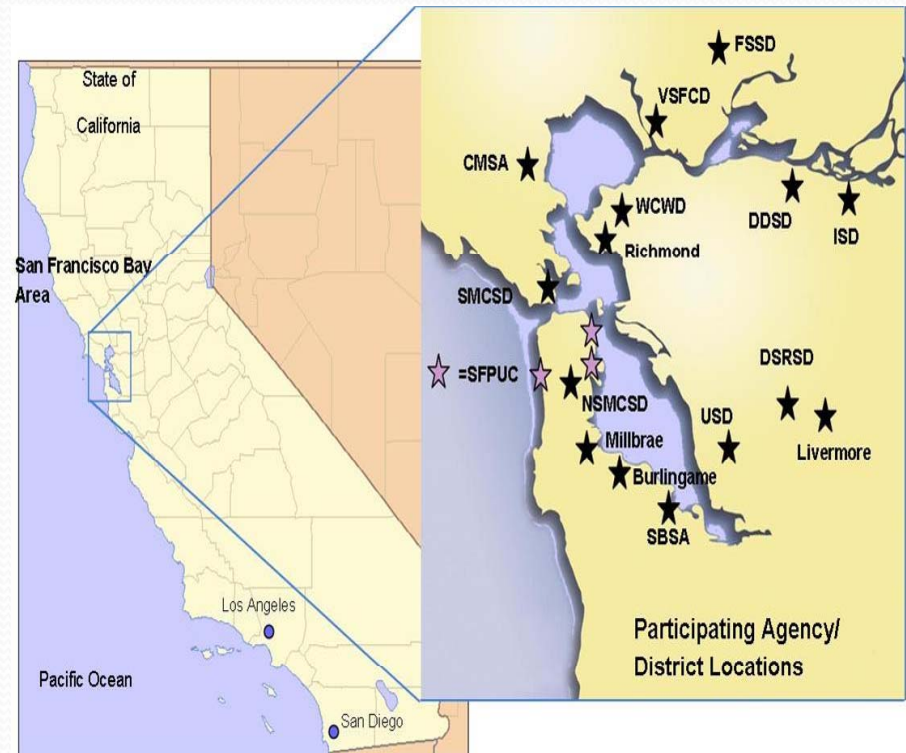
- “Waste to Watts”
- Paradigm shift by decision-makers and the public
- Lead to establishment of funding support, regulatory incentives and opportunities for use of resources
- Remove unnecessary impediments to production and utilization of resources





# BAB2E Coalition

- 16 San Francisco Bay Area agencies  
[+ 2 in discussions to join ]
- Over 2 million residents
- Seeking local, sustainable solution to  
biosolids management
- Maximize state and federal support
- Honor environmental and community  
needs
- Unprecedented collaborative approach



# Bay Area Biosolids to Energy Project



- Convert low-value biosolids into high-value energy products
- Diversify options for managing biosolids
- Minimize greenhouse gas (GHG) footprint
- Maximize potential for federal and state financial assistance
- Innovation - Net Energy
- \$1M California Energy Commission grant
- [www.bayareabiosolids.com](http://www.bayareabiosolids.com)



This is how you seek a federal partnership....



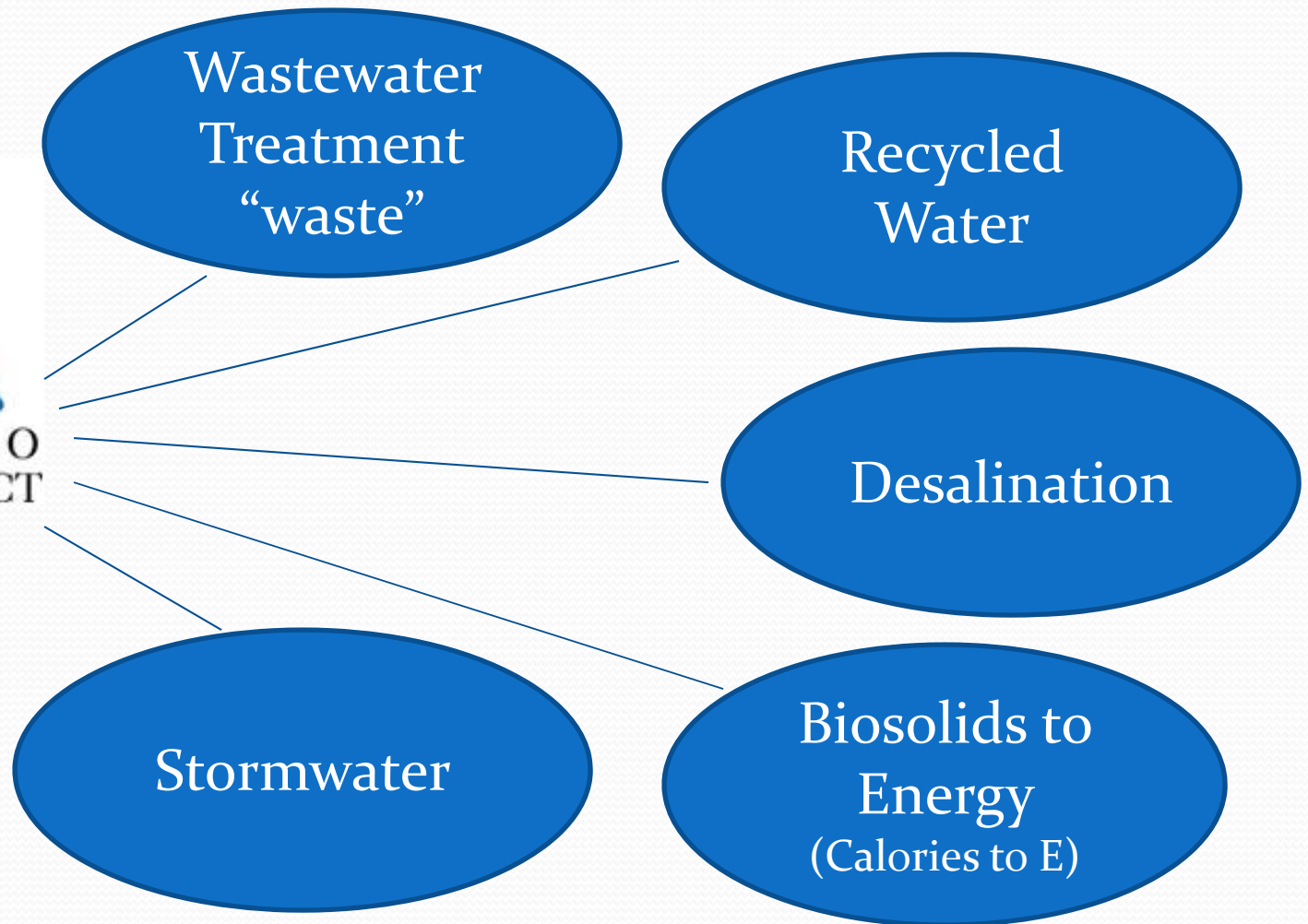
# Partnership achieved !





# Untapped Resources...

New paradigm for Wastewater Agencies





# Transformational Leadership

...opportunities in some communities to reevaluate past practices, develop innovative solutions and reinvent...



Contact Me:

*Gary W. Darling*

*[garyd@ddsd.org](mailto:garyd@ddsd.org)*

*925.756.1900*

