

CLIMATE ACTION TEAM

Energy Working Group

Near-Term Implementation Plan

CAS Infrastructure Strategy #3 and #4

Hydropower Decision Support Tool and Climate Research Outreach

CAT Working Group Overview: The Energy Working Group of the Climate Action Team focuses its efforts on both green house gas emission reduction and adaptation actions affecting the energy sector.

Working Group Agencies: ARB, Cal/EPA, CPUC, CAISO, Energy Commission, Resources.

Measure / Strategy

- A) Description: This measure requires the Energy Commission’s Public Interest Energy Research (PIER) Program to continue supporting studies on potential climate change impacts and adaptation options for hydropower generation and other sources of renewable energy. In general, PIER should also continue to support climate change science producing data and information that can inform long-term planning in California.
- B) Agencies Involved: California Energy Commission and Department of Water Resources in coordination with the Natural Resources Agency, Cal/EPA, and other state agencies managing resources that would be affected by climate change.
- C) Scoping Plan/Adaptation Plan Reference: CAS Infrastructure #3: Develop Hydropower Decision-Support Tools to Better Assess and Manage Climate Change Variability, and #4: Identify how state renewable energy goals could be impacted from future climate impacts.
- D) Metrics: NA
- E) Crosscutting Issues: Work on this measure will be heavily coordinated with the CAT Research Working Group.
- F) Tasks and Deliverables:

Task 1: Develop Hydropower Decision-Support Tools to Better Assess and Manage Climate Variability and Change

- 1. Description: This task involves two related activities: 1) investigating if a modern decision support system (INFORM) designed to better manage water reservoirs in California under current climatic conditions could also reduce water resources impacts under a changing climate; and 2) studying climate change impacts that may affect the operation of water reservoirs.
- 2. Deliverables: 1) PIER report on how the use of the INFORM decision support system may reduce negative climate change impacts on hydropower generation, water supply, and other services provided by major water reservoirs in Northern California; 2) Initiation of a new research project to improve the INFORM decision support system by improving the consideration of flooding events and expanding the geographical coverage of the system;

3) Initiate a new PIER research project that will complement past and on-going PIER research projects on climate change and hydropower generation by investigating how climate change could be taken into account in the FERC (Federal Energy Regulatory Commission) relicensing of hydropower units in California.

3. Agency Roles: The Energy Commission is acting as the lead with strong collaboration from the Department of Water Resources.
4. Timeline: All the studies described above are being finalized or will be initiated in 2010.

Task 2: Climate Research and Outreach

1. Description: The PIER Program has been supporting regional climate change research that has advanced science but, at the same time, has provided data and information that has been used in the preparation of long-term resource management plans (e.g., State Forestry Plan, State Water Plan). PIER will continue these activities and coordinate with other agencies via the CAT Research Working Group. In addition, PIER will continue to support and start new project(s) investigating how climate change may affect renewable sources of energy (other than hydropower generation). Finally, PIER will enhance and maintain a website known as CalAdapt to facilitate the transfer of climate impact and adaptation research and to encourage the use of research results by regional/local decision makers.
2. Deliverables: 1) PIER report on the potential impacts of climate change on wind energy resources; 2) Identification of research needs on the effect of climate change on renewable sources of energy; and 3) enhancing and maintaining the CalAdapt website.
3. Agency Roles: CEC will lead and coordinate with other agencies via the CAT Research Working Group. The Natural Resources Agency will be involved in the CalAdapt effort.
4. Timeline: PIER will identify research needs on the potential effect of climate change on renewable sources of energy (other than hydropower generation) for potential funding in the 2010/11 fiscal year. Finally, an enhanced version of the CalAdapt website will be available late in 2010.

G) SUMMARY TABLE:

Deliverable	Agencies	Deadline
PIER Report on how a modern decision support system (INFORM) could alleviate negative climate change impacts at major reservoirs in Northern California	CEC, DWR	August 2010
Initiate research project to enhance INFORM	CEC, DWR	Done. The research project will end late in 2012
Initiate a research project on climate change and FERC re-licensing	CEC, DWR	October 2010. The project will end late in 2012.
PIER report on the potential impacts of climate change on wind energy in California	CEC	March 2011
Identification of research needs on the potential effect of climate change on renewable sources of energy	CEC and agencies in the CAT Research Working Group	July 2010
CalAdapt Website	CEC, Natural Resources Agency	November 2010