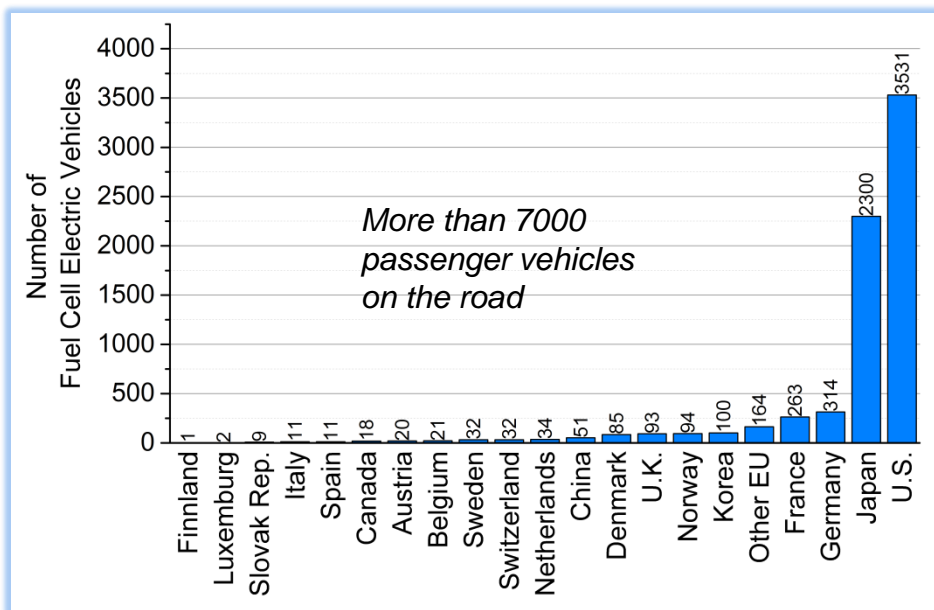


Closer look at the deployment of fuel cell EVs as of Dec. 2017



Toyota Mirai is the most-sold fuel cell electric vehicle (FCEV) in the world with more than 6000 units put on the road by the end of 2017 [1]. Almost half of these vehicles are sold in the U.S. [2]. Toyota is aiming to sell 30,000 FCEV per year worldwide by 2020 [3].

Further FCEVs are sold by Honda, Hyundai and Symbio.

- Japan is planning to disseminate 40,000 vehicles by 2020; 200,000 by 2025 and 800,000 vehicles by 2030, in total. The Japanese Roadmap is also targeting 160 hydrogen stations by 2020 and 320 stations by 2025. [4]
- The Korean Roadmap targets 10,000 vehicles and 100 stations by 2020 and 630,000 vehicles and 520 stations by 2030 [5].
- Minimum of 747 hydrogen stations are targeted in 2025 in Europe [6]. Hydrogen Mobility Europe project is planning to place more than 1,400 fuel cell cars in customer hands and deploy 49 hydrogen stations across Europe until 2020 [7]. JIVE projects are planning to put 291 FC buses on the road by 2023 [8].
- California Air Resources Board projects a total of 13,400 FCEVs in California by 2020 and 37,400 by 2023. 94 stations are anticipated by the end of 2023. [9]
- China's Technology and Industrial Development Strategy has the goal to build more than 100 hydrogen stations by 2020, 300 stations by 2025 and 1000 stations by 2030. 5,000 fuel cell vehicles are planned for demonstration in 2020, 50,000 vehicles in service in 2025 and over 1,000,000 fuel cell vehicles in service in 2030. [10]
- Hydrogen Council, the largest industry-led effort to develop the hydrogen economy, has the vision that hydrogen powers more than 400 million cars, 15-20 million trucks, and around 5 million buses in 2050. The milestone for 2030 is defined with 1 in 12 cars in Germany, Japan, South Korea and California powered by hydrogen; globally 10-15 million cars and 500,000 trucks. [11]

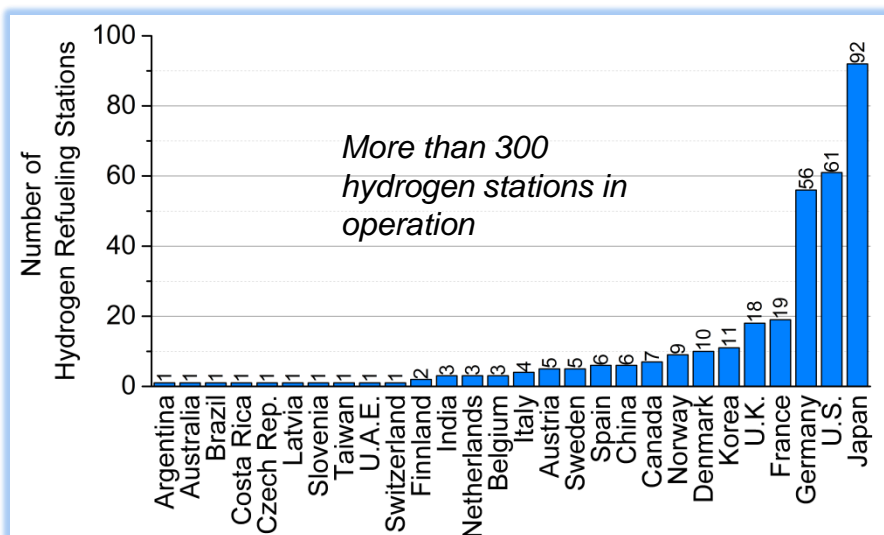
Fuel cell electric buses on the road:

North America: 27 [12, 13]

Europe: 68 [7]

China: 159 [14]

Korean Government is planning to replace 26,000 CNG buses with hydrogen fuel cell buses until 2030, with an annual replacement rate of 2,000 units per year [15].



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