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Water Energy Technology (WET) Program

Phase 2: Commercial, Industrial and Residential
Phase 3: Desalination

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August 26, 2015

Agenda

10:00-12:30

- Introduction/Opening Comments
- State Agency Perspective
- WET Program Phase 2 Grant Application
- Questions

1:30 – 4:00

- Introduction
- WET Program Phase 3 Scope
- Questions

Implementing Diverse and Inclusive Energy Innovation in California

- The Energy Commission is committed to ensuring that a diverse range of applicants has the opportunity to participate in projects, including small businesses, women, minorities, LGBT, and disabled veterans.
- The Energy Commission also seeks to include the participation of businesses from a range of geographic regions.

Water Energy Technology (WET) Program

Phase 2: Advancing Energy and Water Reducing Technologies for the Commercial, Industrial and Residential Sectors

Virginia Lew
Energy Research and Development Division
Cal Poly Pomona
August 26, 2015

Agenda

- California's Drought Response
- Water Energy Technology Program (WET)
- Tentative Schedule for the WET Program
- WET Grant Program for Phase 2
- Questions

Background

- Governor Brown directed the first ever statewide mandatory water reductions. (Exec. Order B-29-15)
- Directed the Energy Commission to implement a water energy technology (WET) program as part of its work to address the drought.
- Other drought-related work at the Energy Commission
  - Water appliance rebate program.
  - Expedited processing of applications for alternate water supply for power plant operation.
  - Standards to improve water appliances efficiency.

http://www.energy.ca.gov/drought/

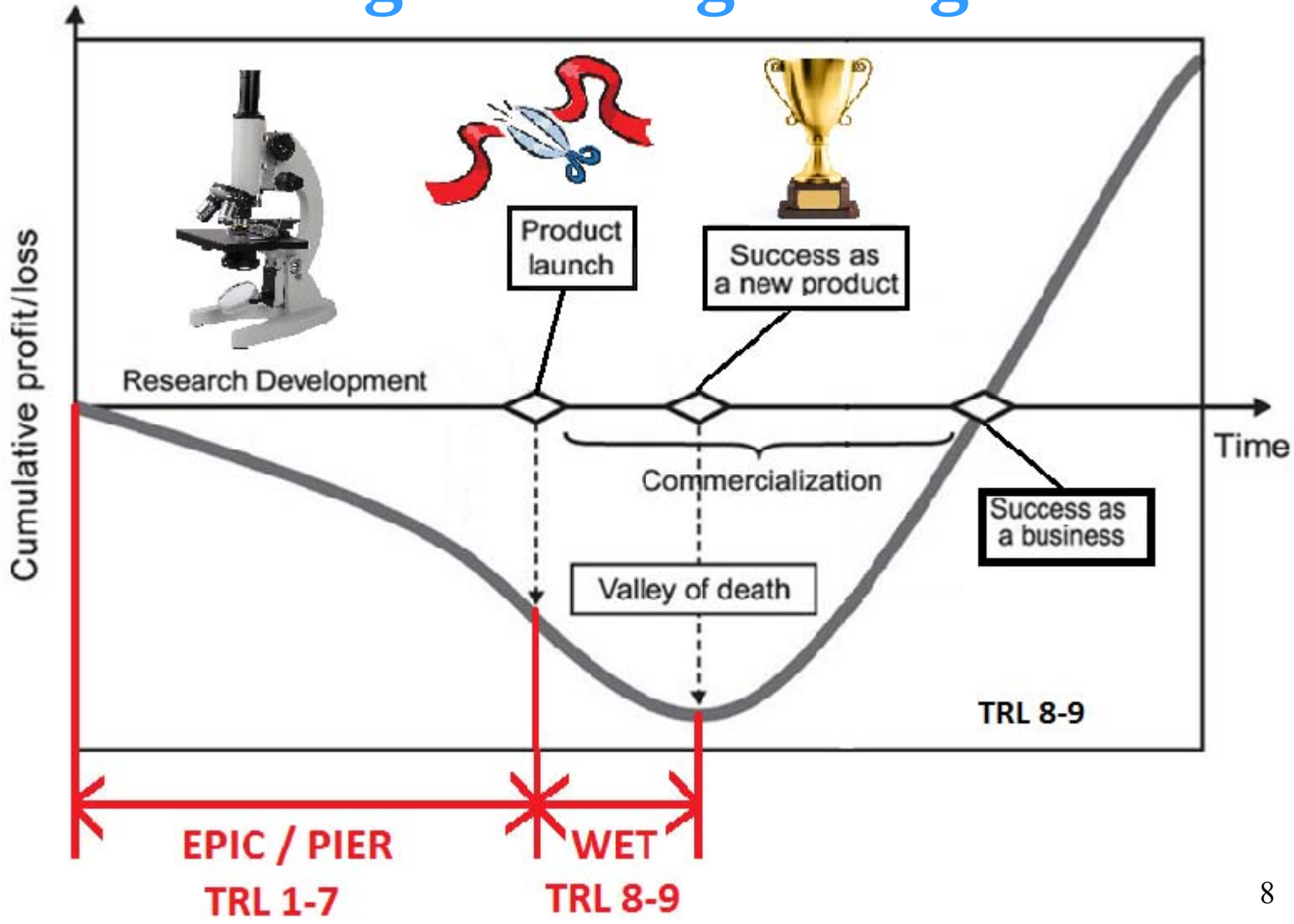
WET Program Overview

Purpose: Accelerate deployment of innovative water and energy saving technologies

- Innovative technologies must meet the following:
  - Provide significant greenhouse gas emission (GHG) reductions due to implementation of technologies that reduce on-site energy and water use.
  - Demonstrate actual operation beyond the R&D stage and be commercially available.
  - Documented readiness for rapid, large-scale deployment.

Projects must be installed in existing facilities or those under construction.

Program Target Stages



WET Program Funding

Phase 1: Agriculture: Up to $10M

- Rebates: High Efficiency Irrigation System
- Grants: Irrigation and Ag Operations Improvements

Phase 2: Industrial, Commercial & Residential: $16M

- Grants: Innovative waterless and reduced water using systems and appliances; waste heat recovery and water reuse technologies.

Phase 3: Desalination: $3M

- Grants: Improvements to existing plants that result energy reduction and increased water production

WET Program: Tentative Status

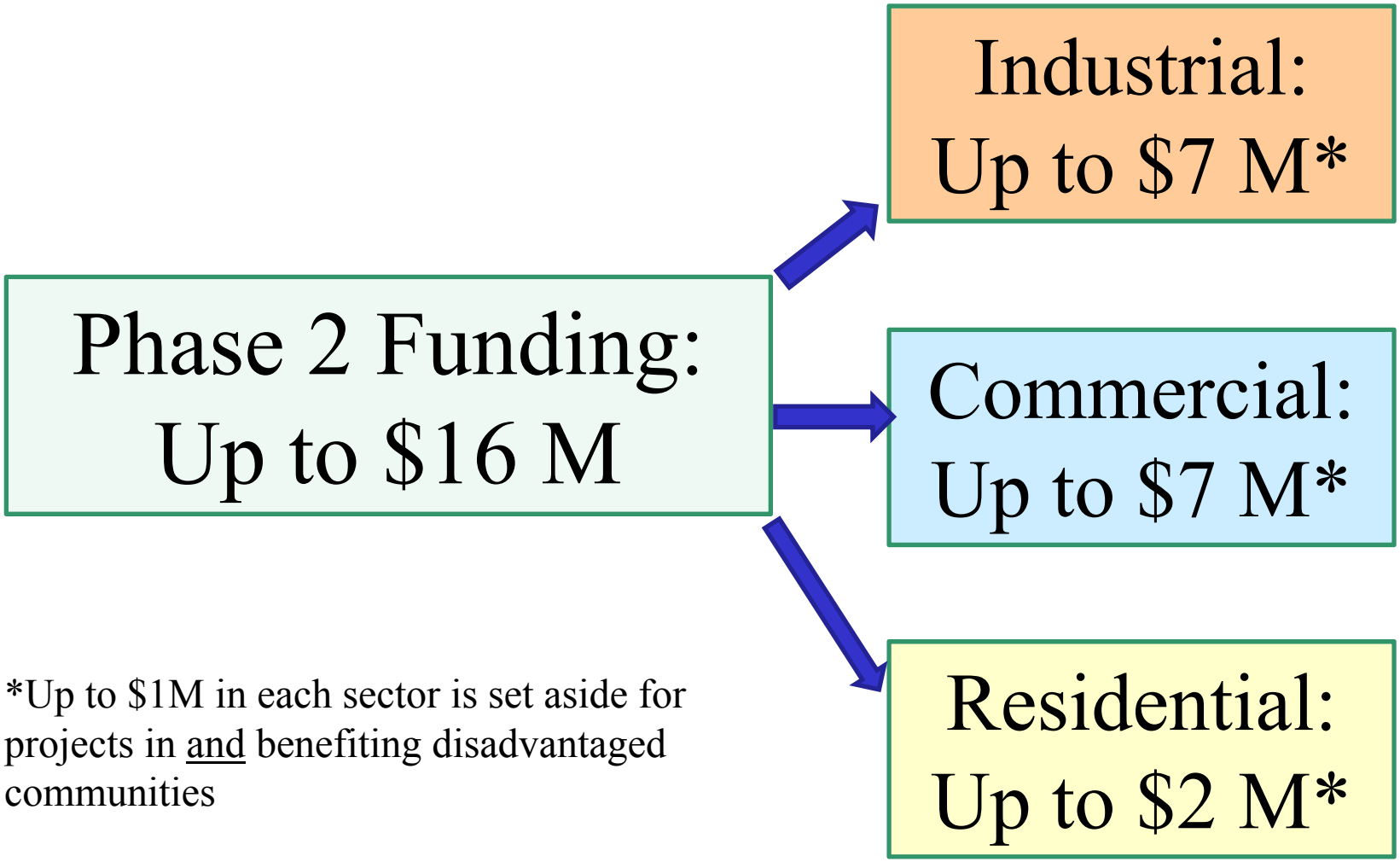
Item	Date
Program Development	May – October 2015
Public Workshops for Program Input	June – September 2015
Energy Commission Business Meeting Approval of the WET Rebate Program Guidelines for Agriculture*	July 8, 2015
Release WET Program Applications (All Phases)*	Fall 2015

* Subject to legislative approval of the funding for the WET program.

Phase 2 Objective

- Accelerate deployment of innovative technologies in the industrial, commercial, and residential sectors that will result in significant GHG emission reductions due to implementing projects that will reduce on-site energy and water consumption.

Phase 2 Funding



*Up to $1M in each sector is set aside for projects in and benefiting disadvantaged communities

Minimum and Maximum Funding

- Minimum grant: $500,000
- Maximum grant: $1,000,000
- **Group A**: Projects located in California
  - Applicant can apply for one Grant for up to 50% of the eligible project cost.
- **Group B**: Projects located in and benefiting disadvantaged communities
  - Applicant can apply for one Grant for up to 75% of the eligible project cost.

Industrial (up to $7 M)
Commercial (up to $7 M)
Residential (up to $2 M)

Group A Industrial (up to $6 M)	Group B Industrial (up to $1 M)
Group A Commercial (up to $6 M)	Group B Commercial (up to $1 M)
Group A Residential (up to $1 M)	Group B Residential (up to $1 M)

What are Disadvantaged Communities?

- Senate Bill 535 passed in 2012, requires 25% of Greenhouse Gas Reduction Funds to be used to benefit disadvantaged communities.*
- Disadvantaged communities are those most affected by environmental degradation and socioeconomic conditions.
- For the WET program communities defined as areas representing census tracts scoring in the top 25 percent in CalEnviroScreen 2.0 are considered disadvantaged.
- CalEnviroScreen tool: http://oehha.ca.gov/ej/ces2.html.
  - Example, some cities in Southern California are in a disadvantaged community and have a CEC 2.0 score >75%.
- Projects must benefit disadvantaged communities: a) provide incentives/services that reduce energy use; or b) improve water system infrastructure with water and energy savings.

* www.calepa.ca.gov/EnvJustice/GHGInvest/

Applicant Requirements

- ✓ Defined by its federal tax ID number; one app. per fed tax ID.
- ✓ Must apply for either Group A or B – no combining of funds. Each application must fall within the min and max amt.
- ✓ Cannot receive multiple WET Grants for the same project.
- ✓ Can be a Single or Combined Applicant
  - ✓ A Combined Applicant serves as an aggregator for others: If awarded, the Applicant must comply to all grant agreement requirements for all installation sites.
- ✓ Separate applicants cannot apply for the same or aspects of the same project.
- ✓ Cannot combine funding with: a) other Greenhouse Gas Reduction Funding ; b) other Energy Commission programs.

Refer to Draft Grant Application for detailed information.

Who is Eligible?

- **Applicant must be a business, commercial, industrial, non-profit or governmental entity (residential applicants are not eligible)**.
- Applicants can apply for one or multiple project locations
  - Single Applicant – owns one or more installation sites
  - Combined Applicant – Installation sites are: 1) owned in some combination by Applicant and/or others, or 2) not owned by the Applicant
  - Installation Sites must be located in California and be a business/ commercial, industrial, water/wastewater agency, non-profit, governmental or residential location
    - A combined applicant can include projects from residential sites, such as builder of single family homes under construction, or owner of multifamily buildings.

What is Eligible?

- Innovative and emerging technologies that will result in GHG emission reductions, and direct on-site energy and water savings. Examples from Table 1:
  - Automation and monitoring systems with direct control of energy and water (behavioral changes not eligible)
  - Low or no water and energy saving appliances
  - Advanced cooling tower technology
  - On-site water treatment or reuse
- Not a research project, technology must be a commercially available, but not widely deployed.
- Proven technology with **at least six months of Independent Verifiable Performance Data** showing energy and water savings and potential for GHG emission reduction.

What are Eligible Project Cost?

Up to 50% of the following project cost (or 75% for disadvantaged community projects) can be funded by the Grant if incurred after Grant approval:

- Equipment.
- Materials/Supplies.
- Installation Labor.
- Engineering Design.
- Independent Third Party Conducting Monitoring and Verification for a minimum of 3 years after project installation.

What are Ineligible Project Cost?

- Costs incurred prior to Energy Commission approval.
- Application preparation fees.
- Financing, permits, insurance, and legal services.
- Project management and oversight.
- Service charges and maintenance costs.
- Fines, penalties and legal settlements.
- Personal computers, phones and other personal devices
- Real property.
- Marketing and outreach, advertising, entertainment.
- Unrelated supplies and equipment.
- Costs associated with performing the required 6 months of pre-installation monitoring (see slide 17).

What is the Application Process?

- **Application Form**
- **Project Narrative**
  - Utility data collection: 12 months of pre-installation energy and water consumption (or equivalent).
  - Post installation monitoring and verification plan by an independent 3rd party, including annual post-installation energy and water consumption, or equivalent.
  - Design plans and schematic.
  - Detailed calculations for GHG emission reductions, water and energy savings and other co-benefits.
  - Documentation of disadvantaged community benefits.
- **Equipment Specifications**
- **Evidence of Market Potential**

What is the Application Process? (cont'd)

- **Scope of Work and Schedule**
  - Combined Applicant: Responsible for ensuring that all requirements of the Grant are met for all Installation Sites as described in solicitation, statement of work and the Grant agreement and terms and conditions.
- **Budget**
  - Include all eligible costs and provisions for an independent M&V subcontractor.
  - Prevailing wage: accepting grant may cause Applicants to pay prevailing wages. http://www.dir.ca.gov/default.html.
- **References**
- **Contact List**
- **Commitment and Support Letters**
  - Required for each project site not owned by the Applicant.
  - Required from entity providing balance of funding.

What is the Evaluation Process?

- Applications for Industrial, Commercial and Residential and Group A and Group B will be scored separately.
- **Stage 1: Application Screening** (pass/fail)
  - Applications are screened to ensure that minimum requirements are met.
  - To continue, all criteria must be met.
- **Stage 2: Grant Application Scoring** (minimum score of 70 points required to be eligible for funding)
  - Technology Innovation (minimum score required)
  - Project Design and Team (minimum score required)
  - Water Savings
  - Greenhouse Gas Emission Reductions
  - Disadvantaged Communities
- **Notice of Proposed Award (NOPA)**
  - Ranked list

What Happens After the NOPA?

- **Agreement Development**
  - Statement of Work
  - Schedule
  - Budget
  - Terms and conditions – no negotiations
  - Time is of the essence: Failure to execute an agreement in a timely manner could result in canceling the pending award and funding the next highest-ranked eligible application.
- **Approval**
  - Must be approved at an Energy Commission Business Meeting (generally 2-3 months after NOPA posting.
- **Start work**
  - Can begin only after all parties have executed and signed the agreement (generally 30 days after business meeting).

Other Requirements

- **Recipient Requirements**
  - Access to energy and water billings/documentation of usage.
  - Independent monitoring and verification of energy and water consumption for up to 3 years after project installation.
- **Agreement Term**
  - Must include 3 years of independent monitoring and verification (M&V) after project installation.
- **Up to 3 Payments**
  - 1st: After project design complete and equipment purchased (maximum of 50% of the grant amount)
  - 2nd: After project installation complete, subject to on-site verification, and evaluation of energy and water consumption data (bills)
  - 3rd: After completion of 3 years of M&V.
  - Requires backup documentation and progress report

Overview of the Application Process

Complete & Submit Application

- Include all required attachments (Section III.C.)
- Sign application
- Agree to terms and conditions

Energy Commission Review

- Stage 1: Application reviewed to determine whether minimum requirements in Section IV.E. are met?
- Pre-installation inspection, upon request
- Stage 2: Application scored according to criteria in Section IV.F.

Award, Approval, Payment & Follow-up

- NOPA posted on the Energy Commission website
- Highest ranked will be considered for funding approval at Energy Commission business mtg
- Up to 3 payment requests
- Post-installation inspection, upon request, and 3 years of independent M&V

Your Questions

Our Questions

1. How can this draft solicitation best complement efforts to reduce GHG emissions and improve energy and water efficiency in commercial, industrial and residential sectors?
   - What specific changes would you suggest?
2. What specifications and/or criteria are needed to ensure the purpose, instructions and eligibility requirements are clear?

Our Questions (cont'd)

3. What grant award amounts would be most appropriate and what percentage of the project would this represent?
4. How can this phase of the WET Program best bring benefits to disadvantaged communities?
5. What is the capability of obtaining utility data for pre- and post-energy and water use? If utility data are not available, how will pre- and post-results be documented?

Next Steps

- **Comments Due by 4:00 p.m., September 1, 2015**
  - Email comments to: docket@energy.ca.gov
  - Please include Docket **15-WATER-01** and indicate **Drought Response** in the subject line
- Sign up for the WaterSaver Listserv for notice of workshops and program updates at:
  - www.energy.ca.gov/wet/

Lunch Break

WET Grant Program – Phase 3

Desalination

Objective

- Accelerate deployment of innovative technologies that reduce GHG emissions from existing desalination plants or plants under construction that will result in reduced energy use and increased on-site water production efficiency.

Project Considerations

- Currently, 23 brackish water and 4 ocean water desalination plants. Should funding be limited to brackish water or consider both?
- Applicant Eligibility: Public or private entities.
- Technology must be installed in desalination facility in CA.
- Funding: Up to $3 million (grant awards between $1M and $3M).
- Funding award competitively.
- Potential evaluation criteria.
  - Emphasize GHG emission reductions.
  - Amount of additional water production per unit of energy.
  - Technology innovation and project design.
  - Monitoring and verification approaches to ensure both energy and water savings occur.

Your Questions

Our Questions

1. What sectors (e.g., municipal, industrial) have the most potential for cost effectiveness and GHG emission reductions and why?
2. What emerging desalination technologies should be considered and why?
   a. What are the advantages and disadvantages of limiting awards to desalination of brackish water?
   b. What are the advantages and disadvantages of including ocean water?
   c. How can grant funding overcome barriers and disadvantages?

Our Questions (cont'd)

3. What grant award amounts would be most appropriate and what percentage of project cos would this represent?
4. What specifications and/or criteria are needed to ensure the purpose, instructions, and eligibility requirements are clear?
5. How can this phase best bring benefits to disadvantaged communities?
   a. Should all or a portion be set aside for disadvantaged communities and why?

Our Questions (cont'd)

6. What are the main barriers preventing implementation of advanced water production and energy saving projects for existing desalination plants in CA?
7. What is the capability of obtaining utility data for pre- and post-energy wand water production?
   a. If utility data are not available, how will pre- and post-results be documented?

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Additional Information

- WET Program
  - WET Program website: www.energy.ca.gov/wet/
  - Idea Exchange: http://www.energy.ca.gov/wet/idea_exchange.html
- Research and Development
  - Research Overview: www.energy.ca.gov/research/
  - EPIC: www.energy.ca.gov/research/epic/
  - PIER Natural Gas: www.energy.ca.gov/contracts/pier.html
- Opportunities List Serv: www.energy.ca.gov/listservers/