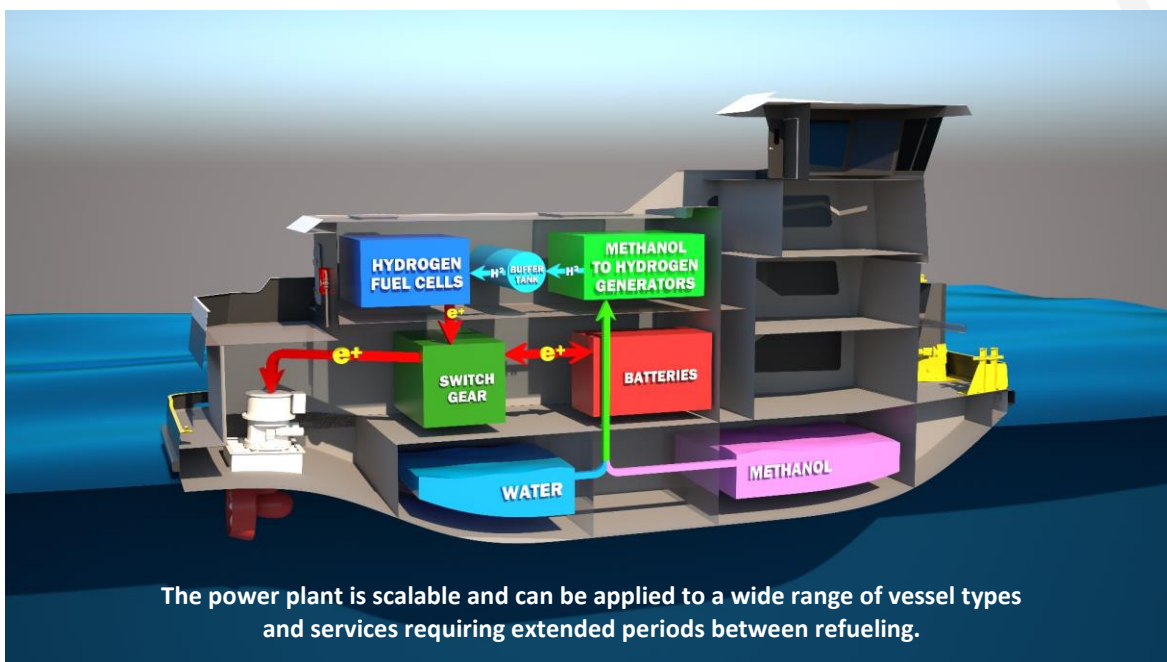




## M/V HYDROGEN ONE | Methanol Reformer Hydrogen Powered Towboat

EBDG is partnering with Maritime Partners, e1 Marine and ABB to design and build the industry's first long-range towboat compliant with IMO 2030 emissions requirements. e1 Marine's patented reformer technology converts methanol to hydrogen directly onboard the vessel to eliminate the fuel transfer and storage complications associated with all other low carbon emission alternatives.



The power plant is scalable and can be applied to a wide range of vessel types and services requiring extended periods between refueling.

## M/V HYDROGEN ONE

### Methanol Reformer Hydrogen Powered Towboat

#### DIMENSIONS & REGULATORY INFORMATION

<b>Length Overall:</b>	90' – 0"	<b>Design Draft:</b>	9' – 0"
<b>Beam Maximum:</b>	43' – 0"	<b>Air Draft:</b>	46' – 0"
<b>Depth Amidships:</b>	11' – 0"		

#### PERFORMANCE

<b>Design Speed:</b>	10 mph / 7 mph pushing	<b>Horsepower:</b>	1,700 to 2,700 (see notes)
<b>Range:</b>	550 miles	<b>Duration:</b>	4 days at 6 mph

#### POWER AND PROPULSION MACHINERY

<b>Hydrogen Reformers:</b>	e1 Marine	<b>Thrusters:</b>	(2) Steerprop Electric L Drive
<b>Fuel Cells:</b>	Ballard FCwave	<b>Diesel Generator:</b>	Caterpillar 150 kW
<b>Batteries:</b>	Lithium Ion		

#### CAPACITIES

<b>Methanol Fuel:</b>	Specifications upon request	<b>Total Berths:</b>	9 (3 private / 3 double)
<b>Water Fuel:</b>	Specifications upon request	<b>Fresh Water:</b>	7,000 GAL
<b>Hydrogen Reserve:</b>	Specifications upon request	<b>Wash Water:</b>	5,000 GAL
<b>Battery Capacity:</b>	Specifications upon request	<b>Sewage:</b>	5,000 GAL

#### NOTES

- IMO 2030 compliant ultra-low emissions
- Refuel safely and conveniently virtually anywhere
- 1,700 hp continuous fuel cell only
- Battery boost provides 6+ hours at 2,000 hp in 24-hour cycle
- Scalable powerplant within specified vessel dimension
- Horsepower can be increased up to 3,500 with proportionate increase in vessel length
- 24+ hours dockside with zero emission and no shore power connection
- L-drive propulsion for optimal maneuverability