

Doosan Fuel Cell

DOOSAN

3Q 2023 Earnings Call

Nov 1, 2023

Investor Relations



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Financial data in this presentation is on a IFRS separate basis.



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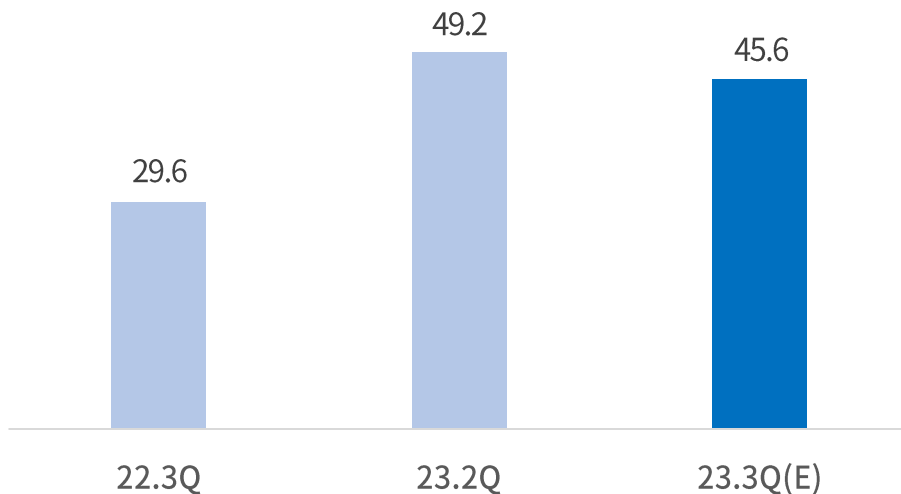
1. 2023 Q3 Performance

2023 Q3 revenue: 45.6 billion won, Operating income: 0.7 billion won

- Revenue : Year-on-year increase thanks to PPLT and service sales rise
- Operating income : Turnaround year-on-year thanks to improved PPLT sales and service profitability

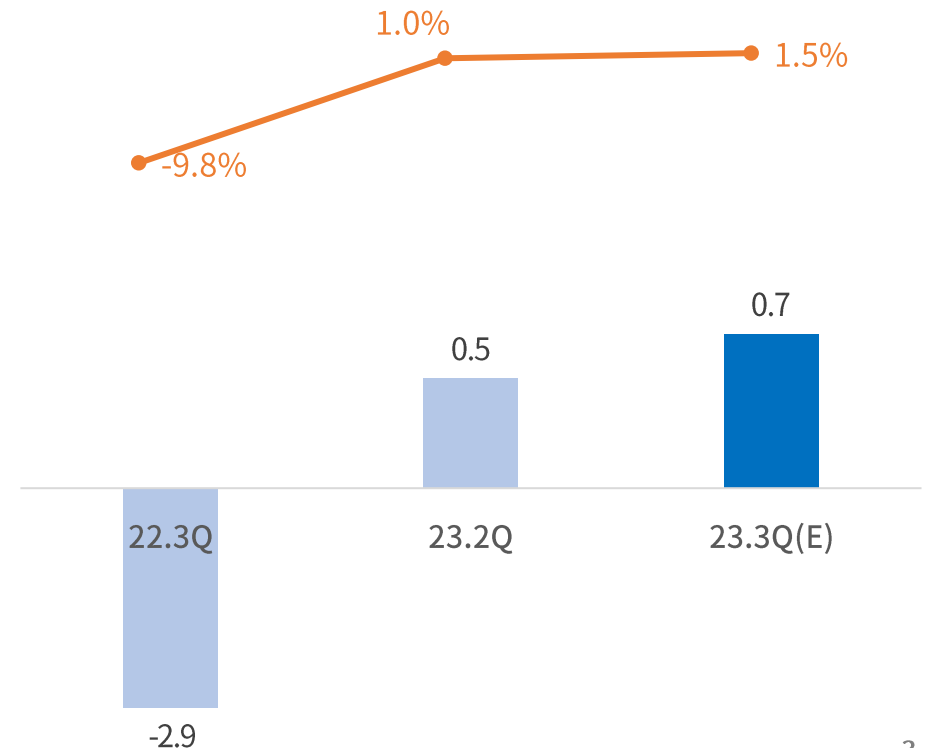
2023 Q3 Revenue

(Unit: KRW in billions)



2023 Q3 Operating income %

(Unit: KRW in billions)

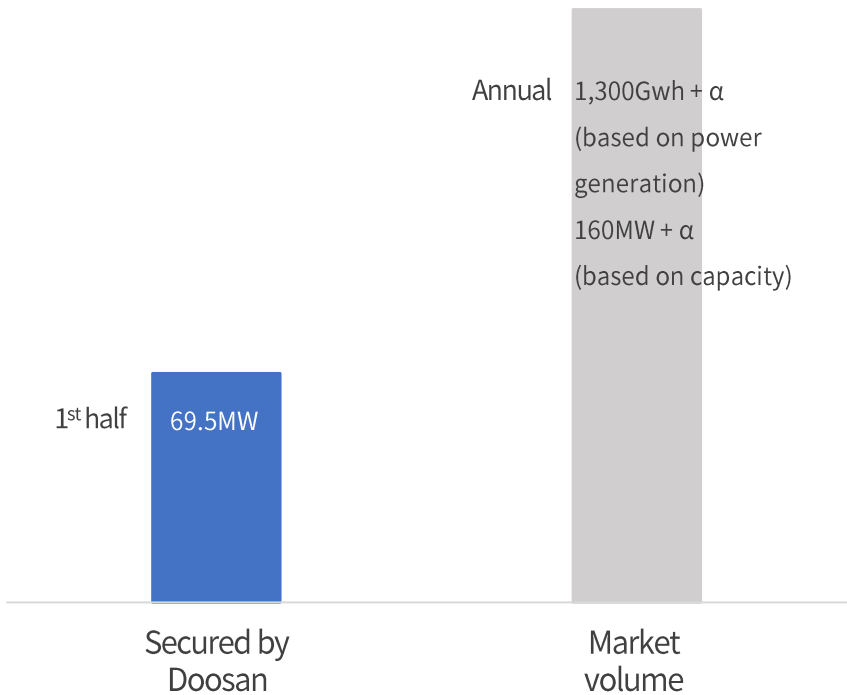


2. KR Market Trends – H2 power generation bidding market

Bidding market for H2 power generation in the first and second half of '23

- Securing 69.5 MW of PJT in the first half of the year

'23 CHPS bidding market



Expected impact

- Expect revenue recognition over 1-2 years after signing a supply contract
- Expect to secure a stable market based on CHPS and relieve performance volatility

	'23	'24		'25		'26		'27	
	2H	1H	2H	1H	2H	1H	2H	1H	2H
Bid in 1 st half of 23	Order	Revenue							
Bid in 2 nd half of 23		Order	Revenue						
Bid in 24			Order	Revenue					
Bid in 25					Order	Revenue			

Bidding Policy Trend in 2nd Half of the Year

- Evaluation criteria for distributed power change
 - Segmenting under 40 MW capacity, relatively giving advantage to small and medium-sized PJT (less than 20 MW)
- Repeal the general evaluation(qualitative evaluation) fail system
 - Encourage competition and give opportunity to get evaluation by facilitating participation
- Fail system is maintained to assess system acceptance

2. KR Market Trends - Clean H2 Power Generation Bidding Market

Equipped with validated H2 fuel cell technology, Doosan Fuel Cell prepare to enter the bidding market for clean H2 power generation

- Tech-neutral market using clean H2 fuel, expected to open in the first half of '24

Market Overview

Type	General H2	Clean H2(outlook)
Purpose	Expand distributed power	Greenhouse gas reduction
Fuel	Clean H2 (reformed/ by-product H2 allowed)	Clean H2 ¹⁾
Tech	Fuel Cell	Fuel cell, H2 turbine, coal-firing ammonia blend, H2 engine, etc.
Assessment	Power generation unit cost and general/system evaluation	Power generation unit cost and general/system evaluation - Power generation unit cost upper limit (expected) - Introduction of clean H2 evaluation
Volume	1,300GWh respectively in '23~25	'24 : 3,500 / '25 : 3,000GWh
Preparation	2 years	3 years
Term	20 years	10+ years

1) CO₂ emissions of less than 4kg per kg of H2 production might by the threshold.
Discussion is underway(cf. US 4kg, EU 3.38kg, Japan 3.4kg).

Insights

1 Tech-neutral market

- Quota by participating technology
→ Doosan's H2 model has been validated and commercialized, more mutual compared to other technologies

2 Securing clean H2 is the key

- Evaluation criteria related to clean H2 (i.e., fuel supply stability, clean H2 grade, etc.)
- Division between green and blue H2
→ Cooperation is being built with related companies to secure competitive clean H2(i.e., blue H2, ammonia (NH₃), etc.)

3 Facility-scale flexibility

- Policy focus on GHG reduction through the use of clean H2
→ Possibility of reducing facility size constraints unlike general H2 power plant

3. New Biz – Mobility

Built business model by securing product partnership and initial customer segments

Market & Policy

Bus replacement

- Demand for replacing about 6,000 old buses every year¹⁾
 - 2,700 LDs, 3,000 HDs/year

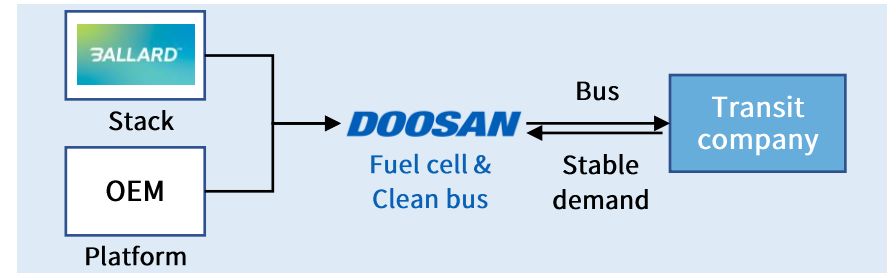
LD (Low Decker)

- Strong support from central and local governments will help replace more than 90% of the replacement in '25 with eco-friendly buses²⁾
 - Mandatory replacement or strong recommendation for green LD buses by local governments
- The H2 bus purchase subsidy cover transportation companies' purchase of H2 buses, and H2 fuel subsidies introduction → demand ↑

HD (High Decker)

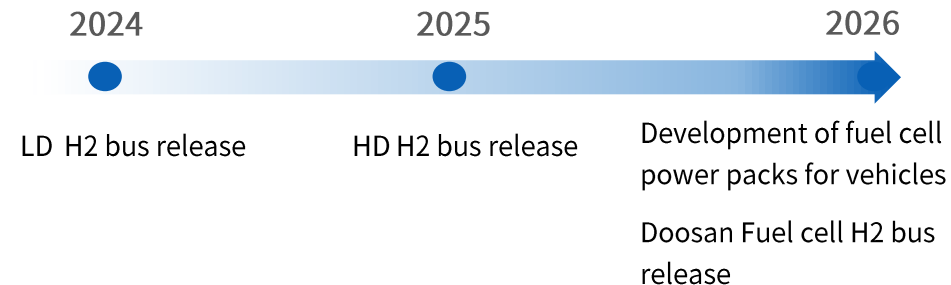
- Need high power and high durability for long-distance, high-speed driving → H2 bus demand identified
- For government/business charter/commuting bus, H2 bus conversion is being announced
 - By '26, 2,000 buses will be converted to H2

Biz Model



- Securing demand based on fuel cell development with Ballard and mutual cooperation with transit companies → Smooth entry into H2 bus industry
- Developing competitive power packs and selling them to global OEMs

Timeline



1) Market size: Statistics Korea, bus statistics manual of Bus Transport Business Association, Ministry of Land, Infrastructure and Transport Statistics Nuri

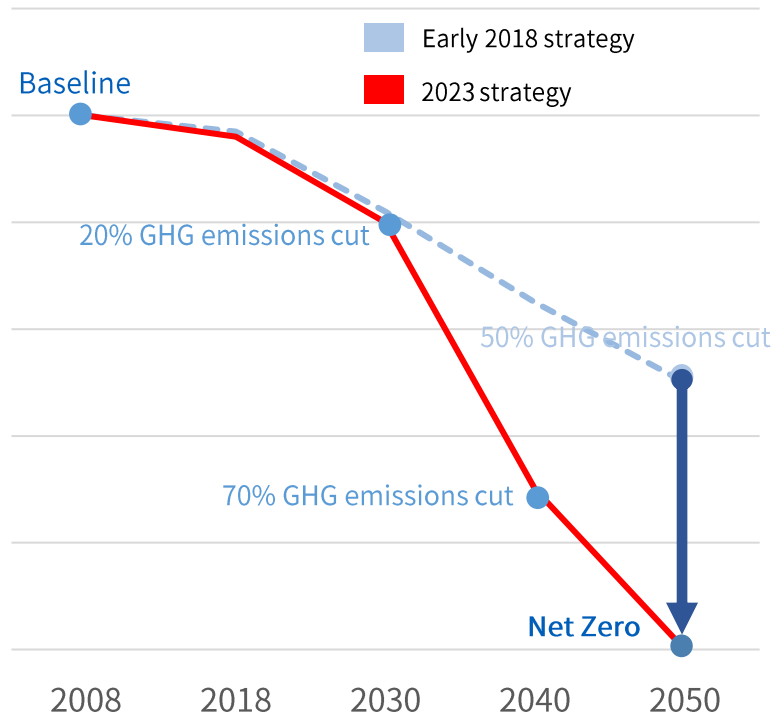
2) Analyzed based on the past decade data of Statistics Korea, Ministry of Land, Infrastructure and Transport Statistics Nuri, Bus Transport Association Bus Statistics Manual

3. New Biz – Maritime mobility

Demand for eco-friendly fuels is expected to grow ⇒ Efficient marine fuel cell market will expand

Strengthening IMO regulations

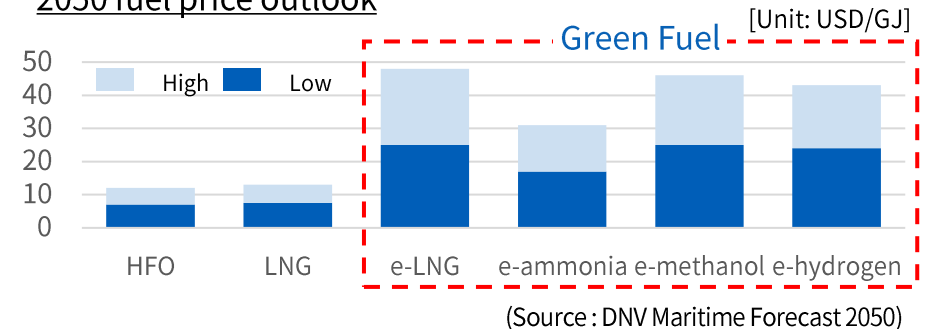
- Need to respond to decarbonization costs such as conversion to green fuels and efficiency enhancement required by strengthening decarbonization targets (imposing carbon taxes)



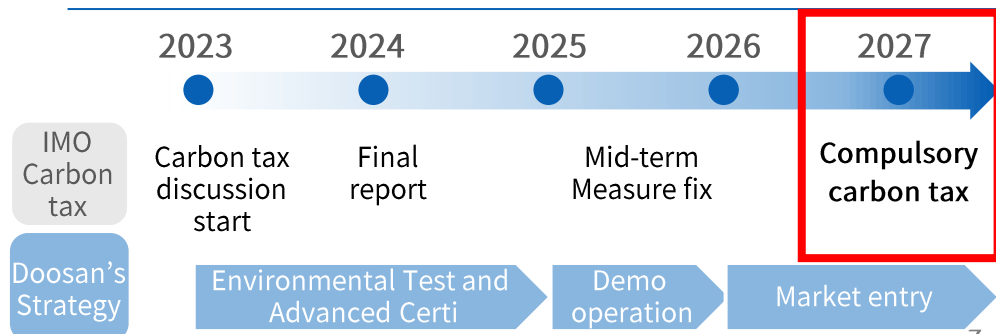
Increasing Demand for Marine Fuel Cells

- Green fuel price compared to fossil fuels appears to be "at least twice as high → Demand for efficient power sources ↑ → Maritime fuel cell market will grow
- Securing competitive advantage with higher efficiency than internal combustion engines → Carbon cost reduction

2050 fuel price outlook



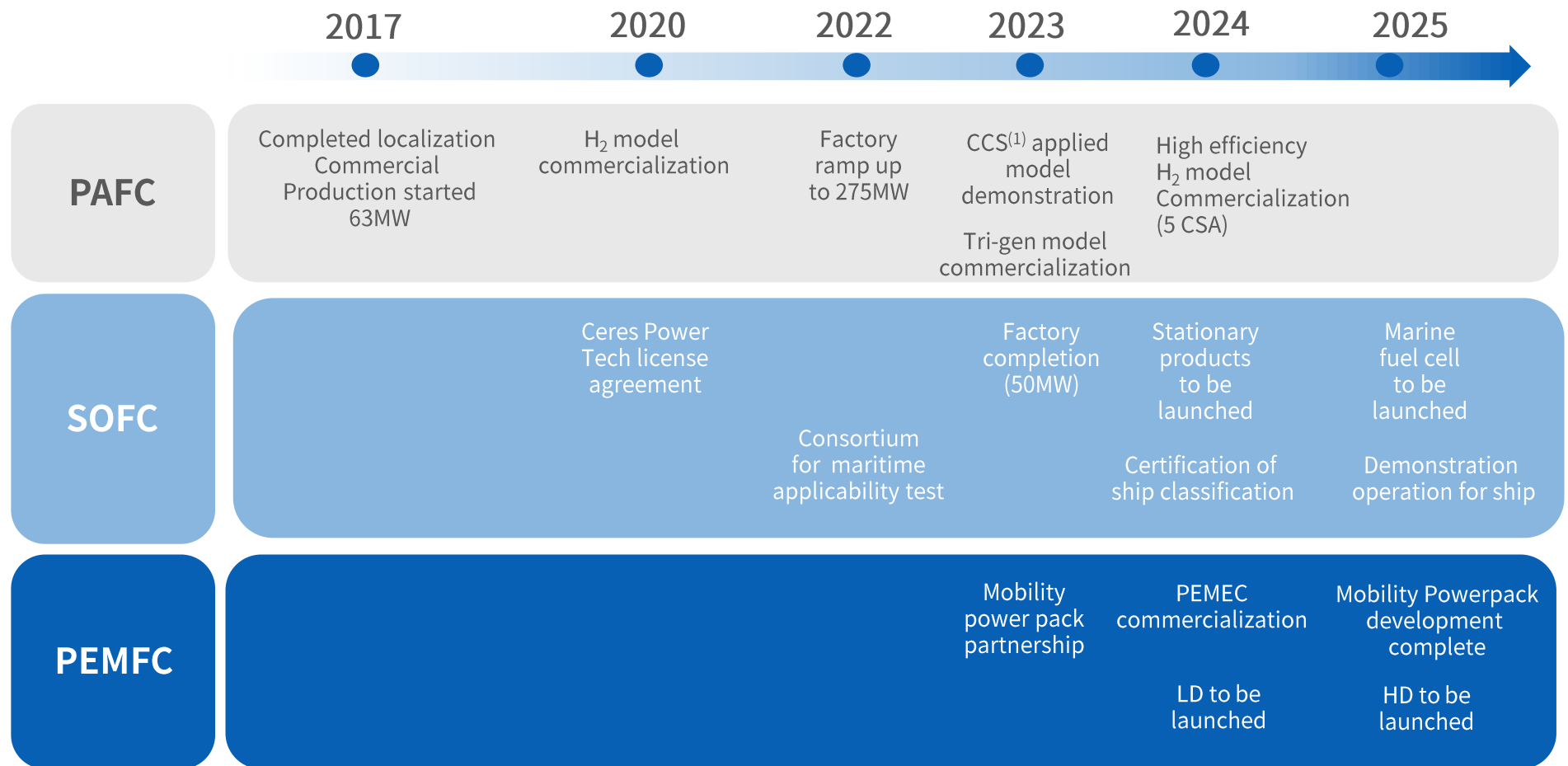
Timeline



4. New Business Roadmap

Utilizing various technologies to build new growth engines

- Diversification of stationary fuel cell through PAFC model with CCS⁽¹⁾, high efficiency H₂ model and SOFC commercialization.
- Securing new growth engines through the development of land mobility powerpack & maritime fuel cell.



(1) CCS: Carbon Capture Storage

Q&A Session



Appendix. Summary of Financial Position

(Unit: KRW in billions)	22.3Q	23.2Q	23.3Q	YoY	QoQ
Total Assets	871.1	1116.0	1081.8	210.7	-34.2
Current Assets	607.6	686.3	6,16.7	9.0	-69.6
Non-current Assets	2,63.5	429.7	465.1	201.6	35.4
Total Liabilities	354.9	590.8	557.3	202.5	-33.5
Current Liabilities	245.5	259.3	298.9	53.3	39.6
Advanced Received	13.7	15.5	44.7	31.0	29.2
Non-current Liabilities	109.3	331.5	258.5	149.1	-73.1
Shareholder's Equity	516.3	525.2	524.5	8.2	-0.7
Total Liabilities and Equity	871.1	1116.0	1081.8	210.7	-34.2
Leverage Ratio	69%	112%	106%		
Debt	175.0	416.5	366.5	191.5	-50.0
Cash and Cash Equivalents⁽¹⁾	24.9	58.0	21.6	-3.3	-36.5
Net Debt⁽²⁾	150.1	358.5	344.9	194.8	-13.5

(1) Cash and cash equivalents + ST financial instruments + ST financial assets

(2) Debt- Cash and cash equivalents etc.

Appendix. Summary of Income Statement

(Unit: KRW in billions)	22.3Q	23.2Q	23.3Q	YoY	QoQ
Sales Revenue	29.6	49.2	45.6	54.0%	-7.3%
Operating Income	-2.9	0.5	0.7	122.7%	35.6%
Margin(%)	-9.8%	1.0%	1.5%		
EBITDA	0	4.4	4.8	-	-
Margin(%)	0.1%	9.0%	10.6%		
Income before Tax	1.2	-2.2	-2.9	-	-
Net Income	1.1	-0.3	-0.8	-	-