GREEN AMMONIA AT OIL & GAS SCALE

Alex Tancock, InterContinental Energy

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The World's Largest Green Hydrogen/Ammonia Developer

- 8.75 MTPA of green hydrogen/50 MTPA of green ammonia in advanced development

Projects at Oil & Gas Scale

- Harnessing the vast potential of remote onshore wind and solar resources to produce large volumes of green hydrogen

Leading Experience

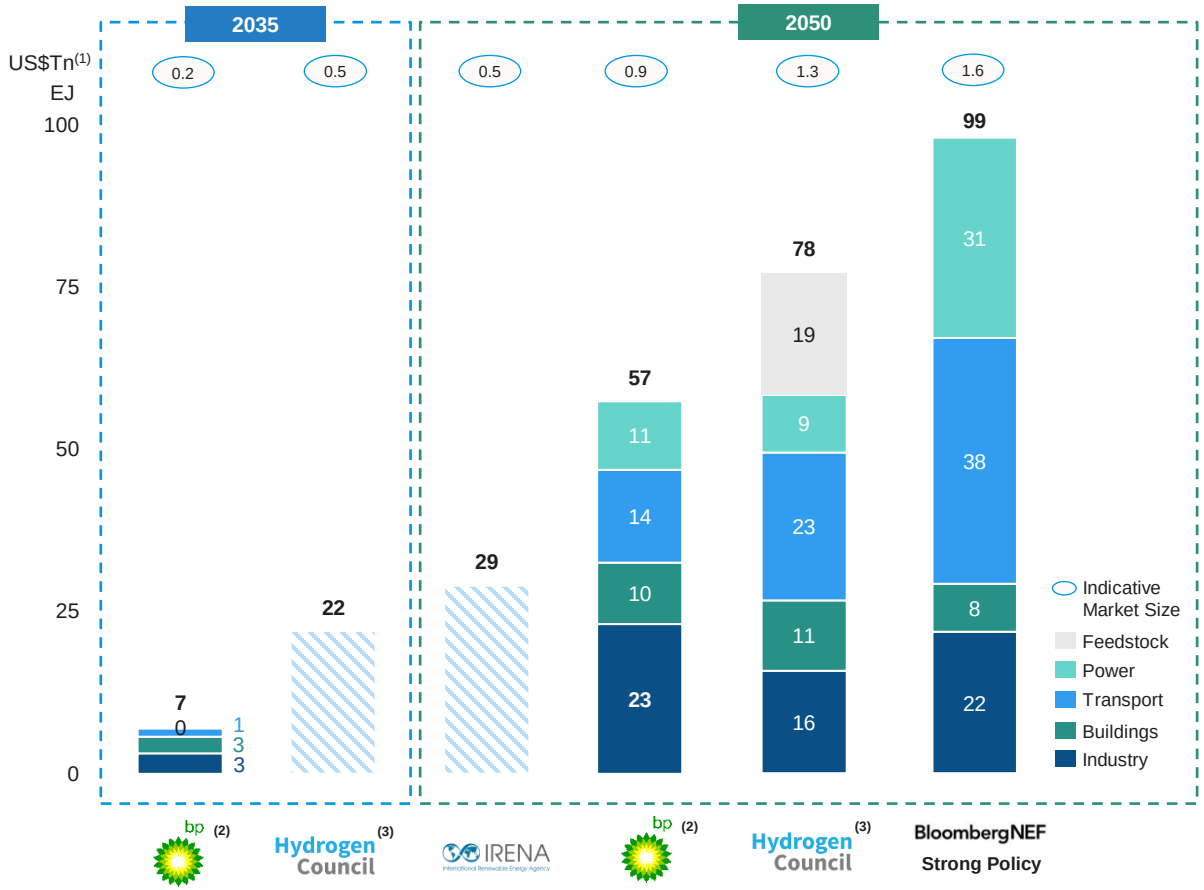
- Founded in 2014, ICE has been a pioneer in this space

Mission

- To produce the lowest cost green hydrogen at the highest volumes

Hydrogen Demand Will Grow Exponentially through 2050

Global Hydrogen Demand and Market Size in 2035 and 2050



Source: BP Energy Outlook 2020, IRENA, The Hydrogen Council, BloombergNEF

Green Hydrogen Preferred

	Green H_2	Blue H_2 (With CCS)
100% Carbon-free	✓	✗
Free from Using CO_2 Storage	✓	✗
Free from Long Term Storage / Liability Management	✓	✗
Clear and Simple Carbon Accounting	✓	✗
Free from Leakage Risk	✓	✗

Notes:
1. Assuming US$1,500 per ton hydrogen production cost with 30% operating margin at 2050, US$2,000 per ton hydrogen production cost with 30% operating margin at 2035
2. BP Net zero case assumes over 95% reduction in carbon emissions by 2050 (compared to 2018) and 1.5ºC target is met
3. Assumes the target of keeping the rise of global average temperature well below 2°C compared to pre-industrial levels is met

Green Ammonia is a Good Zero Carbon Fuel Choice

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Technology Availability and Scalability

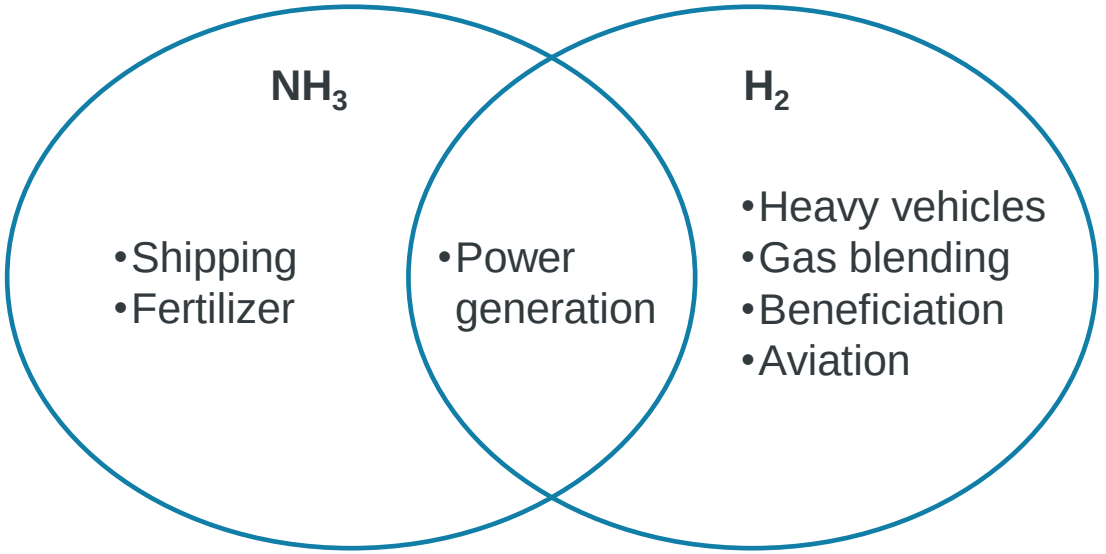
- Both upstream and downstream utilize well proven technology
- Primary technology elements are all modular, making scale up manageable

Commercial Viability

- Best in class green projects will compete with blue/grey projects post 2030
- Wind, solar, electrolysers, and HB reactors are all decreasing in price and improving in efficiency
- Green dominance vs grey/blue is inevitable

Transportability

- Easily stored and shipped
- Shipping cost is low, <10% of landed cost



Key Markets Include Marine, Power and Fertilizers

Global Maritime

Regulators

Sjøfartsdirektoratet Norwegian Maritime Authority

Investigating the support of hydrogen as an alternative source of fuel for marine operations

IMO

Defined energy-efficiency targets for global shipping industry and targeting 50% absolute GHG reduction by 2050

Corporate/Institutions

MAERSK

Committed to a fully decarbonized fleet by 2050 (excluding offsets) and working on engaging customers along the value chain

GE Power Conversion

Developing hydrogen fuel cell power systems for powering zero-emission cruise vessels together with fuel cell manufacturer Nedstack

MAN

Developed new liquid-hydrogen fuel-gas system for maritime sector in partnership with Fjord and Norway's Multi Maritime

GLOBAL MARITIME FORUM

Working towards making deep-sea zero-emission vessels a commercially viable and scalable reality by 2030 in a broad industry consortium

Source: Public Information, Techno-economic Assessment of Zero-carbon Fuels, Lloyd's Register (2020)

Power in Asia

	Japan	Korea	China
Resource Constrained	✓	✓	✓
Decarbonization Targets	Net-zero by 2050	Net-zero by 2050	Net-zero by 2060
Heavy Coal Generation Mix	Heavy coal generation mix given nuclear constraint	Heavy coal generation mix, current plans to use natural gas	Heavy coal generation mix, current plans to use everything possible
Current Ammonia Momentum	Major EPCOs support ammonia blending	Exploring possible adoption of green ammonia	Exploring possible adoption of green ammonia

Fertilizer

Company	Decarbonization Activities
YARA	• Feasibility study for green ammonia with Engie in Pilbara • Goal to become market shaper in low-carbon fertilizer production
Incitec Pivot	• Production of green ammonia nitrates for mining customers • Feasibility study at moranbah facility in Australia
Wesfarmers	• Feasibility study for 20kt green NH_3 for fertilizer production 2025 target - "drive emissions per unit below level of peers"
Ballance	• Green ammonia feasibility study in New Zealand
Fertiberia La Mancha	• Hydrogen plant in 2021 to produce 200kt p.a. of green fertilizer
OCP	• Green pilot plant in Germany

Scaling Up Green Ammonia Production – The ICE Template

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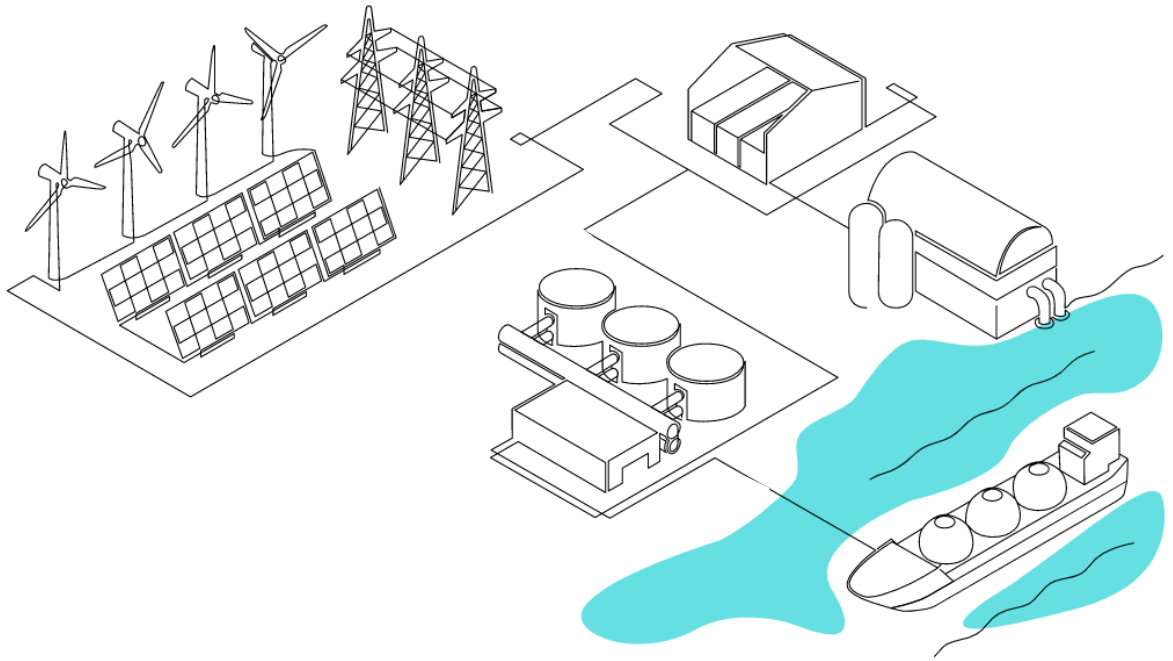
Upstream

- Huge coastal sites
- Wind-solar hybrid upstream electricity source
  - Wind >8.5m/s
  - Solar >1,900 kWh/m^2

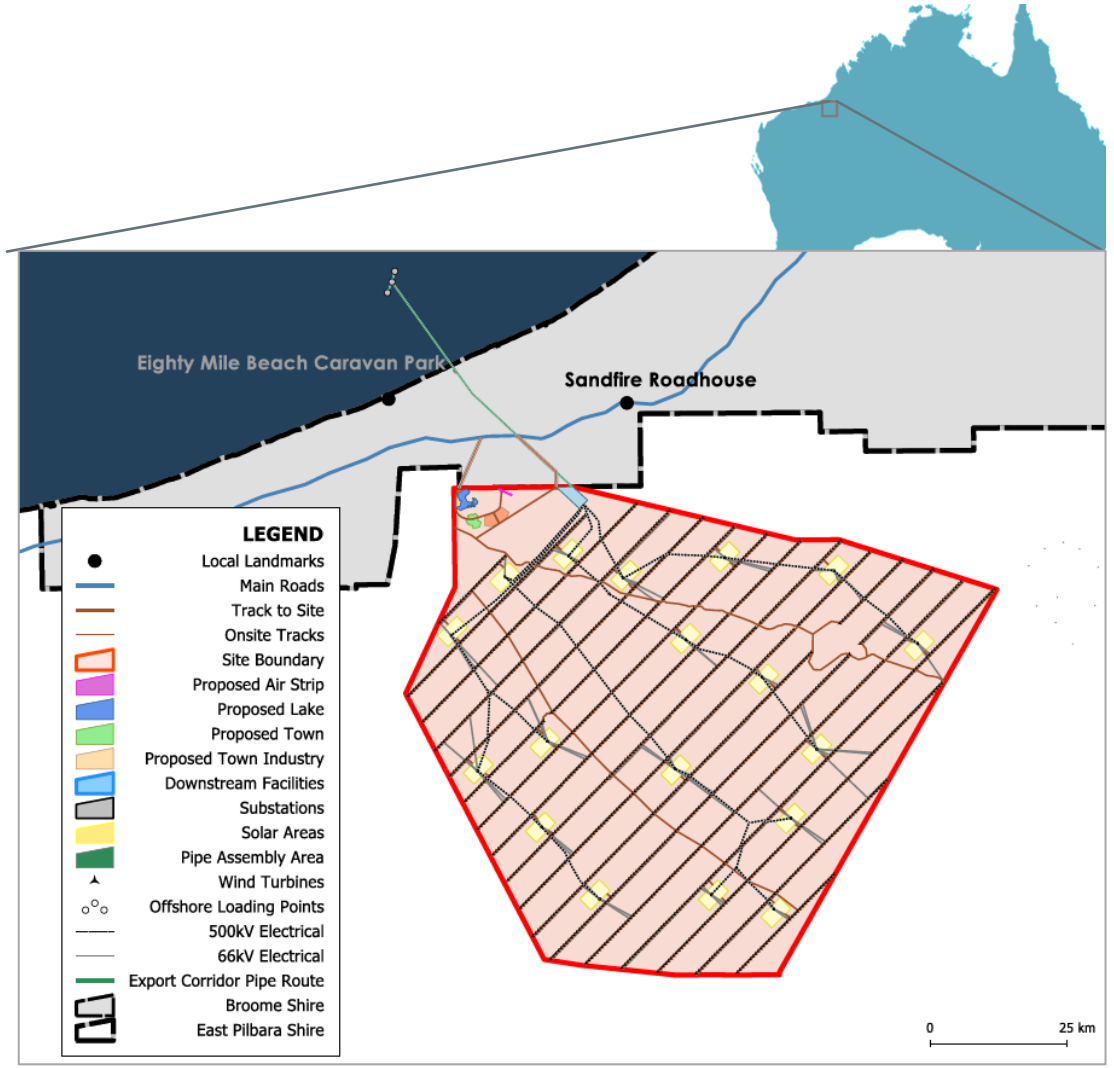
Downstream

- Desalinated seawater
- Electrolysis units
- Cryogenic air distillation
- Haber Bosch reactors
- Export via VLGC



Asian Renewable Energy Hub Example

- District scale green hydrogen/ammonia project
- Located in East Pilbara, Western Australia
- Site area of ~6,600km^2
- 26GW of upstream capacity
- Fully integrated upstream/downstream design
- Export focused with ~3GW of local supply
- First 15GW already approved
- 2025 FID target
- Consortium includes ICE, CWP Renewables, Pathway Investments and Vestas



Asian Renewable Energy Hub – Development History

- In development since 2015
- Major project status granted at Federal and State level
- Long term land tenure of over 50 years
- 5 years of work with the Traditional Owners
- Strong early interest from a range of offtakers
- 1st stage of 15GW has been approved, 26GW expansion already submitted

Asian Renewable Energy Hub – Integrated Design

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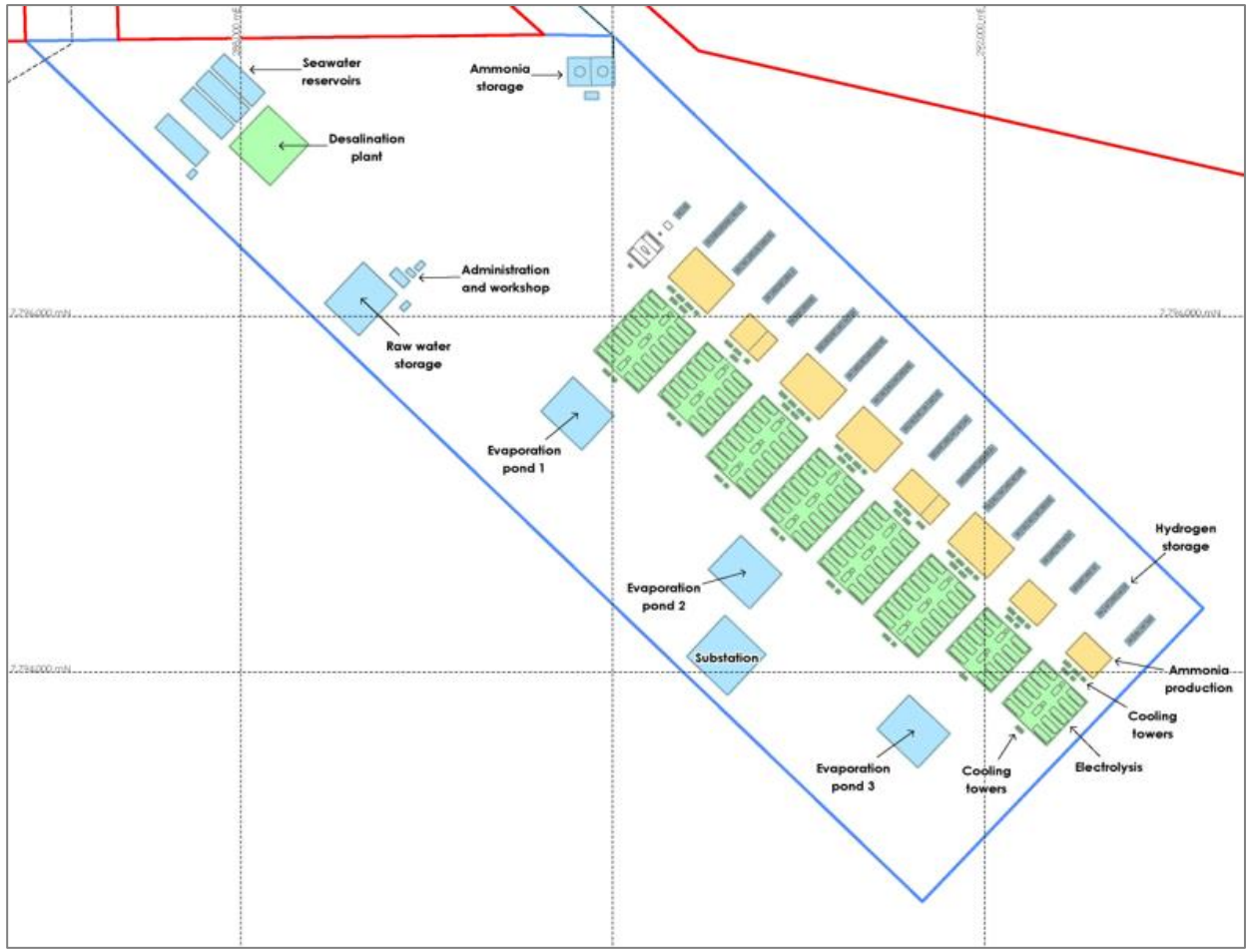
Integrated Design

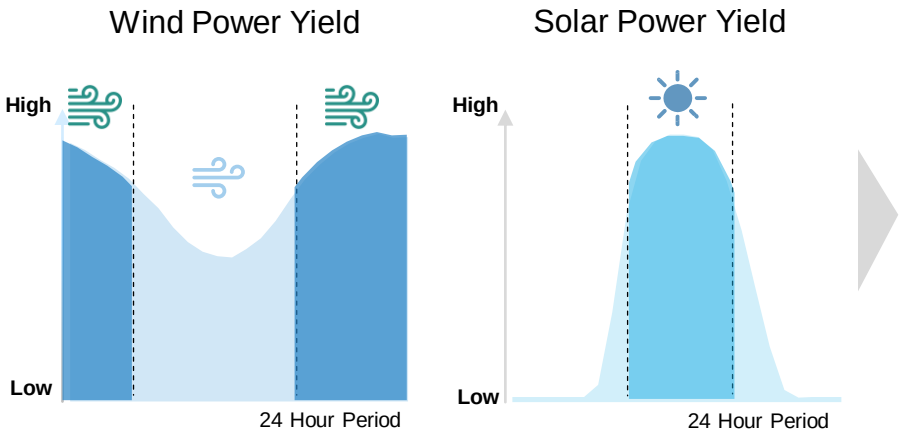
- Completed by a world leader in electrolysis and ammonia production technologies
- Deep system optimization using years of site data
- Upstream and downstream optimized to achieve lowest LCOA

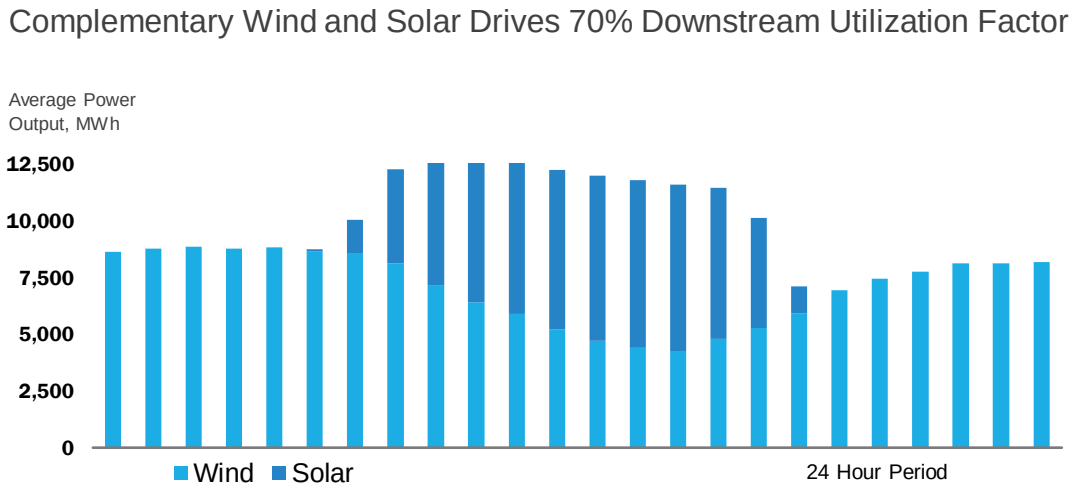
Global First…Not Last

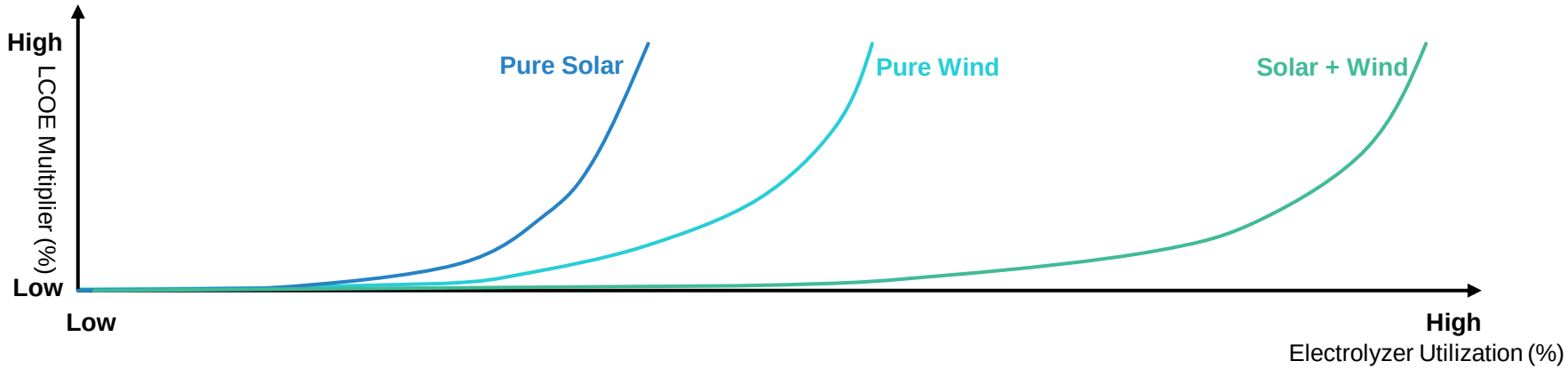
- Innovative breakthroughs + opportunities for further improvement
- Lessons learned will help the industry advance



Lessons Learned – Hybrid Resource Outperforms







Lessons Learned – Size Matters

Purchasing

- Discounts for volume

Reliability of Supply

- Geographic dispersion of upstream over large areas reduces variability
- Large amount of redundancy/modularity

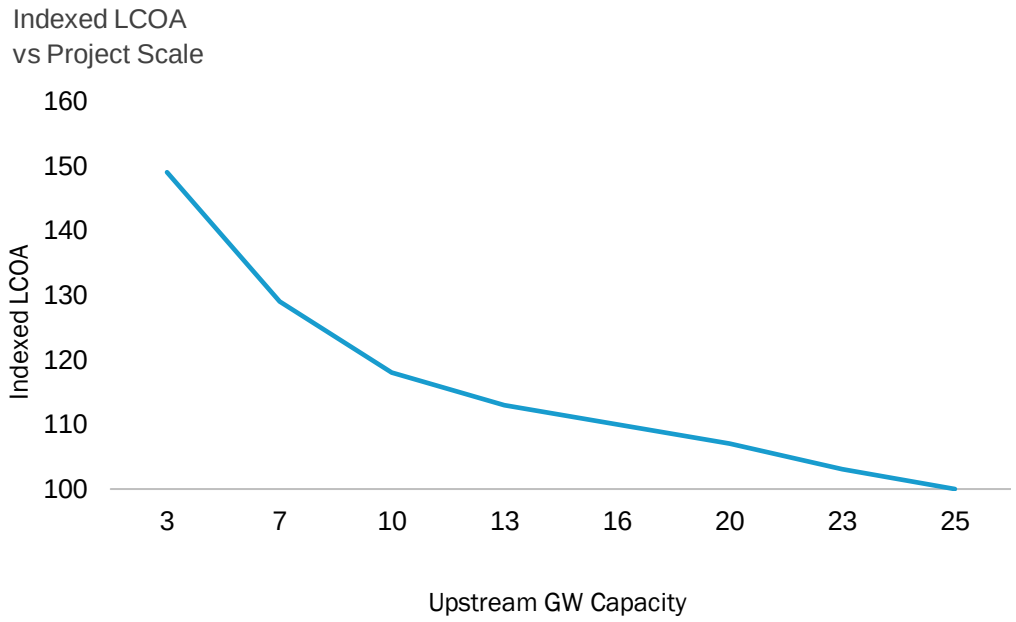
Construction

- Establishing supply chain at the project
- Extended construction period allows for more efficient techniques to be deployed and improved

Optimized Fixed Costs

- Fixed costs are shared over a larger variable production base

Significant Cost Reduction Can be Achieved through Scale



The Economics Will Work

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Upstream Wind/Solar Electricity

- <2cents/kWh post 2030

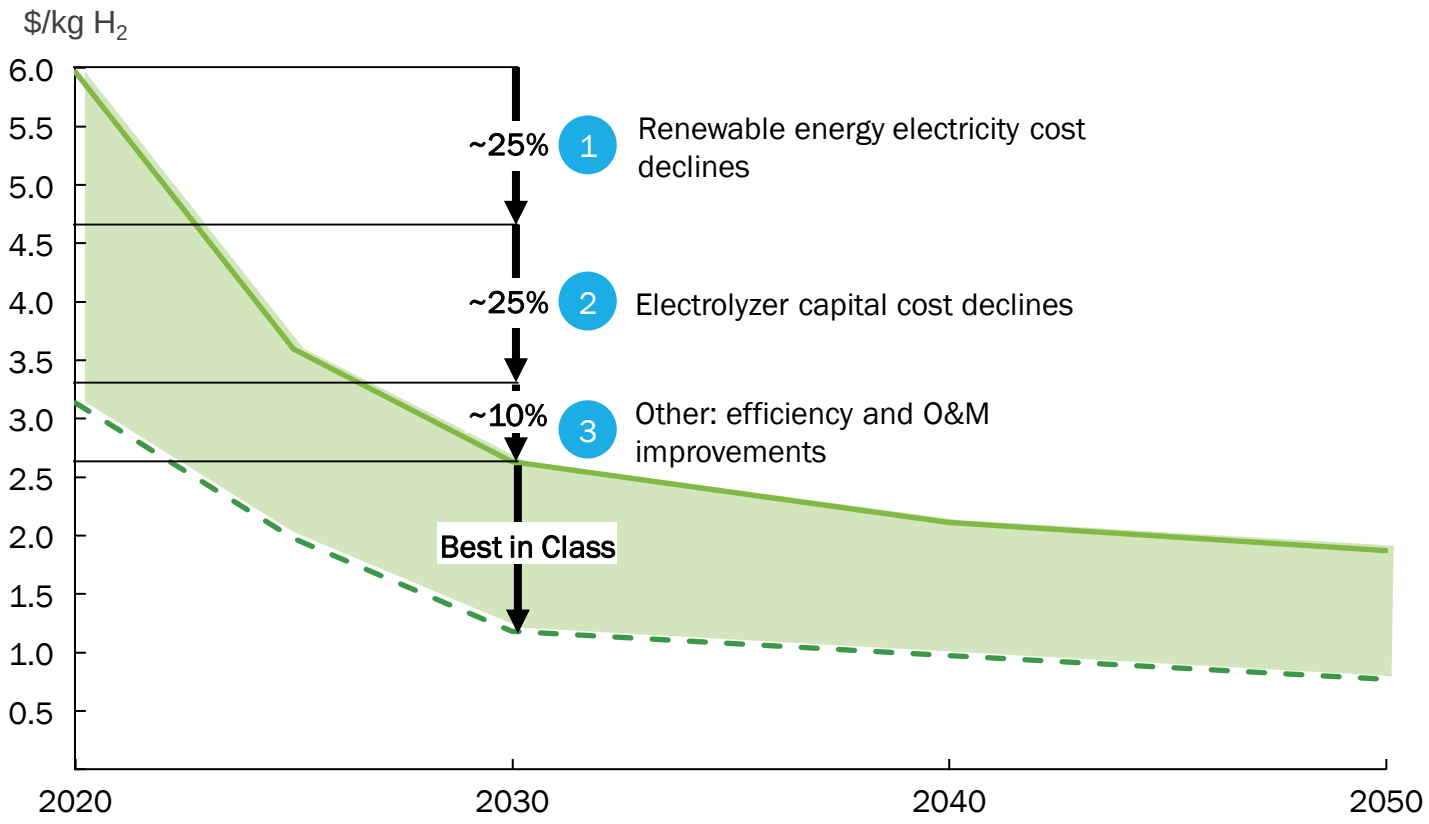
Green Hydrogen

- <$1.5/kg post 2030

Green Ammonia

- <$350/ton post 2030

Forecast Green Hydrogen Production Cost Curve



Lessons Learned – AREH is Not Big Enough!

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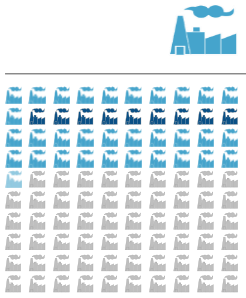
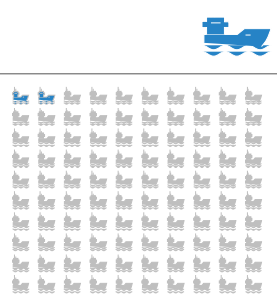
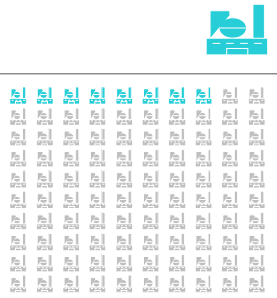
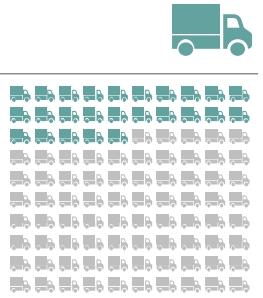
Offtake Required to Sell AREH Green Ammonia or H_2

Power	OR	Marine	OR	Fertilizer	OR	Aviation	OR	Hydrogen EU	OR	Hydrogen Japan & Korea
…20GW of Japanese coal fired power stations co-firing 20% ammonia		**…200** large container vessels running 100% on ammonia		**…10** large-scale fertilizer production plant		**…630** narrow-body airplanes across Europe using synfuel or hydrogen		**…1.0MM** long-haul heavy duty trucks in Europe		**…1.0MM** long-haul trucks across Japan and Korea
										
of 49GW of coal-fired power generation in Japan today		of 10,000 medium-to-very large scale cargo vessels in global market		of 120+ fertilizer production plants across Europe		of ~2,800 narrow-body medium haul planes in Europe		of ~6.3MM trucks in Europe		of ~4MM trucks across Japan and Korea

The Challenge/Opportunity is Huge