



Sonoma Coast

Hydrokinetic Energy Project

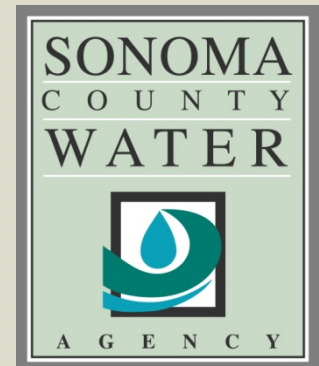
Feasibility Studies for Hydrokinetic Energy in California

Meeting:

Ocean Protection Council

Panel Discussion on
Hydrokinetic Energy
Development in California

Sheraton Grand Hotel
1230 J Street
Sacramento, CA
March 3, 2010
10 am to 3 pm



Cordel Stillman
Capital Projects Manager

SCWA File #: CF/46-0-9 SCHEP



Today's agenda

Project Overview

Economic Consideration

Challenges to Success

Future of hydrokinetics?



Sonoma County Water Agency



- Wholesale Water Supply
- 3 Counties
- 8 Contractors
- Over 600,000 People
- 6 Treatment Plants
- Flood Control



Our Energy Needs



- Largest User in County
- 60,000 MWh Annually





Carbon Free Water by 2015

- County - 2006 Pledge to Reduce Carbon Emissions by 25% Below 1990 Levels by 2015
- Carbon Free Water by 2015
 - Energy Efficiency
 - Renewable Energy





Project History – Protect the Coastline

- November 2007
 - Board of Supervisors Directed SCWA to Investigate Wave Energy
- July 7, 2009
 - FERC Approves 3 Preliminary Permits
- July 6, 2012
 - Preliminary Permits End





Economic Considerations

Opportunities

- Local jobs
- Energy security
- Infrastructure availability to distant locations
- Clean energy



Economic Considerations

Concerns

- Tourism impacts of large devices
- Property values decreasing due to degraded “view shed”
- Impact on ocean environment on fishing
- Impact on shipping



Challenges – Public Concern

Unknown impacts and new type of project

A lot of concern from various groups

- Residents, fishermen, surfers,
commercial shipping, environmentalists,
etc.



Public Outreach Meetings

- 2 Events Each 6 Month Period
 - Northern Point of Project Area
 - Gualala: Sept. 9, 2009
 - Approx. 70 Attended
 - Sea Ranch: TBD May/June 2010
 - Southern Point of Project Area
 - Jenner: Sept. 16, 2009
 - Approx. 40 Attended
 - Jenner: TBD May/June 2010





Advisory Committee

Members Include

- Mendocino & Sonoma Counties
- PG&E
- US Geological Services
- UC Davis Bodega Marine Lab
- Pacific Coast Federation of Fishermen
- Surfrider Foundation
- California Coastal Commission
- NOAA
- More...



Challenges - Funding

- Estimated SCWA Expense \$611k Annually
 - Project Management, Coordination, Technical Support, Administration, Outreach, Grant Writing
- Marine Studies VERY Expensive
 - Chartering Research Vessels
 - Creation/Rental/Purchase Monitoring Equipment
 - Expert Researchers
 - Development of Protocols





Challenges - Technologies

Technology is just “not there”



Challenges - Regulations

New type of project and uncertain requirements = \$\$\$ and risk



9 Federal and State Agencies involved in various aspects of studies and approval



Current Status

SCWA's permit revoked due to lack of activity

Most offshore hydrokinetic projects stalled or shut down

- public opposition, funding problems

Technology still in development



Current Status and Reflections

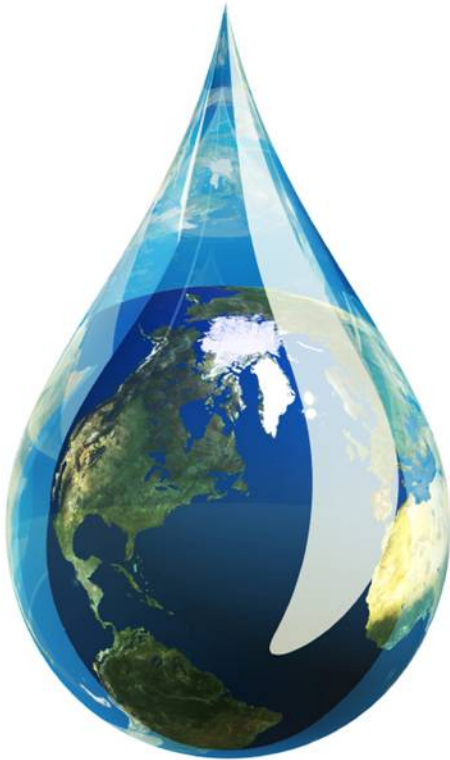


- Regulations
 - Many Agencies & Entities
- Funding
 - Marine Research Expensive
- FERC Process
 - 3-Year Permit Not Enough Time

HOWEVER.....



Current Status



Great promise and
hope in wave
energy