

Program Overview

Washington State Ferries (WSF) is beginning the transition to an emission-free fleet through a hybrid electric ferry system with support from the governor and state legislature.

Operating the largest ferry system in the United States, WSF is the biggest contributor of greenhouse gas emissions from a state agency in Washington - burning 19 million gallons of diesel fuel to support 24 million passengers each year. This puts WSF in a unique position to reduce airborne pollution and greenhouse gas emissions by electrifying its ferry fleet.

Program Elements

To transition to a hybrid electric fleet, WSF will:

- Build 16 new hybrid vessels
- Retrofit 6 current diesel vessels to hybrid
- Retire 13 diesel vessels
- Electrify 16 terminals

While WSF is one of the first - and largest - ferry systems in the US to convert its fleet to hybrid, this technology has been broadly applied throughout northern Europe with over 70 comparable vessels in service going back to 2015.

Program Benefits

Electrification of the WSF ferry system will significantly reduce state greenhouse gas emissions and improve local air quality. By 2040, emission reductions will include:



Reduction in carbon dioxide emissions by **76%**



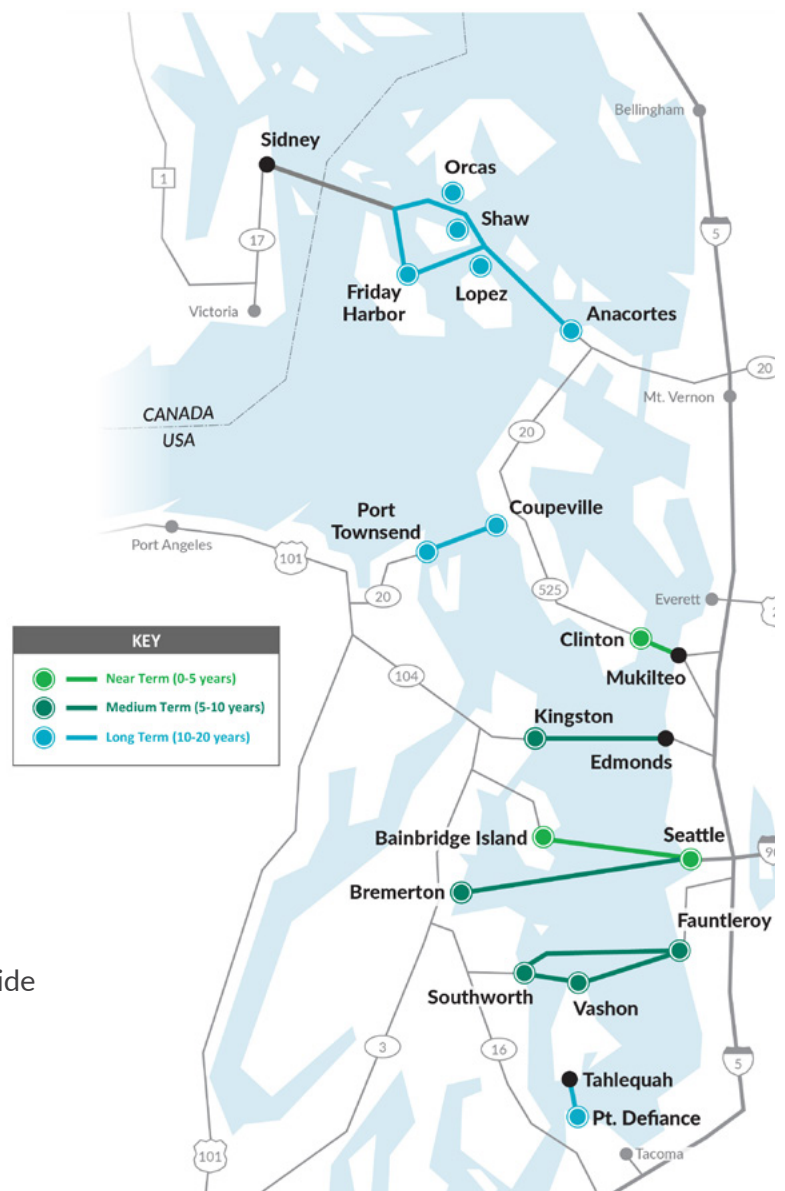
Reduction in sulfur oxide emissions by **75%**



Reduction in nitrous oxide emissions by **94%**

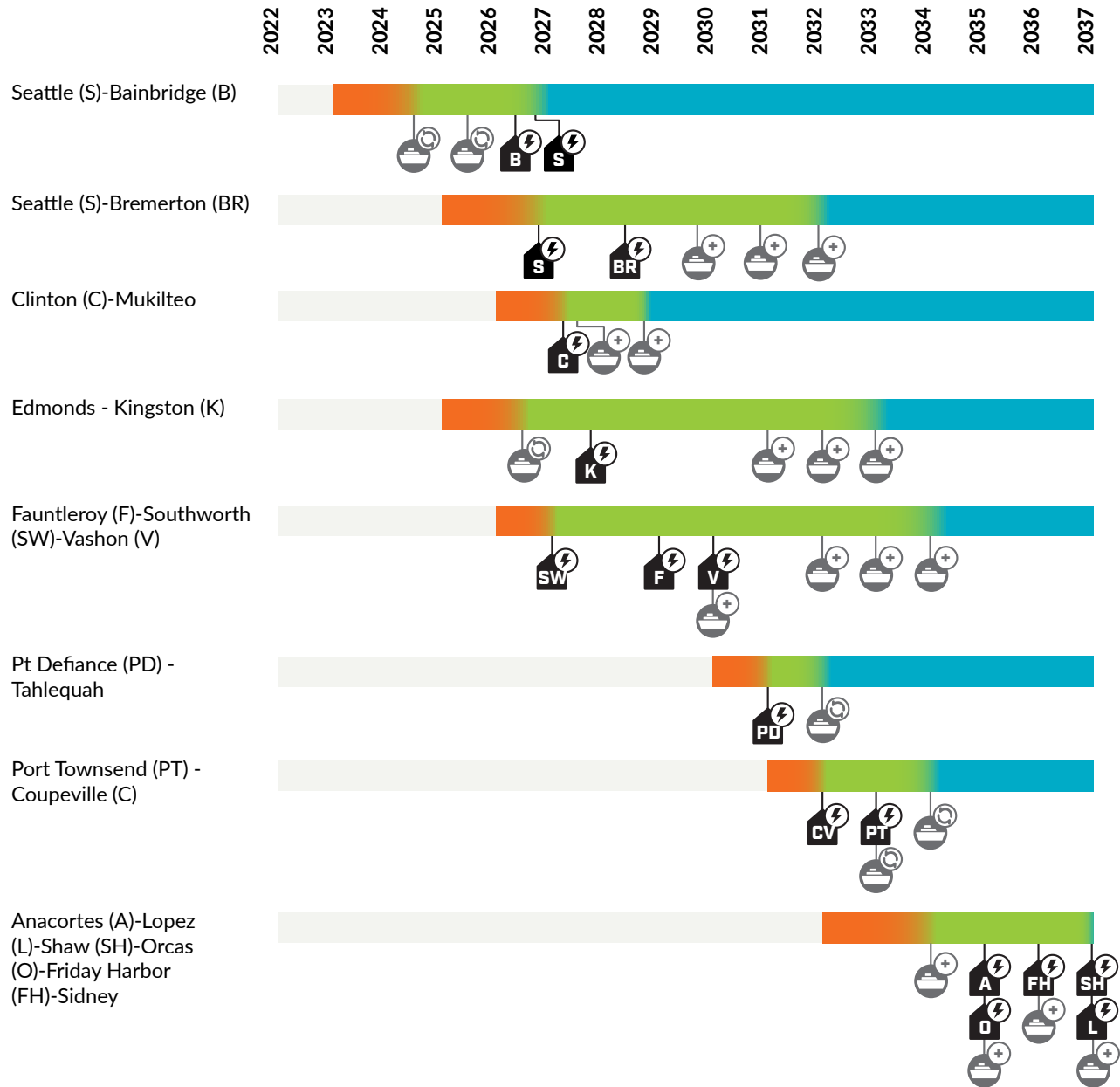


Reduction in particulate matter emissions by **90%**



WSF Electrification Implementation Program Schedule

Updated as of July 2022. All dates are subject to change and are dependent upon additional funding.



Key

Construction*

*At least one component of route electrification is underway.

Partial electrification**

**At least one component of route electrification is complete.

Full electrification***

***All components of route electrification are complete.

Route Components

Electrified terminal

Vessel conversion

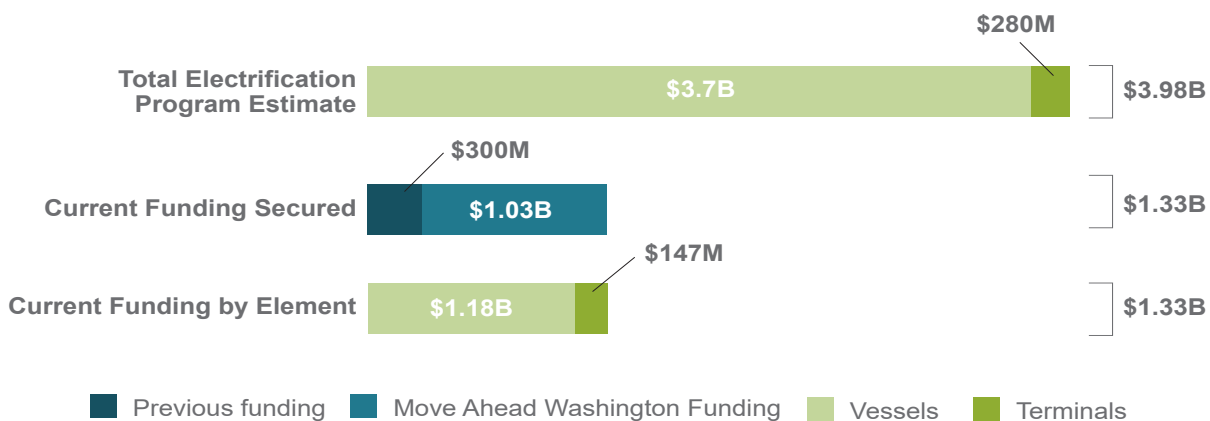
New vessel

Costs and Funding

Estimates in the 2020 System Electrification Plan show that it will cost a total of \$3.98 billion to fund the electrification program.

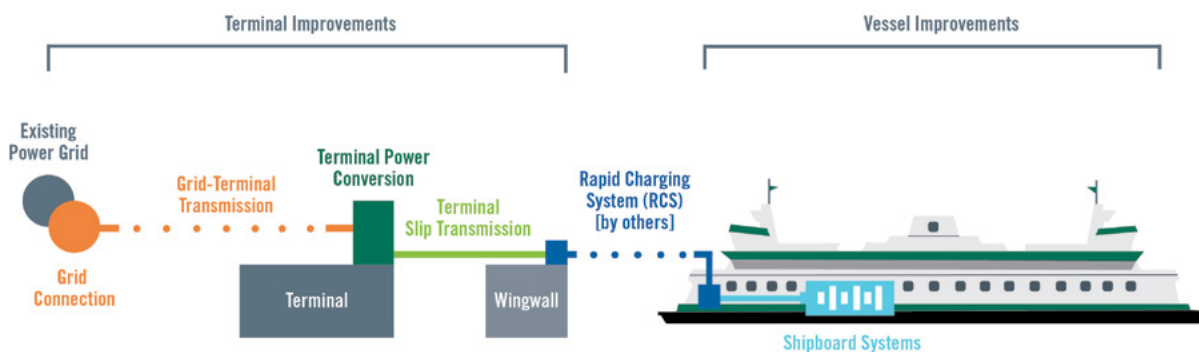
The program is currently funded at \$1.33 billion from grants, state, and federal funding. The newest, and largest, investment of \$1.03 billion is from the 2022 Move Ahead Washington transportation package. The current funding will:

- build up to five hybrid electric Olympic Class (HEOC) vessels;
- convert up to four vessels to hybrid electric; and bring power to terminals in central Puget Sound



Why Hybrid Electric?

A hybrid model fits the WSF system best as it provides system resiliency, allowing a vessel to continue service on a route and within the system even if there is not electricity available to charge. In addition, having diesel as a secondary power source allows WSF to manage utility costs in a way that is most cost-effective while still providing greenhouse gas emission reductions. This model also facilitates an earlier transition to electrification, with the first vessels operating as hybrids prior to full terminal electrification.



Program implementation

WSF will utilize a number of contracting mechanisms to deliver the electrification program, including securing a General Engineering Consultant, seeking a design-build ship builder for the first five hybrid electric Olympic Class vessels, and issuing separate requests for proposals to convert up to six existing diesel vessels. Information about all of these opportunities will be provided on the [WSF electrification home page](#).

Community engagement

During the development of WSF's 2040 long-range plan, WSF conducted extensive public outreach, resulting in participation by more than 7,400 people.

Four clear themes emerged from community engagement. One of those themes, Sustainability and Resilience, showed broad support for WSF's investment in infrastructure to maintain reliable service in a changing climate and reduce environmental impact. Public comments overwhelmingly supported "greening the fleet." One of the top 5 priorities identified in over 2,000 public comments was broad support for WSF to design resilient and environmentally friendly vessels and terminals.

We will conduct community engagement activities for construction activities, including terminal electrification. Stay tuned for more information about these efforts.



The Kaleetan, a 55-year-old Super Class vessel, will eventually retire as WSF upgrades the ferries to new hybrid electric vessels.



WSF is converting Jumbo Mark II vessels, like the Wenatchee, from diesel to hybrid electric.



A robotic charging arm will extend from the hybrid electric ferries to the terminal power source to recharge the batteries as loading and unloading takes place.

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