

# Overcoming Barriers and Offering Incentives: Ocean Energy's Infrastructure, Regulatory and Financing Needs

## Hydrokinetic Regulatory Framework and Challenges

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Capitol Hill Ocean Week 2010, Washington, D.C.

# New Hydro Technologies

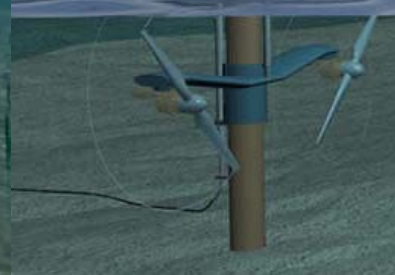
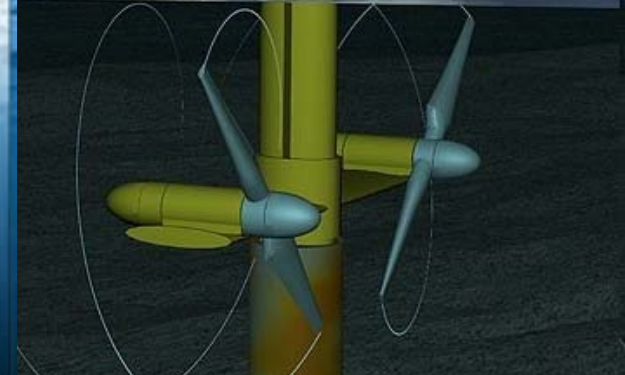
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Wave  
Current  
Tidal  
In-Stream

Could double U.S. hydropower production from just below 10% to close to 20% of national supply.

- Hydroelectric Infrastructure Technical Conference, Docket No. AD06-13-000 (Dec. 6, 2006), transcript 12; 22 (testimony of George Hagerman)





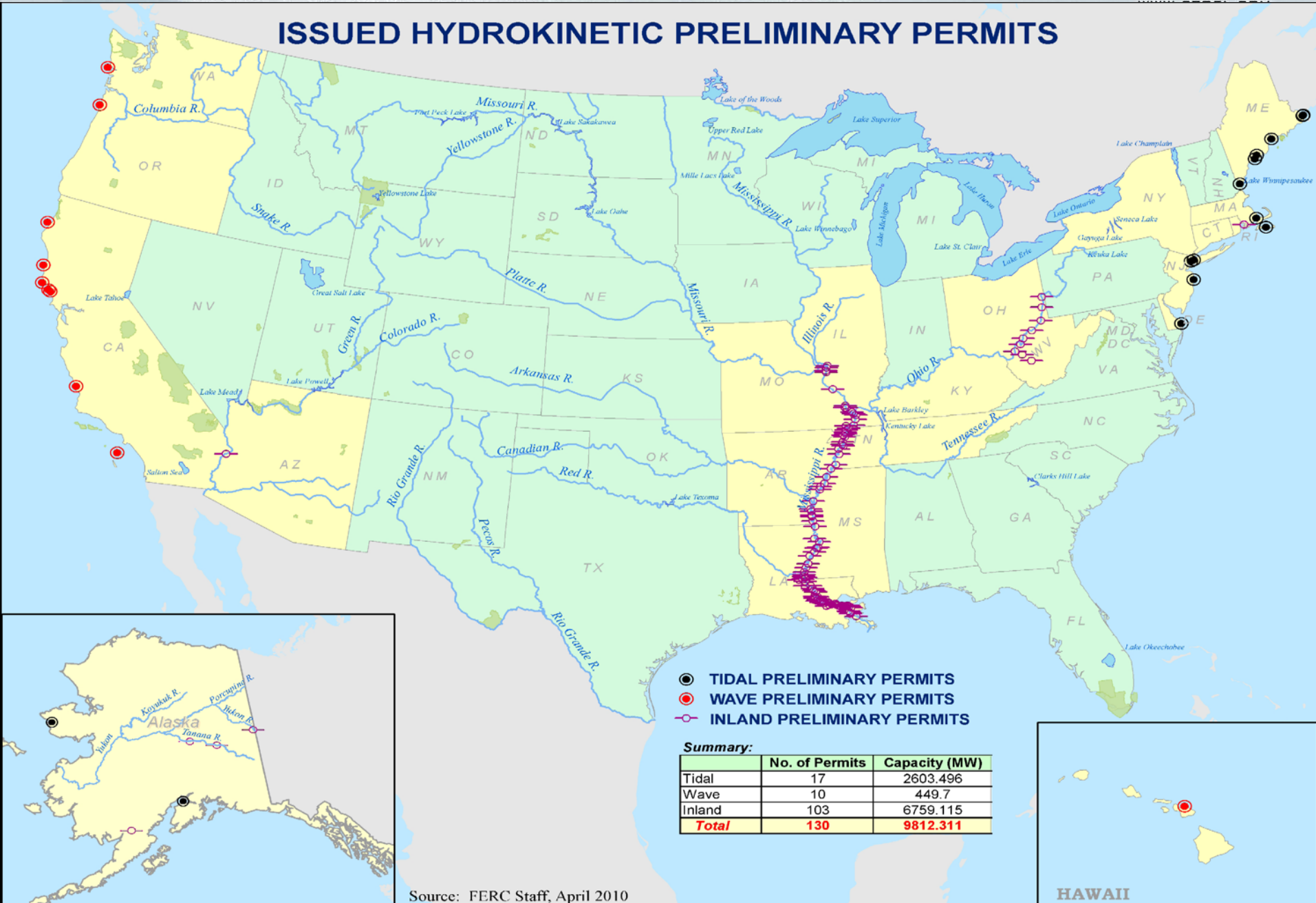
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# Federal Energy Regulatory Commission (FERC)

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- Preliminary permit
  - Optional; three-year term
  - Maintain priority for site – no construction authorized
  - Project feasibility, consult with stakeholders, perform baseline studies, develop license application.
- License
  - Uncertainty is the challenge
  - Reedsport wave energy project filed application
- “Pilot Project” license - 6 month FERC process
  - For demonstration projects (5 MW, 5 years)
  - Timing doesn’t account for other agency permitting

# ISSUED HYDROKINETIC PRELIMINARY PERMITS



- TIDAL PRELIMINARY PERMITS
- WAVE PRELIMINARY PERMITS
- INLAND PRELIMINARY PERMITS

**Summary:**

	No. of Permits	Capacity (MW)
Tidal	17	2603.496
Wave	10	449.7
Inland	103	6759.115
<b>Total</b>	<b>130</b>	<b>9812.311</b>

Source: FERC Staff, April 2010

HAWAII

# Minerals Management Service (MMS)

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- Leases on outer continental shelf (OCS)
  - Wind, wave, solar, current, generation of hydrogen
- Completed rulemaking, developed MOU with FERC in 2009
  - MMS and FERC share authority on OCS
  - FERC preliminary permits in state waters only
  - MMS issues “limited leases” and “commercial leases”
- Concern about:
  - Redundant environmental reviews
  - Standards for competition
  - Cost

# Environmental Approvals

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- Issues raised in siting ocean energy technologies:
  - installation impacts
  - shipping and navigation
  - crabbing and fishing
  - endangered species
  - marine mammals
  - migratory birds
  - electromagnetic field (EMF)
  - recreation and public safety



The White House Council on Environmental Quality

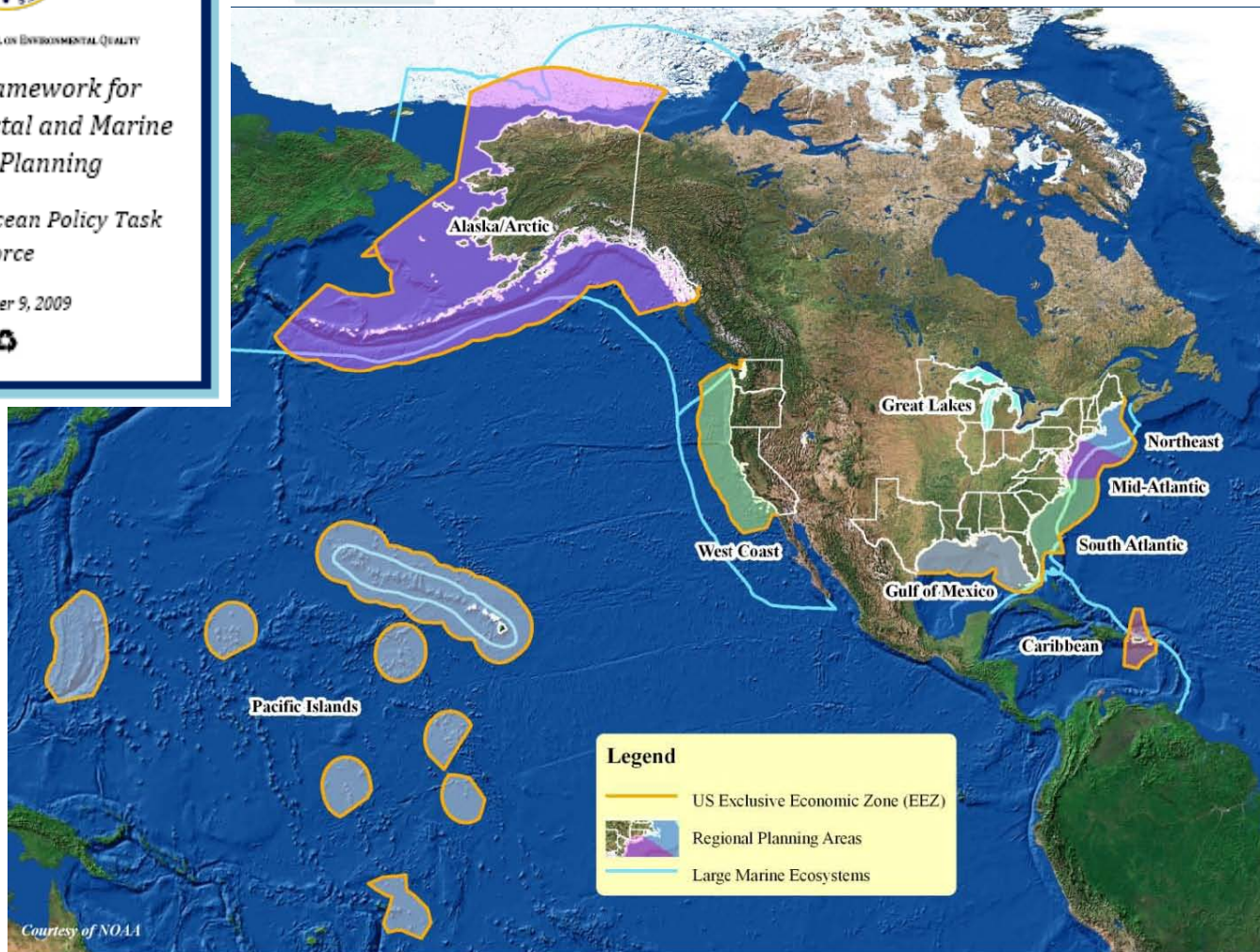
## Interim Framework for Effective Coastal and Marine Spatial Planning

Interagency Ocean Policy Task  
Force

December 9, 2009



# Marine Spatial Planning



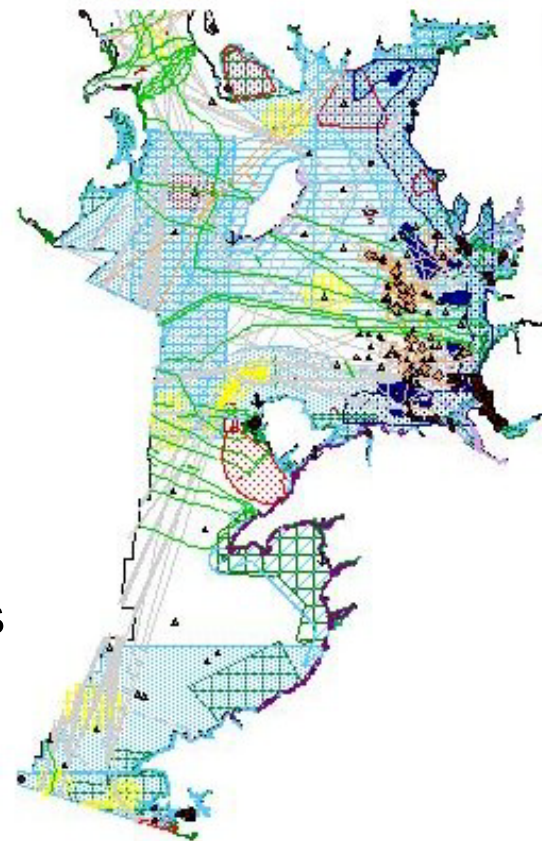
# What do we need?

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- For demonstration projects:
  - Smarter, more efficient process for demonstration projects
  - Proportionate study, monitoring, mitigation requirements
- For projects on the OCS:
  - Agency commitment to streamline (e.g., NEPA)
  - Address competition issues, high fees
- For all projects:
  - Financial incentives, DOE waterpower program

# What do we need?

- In Marine Spatial Planning:
  - Flexibility; not “zoning”
  - Focus on providing information to inform agency decisions, developer siting choices
  - Fund research to fill information gaps



Marine spatial planning in the Irish Sea

# What do we need?

## Allow and Encourage Phased Development



- Licenses, regulatory approvals should strive to cover incremental expansion
  - Encourage gradual expansion
  - Avoid competition over expansion areas
  - Avoid lengthy amendment process for planned expansion
  
- Need adequate basis for approvals, but do not need perfect information
  
- New approvals, new NEPA may be required where new information changes analysis



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