

## WESTPORT FUEL SYSTEMS (NASDAQ: WPRT)

Recap of Fireside Chat with David Johnson, CEO  
Westport Fuel Systems

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### KEY POINTS

- **Westport Fuel Systems is providing cost effective clean transportation solutions that are commercially available today.** The company operates in 70 markets worldwide providing solutions using LPG (propane), renewable natural gas – and soon hydrogen – for the smallest engines up through heavy duty on-road trucking and off-road applications.
- **HPDI sales in Europe are growing.** Westport's High Pressure Direct Injection (HPDI) technology has grown to become the dominant technology in the European heavy-duty gaseous-fueled market, and the company expects to see further growth as existing customers have completed their testing and look to expand their HPDI-powered fleets.
- **\$100+ oil prices are a tailwind for the company.** Higher gasoline/diesel prices drive customers to look to lower-cost fuel solutions, such as LPG and natural gas, where Westport is a market leader.
- **Opportunities for HPDI using hydrogen as a fuel.** Westport has demonstrated that its HPDI technology can run on hydrogen, making HPDI a lower-cost and road-tested solution available in the near-term versus other hydrogen technologies. Westport continues its project with Scania in which the Scania engine is testing the use of HPDI technology running on hydrogen fuel.
- **Financial position greatly improved over the past year.** Westport's balance sheet is now stronger than it has been in many years. The company reaffirmed its mid-decade goal of \$1 billion in revenues, 20% gross margins, and 10% EBIT margins.

### KEY STATISTICS\*

Price	\$1.37
52-Week Range	\$1.33-10.83
Avg. Daily Vol. (30 day)	2.37m
Shares Out (MM)	170.79
Market Cap (MM)	\$237m
Enterprise Value (\$MM)	\$200.9
Debt/Equity Ratio	0.25
Revenue TTM (MM)	\$189.0
Annual Dividend/Yield	na
Fiscal Year End	December

Source: YCharts, \*As of March 14, 2022

### THE COMPANY

Westport Fuel Systems is a leading provider of market-ready transportation solutions that reduce emissions and realize fuel cost savings. The company is a Tier One Supplier to, and has partnered with, many of the leading automotive and truck OEMs around the globe.

The company's flagship HPDI 2.0 fuel system technology is being sold to major OEMs in Europe and China, and the company has recently announced multiple partnerships around developing technology that would allow engines to run on hydrogen.

Headquartered in Vancouver, Canada, with operations in Europe, Asia, North America and South America, the company serves customers in more than 70 countries with leading global transportation brands. For more information, visit [www.wfsinc.com](http://www.wfsinc.com).

## ABOUT THE EXECUTIVE



**David M. Johnson**

Chief Executive Officer  
Westport Fuel Systems

David M. Johnson was appointed Chief Executive Officer in January 2019 and is a member of the Westport Fuel Systems Board of Directors.

Mr. Johnson is an industry veteran with more than 25 years of experience leading engine development for automotive and commercial vehicle industries around the world. Prior to his appointment, Mr. Johnson served ten years as President and Chief Executive Officer of Achates Power Inc. leading technical, commercial and corporate development to establish the organization as a leading developer of opposed-piston engines.

Mr. Johnson's distinguished career began in 1990 with Ford Motor Company in Truck Powertrain Planning. He subsequently held a variety of roles in engineering, product planning, program management, and strategic development with increasing responsibility. Since then Mr. Johnson has served in a variety of roles with leading automotive companies, including senior roles at Navistar and General Motors. Mr. Johnson combines deep technical expertise with a decades-long career in international markets.

He earned a Master of Business Administration and a Bachelor of Science in mechanical engineering from Cornell University.

### EXECUTIVE DISCUSSION

**Graham Mattison:** Tell us a bit about your background, and then give us a brief overview of your company's history and technological offerings.

**David Johnson:** Sure. I have been in the auto industry for basically my entire life. My family had a Ford dealership in upstate New York. Coming out of school, I worked with the Ford Motor Company, then General Motors in Europe, and then Navistar for commercial and military vehicles. After which, for a decade, I was with a startup called Achates Power in San Diego.

Westport had important breakthroughs in the second half of last decade. In 2016, there was a merger between Westport Innovations and Fuel System Solutions, which resulted in Westport Fuel Systems, with a global presence. Westport Fuel Systems is in 70 markets worldwide, and across products – from the smallest engines for three-wheelers in India to the largest engines for on-road trucking and off-road applications. Also, across fuels from LPG or propane to renewable natural gas to hydrogen.

Then 2018 saw the launch of Westport's high-pressure direct injection (HPDI) fuel system for natural gas in Europe. This was an important milestone and a path-breaking technology which the company brought all the way to production with one of the largest and best-known companies in the world for commercial trucking.

So that was really important for the company. Westport also initiated a project to bring that HPDI technology to China, the largest market for trucks, and also the largest market for clean-fuel natural gas trucks.

All that made me very keen to join the company and lead it to the next generation of growth and profitability by delivering clean transportation solutions globally.

**Graham Mattison:** The global shift to greener technologies is undeniably underway and investors hear about a lot of different technologies out there, whether that be batteries, fuel cells, hydrogen, biofuels, etc. Can you talk about Westport's products and applications, and where you fit in the chain?

**David Johnson:** Let me just reflect on the fact that in the world of transportation over the century-plus beyond the horse, there has been a diverse array of technologies. In the beginning of the 1900s there was battery electric, steam, and the internal combustion engine, but after a shakeout basically everything went to internal combustion engines because of its practicality and in particular its cost.

And at a point in time, within the internal combustion engine, diesel engines became the dominant engine in larger commercial vehicles and spark ignited gasoline engines tend to be the predominant incumbent technology in lighter passenger vehicles.

So as I look towards the future, I think it is misguided to try and choose just one technology that will be that solution for all applications. And I think this is where the truly savvy investor will recognize that there will be a portfolio of technologies in the future, and that diversity will increase. Some technologies will play out better for certain applications.

Looking specifically at battery-powered electric vehicles, there are very clear physics, thermodynamics, and economic aspects that make them best-suited for lower-mass applications. But as you go up in mass, it gets increasingly difficult to use batteries effectively. If we look at the other end of the spectrum, say an 18-wheeler trailer moving many tons of mass across long distances, the batteries have to be too big, they will be too heavy, too expensive, and will take too long to recharge. It is just not the most practical way to move large commercial vehicles.

A long-haul truck needs to be cost-effective and compete with other solutions for moving products. This is where Westport's HPDI makes a difference. The technology can deliver everything a truck needs and do so economically for both the end user and the whole supply chain.

But the key ingredient to doing that is making it economical, because if it's not economic, it's not going to work. Frankly, I see the marketplace having a diversity of solutions across the breadth of transportation applications, from the smallest vehicles

to the biggest vehicles. But on the large, heavy end of that spectrum, this is where Westport Fuel Systems HPDI technology shines.

**Graham Mattison:** What differentiates HPDI from other technologies out there and then could you also talk a bit about its history – where it came from, and where it is in the market today?

**David Johnson:** HPDI allows a diesel engine to run like a diesel engine, but using cleaner natural gas as the fuel, and it can also use hydrogen as a fuel. Everything users rely on in a good diesel engine – performance, reliability, durability, and even low noise – is replicated by HPDI, but by using cleaner, lower-cost renewable natural gas or hydrogen. We have fully replaced the diesel engine fuel system with a cleaner fuel system and cleaner fuel.

Next to diesel and HPDI, the other internal combustion technology is spark-ignited. It is a fine technology for low-torque applications such as passenger cars or delivery vans where the power and durability requirements are lower. That's why 99% of the commercial vehicles in the world today have diesel engines.

So that's the key that investors need to understand, that is really propelling Westport Fuel Systems growth right now is that we've fully replaced the diesel engine fuel system with a cleaner fuel system and a cleaner fuel that does not take anything away from the vehicle operator and the fleet operator.

HPDI was invented at the University of British Columbia and spun out into Westport Innovations, our predecessor company, which was an incubator of technologies. We hold the patents and have the most-skilled team to deliver the technology.

Typically, when a customer asks us to help them use our product, they send us their engine for testing. Last year at this time, we announced a project with Scania, the European truck OEM. They shipped us their engine and we started work to demonstrate the HPDI system using hydrogen in the Scania engine and we are continuing to do development right now.

**Graham Mattison:** Westport is a Tier I supplier for light and heavy-duty vehicles, including HPDI. What does it mean to be a Tier I supplier, what does it take to become a Tier I supplier to an vehicle OEM?

**David Johnson:** So in the world of being a vehicle manufacturer, Original Equipment Manufacturers (OEMs) count on their supply base to deliver on the order of 80% of the content of what they sell in their product to their end customers.

Being a Tier I supplier to an OEM means that we develop the technology and the product, and support the OEMs in using it in their vehicles or engines, and thus propel their go-to-market process.

It also means we industrialize the product and become the manufacturer of record for all gaseous fuel systems, components and parts. We run the factory, we deliver those parts to the OEM and we have to make sure we meet all their quality, environmental and safety standards. There are quite a few hoops to jump through to be a Tier I automotive supplier to leading OEMs in the world. For example, with our HPDI technology, an OEM runs it through hundreds of thousands of miles of testing in all conditions before putting the technology in their truck engine, with their name on the badge, that is sold as their product to their customers. If you think about your experience owning any product really, but let's use a car as the example, if there is a problem with the brakes or the electronics, you bring the car back to the OEM's dealership and complain about the OEM's product, not to the supplier who made the brakes or the electronics, so it is a high bar to become and remain a Tier I supplier.

**Graham Mattison:** Can you talk about sales of HPDI today – how has it performed since commercial launch in 2018 and what is your outlook for growth?

**David Johnson:** Our launch in 2018 was in Europe, which is the only market where you can buy HPDI today, although we look forward to bringing it to other markets. We have been on a strong growth trajectory. But first, some context about the commercial vehicles industry would be pertinent here. The main attribute a buyer of commercial vehicles is looking for is its trustworthiness or reliability to get the load from point A to point B on schedule, every time. Then comes cost

effectiveness. These two aspects influence perhaps 90% of buying behavior.

When a new technology like HPDI is launched, a fleet operator will buy one, or maybe two and try it. They run the vehicle with HPDI for 9-to-12 months to do all the operating cost calculations. And then if it is reliable and does the job economically, then they'll buy five or 10 units. And then if that works out, well, then they'll keep going. The ultimate discerning characteristic is the total cost of operation – involving acquisition to maintenance to fueling to uptime to all the things that go into commercial trucking.

That is also a long-winded way of saying this is a very conservative industry that is looking for a better, cleaner and more cost-effective way to move freight reliably.

When a trucking company tries HPDI, as they have in Europe, they end up buying more and more. Since we launched in 2018, we have been growing quite nicely, even during the pandemic with its supply-chain challenges. Hopefully, even now, we will continue to grow despite the current geopolitical developments.

**Graham Mattison:** You recently announced that the joint venture with Cummins has ended on schedule, as was announced back in 2011. What does that mean for you in the North American market and what are your opportunities there now?

**David Johnson:** Yes, the joint venture has ended. In the past decade, it focused exclusively on spark-ignited natural gas engines. As mentioned before, these engines can move a truck but they don't have as much torque and efficiency as many fleet operators would want. They don't have as much reliability as a diesel engine, or what a diesel engine with an HPDI system that uses natural gas can offer.

And we're seeing that today, as our HPDI product competes with spark ignited engines in the European market, HPDI has grown to be the dominant product in that marketplace because of its better attributes of performance, in terms of total customer operation, as well as just driving behavior and ability to move the freight reliably.

We are very keen to bring HPDI to North America, when we see the opportunity to do so. Due in part to higher taxes on fuel, the cost benefit in Europe is 30-50% per unit of energy when using the HPDI system with natural gas versus diesel. The problem is, sometimes in North America, we sometimes have that cost benefit, but sometimes we don't. This has made the North American market way more challenging for natural gas vehicles than say Europe and China. In China, the cost advantage has driven up the market share of natural gas vehicles to over 10%.

The good thing in North America is that companies and people looking to reduce their CO<sub>2</sub> and greenhouse gas emissions are increasingly finding natural gas a cost-effective alternative. The savings may not necessary be similar to Europe or China, but it's still better than other options.

Any move to rejuvenate the natural gas trucking market in North America will be a great opportunity for HPDI to do what it is achieving in Europe.

**Graham Mattison:** Crude oil has risen past well \$100. Is that a tailwind for you? Also, how do the recent events in Europe impact you?

**David Johnson:** Higher fuel prices are a tailwind for our business because, when fuel price becomes a burden, people look to lower the cost and seek more efficient applications. The price of natural gas can also be expensive sometimes so people will want the most efficient way to use fuel, and in commercial trucking, that is HPDI. The movement in the commodity marketplace to higher prices is really, as you say, it's a helpful tailwind for our company. It can also be a challenge for the economy in general, so there are pluses and minuses, but overall for us higher fuel prices are an advantage.

Looking more at the events in Europe and Ukraine, an uncertain business environment, which can develop from many sources, can be a bit of a headwind. War is one source, changes in fuel prices another. In uncertain times and when prices are volatile, people slow down their decision making, which is unhelpful, I think for all businesses, including ourselves, so we look forward to stability.

One thing though that for me is an important factor is that as governments around the world seek to create a playing field that incentivizes the players to choose cleaner and lower CO<sub>2</sub> options for transportation, they put their thumbs on the scale, so to speak, and they create pricing scenarios in which natural gas will have a greater advantage to diesel as an example, and LPG will have an advantage to gasoline.

So overall, we feel good about our future, despite the current turmoil of commodity prices and wars and whatever else might be happening.

**Graham Mattison:** Can you talk about the company's financial position and overall outlook for growth?

**David Johnson:** These are anxious times, but one thing that doesn't give me anxiety is our balance sheet. We have done really good work over the past 18 months, including this latest announcement of our wrap-up with the Cummins joint venture. Our balance sheet is stronger than it has been in many, many years.

We also see the profitability of HPDI, so we feel we are in a really great place with respect to our financial position and balance sheet.

While we have been growing HPDI quite nicely since 2018, we are now looking forward to it launching the second, third and fourth customers using our hydrogen technology. Regulations in Europe require a 15% reduction in the CO<sub>2</sub> emissions of commercial vehicle OEMs by 2025, and 30% by 2030.

These requirements are going to get tougher, including in North America. We have two regulations that go out through 2027 with the Biden Administration considering tougher rules for the future. The still-new NO<sub>x</sub> rules will also drive the transition towards natural gas products. A lot of factors that support our business are strengthening, so we foresee a really strong growth trajectory.

Let me talk a bit about India to give you a case study of what's happening now. Their new emission regulations came into effect in April 2020. Called the Bharat Standard VI, they are very similar to Euro 6 but different from North America, which has the EPA 2010 standard.

For a long period of time in India, diesel passenger vehicles were very popular because they saved money on fuel, and fuel was expensive.

But because of Bharat Standard VI transition, the prices of vehicles shot up. The number one OEM there, Maruti Suzuki, with over 50% market share of the passenger vehicle market, dropped all diesel engines from their portfolio. Diesel was 40% of what they sold, and they are replacing it with natural gas vehicles. These are a clean, affordable choice that also conforms to Bharat Standard VI.

Ditto commercial vehicles. In the very near future, the best market in the world for commercial trucks running on natural gas will be India, because of cost-effectiveness and the rising importance of natural gas to that economy.

When I joined Westport just three years ago, there were about 1,000 natural gas fuel stations in India. Today there are more than 3,000. That is real growth infrastructure, supportive of what Westport Fuel Systems is doing.

**Graham Mattison:** What are investors missing or overlooking with regard to your company and its stock price?

**David Johnson:** There are many aspects, but let me flag a couple of them. There is a substantial body of investors who think there is just one solution for cleaner vehicles – electrification. That is just the wrong way to think about things. There are diverse solutions. Natural gas, renewable natural gas, and hydrogen are going to be very important solutions. We are growing and demonstrating that right now.

Another misunderstanding in people's minds is to just think about trucks in the North American market. Yes, we have been in North America for a long time, operating Cummins Westport but this was a joint venture where we owned 50%. It's not the same as Westport Fuel Systems.

For sure, Cummins Westport did have an outsized presence in North America. Meanwhile, we are expanding HPDI in Europe, dominating the India market, helping Volkswagen bring natural gas vehicles to the



market, and developing hydrogen fuel systems for Plug Power. So, there is a lot going on that isn't necessarily North American truck focused, that is driving the performance of Westport Fuel Systems. I think that is something the investor base has not fully factored in. And, North America will come along in time.

Let me also talk a little about hydrogen with HPDI. People understand hydrogen is a carbon-less fuel. It is an energy carrier – you take the energy that goes into photovoltaic solar cells, and into windmills and electrolysis, to create hydrogen. This allows us to metaphorically put the sun into a vehicle – in the form of hydrogen, a clean fuel.

So what is the best way to use that fuel? We have demonstrated with multiple engines and tests here in Vancouver, Canada, that hydrogen with HPDI is a fantastic solution for long-haul transportation.

We have shown that we can have the efficiency of a fuel cell. But we know that the cost of our fuel system and engines will be far, far lower than the cost of a fuel cell. We see a very bright future for the internal combustion engine plus HPDI plus hydrogen in the medium term.

**Graham Mattison:** What are the catalysts investors should be looking for as we move through 2022?

**David Johnson:** Right now, our HPDI systems are relatively low-margin because our costs are too high

and volume too low. Topline growth will signal volume growth in HPDI, and volume growth with economies of scale will indicate growth in margins and profitability.

As the equation turns, you are going to see our margins rebound to our goal for the mid-decade, which is 20% gross margins and 10% EBIT margins – for a billion-dollar company. That is where we see ourselves heading.

The growth trajectory is ambitious, but very reasonable. With all those factors in the marketplace today, we remain convinced and affirm our commitment to those goals.

The other thing I would say is that the marketplace is now paying attention to hydrogen. About 18 months ago, nobody was even talking about hydrogen-driven internal combustion engines. This is because batteries and fuel cells for long-haul trucking have not become viable yet. They are too expensive, and still a science experiment.

Meanwhile, HPDI is in production with LNG and renewable gas, biogas, and we have demonstrated its viability. We just use it with hydrogen, which is an exciting development. There will be more news around hydrogen from Westport Fuel Systems this year.

### ABOUT THE ANALYST



#### Graham Mattison

Senior Research Analyst  
ClimateTech & Sustainable  
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Graham Mattison brings more than 20 years of experience in equity research, investor relations, and corporate operations, growth, and development. Graham was the Investor Relations Officer for two NASDAQ-listed companies where he led multiple equity raises as well as managed an activist investor campaign, M&A and corporate restructuring, and a NASDAQ delisting and relisting.

Previously, he was a Senior Equity Research Analyst, most recently at Lazard Capital Markets, covering the industrial and cleantech industries. He began his career in Southeast Asia as an Investment Analyst for Daiwa Securities. He was also co-founder of an online residential real estate start-up that developed a web-based auction platform.

Graham received his BA in East Asian Studies with minors in Economics and History from Hobart College and his MBA in Finance with honors from the Thunderbird International Business School at Arizona State University. He is an Investor Relations Charter (IRC) holder from the National Investor Relations Institute.



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