CALIFORNIA DEPARTMENT OF WATER RESOURCES

American Water Works Association California-Nevada Section

WTA

CALIFORNIA Water Boards

CALIFORNIA WATER EFFICIENCY PARTNERSHIP

GLOBAL STRATEGIES, LOCAL ACTION

A DANISH – CALIFORNIAN DIALOGUE ON WATER EFFICIENCY AND LOSS PREVENTION

Engage on Social Media:
#CopenhagenToCali
#GlobalStrategiesLocalAction

CALIFORNIA DEPARTMENT OF WATER RESOURCES

American Water Works Association California-Nevada Section

WTA

CALIFORNIA Water Boards

CALIFORNIA WATER EFFICIENCY PARTNERSHIP

WELCOME

VELKOMMEN

SUE MOSBURG, CA-NV AWWA

JOAQUIN ESQUIVEL, CHAIR, STATE WATER BOARD

JESPER KØKS ANDERSEN, DANISH WATER TECHNOLOGY ALLIANCE

CALIFORNIA DEPARTMENT OF WATER RESOURCES

American Water Works Association California-Nevada Section

WTA

CALIFORNIA Water Boards

CALIFORNIA WATER EFFICIENCY PARTNERSHIP

BEHIND THE METER

JOAQUIN ESQUIVEL, CHAIR, STATE WATER BOARD
MICHAEL ROSENBERG PEDERSEN, AARHUS VAND
AMY HOLMS, CLIMATE REGISTRY
BRIAN HEILAND DEPARTMENT OF WATER RESOURCES

Making Conservation a California Way of Life

Overview

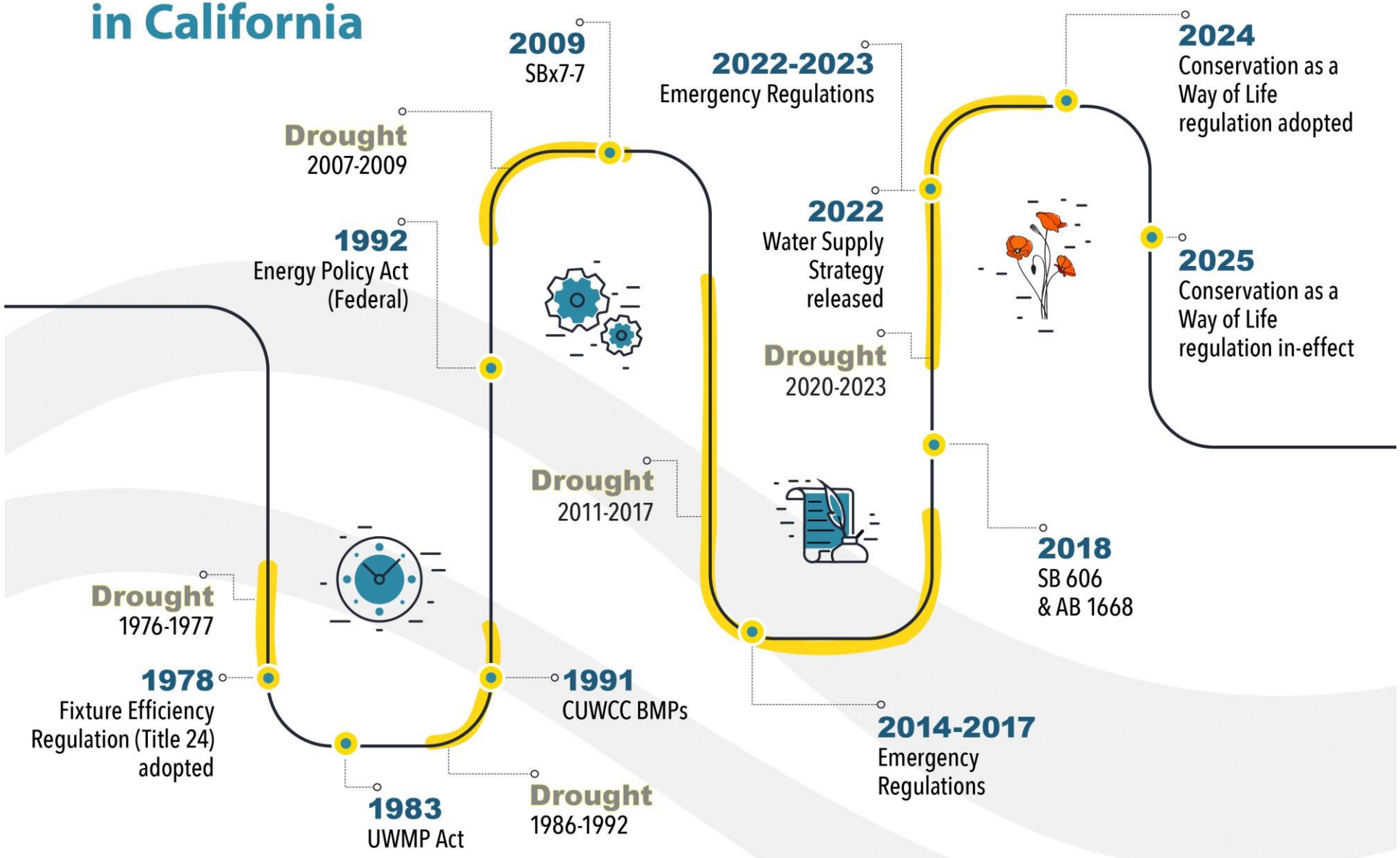
Joaquin Esquivel

Chair, State Water Board

CALIFORNIA Water Boards

State Water Resources Control Board

Drought and Conservation Milestones in California



Making Conservation a Way of Life

What does the regulation do?

- Establishes **efficiency standards** for urban water use

- Requires Urban Retail Water Supplier (URWS) to annually calculate customized **urban water use objectives** using efficiency standards.

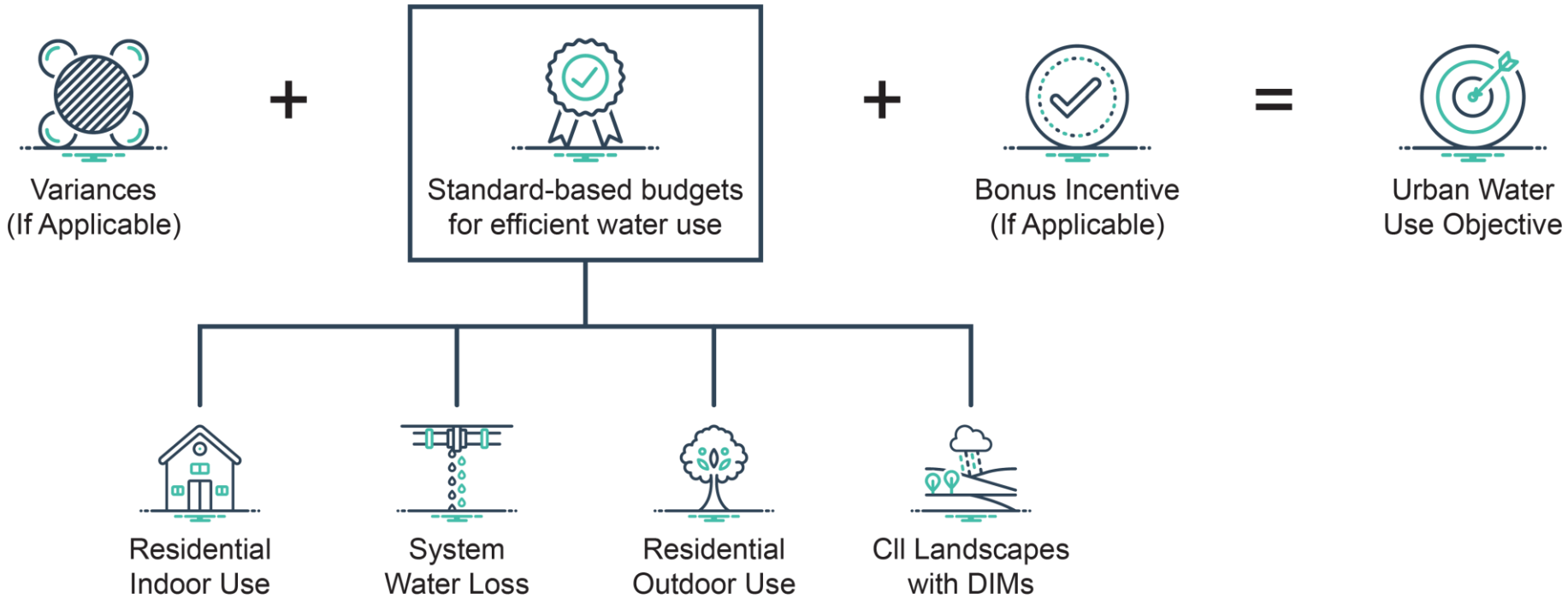
    - Urban water use objective = estimated aggregate amount of water that would have been delivered the previous year by an agency if all that water had been used efficiently.

- Establishes **performance measures** for Commercial, Institutional, and Industrial (CII) water use and requires URWS to carry out those measures.

- Requires URWS to **annually report**

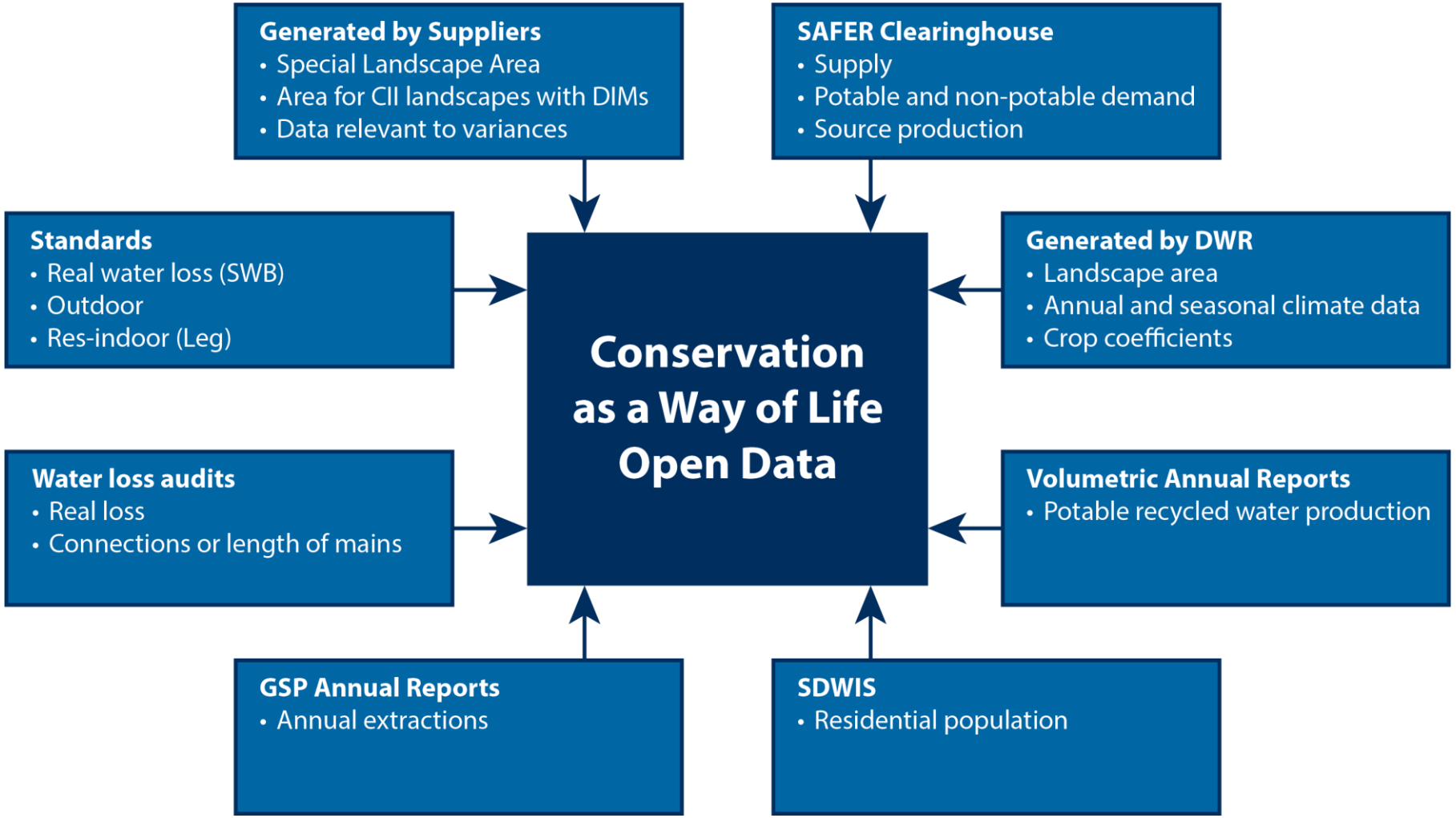
Calculating an Objective

Based on efficiency standards and customized, supplier-specific data



Data System Integration

What are we doing to streamline reporting?

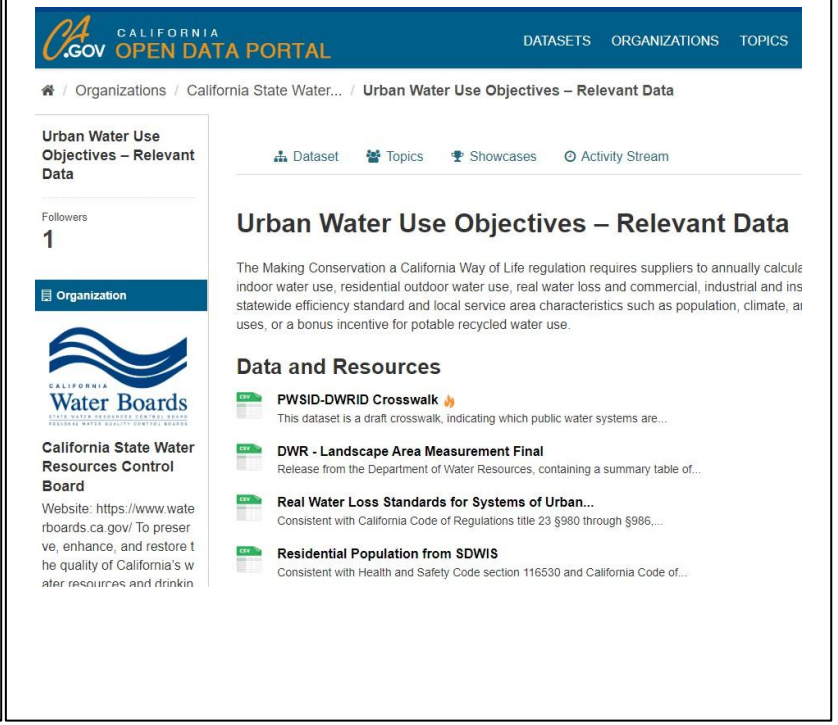


QR Code for Open Data Portal dataset

On the CA Open Data Portal

https://data.ca.gov/dataset/urban-water-use-objectives-conservation

- PWSID-DWR ID Crosswalk
- Residential Population
- Residential landscape area
- Annual and seasonal weather data
- Real water loss standards
- Real water loss audit data
- Potable water production (per-source)
- Potable & non-potable deliveries
- Potable supply and sold/exported
- CII service connections



CALIFORNIA DEPARTMENT OF WATER RESOURCES

American Water Works Association California-Nevada Section

WTA

CALIFORNIA Water Boards

CALIFORNIA WATER EFFICIENCY PARTNERSHIP

BEHIND THE METER

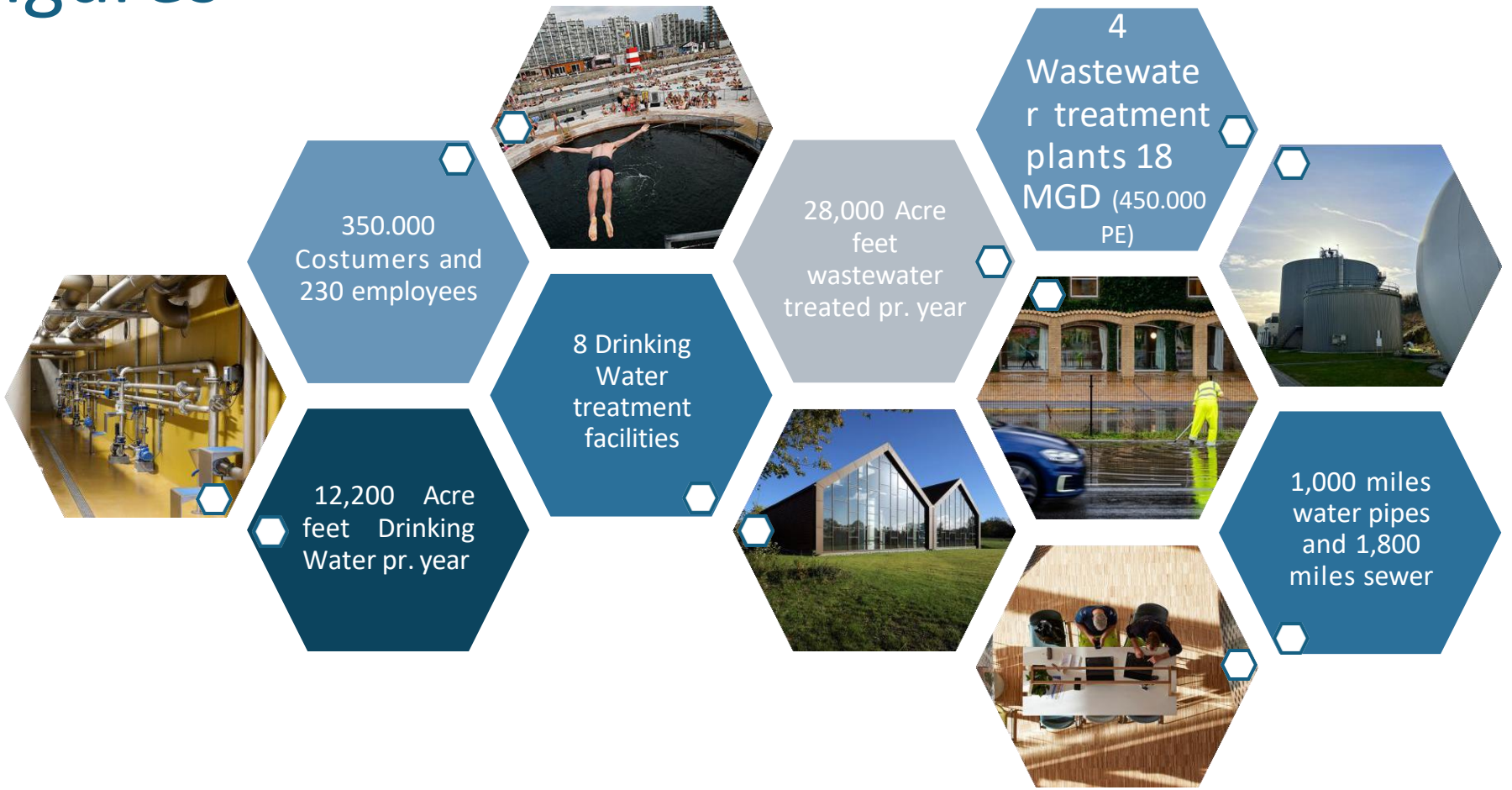
First Question: How are you measuring your organization's carbon footprint ?

Danish-Californian Dialogue – April 10th, 2025

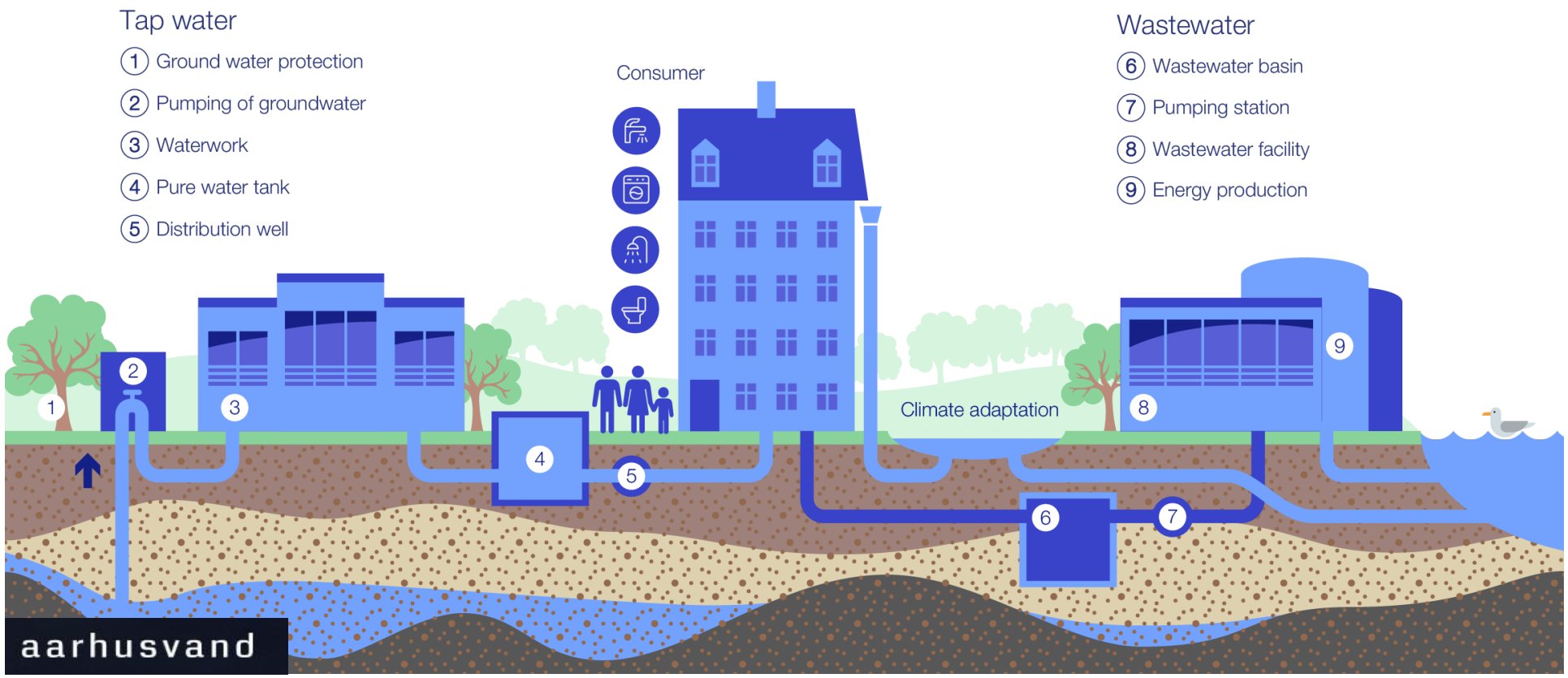
Behind the Meter

aarhusvand

Aarhus Vand
Key figures



Operator of the entire water cycle



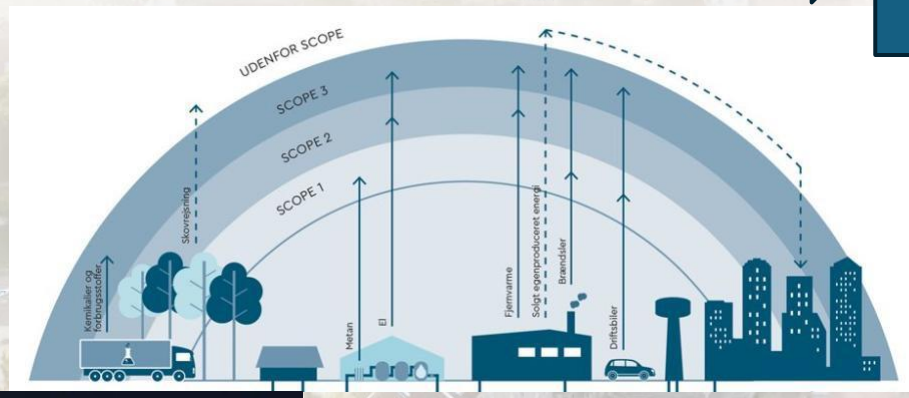
United Nations
Sustainability Development Goals

- 6 Clean water and sanitation
- 11 Sustainable cities and communities
- 13 Climate action
- 17 Partnerships for the goals

Difference between Paris model and GHG protocol:

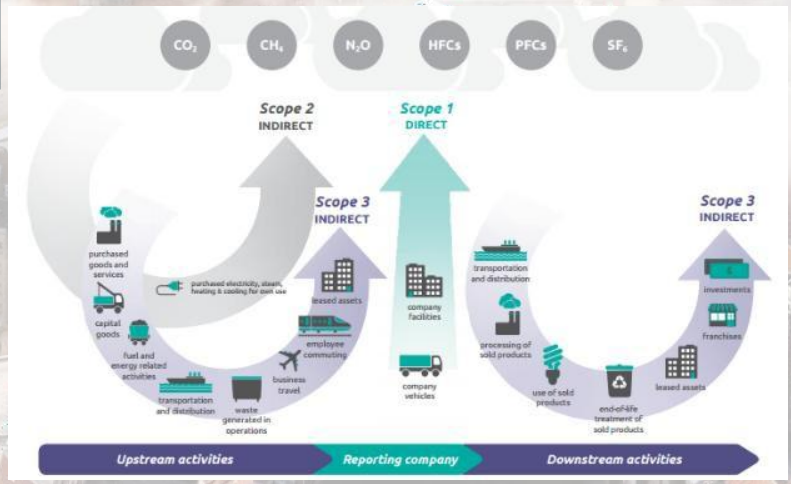
- Afforestation for drinking water protection purposes was previously allowed to be deducted from emissions
- Produced energy was previously allowed to be deducted from emissions
- Scope 3: previously only purchased chemicals used in operations

Paris model



2022

Greenhouse Gas Protocol



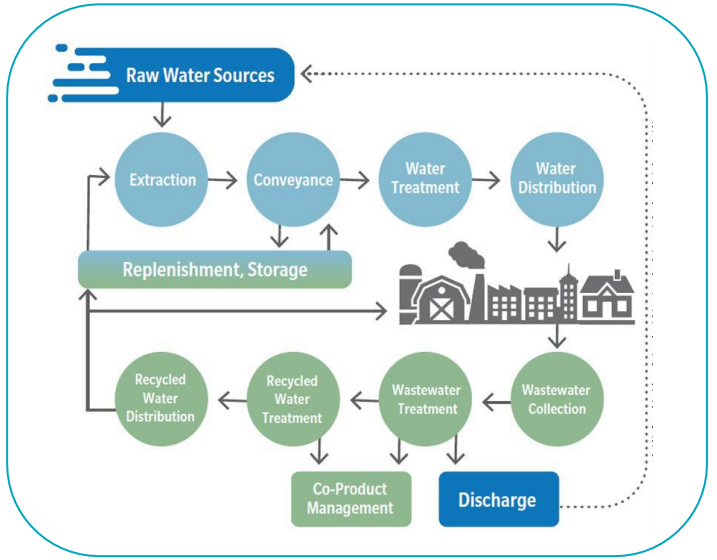
aarhusvand


WATER-ENERGY
NEXUS REGISTRY
THE CLIMATE
REGISTRY

How the Water-Energy Nexus (WEN) Registry helps organizations measure their carbon footprint

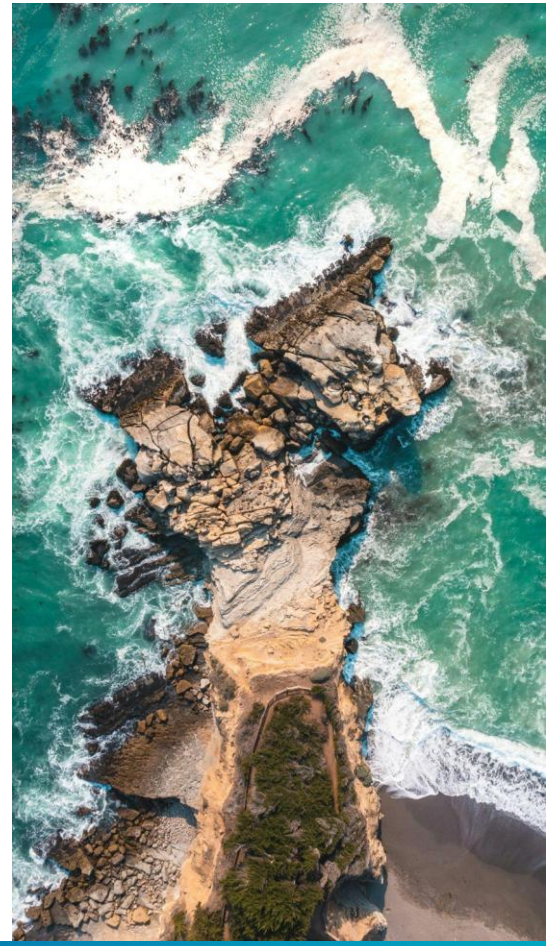
Agencies gain a comprehensive understanding of emissions to:

- Make more efficient use of funding
- Make informed decision that drive innovation and support more resilient infrastructure
- Identify operational efficiency and GHG reduction opportunities
- Understand energy use and GHG emissions impact
- Inform climate action plans with accurate baseline data



The WEN Registry enables standardized GHG reporting which allows organizations to….

- Better understand energy use and GHG emissions impact
- Allows for apples-to-apples comparability with sector and year-to-year trends
- Inform climate action plans with accurate baseline data
- Identify operational efficiency and GHG reduction opportunities
- Make informed decisions that drive innovation, more resilient infrastructure, and recognition opportunities
- Utilize for communication with stakeholders



CALIFORNIA DEPARTMENT OF WATER RESOURCES

April 2025

DEPARTMENT OF WATER RESOURCES

DWR's Mission

"To sustainably manage the water resources of California, in cooperation with other agencies, to benefit the State's people and protect, restore, and enhance the natural and human environments."

What We Do

- Dam Safety
- Emergency Management
- Environmental Stewardship and Sustainability
- Flood Management
- Hydropower
- Infrastructure - SWP
- Recreation
- Science
- Water Education
- Water Storage & Supply

CALIFORNIA STATE WATER PROJECT

CALIFORNIA DEPARTMENT OF WATER RESOURCES

American Water Works Association California-Nevada Section

WTA

CALIFORNIA Water Boards

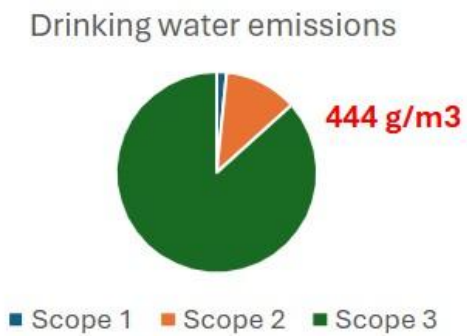
CALIFORNIA WATER EFFICIENCY PARTNERSHIP

BEHIND THE METER

Second Question: How are you measuring the carbon intensity of the water supplied?

Carbon intensity

Water



Scope 1: Emissions mainly from transport related to operations

7 g/m3

Scope 2: Purchased energy: electricity and heating

52 g/m3

Scope 3: Purchased goods and services, construction work by contractors, commuting, business travel, waste generated, transportation of goods, capital goods, energy related

385 g/m3

Scope 1: Emissions mainly from nitrous oxide and methane from biogas leakage

256 g/m3

Scope 2: Purchased energy: electricity and heating

32 g/m3

Scope 3: Purchased goods and services, construction work by contractors, commuting, business travel, waste generated, transportation of goods, capital goods, energy related

530 g/m3

aarhusvand

WEN Registry helps organizations measure the carbon intensity of the water supplied by providing key water metrics:

- **System Average** – GHG per unit of total water delivered
- **Water Product** – Emissions tied to specific water sources
- **Groundwater Basin Average** – GHG per unit of recharged groundwater
- **Biosolid & Biogas Products** – GHG per unit of product managed/sold

CALIFORNIA DEPARTMENT OF WATER RESOURCES

American Water Works Association California-Nevada Section

WTA

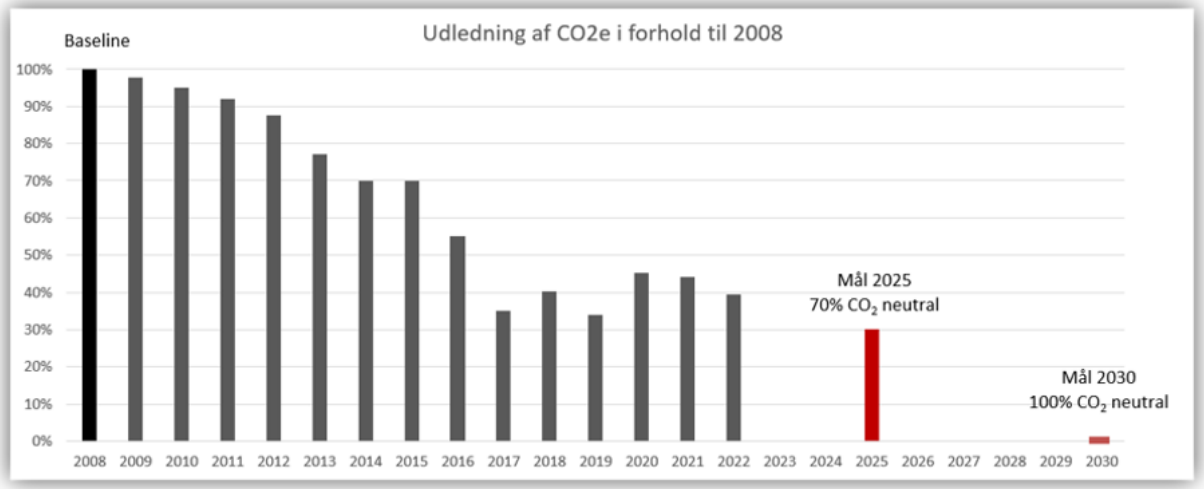
CALIFORNIA Water Boards

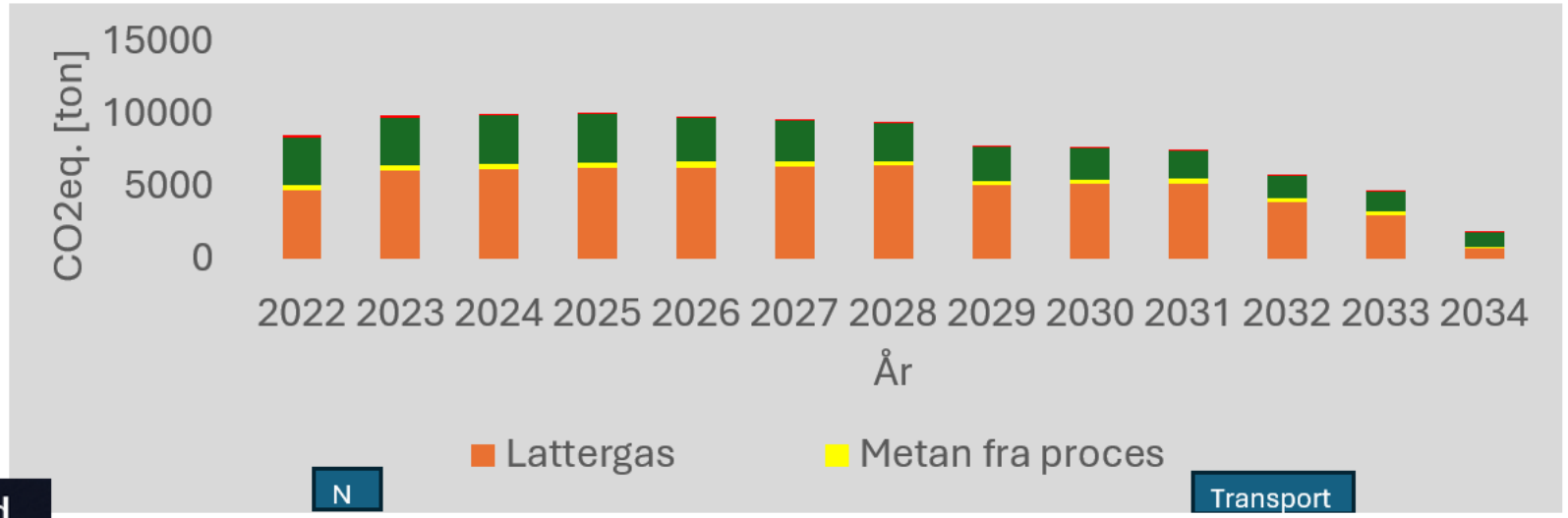
CALIFORNIA WATER EFFICIENCY PARTNERSHIP

BEHIND THE METER

Third Question: What are your organization's GHG reduction goals? What have you achieved?

GHG Goals





aarhusvand

Scope 1 & Scope 2

2030 - 70% reduction

2035 - Neutral compensated with nature and afforestation

Scope 3

2050- Neutral compensated with nature and afforestation

WEN Registry Goals: Helping organizations reduce GHG emissions in operations, lower costs, and secure water for future generations

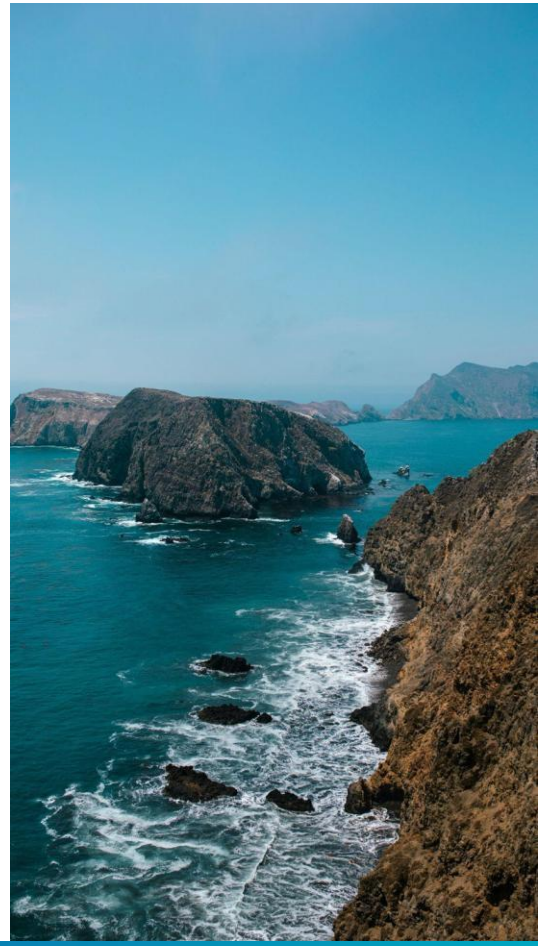
- Water agencies face climate-driven extremes – floods, droughts, and wildfires as well as rising energy costs
- WEN Registry members leading the way:

★ **Sonoma Water**

★ **Las Virgenes Municipal Water District**

★ **Helix Water District**

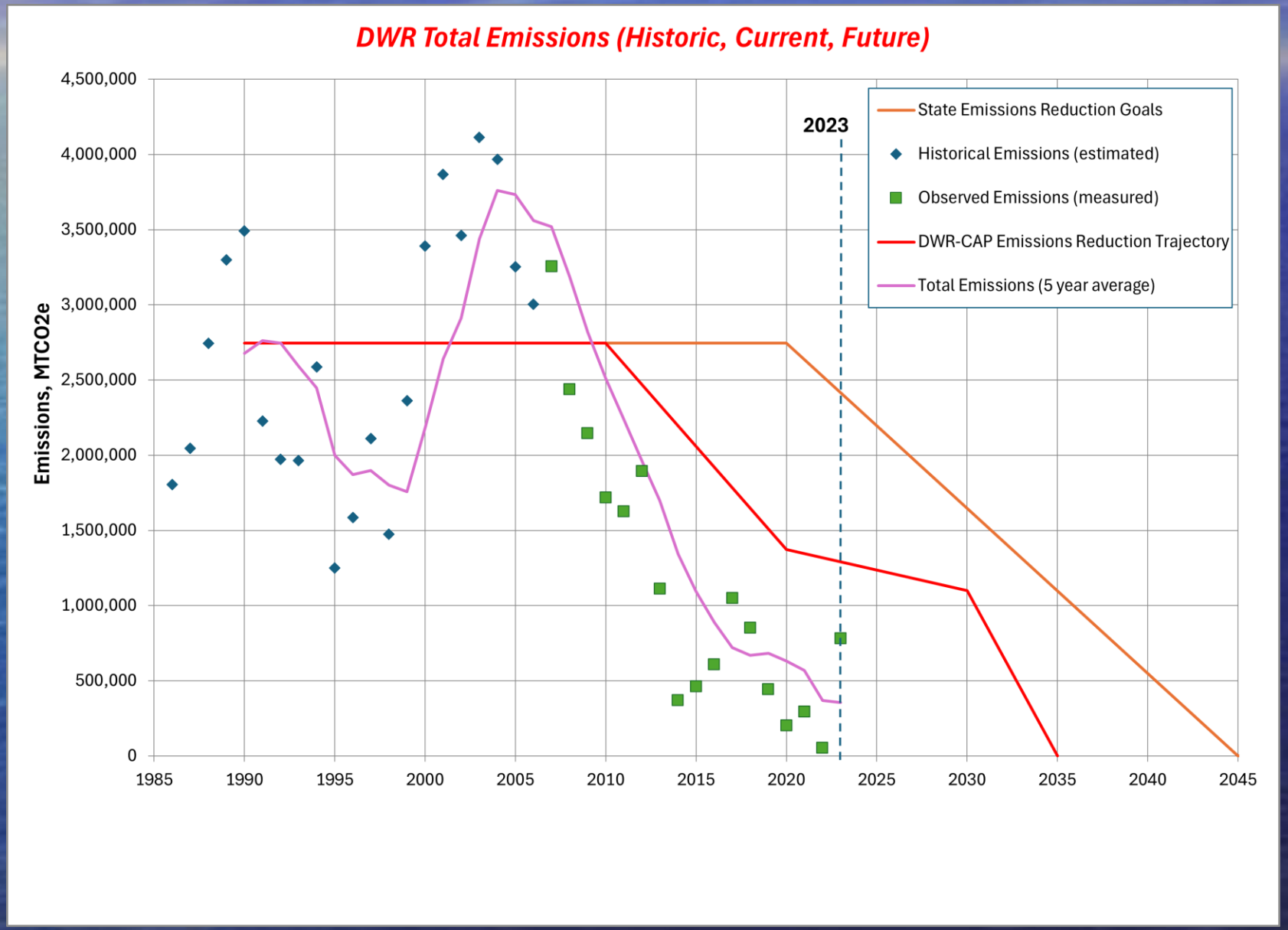
★ **Irvine Ranch Water District**



CALIFORNIA DEPARTMENT OF WATER RESOURCES

April 2025

CAP EMISSIONS REDUCTION TARGET



CALIFORNIA DEPARTMENT OF WATER RESOURCES

American Water Works Association California-Nevada Section

WTA

CALIFORNIA Water Boards

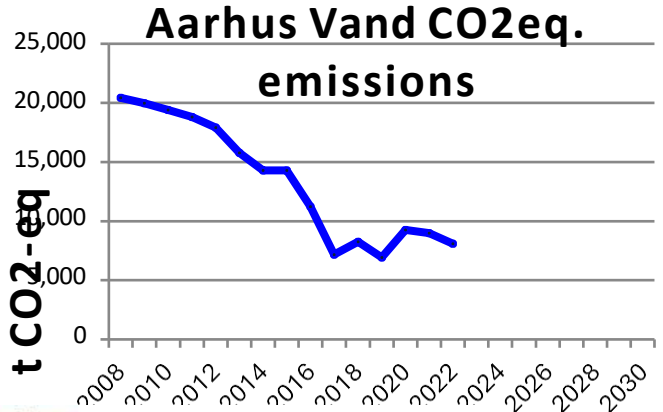
CALIFORNIA WATER EFFICIENCY PARTNERSHIP

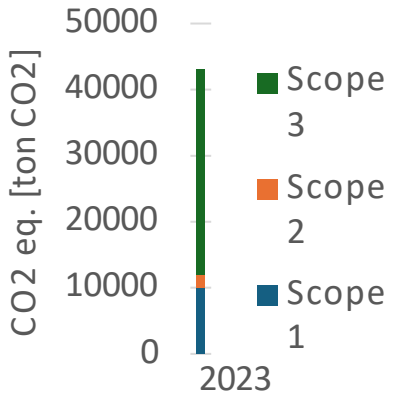
BEHIND THE METER

Fourth Question: What challenges are you facing in meeting those goals?

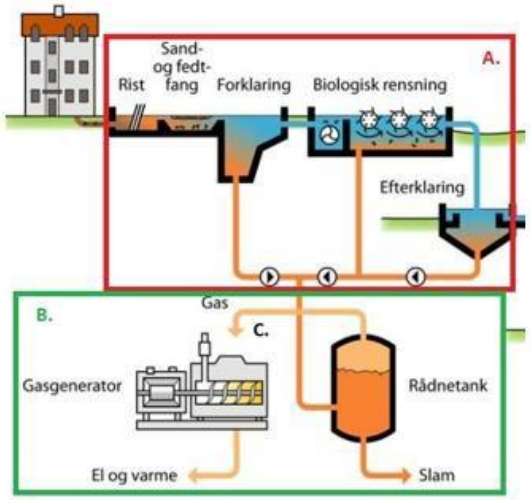
Meeting the goals

Challenges





Focus on energy and process optimization



Process control and optimization for reduction of nitrous oxide production

Upgrade of infrastructure to reduce biogas leakage

Destruction of nitrous oxide and methane coupled with our ventilation systems

aarhusvand

Challenges Facing Water Agencies

- **Weather whiplash** – extreme variability in rain, runoff, and temperature
- **Droughts & wildfires** impact water supply and infrastructure
- **Resources (staff & funding) for climate vulnerability** planning, which is critical for long-term sustainability
- **Leadership commitment** around the benefits of measurement and use of climate data

CALIFORNIA DEPARTMENT OF WATER RESOURCES

American Water Works Association California-Nevada Section

WTA

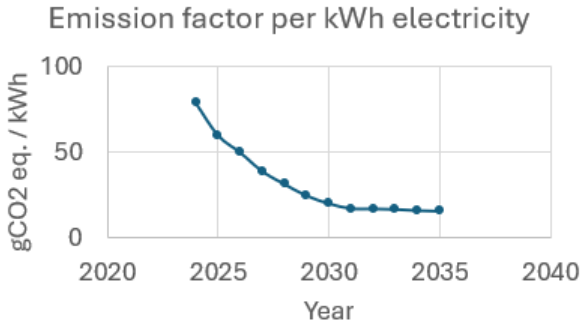
CALIFORNIA Water Boards

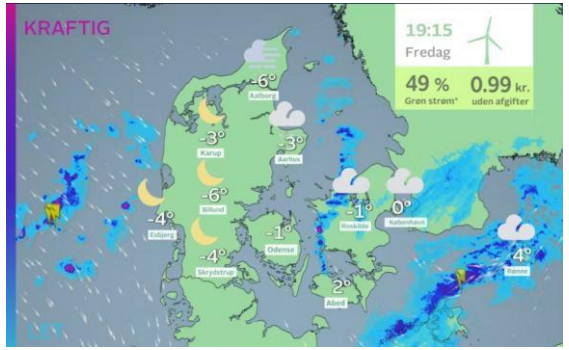
CALIFORNIA WATER EFFICIENCY PARTNERSHIP

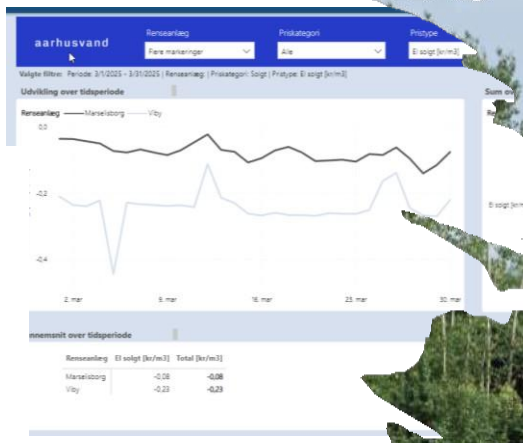
BEHIND THE METER

Fifth Question: What opportunities do you see?

Meeting the goals
Possibilities







Afforestation and Nature

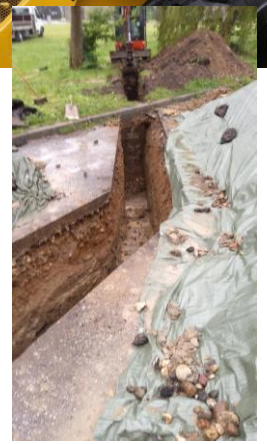
- Groundwater (/drinking water) protection
- **Uptake of CO2**
- Providing recreational areas for surrounding communities
- Improving conditions for biodiversity and thriving ecosystems

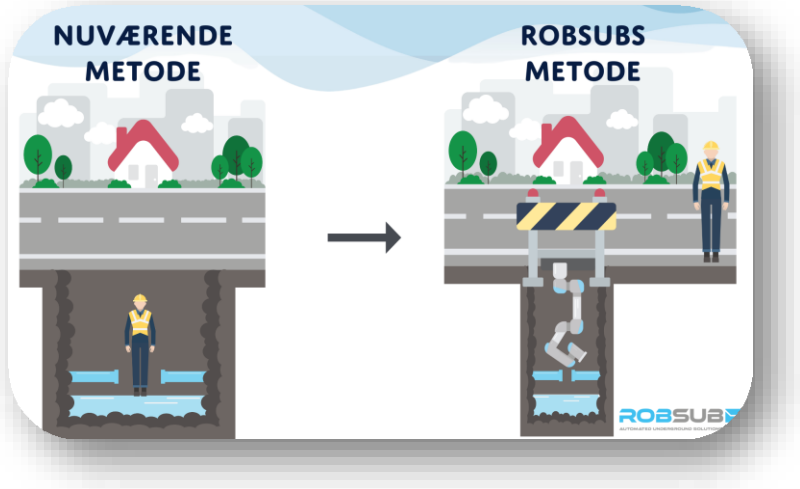
aarhusvand

Meeting the goals

Scope 3

Indirect emissions





Through collaborative partnerships, solutions for a more sustainable future

aarhusvand

Reason for Hope

- Proactive planning & emissions tracking through the WEN Registry
- Helps water agencies:
  1. **Reduce** their carbon footprint
  2. **Save** money
  3. **Strengthen** climate resilience
  4. **Adapt** to more extreme weather events
- Measuring leads to managing: data-driven action for a sustainable future
- SB 654 legislation