

**Proposed Agreement between California Energy Commission  
and  
The Regents of the University of California, - CIEE**

**Title:** Visualizing Climate Change Risk and Adaptation Options for California:  
CalAdapt  
**Amount:** \$549,975.00  
**Term:** 30 months  
**Contact:** Guido Franco  
**Committee Meeting:** 3/23/2010

### Funding

FY	Program	Area	Initiative	Budget	This Project	Remaining Balance	
08	Electric	EA	Global Climate Change	\$6,277,431	\$225,675	\$14,098	0%
09	Electric	EA	Global Climate Change	\$4,323,000	\$324,300	\$3,140,484	73%

### Recommendation

Approve this agreement with The Regents of the University of California/California Institute for Energy and Environment for \$550,000.00. Staff recommends placing this item on the discussion agenda of the Commission Business Meeting.

### Issue

One of the major challenges facing the members of the climate change adaptation community is the paucity of tools and established methodologies to convey the nature of the risk posed by climate change to a wider audience. There is a serious bottleneck in delivering relevant information, much of which is spatial in nature, to decision makers in a manner that allows them to turn climate change research results into effective climate change adaptation decisions and policies.

For the last several years the California Energy Commission's Climate Change Center (Center) has been developing policy-relevant climate change data and information that local agencies could use; however, these resources are currently underutilized.

### Background

On December 2, 2009 the Governor released a Comprehensive Climate Adaptation Strategy for California (Strategy) and unveiled the prototype CalAdapt website (<http://www.climatechange.ca.gov/visualization/index.html>) that was developed under funding and technical direction from PIER and Google.org. CalAdapt is a prototype web-based interactive visualization tool that can convey the risks of climate change for the benefit of Californians who live in

the affected communities and also for local decision makers. The Strategy mandates the Energy Commission to fully develop CalAdapt by September 2010 and thereafter regularly update the site.

### **Proposed Work**

The Geospatial Innovation Facility (GIF) at the University of California at Berkeley will update and enhance the prototype CalAdapt website to make climate change data and information produced by the PIER Program available to local, regional, and state entities. GIF will coordinate this work with PIER-affiliated researchers, Google.org, and the Energy Commission's Media and Public Communications Office.

The CalAdapt site will offer at least two levels of access to accommodate different levels of technical knowledge and user purposes. The first level will be for general educational purposes where decision makers and the public in general can learn about the affects of climate change at their home town or other loci of interest. If it's feasible, the site might offer educational video clips or movies demonstrating the potential effects of climate change. The primary users of the second level will be technical staff and resource managers which will require a more sophisticated level of information and access of data that they could use for their work, including long-term planning that would take climate change into consideration. For practical purposes, the amount of data available in level 2 is expected to be what can be accommodated with normal Internet traffic. The bulk of the CalAdapt website will be dedicated to this second level.

As an example of the future capabilities that will be made available through this project, the current prototype CalAdapt website can display preliminary climate scenarios (temperature and precipitation data) on grids with different levels of geographical resolution. The grid with the highest resolution consists of cells of about 7 by 7 miles. A user can access this information and data anywhere in California in an intuitive manner using Google Earth

### **Justification and Goals**

This project "[will] advance energy science or technologies of value to California citizens..." (Public Resources Code 25620.(c)), and is part of a "full range of research, development, and demonstration activities that . . . are not adequately provided for by competitive and regulated markets (Public Resources Code 25620.1.(a)); and supports California's goal to require all state agencies to incorporate climate change mitigation and adaptation strategies in planning and policy documents per the Integrated Energy Policy Report 2005.

The energy sector is the main source of greenhouse gas emissions in California and, therefore, must contribute to the identification of potential climate change impacts and the development of coping and adaptation strategies. In addition, climate change will substantially affect energy generation and demand, which requires tracking how climate is changing and estimating how it may evolve in the rest of this century.

Furthermore, Governor's Executive Order S-03-05 mandates the Energy Commission to engage in climate change research and provide scientific information to the Climate Change Action team's biennial climate change impacts assessment reports to the Governor and the State Legislature. Finally, Executive

Order S-13-08 and the recently adopted California Climate Adaptation Strategy orders the Energy Commission to continue supporting climate change research to provide the scientific basis for the development of adaptation strategies and to update and enhance the CalAdapt website.

This will be accomplished by:

- Further developing the CalAdapt prototype website into a fully functional interactive climate change risk assessment tool
- Providing climate change data and information to local, regional, and state level entities via the CalAdapt website to inform their planning processes.
- Educating people in California about the potential impacts of climate change and about adaptation options.