BayoTech®

Clearing the Air: Empowering Ports with Hydrogen Solutions

BayoTech is Making Hydrogen Easy®

BayoTech is solving the **biggest challenges** facing the **new generation** of hydrogen users by providing access to **cost-competitive**, **reliable** hydrogen supply

BayoGaaS® Hydrogen Hubs

- Building a distributed network of hydrogen production hubs
- First commercial hub on-line in Missouri, second hub in permitting in Northern California at the Port of Stockton

BayoTech High Pressure Gas Transportation Equipment

- Leading provider of high-pressure gaseous hydrogen transport & storage equipment
- Over 800 units sold, with blue chip companies standardized on equipment

US Ports are Accelerating Zero-Emission Efforts to Address the Climate Crisis and Advance Environmental Justice

76%
OF TRADE

Seventy-six percent of all trade involves some form of marine transportation.

$1.5
TRILLION

Seventy-six percent of all trade involves some form of marine transportation.

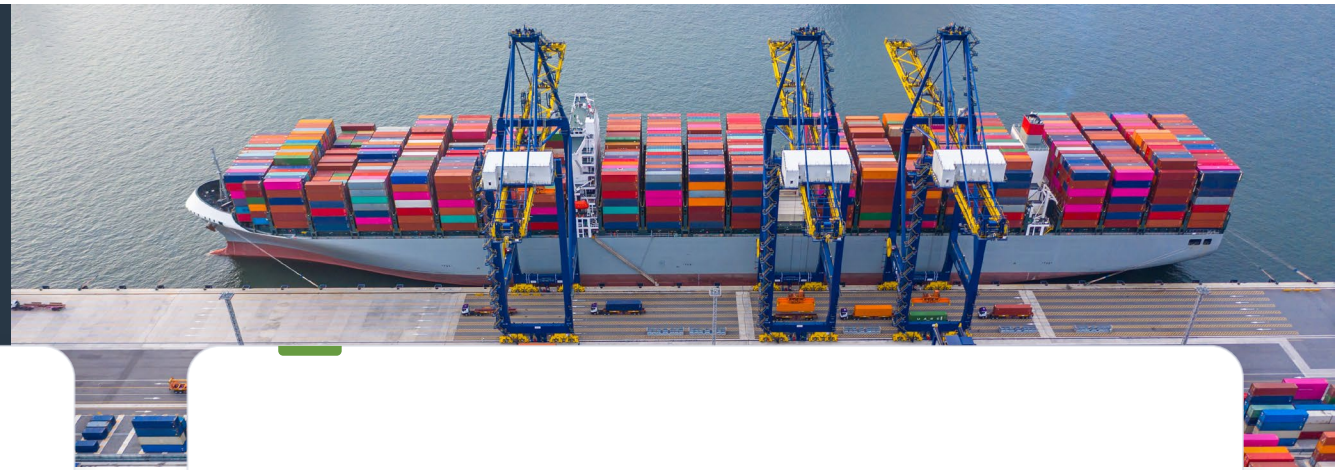
2.6%
OF GHGs

Seventy-six percent of all trade involves some form of marine transportation.

- Ports are vital to the global and local economy – providing jobs and enabling the distribution of products.
- The US EPA has launched its U.S. Ports Initiative to specifically address environmental justice and equity issues that disproportionately fall on near-port communities.
- The Inflation Reduction Act of 2022 provides EPA with $3 billion to fund zero-emission port equipment and technology and to help ports develop climate action plans to reduce air pollutants at U.S. ports.

Opportunities for Ports

Hydrogen can solve two challenges for ports:



Meet Sustainability Initiatives

01

Generate New Sources of Revenue

02

Electrifying Port Equipment

Diesel-powered equipment & vehicles operating at ports contribute to air pollution.

Zero-emission equipment deployed at ports will eliminate thousands of tons of CO2 emissions and airborne toxins every year.

Batteries are a solution for some applications, but challenging for applications that can't afford:

- Long charging times which dramatically reduce port productivity
- Battery weight that severely limits cargo handling capacity
- To wait for electric infrastructure to come online nor have the space for battery charging and storage

Hydrogen and fuel cells provides an attractive value proposition to port operators

Zero emission

01

Quick refueling to maximize asset utilization

02

Extended operation hours

03

Scalable hydrogen refueling infrastructure

04

Alternative low-carbon energy carrier to address grid capacity constraints

05

Hydrogen Applications

Emission-free fuel cell powered port equipment

Drayage Trucks

Container Handler

RTG Cranes

Forklifts

Cold Ironing

Ferries

Yard Tractors

Tugs

Locomotives

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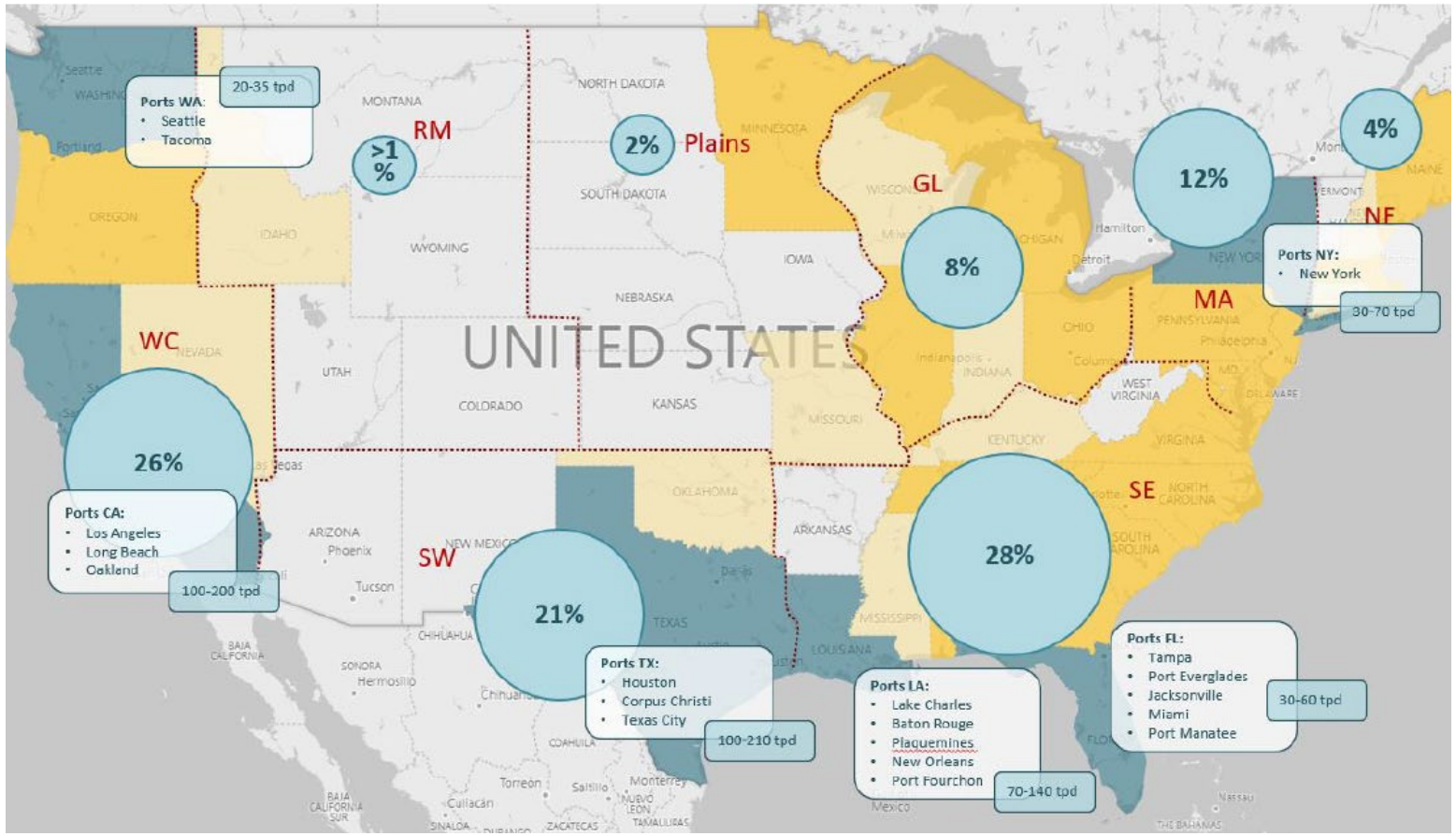
Forecasted USA Hydrogen Demand for Ports by Region



Ports colour coded according to the demand

- 100-600 tpd H2 demand
- 10-100 tpd H2 demand
- 0-10 tpd H2 demand

WC — US Region

26% — Share of the region in the total US hydrogen demand for ports

Ports CA:
- Los Angeles
- Long Beach
- Oakland

Largest ports in the state (provided only for the largest states)

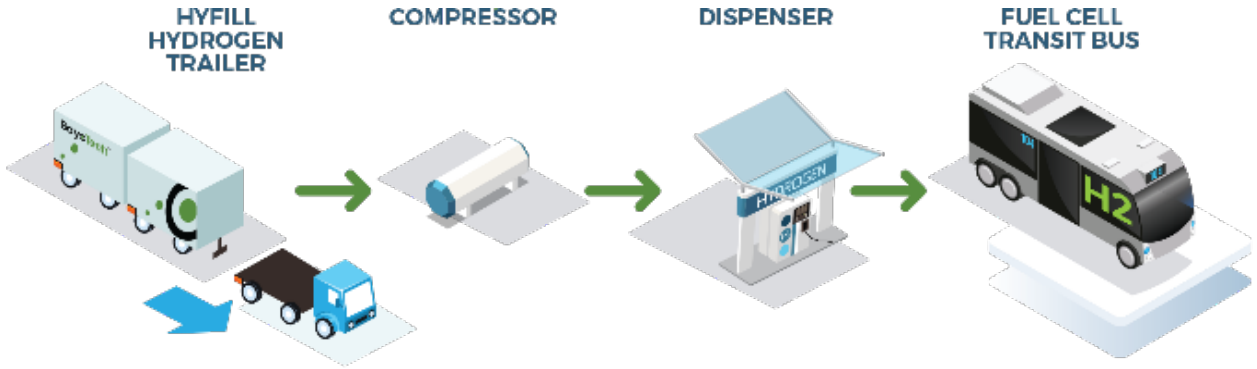
200-420 tpd — Hydrogen demand for the largest ports listed

Fuel Cell Equipment Fueling Solutions: <10 vehicles

- Hydrogen delivered to the depot via high-pressure transport trailers
- Capacity of up to 750kg per trailer is sufficient for 25-30 truck fills, depending on capacity
- Depleted trailer swapped with full trailer by BayoTech as required

Low Volume

Medium Volume



Customer Case Study:

Port of LA

Challenge

Hyster Company needed fuel to power the first-ever, real-world pilot of hydrogen fuel cell-powered container handler at the Port of Los Angeles

Solution

BayoTech's GTM provided a temporary fueling solution, avoiding significant capital investment for a sort term demonstration program

Result

The large payload and direct fueling ability of BayoTech's GTM provided hydrogen to ensure a successful pilot program

Customer Case Study:

SWITCH Maritime

Challenge

- SWITCH Maritime completed construction of its flagship zero-emission vessel, Sea Change, a 75-passenger ferry powered by hydrogen fuel cells and batteries.
- The ferry was ready to start sea trials near Bellingham, Washington.
- With no readily available source of hydrogen nearby the marina, accessing hydrogen when and where it was needed was an obstacle for the SWITCH team.

Solution

- SWITCH relied on BayoTech to supply high-pressure gaseous hydrogen delivery to Sea Change using transport trailer-to-ship transfer.
- The ferry received hydrogen into its 242 kg tanks on the upper deck. It uses that hydrogen in fuel cells producing electricity to power electric motors for distances up to 300 nautical miles.

Result

BayoTech successfully completed the world's first hydrogen fueling of a commercial marine vessel on November 18, 2021 at All American Marine shipyard.

High-Pressure Hydrogen Transport & Storage

- High-pressure, Type 3 cylinder-based gas transport and storage equipment
- BayoTech transports up to 3x more hydrogen per trip than traditional steel-tube trailers
- Higher payload means less frequent deliveries, lower transportation costs, and fewer emissions
- Scalable pods for transport (up to 750 kg of hydrogen at 5,000-7,500 psi)
- High-pressure dispensing capabilities
- High-capacity for greater driver productivity

BayoGaaS Hydrogen Hubs:

Efficient & Scalable Localized Hydrogen Production

Compact steam methane reforming facilities produce 2 to 4 tonnes of hydrogen per day on a 5-acre site

Hydrogen is dispensed into BayoTech transport trailers for delivery to local customers

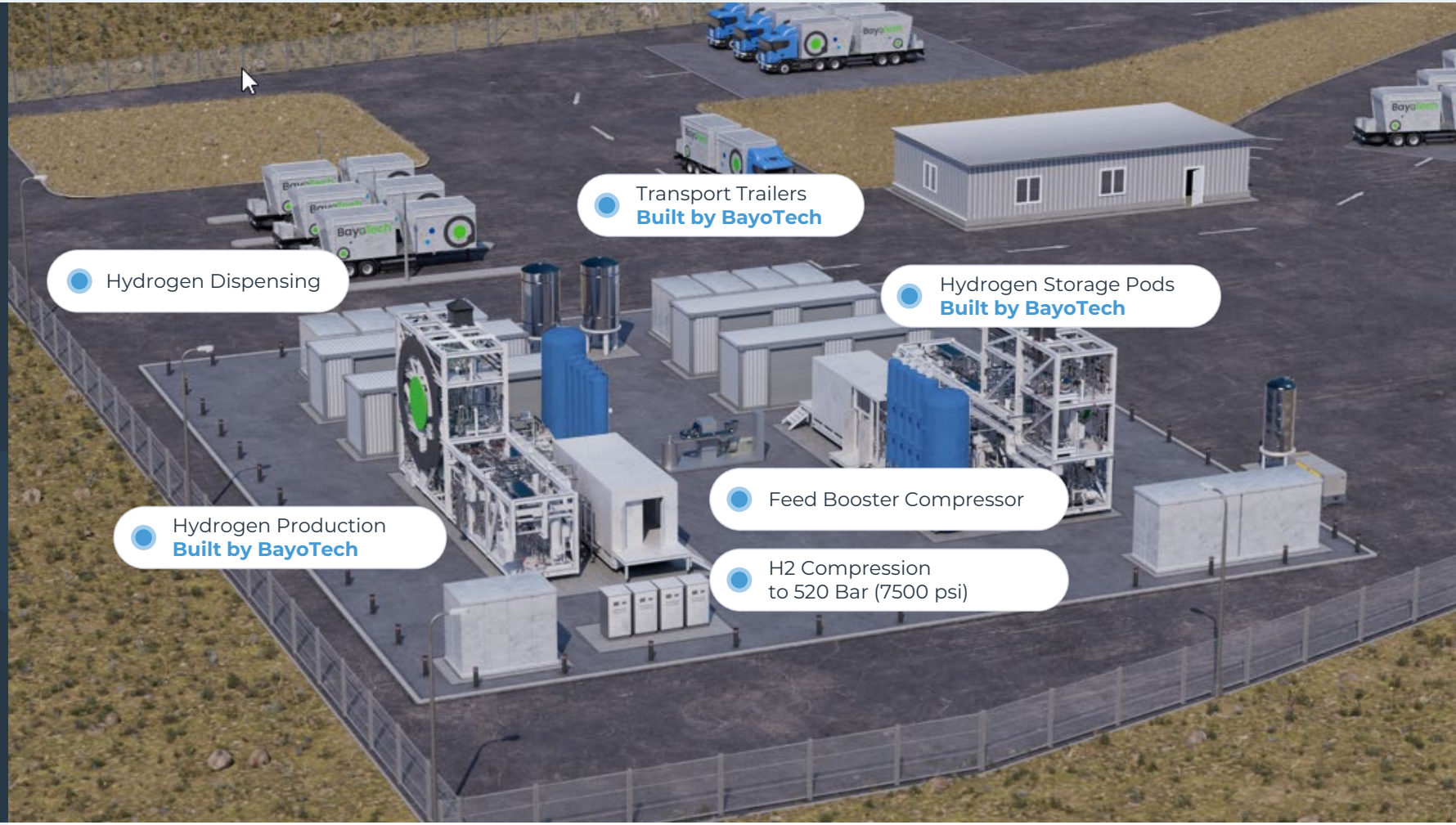
Customers includes gas distributors, industrial users, fuel cell equipment manufacturers & fleet operators

Facilities are owned and operated by BayoTech, with hydrogen sold on a per kilogram basis

Advantages of SMR

- Well proven & reliable hydrogen production method
- Compact footprint, quick to deploy
- BayoTech owned & operated equipment
- CNG fleet operators can leverage existing NG pipeline & infrastructure
- Hydrogen produced at or close to point of consumption to lower cost and emissions
- Zero-carbon production option available with RNG-blending

BayoTech Hydrogen Hub at Port of Stockton, CA



20-10-10 Dispensed Hydrogen Program

10-year hydrogen supply contract to optimize pricing

YEARS 1 & 2

- **Pay set price/kilogram for delivered hydrogen**
- Minimum commitment 500 kilograms per day
- Hydrogen deliveries via leased BayoTech HyFill trailer
- Permitting and construction of local 4 ton/day BayoTech hydrogen hub underway with port's support

YEARS 3 - 10

- **Price per kilogram drops by ½ for hydrogen produced onsite)**
- Minimum commitment 2,000 kilograms per day with right of first refusal for additional capacity
- Hydrogen production hub infrastructure owned, operated and maintained by BayoTech
- Balance of hydrogen is sold by BayoTech to market

- Designed to cost effectively scale infrastructure with fleet
- Provides port with security of hydrogen supply
- Set hydrogen price for long term OPEX budgeting
- Shifts risk of infrastructure construction, operation & maintenance from port to BayoTech

Revenue Generation Through Hydrogen Exports

Global Demand for Clean Energy	Growing demand for hydrogen in Asia and Europe is driving export opportunities for North American ports.
Strategic Export Hubs	Ports along the U.S. and Canadian coasts are leveraging proximity to hydrogen production facilities to become key export terminals.
Infrastructure Investments	Ports are investing in hydrogen storage and shipping facilities to support large-scale hydrogen-as-ammonia exports.
Revenue from Shipping & Storage	Increased shipments of hydrogen generate revenue streams through port fees, storage, and transportation services.

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Let's Connect

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