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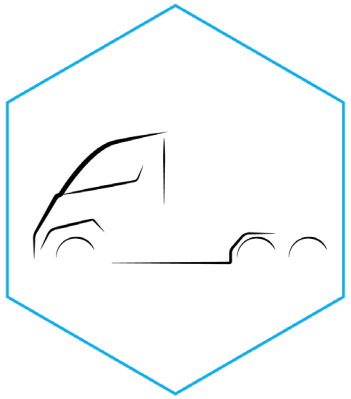
TRANSPORTING THE FUTURE TO NOW

July 2, 2020

Hydrogen At scale:



Fuel cell trucks

- Long Range, Heavy Duty
- High Torque & Horsepower
- Zero Tailpipe Emissions

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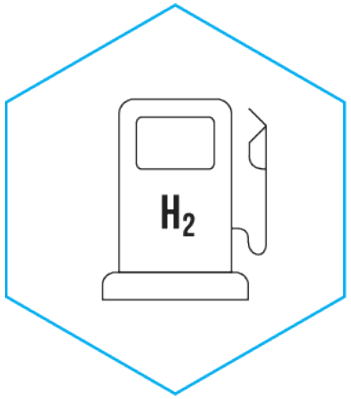


Hydrogen station

- Fast Fueling
- Available Across Country
- Renewable Energy Storage

Nikola H2 FUELING stations

Developing Fast Fueling Dispensers In Arizona

70 MPa	15 min	80 kg
High Flow	HD Fueling	Full Fill

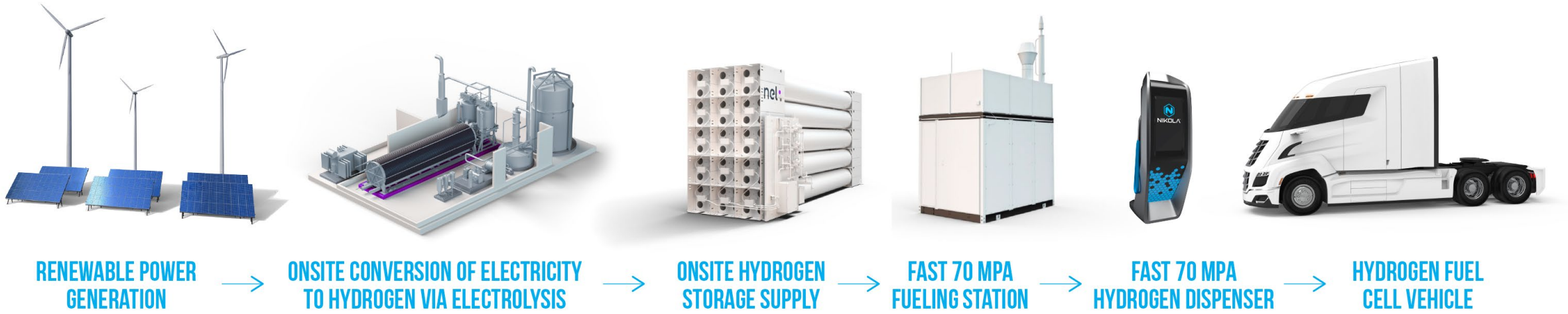
- Also offering LD passenger vehicle fueling per SAE J2601
- 8 Ton/day station
  - scalable up to 32 Ton/day H2 for depot

Zero Emission :

From Production To Distribution & Consumption

Centralized hydrogen production using renewables and low cost electricity:

- Eliminates distribution costs
- Yields low-carbon hydrogen, reducing lifecycle emissions
- Enables cost competitive hydrogen fuel at the pump

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Air Liquide
creative oxygen


HYUNDAI


TOYOTA

Class 8 Heavy Duty FCEV

Standardization Priorities & Gaps

TOPICS	FOCUS	OUTPUT
HD Fueling Hardware High Flow 70MPa • HD Industry Group	• New ISO/SAE H70HF Nozzle, Receptacle, Hose, Breakaway	• ISO/TC197 • Harmonize with SAE and other ISO/CSA respective Tasks
HD Fueling Protocol High Flow 70MPa • HD Industry Group • PRHYDE (EU)	• New Fueling Requirements • H70HF equipment with higher flow • Up to 100kg in 15 minutes - faster than LD	• ISO TC 197 • NWIP (U.S.) Fueling Protocol
HD Vehicle Safety • Industry	• Update existing standards with HD FCEV • Update GTR13 Phase II (following most LD safety standards)	• SAE J2578-9, ISO and GTR13 II • Standardize requirements that can be adopted globally
HD Fuel Economy • Industry	• New Measurement Test Procedures • HD Dynamometers Standard does not exist • Hydrogen Measurement Procedures need to be evaluated for HD applications	• New Document SAE J3302 • Test data and validation. • Harmonize with ISO

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