MEMORANDUM

TO: Ocean Protection Council

FROM: Laura Engeman, Project Manager

DATE: December 16, 2011

RE: Resolution on Ocean Renewable Energy

REQUESTED ACTION:

Staff recommends the Council adopt the attached Resolution of the California Ocean Protection Council (OPC) recommending an ocean renewable energy policy to the California Energy Commission (CEC).

SUMMARY:

At the August 11, 2011 OPC meeting, Council members agreed to (1) sponsor and facilitate a workshop to outline the policy and regulatory context for offshore hydrokinetic test and pilot projects, (2) prepare a white paper providing preliminary regulatory guidance based on the workshop results, and (3) prepare a foreword for the white paper that included recommendations for a state offshore hydrokinetic energy policy to be considered by the CEC, the state entity responsible for developing such policies.

With regards to progress on the first two tasks, OPC staff facilitated a workshop in October 2011 which was attended by several state agency staff, who are also members of the California Marine Renewable Energy Working Group (Working Group). With substantial input from the state agencies both at the workshop and subsequent review of drafts, OPC staff prepared a white paper titled, "California Permitting Guidance for Ocean Renewable Energy Test and Pilot Projects". The white paper provides a description and suggested efficient permitting pathway for applicants pursuing test and pilot projects to assist them in understanding and navigating these permits. The paper does not develop or establish new rules or a new permit system nor does it reflect any agency position or commitment to permit conditions on individual applications. The paper will be available on the OPC website by December 16, 2011 at: http://www.opc.ca.gov/2010/05/offshore-wave-energy-development/.

To fulfill the third task, OPC staff is now recommending the Council adopt the proposed resolution recommending an ocean renewable energy policy to the CEC, to be included in the Integrated Energy Policy Report (IERP) update. The proposed resolution was developed with input from members of the Working Group and the CEC staff. The CEC is the state's primary energy policy and planning agency and the IERP is the state's energy policy document. Thus the

proposed resolution is a direct avenue for the OPC to provide policy recommendations related to ocean renewable energy.

Both the proposed resolution and the white paper have the overall goal of encouraging development of ocean renewable energy technologies in balance with the protection and conservation of ocean resources for broad public benefit. Because ocean renewable energy technology is still being developed, California should consider facilitating small scale test and pilot projects located within its jurisdiction to: provide valuable information about potential environmental effects; inform design development to help minimize these effects; increase power production; and reduce generation costs. This effort will help California meet its long-term renewable energy and carbon reduction goals.

BACKGROUND

California is attractive to ocean renewable energy developers. The state's offshore wave climate, particularly north of Point Conception, is considered some of the country's most productive for wave energy resources.[1] In San Francisco Bay, strong tides may provide opportunity for harnessing tidal power. The state's marine waters also host significant wind potential for supporting offshore wind development.

The state has an aggressive mandate to increase the state's Renewable Portfolio Standard goal to 33% by 2020 (signed into law by Governor Brown in early 2011) and is home to a wealth of academic institutions, technology sectors, and other partnership opportunities for advancing this industry. Despite early challenges, several project proponents are considering deploying test and pilot marine renewable energy technologies in California in order to test their potential for larger scale development. Data gathered through these demonstration projects would help the applicants determine the viability of their technologies and evaluate how each technology interacts with and/or could pose a danger to the marine environment. These small scale projects also provide proponents the opportunity to work with state agencies and stakeholders through a phased approach to development.

CONSISTENCY WITH THE CALIFORNIA OCEAN PROTECTION ACT:

The proposed resolution is consistent with the California Ocean Protection Act (Division 26.5 of the Public Resources Code) and, specifically, Section 35615(a)(1) which directs the Council to coordinate activities of state agencies to improve the effectiveness of state efforts to protect ocean resources. The proposed resolution promotes the coordination of OPC, the CEC, and the other state agency members of the California Marine Renewable Energy Working Group by recommending an ocean renewable energy policy to the CEC. This policy calls out coordination activities of the state agencies to facilitate early test and pilot ocean energy projects that can provide valuable information on the potential environmental effects of these technologies as well as how to design appropriate mitigation and avoidance mechanisms to adequately protect the state's marine resources.

[1] Bedard, Roger. "Power and Energy from the Ocean Energy Waves and Tides: A Primer." Electric Power Research Institute: May 14, 2007.

CONSISTENCY WITH THE OPC'S STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

The resolution is consistent with the current OPC's Five-Year Strategic Plan[2] in the following respects:

Goal A (Governance), Objective 2b: Interagency Collaboration: "Work with all relevant state agencies to develop necessary legislation, regulations, or other tools to improve ocean governance.*"* The proposed action is designed to encourage collaboration among state and federal agencies with regard to ocean renewable energy planning and regulation.

Goal E (Ocean and Coastal Ecosystems), Objective 5a: Encourage Sustainable Economic Activity: "Encourage and support new and innovative economic activities that can be conducted in a sustainable manner along or off the California coast." The proposed resolution recommends that the CEC adopt a policy on ocean renewable energy that guides the state's goals for the development of these renewable energy technologies while balancing them with the protection and conservation of ocean resources for broad public benefit.

[2] The current strategic plan continues to guide the Council's activities until the next five-year strategic plan has been adopted.

Proposed Resolution of the California Ocean Protection Council
on Ocean Renewable Energy

December 16, 2011

WHEREAS, Governor Brown signed SBX1-2 (2011) requiring that renewable energy should equal at least 33 percent (approximately 20,000 megawatts [MW]) of total electricity sold to retail customers in California by December 31, 2020, and the California Energy Commission (Energy Commission) estimates that renewable energy goals for 2050 may range from 67 percent to 79 percent;

WHEREAS, ocean renewable energy technologies (wave, tidal and offshore wind) may help California meet its long-term energy and carbon reduction goals, create new jobs, diversify the state's energy supplies, and reduce air pollution from fossil-fuel power generation;

WHEREAS, the Energy Commission's 2011 *Renewable Power in California: Status and Issues* report estimates California's total offshore wave and tidal technical energy potential[1] to be 32,763 MW and the offshore wind technical potential to be 75,400 MW;

WHEREAS, the Energy Commission is the primary state agency for energy policy and planning and is currently undertaking the development of the 2011 Integrated Energy Policy Report (IEPR) which evaluates market trends and develops energy policies that seek to conserve resources, protect the environment, ensure energy reliability, enhance the state's economy, and protect public health and safety;

WHEREAS, the Ocean Protection Council recognizes that experimental ocean renewable energy projects can provide opportunity for evaluating the potential benefits and feasibility of these technologies;

WHEREAS, the Ocean Protection Council, in collaboration with the Energy Commission, has invested in facilitating the environmental review of these experimental technologies, including funding a report on potential environmental effects, establishing the California Marine Renewable Energy Working Group, and preparing a permitting guidance document for experimental ocean renewable energy projects;

NOW, THEREFORE the Ocean Protection Council hereby:

RESOLVES that the Energy Commission should adopt an ocean renewable energy policy that guides the state's goals for the development of these renewable energy technologies while balancing this development with the protection and conservation of ocean resources for broad public benefit;

RESOLVES to recommend that the Energy Commission consider adopting an ocean renewable energy policy for inclusion in the 2012 IEPR update, taking into account the following elements:

[1] Technical energy potential is the amount of generating capacity theoretically possible given resource availability, geographical restrictions, and technical limitations like energy conversion efficiencies.

- Ocean renewable energy technologies have the potential to help California meet its long-term energy and carbon reduction goals, and that these technologies need to be properly evaluated through small-scale test and pilot projects to: a) determine energy production potential and electricity generation costs, b) evaluate potential impacts to marine ecosystems, and c) assess compatibility with other marine uses;

- Studies conducted through small-scale test and pilot ocean renewable energy projects can provide valuable information about potential environmental effects and/or design-changes that help to minimize these effects, boost power production, and reduce generation costs. California's academic institutions can provide valuable opportunities for collaboration by conducting and funding research related to this nascent industry; and

- The Ocean Protection Council and Energy Commission will facilitate the development of small-scale test and pilot ocean renewable energy projects located within their jurisdictions, to the extent allowed by law, through the following actions:

    - **Continue co-chairing the California Marine Renewable Energy Working Group to coordinate and facilitate state agency review of small-scale test and pilot projects and improvements to the permitting process**. Coordination among California coastal and ocean management and energy agencies is critical to assisting the deployment of experimental ocean renewable energy projects and addressing regulatory challenges. Early agency and stakeholder consultations can also assist in identifying appropriate ocean renewable energy project sites and minimizing conflicts with marine uses.

    - **Assist in the implementation of the Memorandum of Understanding between California and the Federal Energy Regulatory Commission (FERC)** which calls for the state and FERC to coordinate application review schedules, encourage pilot projects prior to commercial development, and coordinate state and federal environmental reviews, where possible. The Energy Commission and the Ocean Protection Council will continue to use the California Marine Renewable Energy Working Group as a venue for implementing this MOU.

    - **Work with state agencies and academic institutions in California to promote research programs and funding related to evaluating small-scale test and pilot ocean renewable energy projects.** Supporting the development of collaborative research programs around test and pilot projects can provide agencies, stakeholders, industry and the public with information to better understand these technologies, how they interact with the marine environment, and how they may contribute to future renewable energy portfolios for the state and/or local communities.