



Sustainable Insurance for Hydrogen Technology

Requirements and Risk Management

September 2022

Bernhard Schneider | Munich Re



Risk Landscape of Hydrogen

For projects risks are reality

Hydrogen Environment

Outside view

- No established marketplace for hydrogen yet
- Long-term hydrogen price outlook uncertain
- Technology scale-up risk
- Supply chains are under pressure
- Production capacity of electrolyzers limited
- Competition of technologies and concepts
- Blurred lines in the energy space
- No standards for contractual frameworks
- Regulation is changing

Risk Landscape of Hydrogen

For projects risks are reality

Power 2 X Projects

Inside view

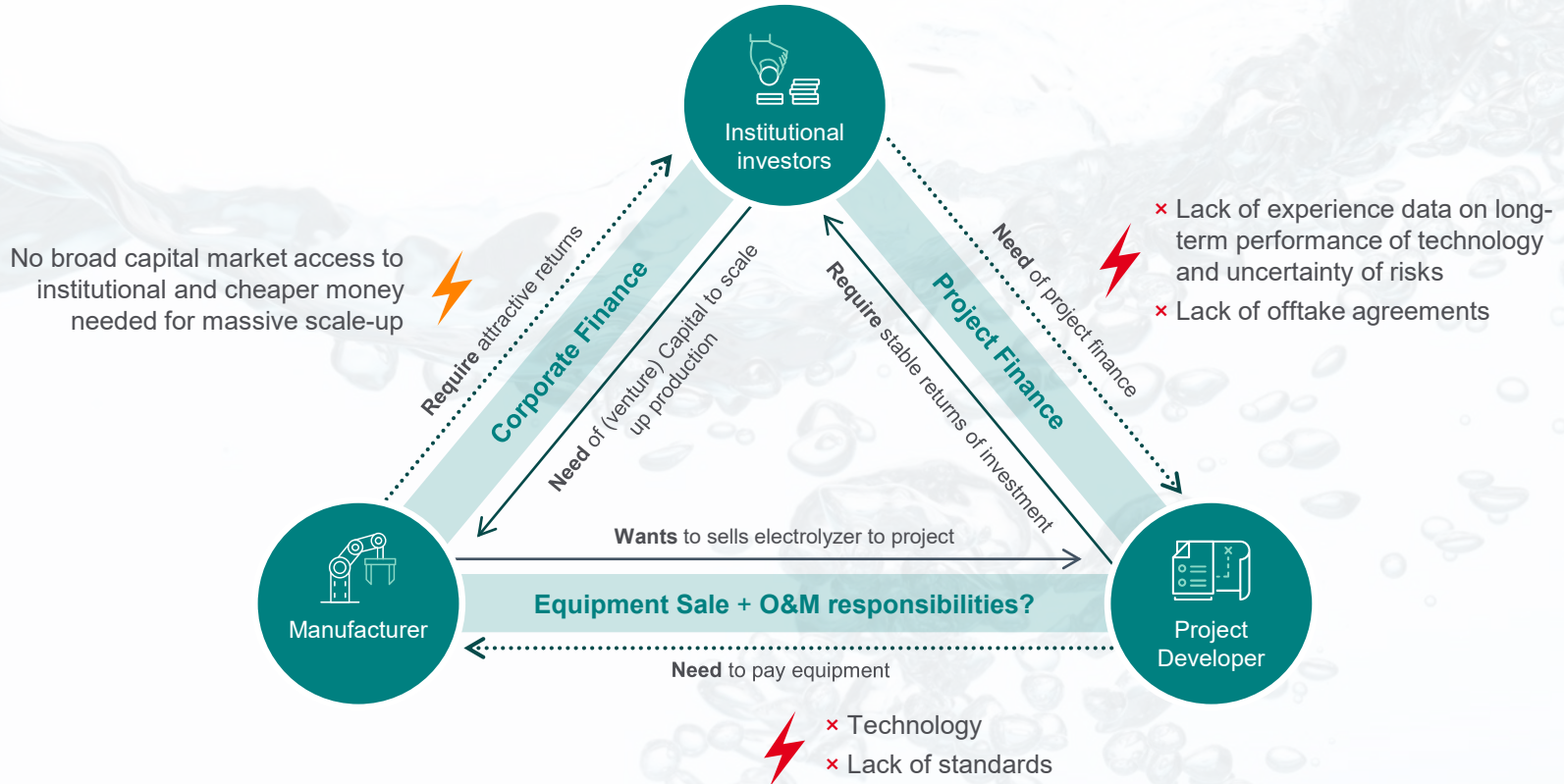
- Selection of technology not used in the field before
- Engineering lacks experience
- Feed must be predictable
- Counterparty risk of off-taker
- Interdisciplinary projects require a lot of expertise and descent staffing

Hydrogen Environment

Outside view

- No established marketplace for hydrogen yet
- Long-term hydrogen price outlook uncertain
- Technology scale-up risk
- Supply chains are under pressure
- Production capacity of electrolyzers limited
- Competition of technologies and concepts
- Blurred lines in the energy space
- No standards for contractual frameworks
- Regulation is changing

Uncertain and unproven technologies seems to cause an endless viscous circle



Insurance got you covered – does it?

Typical insurance package for relevant stakeholders

	Construction	Operation
OEMs	Marine & Transport	Performance Warranty Insurance (<i>HySure</i>) Product / General Liability Insurance
Contractors	CAR / EAR Contractors' Liability	Contractors' Liability
Sponsors	CAR / EAR Liability Insurance	Property / Business Interruption Casualty

Success Factors for Hydrogen Projects



Bespoke Finance

In line with project specifics



High Quality Technology

1st tier suppliers
Sustainable O&M
Trusted Certification



Trusted Off-Take

Long-term
Trustworthy
Competitive

Success Factors for Hydrogen Projects



Bespoke
Finance

In line with project
specifics



High Quality
Technology

1st tier suppliers
Sustainable O&M



**Performance
Warranty**

Embedded Insurance
Protection



Trusted
Off-Take

Long-term
Trustworthy
Competitive

Innovative insurance solutions cover risks that will enable sustainable business growth

HySure



Product Guarantee

- ✓ Protection against part breakdown
- ✓ Coverage of maintenance and replacement intervals
- ✓ Cost overrun O&M plan



Performance Guarantee

- ✓ Protection against underperformance
- ✓ H2 Production Rate
- ✓ Efficiency/Cell voltage



Availability Guarantee

- ✓ Protection against under availability
- ✓ Coverage of downtime
- ✓ Project-specific/on site spare parts

Excluding outside factors (e.g. grid)

Join the Hydrogen adventure and stay in touch



Bernhard Schneider

Product Lead Hydrogen / Power-to-X

BerSchneider@munichre.com



LIVE

World Hydrogen Congress

Rotterdam 11.-13. October 2022



On-Demand

Whitepaper for download

A Contribution To The Success
Of The Green Hydrogen Industry