

DOCKETED

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HYDROGEN FUELL CELL TECHNOLOGY AT THE BMW GROUP.



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Rolls-Royce
Motor Cars Limited

BMW FUEL CELL VEHICLE HISTORY AND FUTURE DIRECTIONS.

New vehicles depend on global market maturity & customer demand for eMobility

FUEL CELL TECHNOLOGY – WHAT’S NEXT @ BMW?

OUR CUSTOMERS HAVE THE CHOICE.



INTERNAL COMBUSTION ENGINES

PLUG-IN HYBRID ELECTRIC VEHICLES

BATTERY ELECTRIC VEHICLES

FUEL CELL ELECTRIC VEHICLES



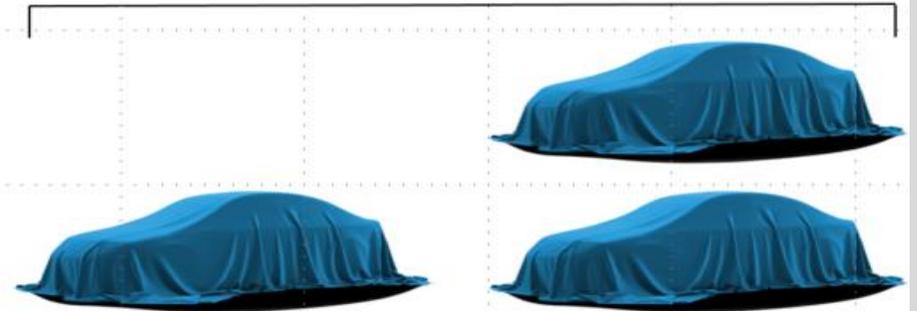
2015

**5GT
FCEV**



2022

**BMW
Hydrogen
NEXT**



> 2025

**Potential first
customer offer**

> 2030

**Potential multi
model roll-out**

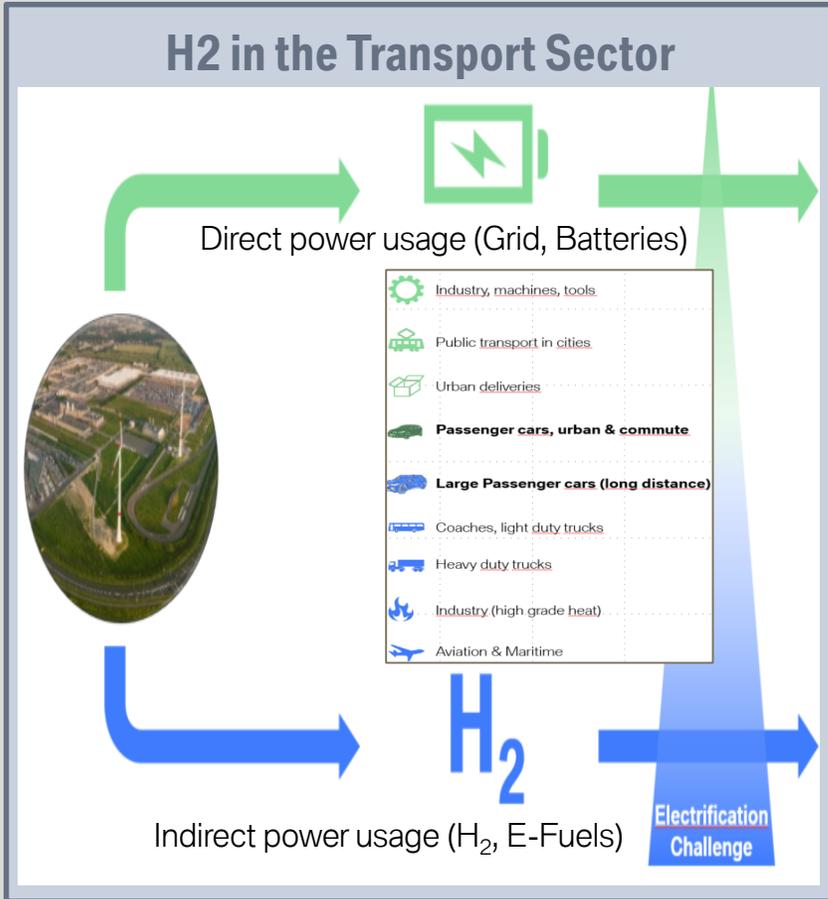
Depending on:

- Green Hydrogen availability
- Cost position
- Infrastructure
- BMW Customer demand

HYDROGEN ENERGY & FC HYDROGEN TECHNOLOGIES

Preparing BMW for Future H2FC Technologies:

- Refueling, Storage & Low Cost Green H₂



From Prototype to Small Series.



H2FC Drivetrain

125 kW FC, ~6kg Tank, 275 kW e-motor, with 500 km range & refuel in 3-4 min.

Fuel Cell Stack

Fuel Cell Stack, Air Filter, DC/DC, Cooling Pump, Exhaust, Water, Compressor, Mounting & Impact Protection

Cells developed in cooperation & supported by Toyota, Stack/ System Integration by BMW.