



Water-Energy Nexus Calculator Workplan (Group D - D14.01)

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Webex Participant Guide

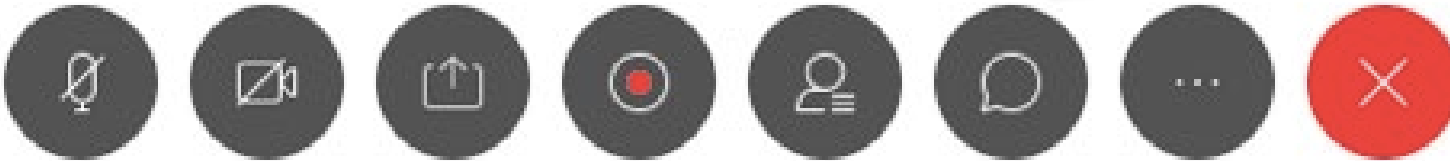
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Link to: [Cisco Webex Participant Guide](#)

Project Team

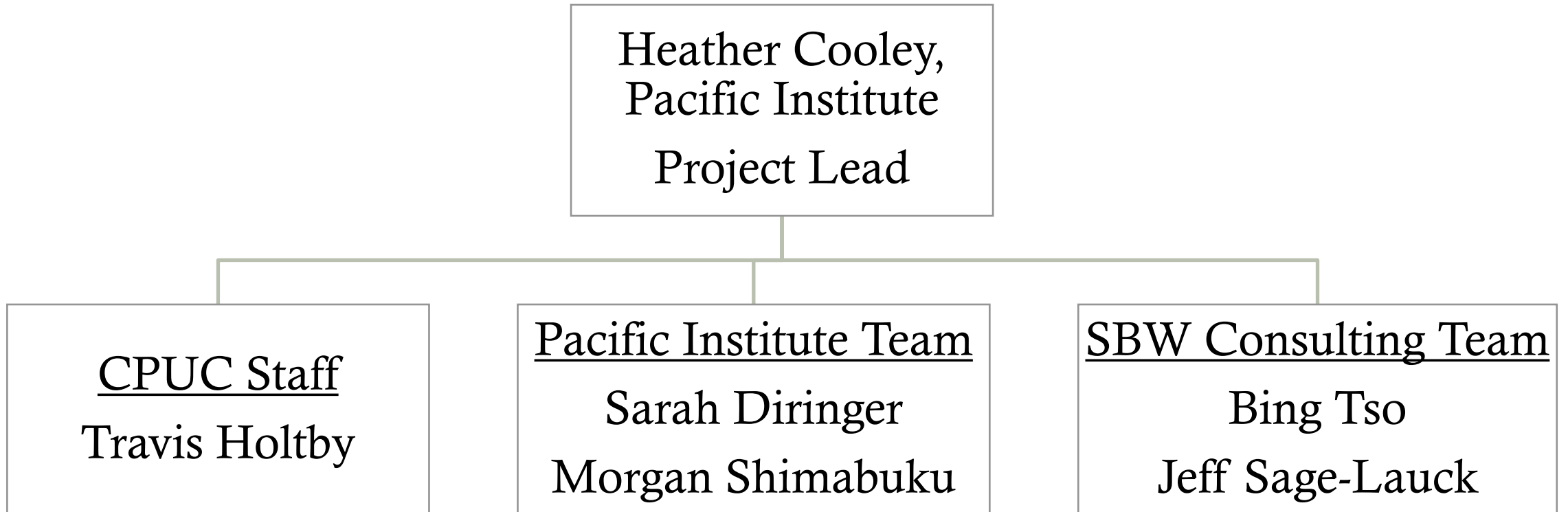




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- **Project Overview**
- Water-Energy (W-E) Calculator Background
- Task 1: Develop a Workplan
- Task 2: Develop a Revised W-E Calculator
- Task 3: Finalize the W-E Calculator, Guidance Manual, and Project Report
- Project Schedule



Project Goals and Objectives

- The goal of the project is to develop a new, simpler Water-Energy Calculator (W-E Calculator 2.0).
- In support of this goal, we have three primary objectives:
 1. Engage stakeholders to identify key issues and concerns to inform changes to the the W-E Calculator;
 2. Revise the W-E Calculator, in accordance with Decision 17-12-010, the Water Energy Joint Utility Plan of Action, and input received from stakeholders; and
 3. Provide readable and accessible documentation for the W-E Calculator 2.0, along with a help desk and recorded training session.



Project Deliverables

1. W-E Calculator 2.0 Workplan: The final version of the draft workplan presented here and now available on the CPUC website.

2. W-E Calculator 2.0: A new, improved, and simpler W-E Calculator to estimate the embedded-energy savings of water conservation activities.

3. Guidance manual for W-E Calculator 2.0: The guidance manual for using the W-E Calculator 2.0 and recorded training sessions.

4. Project report: The final report documenting the process for developing the revised W-E Calculator.

Task Plan

1

Task 1:
Develop a Workplan
(Spring 2021)

Deliverable: 1

2

Task 2:
Develop a Revised W-E
Calculator
(Fall 2021)

Deliverables: 2 & 3 (draft)

3

Task 3:
Finalize W-E
Calculator 2.0,
Guidance Manual, and
Project Report
(Winter 2021/2022)

Deliverables: 2, 3, & 4

Engagement and Outreach



ENGAGEMENT WITH CPUC STAFF



ENGAGEMENT WITH ENERGY IOUS,
CONSULTANTS, EXPERTS, AND
STAKEHOLDERS



ENGAGEMENT WITH WATER
UTILITIES



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Water-Energy (W-E) Calculator Background

- In 2014, the CPUC adopted two water-energy tools:
 - **Avoided Water Capacity Cost Model (Water Tool)**
 - avoided capacity cost of water (in \$/MGD).
 - **Water-Energy Calculator (W-E Calculator)**
 - average embedded energy savings of water-efficiency programs (in kWh and therms),
 - IOU avoided embedded-energy cost (in \$); and
 - avoided water capacity cost (in \$)

Legend

Input (Type of Input)

Calculations

Outputs

Additional Model

Energy Intensity - Default Input (User Editable)

- Extraction/Conveyance
- Treatment
- Distribution
- Wastewater systems

Percent of Energy Provided by IOU - Default Input (User Editable)

- Extraction/Conveyance
- Treatment
- Distribution
- Wastewater systems

Marginal Supply - Default Input (User Editable)

- Recommended marginal supply by region
- Editable by users for scenario analysis

Measure data (User Defined Inputs)

- Annual water savings
- Install year
- Measure life
- Monthly savings profile
- Measure cost

Measure Application (User Defined Inputs)

- Indoor vs. Outdoor
- Urban vs. Agriculture

IOU (User Defined Input)

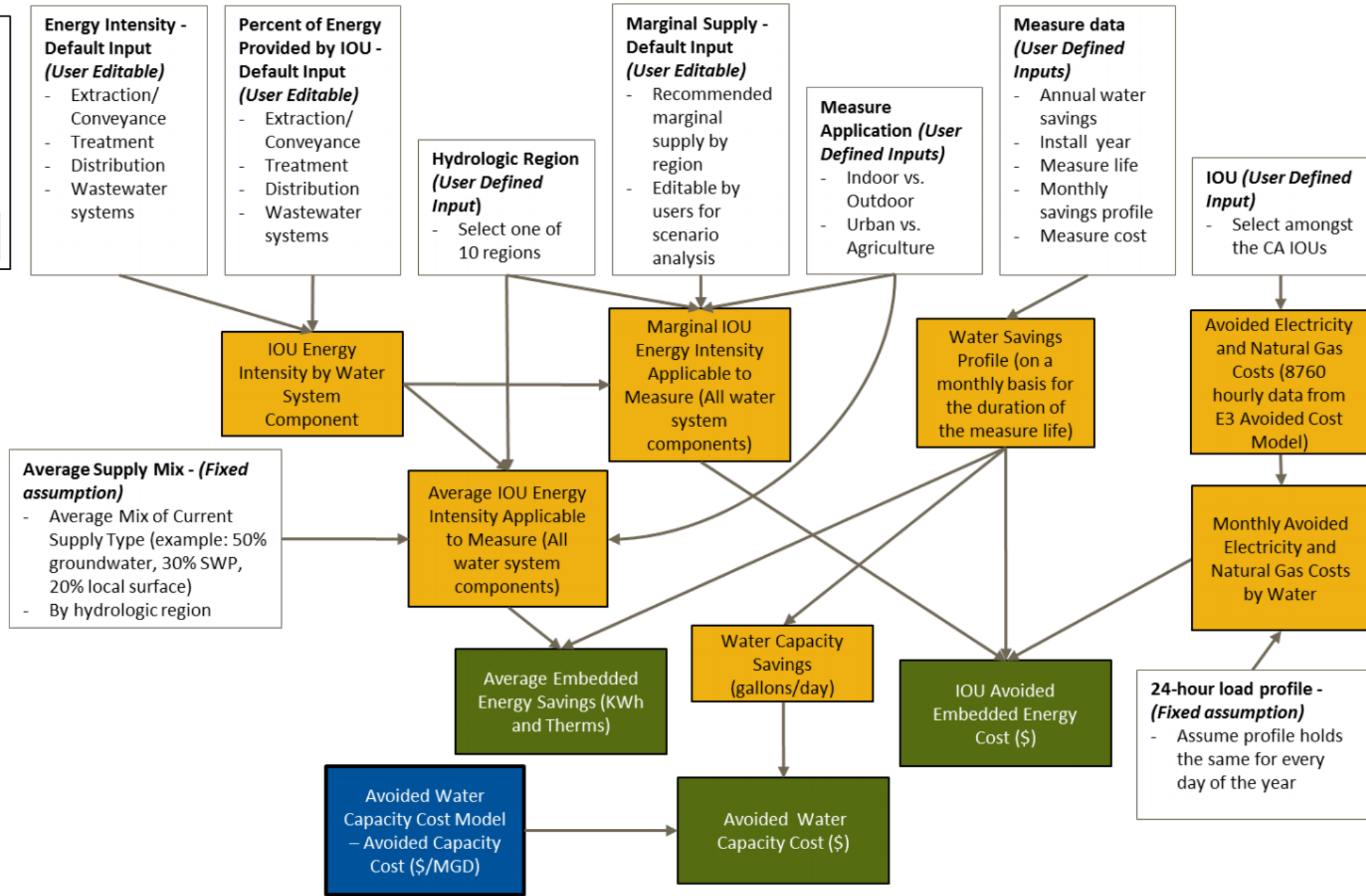
- Select amongst the CA IOUs

Hydrologic Region (User Defined Input)

- Select one of 10 regions

Average Supply Mix - (Fixed assumption)

- Average Mix of Current Supply Type (example: 50% groundwater, 30% SWP, 20% local surface)
- By hydrologic region





Relationship with Other CPUC Tools

■ Inputs to the W-E Calculator

- **E3 Avoided Cost Model:** Provides hourly avoided energy costs
- **Water Tool:** Provides avoided capacity cost (\$/MGD)
- **DEER and eTRM:** Provides information on some water-efficiency measures, including useful life and incremental cost

■ Outputs from the W-E Calculator

- **Cost-Effectiveness Tool (CET):** Outputs from W-E Calculator can be (but are not currently) integrated into the CET



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Task 1. Develop a Workplan

- Reviewed 17 documents, including previous CPUC decisions, Joint Plan of Action, and stakeholder comments submitted about the W-E Calculator
- Interviewed 22 stakeholders, including representatives from investor-owned energy utilities, water-energy experts, and CPUC staff and consultants
- Identified four areas for improvements:
 - Simplify the W-E Calculator
 - Enhance W-E Calculator Functionality
 - Ensure Integration with Other CPUC Tools
 - Expand Education and Outreach



Simplify the W-E Calculator

- Remove avoided water and wastewater utility cost test (will focus on developing embedded energy estimate in kWh/therms)
- Remove water-related environmental benefits from model (will focus on developing embedded energy estimate in kWh/therms)
- Add simple menu to select water system components and energy intensity values
- (Do not add GHG calculations, already done via other models)



Enhance W-E Calculator Functionality

- Add a mechanism, such as a GIS overlay or look-up table, to let the user select the appropriate hydrologic region for the project
- Provide an easier way to adjust the resource balance year
- Allow user to select terrain to determine distribution energy intensity
- Revise model default energy intensity values, if appropriate



Ensure Integration with Other CPUC Tools

- Model inputs for the W-E Calculator 2.0 will be consistent with information available from DEER (and eTRM)
- Ensure model outputs are compatible with the CEDARS report structure and the CET Tool



Expand Education and Outreach

- Develop model documentation that is readable and easily understood
- Conduct and record a training session to be posted with the model
- Conduct outreach to water utilities to generate interest



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Task 2. Develop a Revised W-E Calculator

- Develop a memo of proposed changes to the W-E Calculator for approval by CPUC
- Develop a conceptual model of the W-E Calculator 2.0
- Review the model defaults for continued relevance and update as needed
- Develop draft W-E Calculator 2.0 and guidance manual
- Beta-test the draft W-E Calculator 2.0 and guidance manual with energy IOUs and consultants and provide a help desk during testing



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Task 3. Finalize the W-E Calculator and Guidance

- Revise and finalize project deliverables
 1. W-E Calculator 2.0
 2. Guidance manual for W-E Calculator 2.0 and other training materials
 3. Project report



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Project Schedule

Task	Task Description	Completion Date
Task 1	Develop workplan by interviewing stakeholder and identifying issues	Spring 2021
Task 2	Develop draft calculator and guidance manual	Fall 2021
Task 3	Finalize calculator and documentation (guidance manual and project report)	Winter 2021/2022



Next Steps: Provide Comments on the Draft Workplan

The draft workplan is available for review and comment through March 24, 2021 at the CPUC Public Document Area:

<https://pda.energydataweb.com/#!/documents/2478/view>



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