- 13. The Energy of Innovation®
- 14. Products and Portfolio Capabilities
- 19. Sustainability in Our Products and Technology

Energy matters more than ever and Weatherford is committed to building a more sustainable future by responsibly managing our ESG priorities. We steadfastly believe in transparency and are unwavering in our focus on facilitating a cleaner energy future. As we move forward, we are building a roadmap to ensure our ESG approach is thoughtful, pragmatic, and achievable, including setting targets and milestones, with the ability to pivot with changing industry needs and regulations. Our focus is that of being a responsible corporate citizen. We are also keenly aware of the advantages of investing in technology and diversifying our portfolio, which has resulted in a differentiated position in the market.

### HARNESSING CLEAN POWER FOR A CARBON NEUTRAL PLANET

A better world starts now. As a global leader in energy services, we consider it our responsibility to help customers produce energy in sustainable ways while also supporting energy security. We collaborate with our customers to drive innovation in their decarbonization efforts and shape the path forward in the energy transition. Leveraging our renowned expertise, we are generating diversified value in our portfolio by delivering safe and reliable solutions in both traditional energy services as well as new energy.

### BUILDING LONG-TERM PARTNERSHIPS FOR INCREASING ENERGY CHALLENGES

For over 40 years, our vast network of experts has applied innovation and extensive market knowledge to develop new energy solutions. Our global and local organizations make us the perfect partner to see through long-term projects that endeavor to accelerate the energy transition by providing readily available products and services to support traditional and new energy sources. Our collaborative approach and renowned expertise strengthen relationships and our customers' operational success.

#### SECURING THE FUTURE OF ENERGY WITH INNOVATION AND DIGITALIZATION

We are proven global energy innovators. Problem solving is in our DNA. Our history of diverse thinking, regional expertise, expert innovation, and a competitive spirit enables us to deliver advanced digitalization capabilities, proven technology, and world-class solutions. We provide comprehensive and scalable technologies that solve unique challenges in any environment, anywhere in the world, enabling safe, streamlined operations that deliver maximum value and improved environmental footprint — innovation for today that ensures energy for tomorrow.



# PRODUCTS AND PORTFOLIO CAPABILITIES

# **GEOTHERMAL ENERGY SOLUTIONS**

# Adapting Traditional Oilfield Services Technology for Sustainable Energy Production

Whether repurposing an existing well or developing conventional, enhanced, or advanced geothermal systems, our customers need unrivalled terrain-adaptable technology specifically engineered to endure extreme downhole conditions. Collaborating with geothermal experts from around the world, we enable our customers to successfully harness geothermal energy wherever they are. Our comprehensive end-to-end solutions are designed to meet their unique challenges and provide efficient, high-temperature drilling, evaluation, and well construction technology, and advanced digitalization capabilities that optimize sustainable operations while reducing carbon emissions — anywhere, in any environment. With our decades of proven geothermal expertise, specialized technologies, and innovative ideation, we enable progressive advancement for future geothermal exploration and production. We enable the world to access clean, reliable energy via geothermal solutions.



# **ALIGNED FOR CLEAN, ABUNDANT ENERGY**

In April 2022, Weatherford announced a new membership with the Texas Geothermal Energy Alliance (TXGEA) — the Texas-based, Texas-led geothermal energy advocacy group.

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# EGEC MEMBERSHIP

Weatherford with the European Geothermal Energy Council, a non-profit international organization which both promotes the geothermal industry and enables its development in Europe and beyond. With more than 120 members from 28 countries. we support the shaping of policy, work to improve business conditions, and drive more research and development in the industry.

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#### CRITERION ENERGY PARTNERS

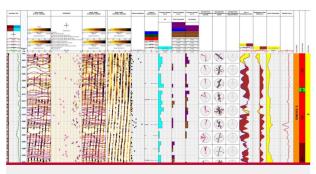
Weatherford executed a memorandum of understanding with Criterion Energy Partners, a geothermal technology and energy development company that delivers clean, reliable energy to customers in hard-to-abate sectors. As part of the agreement, Weatherford intends to serve as an active member of the Geothermal Industry Advisory Group, which is focused on addressing global energy demand with clean, renewable energy.



# **REAL RESULT**

Underbalanced Workover Removed Scale from Environmentally Sensitive Geothermal Well in Germany, Enabled Submersible Pump to Recover Geothermal Water

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# INTEGRATED EVALUATION SOLUTION

GOVERNANCE

Provides Full Characterization with Oilfield Tools in Harsh, Swedish Geothermal Reservoir Conditions

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# **REAL RESULT**

Wireline Solution Delivers Significant Operational Savings by Freeing Stuck Pipe without Explosives in Italian Geothermal Well

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# PLUG AND ABANDONMENT SOLUTIONS

# Restoring the natural integrity of formations with everlasting wellbore isolation

In an era that includes environmental accountability alongside a company's reputation and fiscal obligations, the end of the well lifecycle is just as integral as its beginning. With technical innovation and well service transformations, the well lifecycle can be continued without the need for abandonment, and existing wells can be converted into sustainable and renewable energy operations.

Unfortunately, some operators orphan their wellbores, posing environmental and ecological risks. These orphan wells may leak methane, a known greenhouse gas, into the atmosphere in addition to potentially contaminating groundwater and/or threatening nearby communities. Failure to evaluate the full well development and operational profile can risk environmental impact and reputational harm.



# WEATHERFORD PARTNERS WITH CODA

Drawing on Weatherford's experience across an international portfolio of operations, this collaboration with the **Centre of Decommissioning Australia (CODA)** supports derisking Australian operations through various initiatives in the community ecosystem.

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# **WEATHERFORD PARTNERS WITH ARDYNE**

The new partnership between Weatherford and Ardyne Technologies offers the most comprehensive portfolio of Plug and Abandonment and Slot Recovery solutions. This alliance fulfills a vital requirement in late-life well management, delivering specialized well-decommissioning solutions designed to tap additional reserves and sustainably abandon nonproductive wells in complex well environments.

We champion a responsible well abandonment solution that is much more than simple traditional barrier placements. The inherent technical challenges of well closure are complex and cover multiple linked aspects including acknowledging how different regions have different aims and varying solutions to plug and abandonment to suit their local requirements. Numerous older wells are in poor or unknown condition with respect to well integrity. Understanding the condition of the borehole, casing, and cement as well as ensuring proper well cleanup and preparation can reduce risks and increase the integrity of placed barriers.

Many plug and abandonment projects occur alongside ongoing production or intervention operations. Conducting concurrent operations is a key to project efficiency, requiring a high degree of coordination and planning to manage these simultaneous operations safely and effectively. Our comprehensive approach to well abandonment helps our customers seamlessly navigate each stage of the complicated process to deliver efficient and consistent results that satisfies the many technical, operational, economic, environmental, and social challenges.



# **REAL RESULT**

Firma® Plug and Abandonment Solutions Reduced CO<sub>2</sub> Emissions in Lump Sum Turnkey Well **Decommissioning and Restoration** Project in Oman

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# **REAL RESULT**

Firma® Plug and Abandonment Solutions Safely Decommissioned 21 Phase III Wells while Lowering Carbon Footprint in a Turnkey Project for an International Operator in Australia

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# CARBON CAPTURE & SEQUESTRATION SOLUTIONS (CCS)

# Delivering customized, reliable, and scalable CCS designed to last

CCS is a significant asset to decarbonize the atmosphere and help confront climate change. Relying on decades of experience with CO<sub>2</sub> for Enhanced Oil Recovery, we can adapt for CCS technology to enable and optimize operating cost, improve reliability and resilience, integrate diverse energy resources, and reduce emissions. Our customized and scalable carbon capture technologies deliver agile solutions that meet any requirements no matter the environment or challenge. And if conventional solutions prove ineffective or inefficient, we innovate.

Permanent, reliable, and controlled, our carbon storage solutions are efficiently engineered to help our customers meet the unique challenges of CCS decarbonize operations and optimize carbon injection — now and in the future.



# **REAL RESULT**

ForeSite® Sense Optical System Enabled Advanced, Real-time Insights in CCS Reservoir Surveillance for CO<sub>2</sub> Injection Well in France, Monitoring CO<sub>2</sub> Conditions During Injection Phase, and Verifying CO<sub>2</sub> Storage Reservoir and Caprock Integrity

# **DIGITAL TRANSFORMATION**

# Delivering net lower carbon through digitalization and automation

Automation and digitalization continue to revolutionize the oil and gas sector and our legacy of innovation is helping shape the energy transition. Existing oil and gas production will continue to sustain the world's overall energy needs, but we understand the significant role we play and accept the responsibility of actively seeking new methods to help our customers reduce their carbon footprint and make all operations more efficient and sustainable.

Automation decreases personnel at rig sites, and, with fewer people, the carbon expended to transport, house, and support the crew is reduced. Remote operations also reduce the number of people needed at a rig site, but our well construction optimization platform goes beyond conventional rig-to-office transfers. The platform centralizes data from different vendors, disciplines, and wells into one integrated, collaborative solution that draws on the power of predictive algorithms, best practices, and continuous performance improvement to promote safety, cost reduction, and emissions management. Our production automation software delivers insight that increases the amount of production and maximizes uptime, giving our customers the freedom to drill less and sustain the lifecycles of their existing wells.

But new technologies alone will not solve every problem. It is the expertise and experience of our people that help our customers determine the optimal solution and harness the power of new technologies to make their operations more efficient, lower their carbon footprint, and meet their Net-Zero aspirations.



# **PARTNERSHIPS**

Executed Multi-Year Agreement with **DataRobot** to Deliver Advanced Artificial Intelligence Solutions in Our Digital Platforms, Including the ForeSite® Production Optimization and Centro™ Well **Construction Platforms** 

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### **REAL RESULT**

Weatherford Integrated Services Implemented a Solution with the Centro™ Well Construction Optimization Platform that Saved 42 Days and Produced 32% Higher Production Rate

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### **REAL RESULT**

ForeSite® Production Optimization Platform Drives \$17.7M in Annual Incremental Value Through Improved Efficiency, Uptime, and Production

# WELL REJUVENATION

# Implementing advanced rejuvenation on aging assets

Maximizing a field's optimal production rate is not only the fastest path to asset profitability — especially for today's declining wells — but inherently possesses a lower carbon intensity in that most of the emissions to find, develop, and produce the asset have been incurred so incremental production comes with much lower emissions versus new production. Our holistic strategy collaborates with existing production specialists to fully rejuvenate and reoptimize an aging field through a three-step process for maximized results: restore well productivity, extend asset life, and produce sustainably through streamlined operations. These operations feature improved subsurface characterization, maximized recoverable production, collaborated uplift



### **REAL RESULT**

WidePak™ Straddle Packer System Restored Well Integrity in Four Corroded Wells in Danish North Sea, Saving \$20 Million in Workover Costs

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### **OPPORTUNITY**

ForeSite® Platform Delivers ROI in 2 Months, Reduces Downtime 30%. Increases Production 2% In 111 Mature Wells

READ MORE ▶

potential, and greater equipment efficiency all focused on a central goal: reduce bottlenecks that directly support advanced ESG initiatives that reduce maintenance costs, minimize deferred production, and reduce overall carbon emissions and environmental impact.

# METHANE EMISSION MITIGATION

# Addressing the fugitive and vented emission challenge

Within the oil and gas industry, greenhouse gas (GHG) emissions are heavily impacted by the potency of methane. We understand the industry's opportunity to address fugitive and vented methane emissions and outline our current portfolio applications in our Sustainability in our Products and Technology Matrix on page 19. Examples within our portfolio that support this endeavor include:

- Responsible plug and abandonment solutions that incorporate avoidance of methane leaks from abandoned wells
- Mature field efforts, such as well construction products to support restoring well integrity, and reservoir monitoring analysis to identify leak zones
- Plunger lift technology to minimize venting of sour gas during production
- Increased artificial lift reliability, potentially resulting in less flaring or venting, in addition to higher production



# **REAL RESULT**

Solar-Powered Plunger Lift Solution Halted Sour Gas Venting, Improved Efficiency, and Minimized Emissions in Oman

# SUSTAINABILITY IN OUR PRODUCTS AND TECHNOLOGY

The energy transition to low carbon and renewable energy is not without substantial challenges. It calls for people to change their mindsets and the way they live and work. We understand these challenges because we face them ourselves, both as a Company and as the people who support Weatherford. But we also see this as an opportunity to channel our traditional oilfield service technology and expertise to improve the accessibility and viability of renewable energy at scale.

The pathway to lower carbon, renewable energy, and a more sustainable world threads its way through the energy industry, and we take responsibility and pride that we can do our part in helping to deploy and scale lower emissions technology. Our engineering groups proactively seek opportunities for environmental improvements when upgrading existing products and explore ways to apply current oilfield technologies in innovative ways to drive our goals for sustainability and new energy.

We continue to visualize new possibilities, compelling us to form new partnerships and collaborations with people and organizations who share our vision for a lower carbon economy and the research and development that continues to grow our contribution to new energy solutions. Learn more about our portfolio capabilities.

		PR					
SEGMENT	ENABLING TECHNOLOGIES	WATER	WASTE	ENERGY	EMISSIONS	SAFETY	APPLICATION*
DRILLING AND EVALUATION	Downhole Deployment Valves	•	•	•	•	•	GT, CCS
	PressurePro	•			•	•	GT, CCS
	Victus™	•	•	•	•	•	GT, CCS, MM
	Automated Well Control		•	•	•	•	GT, CCS
	Magnus <sup>®</sup>	•	•	•	•	•	GT, CCS, MM
	HeatWave®	•		•	•	•	GT
	RipTide <sup>®</sup>			•	•	•	ccs
	GAPS (Geophone Array Production Survey) Service			•		•	
	Memory Raptor™	•		•	•	•	ccs
	SecureView®			•	•	•	
WELL CONSTRUCTION & COMPLETION	Vero <sup>™</sup>			•	•	•	GT, CCS
	Mechanized Services			•	•	•	GT, CCS, P&A
	COMPLETE <sup>5M</sup>			•	•	•	GT, CCS
	TR1P <sup>™</sup> Single Trip Completions	•	•	•	•	•	ММ
	RFID Completions			•	•	•	ММ
	Electric Completions	•	•	•	•	•	CCS
	ESS Expandable Sand Screens	•	•	•	•	•	ccs
	Alternative Gas Lift Completion Systems	•	•	•	•	•	
	Completions: New Energy Applications			•	•	•	GT, CCS
	Renaissance™, Inverted Gas Lift, Deep Gas Lift, Foam-lift Capillary Services		•	•	•	•	WR
	OmniCap™ & ISO Well Barriers			•		•	GT, CCS, P&A

		PRI					
SEGMENT	ENABLING TECHNOLOGIES	WATER	WASTE	ENERGY	EMISSIONS	SAFETY	APPLICATION*
PRODUCTION & INTERVENTION	Permanent Magnetic Motor (PMM)			•	•	•	
	Rotaflex® Long Stroke Pump			•	•	•	
	COROD® (Continuous Sucker Rod)			•	•	•	
	Plunger Lift			•	•		GT, CCS, MM
	Electric actuated motor valve (EAMV)			•	•	•	
	DuraSeal® Stuffing Box		•		•	•	
	Firma <sup>™</sup> Abandonment Solutions		•	•	•	•	P&A, MM
	AccuView <sup>™</sup> for Remote Operations			•	•	•	GT, CCS, P&A
ON &	Centro <sup>™</sup> digital platform		•	•		•	WR
EE	ForeSite®	•		•	•		GT, CCS, MM
ROD	ForeSite® Flow			•	•	•	
	ForeSite® Edge			•	•	•	
	ForeSite® Sense			•	•	•	CCS, MM
	CygNet <sup>®</sup>			•	•	•	GT, CCS
	Amplifrac <sup>®</sup>	•		•	•	•	
	TBlockSure <sup>®</sup>	•	•			•	

#### **Energy Transition Offerings Application:**

GT — Geothermal

ccs - Carbon Capture and Sequestration

**MM** — Methane Mitigation

**P&A** – Plug and Abandonment

**WR** — Well Rejuvenation