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California North Coast Offshore Wind Studies

Subsea Transmission Cable Stakeholder Identification



This report was prepared by Tanya Garcia, Laura Casali, Nicole Salas, and Mark Severy of the Schatz Energy Research Center. It is part of the *California North Coast Offshore Wind Studies* collection, edited by Mark Severy, Zachary Alva, Gregory Chapman, Maia Cheli, Tanya Garcia, Christina Ortega, Nicole Salas, Amin Younes, James Zoellick, & Arne Jacobson, and published by the Schatz Energy Research Center in September 2020.

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Schatz Energy Research Center
Humboldt State University
Arcata, CA 95521 | (707) 826-4345

Disclaimer

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1. INTRODUCTION

Humboldt County is an access point to the enormous offshore wind resource located on the north coast of California, but there is limited regional load and transmission capacity to absorb this electricity or transfer it to other load centers in the state. A subsea cable is one transmission alternative that could bring power from the north coast to areas with higher demand in the San Francisco Bay Area. As part of the North Coast Offshore Wind Study, two preliminary subsea cable corridors were developed that could connect between Humboldt Bay and the San Francisco Bay. The purpose of this memorandum is to describe different stakeholder groups and interested parties that may see benefits or concerns resulting from the subsea cable. The analysis includes an identification of stakeholder groups and interested parties and a viewpoint analysis to describe their potential perspective. Interviews and outreach to stakeholder groups and interested parties were not conducted as part of this study; information presented here is based on knowledge gained throughout the project and literature review of existing resources.

This document includes:

- Section 2 - A brief description of the subsea cable corridors and components
- Section 3 - A description of the scope of the analysis and the methods used for the study
- Section 4 - A summary of stakeholder groups and interested parties' main benefits and concerns
- Section 5 - A table listing all identified different stakeholder groups and interested parties with their potential perspectives

2. ABBREVIATED DESCRIPTION OF SUBSEA CABLE

The preliminary subsea cable corridors and technical components studied in this analysis are described in more detail in the Draft Subsea Transmission Cable Technical Memorandum by Mott MacDonald (Porter & Phillips, forthcoming).

Two potential subsea cable corridors were identified: near shore and offshore (Figure 1). The cable would connect between an existing converter station near Humboldt Bay Substation (King Salmon, CA) and a fictional converter station located within the San Francisco Bay Area, called the “Bay Hub”. The Bay Hub would be connected to three transmission systems in the Bay Area with the following substations: East Shore (Oakland), Potrero (San Francisco), and Los Esteros (San Jose).

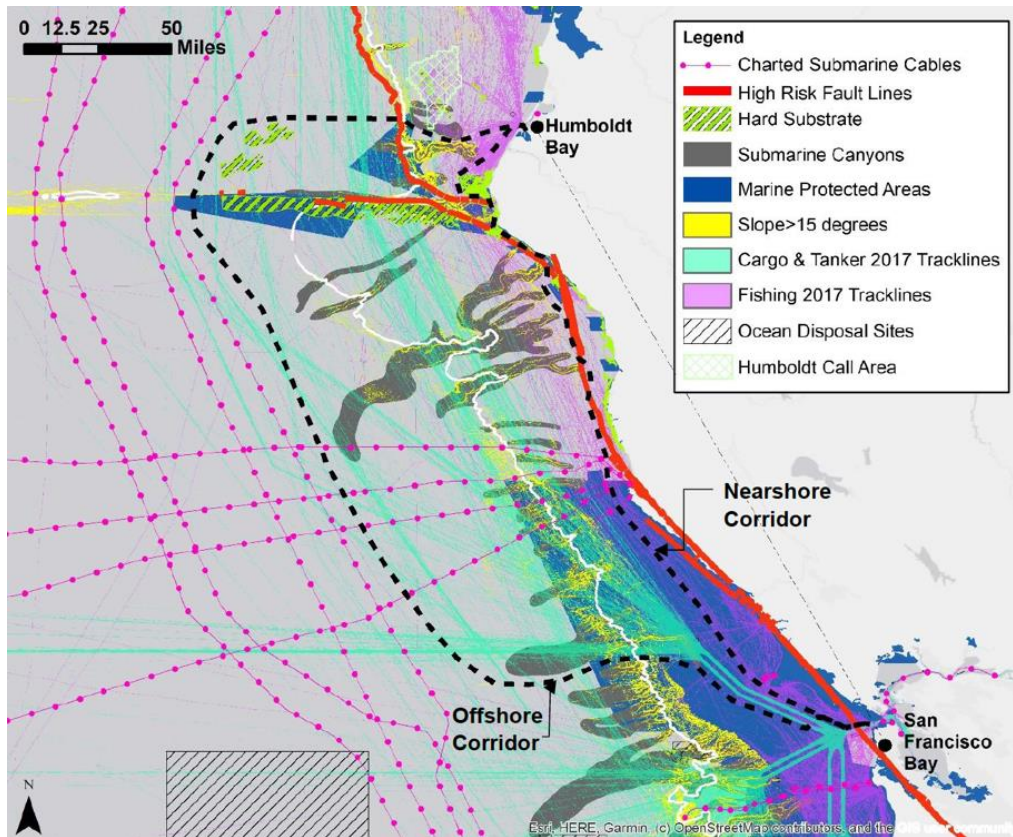


Figure 1. Map of subsea cable corridors and potential hazards; source: Draft Subsea Transmission Cable Technical, (Porter & Phillips, forthcoming)

The location of the Bay Hub is not determined in this study. Bringing a subsea cable through the Golden Gate would be extremely challenging from a geophysical and environmental permitting perspective. For the purposes of this study, the Bay Hub is located in some generic fictional onshore location in or around the San Francisco Bay Area, without specifying a particular siting location.

3. METHODS AND SCOPE OF ANALYSIS

Potential perspectives were identified for stakeholder groups¹ and other parties that have expressed interest in or may be impacted by offshore wind development. Potential perspectives were identified using a literature review of existing resources and by gathering insights from previous offshore wind analyses on the north coast conducted by Emery et al. (2020). Interviews and other methods of primary data collected were not used in this analysis due to the limited scope of work and the very early conceptual stage of the subsea transmission cable.

4. SUMMARY OF GROUPS/PARTIES AND PERSPECTIVES

The construction of a subsea corridor will impact groups in a variety of ways. Through a literature review, the following stakeholders and interested parties were identified and their potential perspectives are listed

¹ This research uses the term ‘stakeholder’ to describe immediate participants who are likely to interact with the process either during permitting, public meetings, through lawsuits, or during project development and implementation (Mitchell et al., 2003). These stakeholder groups are not intended as an exhaustive listing of community members or entities that might be engaged in or impacted by a potential offshore wind energy project, but instead provide a limited snapshot into local groups/communities that could be expected to play a significant role in the development process.

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in Table 1, including: federal, state and local agencies, environmental groups, fishermen, labor, local business, county residents, Native American tribes, and the energy industry.

Table 1. Summary of identified stakeholder and interested party perspectives.

<i>Theme</i>	<i>Group(s)</i>	<i>Perspectives</i>
<i>Potential Benefits</i>		
Renewable Energy Development	Advocacy Organizations, State Agencies, Ratepayers, Environmental Groups, Energy Industry, and Tribes	The installation of a subsea cable could help expand the development of renewable electricity generated from offshore wind farms and help contribute to California's clean energy targets.
Economic Development	Labor Unions, Harbor District, Local Business Organizations, Local agencies, and Tribes	The installation and operation of a subsea transmission cable may create local jobs (including high wage jobs with benefits), professional development opportunities, and potential community benefit packages.
<i>Potential Concerns</i>		
Environmental Considerations	Environmental Organizations, Fishermen, State and Federal Agencies, Tribes, Local coastal residents/communities, and SF Bay Area Residents	The installation of a subsea cable could have negative effects to the local ecosystems because of wildlife displacement, the introduction of stormwater runoff on land, potential impacts to water quality and navigable waters from dredge/fill material, etc. An energized subsea cable may interfere with certain electro-or magneto-sensitive species that could affect marine fauna behavior (feeding and migration).
Economic Loss	Trawling Fishermen and Ratepayers	A subsea corridor may cause negative financial impacts due to loss of some historic fishing grounds, impacts on transit zones, and other concerns. A subsea corridor may cause the cost of energy to become more expensive than existing costs.
Existing Ocean Uses	Fishermen	A subsea cable may interfere with the fishing sector and result in a loss of historic fishing grounds to trawlers in particular, fishermen could incur impacts from increased vessel traffic on transit zones during installation or repair, potential for the loss of fishing gear due to entanglement, and other concerns.
Existing Ocean Uses	Shipping and Vessel Traffic	A subsea cable could interfere with established shipping routes during installation or repair, or pose a risk to damaging cable during anchoring.
Telecom and Military Operations	Military and Telecom Cable Operators	A subsea corridor may interfere with communications instruments and military operations, such as ability to access and repair telecom or other subsea cables.
Cultural Resources	State agencies, Tribes	The installation of a subsea cable may have potential impacts such as risking damage to submerged cultural resources (known and unknown).

5. DESCRIPTION OF GROUPS AND POTENTIAL PERSPECTIVES

Stakeholder groups and interested parties that may see benefits or concerns associated with a subsea transmission cable are described in Table 2 along with their potential viewpoint and perspectives.

Table 2. Potential perspectives for the identified stakeholder groups and interested parties.

<i>Stakeholder Group/ Interested Party</i>	<i>Location of Interest</i>	<i>Potential Perspectives</i>	<i>References</i>
Marine Protected Areas (MPA) management agencies	Subsea cable corridor and Bay Hub	Environmental concerns around subsea cable corridor which may encounter MPAs regarding effects to hard substrate fish habitat (i.e., Essential Fish Habitat (EFH), potential effects to electro-and magneto-sensitive species).	CDFW (2020).
Renewable Energy Advocacy Organizations	Subsea cable	The cable aids in developing more renewable energy that will reduce greenhouse gas (GHG) emissions.	Emery et al. (2020).
Environmental Groups	Installation of subsea cable	Environmental groups could have concerns related to: <ul style="list-style-type: none"> • Conservation of species and habitats, • Disturbance of marine fauna behavior (spawning, mating, feeding, communications, migration) with special concern for endangered, threatened or charismatic species, and • Air pollution and greenhouse gas (GHG) emissions from construction activities. 	BSEE (2014), see Section 4.3 Stakeholder Interfaces, pages 19-21.
California State Agencies	Subsea cable, converter landfall location, and nearshore subsea cable in State waters	State agencies could have the following perspectives: <ul style="list-style-type: none"> • Concern for disturbance of cultural resources (known and unknown), • Preservation of the environment and resources with consideration of species and activities of local prominence (i.e., interests of commercial and recreational fishermen), and • Support for the development of renewable energy to meet state renewable energy targets. 	OPC (2020), Objective 4.4. De León (2018), SB 100.

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<i>Stakeholder Group/ Interested Party</i>	<i>Location of Interest</i>	<i>Potential Perspectives</i>	<i>References</i>
Fishermen	Nearshore subsea cable corridor and portions of offshore cable corridor	<p>Fishermen could have the following concerns:</p> <ul style="list-style-type: none"> • Loss of historic fishing grounds: around cable site, redistribution of fish, negative impacts to fishing operations from the potential entanglement of gear resulting in negative monetary impacts, • Potential impacts on trawling operations (disruption of established/historic fishing grounds), • Cable entanglement with fishing gear (resulting in loss of gear, potential fines, and subsequent gear retrieval), and • A decrease in work for the fishing sector (potentially). <p>If a subsea cable allows for development in the region, several side effects due to the development include:</p> <ul style="list-style-type: none"> • The inability to access fishing grounds into and out of the Humboldt Bay channel, due to increased vessel traffic during limited safe bar crossing intervals, • Competition for storage and access/space at the dock for fishermen’s gear and the cable installation and maintenance, • Potential port infrastructure improvements including dredging & marine debris removal, • Opportunities for social justice regarding climate change responses that disproportionately affects fisherman with negative impacts, • Increased disenfranchisement among fishermen, • The challenge of obtaining a unified voice and position among fishermen, • Fishing sector contribution to the social & cultural fabric of the region which can negatively affect tourism if it is lost, and • Fishermen may express concern that electromagnetic fields (EMF) could affect marine life behavior.² 	<p>Emery et al. (2019), pages 8-9.</p> <p>Emery et al. (2020), pages 16-17; H.T. Harvey, (2020) page 87.</p> <p>Rodmell and Johnson (2020), page 78, and 86.</p> <p>H.T. Harvey, (2020) page 94-95.</p>

² Note that when evaluating this concern against scientific evidence, it is important to understand its validity. There is not much evidence that low levels of EMF would repel fish from their original habitat, but there is evidence for

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<i>Stakeholder Group/ Interested Party</i>	<i>Location of Interest</i>	<i>Potential Perspectives</i>	<i>References</i>
Fishermen (<i>continued</i>)	Nearshore subsea cable corridor and portions of offshore cable corridor	<ul style="list-style-type: none"> Reduction of recreational fishing grounds can potentially create heavier reliance on remaining open fishing areas in areas where the cable encounters the most nearshore waters accessible by recreational fishers, however the areas where this could potentially affect recreational fishers are minimal as the majority of the subsea cable lays considerably offshore. 	
Shipping and Vessel Traffic	Offshore cable corridor	<p>Shipping companies could have the following perspectives:</p> <ul style="list-style-type: none"> Increased vessel traffic during installation could impede normal shipping vessel routes, Existing shipping routes/lanes have been established by US Coast Guard based on safety criteria and subsea cable installation could cause a temporary detour at Humboldt Bay and San Francisco Bay entrances which may impede vessels from safety, and Potential anchoring vessels could cause damage to subsea cable. 	Berge (2019), public comment to BOEM Call Areas from Pacific Merchant Shipping Association.
Fiber Optic Cable Owners	Subsea cable corridors	<p>Fiber optic cable companies could have the following perspectives:</p> <ul style="list-style-type: none"> A subsea power cable installation would need to include mitigation when crossing a submarine telecom cable (power cable could have potential impacts or damage existing fiber optic cables during installation), Without proper installation, the HVDC transmission signal could interfere with the fiber optic signal, and Installation is a particular challenge for the deep-water subsea cable corridor as no transmission cable has been installed at these depths. 	

effects on feeding efficiency and migration. It is also possible that EMF could provide a benefit to fishermen by making some fish species more available.

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<i>Stakeholder Group/ Interested Party</i>	<i>Location of Interest</i>	<i>Potential Perspectives</i>	<i>References</i>
Labor Unions	Subsea cable installation and maintenance	Members of labor unions may have one of the following perspectives: <ul style="list-style-type: none"> • A variety of construction jobs may increase, including good paying positions (local and imported), • Positions with benefits may become available, • An increase in membership for the Unions and work hours for community members, and • Could be in support, dependent on whether unionized labor is negotiated successfully. 	Emery, et al. (2019), page 5. Emery, et al. (2020), page 9.
Local Business Organizations or Economic Development Chapters	Subsea cable corridors and hub construction, deployment, installation, and maintenance	Perspectives surrounding economic development include: <ul style="list-style-type: none"> • Potential job creation in Humboldt Bay or San Francisco Bay Area during construction and ongoing maintenance,³ • Indirect economic benefit (e.g. local spending of earnings) and indirect job creation (e.g. service industry jobs that support additional spending from labor), • Local professional development (specialized training, cable and power transmission hub maintenance), and • A potential community benefits package. 	Emery et al. (2019). Emery et al. (2020).
Harbor District or Port Authorities	Port facilities	Development of a subsea cable may increase port traffic, which would provide economic benefit to the port and harbor district where vessels dock and load equipment.	Emery et al. (2020), page 9

³ Note that some of the equipment and vessels used for subsea cable installation are highly specialized and may not develop a local workforce. However, on-land electrical and interconnection infrastructure, could be served by a local workforce.

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<i>Stakeholder Group/ Interested Party</i>	<i>Location of Interest</i>	<i>Potential Perspectives</i>	<i>References</i>
U.S. Navy or Department of Defense (DOD)	Offshore	<p>Perspectives may include:</p> <ul style="list-style-type: none"> • Concern that the cable might interfere with military operations or submarine equipment, • No opposition for the near-shore transmission line if it stays within the no restriction zone, and • Opposition for the offshore transmission line because of intersection with a restricted zone according to the 2018 map. 	<p>Ianconagelo (2020).</p> <p>Chung (2018), page 26.</p> <p>Nikolewski (2018).</p>
US Army Corps of Engineers (USACE) and US Environmental Protection Agency (EPA)	Nearshore & Offshore- Subsea cable installation and maintenance	<p>These federal agencies could have the following perspectives:</p> <ul style="list-style-type: none"> • Concern for the impacts from the potential subsea cable routes, length of the subsea cable, and how the subsea cable will be installed (i.e., will the subsea cable be buried thus leading to potential effects from trenching the ocean floor such as impacts to water quality standards and to navigable waters).⁴ 	<p>BSEE (2014), Refer to page 18, USACE role with subsea cable installation.</p>
Federal Agencies (Bureau of Ocean Energy Management, US Fish and Wildlife Service, National Marine Fisheries Service, National Oceanic and Atmospheric Administration (including Office of National Marine Sanctuaries), US Coast Guard)	Nearshore & Offshore- Subsea cable installation and maintenance	<p>These federal agencies could have the following perspectives:</p> <ul style="list-style-type: none"> • Potential impacts (such as loss of habitat or taking of a listed species) from cable installation to federal or state listed endangered species within area, • Conservation of species and habitats, avoidance of disturbance of marine fauna behavior (spawning, mating, feeding, migration, EFH), and • If the cable encounters a National Marine Sanctuary (NMS) (such as Cordell Banks or Greater Farallones NMS), additional review and approval required. 	<p>NOAA (2020).</p> <p>Areas of NOAA Office of National Marine Sanctuaries, Cordell Bank National Marine Sanctuary Boundary, and Greater Farallones National Marine Sanctuary Boundary.</p>

⁴ Note that these concerns would be addressed and mitigated as needed through standard permitting processes from the USACE and EPA.

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<i>Stakeholder Group/ Interested Party</i>	<i>Location of Interest</i>	<i>Potential Perspectives</i>	<i>References</i>
Electric Utility Ratepayers	Subsea cable, both corridors	Ratepayers could have one of the following perspectives: <ul style="list-style-type: none"> • Concern about increases in electricity prices, and • Some may be more than willing to pay more for renewable energy. 	Emery et al. (2019).
Tribes	Subsea cable installation: all phases, Converter landfall location	The Tribes could have the following perspectives: <ul style="list-style-type: none"> • Based on geography or other reason, Cultural Resources: known (sensitive info) & unknown (discovery), risking damage to submerged cultural resources, • Concerns about offshore wind developments impacts to future tribal generations, • Concerns for marine life and habitats. Many Native Americans regard the ocean and horizon viewsheds with great importance, and there may be concerns with project siting and fishing rights, • Support for economic development potential (workforce development for its members especially if regional economic and social benefits could be developed), and • Interest in renewable energy development to work against climate change. 	BOEM (2018), Section 4.1, page 20. Emery et al. (2020) pages ii, 8, and 9.
SF Bay Area Residents	Converter Landfall location	Any redevelopment within the county must occur in a manner that is: <ul style="list-style-type: none"> • Sensitive to the historic aspect, • Sensitive to the environment (scenic beauty), and • Compatible with what already exists within the area. 	Port of SF (2004).

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<i>Stakeholder Group/ Interested Party</i>	<i>Location of Interest</i>	<i>Potential Perspectives</i>	<i>References</i>
SF Bay Area Residents (Continued)	Converter Landfall location	Local residents may have one or more of the following concerns regarding stormwater runoff: <ul style="list-style-type: none"> • May cause flooding and property damage, • Negatively impact local ecosystem and waterways, • Aesthetically displeasing, and • May require new or renovated infrastructure to transport water, which takes up space and money. 	Department of Energy & Environment (n.d.).

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