MEMORANDUM

TO: Ocean Protection Council

FROM: Laura Engeman, Project Manager

DATE: August 11, 2011

RE: Marine Renewable Energy Panel: Test and Pilot Project Opportunities

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Panel Objectives:

1. Discuss opportunities and constraints for offshore renewable energy development in California with industry experts, stakeholders, and agency representatives
2. Identify opportunities where OPC can advance informed decision-making with sound data while simultaneously promoting investment and developing guidance for wave energy siting.

Spotlight on Science Presentations

Introduction from Skyli McAfee, OPC Science Advisor

Dr. William O'Reilly

Coastal Data Information Program at the Scripps Institution of Oceanography

- California's Coastal and Marine Renewable Energy Resources
- Access and availability of data on these resources in California

Meg Caldwell, JD

Center for Ocean Solutions

- Investing in geospatial data and tools to enhance the protection and sustainable use of the coast and ocean

Panel Presenters and Presentation Topics:

Introduction from Laura Engeman, OPC Project Manager

Mirko Previsic

RE Vision Consulting

- Status and commercial outlook of the wave energy industry worldwide and in California
- Why California may be a good location for early technology development to help increase overall industry momentum

William Lyte
Protean Energy Ltd.

- Overview of Protean and vision for deploying test prototypes in California
- Opportunities and challenges of pursuing hydrokinetic development in California
- How California can help advance this industry

William Toman
SAIC Maritime Solutions

- Lessons from the PG&E WaveConnect project
- Overview of a hydrokinetic testing facility concept

Pete Stauffer
Surfrider Foundation

- Overview of Surfrider policy on wave energy development and role in Oregon and California projects
- Principles to consider in siting and planning process
- How geospatial data and information on permitting can advance dialogue between stakeholders and project developers

Additional Panelists:
Cy Oggins, *State Lands Commission*
Eugenia Laychak, *California Energy Commission*

Bios of the Spotlight on Science Presenters

Dr. William C. O'Reilly
William C. O'Reilly is currently a senior development engineer with the Coastal Data Information Program at the Scripps Institution of Oceanography (SIO). Dr. O'Reilly received dual B.S. degrees in Civil and Environmental Engineering from the University of Michigan in 1983, and a Ph.D. in Oceanography from UCSD in 1991. Dr. O'Reilly has also been a visiting fellow at U.C. Berkeley, and a part-time research professor at the U.S. Naval Postgraduate School in Monterey, CA, from 1997 to 2001. His research has focused on measuring and modeling wave evolution across the continental shelf, and developing optimal methods for combining wave models and field measurements to predict regional wave climates. Dr. O'Reilly received the 2001 Joe Johnson Award from the California Shore and Beach Preservation Association for his work on swell prediction in the Southern California Bight.

Margaret Caldwell
Meg Caldwell, Executive Director of the Center for Ocean Solutions, focuses on the use of science in environmental and marine resource policy development and implementation, coastal and marine policy and climate change, the environmental effects of local land use decisions, and developing private and public incentives for natural resource conservation. She served on the California Coastal Commission from 2004-2007, including two years as its chairperson. While Chair of the Commission, Caldwell also served on the board of the California Coastal Conservancy. She has been a member of the California Marine Life Protection Act Blue Ribbon

Task Force for the central, north central and south coasts and is currently serving on the Task Force for the north coast. Meg is also Director and Senior Lecturer in Law of the Environmental and Natural Resources Law & Policy Program at Stanford University. She earned her B.S. in Business Administration from the University of California at Berkeley and her JD from Stanford Law School.

Bios of the Panel Presenters

Mirko Previsic

Mirko Previsic is the principal of RE Vision Consulting, a consulting firm focusing on marine renewable power systems based in Sacramento, CA. Over the past decade he has been the technical lead on many high profile studies in North America for a wide range of clients including, the U.S. Department of Energy, EPRI, FERC, State Agencies, Utilities, National Labs, and strategic investors. He has published over 30 reports and papers in the field of renewable power generation and energy efficiency for IEEE, EPRI, DoE and various expert publications and is an internationally recognized expert on the techno-economic viability of these emerging technologies.

William F. Lyte

William Lyte is the Vice-President of U.S. Operations for Protean Ltd., an Australian wave energy firm with expanding U.S. and worldwide operations. Mr. Lyte has represented Protean since 2008 in discussions with U.S. federal and state agencies, U.S. military, California and Hawaiian utilities, California ports and corporate partnering organizations. His experience includes three decades of involvement with California port, intermodal and technology industry, primarily representing major California consulting engineering firms. Representing port industrial organizations, he has helped to lead approval efforts for $7+ billion of port, rail and transit projects in California, and their associated use of sustainable technologies. He serves on the executive committees of CALMITSAC, a state/federal port and intermodal organization, and the Harbor Association of Industry and Commerce in Los Angeles. In technology, Mr. Lyte has served as project manager on federally-funded (USDOT) technology research projects resulting in commercialized sustainable technologies now in use at the Los Angeles ports. He is internationally known for his "technoplex" model of clustering existing public economic assets for economic growth, with strong potential for California's marine energy industry. He has worked with Caltech/JPL, the Los Angeles ports, Metropolitan Water District, and the Australian Government in support of their sustainable technology initiatives. Mr. Lyte also served for four years as founding chairman of L.A. County's Business Technology Center incubator, which has produced 50+ technology firms with 1.000+ jobs and $150 million of invested capital.

William Toman

Bill Toman has 25 years of experience in the electric utility industry and currently works as a Senior Project Manager at Science Applications International Corporation (SAIC) in Washington, DC. He has led the development of over 2,000 Megawatts of electric power plants in California, Mexico and Ghana. He is leading SAIC's role in developing marine renewable technologies including ocean wave, tidal and offshore wind projects. Prior to this, Mr. Toman directed the WaveConnect ocean wave program at Pacific Gas and Electric (PG&E) and was the PG&E representative for the San Francisco Bay Tidal Energy Project along with the City of San Francisco. Mr. Toman holds a B.S. Degree in Engineering and an M.S. Degree in Nuclear

Engineering, both from UCLA and an M.S. Degree in Industrial Administration from Carnegie Mellon University.

Pete Stauffer

As Ocean Ecosystem Program Manager, Pete Stauffer supports Surfrider Foundation's engagement in marine spatial planning, renewable ocean energy, and marine protected areas. Pete holds a B.A. in Environmental Policy from Duke University and a Master's degree from the University of Washington's School of Marine Affairs. After completing his Master's degree, Pete spent two years working for the NOAA Fisheries Service in Silver Spring, MD. Pete is an avid surfer and enjoys surfing the cold waves of Oregon where he currently resides.