New frontiers in CCUS

Baker Hughes

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Bergen

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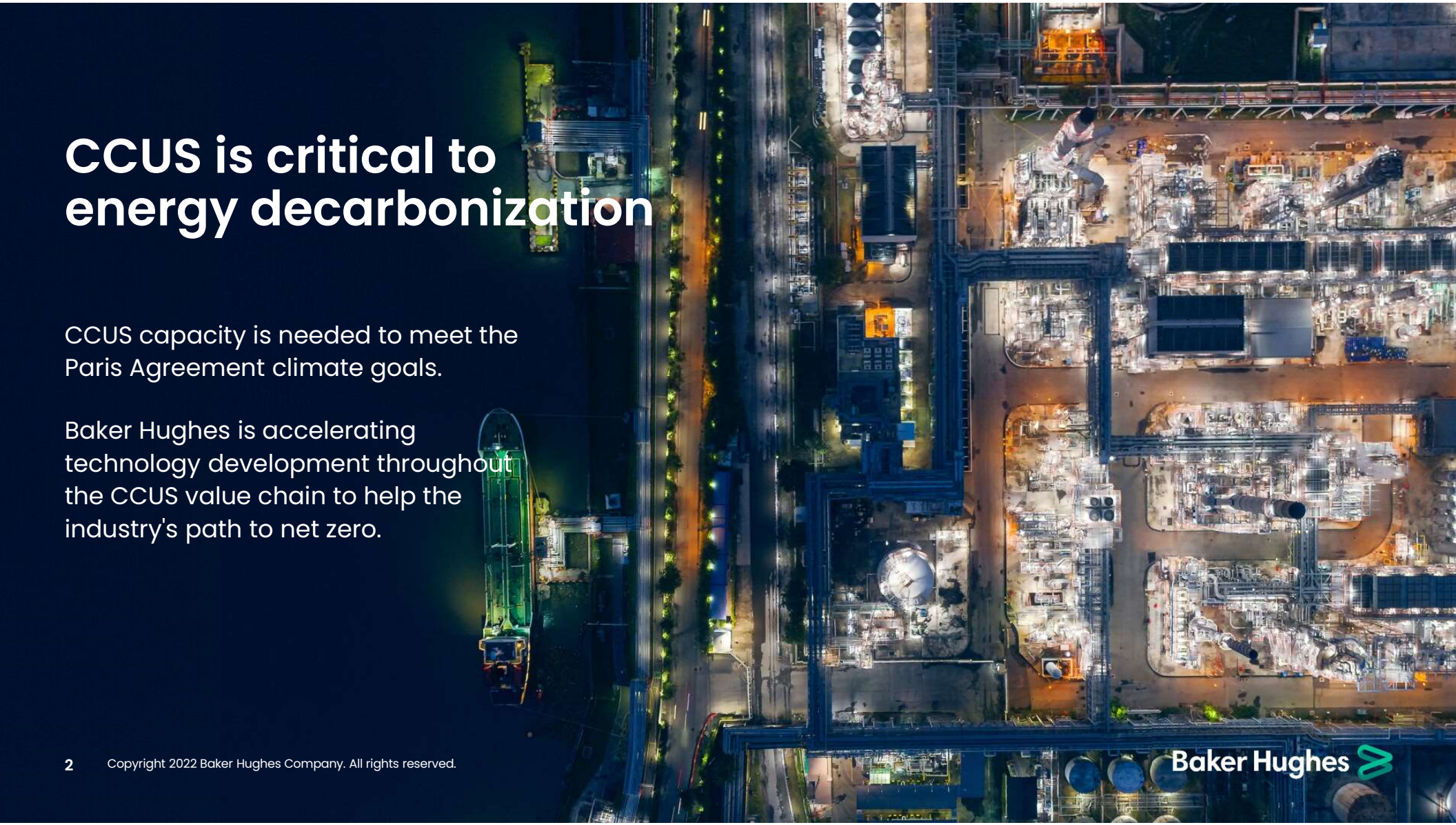
CCUS is critical to energy decarbonization

CCUS capacity is needed to meet the Paris Agreement climate goals.

Baker Hughes is accelerating technology development throughout the CCUS value chain to help the industry's path to net zero.



New frontiers in CCUS

Acquisition of Compact Carbon Capture, specialized in compact carbon capture solutions expanding BH carbon capture portfolio

Exclusive license agreement with SRI to use the Mixed Salt Process (MSP) expanding BH carbon capture portfolio

Investment in a bio-methanation technology company complementing BH portfolio with Power-to-Gas solutions

Acquisition of Industrial Climate Solutions, an innovative compact gas-liquid absorption technology expanding BH carbon capture portfolio

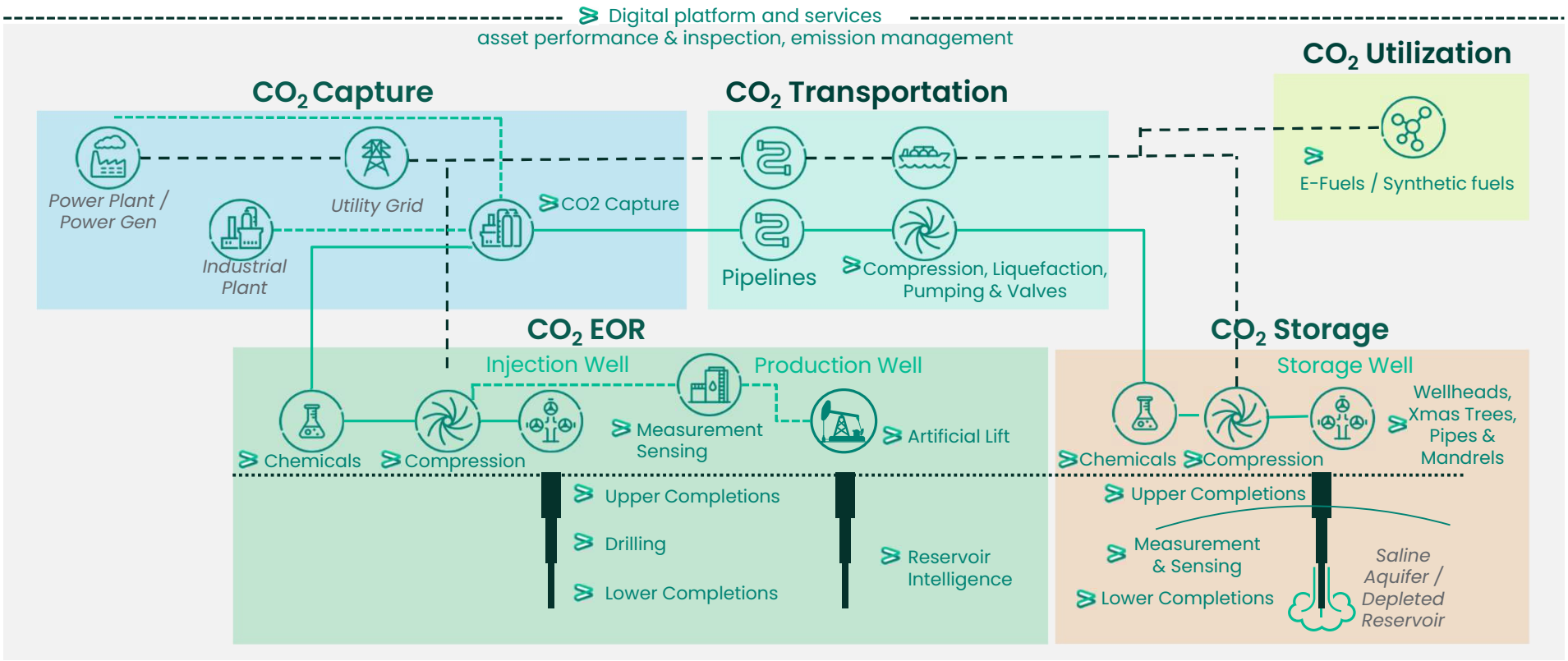
Investment in a clean integrated power technology with near zero atmospheric emissions and inherently captures all CO_2

Acquisition of Mosaic Materials, a novel MOF technology enabling DAC with lower total cost of ownership expanding BH carbon capture portfolio

Collaboration with a project development company that intends to establish a hub for decarbonizing industrial sites in Norway

Baker Hughes positioning in the CCUS value chain

A broad portfolio of technologies & expertise leveraging novel solutions & business models across all or parts of the CCUS value chain



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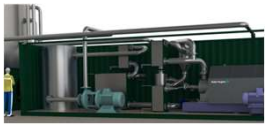
CO_2 capture

Baker Hughes solvent-based solutions

Technology		Readiness level	Key features
Chilled Ammonia Process (CAP) Solvent: ammonia-based		1 2 3 4 5 6 7 8 9 *Validated at TCM (80ktpy)*	Releasing CO_2 at high pressure: • Reducing compression needs • Allows for direct liquefaction Sustainable solvent: • Widely available/commodity • No thermal and oxidative degradation • Environmentally friendly effluents Controllable emissions to atmosphere and tolerant to flue-gas contaminants (NOx, O_2, etc.)
Mixed Salt Process (MSP) Solvent: potassium-based with ammonia		1 2 3 4 5 6 7 8 9 *TRL6 on-going at UIUC (10tpd)*	
Compact Carbon Capture (CCC) Solvent agnostic (tested with MEA) Rotating beds to intensify mass-transfer		1 2 3 4 5 6 7 8 9 *TRL7 on-going*	More efficient mass-transfer: • Shorter absorber columns • Compact regeneration system Modular and scalable configuration: • Reduction in footprint & height • Retrofittable for brownfield applications Requires smaller solvent inventory and can operate with higher viscosity solvents
Industrial Climate Solutions (ICS) Pulsing froth gas-liquid absorber Compact size with no moving parts		1 2 3 4 5 6 7 8 9	More efficient mass-transfer: • Reduced column diameter • Reduced bed depth Versatile for challenging applications: • Pre- or Post-combustion capture • Self-cleaning for high-solids processes • Capture/scrubbing or 2- or 3-phase reactors

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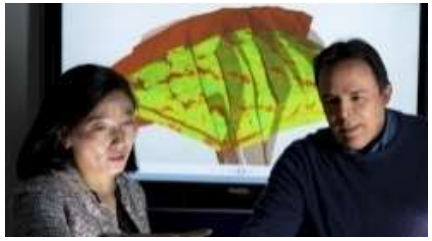
CO_2 sequestration

Injection & storage capabilities

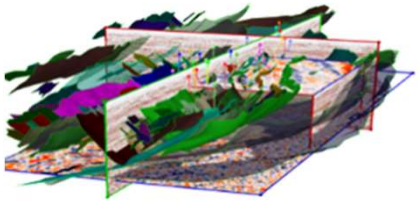
Project development



Storage characterization

- Assess the feasibility of our customer's assets for storage capacity and integrity
- Conduct pre-FEED and FEED studies for storage leveraging our capabilities in geo-mechanical modeling, subsurface engineering and completions design
- Assist with the injection site permit application

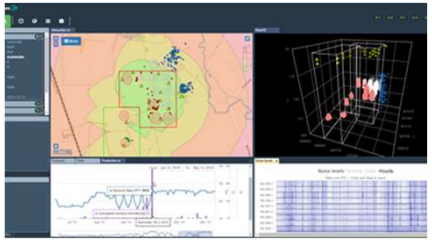
Subsurface storage



Installation optimization

- Provide integrated well services and project management to ensure regulatory compliance, third-party management and timely delivery
- Deliver an optimized injection and monitoring philosophy tailored specifically to project needs
- Customize well designs and service integration to assist each storage project's unique requirements

Asset integrity



Compliance assurance

- Ensure containment across the lifetime of the asset to comply with local and regional regulations
- Provide near-wellbore and formation monitoring services to verify the integrity of the wellbore, the stability of the reservoir and its regional seal
- Real-time monitoring services to reduce risk and number of resources required to manage the long-term injection project

Post-injection care & closure

Long-term assett protection

- Assist with site closure through optimized plug and abandonment operations
- Continue asset monitoring with our robust solutions designed to reduce OPEX spend and additional field-based activities
- Continue to assist our customers with long-term regulatory compliance to reduce overall project risk

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Collaboration to foster CCUS deployment

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Case Study

Development of a CO_2 cluster in Norway

BORG CO_2 AS

June ´21 – Baker Hughes & Borg CO_2 entered into an MoU to develop a hub for the decarbonization of industrial sites in the Ostfold region

- The Borg CO_2 project includes several industry partners, as well as the Port of Borg, and aims to capture and store emissions from industrial facilities located in the cities of Fredrikstad, Sarpborg and Halden (Ostfold region)
- The total amount of CO_2 expected to be captured is 630ktpy, with a 70% share being of biogenic nature
- The captured CO_2 will be liquified and temporary stored onshore at the Port of Fredrikstadt, shipped and eventually stored underneath the seabed of the North Sea
- In April ´21, Borg CO_2 announced to have entered into a MoU with Northern Lights concerning CO_2 shipping and storage services
- Baker Hughes is supporting the project with its portfolio of carbon capture & turbomachinery solutions as well as engineering services for the development of the hub that is currently in the Pre-FEED stage
- During Pre-FEED, Borg CO_2 will evaluate the optimal structure for implementation of the carbon capture plants and pursue grant and incentive opportunities both in Norway and Europe

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Investing today in the sustainable solutions of tomorrow

- Investing in technology and partnerships
- Innovative processes and equipment
- Compact solutions
- Holistic carbon management
- Enabling renewable energy storage

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