

**CLIMATE ACTION TEAM  
Energy Working Group**

**Near-Term Implementation Plan**

**CAS Strategy 2  
Assess Climate Change Impacts in Power Plant Siting Cases**

**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: Assess Environmental Impacts from Climate Change in Siting of New Power Plants -- The Energy Commission will assess GHG emission impacts during power plant siting cases, and consider the potential impact of sea-level rise, temperature increases, precipitation changes and extreme events, where relevant. The Energy Commission will determine additional actions on its siting and planning programs as new information becomes available regarding the effects on system reliability of a low-GHG/high-renewable generation system.
- B) Agencies Involved: ARB, Cal/EPA, CPUC, CAISO, CEC, SWRCB, Resources, Coastal Conservancy
- C) Scoping Plan/Adaptation Plan Reference: Adaptation Strategies 2a: Assess Power Plants Vulnerable to Climate Impacts, and Recommend Reasonable Adaptation Measures, and 2c: Assess the Impacts of Climate Change on Energy Infrastructure
- D) Metrics: None
- E) Crosscutting Issues: Balance energy reliability, availability, cost and environmental footprint.
- F) Tasks and Deliverables:
  - 1. The Energy Commission adopted an Order Instituting Informational Proceeding (OII) on October 8, 2008 to address greenhouse gas (GHG) emissions in power plant licensing cases. The OII resulted in public workshops and meetings and two reports:
    - i. *Committee Guidance On Fulfilling California Environmental Quality Act Responsibilities For Greenhouse Gas Impacts In Power Plant Siting Applications.*<sup>1</sup> The report recommended that staff prepare a blueprint or framework for evaluating the types and locations of capacity required to support high levels of renewable additions, expansion of energy efficiency efforts and other demand-side programs, retirement of aging coastal facilities

---

<sup>1</sup> <http://www.energy.ca.gov/2009publications/CEC-700-2009-004/CEC-700-2009-004.PDF>, March 2009, CEC-700-2009-004.

relying on once-through cooling, and providing reliability for individual load pockets. The report is used to evaluate CEQA impacts of GHG emissions from proposed power plants.

- ii. *Framework for Evaluating Greenhouse Gas Implications of Natural Gas-Fired Power Plants in California.*<sup>2</sup> This consultant report provides a framework or the “blueprint” for assessing the implications of natural gas-fired facilities in the context of California’s greenhouse gas reduction policy objectives. Electricity systems rely on a portfolio of power plants with a wide range of operating capabilities to ensure the instantaneous matching of supply and consumption. Large amounts of intermittent renewable generation will necessitate increases in flexible, dispatchable generation that emit some GHG emissions. The report is used to evaluate CEQA impacts of GHG emissions from proposed renewable and fossil fueled power plants.
2. The Energy Commission Power Plant Siting program considers Climate Change in the CEQA impacts analyses of proposed power plants by evaluating and balancing:
- i. Power plant efficiency
  - ii. Reliability, startup time, ramp rates, and turndown
  - iii. Fuel type, including renewables, and project GHG emissions
  - iv. Susceptibility to flooding and inundation due to sea level rise or extreme precipitation events
  - v. Inlet air cooling and intercooling to improve performance during high ambient temperatures
  - vi. Dry cooling and Zero Liquid Discharge (ZLD) to reduce water use
  - vii. Reclaimed water to reduce fresh water use.
  - viii. The effects of higher ambient temperatures on direct and secondary pollutant effects are addressed through offsets and mitigation of the air pollutant emissions.

**G) SUMMARY TABLE:**

| Deliverable   | Agencies          | Deadline   |
|---|-------------------|------------|
| <i>Committee Guidance On Fulfilling California Environmental Quality Act Responsibilities For</i> | Energy Commission | March 2009 |

<sup>2</sup> <http://www.energy.ca.gov/2009publications/CEC-700-2009-009/CEC-700-2009-009-F.PDF>, December 2009, CEC 700-2009-009-F

|   |                   |               |
|---|-------------------|---------------|
| <i>Greenhouse Gas Impacts In Power Plant Siting Applications</i>  |                   |               |
| <i>Framework for Evaluating Greenhouse Gas Implications of Natural Gas-Fired Power Plants in California</i> | Energy Commission | December 2009 |
| Consideration of Climate Change in the CEQA impacts analyses of proposed power plants                       | Energy Commission | Ongoing       |