



ENVIRONMENTAL

Providing customers with safe, reliable, and efficient products and services is the core of Halliburton's business. Oil and gas remain an essential source of energy worldwide, and hold a critical place in the world's collective efforts to secure a lower-carbon future. At Halliburton, we are actively engaged in developing new technologies that mitigate the environmental impact of our own and our customers' operations. We proactively manage environmental risks and we take measures to reduce energy use, water use, and waste generation. In addition, the Company helps advance decarbonization by putting our expertise to work in growing spaces, such as geothermal and CCS, and through Halliburton Labs, where we collaborate with early-stage companies that seek to bring cleaner, affordable energy technologies to the marketplace.



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E1

Climate Change and Low-Impact Solutions

At Halliburton, we work to reduce emissions, improve efficiency, and advance clean energy development. We recognize that affordable, secure energy is key to global economic development, and that our industry has an important role to play in lowering emissions. For more information, please refer to our [Climate Change Statement](#) on the Halliburton website.

Emissions Reduction Target

Halliburton has committed to reduce Scope 1 and 2 emissions by 40% by 2035 from our 2018 baseline. In 2022, we executed on priorities set to help the Company progress toward our 2035 emissions reduction target.

Our absolute Scope 1 and 2 emissions trended upward from 2020 to 2021, driven by the post-pandemic global activity recovery of our business. In 2022, we saw the benefits of our emissions-reduction strategy start to play out as our total emissions decreased slightly despite an 16% increase in wellsite operating hours across our operations and increased job intensity in our North America frac business. Overall, we have reduced absolute Scope 1 and 2 emissions by 12% compared to our 2018 baseline of 4.2 million MTCO₂e. We continued to invest in electric frac units that have the ability to reduce the overall emissions intensity of our fleet year on year.



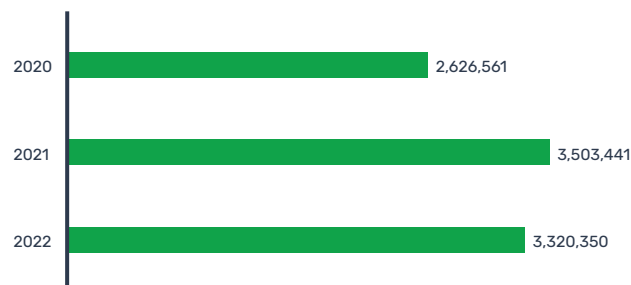
Our Climate Change Sustainability Commitments



- Achieve a 40% reduction of Scope 1 and 2 emissions by 2035 from 2018 baseline.
- Partner with Tier 1 suppliers to track and reduce Scope 3 GHG emissions.

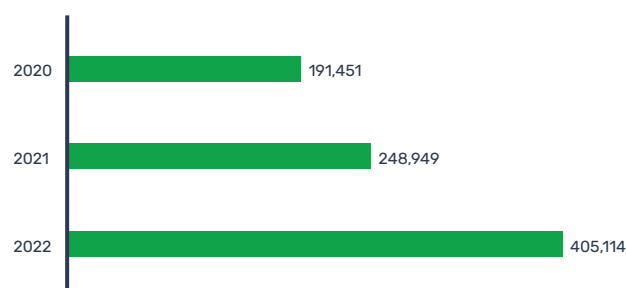
Scope 1 GHG Emissions

Metric tons CO₂e



Scope 2 GHG Emissions

Metric tons CO₂e



Since the rollout of new electric frac fleets occurs gradually over the course of the year, we expect to see the full benefit of each unit deployed after 12 months of operations as opposed to the calendar year when the fleets come into service.

To help meet our goals, we prioritize actions that reduce emissions from our largest emitting activities: hydraulic fracturing and real estate facilities.



Hydraulic Fracturing

We direct a portion of our capital expenditures to purchase electric fracturing equipment to meet customer demand, lower their operating costs, and improve efficiency, which also supports our emissions commitments. Electric units (e-frac) can be powered with electricity generated from a variety of sources, including reciprocating engines and grid power, which increases our opportunities to reduce emissions.

Real Estate Facilities

We engage in ongoing efforts to manage our real estate emissions footprint wherever possible. We also purchased renewable energy, installed energy-efficient building technologies, such as LED lighting, and installed solar panels in accordance with power-purchasing agreements.

Facility Improvements to Reduce Energy Use

As part of our commitment to reduce carbon emissions, we continue to integrate sustainability in our real estate work and decision-making processes. The Company assesses new real estate technologies and updates facilities to ensure we meet sustainability targets and comply with regulations. When we conduct building maintenance, we evaluate the technologies for major structural elements like heating, air conditioning, and ventilation; insulation; and windows to identify areas where technology updates might improve energy efficiency.

Solar Power

In 2022, Halliburton initiated new solar power projects, one in Singapore and one in Neiva, Colombia, that collectively added 1,025 kilowatt peak (kWp) of total solar power. These projects are part of our ongoing rooftop solar initiative, which now includes six major projects in Singapore, Malaysia, India, California, and Colombia. The Company is also evaluating the possibility of implementing similar solar initiatives in Mexico, Ecuador, and Brazil.



Energy-Efficient Lighting

In 2022, North America saw the completion of LED lighting installations at 13 large Halliburton facilities. This reduces lighting-related carbon emissions in those facilities by 63% per year. In addition, we announced a plan to pursue 24 energy-efficient lighting projects in North America and one in Norway that are expected to have similar results. We also completed lighting evaluations at 18 additional Halliburton sites in North America for future projects.



Singapore

Following the success of our Singapore solar project, Halliburton's Singapore manufacturing facility explored an opportunity to expand the solar farm to a newly constructed technology facility and other existing buildings on campus. With this new solar extension, which was accomplished in the fourth quarter of 2022, Halliburton Singapore established a 22-year supplementary solar power purchase agreement. The Company will install and maintain 1,466 fixed-tilt, roof-mounted solar panels totaling 879 kWp. The solar array will produce an average annual 964 megawatt hours (MWh) of electricity.



Colombia

The second photovoltaic solar plant in Latin America was installed successfully in Neiva, Colombia. We installed 270 panels with 146 kWp of total solar power. The solar array will produce around 213,000 kWh of electricity annually, offsetting approximately 60% of the facility's current usage. We are currently completing the final installation to connect it to the grid.

Climate-Risk Scenario Analysis

Halliburton follows the guidance from the Task Force on Climate-Related Financial Disclosures (TCFD) to perform qualitative climate-scenario analysis. As such, the impacts are categorized as Transition Risks (Policy, Reputation, Market, and Technology) and Physical Risks (Acute and Chronic).

Priority risks assessed include the following:

Transition Risks Basis: International Energy Agency (IEA) Stated Policies Scenario (STEPS) and Sustainable Development Scenario (SDS)	Physical Risks Basis: Intergovernmental Panel on Climate Change (IPCC) Climate Scenario SSP3-RCP7
Policy and Regulatory <ul style="list-style-type: none"> Fossil Fuel End Use Regulation Fossil Fuel Production Regulation 	Acute <ul style="list-style-type: none"> Hurricanes Flooding
Reputation <ul style="list-style-type: none"> Employee Attraction and Retention Increased Stakeholder Concern 	Chronic <ul style="list-style-type: none"> Extreme Heat Water Stress and Drought
Market <ul style="list-style-type: none"> Oil Demand Natural Gas Demand 	
Technology <ul style="list-style-type: none"> Cost to Transition to Lower Emissions Technology 	

Across Transition Risks, we look at the short-term (0-2 years) and medium-term (2-10 years) to determine potential financial impact to our business and prioritize strategy and capital decisions accordingly. This has reinforced our goals of collaborating with customers to help them achieve their decarbonization targets, continued investment in electric fracturing to reduce emissions in our core business, and continued work with start-ups through Halliburton Labs to uncover gaps in the broader energy value chains.

We consider Physical Risks in the short-term (baseline), medium-term (2040) and long-term (2050) to identify which of our facilities and operations may be exposed, if any, and determine concrete mitigation plans. Out of all the sites analyzed, weather-related potential risk areas include Texas and Louisiana sites at risk of events, such as hurricanes and flooding. Water stress and drought-related potential risk areas include multiple desert sites in the United States and Middle East, and possible extreme heat and rainfall projection risks at our Singapore manufacturing sites.

Over the years our locations have experienced weather events such as hurricanes, tornadoes, hailstorms, flooding, and winter snow/ice storms. Weather impacts typically

result in temporary delays with no long-term sustained impact. We closely monitor each acute weather event and weather trends to assess our response plans and reduce the possible business impact of these physical risks. Our diverse manufacturing base and supply chain also minimize the risk of local impacts.

In addition to local emergency response planning, we provide training and equipment to our workers in locations with possible extreme heat or cold exposure. In 2021 we used the Aqueduct Water Risk Atlas, published by the World Resources Institute, to assess our locations in water-stressed geographic areas. Working with our top potentially water-stressed sites in 2022, we established a toolkit to allow each facility to identify and implement location-appropriate water preservation actions.

In addition to outlining risks, our scenario analysis uncovered potential business opportunities in spaces such as carbon capture and storage, geothermal, and methane emissions management. Our approach to these different opportunities is outlined in [Chapter E2 Sustainable and Secure Energy Future](#) of this document.

We will continue to annually monitor IEA and IPCC scenario analyses and will adjust our risk-mitigation plans according to material changes.

E2

Sustainable and Secure Energy Future

Halliburton seeks to provide affordable, reliable, and sustainable products and services to our customers.

Decarbonizing Our Customers' Core Oil and Gas Operations

Worldwide oil and gas remains an essential source of reliable and affordable energy and lower-carbon intensity oil and gas production is a critical part of facilitating a low-carbon future. At Halliburton, we are innovating and deploying solutions designed to help our customers lower the carbon intensity of their operations.

Exploration

A range of Halliburton solutions help customers reduce the carbon intensity of their operations. Halliburton Landmark provides digital solutions to develop end-to-end subsurface, drilling characterization, and production, which leads to a better understanding of what drives upstream emissions. Operational tools from a range of Halliburton product lines, such as Cerebro® in-bit sensor package and iCruise® intelligent rotary steerable system, can improve the efficiency of hydrocarbon extraction for our customers. Cerebro® improves rock cutting and removal efficiency, while iCruise® helps our customers steer and place wells more precisely.



Our Innovation Sustainability Commitments



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

Well Construction

Cementing: EnviraCem™ and NeoCem™ E+ Reduced Portland, High-Performance Cement Systems

Halliburton has developed and commercialized the EnviraCem™ and NeoCem™ E+ cement systems to provide barriers with reduced Portland cement content to our customers. With EnviraCem™ providing greater than a 70% reduction in mass Portland cement by volume of the blend, and NeoCem™ E+ providing a 50% – 70% reduction in mass Portland cement by volume of the blend, Halliburton helps our customers lower their carbon emissions while providing thoughtfully engineered systems with enhanced sheath performance. The innovative designs of EnviraCem™ and NeoCem™ E+ incorporate more locally sourced, natural, and recycled materials. The reduced dependence on Portland cement to provide a dependable barrier enables flexibility with industry supply chain challenges and delivers a more sustainable barrier solution.

Baroid: BaraShale®

BaraShale® Max water-based fluid (WBF) has the potential to replace invert emulsion fluids (IEF). This engineered WBF can be formulated using brines produced at the well instead of fresh water, which allows for a versatile IEF replacement. BaraShale® Max WBF reduces the need for containment, transport, and disposal of IEF and its associated drilling waste. The flexibility of using water as the base fluid and replacing IEF provides operators potential avenues to reduce their field emissions and related environmental impact.

Cementing: Barrier Integrity / Obex™ Well Barriers

Cementing has focused on barrier integrity and emissions reduction related to cement systems. One example is the Obex™ casing annulus packers family. The Obex™ IsoLock™ packer collar is a new compression-set packer that prevents sustained casing pressure that could potentially lead to fugitive emissions.

Completion

Halliburton is transforming our use of digital and electrification capabilities to drive actionable insights for reservoir and emissions management.

Completion Tools: Clariti® Digital Reservoir Management

Clariti® digital reservoir management makes it possible to share data seamlessly and deliver real-time solutions from ideation to reservoir management. The customer-facing platform consists of five applications: Clariti® View, which provides remote well-data visualization with alarming; Clariti® Flow, which delivers zonal flow allocation with fluid refractions; and Clariti® React, Clariti® Manage, and Clariti® Predict, which provide full asset and production optimization by leveraging Halliburton's petro-technical capabilities with the functionality provided by SmartWell® completion systems.

Production Enhancement: Zeus™ Electric Pumping Unit and Tier 4 Dual-Fuel

Halliburton has invested in electric fracturing and Tier 4 dual-fuel engines to improve our carbon footprint and help to reduce customer emissions. Because of these investments, our equipment demographics have changed, which has lowered our overall carbon intensity per horsepower hour of operation. These investments allow Halliburton and our customers to use available fuels, including wellhead gas and power equipment, as well as give the option to connect to the electric grid. These operational model changes have had many positive impacts, including reducing CO₂ per BOE produced.

Production

Artificial Lift: Hydro-Helical® Gas Separator

Artificial Lift's Liberator, a Hydro-Helical® gas separator, sets a new industry standard for flow rate, performance, and reliability. As the first new downhole dynamic gas separator design in decades, the Hydro-Helical® gas separator achieves extreme separation efficiency at high-flow rates — up to 40% greater than conventional separators. This translates into more oil production in higher gas applications. The improved efficiency and performance of Hydro-Helical® reduces energy consumption and delivers solutions to help advance our customers' decarbonization goals.

Testing and Subsea: FloConnect® Surface Automation Platform

The FloConnect® surface automation platform is the industry's first fully automated and scalable solution for surface well testing operations. This innovative technology includes solutions for the continuous acquisition, storage, evaluation, monitoring, control, and reporting of emissions data. By supporting both environmentally conscious and real-time operational decision-making, FloConnect® reduces operational variabilities and optimizes workforce deployment by lowering exposure to hazardous and complex operations by taking personnel out of the red zone.

Midstream/Downstream

Pipeline and Process Services: SureDcon™

SureDcon™ chemistry provides decontamination cleaning using the vapor phase method, recirculation, sparging, or spraying. The efficiency of these chemicals significantly reduces system shutdown time and the resources required for decontamination. The small equipment footprint, low-water utilization, and significantly lower waste generated by SureDcon™ make it the ideal decontamination solution to help our customers decarbonize their operations.

Production Solutions: InnerVue™

InnerVue™ is a non-intrusive diagnostic tool that can be used to identify blockages, profile deposits, and leaks in pipelines. It gives operators the ability to address production difficulties and maximize flow performance without mobilizing heavy resources. It also allows for a rapid fugitive emissions response in case of leaks.



Advancing New Energy Frontiers

Sustainable energy will ultimately be an "all-of-the-above" proposition that includes oil, gas, renewable sources, and more. The most immediate opportunities to advance new energy frontiers exist in our fairway. We deploy our technologies in some of the fastest-growing new energy segments, such as carbon capture and storage, geothermal, and emissions management. The Company delivers relevant packaged solutions and technologies to advance these new energy frontiers, both individually (through our product lines) and in integrated solutions (via Halliburton Landmark, Consulting, and Project Management offerings).



CCS Study Opportunity in Greece for Energean

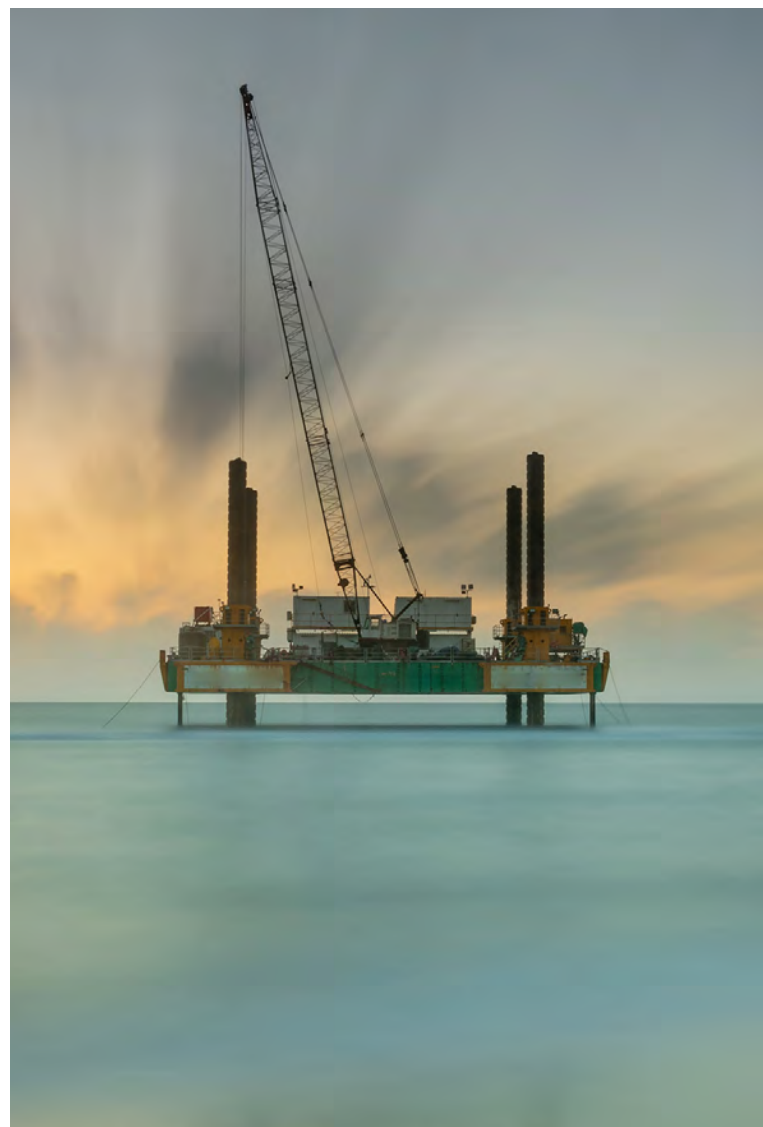
In 2022, Energean, an independent company focused on energy resource development in the North Sea and Mediterranean, awarded Halliburton a contract to conduct a comprehensive subsurface review of the Prinos Basin in Greece. For this study, Halliburton CCS experts are collaborating with Energean to assess the carbon storage potential of the Prinos Basin.

The study began in March 2022 and includes long-term plume modeling, storage complex characterization, and creation of a conceptual development plan with performance modeling. To deploy a fully integrated CO₂ storage workflow, Halliburton is leveraging DecisionSpace 365® cloud applications, including Permedia® CO₂ software, which is a 2021 World Petroleum Congress excellence award winner.

Carbon Capture and Storage

Carbon capture and storage is a critical technology to reduce carbon emissions in many industries. Thirty CCS facilities globally currently store more than 42 million metric tons of CO₂ every year. In 2022, many governments strengthened policies and provided incentives that improved CCS business cases, resulting in a growing pipeline of new projects. Halliburton provides reservoir characterization to develop underground CO₂ storage, monitoring technology to assure storage integrity, and advanced well construction for injection wells.

Halliburton's product lines are answering the needs posed by CCS initiatives with innovative technologies and solutions. Our Wireline and Perforating product line addresses various challenges related to CO₂ injection with technology and workflows designed to monitor the migration of the CO₂ plume over time and to de-risk reservoir properties, ensuring CO₂ is effectively contained in storage sites.



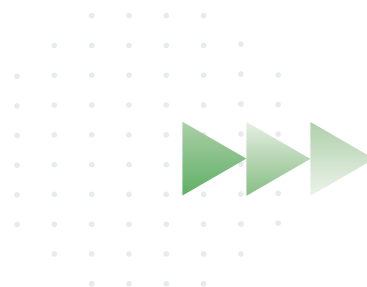
These technologies include the StrataXaminer™ borehole imaging service, which visualizes the geologic environment and pinpoints weaknesses in the rock that could lead to CO₂ leaks; the Reservoir Sampling and Description RDT™ tool, which evaluates cap rock opening and closure pressure to guide and limit CO₂ injection rates; Ingrain's PoreHD® and FastSCAL® Services, which quantifies rock properties of CO₂ reservoirs and the seal and trapping mechanisms that characterize each storage site under question; and the Xaminer® Magnetic Resonance (XMR™) service, which is calibrated by PoreHD® and improves the economics of operators' field scale monitoring. Our Cementing product line provides bore hole barriers that are inert in the presence of CO₂ and ensure it can be safely sequestered.

In 2022, Halliburton Landmark launched a single unified cloud solution for CO₂ storage modeling that provides an evergreen view of the carbon storage lifecycle to support a multi-year journey to a lower-carbon future. The solution uses a suite of industry-validated tools and workflows customized for effective CO₂ modeling to provide more insight and less uncertainty. This enables our customers to evaluate site suitability for CO₂ storage.



eCompletions™ Clariti® View

eCompletions™ Clariti® View is a service that simplifies customer access to downhole pressure and temperature data from Halliburton gauges. The service provides automatic downhole gauge data collection as well as storage and access to an easy-to-use website where customers can see and download their data. The service is for carbon-capture well operators who are interested in monitoring their injection wells and for whom real-time data is important for regulatory reporting for their injection and monitoring wells. eCompletions™ Clariti® notifies users when observed pressures or temperatures exceed user-defined limits.



Norway CCS Project

Halliburton delivered integrated drilling and well services on two CCS storage wells that are part of the first phase of a project in Norway. This project phase concerns the storage part of the Longship CCS project, which includes carbon capture facilities, transportation, and storage (full value chain) initiated by the Norwegian government.



Supporting National CCS Planning in One of Africa's Largest Economies

Our expertise is contributing to the development of national capacity for CCS within one of Africa's largest economies. Funded by an International Development Bank, we are contributing to national technical resources and capacity building to advance the burgeoning CCS market in the country through national emissions mapping, geological screening, and pilot-site assessment.

Geothermal

Conventional and unconventional geothermal exploration is increasing in the U.S., and Halliburton supports these explorations with our Pinnacle distributed temperature survey (DTS), DataSphere® ERD™ gauges, and CAST-I™ products. In addition, geothermal energy has played a role in Halliburton's California and other southwestern U.S. business for decades. This is particularly true of our work in The Geysers in Northern California (the country's largest geothermal field), the lithium-rich Imperial Valley on the border of California and Mexico, and the unconventional geothermal exploration occurring in Central Nevada.

Maintaining effective zonal isolation in the Imperial Valley has often been difficult, with bottom-hole temperatures in excess of 600 degrees Fahrenheit and the presence of highly corrosive CO₂. However, Halliburton successfully overcame this challenge more than 20 years ago in collaboration with our customers by creating ThermoLock™ cement systems. The slurries, which we optimize with new technology whenever possible, remain in demand among customers who are expanding the power output of the Imperial Valley.

Hydra-Jet™ TS Tools

Hydra-Jet™ TS tools provide an option to abrasively perforate multiple stages in a well on a single run without necessitating explosives. They also enable additional services to be added to the intervention, such as pre- and post-well cleanouts, or acidizing, without additional runs. Consolidating runs and improving efficiency correlates to a reduction in fuel consumption, helping our customers meet their GHG emissions reduction goals.

In 2022, Halliburton was awarded work that includes 26 Hydra-Jet™ jobs on the Kvitebjørn geothermal storage project in Tromsø. With the Kvitebjørn heat-storage project, excess heat from a waste incineration plant will be stored underground in the summer and extracted in the winter. It will begin in March 2023. Hydra-Jet™ will be used to increase heat exchange capacity in geothermal wells by creating fractures in the base rock between a set of geothermal wells drilled in a pattern.

CeraPhi Energy Enters an Exclusive Drilling and Intervention Services Agreement with Halliburton

As we provide drilling and intervention services to CeraPhi Energy, we will harness our global well engineering expertise and seven decades of geothermal experience in support of CeraPhi's plan to develop a global geothermal energy development company. The first project in this engagement commenced in the UK in 2022. We are helping CeraPhi repurpose end-of-life oil and gas wells in the UK and are supporting the well engineering and development potential of their patented CeraPhiWell™ technology.

CeraPhiWell™ is a closed loop downhole heat exchanger. It draws up subsurface heat, which can then be applied for scalable baseload energy in multiple ways. This technology is at the center of CeraPhi's strategy to contribute to carbon reduction in line with the Paris 2050 Climate Accord. By using end-of-life and non-producing oil and gas wells, CeraPhi seeks to de-risk and prove the commercial potential of geothermal energy production.

In Nevada, increased demand for renewable energy has sparked a resurgence in legacy geothermal field expansion. Historically, Halliburton has provided completion tools, logging, horizontal pumping systems, and cementing, and continues to do so today.



Geothermal Site

Neftex® Prospect

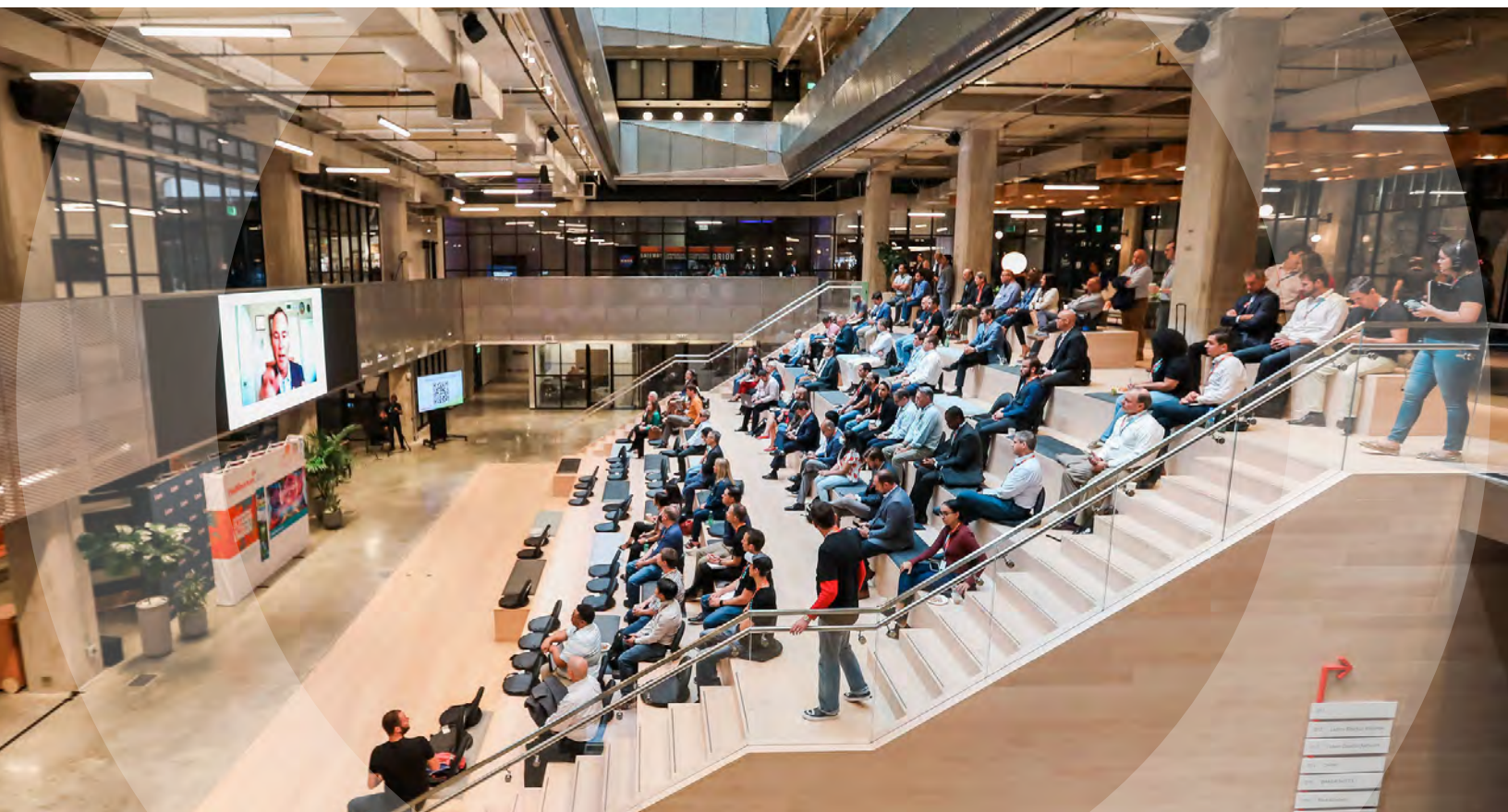
Electrification plays a key role in the energy transition. Global demand exists to modernize electricity grids and provide battery storage and charging capabilities, which requires the discovery and extraction of significant quantities of critical minerals, such as lithium, copper, and nickel. In 2022, the Neftex® portfolio expanded to include an offering that serves E&P operators and mineral and mining companies as they probe deeper into the subsurface or explore new geographies in search of mineral deposits. The subsurface framework that underpins the Neftex® portfolio workflows and knowledge bases can be utilized to provide our customers with geological context to help inform their investment decisions as they seek to electrify.

Halliburton Labs: Advancing Cleaner, Affordable Energy

Through Halliburton Labs, we come alongside organizations in a range of energy sectors — including industrial decarbonization, utilization / efficiency, distribution, storage, generation, and circular economy — to provide support by delivering the expertise and infrastructure for their strategic goals. Participating start-ups gain access to Halliburton's powerful resources, including our global network, capacity to scale, and world-class technical expertise. We learn more about emerging energy markets, and discover new opportunities for exploration, investment, and growth.

In Halliburton Labs, we invest our expertise, resources, and team, but not significant capital, in pioneering, and expect to uncover gaps in the energy value chain and unlock opportunities for our own business.

The Halliburton Labs accelerator program opens the door for participant companies to engage directly with Halliburton. In exchange, we acquire insights and develop institutional learning about emerging technologies and nascent value chains, synthesizing our own perspective on a host of new industries, companies, and technologies.



Halliburton Labs participants enter into a financial agreement that secures an equity stake for Halliburton at their next round of institutional financing. The key value we provide is access to scaling resources, including practitioner expertise, industrial and lab facilities, and industry connections that do not require incremental cash outlay from Halliburton. Compared to many other accelerators, Halliburton Labs is a leader in the amount of industrial capability and connections we can make available for companies.

In 2022 we executed three Finalists' Pitch Day events in which we showcased almost 30 early-stage hard-tech companies that are innovating across the energy landscape. We closed out the year with 21 participants and alumni that represent all facets of energy production, storage, distribution, and efficiency as well as the critical industrial decarbonization sector and waste-to-value. We continue to see tremendous interest in Halliburton Labs from investors, start-ups, and academic institutions.

One of our 2022 Halliburton Labs participants is Novamera, a company enabling the efficient and sustainable mining of previously uneconomic or marginal narrow vein mineral deposits. The company's core technology is a downhole sensor that acts as a guidance system and enables conventional, commercially available drilling equipment to precisely extract ore and leave waste in the ground.

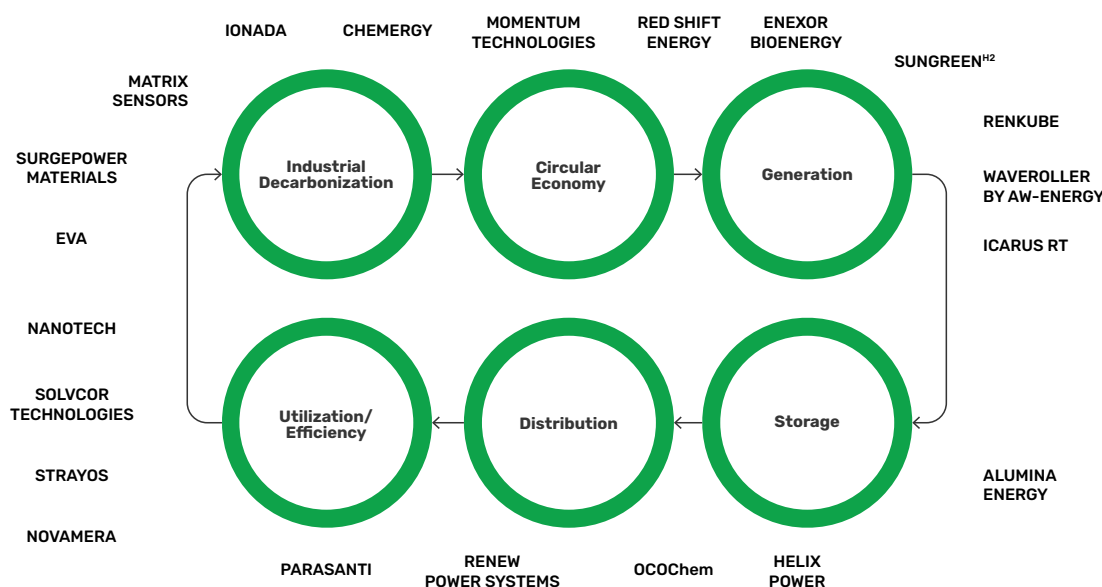
Novamera's engagement with Halliburton Labs has led to pilot testing plans with one of the world's top mining companies.

Ionada, a Halliburton Labs alumni, is a cleantech company that develops, manufactures, and markets carbon capture systems to reduce greenhouse gas emissions. In 2022, Ionada commissioned its first carbon-capture system at Halliburton's headquarters in Houston, TX with the support of Halliburton Labs. The pilot demonstrates Ionada's revolutionary membrane carbon-capture technology over competitive solutions.

Momentum, one of the first Halliburton Labs participants, has a modular Li-ion battery recycling solution that expects to transform end-of-life devices and battery waste into the high-quality critical materials needed for new battery production. Momentum has worked with Halliburton manufacturing for the design and construction of their modular units.

These examples demonstrate how Halliburton Labs creates value for early-stage companies in emerging energy sectors. Halliburton Labs also helps us think broadly and then dig deeply into emerging markets. We develop insights and institutional learning that will enable us to collaborate and engineer solutions to maximize value throughout the energy systems of the future.

Halliburton Labs participants cover a broad spectrum of emerging energy market segments.



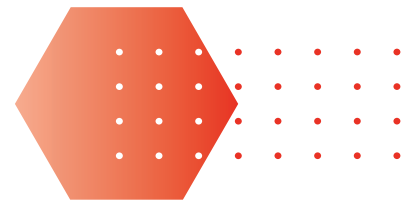
Sustainability in the Research and Development Process

The Halliburton LIFECYCLE process governs all new product-related research and development at the Company. It incorporates technology, manufacturing, product management, operations, and marketing functions. Halliburton uses LIFECYCLE to review project progress at stage gates, mitigate risks, and improve product and service solutions.

Sustainability is embedded in LIFECYCLE. We take the following into consideration at product inception, detailed design, and commercialization stage gates:

1. People and environmental safety
2. Human capital requirements
3. Manufacturing, storage, and transportation costs
4. Emissions during manufacturing and use
5. Operational footprint
6. Overall product lifecycle
7. Cybersecurity

Halliburton's LIFECYCLE governance board also provides a thorough review of environmental impacts, business case, risks, time to market, and product development costs. These reviews coincide with sustainability reviews at project kickoff, detailed design, and commercialization. Inserting reviews into the product R&D process maximizes the influence of sustainability considerations on product development.



2022 Technology Sustainability Matrix

Halliburton creates new and continuously improves existing technologies to help our customers decrease their environmental footprint or address new challenges. The Technology Sustainability Matrix is a living document that allows us to capture the benefits of both new technologies and new use cases of existing technologies. Halliburton continues to update existing technologies to be cleaner or offer other benefits / applications. Select recent additions to the Matrix can be seen here. More information can be found at www.halliburton.com.

Products / Services	Operational Efficiency	Electrification	Fugitive Emissions	Customer Emissions Inventory Optimization	Water Optimization and Waste Reduction	Materials and Logistics	Carbon Capture and Storage	Geothermal
ARTIFICIAL LIFT								
Hydro-Helical® (H2X) Gas Separator	●							
BARIOD								
BaraShale® Max	●			●	●	●	●	
CEMENTING								
Cognitus™	●					●		
EnviraCem™				●				
NeoCem™ E+				●				
COMPLETION TOOLS								
eCompletions™ Clariti® Flow & Manage	●				●		●	
Fuzion®-EH	●				●		●	
DRILL BITS & SERVICES								
Hedron™ Fixed Cutter PDC Bits	●							
LANDMARK								
Neftex® Predictions	●	●					●	●
CO ₂ Storage							●	
MULTI-CHEM								
FightR®	●				●			
PIPELINE & PROCESS SERVICES								
InnerVue™	●		●				●	
SureDcon™					●			
PRODUCTION ENHANCEMENT								
Octiv™	●			●				
PRODUCTION SOLUTIONS								
Hydra-Jet™ TS™								●
SPERRY DRILLING								
iCruise X™ Intelligent Rotary Steerable System	●			●				
iStar™	●					●		
TESTING & SUBSEA								
FloConnect® Surface Automation Platform	●	●	●	●		●		
WIRELINE & PERFORATING								
RDT™ Caprock Integrity Testing							●	

E3

Environmental Management

Halliburton's environmental management efforts are facilitated by the Halliburton Management System (HMS), which helps the Company manage environmental risks and identify areas where we can reduce or mitigate our environmental impact. HMS comprehensively details policies, business practices, and procedures that guide work at the Company. You can read more about HMS on the Halliburton [website](#).

Using Existing Technology to Reduce Costs and Emissions

Our Colombia team, a 2022 Sustainability Recognition Program award winner, helped a customer address a challenge in their deep-well drilling environment by installing and utilizing our existing BaraG-Force™ vertical cuttings dryer system. BaraG-Force™ enabled the customer to efficiently clean oil-based mud (OBM) from their cuttings and maximize fluid recovery. This helped the customer reduce oil retention in their cuttings, which in turn reduced the cost of cutting transportation and CO₂ emissions generated during final disposal. It also helped the customer recover OBM to reuse in their well and other operations. This was the first time the customer utilized this technology, and all of the above was accomplished with zero safety incidents and zero non-productive time (NPT).

Our Halliburton Completions technologies help a number of customers effect significant reductions in emissions by giving them access to technologies specifically designed to reduce rig time without sacrificing safety or quality. These technologies, such as ESTMZ™, Endurance Hydraulic Screen®, and Multilateral completions, reduce the rig time, equipment mobilization needs, and man hours per completion required for well construction and completions operations.



Our Environmental Management Sustainability Commitments



- Establish and achieve activity-based waste-reduction targets in our major facilities.
- Create water-use improvement plans in our major facilities located in water-stressed areas.

As Halliburton seeks to be a responsible steward of the environment, we are engaged in concerted efforts to reduce energy use and GHG emissions, conserve water and optimize usage, use chemicals in environmentally safe ways, decrease waste, protect the health and well-being of employees, manage the impact of our operations on biodiversity, and manage environmental practices in our supply chain.

Facility Certifications

The HMS, and all processes and procedures encompassed within it, comply with industry-standard certification programs, including ISO 14001 and API RP 75. Based on business requirements, many Halliburton product lines and facilities are externally certified according to ISO 14001. In 2022, 69 Halliburton facilities held ISO 14001 certifications.

69

Halliburton facilities held ISO 14001 certifications.

Sustainability Project Ideas and Recognition

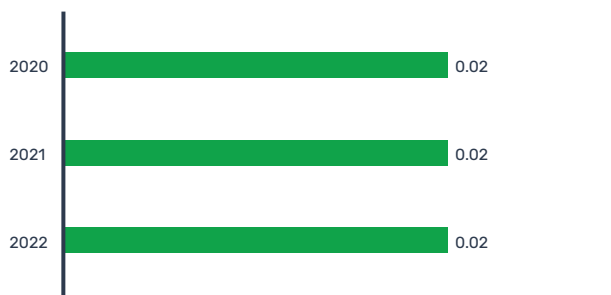
In 2022, Halliburton developed and launched Sustainability Project Ideas, a platform our workforce can use to submit new sustainability ideas. We also recognized exceptional employee accomplishments and highlighted impactful projects via our other recognition awards programs, including the Sustainability Recognition Program and the HSE, Service Quality, and Continuous Improvement Award Recognition Program.

Environmental Incidents

In 2022, we had no significant environmental noncompliance spill incidents and no significant environmental fines.

Recordable Environmental Incident Rate

Incidents per 200,000 hours worked



Chemical Stewardship

Chemical stewardship is a critical part of Halliburton's responsible environmental impact management. We utilize automated regulatory tracking alerts that are integrated into chemical import and export transactions globally, and our proactive risk-impact analysis supports sustainable market development.

We also utilize our Chemistry Scoring Index (CSI) to assess and compare the risks associated with using Halliburton's chemical products in oil and gas operations. All of our chemical products are backed by a Safety Data Sheet that complies with the latest regulatory requirements. The chemical constituents of our hydraulic fracturing fluids comply with state laws and voluntary standards.

In 2022, Halliburton adopted a new regulatory compliance program that facilitates more effective communication with our suppliers. We collect information about the chemical products we purchase to fulfill global chemical compliance requirements and sustainability goals. We do this by distributing chemical questionnaires to vendors, and store this data in a consistent, data-safe format while safeguarding the confidential information received from suppliers.

Halliburton Wins the World Oil Awards 2022 Best Oilfield Fluids and Chemicals Award for BaraHib™ Gold Trackable Inhibitive System

Halliburton developed and customized the BaraHib™ Gold Trackable Inhibitive System to enable well operators to maintain wellbore stability while drilling in reactive clays. Applying this system, we successfully drilled with water-based fluid, replacing traditional invert emulsion fluids in a mature Norwegian oil field for the first time in over two decades. Use of this BaraHib™ system has the benefits of lower well costs, maximized drilling efficiency, and a customizable fluid system.

In 2022, Halliburton won the Best Oilfield Fluids and Chemicals Award from the World Oil Awards for the BaraHib™ Gold Trackable Inhibitive System.

Water and Effluents

Halliburton's product lines are constantly on the lookout for ways they can reduce liquid waste, improve water quality, conserve water, and advance sustainable, cost-effective waste management processes for our customers as well as our operations. Although customers purchase and control the water they use at hydraulic fracturing sites and at wellsites, we offer solutions designed to help improve their water use practices.

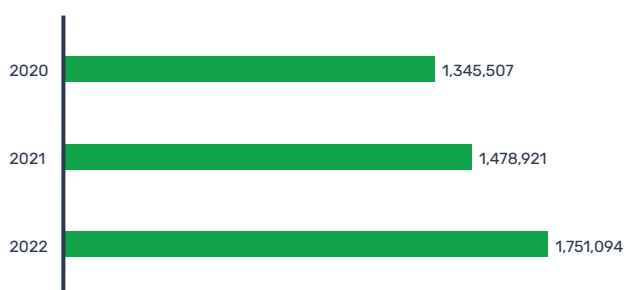
The Company pursues these goals on a global scale by working with customers to reduce, reuse, and repurpose — or "3R" — all fluids to the fullest extent possible. We proactively clean, blend, and reuse most feedstock as a habitual environmental conservation practice that saves water and helps prevent emissions associated with the manufacture, transfer, and mixing of new fluids.

Halliburton's reported water-usage data accounts for the water used at Company-owned and Company-leased locations (with the exception of locations that include water usage in their leases) in the U.S., Canada, and most of the Company's global facilities.

Using our climate-risk scenario analysis and the Aqueduct Water Risk Atlas published by the World Resources Institute, we identify facilities where it is best to prioritize water use improvements. Many Halliburton locations — particularly those in water-stressed areas, including two facilities in Latin America — have also implemented water-reduction and water-recycling projects.

Water Withdrawal

Cubic meters



Latin America

In 2022, Halliburton pursued multiple water and effluents-related conservation initiatives in Latin America.

In Suriname, the Halliburton team installed a rainwater collector to capture and utilize rainwater around local Company facilities, creating a sustainable way to make water facility consumption more efficient.

In Ecuador, local teams installed and began using a water treatment plant for industrial waters coming from the washbay. This plant makes it possible for industrial waters to be reused in the equipment and vehicle washing process, reducing the amount of new water withdrawn to facilitate Company operations. Per year, 216,000 gallons of treated water are reused in our vehicle washing process, which equals 95% of the water required for vehicle washing. This water is also used to feed an internal swamp after its parameters are controlled. By reusing treated water, our teams are able to reduce use of fresh water and save on disposal costs.

3R Initiative

Halliburton's 3R Initiative at liquid mud plants aims to accomplish the following:

- Reduce disposal volumes along with dilution requirements
- Reuse non-aqueous fluids in other applications and extend their longevity
- Repurpose waste fluids in applications in which fluid quality is less critical

The Company's Baroid product line builds on the 3R evaluation process to help manage and treat liquid muds. This initiative pushes for liquid muds to be reused, repurposed, and reduced. It has led to greater Liquid Mud Plant efficiency, improved fluids and constituents management, and reduced emissions from the manufacture, transport, use, and disposal of associated materials.

Halliburton's 3R Initiative and process has been expanded at our liquid mud plants to include other activities like energy use, waste reduction, water conservation, time, packaging, and safety.

Waste Reduction

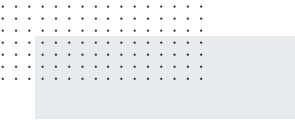
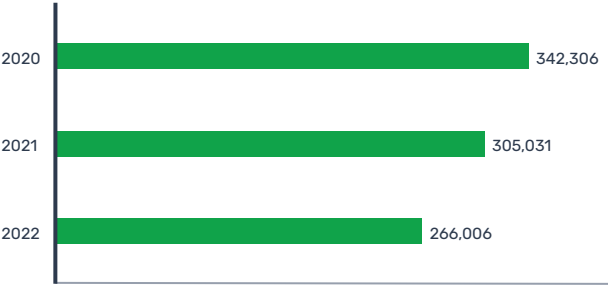
Halliburton develops and implements plans to minimize and manage waste in Company operations. These plans are designed to reduce the waste produced at the offices, workshops, field camps, manufacturing facilities, and wellsites where Halliburton possesses operational authority.

The Company's 2022 waste-generation data is inclusive of all U.S. locations, all manufacturing locations, and any non-U.S. location with a building footprint that exceeds two acres (8,092 m²) or that houses activities with potential for particularly high levels of waste generation.

In 2022, we developed readily accessible and easy-to-use tools to support water use and waste reduction at the facility level. This allows us to better collect and store water and waste-generation data. We worked with select locations that generate large volumes of waste to develop and roll out the toolkit and will work with these locations to establish activity-based waste-reduction targets.

Waste Disposal

Metric tons



Biodiversity

Halliburton follows environmentally sound and sustainable business practices in Company operations. This includes minimizing disturbances to the land where the Company builds and operates offices, field camps, chemical facilities, and service centers. We conduct proper environmental due diligence and permitting when establishing new facilities, and work to ensure regulatory compliance is maintained throughout the life of each facility.

In addition, Halliburton recognizes the value of threatened lands and species, and works with local communities to protect and restore sensitive habitats near Company facilities.

Halliburton promotes habitat preservation and biodiversity in a variety of ways. Company employees engage in many biodiversity initiatives at facilities and in local communities. Globally, Halliburton teams have participated and collaborated in reforestation activities around our and our customers' sites. Halliburton employees have also worked with local communities to preserve the environment and, where possible, help restore it to its natural state.



Mexico

iIMPACT Mexico, one of our Employee Resource Groups, organized and participated in a sea turtle release at the "La Escollera" Turtle Camp in Sabancuy, Campeche. Their goal was to contribute to the restoration, protection, and conservation of an endangered group of sea turtles. Halliburton employees who attended this event were accompanied by family members and children. Together with other attendees, they assisted with and witnessed the release of these turtles to their natural habitat.



United States

In Wyoming, Halliburton Bentonite Performance Minerals, LLC (BPM) has performed voluntary reclamation on lands mined by other companies prior to the Open Cut Reclamation Act of 1969. The sites selected for this reclamation work were abandoned and left un-reclaimed when these other companies' mining work ended.

The Halliburton BPM team used its equipment to contour the surface on these sites and provide suitable soils and native seed mix to reclaim the land to their natural state. The result is the restoration of these lands to functional grazing land for local landowners, which creates positive benefits for local communities and wildlife.

Halliburton BPM was awarded the 2022 Wyoming Department of Environmental Quality (WDEQ) Excellence in Mining Reclamation Award for their efforts in this area.