



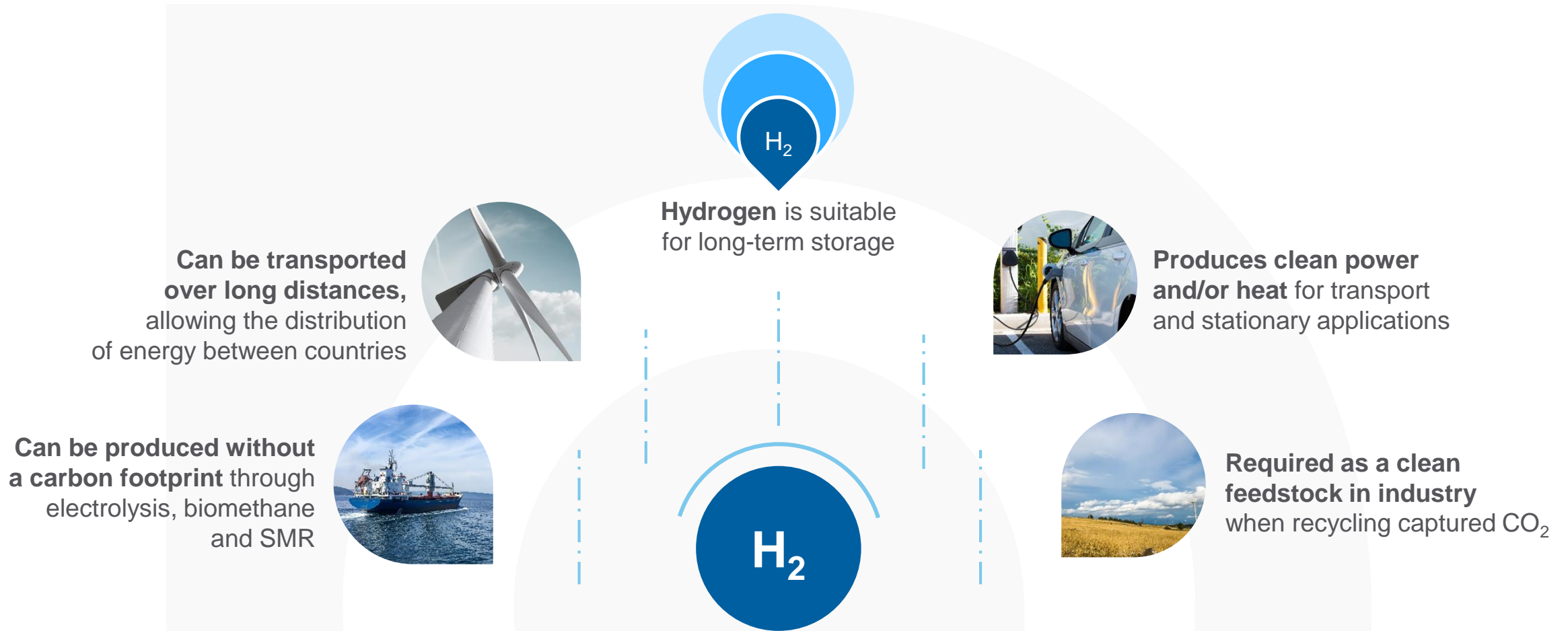
# H<sub>2</sub> Energy

At the heart  
of the energy transition

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# Hydrogen is a clean, safe and versatile energy carrier



# Hydrogen mobility markets: Ready to scale TODAY

**Ferries**  
1 T/day



**Cruise ships**  
10 T/day



**Material handling vehicles**  
100 kg/day  
per site



**Trucks**  
100 kg/day  
per truck



**Buses**  
20 kg/day  
per bus



**Individual cars**  
100-200 kg/day  
per station

**Trains**  
150 kg/day  
per train



**Drones**



**Airplanes Applications**



**Bicycles & scooters**



# Coast-to-Coast ZEV-Hydrogen Infrastructure Activity

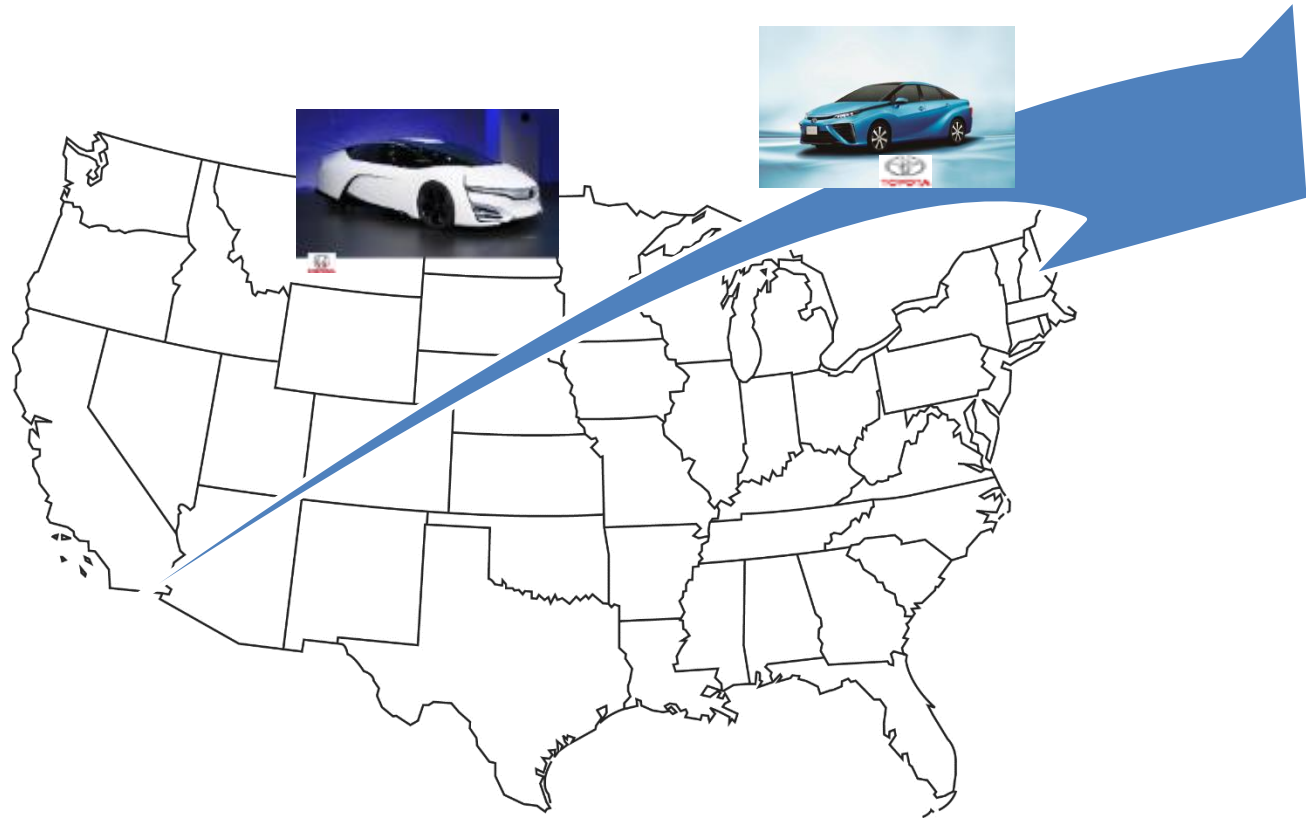
California AB8 funds hydrogen stations

California Energy Commission  
Alternative and Renewable Fueling Station Technology Program  
Hydrogen Fueling Station Development Costs  
Status of Project Assets  
May 2014

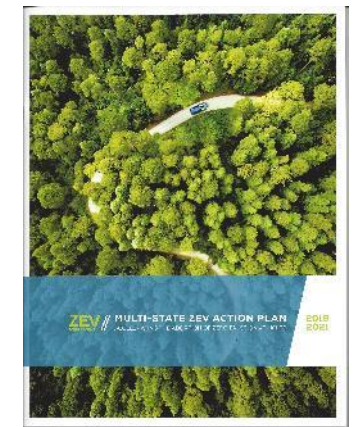
Station	Address	Station Type	Station Status	Station Capacity	Station Cost	Station Funding
<b>Proposed Assets by 2015 Renewable Portfolio Standard</b>						
<b>Proposed Assets by 2018 Renewable Portfolio Standard</b>						
<b>Proposed Assets by 2020 Renewable Portfolio Standard</b>						

California Stations as of 6/1

- 40 retail stations in Operation- 24 in development
- 6830 fuel cell vehicles on the road
- 31 fuel cell buses in operation
- 21 fuel cell buses in development



Air Liquide, in collaboration with Toyota, is self funding 12 stations.



8 State ZEV Action Plan adopted May 2014 by CA, OR, MD, NY, VT, MA, CT, RI.

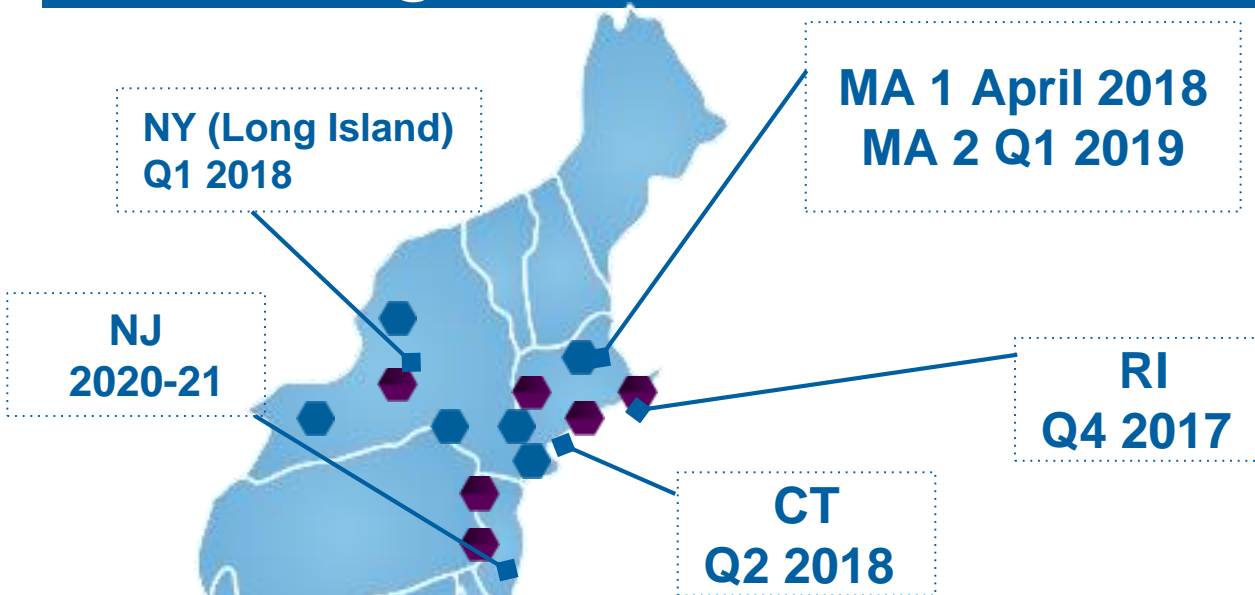
8 State ZEV MOU becomes a 9 State MOU with the addition of NJ in 2018

8 State MOU Unit Obligations based on CA 1,500,000 unit sales and R.L.Polk Proportional Sales

	CA	MA	CT	RI	NY	MD	OR	VT
% Sales	1	0.2	0.1	0.03	0.57	0.2	0.09	0.02
Total	1,500,000	300,000	150,000	45,000	855,000	300,000	135,000	30,000
FCV	173,097	34,619	17,310	5,193	98,665	34,619	15,579	3,462
BEV	389,972	77,994	38,997	11,699	222,284	77,994	35,098	7,799
TZEV	936,930	187,386	93,693	28,108	534,050	187,386	84,324	18,739

Source: Massachusetts Hydrogen Coalition

# Building the Northeast



Network of 12 stations in collaboration with:



Dedicated hydrogen supply chain provided by:



## New York

Bronx, NY  
Hempstead, NY  
Site Location TBA



## New Jersey

Locations- TBD



## Rhode Island

Providence, RI



## Connecticut

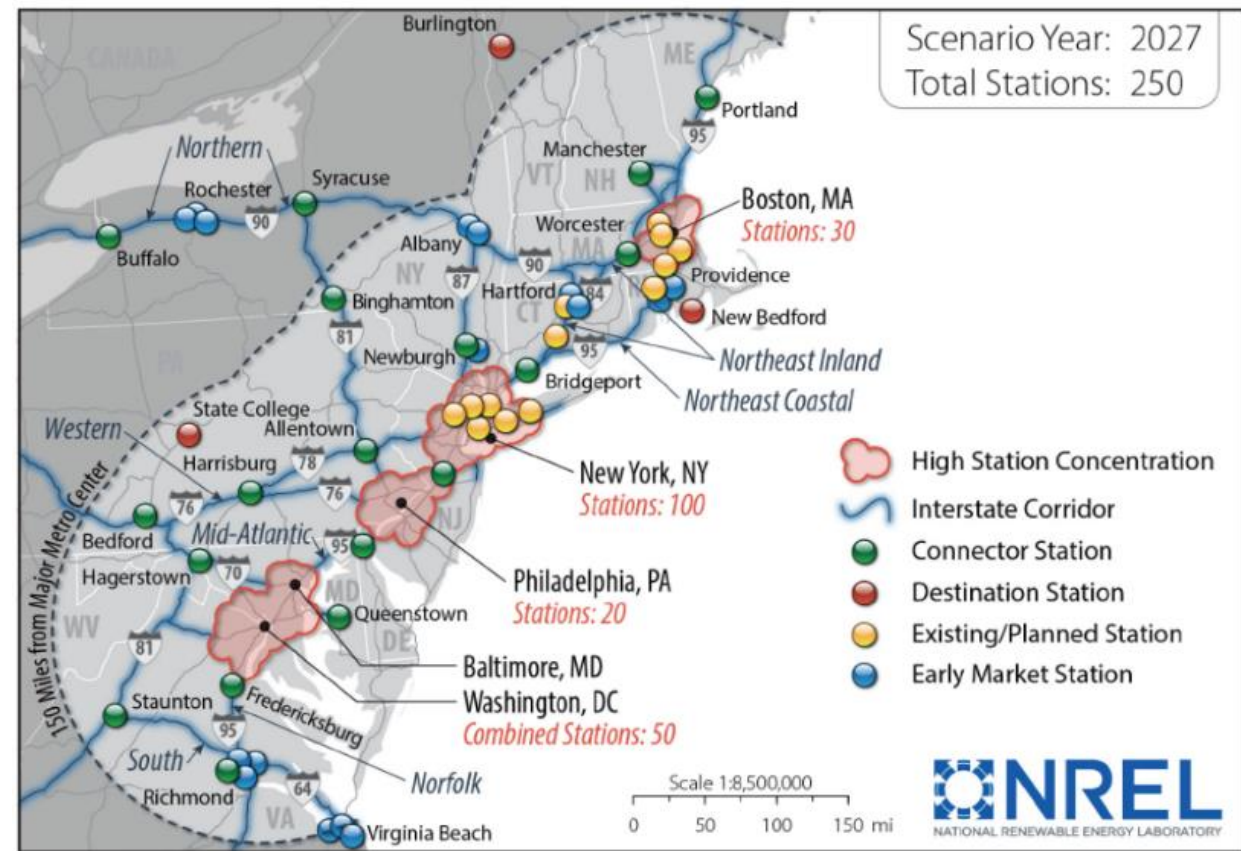
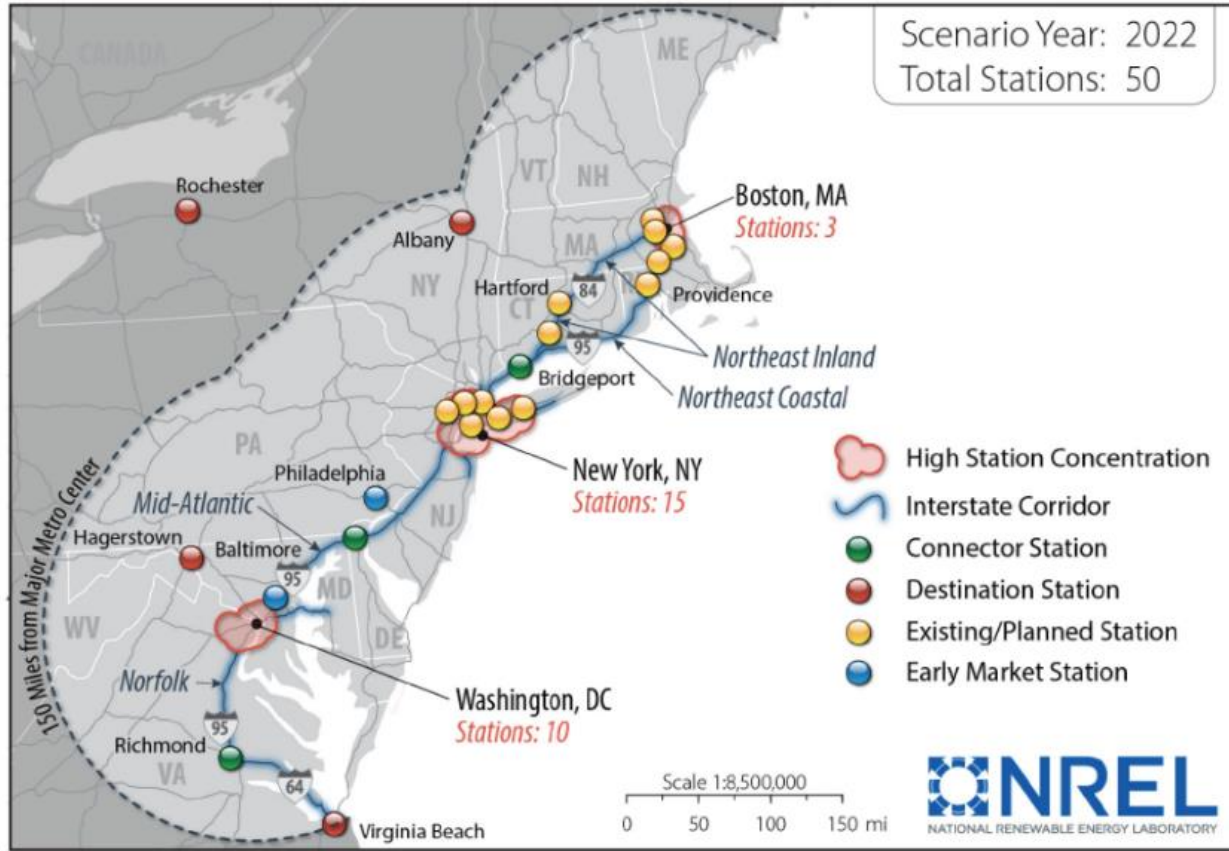
Hartford, CT



## Massachusetts

Braintree, MA  
Mansfield, MA  
Site Location TBA  
Site Location TBA

# Northeast Hydrogen Corridor Development



# Key Barriers to fuel cell vehicles

- Awareness- Now that five hydrogen fueling stations are built, it's getting easier. We offer scheduled tours for authorities having jurisdiction, and others.
- Outreach- Everyone's help is needed. We want to send positive messages, conduct safety training and courses, and educate about hydrogen. Hydrogen is safer than gasoline and we want to educate why.
- Massachusetts tunnel approval- We (Air Liquide and OEM's) are presently collaborating with the MaDot.
- NYC Port Authority- Need their acceptance and approval of hydrogen in their tunnels
- Consistency in permit process. California is one State. We are presently working in five different States for permitting.

# Contact Information

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