Wind Support NYC
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Call for wind powered vessels developers

Introduction

Wind Support NYC develops and promotes maritime projects that advance wind propulsion solutions and increase the use of wind - the free renewable energy available at the point of use - in the energy mix.

We are currently studying the role wind propulsion can play to reduce the emissions from the shipping activity on the **trade route between the states of Washington and Alaska.**

This study is supported by the Ocean Conservancy, a US foundation that advocates at the IMO and in Washington DC to decarbonize shipping completely by 2040. Through this study, Wind Support NYC and Ocean Conservancy will expose the key role wind propulsion can immediately play on the pathway to zero emission shipping.

The results of the study will be released in April 2023: **the report will be made publicly available** and we also intend to present the results in a few conferences centered on wind propulsion & sustainable shipping.

The first part of the study introduces the route, i.e. the cargo transported, the ports of calls, the weather & sea conditions as well as the existing fleet sailing between Seattle Tacoma and the ports of Alaska.

In the second part, wind propulsion technology developers assessed feasibility, impact and cost of retrofitting one RoRo vessel (TOTE North Star) sailing between Tacoma and Anchorage.

This call is addressed to shipping companies operating (or developing) new wind enabled commercial vessels.

Contribution

By introducing those vessels in the study, our aim is to demonstrate that **wind harnessing technology is an energy saving device,** but can also **replace fossil fuels as the main source of propulsion.**

The respondent is asked to present a wind enabled vessel (hybrid or 100% wind propulsion) well suited to join the fleet and move cargo between Washington & Alaska.

We have decided to leave the scope of the contribution wide open, but it should be short (max 5 pages) and describe:

- The vessel, its propulsion,
- The route it will operate on
    - Tacoma Anchorage (through the Gulf of Alaska) with the option to service further west to Aleutians and South West Alaska.
    - Short sea Shipping in the South East of Alaska (between Seattle and Anchorage)
- Its average speed, lead time & frequency of departure
- The cargo it will transport and its capacity.

Since the report will be made publicly available, **we do not expect the vessel developer to disclose any confidential information**.

Timing

March 14	Call for wind powered vessels issued
March 15-22	1-1 meeting to scope the developer's contribution
March 30	Draft contribution received by Wind Support NYC
April 1-10	Contribution finalized
April 15	Report released
May June	Study presentation (online + conferences on sustainable shipping and wind propulsion)

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Wind Corridor #1 - Washington Alaska

Alaska is the largest US state, but is connected to the rest of the world by a single highway. More than any other state, Alaska depends on maritime shipping to supply food, dry and construction goods, fuel and vehicles needed to support the daily lives of Alaskans.

The majority of this cargo is transported from the Puget Sound ports of Seattle and Tacoma by ship, barge, and articulated tug/barge (ATB).

Shipments to the Interior are primarily over the road or by rail, while shipments to the Far North by vessel during the extremely short Arctic summer. Those shipments to the Far North are excluded from the study; we will focus on shipments to three main regions: Southeast, Southcentral, and Southwest.

The shipments of fuel are also excluded from this call.

Ports of call & volumes

	2020 TEU Imports (no. of containers)	2020 Containerized Imports (tons)	TEU/week	2020 TEU exports*
Anchorage	291378	1189000	5603	
Juneau	73195	316000	1408	
Ketchikan	28005	95,000	539	
Whittier	27493	450000	529	
Dutch Harbor	24164	110000	465	
Kodiak	8595	45000	165	
Petersburg	30679	94,000	590	
Sitka	11149	45000	214	
Skagway	13180	55000	253	
Seward				

(*) we are in the process of getting accurate export volumes (much smaller that the export ones) i.e. from Alaska to SeaTac, an update will be released on Mar 24, 2023 .

Southcentral

In the Southcentral region, the largest city in Alaska, Anchorage, is served by two container vessels (Matson), and two RORO vessels (TOTE) each week as well as weekly container on barge service operated by Samson and Alaska Marine Lines (AML), resulting in 291,000 TEU imported from Seattle/Tacoma in 2020.

- TOTE is currently in the process of converting their vessels to operate on LNG.
- The three Matson vessels are now 35 years old, making it unlikely that the company will consider significant capital retrofits before replacing the vessels.

The AML and Samson barges are pulled by tugboats, primarily from Western Towboat, and are typically around 5000 hp, and are capable of pulling full barges at approximately 10 kts, approximately 50% of the fuel efficiency of a comparable sized ship.

The TOTE & Matson vessels are crossing the gulf of Alaska while barges are sailing in the inside passage.

Vessel Type	Vessel Name	Operator	Year Built	Size	Dimensions	Installed Power (HP)	Service Speed
Container	*Kodiak, Anchorage, Tacoma*	Matson	1987	1668 TEU	710 x 78 x 33	22540	20 kts
RORO	*Midnight Sun, North Star*	TOTE	2003	1200 TEU + 250 cars	839 x 118 x 31	60000	23 kts

Southeast

Juneau, the state capital and largest city in the Southeast region is served by two AML and one Samson barge per week for a total 73,000 TEU imported per year. Smaller ports are also served by barges:Ketchikan and Petersburg are the next largest ports after Juneau, each around 30,000 TEU per year, and the remaining Southeast ports all under 10,000/year.

Vessel Type	Vessel Name	Operator	Year Built	Size	Dimensions	Installed Power (HP)	Service Speed
Container Barge	*Chichagof Provider, Chatham Provider*	AML	1973	510 TEU	286 x 76 x 17	5000 (Titan class tug)	10 kts
Container Barge	*Tongass Provider, Taku Provider*	AML	1997	700 TEU	322 x 90 x 18		10 kts
Container Barge	*Skagway Provider, Sitka Provider, Stikine Provider, Southeast Provider*	AML	2004	800 TEU	360 x 100 x 22		10 kts
Container/ Rail Barge	*Anchorage Provider, Fairbanks Provider, Arctic Provider, Whittier Provider*	AML	2001	264 TEU + rail cars	420 x 100 x 24	5000 (Titan class tug)	10 kts

Southwest

Coastal Transportation vessels sail each Friday from Seattle to ports throughout Western Alaska and the Aleutian Islands, regularly servicing the ports of Chignik, Sand Point, King Cove, False Pass, Dutch Harbor and St. Paul. Most of the cargo is associated with commercial fishing, a typical voyage is 24 days long.

Depending on weather conditions, they operate through the Gulf of Alaska or sail in the inside passage.

Vessel Type	Vessel Name	Year Built / Rebuilt	GT ITC	Installed Power (HP)
General Cargo Palletized	Coastal Trader	1963 / 1985	1823	2,000
	Coastal Navigator	1991 / 2010	1904	2,000
	Coastal Progress	1988 / 2011	1920	2,600
	Coastal Nomad	1986 / 2012	1920	2,600
	Coastal Standard	2015	2451	3,084

Fuel - *Shipment of fuel is excluded from this call; this section is for information only.*

Bulk fuel shipments to Alaska ports consist mainly of kerosene (jet fuel), and distillate fuels (diesel and home heating oil). Alaska had the third highest per capita consumption of fuel for any US state, primarily driven by transportation and resource extraction consumption. As each town/city typically operates its own electrical grid, oil powered generation is common throughout Alaska, accounting for 16% of electricity production, typically from diesel fuel.

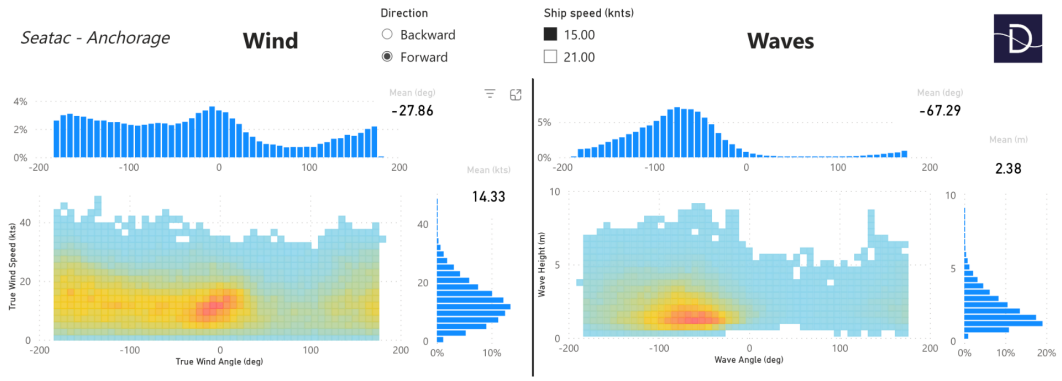
Anchorage is supplied by coastwise shipments of oil products, carried on ATBs operated primarily by Crowley and Kirby, ranging from 100,000 to 200,000 barrel capacity barges and 6,000 to 11,000 hp tugs. Smaller ATBs (28k-76k barrels) are used to serve all ports except Anchorage, meaning most ports receive a vessel between 5 and 20 times per year, depending on storage capacity.

Vessel Type	*Vessel Name*	*Operator*	*Year Built*	*Size*	*Dimensions*	*Installed Power (HP)*
Petroleum ATB	*DALE R. LINDSEY/Petro Mariner*	*Petro 49*	*2016*	*28,450 bbl*	*222 x 65 x 24*	*6000*
Petroleum ATB	*550 Class (4 vessels)*	*Crowley*	*2002*	*155,000 bbl*	*477 x 74 x 24*	*9280*

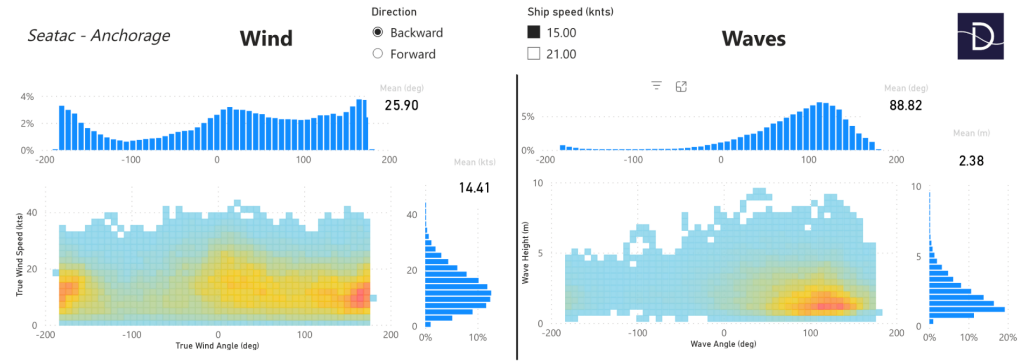
Sea & weather conditions, safety & operability

Below is a summary of wind & wave conditions on the route between SeaTac and Anchorage. Should the vessel developer need more details, a more detailed study is available upon request.

SeaTac to Anchorage



Anchorage to SeaTac



Public report and confidential information

Since the report will be publicly available, **we do not expect the technology developer to disclose any confidential information**.

Contact

For any questions, please reach out to Laurent Corbel, +1 646 229 9900, lcorbel@windsupport.nyc

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