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# ***HYDROGEN SUPPLY CHAIN*** ***- Shell Global Activities -***

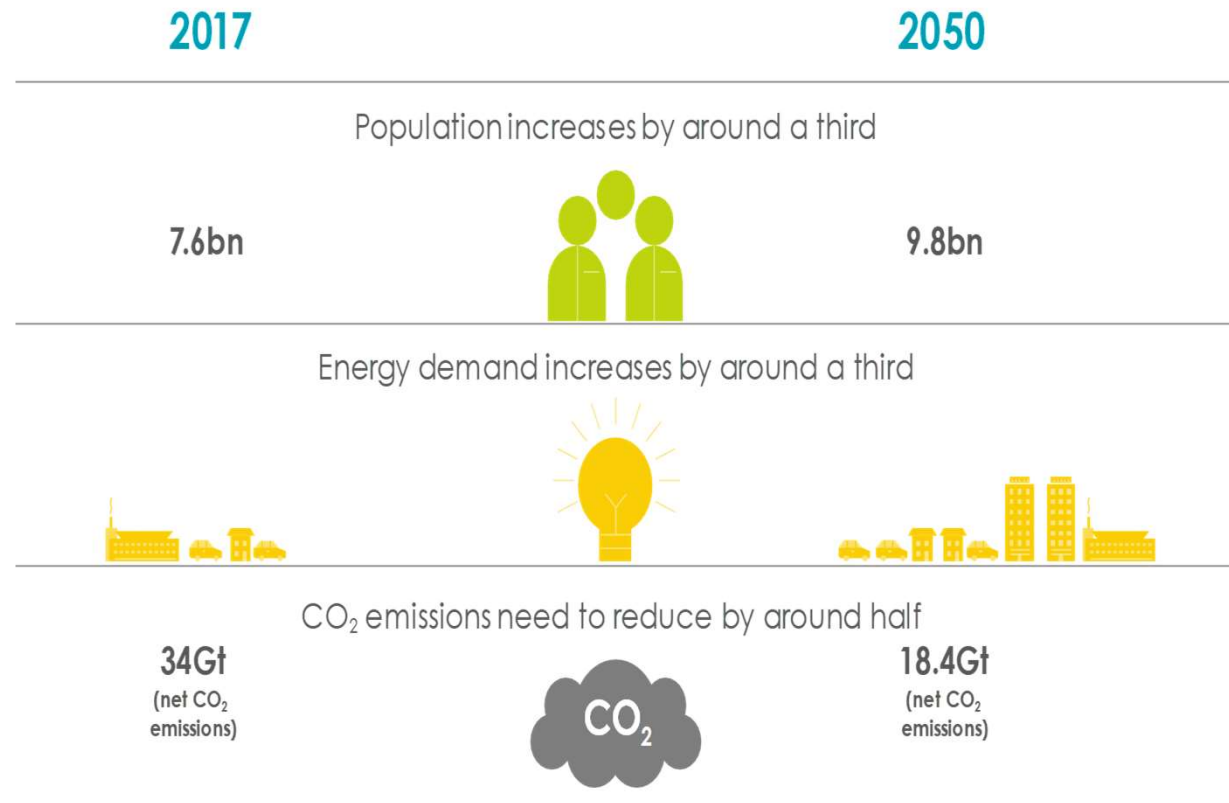
**Yasuko YOSHIDA**

Japan Country Chair, President – Shell Japan

# THE IMPERATIVE TO ACT...

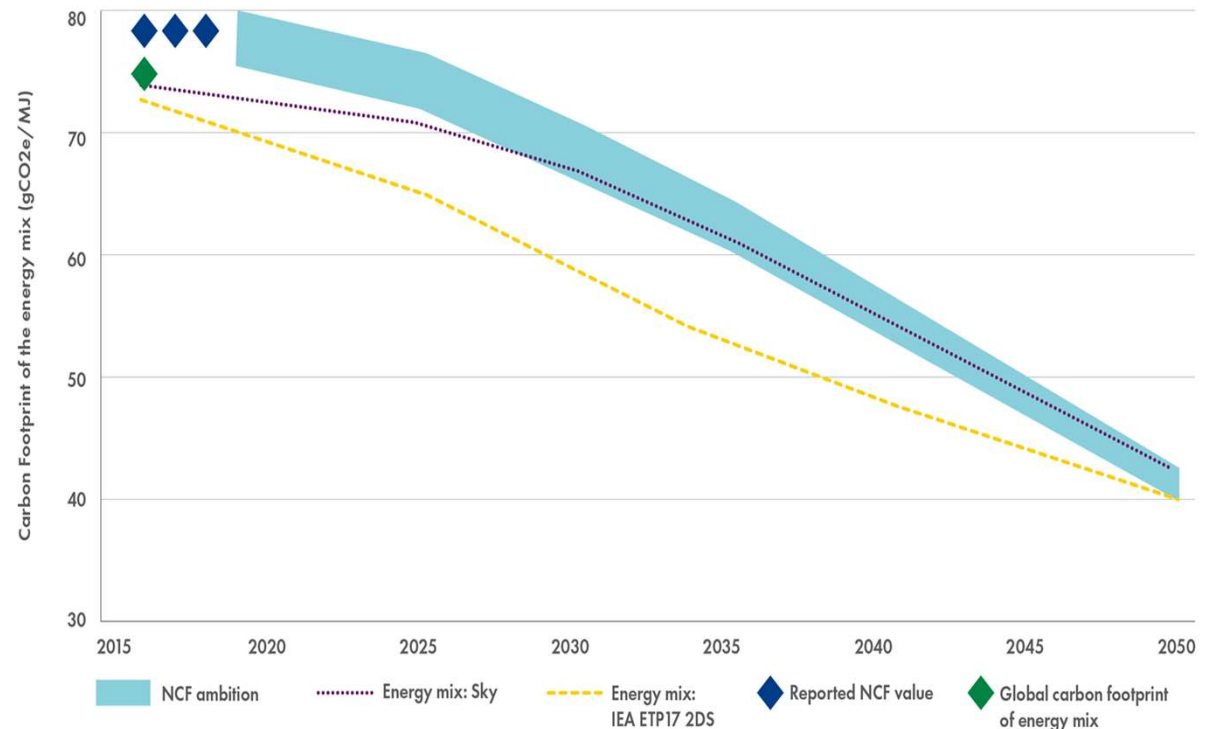
The world needs to take urgent action to tackle climate change.

The Paris Agreement set a goal of keeping the rise in average global temperature to well below 2°C compared to pre-industrial levels.



# OUR AMBITION IS CONSISTENT WITH THE PARIS AGREEMENT...

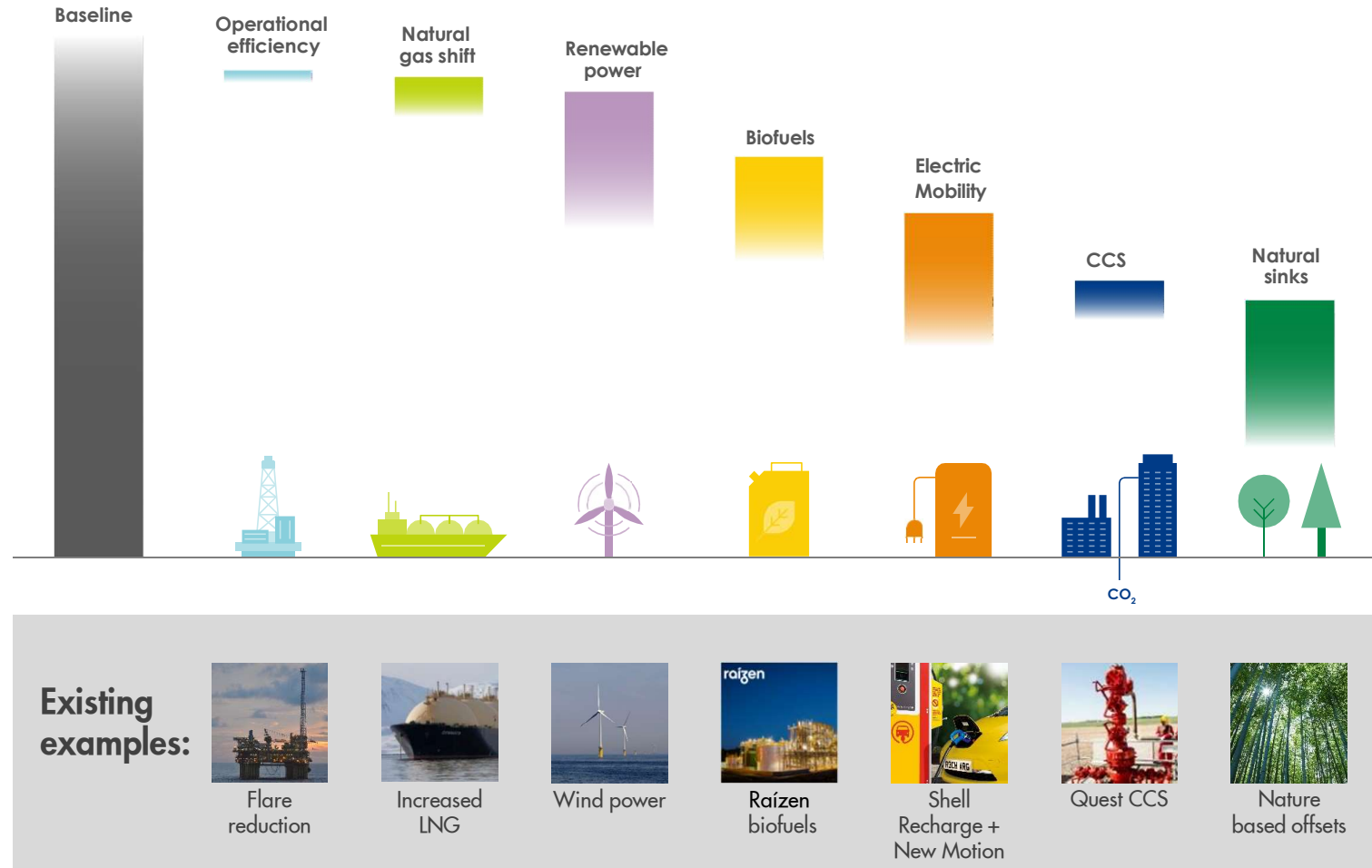
- Our ambition has been calibrated using data from scenarios which are consistent with the Paris Agreement.
- We will seek to reduce our Net Carbon Footprint mainly by increasing the proportion of lower-carbon products in the mix we sell to our customers
- Our ambition will keep in step with society's progress towards Paris. Both energy demand and energy supply must evolve together.
- If we observe that society is changing its energy demands more quickly, we intend to aid that acceleration.



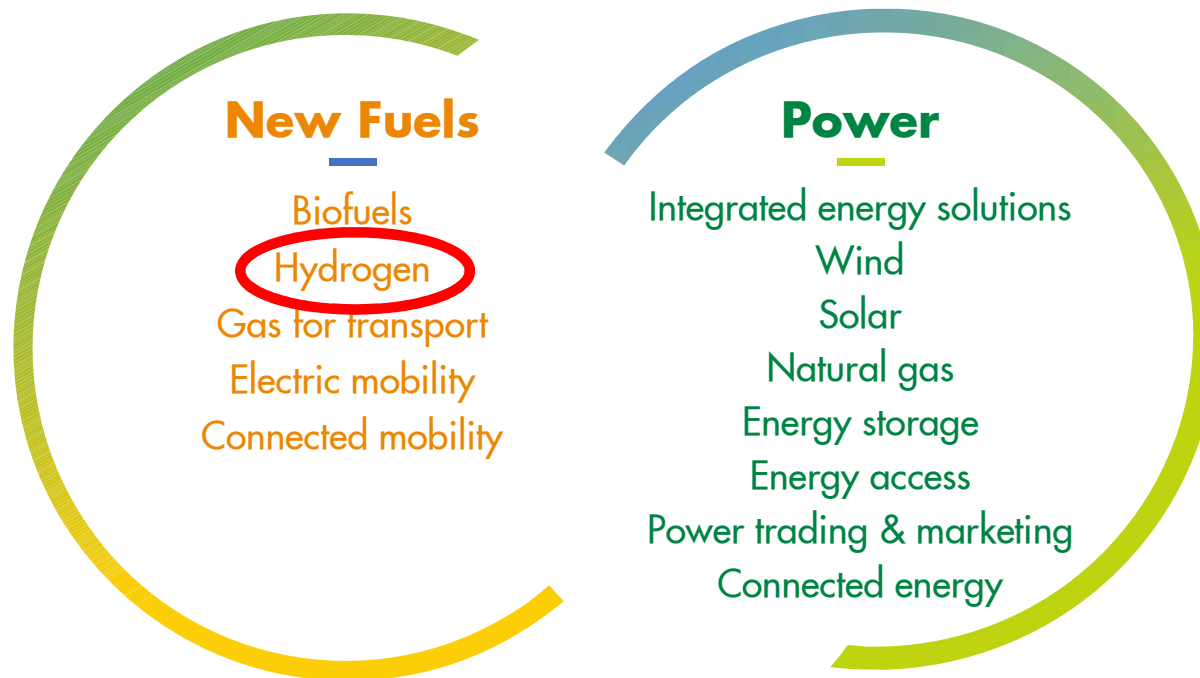
# OUR NCF AMBITION WILL TRANSFORM OUR PORTFOLIO...

We will sell fewer products with higher emissions, and more products with lower or no emissions.

...realising our ambition will mean that Shell will be a radically different company in 2050.

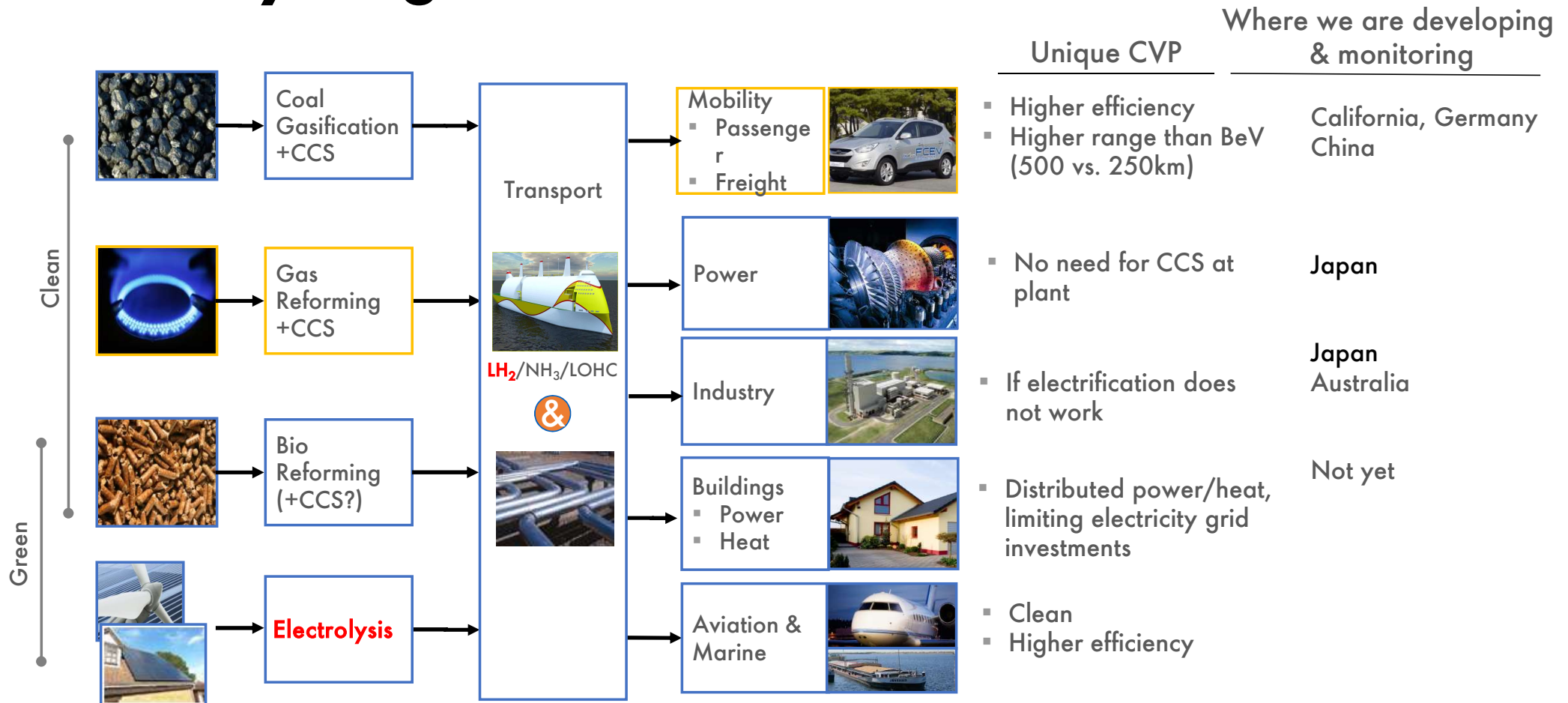


# In 2016 the business unit **New Energies** was founded, dedicated to providing more and cleaner energy solutions



• Digital ventures • Technology ventures • City solutions •

# Global Hydrogen activities



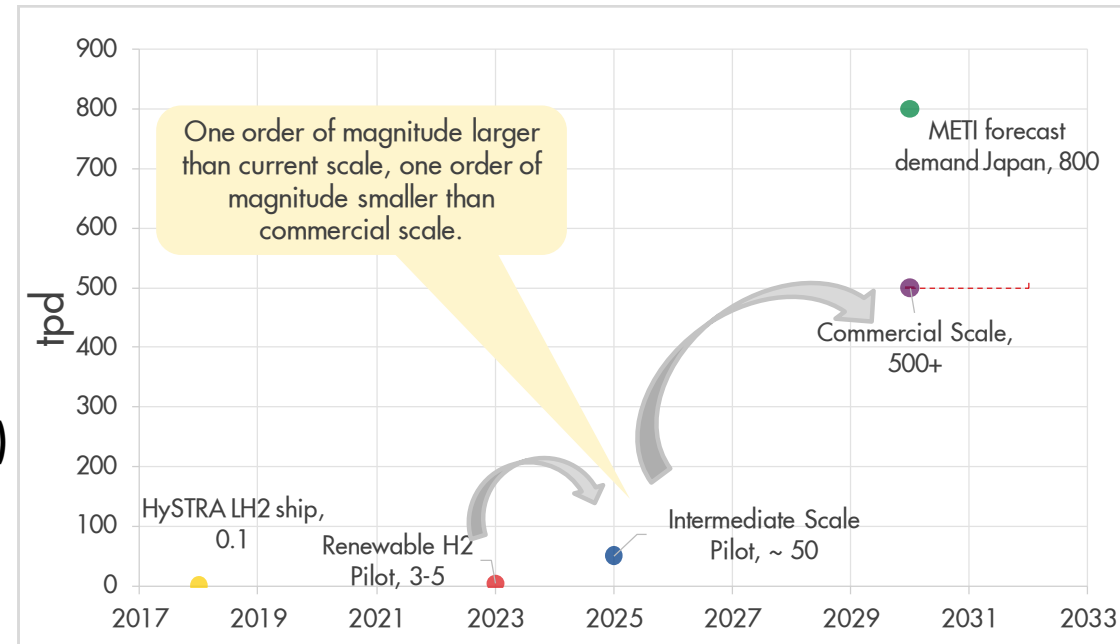
# Building a Global Renewable Hydrogen Supply Chain

- Requires multi-billion \$ development/de-risking investments

- Need govt support, strategic partners & customers
- Needs a coherent & sustainable policy environment

- Needs 10+ years to de-risk technology (from today)

- HySTRA (& other projects) prove the feasibility of Shipping
- Need to demonstrate Integrated renewable hydrogen carrier (LH2, NH3, etc.) production & affordability
- Need to demonstrate scale-up feasibility & affordability



..... We think it's possible & presently there is lot of global momentum to make this happen

