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Navigating California's Unique Legal, Permitting, and Environmental Risks for Offshore Wind

Friday, August 5th 11:00 A.M.–12:00 P.M. PDT

Please enter questions into the Chat. We will address in Q&A session.

Agenda

- Welcome & Introductions
- Speaker Presentations
 - Key Risks & Opportunities (Dr. Ian Voparil, Integral Consulting Inc.)
 - Interconnection & Transmission (Brian Cragg, Downey Brand LLP)
 - The California Current Ecosystem (Dr. Sharon Kramer, H. T. Harvey & Associates)
 - California Review & Permitting (*Christian Marsh, Downey Brand LLP*)
- Q & A with Speakers (Facilitators: Dr. Grace Chang, Integral Consulting Inc.; Megan Somogyi, Downey Brand LLP)

















Dr. Ian Voparil Integral Consulting Inc. Brian Cragg Downey Brand

Dr. Sharon Kramer H. T. Harvey & Associates Christian Marsh Downey Brand







Facilitators



Dr. Grace Chang Integral Consulting Inc.



Megan Somogyi Downey Brand









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Key Risks & Opportunities

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Dr. Ian Voparil Integral Consulting Inc.

Integral Consulting Inc.

- > Full service science and engineering company of 200+ employees founded in 2002
- > Science and Engineering Assessments
- > Offshore Site Characterization and Risk Mitigation
- > Environmental Characterization and Monitoring
- > Client Interface and Oversight



Integral's OSW Services

Client Advisory Services

- Geophysical
- Geotechnical
- Risk Assessment

R&D

 E.g. CA coupled atmo-ocean model

Site Assessment

- Wind Resource Assessment
- Metocean Assessment
- Engineering Assessment
- Environmental Assessment
- Archeological Resources Assessment
- Socioeconomic Resources
- Meteorological & Oceanographic Hazards
- Technology Testing Plan
- E.g. Cable Risk Assessment

COP Plan

- EMF
- Underwater Acoustics
- Benthic Report
- Benthic Field Survey
- Habitat Mapping
- Marine Mammal & Sea Turtle Protection
 Plan

Installation

• Monitoring & Mitigation

Operation

• Monitoring, Mitigation, Intervention



Proposed Lease Areas

ltem	California
Wind Speed	8 – 10.5 m/s
Water Depth	550 – 1100 meters
Foundatio n	Floating
Distance to Coastline	65 – 100 km



Lessons from deepwater O&G

- > Technical Risk associated with the defined scope of the project, e.g., design, construction, installation, export system, cable routes, beach crossing, interconnection, transmission...
- > Non-Technical Risk arise from interactions of the project and that scope with external context and expectation (which also changes).
 - Up to 70% of project failures due to non-technical risks (Brewer and McKeeman, 2012)
 - Most US OSW litigation around non-technical topics
- **>** Intertwined not always obvious at the right time.



Progression of OSW Leasing Criteria

		2017	2018	2022 – East	2022 - West	2023 - GoM	FUTURE
	Price						
Value in Auction	Feasibility						
High	Community Benefit						
Medium	Local Content						
Low	NEPA						
	Systems Integration				?	?	?
	Sustainability				?	?	?

Not for Third-Party Distribution

Project Risks

Themes	Examples						
Technical	Resource Assessment	Foundation	Mooring & Anchoring	Cables	Export Route	Landing	
Path to Market	Interconnection	Transmission	Final Customer				
Economic	Credits & Taxes	Revenue Share	Availability of Finance	Cost of Capital	Sales		
Commercial	PPA	Partners	Contracts for Services				
Area Capability	Ports	Vessels	Skilled Personnel	Competition from other sectors	Importation Process		
Supply Chain	Ramp Up	Serial Fabrication	Serial Assembly	Industrialization			
Regulatory	Lease Stipulations	New Regulations	Inter-agency alignment				
Political	Elections	Priorities	Policies	Special Interest Concerns	Electrification Decarbonization	Grid Parity	
Environmental	Natural Disasters	Important Habitats	Protected & Commercially Important Species	Impact to Air, Water, Sediment, Soundscape	Nature by Design		
Stakeholders	Changing Public Opinion	Re-prioritized concerns	Conflicts with Other Users	Community Benefit Agreements			
Organizational	Change in Management	Competing Interests	New Processes	Reorganizations	Partners	Complementary Capabilities	

Integra Not for Third-Party Distribution

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Transmission: Onshore Issues for Offshore Wind

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Brian Cragg Downey Brand

State Entities' Roles in OSW Transmission Assessment

- > Legislature--Sets policy and goals
- California Energy Commission (CEC)--Forecasts demand, sets OSW goals
- California Public Utilities Commission (CPUC)--Develops Preferred System Plan for use in CAISO's Transmission Planning
- California Independent System Operator (CAISO)--Annual Transmission Planning Process authorizes specific transmission projects needed for reliability, cost savings, or public purpose programs
- > Governor--Weighs in on policies and goals

OSW Capacity Estimates and Transmission Planning

- > **CEC--**Maximum Feasible Capacity of 2-5 GW by 2030, 25 GW by 2045
- > **CPUC--**2021 Preferred System Plan referred to CAISO: 1,708 MW by 2032
- > CAISO 2022-2023 Transmission Plan—looks out 10 years
 - Base portfolio: 1,708 MW of OSW
 - » Morro Bay: 1588 MW
 - » Humboldt: 120 MW (energy only)
 - Not considering energy from Diablo Canyon call area
 - » Assumes that Diablo Canyon Power Plant will retire in 2024-25
 - CPUC and CEC requested study of high transportation electrification scenario, 4,707 MW of OSW by 2035

California Wind Areas



DB

CAISO's North Coast Transmission Proposals

- > For 1.6 GW of OSW—from 20-year Transmission Outlook
- > Option 1: Two 120-mile, 500-kV AC lines to the Fern Road substation
 - \$2.3 billion
 - Requires upgrade: new Fern Road-Tesla line
- Option 2: Undersea VSC-HVDC cable to SF Bay Area
 - \$4 billion
 - Best if other call areas (Del Norte, Cape Mendocino) are developed
- > Option 3: HVDC line to SF Bay area
 - \$3 billion



Terrain for North Coast Transmission



DB

Transmission Options for Central Coast

DB

> CAISO 2022-23 Transmission Plan:

- All Morro Bay generation comes onshore at Diablo Canyon
- Existing 500 kV system can handle 5300 MW
 - » assumes Diablo Canyon retires as scheduled
- If more than 5300 MW of capacity is needed, three options:
 - » Undersea DC line to Southern California
 - » Second Diablo-Gates 500 kV line
 - » Undersea DC line north to Moss Landing

Conclusion

- Current transmission plans assume modest amounts of OSW capacity in next 10 years
- > Greater amounts of OSW could present greater challenges
 - Goldman School of Public Policy at Berkeley:
 - » 10-20 GW by 2035, 50 GW by 2045
 - Recent NREL Study: Potential for 17-21 GW of OSW in Del Norte and Cape Mendocino study areas



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The California Current Ecosystem

Dr. Sharon Kramer H. T. Harvey & Associates

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We create ecologically sound solutions to our clients' complex natural resources challenges.

Founded in the San Francisco Bay Area in 1970

More than 80 ecologists, landscape architects and other professionals in 4 California offices and 1 in Hawaii

Working on marine renewable energy projects since the first West Coast commercial wave energy project developer applied for a license with FERC in 2007

Involved in nearly every marine renewable energy project off the West Coast to date



www.harveyecology.com

H. T. Harvey & Associates Marine Renewable Energy Team



Dr. Sharon Kramer, team lead, principal, and marine ecologist Dr. Scott Terrill, principal, avian ecologist Dan Duke, JD, principal, regulatory expert Amy Sparks, JD, principal, regulatory expert Dr. Jim Harvey, senior adjunct associate, marine ecologist Dr. David Ainley, senior seabird ecologist Stephanie Schneider, MS, marine and seabird ecologist, modeling Greg Spencer, marine ecologist (Hawaii)



California Current Ecosystem



Characterized by a narrow shelf and upwelling



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Distinct Habitats and Species: Port, Nearshore and Offshore Wind Energy Areas

Ports

upgrades and wind turbine construction

Nearshore subsea transmission cable

Offshore wind energy areas wind turbine array



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Associates





Distribution Pattern Examples: Seabirds and Marine Mammals





Seasonal Variability



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Potential for Whale Interactions



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Potential for Multi-Trophic Interactions



H. T. Harvey & Associates Resources and References



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California North Coast Offshore Wind Studies, Existing Conditions and Environmental Effects: <u>http://schatzcenter.org/pubs/2020-OSW-R13.pdf</u>

Exploring the Feasibility of Offshore Wind Energy for the California North Coast, Ecological and Geological Environment webinar:

https://www.youtube.com/watch?t=120&v=yWbT8N80jB8&fe ature=youtu.be

Kramer, S. H., C. D. Hamilton, G. C. Spencer, and H. D. Ogston. 2015. Evaluating the Potential for Marine and Hydrokinetic Devices to Act as Artificial Reefs or Fish Aggregating Devices, Based on Analysis of Surrogates in Tropical, Subtropical, and Temperate U.S. West Coast and Hawaiian Coastal Waters. OCS Study BOEM 2015-021. https://www.boem.gov/sites/default/files/environmentalstewardship/Environmental-Studies/Pacific-Region/Studies/BOEM-2015-021.pdf

Seabird distribution in 3D: assessing risk from offshore wind energy generation. http://schatzcenter.org/2020/04/seabird3dstudy/

Ainley, D.G., et al. 2015. Seabird flight behavior and height in response to altered wind strength and direction. Marine Ornithology 43: 25-36.

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California Review and Permitting for Offshore Wind

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State Permitting and Review Agencies

> California Coastal Commission

- Coastal Zone Management Act (Consistency) & California Coastal Act
- > California State Lands Commission
 - Sovereignty over tide and submerged lands within State waters (Pub. Res. Code, § 6301)
 - Primary administration of the public trust doctrine
- > California Department of Fish and Wildlife
 - California Endangered Species and Fully Protected Species Acts
- California Regional Water Quality Control Boards and State Water Resources Control Board
 - 401 water quality certifications
- > Ports, Counties, Cities, and Other Responsible and Trustee Agencies
 - Master plans, general plans, zoning, coastal development permits, and use permits
- > Native American Heritage Commission and State Historic Preservation Officer
 - National Historic Preservation Act, Section 106 consultation, and memorandum of agreement
 - Assembly Bill 52

NEPA and CEQA – Key Differences

- Procedure v. Substance Under CEQA, lead agency must find that mitigation measures or alternatives have been adopted to ensure impacts are less than significant or, if significant and unavoidable, adopt statement of overriding considerations.
- Impact Thresholds and Mitigation Lower thresholds under CEQA, and more onerous requirements for mitigation.
- Cumulative Impacts NEPA's geographical and functional basis standard versus CEQA's broader analysis of combined effects.
- > Proposed Project and Alternatives The aftermath of Washoe Meadows.
- > NEPA Purpose and Need Versus CEQA project objectives.
- Scope of Review Major federal action versus the whole of the action (Humboldt WEA example—reasonably foreseeable future projects and impacts).
- > Litigation Higher volume of cases and less deference in California state courts.

Other CEQA Compliance Considerations

- > Joint v. Independent NEPA review
- > Lead, Responsible, and Trustee Agency Roles
- Coastal Commission's CEQA Equivalent Process
- > Programmatic v. Project-Level Review
- > Tiering and Supplemental/Subsequent Review
- > Future Legislation (e.g., California Energy Commission)

Other Distinct Permitting Considerations

- Fully Protected Species Fish & Game Code protects 37 species (e.g., California condor, least tern, brown pelican, Northern elephant seal, Guadalupe fur seal, Pacific right whale, Southern sea otter), with no incidental "take" allowable (except under NCCP).
- > **Tribal Consultations** Assembly Bill 52 and early consultation related to Tribal cultural resources and mitigation strategies.
- Environmental Justice and Disadvantaged Communities e.g., marginalized, low-income, and minority populations (including federally and non-federally recognized Tribes) disproportionately burdened by adverse environmental impacts and who are connected with public trust lands.
- California Public Trust Doctrine "Affirmative duty" to consider trust and "protect public trust uses whenever feasible" (*National Audubon Society v. Superior Court* (1983) 33 Cal.3d 419).



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Q&A with Speakers

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A link to the recording will be sent to participants.

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Speaker Bios



Dr. Ian Voparil Portland, ME 207.800.3814

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Dr. Ian Voparil has 16 years of experience managing early phase offshore energy development projects in the private sector for an international energy company. His experience has included accountability for non-technical risk management of a multibilliondollar portfolio of global exploration, development, and operational oil and gas assets. Dr. Voparil creates value and protects opportunity by applying environmental, economic, and societal sustainability across the energy project lifecycle. He actively creates strategic partnerships with legislators, federal and state regulatory agencies, non-governmental organizations (NGOs), and other developers to create value for all.









Brian Cragg San Francisco, CA 415.848.4813

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Brian Cragg practices before the California Public Utilities Commission and other regulatory agencies with a special emphasis on energy matters. His clients range from solar, wind, geothermal, landfill gas, and other renewable energy producers to owners and operators of conventional electric power plants and energy storage companies. Before entering private practice, Brian was an Assistant Chief Administrative Law Judge at the CPUC where he supervised administrative law judges handling energy-related cases. Brian is a Yale University graduate and earned his J.D. from the University of California, Berkeley.









Dr. Sharon Kramer Arcata, CA 707.822.4848

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Dr. Sharon Kramer is the marine renewable energy team lead, principal, and marine ecologist at H. T. Harvey & Associates. She has more than 30 years of experience in the ecology of marine, estuarine, and freshwater ecosystems—including over a dozen years as a biologist with the National Marine Fisheries Service and U.S. Fish and Wildlife Service. She leads environmental permitting efforts, environmental effect assessments and research, and planning and feasibility studies for the firm's marine renewable energy projects. Based in Humboldt County, California, She provides ecological resources expertise as well as analytical support to address the regulatory needs for project permitting and licensing efforts.









Christian Marsh San Francisco, CA 415.848.4830 cmarsh@downeybrand.com

Christian Marsh has more than two decades of experience representing public agencies and private companies on regulatory and land use issues governing real estate developments, water projects, renewable and traditional energy facilities, and port and waterfront developments. Specializing in environmental review under CEQA and NEPA, he advises on matters related to endangered species, water rights, and the public trust doctrine. Christian regularly litigates in state and federal court, including successfully in the California Supreme Court. Before practicing law, Christian served as special assistant in the White House Office on Environmental Policy and U.S. Department of the Interior, where he advised on endangered species and water policies.









Dr. Grace Chang Santa Barbara, CA

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Dr. Grace Chang has more than 25 years of experience in the fields of limnology and oceanography. Dr. Chang has managed programs involving field operations, data processing and analysis, and numerical modeling for environmental characterization, observational monitoring, scientific research, and technology development in support of marine renewable energy, hydrodynamics and sediment transport, and oceanographic research programs. She is recognized for her continued advancement of analytical methods in hydrodynamics and particle characterization through optics and acoustics, as well as for environmental research and monitoring.









Megan Somogyi San Francisco, CA 415.848.4829 msomogyi@downeybrand.com

Megan Somogyi has over a decade of experience in regulatory, transactional, and appellate matters relating to public utilities, with a focus on energy, transportation, and water. She represents municipalities and utility clients in electric transmission line siting proceedings, ratemaking litigation, sale and transfer of electric utility property, and utility certification proceedings before the CPUC and other regulatory agencies, with the occasional trip to the appellate courts. She also has significant expertise on CPUC regulation of utility wildfire prevention and proactive de-energization of power lines. Megan earned her J.D. from the University of San Francisco School of Law and her B.A. from the University of California, Berkeley.





