Investor Presentation

Nasdaq & TSX: BLDP

July 2023

Ballard Introduction[1]

40+ years
developing industry leading hydrogen Proton Exchange Membrane (PEM) fuel cell technologies with over 1,100 employees worldwide

>1,200 patents & applications
Leading PEM fuel cell technology owned & licensed

Heavy-duty mobility & power generation
Focus on applications where hydrogen fuel cell value proposition is strongest (bus, truck, rail, marine, off-road, & stationary power)

Europe, North America & China
Geographically diversified in regions of strong hydrogen demand growth & policy support

Global & diverse fuel cell installation base[2]
• Bus: ~1,500 • Truck: ~2,300 • Rail: ~23 trains
• Marine: 8 vessels • Stationary Power: ~9 MW

>150 million km in-service operation
Industry leading proven durability & in-service operation;
13th generation fuel cell stack & 9th generation module

1, 2 *See Slide Notes*

Key Messages

Energy transition pace is accelerating

Accelerating policy momentum to decarbonize & ensure energy security

US at H_2 policy forefront with uncapped $3/kg tax credit for green H_2 under IRA, $10B funding for hydrogen hubs & $5B LowNo funding from DOT

EU policies beginning to materialize, €10B IPCEI projects approved & beginning to fund, part of ~€85-125B[1] identified REPowerEU investment & first (~€1B) auction of green H_2 subsidies in 2023 under Net Zero Industry Act

Ballard is *the* leader in PEM fuel cell technology

40+ years of market leadership in PEM fuel cells, ideal for heavy duty mobility applications

Own design & development of all sub-components, maintaining industry **leading KPIs** against peers & new entrants

Expanding powertrain integration capabilities to accelerate adoption

Ballard products have **driven >150M km², significantly more than competitors**

Flexible business model across multiple verticals

Ballard MEA, stack & module **technology is foundational & transferable across key verticals** of bus, truck, rail, marine & stationary power

Leading fuel cell technology platform allows for market flexibility & revenue diversification

Product standardization expected to increase economies of scale & manufacturing & supply chain efficiency

Establishing key partnerships & customer relationships

Partnerships focused on industry leading Tier 1 suppliers as channel to global OEMs

Working with vehicle integrators to accelerate demand by bringing early-stage fleets to market

Customer centric organization, standing by products & helping customers achieve carbon reduction goals

Tracking towards mid & long term targets[3]

Revenue, cost and supply proof points on track to give confidence as market shifts from demonstration scale into serial production

Expect increasing order book, partnerships & revenue

Tracking toward 70% stack cost reduction plan & developing roadmap to achieving 2030 'Mission Carbon Zero'

1, 2, 3 *See Slide Notes*

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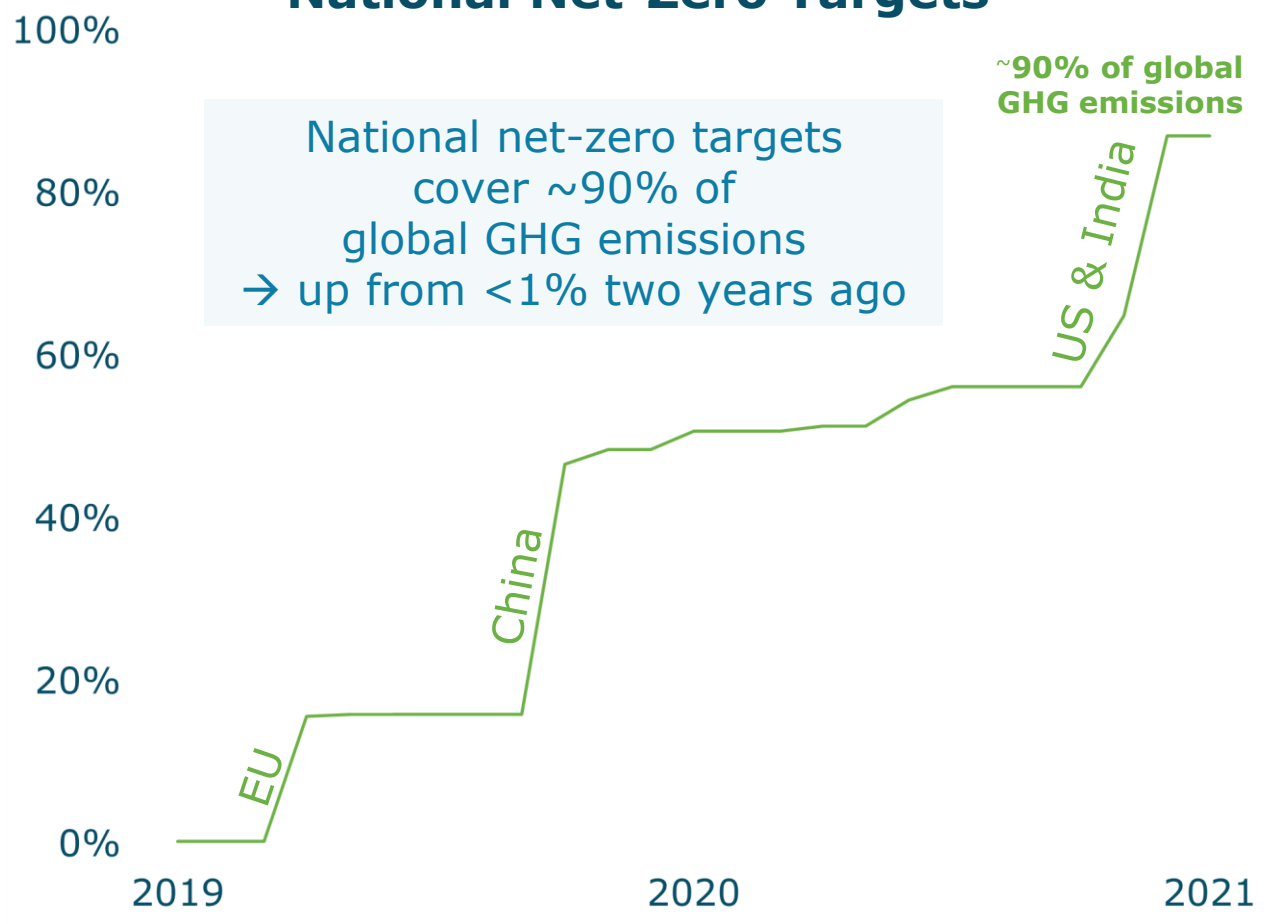
The energy transition is accelerating resulting in tremendous opportunity for the hydrogen economy

- 93 countries with net-zero targets by 2050[1,2] (~70% global GDP & ~90% of global emissions)
- 55 countries with CO_2 pricing initiatives & 39 with announced hydrogen strategies[2]
- >141 members of the Hydrogen Council[3]
- >520 large-scale hydrogen projects announced globally, including production, distribution & end-use[4]

Transportation equates to ~25% of global GHG emissions[5]

Total Global GHG Emissions Covered in National Net-Zero Targets[1]



1, 2, 3, 4, 5 *See Slide Notes*

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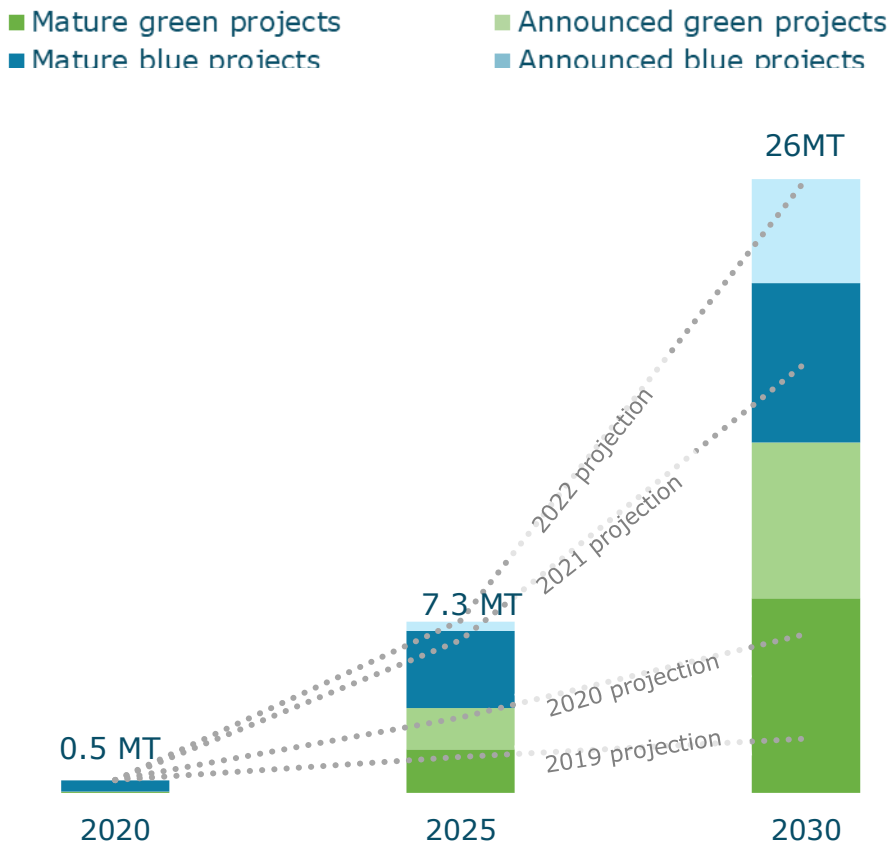
Unprecedented global hydrogen investment & development

- Decreasing cost & increasing availability of clean hydrogen removes key barrier to FCEV adoption
- ~$700B cumulative investment required by 2030 to reach government stated targets[1]
- ~$230B committed H_2 investment until 2030[1]
  - Europe $76B, China $20B, N.Am. $40B, ROW $94B
  - $230B excludes projects in planning or announcement phase, ~$108B & ~$109B, respectively
- REPowerEU Plan established by European Commission
  - Create Hydrogen Accelerator program to develop integrated infrastructure, storage facilities and port capacities
  - 4X increase in planned EU hydrogen supply by 2030 (~5MT → 20MT)
- Forecasted hydrogen production costs[2]:
  - **2025:** Blue: ~$1.0-2.0/kg; Green: ~$2.5-3.5/kg
  - **2030:** Blue: ~$1.0-1.5/kg; Green: ~$1.5-2.5/kg

(Production cost varies based on region)

Global Clean H_2 Production Outlook[3]



1, 2, 3 *See Slide Notes*

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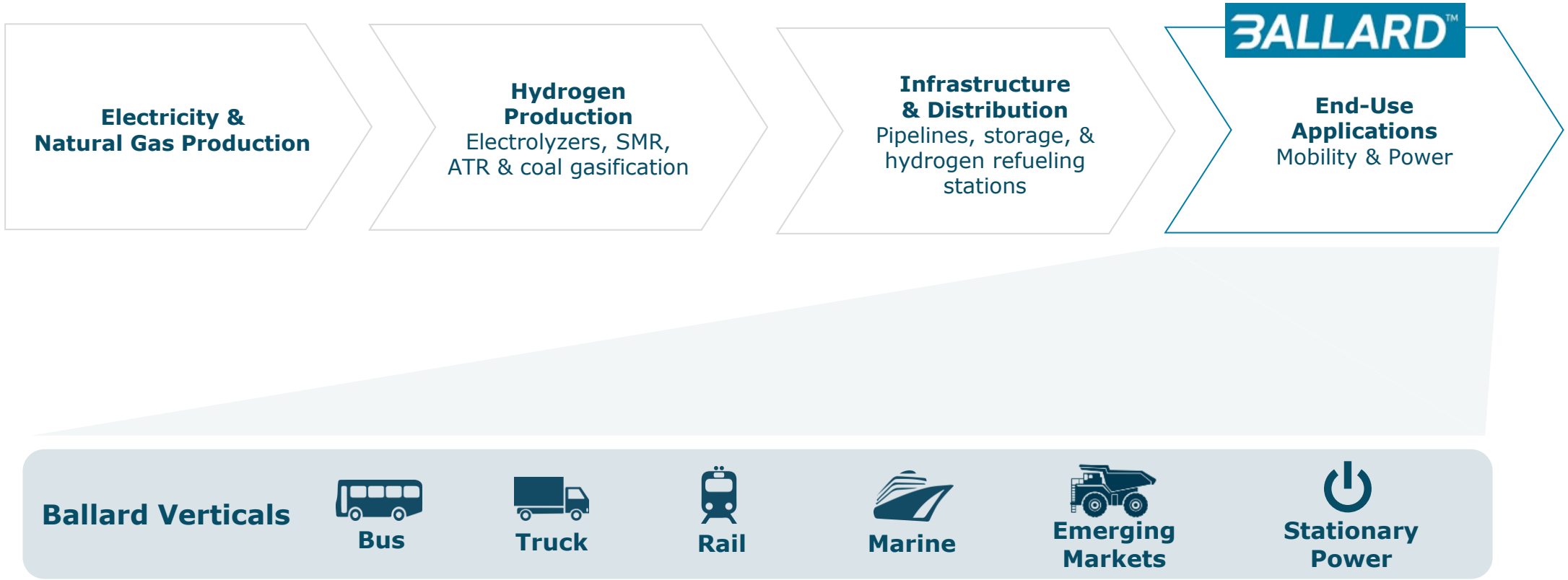
Ballard's key role in the expanding hydrogen value chain

Ballard is a world leader in the design & manufacturing of PEM fuel cell engines for medium- and heavy-duty mobility and stationary power applications.



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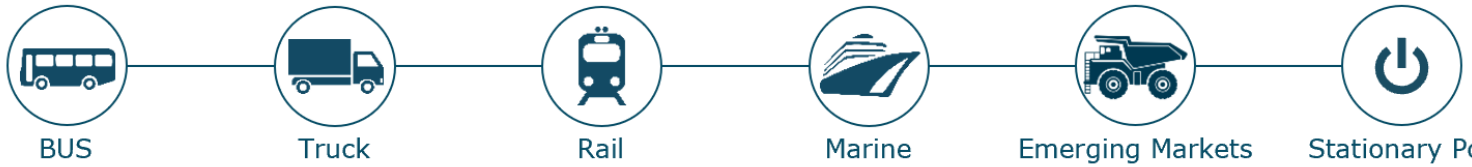
2030E Total Addressable Market (TAM)[1]

Ballard **focuses on applications with large addressable markets & difficult to abate emission profiles**, incl. mobility applications requiring quick refueling, heavy payload, long range & high availability



	BUS	Truck	Rail	Marine	Emerging Markets	Stationary Power
Total Addressable Market ($B)	~$15	~$195	~$7 SAM*	~$40	~$50	–
Fuel Cell TAM 2030 ($B)	**~$2.0**	**~$7.5**	**~$0.2**	**~$0.4**	**~$1.5**	**~$4.0**
FC Adoption (2030e)	~10-15%	~2-5%	<5%	`<5%	<5%	–
FC Volumes (per year)	50k transit coach buses	LD Truck: 150k MHD Truck: 150k	550 passenger + freight trains	350 ships	25k off-road vehicles	4,100 MW
BLDP Market Share (2030e)	~15%	~10%	~40%	~20%	~10%	~15%
BLDP Market Share (2022e)	US >90% EU >70% China >25%	US ~10% EU ~10% China >30%	>40%	~50%	–	~30% (PEM only)

1, 2, 3, 4, 5 *See Slide Notes*

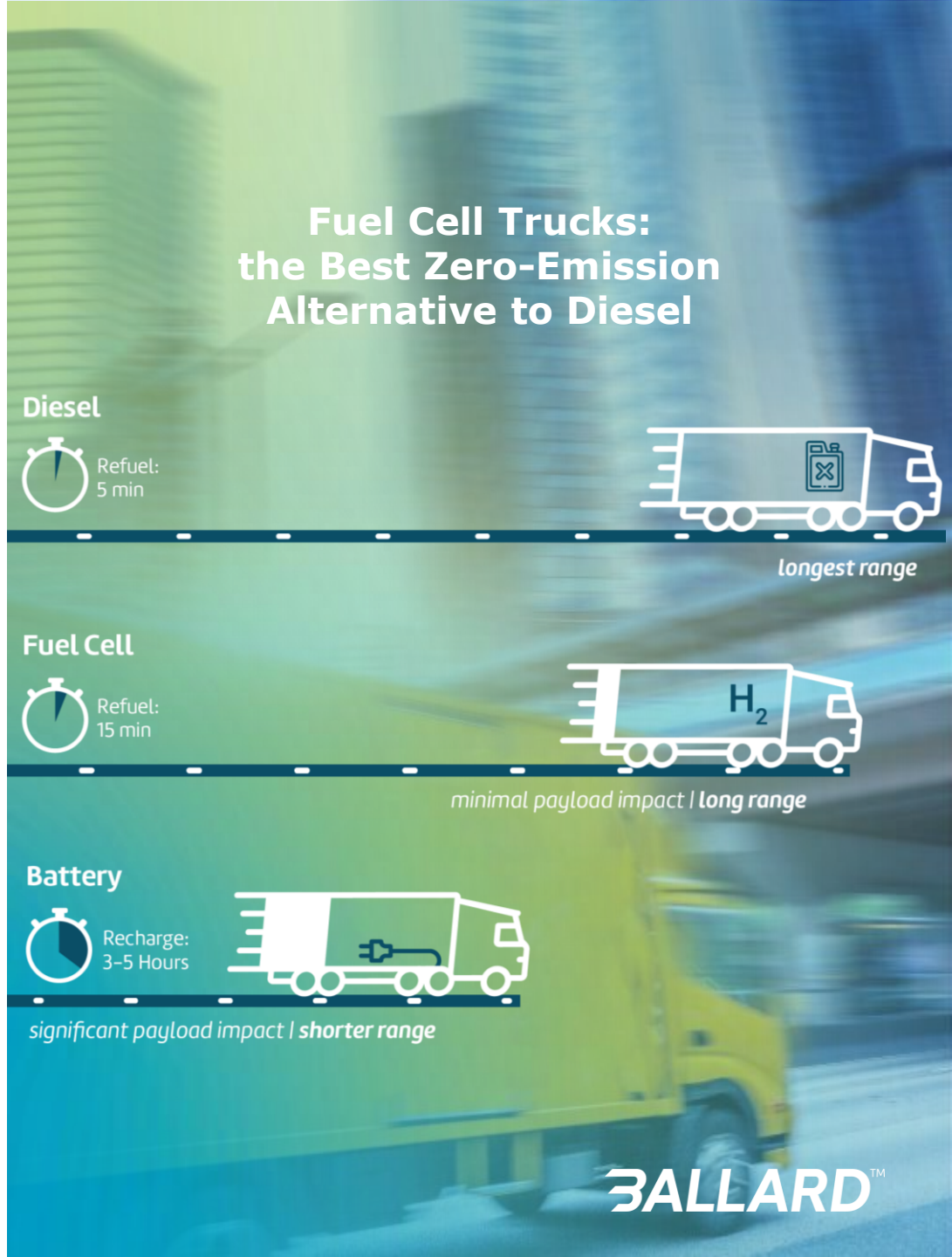
FCEV provide a strategic value proposition for heavy-duty mobility

Fuel cell electric vehicles (FCEVs)**…**

- Are the best zero-emission diesel ICE alternative for medium & heavy-duty mobility:
  - **Similar payload** to diesel truck
  - **Quick refueling** to maximize availability
  - **Longer range** than battery electric to maximize utilization
- Costs are rapidly decreasing & are expected to soon breakeven with BEV and ICE (see slide 11)
- Offer solution for disproportionately high emissions profile of hard-to-abate mobility

→ Ballard's key verticals of bus, truck, rail, marine, off-road & power generation

Buses & trucks make up ~5% US vehicles
& account for ~25% of transportation GHG emissions[1]



1 *See Slide Notes*

Ballard has extensive experience & is the leader in PEM fuel cells for medium & heavy-duty mobility

40+ year evolution of Ballard's fuel cell technology
Translating over ~150 million kilometers of in-service experience into Ballard's 13th generation stack & 9th generation fuel cell module[1]

	2011[1]		**2022**[1]		**POTENTIAL FUTURE TARGETS**[2]
Stack Power Output	20 kW		>100 kW		>150 kW
Power Density	2.0 kW/L	**5X** power output **2X** power density **~70%** durability	4.3 kW/L	Continuing to invest in next-gen technology	up to 5.3 kW/L
Est. Lifetime	15,000 hr (~250 – 500k km)		>25,000 hr (~400 – 800k km)		up to 50,000 hr (~800 – 1,600k km)
Freeze Start	>0°C		-30°C		< -30°C

1, 2 *See Slide Notes*

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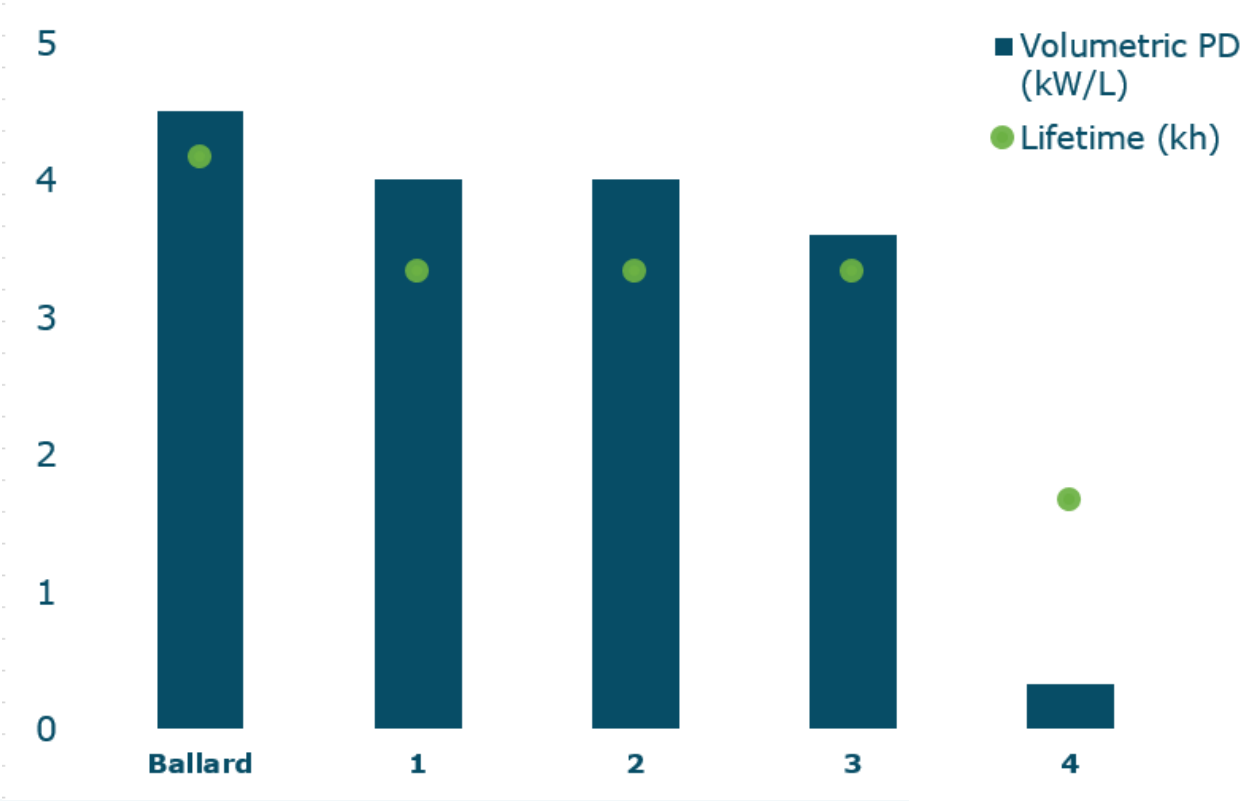
Leading & proven FCEV technology

Ballard uniquely designs & manufactures proprietary hydrogen fuel cell MEAs, plates, stacks & modules

- Volumetric Power Density: important for space allocation in vehicle (engine compartment, roof, etc.)
  - ~4kW/L is typically sufficient stack power density for class 8 truck applications
- Lifetime: critical for low total cost of ownership & excellent long-term performance

Leading Stack Volumetric Power Density & Lifetime Amongst Peers[1]



>150Mkm in-service Ballard experience → proven durability & performance

1, *See Slide Notes*

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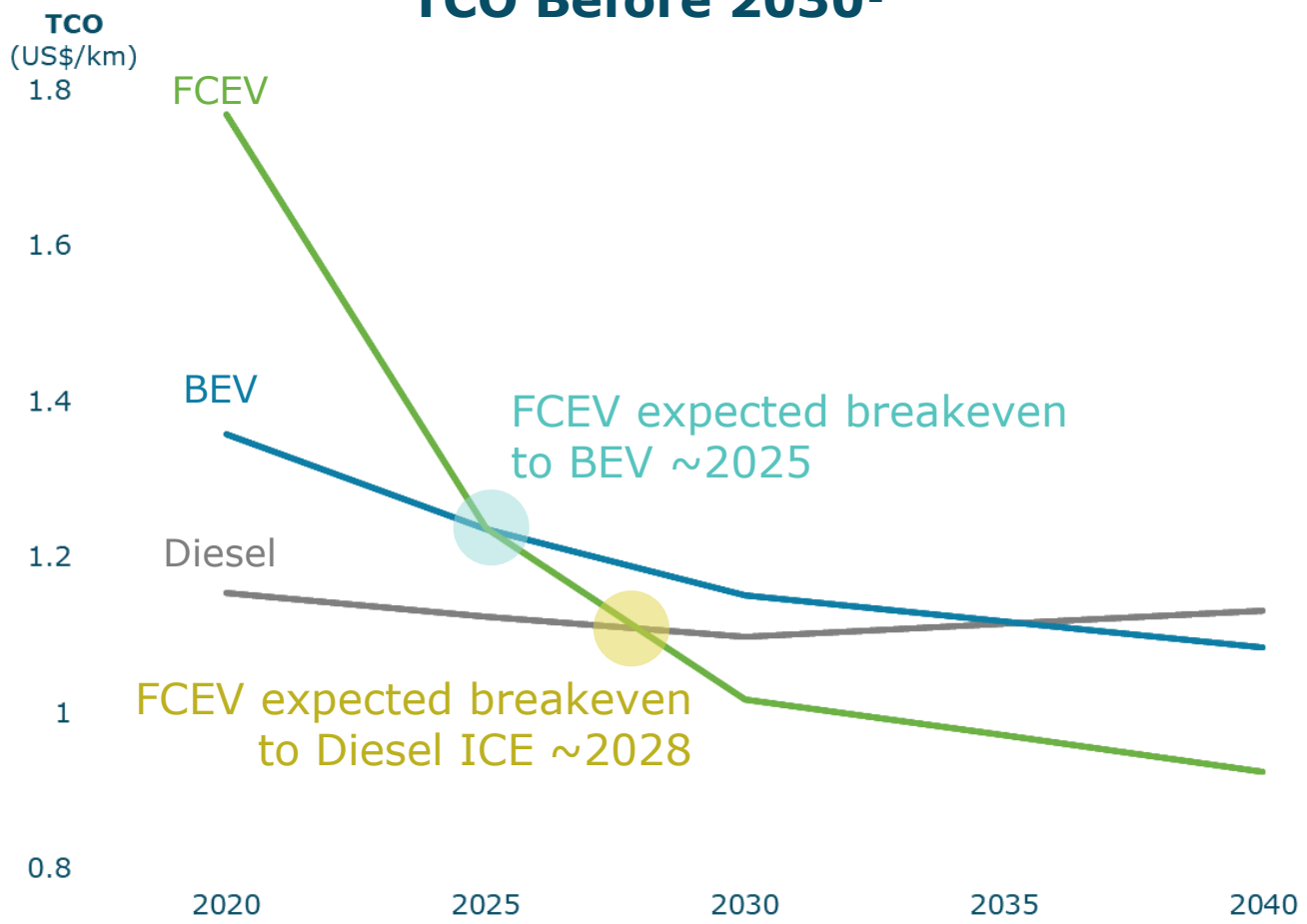
Rapidly decreasing cost curve driving TCO reduction

- Estimated to reach breakeven parity of heavy-duty truck FCEV & BEV by ~2025 & diesel ICE by ~2028[1]
- Key steps to accelerate FCEV TCO reduction:
  - Decrease capital costs through advanced manufacturing, materials selection &increased volume (3x3 program – pg 40)
  - Increase durability
  - Reduce fuel costs (~60% FCEV TCO for MDT/HDTs)
- Low-carbon hydrogen cost reduction expected to account for up to 90% of total TCO reduction from 2020 to 2030[2]

HDT FCEV Expected to be Most Competitive TCO Before 2030[1]



*40t long-haul HDT, 800km fuel range, 10 year lifespan, 150k km/year, renewable hydrogen, Europe, ~US$1.6/liter diesel price through 2040

1, 2 *See Slide Notes*

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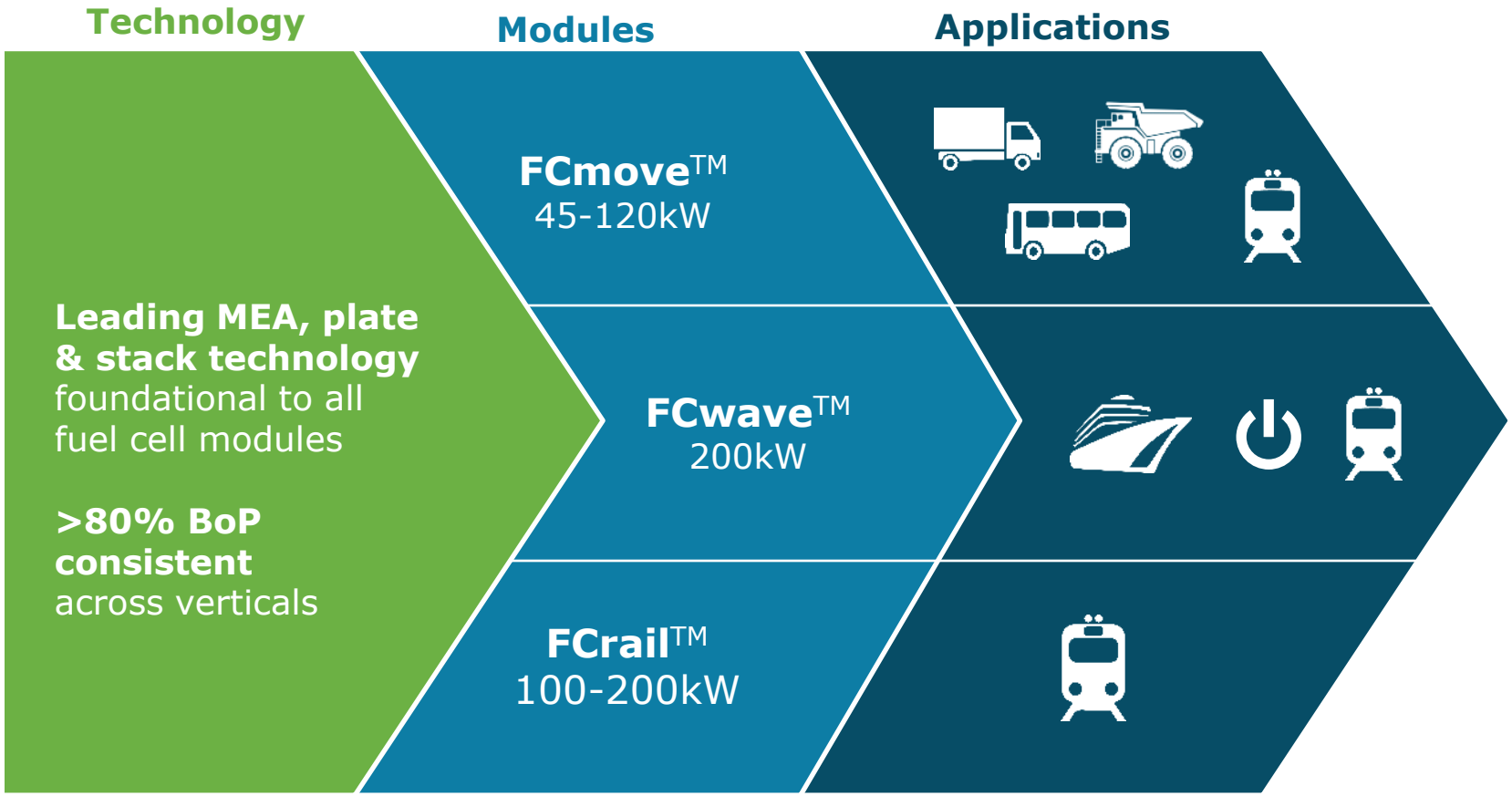
Technological building blocks for cross-vertical applications[1]



- Leading fuel cell technology platform allows for **market diversification** of product
- Product standardization is expected to result in **increased manufacturing & supply chain efficiency** & economies of scale

1 *See Slide Notes*

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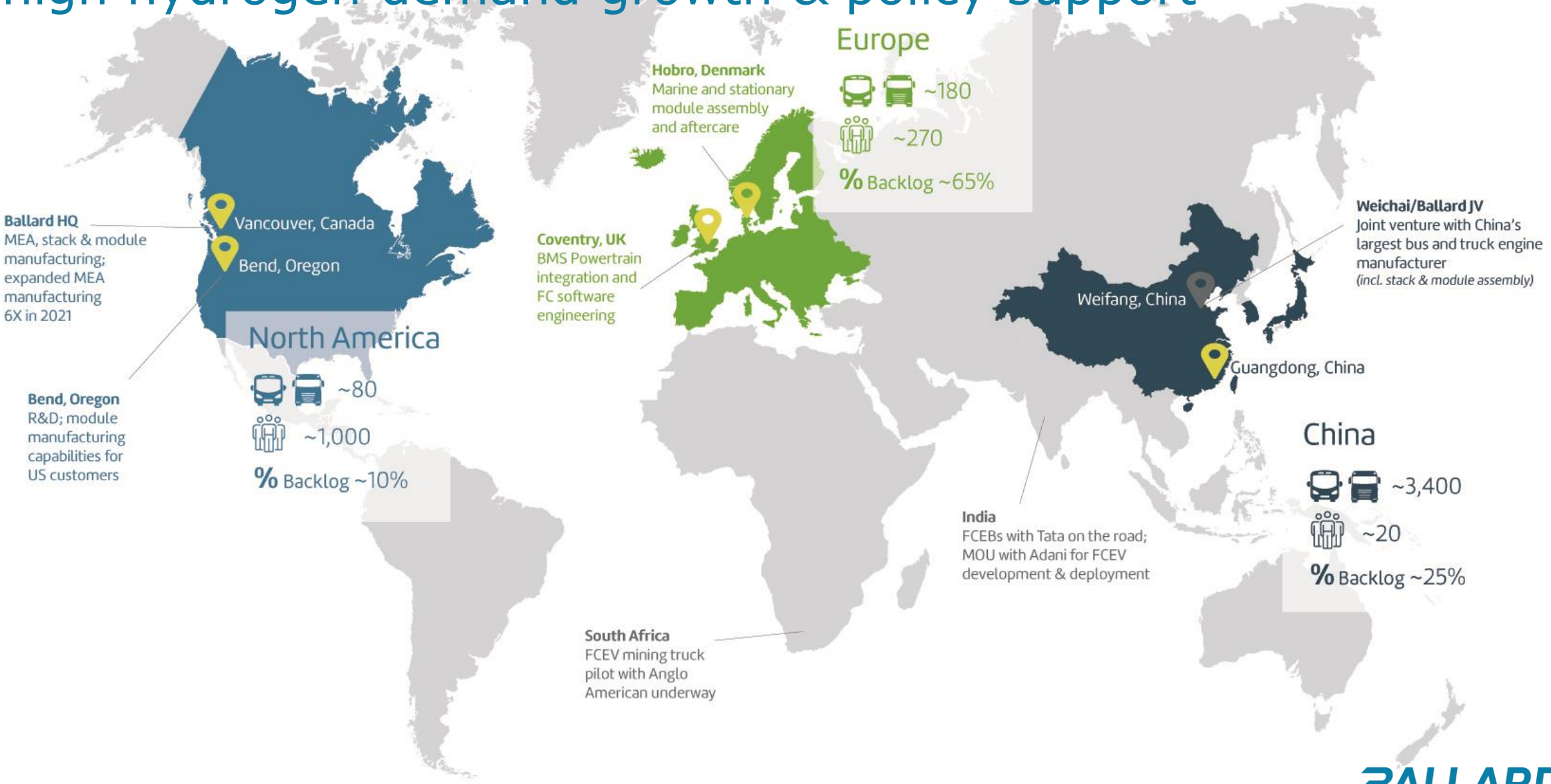
Ballard is geographically diversified in regions of high hydrogen demand growth & policy support[1]



1 *See Slide Notes*

Ballard's sustainability impact

Ballard fuel cell technologies are
facilitating the energy transition & helping customers achieve important emissions targets

- 'Cradle to grave' assessment[1]
  - FCmove™-HD used in a bus application has an 87% lower lifespan carbon footprint, when powered by green hydrogen, than a conventional diesel bus
  - Aluminum & platinum account for ~60% of FC embodied emissions
  - ~95% of platinum reclaimed in used MEAs
- Mission Carbon Zero
  - Targeting carbon neutrality of corporate emissions by 2030[2]

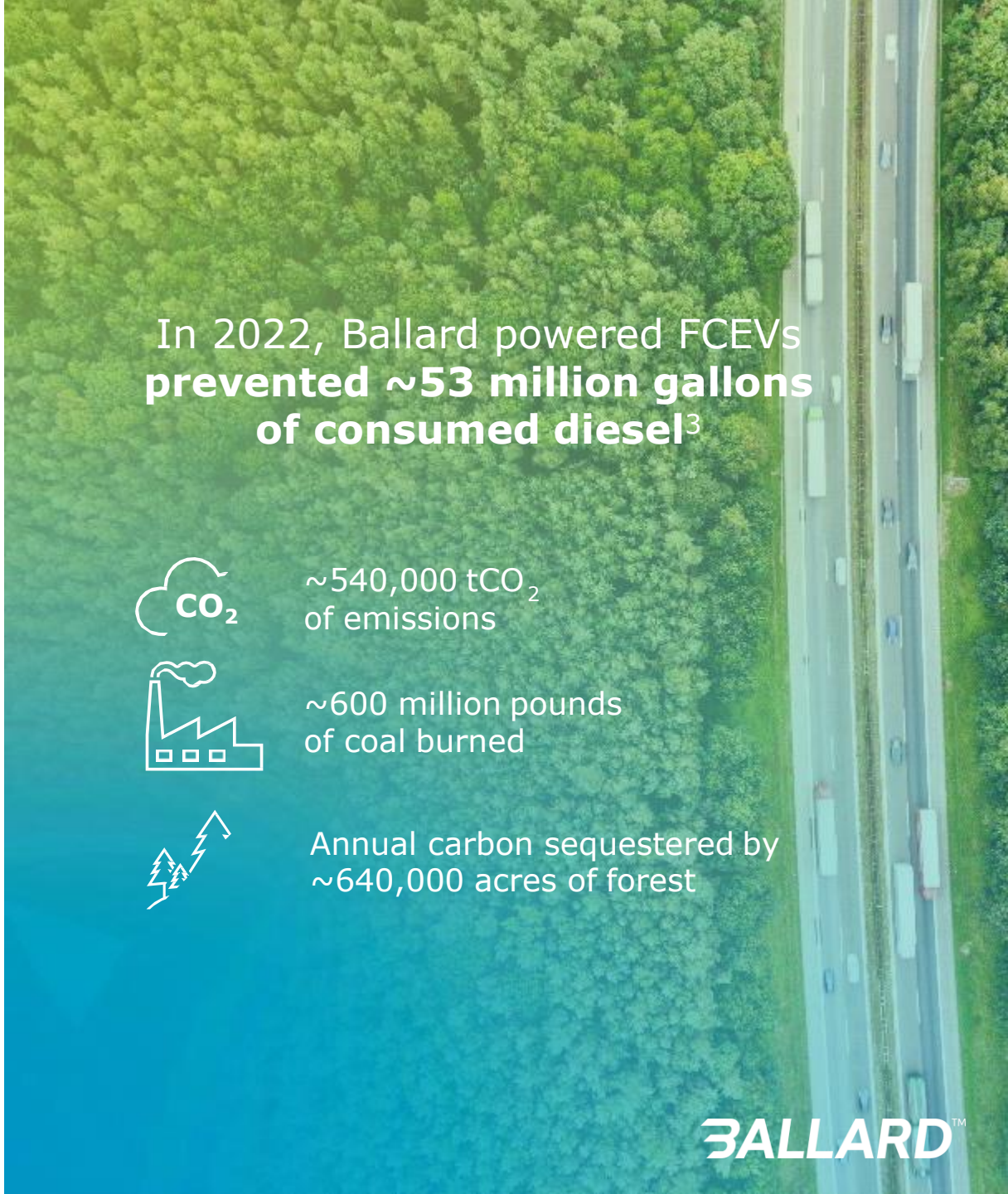
ESG Ratings

MSCI ESG RATINGS AAA (CCC B BB BBB A AA AAA)

Corporate ESG Performance Prime — RATED BY ISS ESG

CDP DISCLOSURE INSIGHT ACTION 2022 Climate

SILVER 2022 ecovadis Sustainability Rating



In 2022, Ballard powered FCEVs **prevented ~53 million gallons of consumed diesel**[3]

- ~540,000 tCO_2 of emissions
- ~600 million pounds of coal burned
- Annual carbon sequestered by ~640,000 acres of forest

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1, 2, 3 *See Slide Notes*

Ballard 2023 outlook[1]

Total Operating Costs[2]

$135M – $155M

Continued investment in research & product development ahead of the hydrogen growth curve

Advancing new technology, product innovation, & development across target markets, incl. next-generation MEAs, plates, stacks, and modules, and increasing sales & marketing expenditures

Capital Expenditures[3]

$40M – $60M

Investment in testing capabilities, adding production, lab and engineering equipment & expanded prototyping capabilities

Investing in advanced manufacturing of bipolar plates starting in 2022

1, 2, 3 *See Slide Notes*

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APPENDICES

APPENDIX A

VERTICALS

Bus[1]

TAM[2]	Current BDLP FCEB Mkt Share	Key Partners & Customers	Fuel Cell Size	Deployed/ In-Development
$15B	Europe: >75%; N.Am. >90%; China: >25%	Solaris (Poland), Wrightbus (UK), VanHool (Belgium), New Flyer (US), Skoda (Czech), ADL (UK), ARCC (Australia), Wisdom (HK), Doosan (Korea)	70kW – 100kW	~1,500/~300 Buses

- Value Proposition: Zero emission buses without compromise on service. FCEBs are a direct one-to-one replacement for diesel buses (no need to increase fleet size to accommodate charging times) as hydrogen as a low carbon fuel enables scalable deployment of zero emission bus fleets, without potential significant infrastructure capital required for large BEV deployment.
- Ballard products have been integrated by 19 OEMs
- Current Development:
  - Europe: ~250 in-service + ~250 in development in 15 countries
  - North America: ~100 in-service + ~50 in development in 5 U.S. states
  - China: ~1,100 in-service
- Declining Capital Costs[2]: Initial demonstration costs declined from ~$3M per bus to ~$1.25M since 2005 (current diesel bus ~$500k). USDOE has interim capital cost target of $1M per bus, with ultimate target of $600k.
- Significant policy support in Europe & US for zero emission bus deployment (see slides 25-27)

1, 2 *See Slide Notes*

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FCEBs proven to be competitive[1]

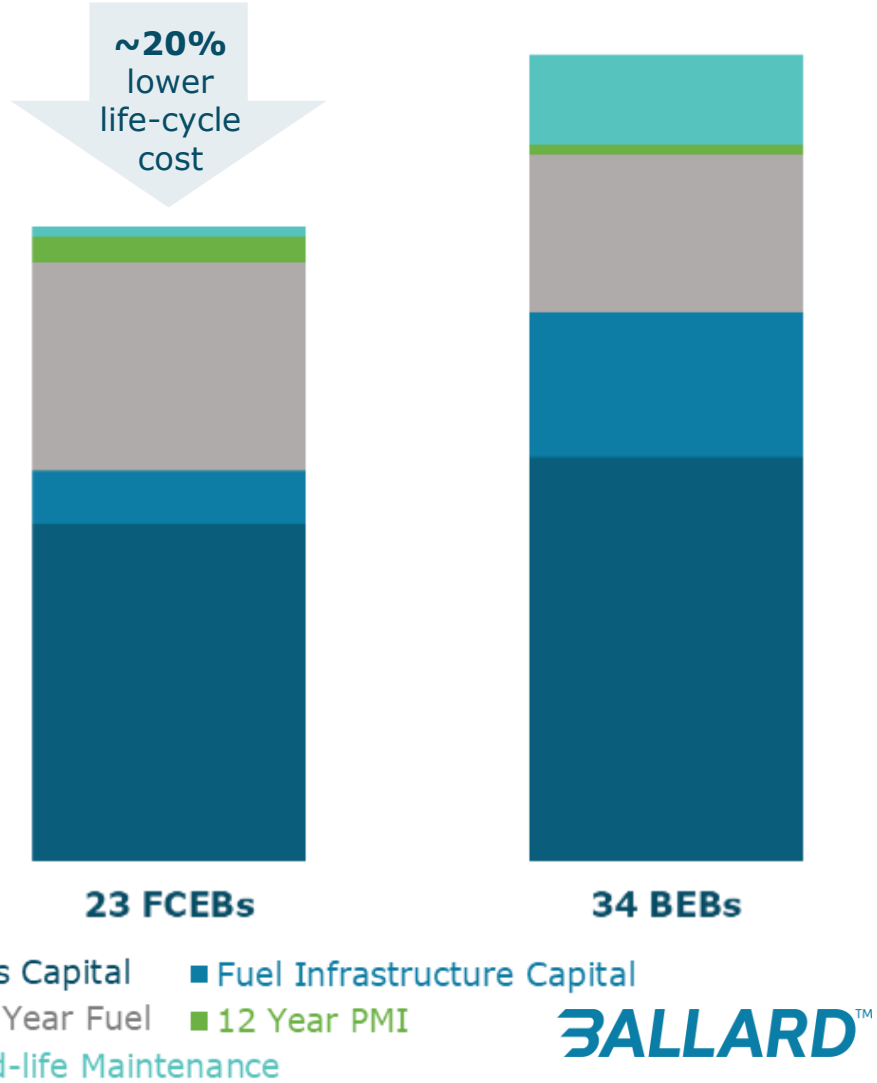
Foothill Transit Authority
Greater Los Angeles Area, California

Deploying full zero emission bus fleet
>300 buses planned by 2030

FCEB fleet >20% lower cost than BEB for longer range routes

- Only require **23 FCEBs vs. 34 BEBs** to satisfy its specified route due to range restriction of BEBs
  → **reducing capital costs by ~15%**
- **Fueling/charging infrastructure** capital costs **~60% cheaper for FCEB** vs. BEBs
- **Mid-life replacement costs ~85% cheaper for FCEBs** compared to BEBs

Foothill Transit Authority FCEB vs. BEB Cost Comparison



1 *See Slide Notes*

Truck[1]

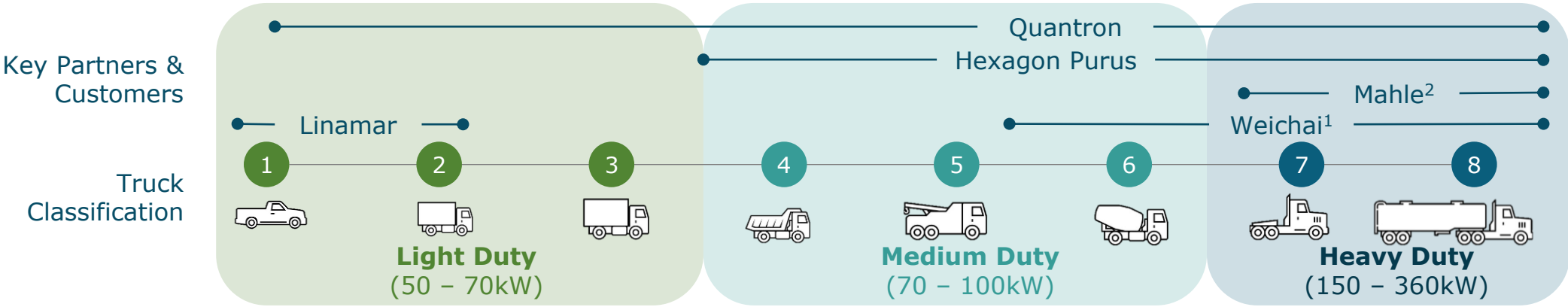
TAM[2]
~$195B

Key Partners & Customers
MAHLE (Europe), Hexagon Purus (US), Linamar (North America & Europe), Weichai (China), Quantron (Europe)

Fuel Cell Size
50kW – 360kW

Deployed/ In-Development
~2,300/145 Trucks

- Value Proposition: FCETs provide long range, fast refueling and full route flexibility, consistent with diesel technology, and serve a wide range of operating conditions with minimal impact on vehicle payload.
- Current development: >2,200 Ballard powered FCETs worldwide
- Partnership structure focused on **Tier 1 suppliers** (Weichai Group, Mahle, Linamar) as a channel to global truck OEMs. Work underway to develop fuel cell engines for market scale – mid term development horizon.
- Working with **vehicle integrators** (Quantron, Hexagon Purus, Wisdom, Weichai Group) expected to help accelerate current demand of fuel cell trucks by bringing early-stage truck fleets to market. Enhanced capabilities in energy system engineering anticipated to support these initiatives by reducing customer friction points, accelerating customer adoption.



1, 2 *See Slide Notes*

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Rail[1]

SAM[2,3]
$7B

Key Partners & Customers
Siemens (Germany), CRRC (China), CP Rail (Canada), Sierra Northern (US), Stadler (CH/US), Medha (India), Scottish Rail (UK), Talgo (Spain)

Fuel Cell Size
~400-600kW passenger & shunter
~1.2-2MW freight

Deployed / In-Development
8 / 63 trains

- Value Proposition: Fuel cell trains run on existing tracks and have comparable refueling time to diesel. With long range, fast refueling, and heavy payload, hydrogen fuel cell trains overcome technical constraints of batteries and are more economical than catenary electrification, while still providing the environmental benefits of electrification.
- Large market potential in European passenger & US freight rail
  - US: over 40,000 freight locomotives in North America with 15-year engine refurbishment cycle[4]
  - Europe: ~40% of European rail lines are non-electrified and are cost prohibitive (~€1M/km) to fully electrify. ~15k diesel trains in Europe to be replaced in next 15 years
- Current development:
  - Siemens: Development of 400kW purpose-built hydrogen powered Mireo passenger train in demonstration; ordered 23MW of fuel cells to-date
  - CP Rail: Demonstration for three locomotives underway in Canada – converting existing drive trains from diesel electric to fuel cell electric (anticipated in-service 2023)
  - CRRC: five trams in Foshan City in-service 2019
  - Talgo: 8, 70kW modules for passenger train in Spain with expected 2023 in-service
  - Stadler: passenger rail project in San Bernardino, California
  - Sierra Northern: switching locomotive in California
  - PESA: shunting locomotive in Poland

Top Global Train Manufacturers[1]

Rank	Company	2019 Rev ($B)	Region
1	CRRC Corporation	32	APAC
2	Bombardier	16	Americas
3	Siemens Mobility	10	EMEA
4	Alstom Transport	9	EMEA
5	GE Transportation	4	Americas
6	Stadler Rail AG	3	EMEA
7	The Greenbrier Co	3	Americas
8	Trinity Rail Group	3	Americas
9	Hyundai Rotem	2	APAC
10	Hitachi Rail Systems	2	APAC

Ballard Customer

1, 2, 3, 4 *See Slide Notes*

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Marine[1]

TAM[2]	Current BDLP Fuel Cell Mkt Share	Key Partners & Customers	Fuel Cell Size	Deployed / In-Development
$40B	>15%	Norled (Norway), ABB (Norway)	<1MW – 7MW+	1 /4 vessels

- Value Proposition: Modular fuel cell systems can be deployed in parallel, dispatchable configurations to meet variable power requirements of propulsion and auxiliary power systems. In fuel cell systems, power generation & fuel storage elements are separate, offering more flexibility than batteries. In ports, multi-mode transportation opportunities exist to share centralized hydrogen fueling infrastructure.
- Ballard customers account for 8 / 10 top global marine manufacturers & integrators; established Marine Center of Excellence in Denmark
- Large market potential in Norway, Central Europe, North America - ~3,000 MW global opportunity by 2030 for zero/low emission vessels (SAM)
- Current development:
  - FCwave™ 200kW – first fuel cell module to be Marine Type Approved – Launch Date: April 6th, 2022
  - Norled: Hydra liquid hydrogen ferry (400kW) – testing has begun with service to begin later in 2023
  - ABB: Development of MW scale systems for cruise ships (6MW) & several other projects in the works
  - ELEKTRA push boat in Germany (300kW) – commissioned & starting trial runs in 2022
  - Flagship: Development of two vessels commercially operated using FCwave products- expected in-service 2023
- Policy support:
  - Norway protecting heritage fjords mandating 100% zero-emission by 2026
  - Europe EMSA to cut CO_2 50% by 2050
  - IMO target to reduce GHG by 50% by 2050
  - Starting in 2025 carbon pricing system will include >5000t & ramp up to reach 100% of vessels by 2027

1, 2 *See Slide Notes*

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Stationary power[1]

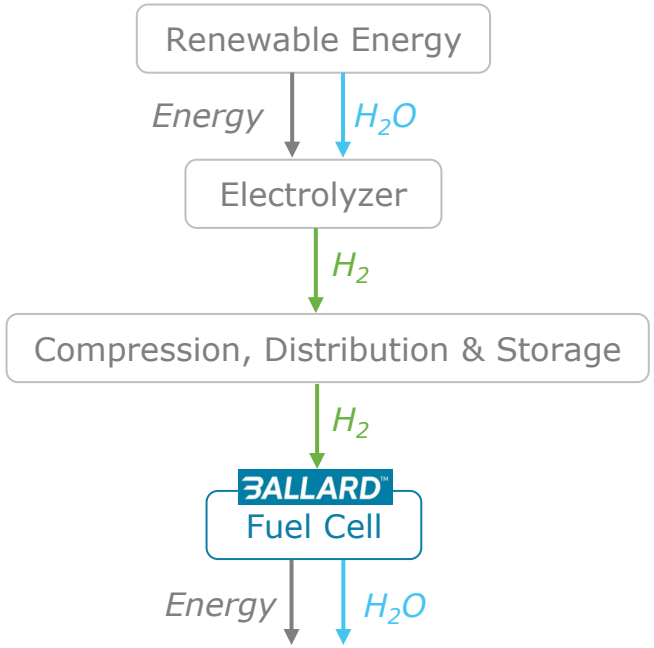
Key Partners & Customers
CAT (US), HDF (France), Fusion (EU), Telia (Norway), Telenor (Norway), Motorola (Denmark), Norlys (Denmark), Vattenfall (Sweden)

Fuel Cell Size
1.7-5kW;
200kW – 1.5MW

Deployed / In-Development
~4 MW / 7.5MW

- Value Proposition: Fuel cell backup systems replace or complement diesel generators as a reliable, flexible, and zero emissions solution due to high efficiency, quick ramp, and small footprint. Renewables-electrolysis-hydrogen storage fuel cell systems can deliver reduced energy costs, improved grid stability, increased penetration of renewables and greater energy independence.
- PEM fuel cells offer superior performance (efficiency & O&M) to traditional diesel generators and with zero GHG emissions
  - High efficiency: 50 – 60% electrical efficiency at optimal operating range
  - Quick ramp: <2 minutes from cold start & <30 seconds from standby to 100% power
  - Low maintenance costs & long lifetime: >15 years documented in the field
  - Small footprint: 1.2MW fuel cell < 7m^2 (diesel ~12m^2, battery ~10x footprint)
- Current development:
  - **Kilowatt scale** fuel cells for critical infrastructure backup applications (5 – 50 kW) in commercial operation since 2007. 400+ systems under extended lifetime warranty service contracts for 10+ years.
  - **Megawatt scale** fuel cells for backup & power generation – zero emission alternative to existing diesel gen sets → critical for companies to achieve emissions targets
    - CAT / Microsoft (USA) – 1.5MW system for Microsoft datacenter
    - Fusion Fuel (Portugal) – 200kW solar → hydrogen peak shaver facility
    - HDF (France) – 3MW containerized baseload hydrogen power plant

Hydrogen Addresses Renewable Energy Storage Challenges



1 *See Slide Notes*

APPENDIX B

GEOGRAPHIC MARKETS

Europe[1]

Policy Support & Commitments

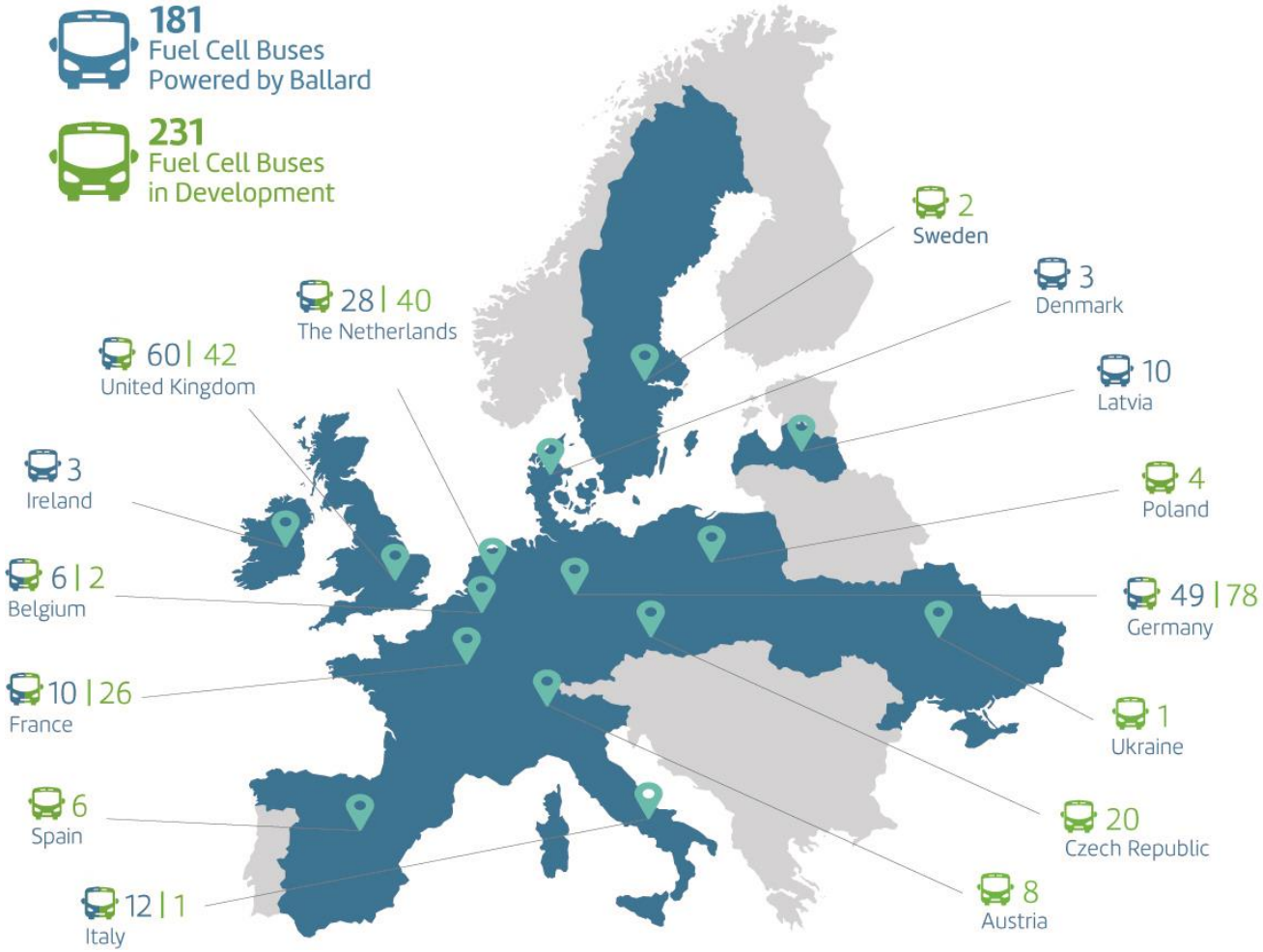
- GHG Goal: Reduce net GHG emissions by 55% from 1990 levels by 2030; net zero by 2050
- Hydrogen Commitments: 12 countries currently offer purchase subsidies for FCEB and/or FCET
- RePower EU Action Plan: EU goal of 20 million tons of renewable hydrogen by 2030 (10mt local, 10mt imported)

Key Partners & Customers

Bus: Wrightbus, Solaris, VanHool
Rail: Siemens, Talgo
Truck: MAHLE, Quantron AG
Marine: ABB, Norled
Power Generation: HDF, Motorola, Eltek, Norlys, Telenor, Telia

Ballard Deployment

- >250 Ballard powered FCEBs in-service or in-development in 16 European countries; >75% Ballard FCEB market share



Outlook

- Up to 100,000 ZEB estimated to be deployed in next 10 years
- Low emission zones are being established; 10 of the largest European cities and several countries have committed to buy only 100% Zero Emission Buses from 2025

1 *See Slide Notes*

United States[1]

Policy Support & Commitments

- GHG Reduction Goal: ~50% reduction from 2005 levels by 2030; 100% carbon-free electricity by 2035
- Hydrogen Earth Shot targeting $1/kg green hydrogen by 2030
- **LowNo** (clean bus FTA funding program – specifically for low and ZEB) allocating $1.7B in 2023 vs. $1.1B in 2022 and $185M in 2021
- **Inflation Reduction Act[1] (IRA)** includes production & investment tax credits for clean hydrogen (up to $3/kg for low carbon hydrogen), other significant incentives for carbon capture and for renewable energy facilities powering electrolyzers. IRA includes $369B for modernization of the American energy system.
- **Infrastructure bill** allocates $9.5B for hydrogen development (incl. $8B for 4 regional clean hydrogen hubs). DOE projects[2] US green hydrogen production will increase to 10 million & 50 million tonnes / year by 2030 and 2050, respectively.

Key Partners & Customers

Bus: New Flyer
Truck: Hexagon Purus, Linamar
Power: Caterpillar
Rail: Sierra Northern, Stadler AG, CP Rail
Off Road: First Mode; Capacity Trucks (yard trucks)
Marine: ABB

Ballard Deployment

- > 100 FCEBs in or entering service + >40 additional in development
- > 90% Ballard market share for FCEBs

Outlook

- Hydrogen hub coalitions forming in California, Texas, Ohio, Pacific Northwest, etc. to prepare large scale, multimodal deployments for federal funding of up to $2B per hub
- NESCAUM[3] - MOU signed by over 15 states committing to 30% of all new medium- & heavy-duty vehicle sales be zero emission by 2030, and 100% zero emission by 2050

1, 2, 3 *See Slide Notes*

California[1]

Policy Support & Commitments

- GHG Goal: Reduce GHG emissions to 40% below 1990 levels by 2030
- Committed to $10B decarbonization investment over 6 years
  - $1.7B: 1,000 zero-emission short-haul (drayage) trucks & 1,700 zero-emission transit buses
  - $1.8B for zero-emission trucks, buses, and off-road equipment and fueling infrastructure
  - $200M for demonstration & pilot projects in high carbon-emitting sectors (maritime, aviation, rail, other off-road applications, etc.)
- Advanced Clean Trucks: Increase the penetration of the first wave of zero-emission heavy-duty technology into applications well suited to its use. Promoting development and use of advanced clean trucks will help CARB achieve its emission reduction strategies.

Key Partners & Customers

Bus: New Flyer, ElDorado National
Truck: Hexagon Purus
Rail: Stadler, Sierra Northern Railway

Ballard Deployment

- >75 FCEBs in-service (AC Transit, Sunline, OCTA, Bakersfield, Foothill) + ~30 additional in development
- Three UPS vans (Linamar) delivered in 2022, with final van to be delivered in 2023
- Two yard trucks (Capacity) delivered to the Port of Los Angeles in 2022
- Switching locomotive build & tugboat feasibility study projects underway
- San Bernadino light rail with Stadler

Outlook

- **Bus**[2]: 25% of new bus purchases must be ZEBs by 2023; 50% by 2025; 100% by 2029; all 10,000 transit buses to be ZEBs by 2040
- **Truck**[3]: 55% of Class 2b – 3 truck sales, 75% of class 4 – 8 straight truck sales, 40% of truck tractor sales must by zero emission by 2035. Target of 100% trucks on the road be zero-emission by 2045. Specifically for high-emitting drayage trucks, including 17k vehicles registered to the ports of Los Angeles & Long Beach alone, must be transitioned to zero-emission by 2035.
- **HRS**: >40 HRS in-service, 15 in construction or planning → target of 1,000 by 2030

1, 2, 3 *See Slide Notes*

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China[1]

Policy Support & Commitments

- GHG Goal: Peak GHG emissions by 2030 & carbon neutral before 2060
- Demonstration City Clusters: 5 initial demonstration city clusters announced (Beijing, Shanghai, Guangdong, Hebei, Henan) intended to incentivize development of full hydrogen value chain through a subsidy program. Weichai/Ballard JV located in Weifang City, Shandong Province, which has been included as part of the Henan city cluster
- Weichai-Ballard JV has also setup a new subsidiary in Shanghai and is working with regional consortium partners on the Shanghai cluster demonstration program

Key Partners & Customers

Bus: Yutong, Feichi, Zhongtong, Howo, Asiastar, Wulong, NJ Kinglong, Wisdom
Rail: CRRC
Truck: Dongfeng, Zhongtong, Sinotruk, Sunlong, Feichi, Shacman, SDAC

Ballard Deployment

- >1,100 FCEBs powered by Ballard technology with 7 different bus OEMs across 10 cities & >2,300 FCETs powered by Ballard technology with 7 different truck OEMs across >10 cities
- 5 Ballard powered hydrogen fuel cell trams (CRRC) – in-service since 2019 with >414k km in service
- ~25% Ballard market share in FCEBs & ~32% market share in FCETs[2]

Outlook

Hydrogen powered vehicle targets: 50,000 FCEV & 300 HRS by 2025; 1M FCEV & 1,000 HRS by 2030

1, 2 *See Slide Notes*

BALLARD™

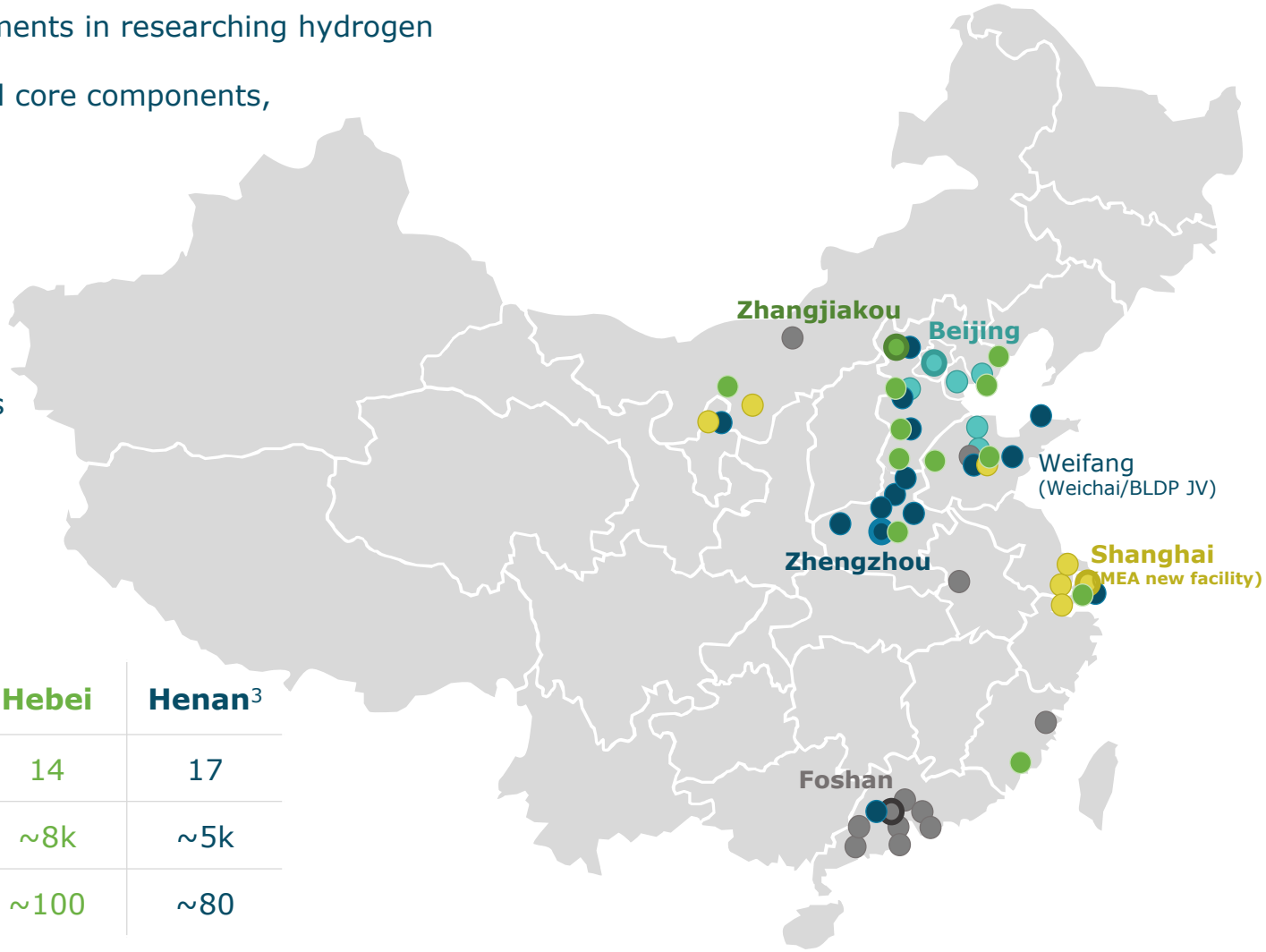
China FCEV demonstration city cluster policy[1]

- China initiating a four-year program to support local governments in researching hydrogen technology & developing a local, hydrogen value chain
- Strong emphasis on industrialization & localization of fuel cell core components, consistent with Made In China 2025 mandate
- Foreign companies allowed to participate under guidelines of National Encouraged Industries whitelist

- 5 clusters announced to date:
  Beijing, Shanghai, Guangdong (on Aug 31, 2021)
  & **Henan & Hebei** (on Jan 10, 2022)

- ~8.5 billion RMB total funding across 5 clusters, over 4 years
  >33,000 FCEVs & ~550 HRS estimated by 2025

- **Ballard / Weichai JV** located in Weifang City, Shandong, **included in Henan city cluster**



Demonstration City Clusters

	Beijing	Shanghai	Guangdong	Hebei	Henan[3]
# Cities / Districts[2]	12	7	12	14	17
FCEV Estimate[4]	~5k	~5k	~10k	~8k	~5k
HRS Estimate[4]	~75	~100	~200	~100	~80

*Full city list included in footnotes

1, 2, 3, 4 *See Slide Notes*

APPENDIX C

KEY PARTNERSHIPS / CUSTOMERS

Weichai / Ballard Joint Venture[1]

- **History:** Strategic collaboration established in 2018, located at Weifang City, Shandong Province. Ballard brings world class PEM fuel cell technologies and Weichai has global supply chain and commercial scale industrial manufacturing expertise.
- **Development:**
  - Established GIGA SHANDONG ONE Manufacturing Facility for localized stack & module production
  - Floor space: 310,000 sq ft. & annual capacity: 34,000 stacks (>1.2GW equivalent) & 20,000 modules
  - Exclusive licensed manufacturer of LCS fuel cell stacks & LCS-based modules in China
  - Weichai / Ballard JV has ~200 employees as of September 2022
- **Structure:**
  - Weichai has 51% working interest / Ballard has 49% interest in the JV
  - Ballard is the exclusive supplier of MEAs to the JV
    (Ballard sells MEAs from Canada – 51% of MEA revenue is recognized upon sale to JV)
  - Weichai / BLDP JV assembles stacks and modules for the bus and truck market for sale into China market
    (upon sale of stack / module, remaining 49% of MEA revenue is recognized by Ballard)
- **Weichai Power** has 100,000 global employees, $25B USD 2022E Revenue, #1 HD global engine sales, 2nd largest Chinese HD Truck sales, 3rd largest Chinese exporter of HD Trucks, vertically integrated with strong OEMs including Bus: Zhongton Bus Holdings, Asiastar, Howo; Truck: Sinotruk, Shacman, SDAC

1 *See Slide Notes*

Mahle[1]

- **History:** Ballard and Mahle announced collaboration agreement in September 2020 to develop a product platform, with a power output from 180kW to 360kW for heavy-duty and long-haul trucks (Class 7 & 8). Multi-year development initiative to develop a fuel cell as the lowest-cost solution for heavy duty trucks within ten years
- **Development / Status:**
  - The initial concept engine fuel cell module was delivered for testing, as planned, in late 2021
  - This concept engine is the building block, which MAHLE began testing and integrating with their components in 2022, including the balance-of-plant, thermal management and power electronics, and system assembly
  - The joint project is a multi-year development program
- **Structure:** During the initial development phase, Ballard has prime responsibility for system design and the fuel cell stack sub-system, while MAHLE's scope of responsibility includes balance-of-plant components, thermal management and power electronics for the complete fuel cell system, or engine, as well as system assembly
- **Mahle** has 71,000 employees and is a major Tier 1 supplier with €11B in annual sales (June 30 2022, TTM); Mahle components are in half of the world's vehicles & have over 10 years experience in fuel cell component supply

1 *See Slide Notes*

Linamar[1]

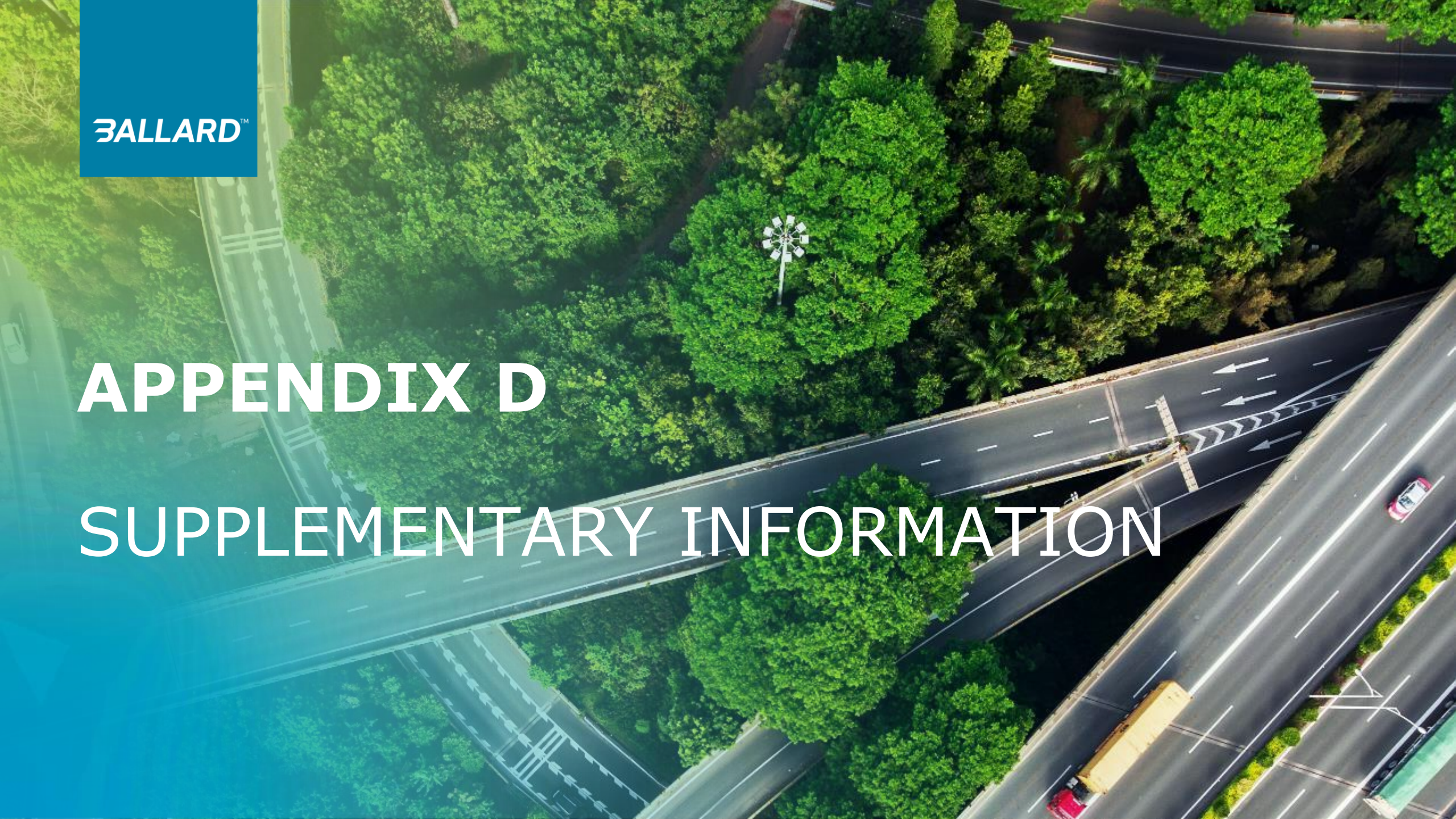
- **History:** Linamar and Ballard entered into an agreement in 2021 to jointly develop and market a fuel cell powertrain and chassis system for cars, SUVs, and trucks (Class 1 & 2) for the North America and Europe markets. The partnership is intended to offer a 'one-stop-shop' for Class 1 & 2 fuel cell vehicle platform development
- **Development / Status:**
  - UPS truck project (Sacramento, California) – 3 trucks in-service in 2022, one additional in 2023
  - Demonstrator platform utilizing Ballard fuel cells & Linamar powertrain in development (2022) with expected live test platform in 2023
- **Structure:** The partnership is intended to leverage the expertise and skill sets of both companies (Ballard's expertise in fuel cells, Linamar expertise in electric vehicle propulsion, hydrogen tanks, chassis systems and manufacturing), to bring a world class industry leading fuel cell powertrain to market
- **Linamar** is a publicly traded Canadian manufacturing company that operates worldwide, Canada's second-largest automobile parts manufacturer. Linamar manufactures and supplies products to automotive and industrial markets. Linamar has over 27,000 employees, 60 manufacturing plants, 8 R&D centers and 25 sales offices in 17 countries with total sales of $5.8 billion (2022)

1 *See Slide Notes*

Siemens[1]

- **History:** Development agreement signed in 2017 to develop a 200kW fuel cell module for integration into Siemens' new Mireo passenger train platform. Fuel cells can enable electrification with range, without requiring costly catenary wire infrastructure.
- **Development / Status:**
  - The production of the purpose-built 400kW Mireo Plus H train is completed and began operational testing on rail in 2022, and is expected to enter demonstration service in Bavaria, Germany in 2024.
  - Siemens has signed an LOI for 40MW of fuel cells to date, including a firm order for 23MW for expected delivery in 2023 - 2027, supporting development and deployment of the Mireo Plus H train in Europe.
- **Structure:** Ballard is responsible for delivering the fuel cell system and DC/DC converter.
- **Siemens** is the leading rail OEM & largest industrial manufacturing company in Europe, headquartered in Munich, Germany. Siemens has more than 300,000 employees worldwide and the Company generated revenue in excess of €80 billion in 2022.

`1, 2 *See Slide Notes*



APPENDIX D

SUPPLEMENTARY INFORMATION

PEM differentiated amongst other fuel cell technologies[1]

Proton Exchange Membrane (PEM)

- Primary applications: transportation, stationary & back-up power
- Advantages: high power density, low operating temp (50-100°C), durable, quick start, compact
- Challenges: sensitivity to fuel impurity
- Fuel: hydrogen

Solid Oxide

- Primary applications: stationary power
- Advantages: high efficiency, fuel flexibility
- Challenges: high operating temp (500-1,000°C), slow start up, large footprint, not necessarily zero-emissions (fuel dependent), sensitive to load variation
- Fuel: natural gas, syn gas, hydrogen

Alkaline

- Primary applications: aerospace, back-up power
- Advantages: low operating temp (90-100°C), quick start, electrolyte management
- Challenges: sensitive to CO2 on fuel and sir
- Fuel: hydrogen

	PEM	Solid Oxide	Alkaline
Small footprint (if hydrogen is used)	✓	✗	✗
Low operating temp	✓	✗	✓
High efficiency	✓	✓	✓
Quick start-up	✓	✗	✓
Cell durability	✓	✓	✓
Fuel flexibility	✗	✓	✗
Complexity/ Fabrication	✓	✗	✓

1 *See Slide Notes*

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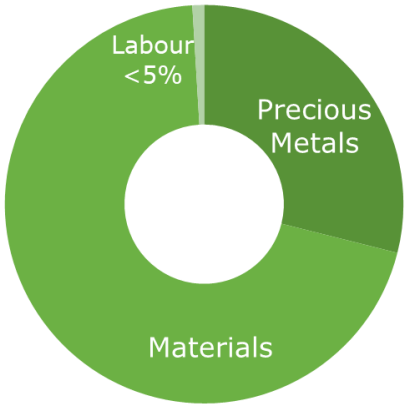
Total Ballard FC module cost[1,2]

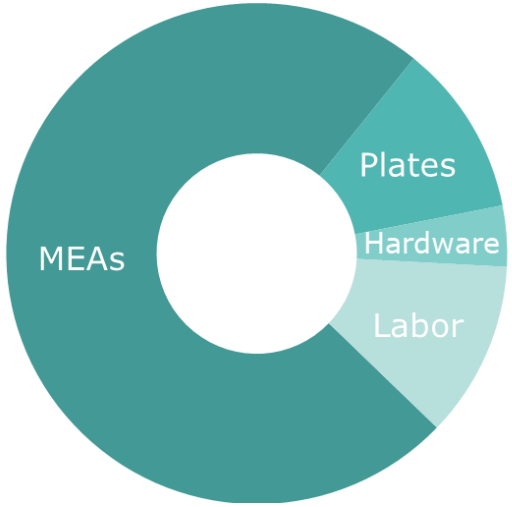
MEA

Platinum & Iridium only account for ~30% of MEA cost



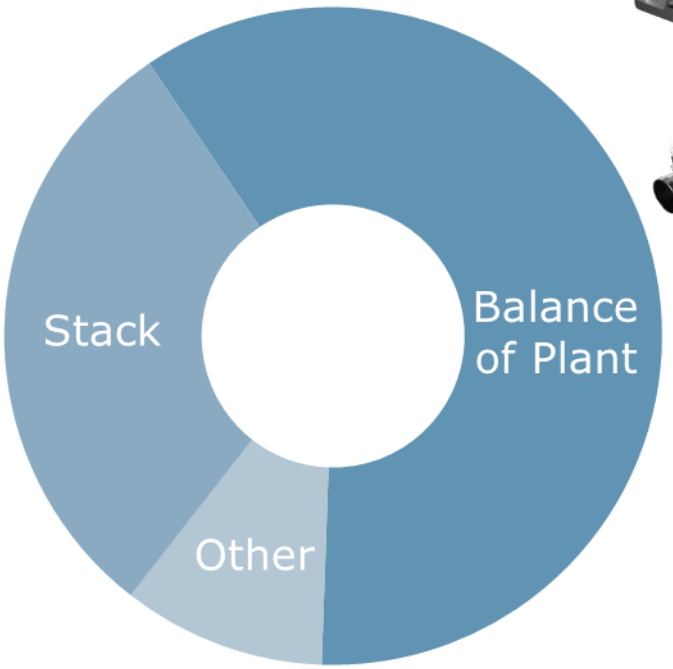
Stack

MEAs ~75% of Stack cost
Targeting 70% Stack cost reduction by 2024



Fuel Cell Module

Stack ~30% of Module cost



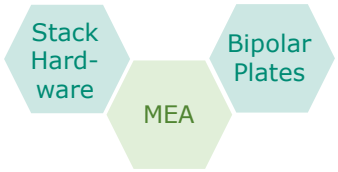
1, 2 *See Slide Notes*

Global manufacturing capacity[1,2]

MEAs

Canada
Power Output: ~1.4GW
MEA Qty: ~6M

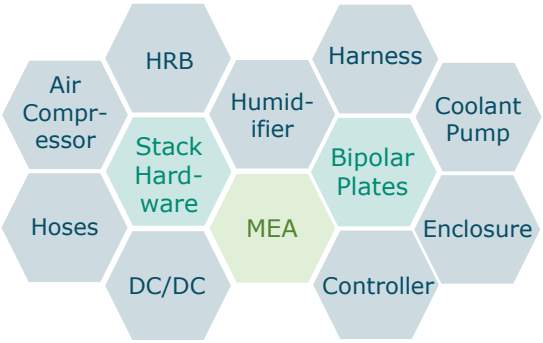
- Core of fuel cell & foundational to stack & module development
- Currently only manufactured in Canada



Stacks

Canada
Power Output: up to 1.8GW
Stack Qty: ~27,000
China
Power Output: up to 2.2GW
Stack Qty: ~34,000

- MEAs & bipolar plates assembled into stacks
- Stacks are manufactured into Ballard fuel cell modules or sold to third party
- Stack manufacturing flexibility as each facility can utilize up to 100% of current MEA manufacturing capacity



Modules

Canada
Power Output: up to 0.6GW
Module Qty: ~5,000
China
Power Output: up to 2.6GW
Module Qty: ~20,000
Denmark
Power Output: up to 0.2GW
Module Qty: ~950
US (Oregon)
Power Output: up to 0.3GW
Module Qty: ~2,500

- Stacks, with balance of plant components, are assembled into modules
- Modules are sold to customers for final application installation

1, 2 *See Slide Notes*

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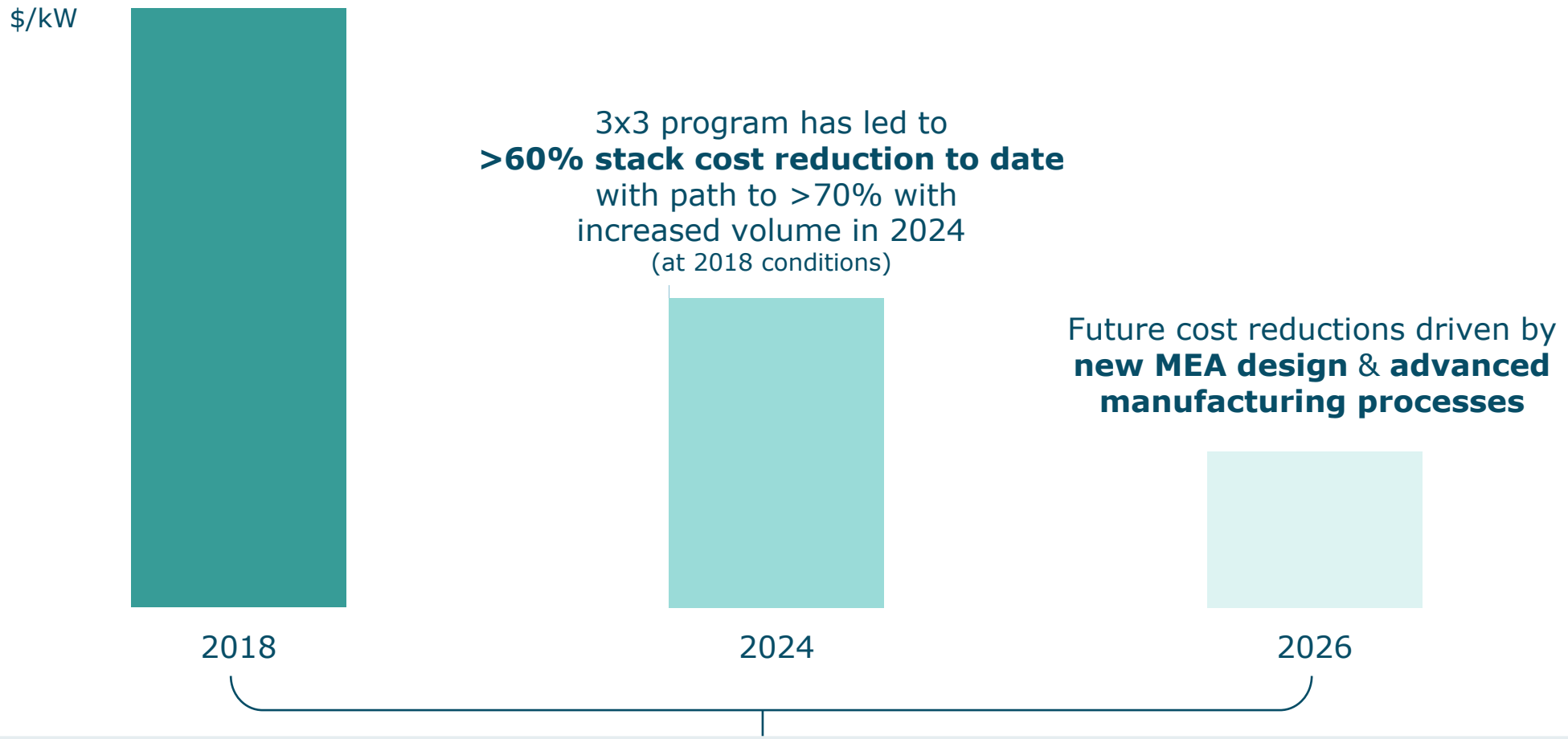
Stack Cost Reduction Achievement & Outlook[1,2]



1, 2 See Slide Notes

Forward Looking Statements

This presentation contains forward-looking statements, including: estimated revenue; gross margin; cash operating costs; adjusted EBITDA; product cost reductions; liquidity; market size and growth projections; customer value propositions; and expected sales and product shipments. These forward-looking statements reflect Ballard's current expectations as contemplated under section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Any such forward-looking statements are based on Ballard's assumptions relating to our financial forecasts and expectations regarding our product development efforts, manufacturing capacity, and market demand.

These forward-looking statements involve risks and uncertainties that may cause our actual results to be materially different, including, general economic and regulatory changes, detrimental reliance on third parties, successfully achieving our business plans and achieving and sustaining profitability. For a detailed discussion of these and other risk factors that could affect Ballard's future performance, please refer to our most recent Annual Information Form. Readers should not place undue reliance on Ballard's forward-looking statements and Ballard assumes no obligation to update or release any revisions to these forward-looking statements, other than as required under applicable legislation.

All amounts are consolidated to include Ballard Power Systems Europe A/S, Ballard Unmanned Systems Inc., Guangzhou Ballard Power Systems Co., Ltd., and Ballard Fuel Cell Systems Inc. Results are in U.S. dollars, unless otherwise noted.

Slide Notes

Slide 2
1. As of March 11, 2022.
2. Values included for the bus and truck applications only include deployed fuel cell quantities and excludes projects in-development. The rail, marine, and stationary power applications include both fuel cells deployed and in-development.

Slide 3
1. Goldman Sachs Equity Research: EU Net-Zero Industry Act to drive further growth in green hydrogen, March 21, 2023
2. As of March, 2023
3. Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.

Slide 4
1. Source: https://hydrogencouncil.com/en/hydrogen-insights-updates-july2021/
2. Source: https://eciu.net/analysis/reports/2021/taking-stock-assessment-net-zero-targets
3. As of March 11, 2022. Source: https://hydrogencouncil.com/en/hydrogen-council-membership-grows-to-more-than-130-members-with-twelve-new-companies-committing-to-foster-development-of-the-hydrogen-economy
4. Hydrogen Council: Global Hydrogen Flows (2022) –Oct 2022
5. https://www.iea.org/reports/tracking-transport-2020

Slide 5
1. Hydrogen Insights Report September 2022 (Page 7)
2. Five charts on hydrogen's role in a net-zero future 2022 (Page 5)
3. Hydrogen Council: Hydrogen for Net Zero – Nov 2021; Excludes an additional ~13MT of clean hydrogen projects announced with expected post-2030 commissioning; Announced = preliminary studies or press announcement stage; Mature = Feasibility study, front-end engineering and design stage, final investment decision has been taken, under construction, commissioned or operational

Slide 6
None

Slide 7
1. As of June 13, 2023; Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.
2. Interact Analysis, The HEV and Electrified Truck and Bus Market; 2020
3. MarketsandMarkets, Hybrid Train Market - Global Forecast to 2030; April 2019.
4. The Rail Inc - The North American Locomotive Review 2021. Refurbishments assume 17% of existing North American locomotives, as of 2021, are converted to low/zero emission engines by 2030. Approximately double units refurbished year over year to result in 3,200 conversions in the year 2030.
5. Transparency Market Research, Marine Hybrid & Full Electric Propulsion Market - Global Industry Analysis, Size, Share, Growth, Trends, and Forecast, (2020-2030); 2020
6. Off-Road and Stationary data are values obtained from consulting engagement and cannot be cited to publicly available source.

Slide 8
1. Sources: https://www.bts.gov/content/number-us-aircraft-vehicles-vessels-and-other-conveyances; https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019

Slide 9
As of March 11, 2022
1. Based on current performance expectations for the FCvelocity-9SSL and FCgen-HPS. Estimated Lifetime based on assumed hours in operation prior to first significant maintenance activity. Assumes range of 16 to 32kmph average speed.
2. Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.

Slide 10
As of March 11, 2022
1. Ballard power density based on current expectations for the Fcgen-HPS. Peers included: 1) Hyzon (G2), 2) Horizon (VLS-II-150), 3) Sinohytech, 4) Powercell (Pstack – 125kW), 5) Toyota Mirai (new 128kW stack), 6) Hyundai NEXO, 7) Plug (ProGen—P125kW)

Slide 11
1. Hydrogen Council: Hydrogen Insights - Feb 2021
2. Hydrogen Council: Path to Hydrogen Competitiveness - Jan 2020

Slide 12
1. Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.

Slide 13
1. Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.

Slide 14
1. Based on life cycle assessment and comparative analysis conducted through third party, Ostrom Climate, analyzing Ballard's FCmove™HD module used in a bus application and includes the impacts of an 80-kWh powertrain battery. For the comparative analysis, Ostrom Climate compiled cradle-to-grave data on bus types such as diesel, electric, hybrid, and plug-in hybrid by reviewing readily available scientific literature on LCAs. The main source of data used for analysis came from the Life Cycle Assessment of City Buses Powered by Electricity, Hydrogenated Vegetable Oil or Diesel (Nordelof, A., Romare, M., Tivander, J. (2019). Life Cycle Assessment of City Buses Powered by Electricity Hydrogenated Vegetable Oil or Diesel. Transportation Research Part D: Transport and Environment, 75, 211-222. https://doi.org/10.1016/j.trd.2019.08.019), since it is a current study that provided a detailed breakdown of emissions for each vehicle type and life cycle stage.
2. Corporate emissions are defined within the Ballard Carbon Neutral Plan as scope 1, scope 2 and partial scope 3 emissions including employee commuting, business travel and hydrogen purchase for R&D activities. Analysis based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.
3. Calculation based on ~1,440 buses and ~2,230 trucks in service in 2022. Utilized average annual miles traveled, fuel economy, and fuel consumption as provided by the Federal Highway Administration highway statistics. Assumed all buses are 'Transit Buses' and trucks 'Class 8 Trucks' for derivation of approximate fuel consumption. Emissions calculations were derived using US EPA emissions equivalency calculator.

Slide 15
1. Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.
2. Total Operating Expenses refer to the measure reported in accordance with IFRS.
3. Capital Expenditure is defined as Additions to property, plant and equipment and Investment in other intangible assets as disclosed in the Consolidated Statements of Cash Flows.

Slide 16
none

Slide 17
none

Slide 18
1. As of March 11, 2022; Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.
2. Source: Interact Analysis, The HEV and Electrified Truck and Bus Market; 2020

Slide 19
1. Foothill Transit Authority Executive Board Meeting. Source: http://foothilltransit.org/wp-content/uploads/2020/07/07-24-2020-Agenda-Packet-Executive-Board.pdf

Slide 20
1. As of March 11, 2022; Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.
2. Source: Interact Analysis, The HEV and Electrified Truck and Bus Market; 2020

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Slide Notes

Slide 21

1. As of March 11, 2022; Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.
2. MarketsandMarkets, Hybrid Train Market - Global Forecast to 2030; April 2019
3. The Rail Inc - The North American Locomotive Review 2021. Refurbishments assume 17% of existing North American locomotives, as of 2021, are converted to low/zero emission engines by 2030. Approximately double units refurbished year over year to result in 3,200 conversions in the year 2030.
4. Rail Inc – 2021 In Review Report. At the end of 2020, the North American locomotive fleet totaled 38,453.

Slide 22

1. As of March 11, 2022; Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.
2. Transparency Market Research, Marine Hybrid & Full Electric Propulsion Market - Global Industry Analysis, Size, Share, Growth, Trends, and Forecast, (2020-2030); 2020

Slide 23

1. As of March 11, 2022; Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.

Slide 24

none

Slide 25

1. As of March 11, 2022; Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.

Slide 26

1. As of March 11, 2022; Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.
2. UBS: North American Biofuels and Hydrogen Conference Call on Hydrogen Trends & Outlook, March 27, 2023
3. Sources: https://www.energy.gov/eere/fuelcells/h2-matchmaker; Multistate-Truck-ZEV-MOU-Media-Release-20200714 (1).pdf

Slide 27

1. As of March 11, 2022; Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.
2. As part of California's Innovative Clean Transit Regulation (ICT)
3. As part of California's Advanced Clean Truck Regulation (ACT); Source: https://ww2.arb.ca.gov/resources/fact-sheets/advanced-clean-trucks-fact-sheet

Slide 28

1. As of March 11, 2022; Based on company's current business plans. and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.
2. As of January 2022 deployment information.

Slide 29

1. As of March 11, 2022
2. Demonstration City Cluster list: Beijing (12 cities): Daxing (BJ), Haidian (BJ), Jingkai (BJ), Yanqing (BJ), Shunyi (BJ), Fangshan (BJ), Changping (BJ), Binhai (TJ), Baoding (HE), Tangshan (HE), Zibo (SD), Binzhou (SD); Shanghai (7 cities): Shanghai, Suzhou (JS), Nantong (JS), Jiaxing (ZJ), Zibo (SD), Ordos (NM), Nindong (NX); Guangdong (12 cities): Guangzhou (GD), Shenzhen (GD), Zhuhai (GD), Dongguan (GD), Zhongshan (GD), Yangjiang (GD), Yunfu (GD), Zibo (SD), Lu'an (AH), Fuzhou (FJ), Baotou (NM); Hebei (14 cities): Zhangjiakou (HE), Tangshan (HE), Baoding (HE), Handan (HE), Qinhuangdao (HE), Dingzhou (HE), Xinji (HE), Xiong'an (HE), Wuhai (NM), Zhengzhou (HA), Fengxian (SH), Zibo (SD), Liaocheng (SD) Xiamen (FJ); Henan (17 cities): Zhengzhou (HA), Xinxiang (HA), Kaifeng (HA), Anyang (HA), Luoyang (HA), Jiaozuo (HA), Jiading (SH), Fengxian (SH), Lingang (SH), Zhangjiakou (HE), Baoding (HE), Xinji (HE), Yantai (SD), Zibo (SD), Weifang (SD), Foshan (GD), Ningdong (NX)
3. Henan Cluster has not yet released formal numbers on FCEVs or HRSs deployment, but industrial experts forecast more than 5,000 FCEVs to be put in Henan Cluster during the demonstration period. Source: https://chuneng.bjx.com.cn/news/20200805/1094844.shtml
4. FCEV and HRS estimates are based on most recent industry experts estimates, not the initial targets as submitted, as of March 1, 2022, and are subject to change.

Slide 30

none

Slide 31

1. As of March 11, 2022; Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.

Slide 32

1. As of March 11, 2022; Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.

Slide 33

1. As of March 11, 2022; Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.

Slide 34

1. As of March 11, 2022; Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.
2. https://press.siemens.com/global/en/pressrelease/premiere-deutsche-bahn-and-siemens-mobility-present-new-hydrogen-train-and-hydrogen

Slide 35

none

Slide 36

1. As of March 11, 2022; Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.

Slide 37

1. As of March 11, 2022; Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.
2. Based on LCD-M2 MEA, production of ~750,000 MEAs per year, Platinum pricing of $1,100/oz and Iridium pricing of $5,600/oz.

Slide 38

1. All values are annual production capacity & assume 24hr x 7d operation
2. Assumes each MEA produces ~232 watts; GW based on FCmove-HD+ 100kW module which has 2x280 stacks; FCmove-HD+ produces 130kW & assumes ~20% parasitic load for balance of plant energy consumption; assumes each stack produces 65kW.

Slide 39

1. Based on company's current business plans and the current business environment, which are subject to change. Actual results may differ materially. See Forward-Looking Statements.
2. PGM prices as at April 14, 2023.

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Glossary

BEB: Battery Electric Bus

BEV: Battery Electric Vehicle

BoP: Balance of Plant

EMEA: Europe, Middle East & Africa

FCEB: Fuel Cell Electric Buses

FCET: Fuel Cell Electric Truck

FCEV: Fuel Cell Electric Vehicle

GDL: Gas Diffusion Layer

GHG: Greenhouse Gas

GM: Gross Margin

HD: Heavy Duty

HDT: Heavy Duty Truck

HRB: Hydrogen Recirculation Blower

HRS: Hydrogen Refueling Station

ICE: Internal Combustion Engine

KPI: Key Performance Indicator

LCS: Liquid Cooled Stack

LD: Light Duty

MEA: Membrane Electrode Assembly

MD: Medium Duty

MDT: Medium Duty Truck

OEM: Original Equipment Manufacturer

PEM: Proton Exchange Membrane

PMI: Preventative Maintenance Inspection

PP&E: Property Plant and Equipment

SAM: Serviceable Addressable Market

TAM: Total Addressable Market

TCO: Total Cost of Ownership

TS: Technology Solutions

YOY: Year Over Year

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