Recommendation #8 [Approved February 17, 2022] Develop strategies to increase U.S. content (of U.S. suppliers of technologies, equipment and services) in future U.S. offshore wind projects with an aim to growing the domestic supply chain and enabling exports by U.S. vendors and developers of offshore wind technology.

We recommend that the Department of Commerce produce a comprehensive report that will include competitive analysis of U.S. offshore wind technology, equipment and services supply chain, set a target for U.S. content, and create strategies to achieve the target in the next three to five years. This report will include analysis of why developers choose overseas vendors versus American suppliers for materials, equipment and services for domestic offshore windfarms in federal and state waters.

Sub-Committee(s): Technology & Innovation; Clean Energy Supply Chains

Background Information:

The recent large Coastal Virginia Offshore Wind (CVOW) farm project, comprising 176 turbines, surprised American industry by awarding substantial subcontracts of $1.8 billion in Capex to overseas suppliers of equipment and services including the fabrication of the monopiles (200,000 tonnes) and the installation of the monopiles to a domestic subsidiary of a foreign firm. The technology to fabricate monopiles and the means to install them already exists in America and has been very competitive in the international markets. In addition, the state of Virginia has provided nearly $200 million of direct aid to a foreign technology entity for the establishment of a turbine manufacturing facility to supply the turbines and turbine blades.

Examining completed and recently announced offshore wind farm projects in the United States (see Fig. 1, next page) suggests that at times, over 60% of the capital expenditure for the offshore wind farm goes overseas, resulting in deteriorated domestic supply chains and international competitiveness. Therefore, it is important to determine reasons why qualified American suppliers are not being contracted for significant parts of offshore wind farm development. In addition, it is necessary to identify policies and incentives to increase the U.S. content in future U.S. Offshore wind projects.

Figure 1: Summary of Estimated Offshore Wind Farm Expenditure of Recent U.S. Projects
(Compiled by Sub-Committee from Public Sources)

		Existing Projects		Recently Announced Projects			
		Block Island	***Coastal Virginia Pilot Project***	***Coastal Virginia Offshore Wind***	***Vineyard Wind 1***	***Park City Wind***	***Commonwealth Wind***
	Federal / State Waters	State	Federal	Federal	Federal	Federal	Federal
	Year Operational / Planned Operational	2016	2020	2024	2023	2025	2026
	Turbine Rated Output (MW)	6	6	14.7	13	13	Unknown at this time
	Number of Units	5	2	176	62	62	Unknown at this time
	Rated Wind Farm Out put (MW)	30	12	2587	806	806	1200
	Bonus Scheme?	2.75% of Power Generated		30% ITC + PTC	30% ITC + PTC	30% ITC + PTC	
	Ownership Breakdown	Foreign (100%)	Foreign (100%)	Domestic (100%)	Foreign (100%)	Foreign (100%)	Foreign (100%)
Fabrication / Supply	Turbines (Towers, Blades and Nacelles)	Foreign (Alstom, pre GE takeover)	Foreign	Domestic Subsidiary of Foreign Firm	Overseas Fabrication by Domestic Firm	Overseas Fabrication by Domestic Firm	Unknown at this time
	Foundations	Domestic (Jackets)	Foreign Firm (Monopiles)	Foreign (Monopiles) $1,100,000,000 (18.4%)	Foreign (Monopiles)	Unknown at this time	Unknown at this time
	Offshore Power Cables (Infield and Export)	Foreign	Foreign	Foreign $730,000,000 (12.4%)	Foreign $232,000,000	Foreign $300,000,000 (7.7%)	Domestic Subsidiary of Foreign Firm $580,000,000
Installation	Turbines (Lift and Set) onto Foundations	Foreign	Foreign	Domestic	Domestic	Unknown at this time	Domestic
	Turbine Foundations	Domestic	Foreign	Domestic Subsidiary of Foreign Firm $1,800,000,000 (30.5%)	Domestic Subsidiary of Foreign Firm	Unknown at this time	Unknown at this time
	Offshore Power Cables (Infield and Export)	Domestic $146,000,000	Domestic		Domestic	Unknown at this time	Unknown at this time
	Offshore Wind Power Plant Costs	$300,000,000	$258,000,000	$5,900,000,000	$2,300,000,000	Unknown at this time	$2,300,000,000
	Other Project Costs (including onshore grid improvements or offshore rework)	$30,000,000	$42,000,000	$2,900,000,000	$700,000,000	Unknown at this time	Unknown at this time
	Total Project Costs	$576,000,000	$300,000,000	$9,800,000,000	$3,000,000,000	$3.881,000,000	Unknown at this time

Note: Content percentages are based upon the offshore wind power plant costs.

Expected Effect on U.S. Export Competitiveness: It will be pointless to develop an export philosophy for American offshore wind technology, equipment and services if deployments of U.S. offshore wind are dominated by foreign technology, equipment and associated fabrication and installation services using foreign suppliers and service providers. The CVOW project appears to be in conflict with the current Federal and Several State Administrations stated goals to develop and execute "Built in America" clean energy technology using American firms and maximize American employment.

Specific Agencies Responsible for Implementation: Department of Commerce (DOC) with inputs from Department of Energy, Department of the Interior (BOEM) and Department of Treasury. Study by DOC should include inputs from U.S. industry representatives across the equipment supply, fabrication services, material supply and

service for installation, operations and maintenance of future U.S. offshore wind projects, along with finance and taxation experts.

Measures of Success: The goals of this study should be to identify and communicate:

(i) any technical shortcomings and or competitiveness disadvantages that may still exist with American manufacturers, fabricators, infrastructure, and project service suppliers
(ii) possible remedial actions to overcome any technical shortcomings identified in (i) above
(iii) any commercial and risk factors precluded selecting American suppliers, and
(iv) possible means to overcome commercial disadvantages identified in (iii) above and provide financial and tax incentives to increase U.S. content.
(v) U.S. exports to foreign offshore projects longer term.

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