

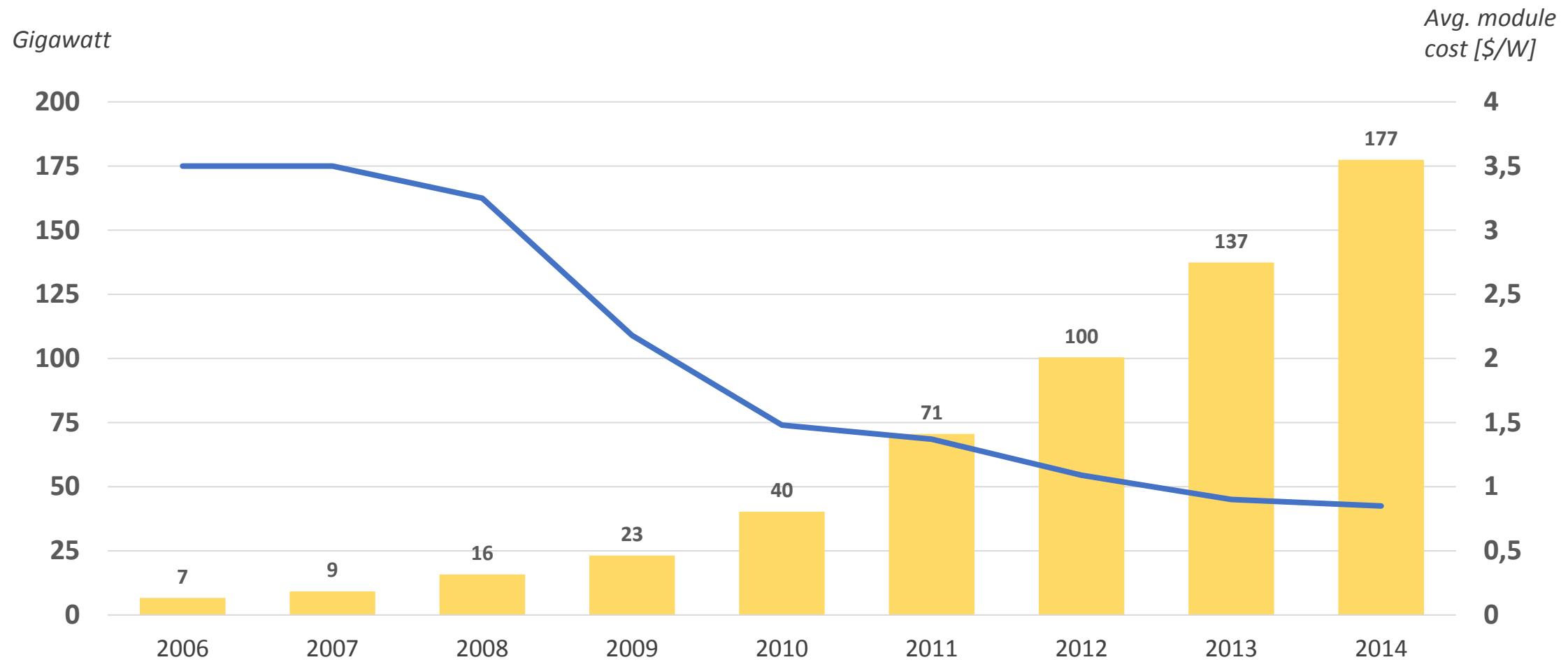


WHY HYDROGEN WILL BECOME GOOD BUSINESS

*Øystein Stray Spetalen
Investor and Member of the Board*

\$ 8 BILLION
PER DAY

SOLAR ENERGY IS GROWING RAPIDLY



Source: Solar Power Europe, IRENA

ELECTRICITY IS BECOMING CHEAP. VERY CHEAP.



German Electricity Slump

Year-ahead German power contract



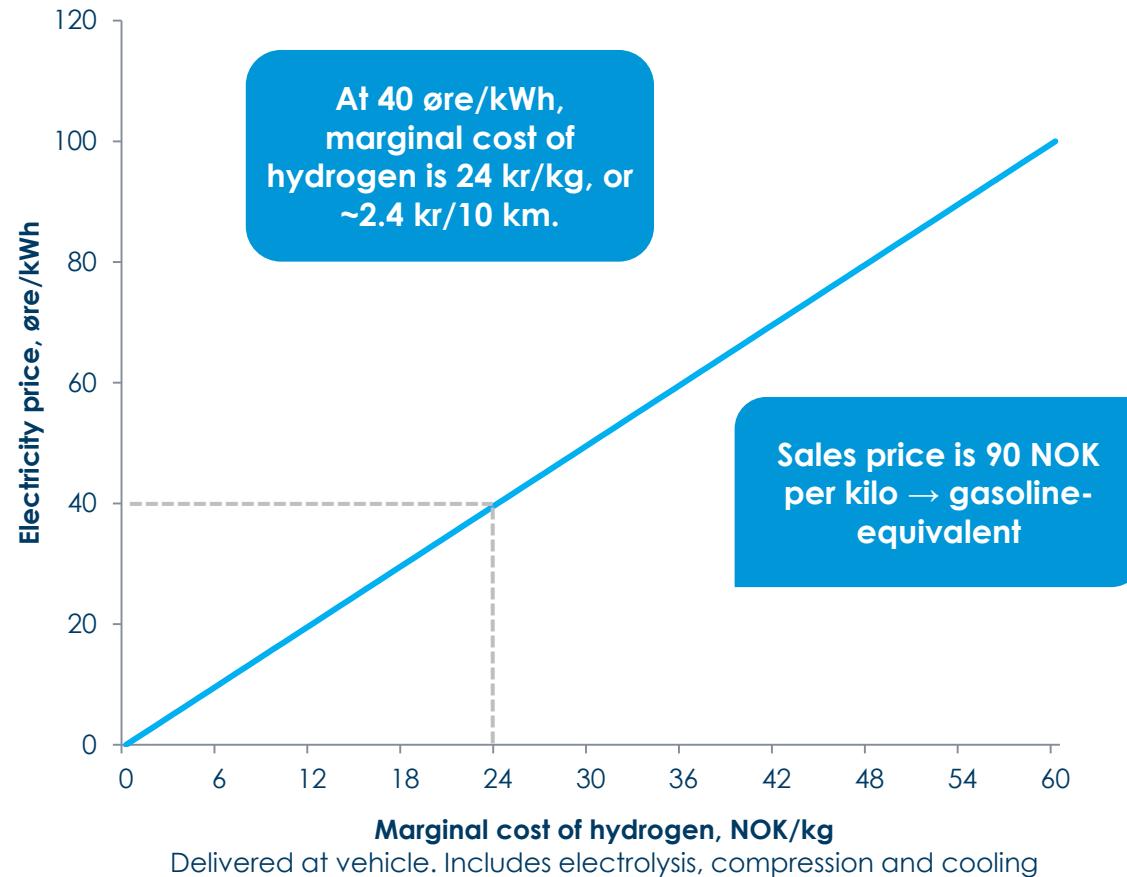
Source: EEX

Bloomberg

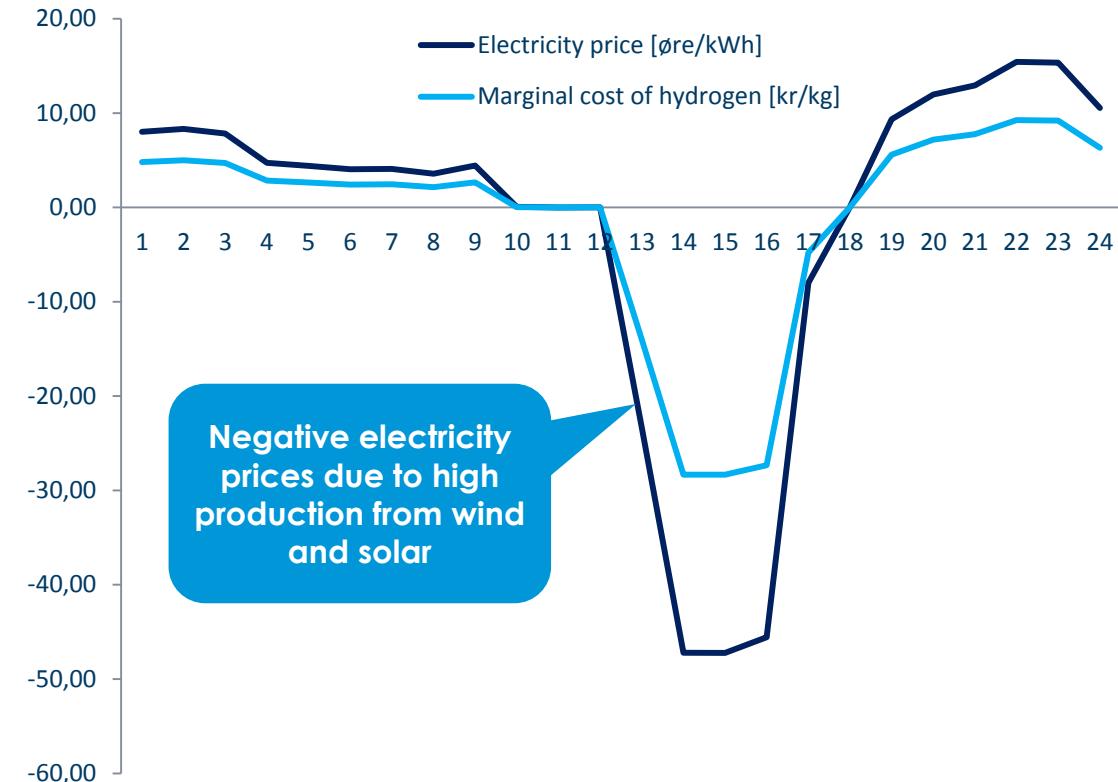
CHEAP ELECTRICITY = CHEAP HYDROGEN



Production cost versus electricity price



Example: 24hr period in Germany (excess)



HYDROGEN VEHICLES ARE ENTERING THE MARKET



Formidable cost reductions enable introduction: “The Toyota Mirai’s powertrain is 95% cheaper to build than the fuel-cell system in the 2008 Highlander fuel cell SUV”¹

499.000 NOK



2014



TOYOTA

2015



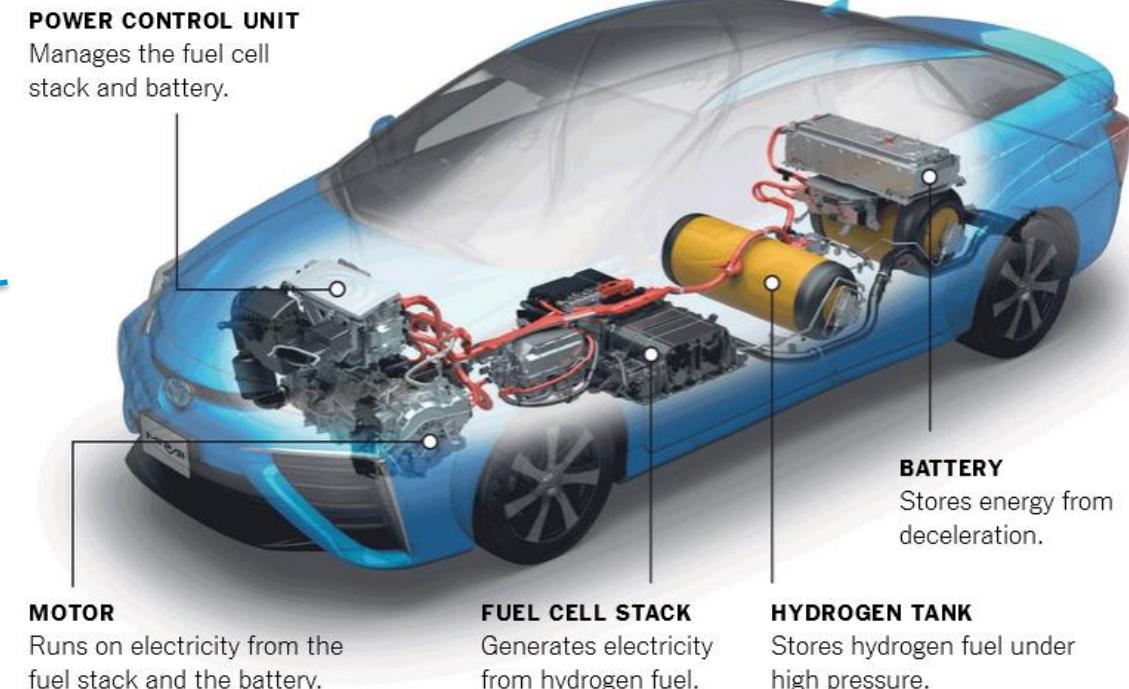
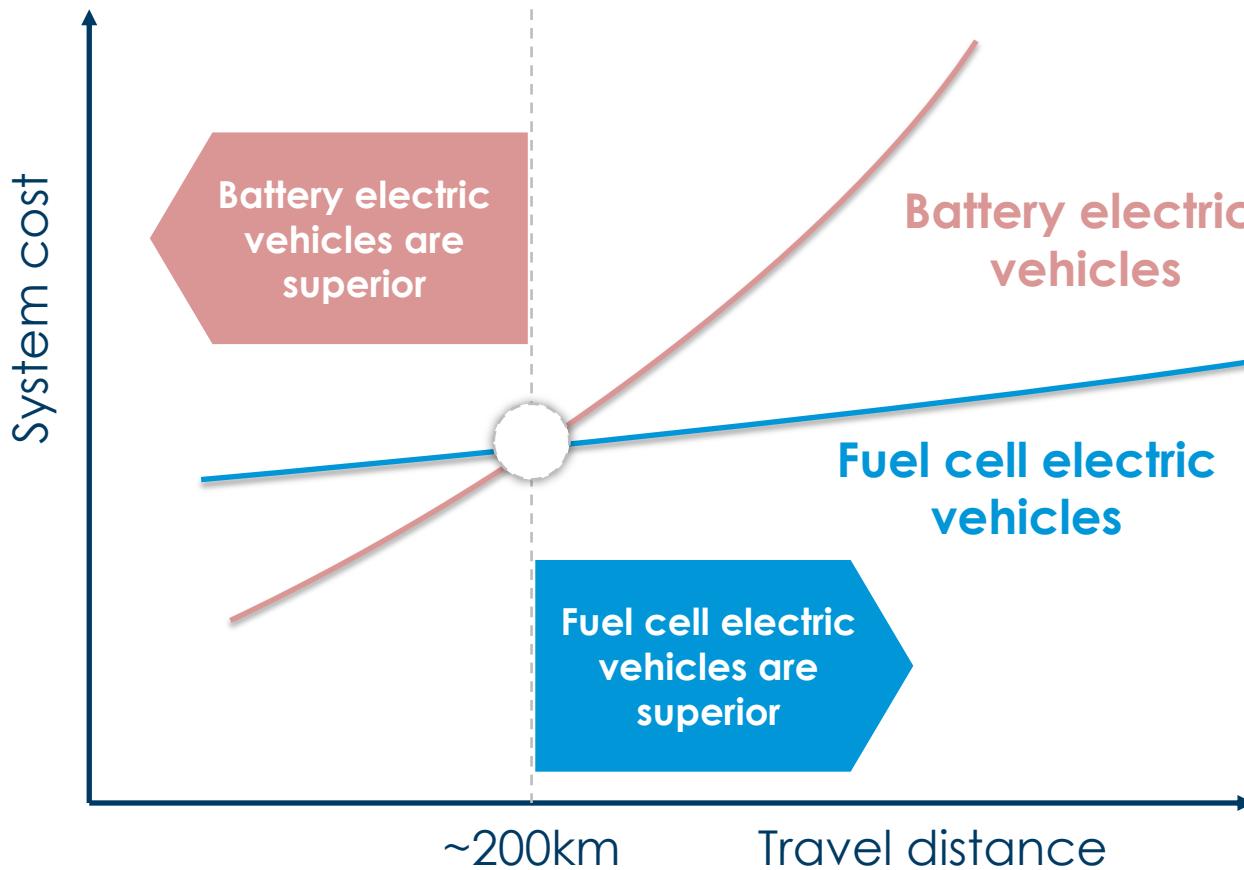
HONDA

2016



2017 - 2020

BEST COMPROMISE BETWEEN RANGE & COST

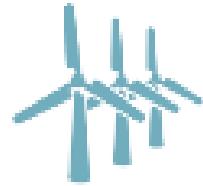


THE HYDROGEN VALUE CHAIN



Addressing all end markets for hydrogen gas

Electricity production



Renewable energy

Hydrogen production



Water
electrolysers



Hydrogen production from
water and electricity

Energy storage



Hydrogen as a “battery”
for renewable energy

Distribution methods



Onsite



Trucked in



Pipeline

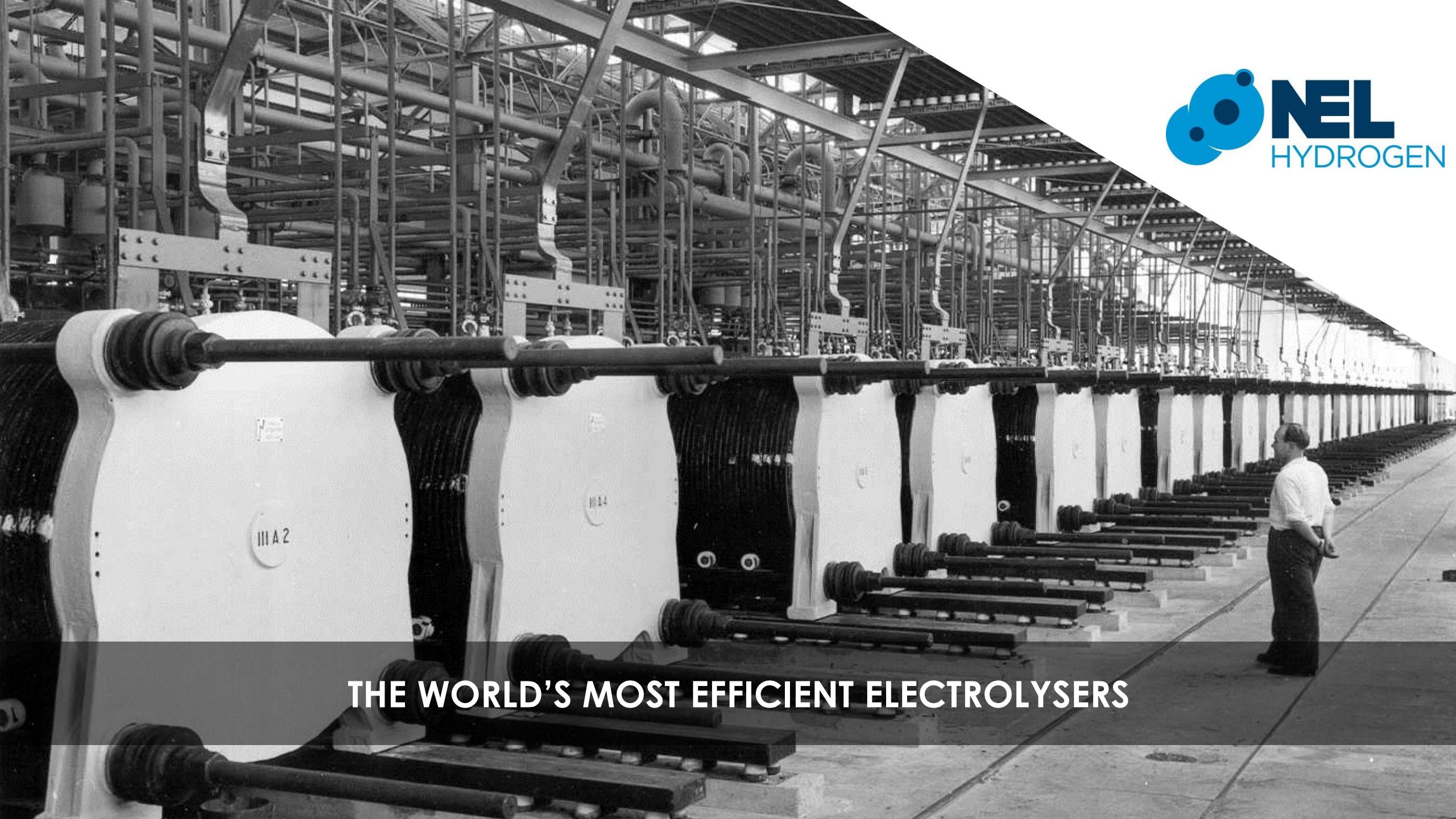
End markets

Hydrogen Refuelling Stations



Industrial end markets



A black and white photograph of a large industrial facility. In the foreground, several large, white, rectangular electrolyzer units are arranged in a row, connected by a network of pipes. One unit has the label "III A 2" on its side. The background is filled with an intricate web of pipes, scaffolding, and structural steel, creating a complex geometric pattern. A single person is visible in the distance, standing near a long row of cylindrical components, which emphasizes the massive scale of the equipment.

THE WORLD'S MOST EFFICIENT ELECTROLYSERS

VAST HRS EXPERIENCE IN THE NEL GROUP

- 27 HRS to 8 countries since 2003:
 - Statoil, Hydro, H2 Logic
- Since 2008, H2 Logic stations have provided more than 12,000 safe refuellings and 21 tons of hydrogen
- Stations with highest reported availability: 98%

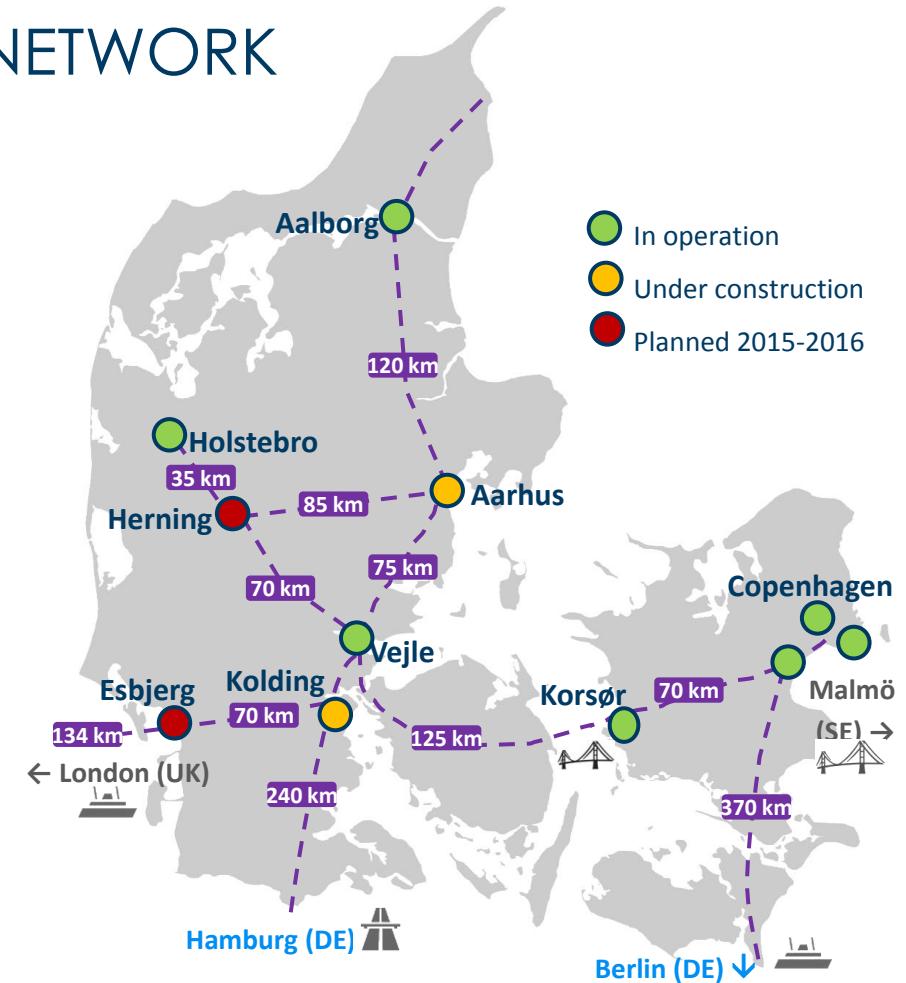


WORLD'S FIRST COUNTRY WIDE NETWORK



DENMARK HAS THE FIRST COUNTRY-WIDE NETWORK
OF HYDROGEN REFUELING STATIONS

- H2 Logic services and operates the entire network
- Joint venture(s) with oil, energy & gas companies for building and operating stations
- 100 % renewable



ENERGY STORAGE OPTIONS



e^-



H_2

\$ \$ \$

e^-



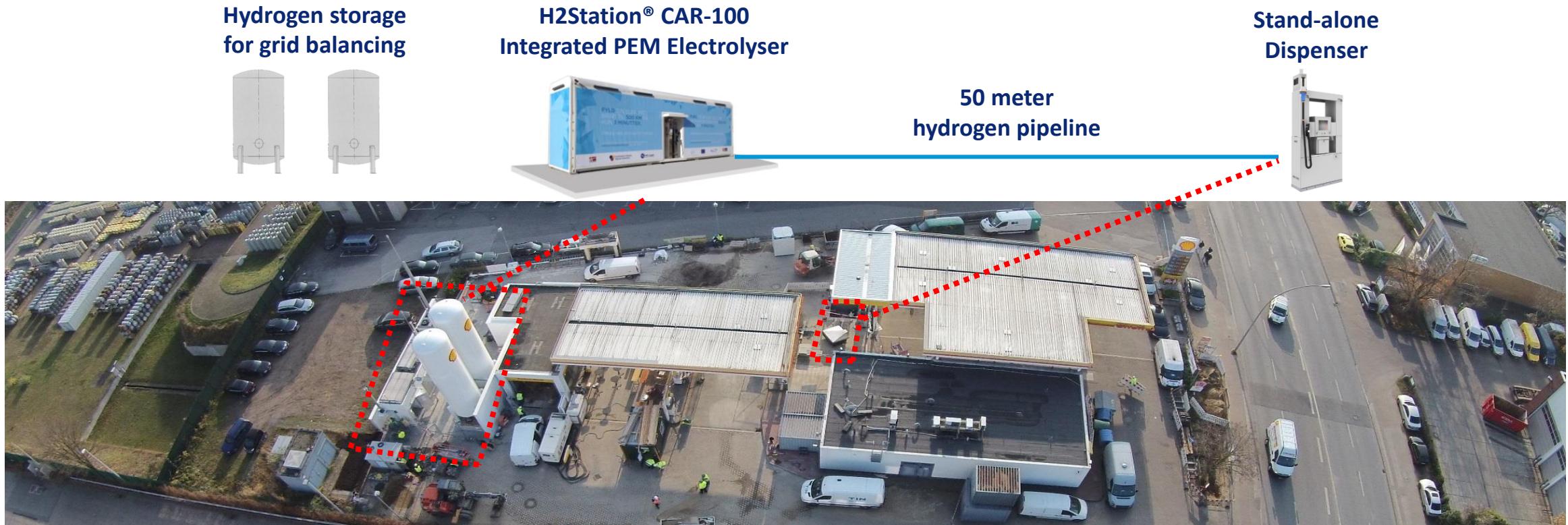
e^-

\$

H_2 FUELLING COMBINED WITH ENERGY STORAGE



- Shell Hamburg station demonstrates integration of refuelling with the electrical grid.
- Hydrogen provided alongside other fuels



Norwegian transportation sector: ~60 TWh (90%+ fossil fuels)

Norwegian electricity production: ~130 TWh (95%+ renewable)

50/50 hydrogen and battery electric vehicles: ~13 TWh

Societal benefits are clear, but infrastructure is needed:
Enova will play an important role for realization

SUMMARY:



1. RENEWABLE ELECTRICITY IS BECOMING CHEAP
2. THERE IS A GROWING NEED FOR ENERGY STORAGE SOLUTIONS
3. HYDROGEN CARS ARE BECOMING CHEAP

