Hydrogen mobility
Westport Fuel Systems’ H₂ HPDI fuel system technology is a cost effective, high performance solution to support climate neutrality in the heavy-duty mobility sector.

H₂ HPDI fuel system equipped engines optimized to run on hydrogen offer many advantages over other pathways, enabling an accelerated adoption of hydrogen as part of a sustainable road freight system.
PERFORMANCE

Vehicle performance is critical for fleet managers, who are limited in the compromises they can make to advance sustainability.

PRACTICAL

The H₂ HPDI fuel system is a robust solution that doesn't require extremely pure hydrogen to run, unlike fuel cells.

ROBUST

H₂ HPDI fuel system equipped engines can exceed the performance of current heavy-duty diesel vehicles, while almost eliminating greenhouse gas emissions.

EFFICIENT

H₂ HPDI fuel system equipped engines deliver higher performance than spark ignition H₂ ICE: significantly higher efficiency and power density; lower operating cost.

COST EFFECTIVE

Internal Combustion Engines
Technologies that are commonly referred to as “zero emission” are in fact NOT zero CO₂ when assessed on a full fuel cycle and manufacturing basis.

Fuelling an engine equipped with Westport’s current HPDI fuel system with hydrogen almost eliminates tailpipe CO₂, while longer term solutions using zero carbon ignition strategies are being explored for zero tailpipe CO₂.

With efficiency approaching or even exceeding that of fuel cells on a life-cycle basis, an H₂ HPDI fuel system equipped engine delivers similar CO₂ reductions to fuel cell vehicles, at much lower cost.

When fuelled with LNG having 40% biomethane (LBM) it delivers the same life cycle CO₂ reductions as fuel cells using blue/green H₂ blends, and can deliver zero WTW CO₂ with pure biomethane.

Using technology in commercial use with bioLNG today, H₂ HPDI overcomes many of the challenges of other low carbon solutions for long haul heavy-duty vehicles.
HPDI fuel system equipped engines, fuelled with either biomethane or hydrogen, deliver industry leading CO₂ reductions for long road freight.

Source: Frontier Economics
H₂ HPDI fuel system equipped engines offers far greater CO₂ reductions for every Euro of public and private investment, compared to fuel cells.

Based on Westport's current technology, the H₂ HPDI fuel system avoids reliance on the sensitive and expensive minerals used in fuel cell catalysts and batteries, resulting in far lower cost base than fuel cells.

The marginal cost of the additional NOX reductions that come from using fuel cells far exceeds the societal cost of NOX emissions.
Westport’s H₂ HPDI fuel system uses the same technology and shares many of its components with our current LNG HPDI fuel system, allowing use of existing manufacturing infrastructure, with reduced capital investments, thus expediting time to market.

The rapid scaling of production means that H₂ HPDI fuel system equipped engines can be quickly deployed, stimulating the demand for hydrogen, and accelerating the reduction of cumulative GHG emissions.

HPDI fuel system solutions are more cost effective than fuel cells for CO₂ abatement.

Tons CO₂ reduced per €1,000 invested WTW CO₂ - includes fuel source and manufacturing emissions.
WESTPORT FUEL SYSTEMS AT A GLANCE

- TIER 1 Automotive Supplier
- MANUFACTURING 7 Global Locations
- RENEWABLE Alternative Fuels
- 70 Countries (Sales)
- >100 Global Distributors
- 1400 Patents & Applications
- 1096 Global Distributors
- 1130 Countries (Sales)