Hydrogen Refueling Infrastructure on I-25 Corridor in Colorado

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Introduction

- The CFI Program is a competitive grant program created by President Biden's $2.5B Bipartisan Infrastructure Law
- To deploy electric vehicle charging and alternative fueling infrastructure
- Only 47 projects awarded nationwide
- 20% match required to bid for the grant
- Cost shared by New Day Hydrogen: $2.24M

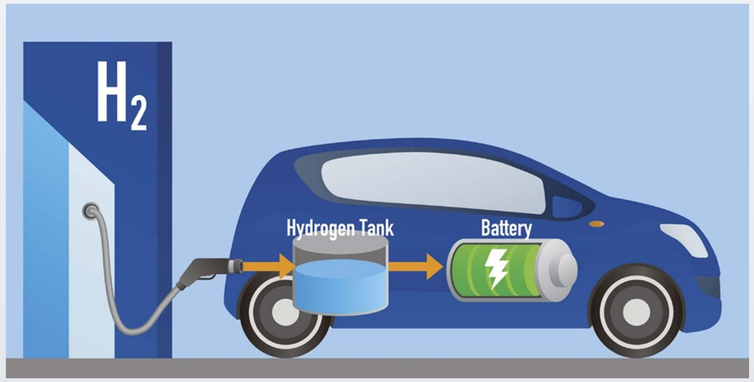


Figure 1. Hydrogen Fuel Station

Project Details

- Budget: $8.98M from Fed. + $2.24M match by New Day Hydrogen
- Duration: 6.5 years
- Lead: The Energy Institute at the Colorado State University (PI: Dr. Bret Windom)

Workforce Development Program

- Undergraduate and graduate online courses
- Conference and seminar
- Continuing education

Sub-Contractors and Sub–Recipients

- New Day Hydrogen
- SCITT at CSU Pueblo
- EPC-Engineering, Procurement & Construction, LLC
- Colorado Hydrogen Network
- NREL-National Renewable Energy Laboratory

Plan for Fuel Station

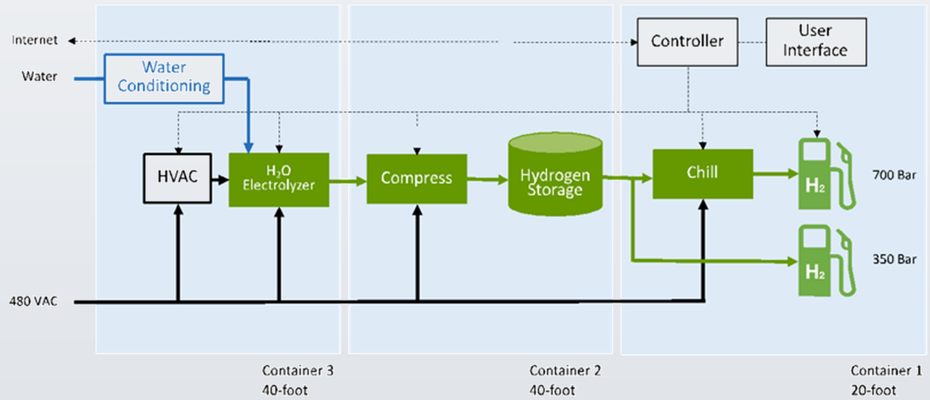
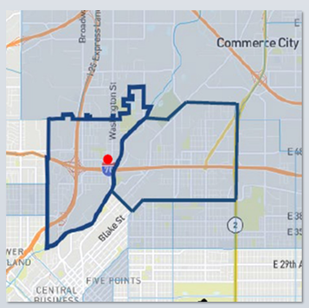
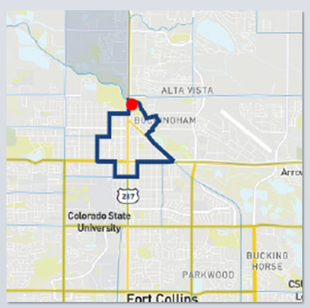


Figure 2. Fuel Station Process Flow Diagram

Proposed Fuel Station Locations



Denver



Fort Collins

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Process Overview

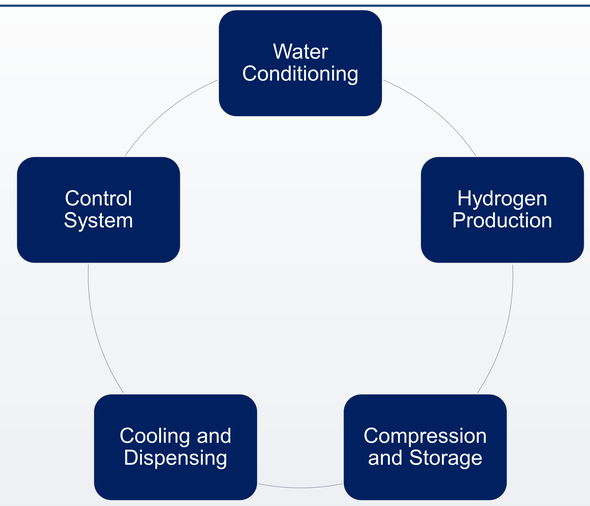

Figure 3. Primary Processes in the Fuel Station

- **Water Conditioning:** Water is treated to ensure it is suitable for hydrogen production.
- **Hydrogen Production:** An electrolyzer splits water into hydrogen and oxygen, powered by 480 VAC electricity.
- **Compression and Storage:** The hydrogen is compressed and stored in a tank.
- **Cooling and Dispensing:** Hydrogen is chilled and dispensed into containers at 700 Bar or 350 Bar pressures.
- **Control System:** A controller and user interface manage and monitor the entire process.

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