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## Overview of Hyundai Hydrogen Buses in Korea

Hyundai Motor Company is a leading force in the deployment of hydrogen-powered buses in South Korea, with its flagship model, the Elec City FCEV, at the center of the nation's push for clean urban transit. Since its introduction in 2019, Hyundai has sold over 1,000 hydrogen buses domestically, marking a significant milestone in the adoption of eco-friendly transportation[1].

## Key Features and Models

### Elec City FCEV

- First hydrogen urban bus globally, launched in 2019.
- Equipped with a 180 kW fuel cell system, an 875-liter hydrogen tank, and a 78.4 kWh high-output battery.
- Offers a driving range of up to 550 kilometers per charge.
- Each bus can reduce $CO_2$ emissions by approximately 72 tons annually[1].

### Universe FCEV

- A high-speed, long-distance hydrogen coach model, expanding Hyundai's hydrogen bus portfolio for intercity and specialized routes[2] [3].

## Deployment and Expansion

- Hyundai has signed agreements with local governments, such as South Chungcheong Province, to gradually replace diesel fleets with hydrogen buses. For example, South Chungcheong aims to convert 1,200 buses by 2030[2] [3].
- The company is also working with private transport groups and aims to convert 1,000 buses in the Seoul area by 2027[1].
- Hyundai has increased its annual hydrogen bus production capacity sixfold to 3,000 units, reflecting strong government support and growing market demand[4].

## Government Support and Subsidies

- The South Korean government provides substantial subsidies for hydrogen bus purchases, covering up to 300 million won (about $217,000) of the cost per bus, which typically ranges from 700 to 800 million won ($505,000–$578,000)[4].
- Fuel subsidies have also been increased, slashing hydrogen fuel costs for bus operators by 22% to encourage adoption and make hydrogen buses more competitive with battery-electric alternatives[5].

### Infrastructure and Operations

- Hyundai is establishing hydrogen commercial vehicle service hubs to ensure reliable operations and maintenance for fleet operators[2] [3].
- The government is investing in expanding hydrogen refueling infrastructure, with a national roadmap targeting over 500 hydrogen refueling stations by the end of the decade[6].

### Safety and Recent Challenges

- In May 2025, Hyundai recalled all 1,269 hydrogen-powered city buses in South Korea due to safety concerns following an incident involving a bus explosion at a refueling station[7]. This highlights ongoing challenges in ensuring the safe operation of hydrogen vehicles and infrastructure.

### Strategic Vision

- Hyundai's commitment extends beyond buses, with plans to produce 500,000 fuel cell systems annually by 2030 and to expand hydrogen applications across transport and industry[8].
- The company is building a new hydrogen fuel cell plant in Ulsan, set to open in 2028, to further streamline production and support its hydrogen ambitions[8].

### Summary Table: Hyundai Hydrogen Buses in Korea

| Feature/Aspect | Details |
|---|---|
| Main Models | Elec City FCEV (urban), Universe FCEV (coach/intercity) |
| Powertrain | 180 kW fuel cell, 875L tank, 78.4 kWh battery (Elec City) |
| Range | Up to 550 km |
| Emissions Reduction | ~72 tons $CO_2$ per bus per year |
| Price per Bus | 700–800 million won ($505,000–$578,000) |
| Government Subsidies | Up to 300 million won per bus; fuel subsidies increased |
| Production Capacity | 3,000 units/year (as of 2024) |
| Deployment Goals | 1,200 buses in South Chungcheong by 2030; 1,000 in Seoul by 2027 |
| Recent Safety Recall | All 1,269 city buses recalled in May 2025 |
| Infrastructure Support | 6 service hubs in South Chungcheong; >500 refueling stations by 2030 |

Hyundai's hydrogen buses are central to South Korea's zero-emission transport strategy, with strong government backing, expanding infrastructure, and ongoing technological investment—though recent safety incidents underscore the need for continued vigilance and improvement[1] [7] [2] [3] [4] [5] [6].

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1. https://www.korea-certification.com/en/hyundai-expands-hydrogen-bus-presence-with-over-1000-units-sold-in-korea/
2. https://truckandbusbuilder.com/article/2025/01/19/hyundai-motor-to-supply-fcev-buses-to-south-chungcheong
3. https://www.koreatimes.co.kr/www/tech/2025/02/129_387849.html
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7. https://www.hydrogeninsight.com/transport/hyundai-recalls-all-1-269-of-its-hydrogen-powered-city-buses-in-operation-in-south-korea-due-to-new-safety-concerns/2-1-1822623
8. https://drivinghydrogen.com/2025/03/11/hyundai-announces-new-hydrogen-fuel-cell-factory-in-south-korea/