



THE FUTURE OF ENERGY

The world requires a diversified use of all sources of energy, each of which has a role to play in the future. At Halliburton, we deliver value to the broader energy landscape. Our work is focused in three spaces:

- We provide goods and services to help our customers reduce the emissions footprint of their operations.
- We put our core competencies to work to deliver solutions to low-carbon energy projects such as CCUS and geothermal energy.
- Through Halliburton Labs, we help early-stage companies in emergent energy sectors scale as we learn about where we can strategically engage new markets.

LOWERING THE CARBON INTENSITY OF OUR CUSTOMERS' OIL AND GAS OPERATIONS

Halliburton helps our customers lower the carbon intensity of their operations through innovative, data-driven solutions in the full well lifecycle. The oil and gas industry provides affordable, reliable energy that is necessary for the global society and its growth. The path toward a lower carbon future includes hydrocarbons produced more efficiently and with a reduced carbon footprint.

Our approach to sustainability is embedded in our new technology development process and customer collaboration. We develop and deliver solutions that help our customers reduce emissions, maximize their assets, and build a sustainable future.



Our Innovation Sustainability Commitments

- Lead the industry in innovation and conscientious stewardship of global resources.
- Provide solutions that support decarbonizing our customers' production base.

Digital Emissions Calculations

In 2023, we integrated the Envana™ emissions data management software with our service delivery workflows and equipment sensors. This integration was accomplished in several product service lines and enables us to generate reliable, repeatable, and detailed emissions data for jobs executed by these product service lines. Halliburton uses this data to report verifiable emissions data, collaborate with customers to identify opportunities to reduce emissions, and inform our product development.



Our data-driven solutions positively impact our emissions footprint and are key to our end-to-end sustainability strategy

Sustainability in the Product Development Process

All new product-related research and development at Halliburton follows LIFECYCLE, our technology development process. LIFECYCLE's steps consider, among other factors, ways to minimize and quantify potential sustainability-related impacts. It is a rigorous, interdisciplinary, and collaborative stage-gate product development process that facilitates successful technology commercialization.

In 2023, we simplified how we identify products or services that help our customers reduce emissions and standardized how we qualify environmental impact early in the technology development process. We also improved our process controls, which monitors our project launches from inception to commercialization.

If a product or service is determined to have a favorable sustainability impact during the LIFECYCLE process, it is then classified in one of the following categories:

1. CO₂e footprint reduction
2. Direct/indirect input (i.e, electricity, raw materials, or logistics) and/or waste reduction
3. CO₂e footprint assessment and/or emissions mitigation
4. Low Carbon Solutions

Intelevate™ Platform

Intelevate™ Platform, developed through LIFECYCLE, is a customizable digital platform that helps operators design, build, and operate end-to-end electrical submersible pump (ESP) monitoring solutions. It facilitates faster, more accurate goal setting and operating plan development. A customer that adopted the Intelevate™ Platform increased their average equipment run life by over 60%. It enabled the customer to remotely operate around one-third of their ESP operations in the Permian Basin and decreased the number of technician visits made by 50 visits per month.

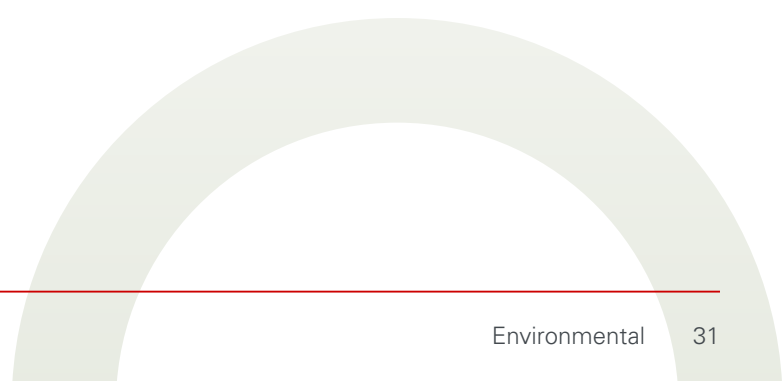


Combining design and monitoring expertise with data science to digitally transform ESP performance

2023 TECHNOLOGY SUSTAINABILITY MATRIX

Halliburton maps the lower environmental impact technologies we launch in our Technology Sustainability Matrix. This reference document identifies our environmental impact-reducing technology offerings according to every stage of the well lifecycle. The excerpt below highlights products and services we launched in 2023. More information can be found on the [Sustainability](#) page of the Halliburton website.

Products / Services	Operational Efficiency	Electrification	Customer Emissions Inventory Optimization	Water Optimization and Waste Reduction	Materials and Logistics	Carbon Capture, Utilization, and Storage	Geothermal
ARTIFICIAL LIFT							
Intelevate™ Platform	■		■		■		
BAROID							
BaraFLC® Nano nanoparticle wellbore sealant additive for water-based fluid systems			■		■		
COMPLETION TOOLS							
IsoRite® -FT Multilateral completion system	■		■		■		
PRODUCTION SOLUTIONS							
Hydra-Blast® Pro wellbore cleaning service							■
SPERRY DRILLING							
PulseStar™ intelligent high-speed telemetry service	■			■	■		
GuideStar™ continuous definitive survey measurements service	■				■	■	
iCruise® CX intelligent rotary steerable system	■		■				
EarthStar® X near-bit, shallow, and ultra-deep resistivity service				■		■	
TESTING & SUBSEA							
Remotely Operated Control System (ROCS)	■	■			■		
Subsea Controls and Intervention Light System (SCILS)	■		■		■		
WIRELINE & PERFORATING							
CoreHD® scientific imaging services						■	
PorosityHD™ imaging and digital routine core analysis						■	
FastSCAL™ digital special core analysis						■	



LOW CARBON SOLUTIONS

We saw significant growth in 2023 as the global project opportunities for CCUS and geothermal energy increased. Our Low Carbon Solutions offerings apply our experience and preexisting technologies to develop and execute our customers' projects. We include a few highlights below.

CCUS Highlights

Halliburton provides solutions that help our customers analyze risk in complex CCUS projects. We offer tools that help companies understand the geological characteristics of a potential storage site. Our cementing and completions product lines offer a range of corrosion-resistant solutions that customers can use to construct storage wells.

Halliburton's Neftex® FairwayFinder™ software uses an informed approach to identify and screen potential storage sites. Our wellbore evaluation technologies, such

as our IntelliSat™ pulsed neutron logging service, provide accurate assessments of carbon/oxygen saturation — a critical step before CO₂ injection. A range of formation pressures can be collected when these technologies are paired with our Reservoir Description Tool (RDT™) formation tester, which provides information related to storage and containment quantification.

Measurement, monitoring, and verification (MMV) is a required step in storing injected CO₂ underground. Halliburton's solutions include tools that facilitate accurate MMV of formation pressures and temperatures, remote data access, and storage and leak detection alerts. Our DataSphere® continuous monitoring suite delivers subsurface monitoring capabilities. The suite also collects live wellbore data that aids injection and reservoir model enhancement to fulfill CCUS MMV requirements.

SPIDR® Data Acquisition Unit

Halliburton's SPIDR® data acquisition unit is a well-surveillance solution. Both the SPIDR® data acquisition unit and SPIDRlive® streaming surface pressure data retrievers capture high-quality pressure data at the wellhead without wellbore intervention. SPIDRlive® streaming surface pressure data retrievers use the cloud to stream data and provide a wider remote visualization capability for CO₂ injection sites.



HyNet UK Carbon Storage Project

In 2023, Halliburton was awarded contracts for work on the HyNet North West CCUS project in the Liverpool Bay area, the first of its kind commissioned in the UK. This project will involve completions, liners, and monitoring products and services. Its goal is to reduce carbon dioxide emissions through use of depleted hydrocarbon reservoirs for geological storage and by providing the region access to low carbon energy.



Geothermal Energy Highlights

Global demand for sustainable heat and electricity has led to growth in conventional geothermal projects and advancements in geothermal systems. These advanced systems allow for geothermal energy production in areas without ideal geological conditions for conventional geothermal applications.

Halliburton's technology portfolio, combined with our experience in the geothermal space, positions us to meet the growing geothermal energy market's demands. Our integrated and comprehensive approach to the geothermal project lifecycle delivers a low-cost-per-megawatt solution for our customers. From subsurface software, well construction, and artificial lift to well interventions, Halliburton has a portfolio of products and services to support operators in the geothermal sector. We develop new technologies to drive performance and reliability in this high-temperature, high-pressure environment to make geothermal energy more accessible and affordable.



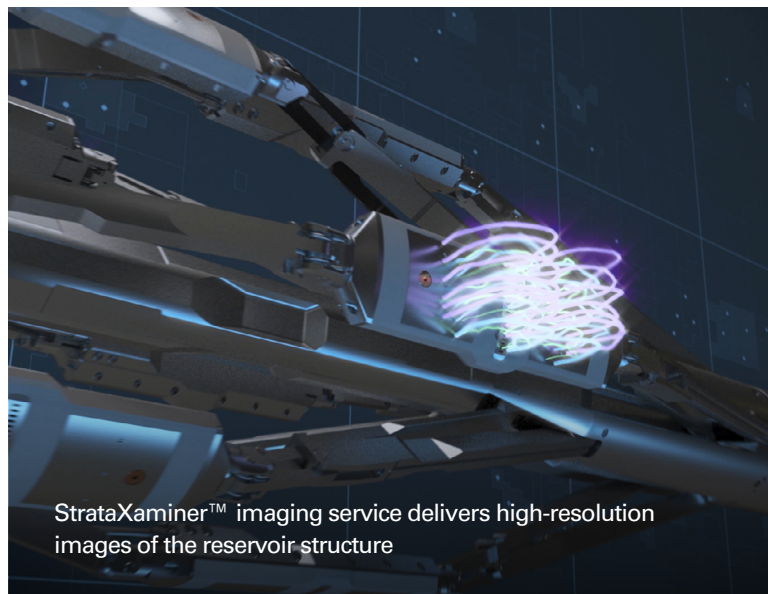
Xaminer® Sonic Imager™ Logging Service

Halliburton's wireline product line deployed Xaminer® Sonic Imager™ logging service pairs with our borehole imaging offerings, such as StrataXaminer™ high-resolution images in oil-based mud, to characterize fracture networks in geothermal projects. The Xaminer® Sonic Imager™ logging service delivers high-resolution characterization of seismic properties, geomechanics, and completion requirements in a wide range of reservoirs. Data acquired by these advanced services is vital for planning induced fractures in the target geothermal zone.



Cape Station: Horizontal Geothermal Well Project

We worked with Fervo Energy in Utah, a leading geothermal energy company, to deploy the Halliburton VersaFlex® XSL-ZE Liner Hanger system in the world's first commercial enhanced geothermal greenfield development project. Fervo leverages horizontal drilling, distributed fiber-optic sensing, and multi-zonal completion techniques to enhance permeability and water flow through the subsurface, removing the need for naturally occurring hydrothermal resources that are required in conventional geothermal wells. A cross-functional team installed and successfully cemented the technology in three different horizontal wells. Our collaboration helped the customer achieve higher efficiency in their geothermal well projects.



StrataXaminer™ imaging service delivers high-resolution images of the reservoir structure

HALLIBURTON LABS: THE FUTURE OF ENERGY. FASTER.™

Through Halliburton Labs, we provide a wide spectrum of energy system innovators and entrepreneurs with access to our capacity to scale and the vast resources in our global infrastructure and network. We come alongside these organizations to help them further their strategic goals. Participating startups include those engaged in industrial decarbonization; carbon capture and utilization; grid-scale and long-duration energy storage; energy generation and conversion; critical minerals recovery; hydrogen production and transportation; and circular economy. Halliburton Labs creates tangible value for early-stage companies in emergent energy sectors. We grant access to resources that support organizations' efforts to scale and expand their industry networks.

As we support these organizations, we develop new insights and discover opportunities for exploration, investment, and growth. Halliburton also gains institutional knowledge that will enable us to collaborate and engineer solutions to maximize asset value in the energy systems of the future. Participants enter a financial agreement that secures an equity stake for Halliburton Labs at their next round of institutional financing.

Halliburton Labs closed out 2023 with 32 participant and alumni organizations that represent all facets of energy production, storage, distribution, and efficiency, as well as the industrial decarbonization and waste-to-value sectors. We continue to see high levels of interest in Halliburton Labs from investors, startups, and academic institutions. Increasingly, our applicants are referred to us by companies and investors who have seen the value we create firsthand.

Halliburton Labs Gives Clean-tech Startups Visibility

We hosted two Finalists' Pitch Day events in 2023. At these events, we showcased 10 early-stage hard-tech companies that innovate solutions in many different sectors of the energy landscape. This was the first year we took our Pitch Day on the road. We collaborated with key energy organizations to deliver a Future of Energy Day at Denver Startup Week, which further expanded Halliburton Labs' and our Finalists' reach, visibility, and networks.

Halliburton Labs also hosted its first Company Showcase event in May 2023 for nine of our participant startups. An audience of over 55 clean-tech venture investors attended. At this event, we facilitated live pitches for nine of our participants and more than 174 curated meetings between startups and relevant investors.



32 Halliburton Labs Participant and Alumni Organizations



Clean tech startups pitch at the Halliburton Labs Finalist Pitch Day for an opportunity to join their accelerator program



Halliburton Labs hosts panel discussions for its Innovation Series

Participant Achievements

In 2023, many Halliburton Labs participants achieved important milestones in their work to scale their operations.

- LiNa Energy reduced its funding needs by 30% in consultation with Halliburton
- Renew Power Systems, Inc. produced its first commercial inverter units
- SunGreenH2 was a 2023 winner of the BloombergNEF Pioneers Award
- Disa Technologies, Inc. closed a \$15 million fundraising round

These examples demonstrate how Halliburton Labs creates tangible value for early-stage companies in emergent energy sectors.

Halliburton Labs Innovation Series

Halliburton held three Innovation Series events in 2023 that were open to all Halliburton employees. We invited panels of distinguished industry, academia, and startup speakers to have insightful, stimulating discussions at our Houston, TX, campus. Topics discussed included Nuclear Energy; Carbon Capture at Gigaton Scale; and Carbon Utilization. Employees gained an opportunity to hear new and diverse views about innovation, market drivers, and potential gaps in emergent value chains.

Venture Development

Halliburton began to incubate NaviScale in 2023. NaviScale is a Halliburton commercial venture that makes use of Halliburton's experience and expertise to help clean-energy and climate-tech ventures navigate their scale-up journeys. It assists them as they identify unseen risks in equipment design; optimize their designs for manufacturing; verify their readiness to scale, and secure suitable and reliable supplier relationships. With NaviScale, Halliburton will be able to extend the impact of Halliburton Labs beyond participants and alumni. NaviScale will deliver a commercial solution powered by Halliburton to the broader climate tech market.

As Halliburton works alongside a broader range of innovative companies, we expand our access to and insight into promising value chains even further and spark additional opportunities to collaborate and engineer solutions for the energy systems of the future.