ENVIRONMENT

Environmental & Safety Management System

Chesapeake is committed to respecting the natural resources in our operations, reducing our environmental footprint and complying with all applicable laws and regulations. Environmental stewardship is foundational to who we are and how we operate, as detailed in our Environmental Policy.

The company's management system covering environmental, safety and operations is designed to identify and address risks within our day-to-day operations and maintain a level of consistency across our operating areas. It builds upon our culture, which is centered around continuous improvement, by offering a structured process to evaluate and improve our business.

Our management system provides the planning and accountability needed to proactively identify and manage risk across the company's operations.

Plan
- Risk assessment and planning
- Operational site design

Do
- Safe operating controls and compliance
- Emergency response readiness
- Contractor management

Check
- Incident management
- Monitoring, measurement and evaluation

Act
- Leadership accountability and management
- Weekly incident and impact review

Safety of All · Protection of Natural Resources · Operational Excellence and Continuous Improvement · Dedicated Company Resources · Support of Industry Regulation

Identifying Risks through Initiatives and Audit Program

Preventing incidents is one of the primary objectives of our HSER program. Incident prevention starts by identifying potential safety or environmental risks and then developing proactive solutions to offset hazards and keep our sites safe.

We identify and recognize risk exposure several ways, most notably through our Good Catch initiative, on-site inspections and audits, and data trend analysis. After tracking near miss incidents, we analyze them to apply key learnings across our operations. We define a near miss incident as an unplanned event that didn't result in an injury, illness or damage, but had the potential to do so.

Our integrated HSER and Operations Audit process empowers our environmental and safety audits, including auditing 35 HSER standards and 25 operational standards on at least a five-year cadence. The team conducts an annual risk assessment to inform audit focus areas for the year, and members of our HSER and Operations teams conduct audits (in-field, but with desktop support) against protocols associated with our standards. We share audit findings with field leadership and operational vice presidents who take corrective action as needed. Responsible parties are assigned these corrective actions and our HSER Compliance Assurance team tracks activity through to completion.

In addition, Chesapeake sites are typically inspected at least once per year by local regulatory agencies, resulting in hundreds of inspections of our operational activities. As a result of these inspections, in 2023, Chesapeake was issued 68 violations — 12 administrative (paperwork-related) and 56 non-administrative (defined as any fluid or gas release to the surface, waters or air or noncompliant biodiversity impacts). We paid, in 2023, less than $7,000 in penalties or fines.

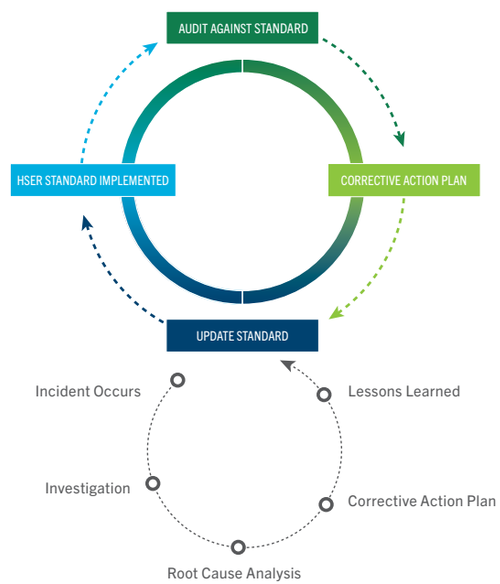
In 2023, we hired third-party auditors to support our audit functions and increase the objectivity of our reviews. With third-party support, we accomplished two compliance assurance audits in 2023. Our Operations Governance Board (led by the COO) governs our HSER audit process.

Learning from Incidents

Should an incident occur, we have a commitment to learn from it and, where appropriate, improve our processes. We utilize a root cause investigation system to standardize our reporting and analysis, including determining the source of an incident and discerning where and what improvements are needed.

Each week, Operational and HSER leaders review incidents to understand the root cause and implement corrective actions that strengthen the management system.

Root Cause Analysis and Learning Process



Recognizing Employees for Outstanding Safety, Sustainability and Service Performance

Each year we celebrate the **Chesapeake Excellence Awards**, honoring teams of employees who demonstrated exemplary performance in safety, environmental stewardship, community engagement and company culture.

Hosted at our corporate campus, the 2023 awards program recognized nine finalists across three categories. Chesapeake's ESG Council voted on nominations received companywide to determine a list of finalists that was ultimately approved by Chesapeake management.

The winning teams presented their nominated projects and received company recognition for their efforts. In addition to recognizing top performance, the awards program also serves as a relationship-building event and an opportunity for employees to learn about other company initiatives related to safety and sustainability.

> **The Chesapeake Excellence Awards are an opportunity to celebrate innovation and best practices and, most importantly, honor the hard work of our talented and dedicated team,** said CEO Nick Dell'Osso.
>
> **Together, we are making a difference in working safer, protecting the environment and our communities and making our business better every day.**

Throughout this report, we'll highlight both the nominated and winning programs with the medal symbol, showcasing the employees' outstanding and innovative achievements.

Early Identification Prevents Compromised Flowline Risk

President's Award Nominee for Safety

Our Haynesville field engineers identified a subset of recently acquired assets that could have compromised flow lines. After further evaluation, the team inspected 21 locations, deploying technology to verify flowline wall thickness and weld integrity. Any location that was found to have an issue was scheduled for repair or shut in until repairs could be made. By integrating these assets into Chesapeake's high operating standards, we were able to identify and repair these compromised lines, successfully mitigating risks associated with gas leaks resulting in better emissions management and proactive protection of local communities and employees.

Pneumatic Devices Valve Retrofit Drives Down Emissions

President's Award Nominee for Environmental Impact

Members of our Haynesville Operations set a goal to eliminate the use of pneumatically driven devices by year-end 2023 on both legacy Chesapeake and the recently acquired separators. The team evaluated the water production of each well to determine the style of electric actuator to install and re-evaluated the well list to finalize the retrofit schedule. Chesapeake technicians worked to systematically retrofit each valve and liquid level controller on 960 pneumatic devices from 2022 to 2023.

Replacing this equipment eliminated an estimated 50,000 mt CO_2e per year and, as an added benefit, the devices had fewer freezing issues, an important winter weatherization improvement.

Climate Change

Energy is one of the most fundamental drivers of modern society, providing power, fuel and feedstock for countless products critical to our quality of life. However, energy production is not without impact. At Chesapeake, we firmly embrace a lower carbon future, recognizing the need for a thoughtful and strategic balance of stakeholder needs, including the emissions reduction ambitions of the Paris Agreement.

It is our goal that Chesapeake's lower carbon, responsibly sourced production fuels global gas and energy markets. We are committed to net zero Scope 1 and Scope 2 GHG emissions by 2035 and achieved both of our 2025 interim targets at the end of 2023.

Metric	2023	2022
Enterprise Scope 1 GHG emissions (million metric tons CO_2e)(1)	0.80	1.73
Carbon dioxide (million metric tons)	0.63	1.13
Methane (million metric tons CO_2e)	0.17	0.59
Enterprise Scope 2 GHG emissions (million metric tons CO_2e)(2)	0.004	0.053
Enterprise Scope 1 and Scope 2 methane emissions intensity (volume methane emissions / volume gross natural gas produced)(1)	0.02%	0.05%
Haynesville	0.01%	0.02%
Marcellus	0.02%	0.03%
Enterprise Scope 1 and Scope 2 GHG emissions intensity (metric tons CO_2e / gross mboe produced)	2.1	4.1
Haynesville	1.7	2.0
Marcellus	2.3	2.9

2022 Scope 1 GHG emissions are restated herein after a recent revision to our EPA Greenhouse Gas Reporting.
2022 reporting: Eagle Ford, Haynesville and Marcellus (legacy and acquired assets); 2023 reporting: Haynesville and Marcellus

Governing Climate Risks and Opportunities

Our climate governance includes accountability and ownership at every level of our organization. Our Board's ESG Committee takes active ownership in engaging with our executive team and organizational leaders to manage and mitigate climate-related risks. Chesapeake's CEO and leadership team direct our climate performance, setting the strategic direction and holding business units accountable.

At our business unit level, we have several departments with dedicated climate-related job responsibilities, including our Air, Operations and Government & Regulatory Affairs teams. We also maintain internal, multidisciplinary workgroups focused on implementing and improving our sustainability strategy and carbon emissions performance.

Identifying and Managing Risks

Guided by our long-standing ERM program, Chesapeake takes a methodical approach to identifying, assessing and managing ESG risks, including climate-related risks. Any risk owner can raise climate-related risk concerns with climate risk ownership attributed to our Executive Committee and our Board of Directors.

At quarterly meetings, relevant climate-related risks are reported to our Board's ESG Committee under a broader category of sustainability. If a risk requires mitigation, we develop and execute plans to reduce the risk to an acceptable level.

Through our ERM process, we have identified climate-related risks that could impact our business. The Task Force on Climate-related Financial Disclosures (TCFD) separates these risks into two primary categories: transition (risks associated with transitioning to a lower carbon economy) and physical (risks specific to the physical impacts of climate change). These risks include:

- Policy and legal
- Technology
- Reputation
- Market
- Extreme weather

Within our climate reporting, we define each of these risks and provide mitigation strategies to show appropriate risk management. These strategies are specific to their risks and can include: targeted stakeholder engagement, research, innovation and emerging technology, capital deployment and business strategy, and emergency response planning.

Acting on Opportunities

Through our nimble operating structure, emissions reduction efforts and commitment to sustainability performance improvements, we are well-positioned to capitalize on a lower carbon future — creating value for both the planet and our bottom line.

Chesapeake opportunities include adopting resource efficiencies, shifting to lower carbon energy sources, positioning our portfolio on lower emissions products, RSG certifications, LNG and enhancing our facility design for resilience.

Since 2018, we have reported on our climate-related risks and opportunities, discussing the company's resilience in a lower carbon future. Our analysis provides transparency to stakeholders in alignment with the TCFD framework. To read more, view our 2023 Climate Report.

(1) Emissions estimate developed under the EPA's Greenhouse Gas Reporting Program (operated onshore production, Brazos Valley sand mine and gathering and boosting facilities).
(2) Chesapeake calculates its reported emissions using EPA eGRID subregion emission factors.

Pathway to Net Zero

Through capital allocation in existing and emerging technologies and best management practices, we will continue our measured progress in reducing operational emissions. Our emissions-reduction approach is holistic, recognizing the opportunities for improvement across our operations and operational lifecycle.

Advanced Emissions Monitoring and Assessment

Better understand our emissions profile and adopt consistent industry methodology

Operations Excellence

Utilize technology, best practices and energy efficient operations to reduce emissions

Credibility and Transparency

Independent verification of data and processes with transparent disclosure of measurable progress

Innovation

Adopt technology and engage in partnerships and investments to support a lower carbon future

Resilience in a Lower Carbon Future

As part of our climate reporting, we assess the company's portfolio against potential scenarios in a lower carbon future. This analysis is in addition to the industry outlook research we utilize as part of our strategic planning — including economic and policy projections, supply and demand forecasts and future business conditions.

Our portfolio analysis includes study of the International Energy Agency (IEA)'s World Energy Outlook (WEO) with emphasis on three scenarios: Stated Policies (STEPS), Announced Pledges (APS) and Net Zero Emissions by 2050 (NZE).

For an alternative pricing outlook, we also included the U.S. Energy Information Association (EIA)'s Henry Hub natural gas spot pricing projections for 2030 and 2050, which factors how the LNG market might impact natural gas pricing.

Despite decreasing demand in these models, natural gas remains a much relied upon global fuel through 2030 in all three scenarios. Producers that are innovative and agile are most likely to retain (or grow) their market share.

Chesapeake continues to actively monitor and engage in emerging market opportunities including power generation needed to support an increase in data centers.

To replace more carbon intensive resources, lower carbon fuel options — such as natural gas — need to already be in place to meet today's energy demands with affordability and reliability. Our portfolio positioning and readiness, responsibly sourced certification, strict operational and regulatory standards and organizational agility will make Chesapeake resilient in a lower carbon future.

Our Commitment to RSG

A differentiator in both the global market and at home is certified, responsibly sourced gas (RSG) or natural gas production that has been verified by a third party to uphold environmental and safety best practices.

Chesapeake was the first U.S. producer to certify the production of two major basins as RSG and now boasts a portfolio 100% certified. This means that our natural gas has lower emissions intensity — something that both U.S. and global (LNG) buyers often favor when deciding which production to purchase.

While RSG certification may allow gas suppliers to charge a premium, that's not the primary driver for Chesapeake. Instead, we believe RSG is an important step to minimizing our environmental footprint and upholding our sustainability fundamentals.

Air Quality

Chesapeake's operations produce emissions from both venting and combustion of fuels used. As a result, our emissions profile is a mix of GHGs and conventional air pollutants.

We monitor and assess the magnitude of these emissions, which are reported to the EPA and state regulatory agencies. Chesapeake manages compliance through our comprehensive air quality management program, which also works to reduce site emissions and pollutants through voluntary initiatives.

An Integrated Approach to Managing and Reducing Air Emissions

Compliance	Monitoring and Maintenance	Engineering Design and Innovation	Emissions Reporting and Verification
Abide by all applicable state and federal environmental requirements; as relevant we will conduct training programs to educate employees on operational and record keeping practices	Layer multiple leak detection monitoring techniques and technologies for comprehensive emissions identification, repair and prevention	Increase efficiency and reduce emissions through capital investment, technology adoption and innovative facility design	Work with third-party organizations to develop and implement an increasingly integrated and holistic emissions monitoring, verification and reconciliation program (in addition to EPA and state validation programs)

An example of this innovative thinking is substituting nitrogen for natural gas use on pneumatics.

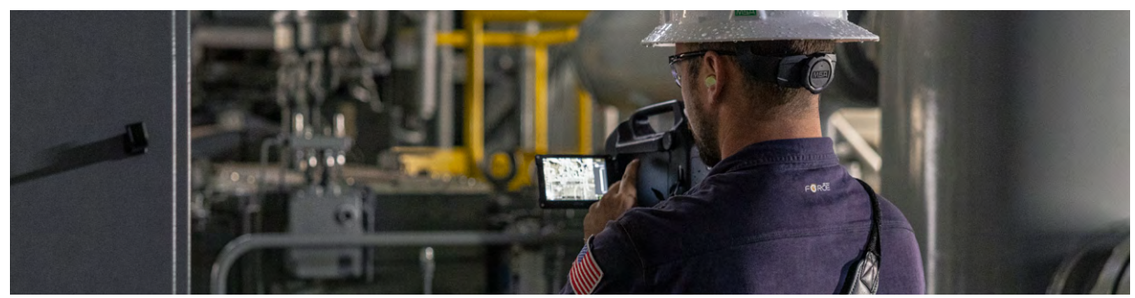
- Cryogenically-cooled liquid nitrogen gasifies on location – thermodynamics create pressure needed without power
- Nitrogen is inert, zero-emissions (GHG) and operationally reliable
- System was piloted in 2023 and will be deployed throughout operations in 2024

Complying with Regulatory Requirements

Chesapeake's robust air quality program has regulatory compliance at its foundation. We utilize an electronic compliance management system that allows task tracking, report generation and emissions calculations to facilitate compliance with state and federal requirements, as well as integration with maintenance tasks and inspections with field employees.

2023 Emissions Inventory (metric tons)

	Volatile Organic Compound (VOC)	Nitrogen Oxide (NO_x)	Sulfur Oxide (SO_x)	Particulate Matter (PM 2.5)
Corporate Headquarters (OKC)	0.53	5.88	0.13	0.09
Marcellus	506	1,739	4	68
Haynesville	160	1,197	375	37



Monitoring for and Managing Emissions

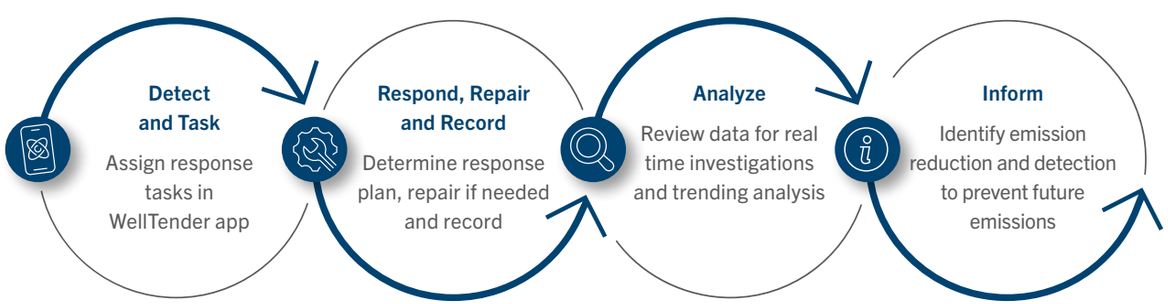
Chesapeake utilizes a variety of on-site and remote detection and emissions monitoring technologies that provide consistent surveillance of our operations. While many of these programs focus on detecting and reducing GHG emissions, they have beneficial effects in reducing other emissions or pollutants within the same operations.

Emissions Detection Methods

Fixed Monitoring	Aerial Flyovers	Optical Gas Imaging (OGI) Inspections	Audio, Visual, Olfactory (AVO) Inspections
• Fixed methane detection, 2,500 devices • React quickly to stop emissions: aim to locate source of emission within 24 hours	• Biannual flyover of all facilities • Provides holistic snapshots of source-level methane emissions	• Quarterly inspections • 3,068 inspections conducted in 2023 (Haynesville and Marcellus) with 13 certified inspectors	• Weekly (Marcellus) • Monthly (Haynesville)

Our carbon accounting modernization project enhances processes and functionality for calculating annual GHG emissions per the EPA GHG Reporting Program. This project offers more rigor to the accuracy and increased frequency of GHG emissions data to better support how we evaluate and report our emissions.

Emissions Management Program

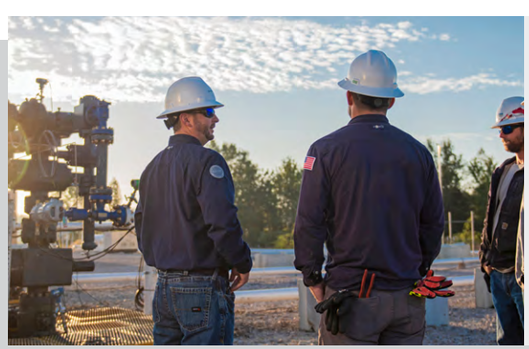


All emission detection methods follow this same protocol

Directing and Managing Maintenance

Chesapeake has deployed more than 2,500 stand-alone real-time methane detection devices across our operations. When these monitors detect a potential leak, we aim to respond within 24 hours. A lease operator performs an on-site visit, identifies the leak and usually repairs it on the spot. If the leak can't be identified or repaired by a lease operator, we bring in a technician with an OGI camera for leak detection and repair.

OGI cameras allow field technicians to visualize leaks that may not be detected by unaided senses and help pinpoint the leak source to direct specific maintenance activities. Most of our certified OGI inspectors have lease operator experience or other suitable training, giving them the knowledge and authority to repair certain leaks immediately.



We initiate and manage maintenance activities through our Enterprise Asset Management software application. This program allows for the centralized management of equipment and asset data and offers a standardized work order system. Creating such consistency across our operating areas increases accountability for maintenance activities and provides data for trend analysis and preventive improvements to our sites.

Partnering for Environmental Progress

We partner with peers and NGOs, including academic organizations, to improve Chesapeake's and the industry's understanding of impacts and environmental performance. Many of these groups focus on reducing emissions as a primary goal and, through collaboration and knowledge sharing, enable the industry to advance solutions and technology more efficiently. Our partnerships include:

- **Appalachian Methane Initiative (AMI):** A coalition of upstream and midstream peers working to enhance methane monitoring throughout the Appalachian Basin and facilitating additional methane emissions reductions in the region.
- **Colorado State University (CSU):** CSU's Methane Emissions Technology Evaluation Center (METEC) researchers create conditions similar to what oil and natural gas producers face at their production sites, then intentionally create controlled methane leaks and test methane sensing technologies to determine effectiveness.
- **Department of Energy (DOE):** Grants to address and reconcile variations in methane emission estimates, working toward more accurate methane emissions inventories for improved goal setting and mitigation strategies (one grant in the Haynesville and one in the Marcellus).
- **DOE Geothermal Technologies Office:** Grant to fund a consortium of experts (CHK is a participant) to develop a roadmap addressing technology and knowledge gaps in geothermal energy.
- **EO100™:** A set of performance standards that represent leading industry practices for site-level ESG performance; our partner for RSG certification.
- **MiQ Standard:** An independent framework that grades an operator on methane emissions management; our partner for RSG certification.
- **The Environment Partnership:** An industry collaboration; members agree to six environmental performance programs to further reduce emissions of methane and VOCs.
- **The Oil & Gas Methane Partnership (OGMP) 2.0:** The flagship oil and gas reporting and mitigation program of the United Nations Environment Program (UNEP), the only comprehensive, measurement-based international reporting framework for our sector.
- **Veritas:** A GTI Differentiated Gas Measurement and Verification Initiative: A collaboration between scientists, academics, environmental organizations, certification agencies and industry experts to help ensure emissions reductions are measured and communicated in a consistent, credible and transparent way.

AMI 2023 Pilot Complete

In March 2024, AMI announced that it had successfully completed its 2023 pilot methane emissions monitoring program. The coalition conducted more than 1,700 surveys of gas facilities and 60 surveys of non-gas facilities across the Appalachian Basin in its inaugural year.

By leveraging coordinated aerial surveys alongside on-site monitoring technology and advanced reporting frameworks, the pilot program monitored approximately 1,100 square miles of the basin, including gas production facilities representing approximately 5.8 billion cubic feet per day (bcf/d) of capacity in 2023.

Read more on the program's 2023 key findings.

OGMP 2.0 Pathway to Gold Standard

When Chesapeake joined the OGMP 2.0 in 2023, we committed staff time to meeting the organization's reporting requirements, participate in technical task forces and attend Steering Group meetings.

It is our ultimate goal to align with OGMP 2.0's 'gold standard' of reporting — showing an explicit and credible path to the required reporting levels (in a required period) as defined by OGMP. Often this path is a multi-year plan focused on both the process and the outcome.

Since signing our Memorandum of Understanding (MoU), we have been working on an implementation plan for measurement-based reporting. As such, we are in line with OGMP's recommended pathway timeline as defined below.

Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Join OGMP 2.0	Submit credible implementation plan	Report and optional revised implementation plan	Report (with one-third of material assets and/or covered emissions for operated assets at Level 5) + optional revised implementation plan	Report (with one-third of material assets and/or covered emissions for operated assets at Level 5) + optional revised implementation plan	Report with all material operated assets at Level 5

Biodiversity & Land Stewardship

Recognizing the critical role biodiversity plays in healthy habitats and ecosystems, we work to minimize our surface and ecosystem impacts. We account for stewardship and biodiversity protection at every stage of our operations, from site assessment to well closure. We refrain from operating in protected areas whenever feasible and work to identify risks and mitigation plans to limit impact to ecosystems and habitats. Read more in our Biodiversity Stewardship Position, available here.

Our Approach to Biodiversity and Land Stewardship Protection

	Avoid	Minimize	Mitigate
Action	Before starting construction, we conduct a comprehensive site assessment of the proposed location, from its geography and topography to the potential existence of sensitive wildlife habitat, cultural resources, residences and other public-occupied sites. We prioritize the selection of the least sensitive project location and design the project to avoid impacts to receptors, when possible.	We work closely with regulatory agencies and other stakeholder groups to coordinate site planning, obtain necessary permits and protect any areas or species of concern. Our focus is to mitigate and minimize our environmental impact by reducing our project or pad site footprint, re-routing access roads or adjusting the timing of construction activities.	We will replace, enhance, restore or provide substitute resources for impacts that remain after avoidance and minimization measures have been applied.
Example	Whenever possible, we seek to avoid impact from the onset of our operations, including thoughtful spatial placement of well pads and facilities and timing of construction. Multi-well pad sites are central to our operation strategy — providing for less surface disturbance, reduced truck traffic, decreased waste generation and reduced likelihood of spills. Regarding jurisdictional wetlands, we utilize desktop and field analyses during the planning phase. If avoidance can't be achieved, we obtain the required permits and offset the disturbance.	We adhere to seasonal timing stipulations to avoid impacts to sensitive species and migratory birds. During nesting season, surveys are conducted to determine if there are active nests in construction areas. If active nests are found, we avoid disturbance of the area until all fledglings have left the nest. We implement an Avian and Bat Protection Plan to supplement our compliance with key wildlife laws. These clear and consistent procedures are meant to proactively minimize impacts and address concerns.	Chesapeake funds research to evaluate the status of the native hellbender population (the largest salamander species and Pennsylvania's state amphibian) and to develop conservation measures to restore the species to a healthy, self-sustaining state.

Site Assessment

Our site assessment process includes both a desktop and field review to identify the presence or absence of sensitive receptors.

Aquatic Resources and Floodplains | **Biodiversity** | **Community Impact** | **Historical and Cultural Resources**

We strive to go above and beyond compliance requirements. This means flagging any limits of disturbance (LOD) within the proposed physical LOD of our operations, plus a minimum of 100 feet beyond the LOD.

Site Assessment Procedures

Desktop Review	Field Review	Calibration
• Determine asset location and set LOD • Assess current and historical aerial photography, USGS topographic maps and National Wetland Inventory maps to flag potential issues • Identify any federal and state-listed threatened, endangered or sensitive species, and specific migratory birds and habitats • Determine 100-year floodplain boundaries and any cultural or historical properties in the area • Forward findings for a field review	• Pinpoint potential environmental or cultural habitats via a field visit • Locate sensitive receptors within the asset area • Share results with corporate team	• Collaborate with team on findings and determine if the construction site could impact the ecosystem or culturally-sensitive surroundings • Obtain environmental permits, if required before beginning construction • Redesign, move or adjust construction timing to ensure the surrounding environment will be protected • Track assessment results in a comprehensive database

If an environmentally sensitive receptor or cultural resource is identified within the proposed LOD, we avoid or minimize impacts by relocating site activity or developing a plan to protect the resource. If the project cannot be relocated, we employ qualified third-party consulting firms to conduct further studies and field delineations. This information will be used to develop site-specific construction plans outside of jurisdictional areas, sensitive habitats and drainage areas, where possible. All features identified close to the project area will be fenced or flagged to help ensure they aren't inadvertently impacted during construction activities.

In some cases, our field teams may encounter a sensitive item or biodiversity concern during operations that was not identified during our assessment. Called a "chance find," we're committed to protecting these sensitive receptors by stopping work until our team can evaluate and recommend a path forward. This approach — formalized in our Site Assessment Procedure — is described during our job safety analysis (JSA), employee and contractor huddle meetings prior to starting site activity.

Species and Habitat Conservation

Chesapeake works with government agencies, university partners and third-party biologists to support species and habitat protection in our operating areas. We don't operate within national parks or federally designated wetlands, unless permitted, and are committed to the conservation of wildlife and species protection.

Operating Area[1]	Endangered	Threatened	Proposed
Haynesville Shale (Louisiana)	• Red-cockaded woodpecker • Northern long eared bat	• Louisiana pinesnake • Geocarpon minimum	• Tricolored bat • Alligator snapping turtle • Texas heelsplitter mussel • Monarch butterfly
Marcellus Shale (Pennsylvania)	• Northern long eared bat • Rayed bean mussel • Northeastern bulrush	• Longsolid mussel	• Tricolored bat • Monarch butterfly • Green floater mussel

Less than 1% of our production is within areas of sensitive habitat, using U.S. Fish and Wildlife Service's designation of critical habitat for threatened and endangered species.

Chesapeake has reviewed 100% of newly constructed sites (since 2015) for sensitive habitat impacts.

Decommissioning and Site Restoration

After completing site operations, we work to restore the site to its approximate original topographic condition, planting native seed mixes and vegetation to further promote the biodiversity of the area. In addition to meeting all regulatory plugging requirements, we partner with site owners to accommodate their preferences for their land. We continue site monitoring until we've secured both landowner and regulatory approval of our restoration efforts within regulatory guidelines.

Each state regulates this process differently and Chesapeake follows applicable rules when managing inactive wells. Regulations typically require a series of cement plugs placed inside the wellbore, across any hydrocarbon-bearing formations and freshwater aquifers. Testing is also often required to confirm there is no escape of hydrocarbon-containing materials.

For example, in our Marcellus operations, regulatory agencies review and approve plugging procedures, conduct routine inspections of our operations during the process, have technical requirements that we follow, and inspect the well prior to the final capping activity to help ensure no gas is present.

At a facility's end-of-life, we work to reuse or recycle as much of the equipment as possible. Any equipment that is eligible for reuse is inspected thoroughly before being placed back in our inventory. All surface equipment is NORM-tested prior to removal and disposal. Any equipment not eligible for reuse is sold for scrap materials or disposed of according to regulatory requirements. We calculate and track costs associated with plugging and abandoning a well, restoration activities and permit closures.

Marcellus Team Partners to Restore Construction Site

In 2023, Chesapeake's Marcellus team partnered with the Pennsylvania Game Commission staff to reclaim a local site previously used as a stone borrow pit to construct roadways and well pads. During the three-day event, the group (including 32 Chesapeake employees) planted 300 shrubs and 180 trees, installed tree protection fencing and distributed over two acres of seeding and mulch. Sharing a commitment to environmental stewardship and wildlife conservation, the group used only native plants and seeds in their efforts.

> **Since part of the Game Commission's mission is managing and protecting wildlife and their habitats, we couldn't think of a better partner for this project. Volunteering side-by-side gave us all a sense of commitment to our common community, the land and our future work together,** said Josh Lawrence, Marcellus Operations Manager.

(1) Due to the divestiture of our Eagle Ford assets in 2023, we didn't include the asset in our analysis. When identifying the species status categories, we used definitions in alignment with the U.S. Fish & Wildlife Service as of Dec. 2023.

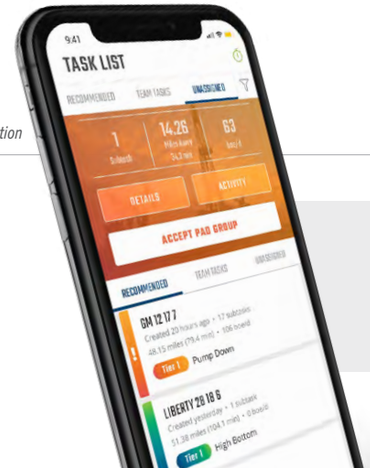
Environmental Protection During Key Operational Stages

Each stage of operations presents different risks to the land, species and water surrounding our sites. In compliance with regulatory requirements and consistent with our own best practices, we deploy extensive protection measures and technology that promote and maintain the safety and security of our sites. Should an incident occur, we follow our comprehensive emergency response plan led by operational and safety experts.

Operational Stage	Drilling	Completions	Production	Pipeline Integrity
Protection Measures	Multiple layers of protective steel casing, surrounded by cement, are installed to protect freshwater aquifers and other natural resources during the drilling stage. We engineer our wellbore design to prevent the migration of produced fluids and hydrocarbons. In collaboration with regulatory agencies, we meet or exceed guidelines for wellbore construction.	We employ the use of hydraulic fracturing technology for all wells and are committed to industry best practices in well integrity and chemical use. We also proactively minimize or replace the chemicals used in our hydraulic fracturing process. Chesapeake engineers evaluate the necessity of each chemical additive and determine if a more environmentally-friendly option could be used. Since 2011, Chesapeake has not used diesel / BTEX in any concentration within our hydraulic fracturing chemistries. We also prioritize using dry friction reducers — non-hazardous products that eliminate the need for larger transports of chemical on location.	We have dedicated spill prevention programs focused on the most common causes of spills. These programs are integrity management, secondary containment, regular maintenance and monitoring. Specific to emissions, we facilitate a comprehensive leak detection and repair (LDAR) program and conduct both continuous on-site monitoring and aerial detection monitoring. These programs are in addition to our regular maintenance.	We have an active Pipeline Integrity Management program, which follows industry best practices for preventive maintenance of pipelines. We use chemical treatment, cathodic protection, coupon monitoring, and mechanical pigging to mitigate possible releases. Damage from excavation-related activities is a leading cause of pipeline incidents. To prevent these incidents, we encourage the public to call 811 to have pipelines and other utilities marked before digging. Read more about pipeline safety on our Resources page.
Monitoring	Each well is monitored by both the on-site Drilling team and our Operations Support Center. These teams work 24/7 in tandem to monitor data and alerts.	Through a series of on-site sensors, our supervisory control and data acquisition (SCADA) system monitors: • Pressure in wells and surface vessels • Liquid levels in tanks • Open / closed valve positions • Well downtime		We monitor pipeline integrity using internal corrosion coupon monitoring, water analysis and cathodic protection surveys. This operational data, prior failure history, and periodic non-destructive evaluation serves as a basis for our risk-based inspection program.

In 2023, we upgraded five Class II disposal sites in our Haynesville operations to help prevent and/or minimize any fluid loss. Improvements included:

- Upgrading carbon steel piping and filters to stainless steel
- Replacing carbon steel tanks with fiberglass tanks
- Deploying high-tech cameras with leak detection algorithms
- Replacing four injection pumps with new pumps less prone to failures and leaks
- Adding instrumentation, interlocks and new automated shutdown valves



WellTender application

Our proprietary WellTender mobile application uses site-sensor data and acts as a dispatch system, automatically alerting lease operators to issues.

Water Management

We are committed to high standards of water stewardship and conservation, efficiently recycling, reusing and disposing of water in a manner sensitive to local environmental, economic and regulatory concerns. We recognize and respect the importance of water to our communities and surrounding habitats, and partner with stakeholders to protect water resources. Read more about our commitment to water stewardship.

Water Consumption[1][2]

	Total fresh water consumed (bbl)	Total recycled (non-fresh) water consumed (bbl)	Total water consumed (bbl)	Freshwater intensity rate (bbl/gross boe)
Haynesville				
2023	48,213,704	142,895	48,356,599	0.36
2022	44,849,652	63,124	44,912,776	0.31
2021	37,772,932	3,378	37,776,310	0.28
Marcellus				
2023	31,181,938	6,180,984	37,362,922	0.12
2022	31,328,060	5,559,322	36,887,382	0.12
2021	22,784,174	3,736,461	26,520,635	0.11

In 2023, we consumed nearly 103 million barrels of water at a water efficiency rate of 0.25 bbl/gross operated boe.

Water Management Process

Chesapeake manages water in accordance with state and federal requirements in our basins of operation. Whenever possible, we use non-potable water sources for our drilling and completions needs, sourcing from private landowners, municipalities, regional water districts and river authorities.

1 Demand
Chesapeake determines the completions design and water amounts needed to meet production forecasts (specific to each individual site).

2 Sourcing
Based on demand, sources of fresh water vs. non-fresh water are assessed and permitted accordingly.

3 Logistics
Water is metered and transported via pipeline or truck; water may move directly to operations or to a staging area prior to operational use.

4 Reporting
Water volumes are entered into internal databases and reported to the local and state entities per individual requirements.

5 End of Life
Produced water is either disposed, recycled or reused based on market capabilities and conditions.

Water Hauling Logistics Change Reduces Truck Traffic

President's Award Winner for Safety

Our Marcellus Field Completions team worked to retire 470+ long-term rental frac tanks, used by the previous owner of the acquired asset for water storage in their completion and production operations, as part of the company's integration of those assets into our portfolio.

By replacing these trucks with permitted water lines, the team is reducing truck traffic and preserving road quality in our local communities. Fewer trucks and fewer trips also increase workplace safety for both our employees and neighbors.

Evaluating Water Stress

We monitor drought level indications as published and updated quarterly by the U.S. Geological Survey (USGS) and through the World Resources Institute (WRI)'s Aqueduct Water Risk Atlas.

In 2023, we didn't source fresh water from any region classified as high or extremely high water-stress areas according to the WRI water risk assessment tool. Consistently, our Marcellus and Haynesville assets aren't considered to be water-stressed areas.

(1) These breakout numbers reflect data from our two operating areas as of the report publication date. The Eagle Ford divested assets are not included in these charts.
(2) In accordance with the USGS, fresh water is defined as water that has less than or equal to 1,000 mg/l total dissolved solids. We source fresh water from surface water and private groundwater partners in accordance with permitting and lease agreements. We utilize AXPC's water consumption (use) definition.

Produced Water

We follow all state and federal rules, adopt best practices regarding wastewater disposal, and consider recycling or reuse according to the capabilities and conditions of each business unit. We don't directly discharge treated produced water to surface water.

2023 Produced Water Management[1]

	Volume of produced water generated (bbl)	Amount of produced water injected (bbl, %)		Amount of produced water recycled (bbl, %)		Volume of produced water discharged to surface water (bbl)
Haynesville	18,728,285	18,560,545	99%	142,895	1%	0
Marcellus	3,335,011	0	0%	6,180,984	185%[2]	0

When injection is necessary for disposal, we carefully select and monitor our disposal contractors to help ensure their practices meet our robust internal standards for well-siting and the safe injection and disposal of produced water. We also adhere to all state and federal laws regarding underground injection control (UIC) well disposal.

Seismicity and its correlation in certain locations to injection wells is the topic of several ongoing scientific studies and Chesapeake participates in industry organizations that help to analyze and monitor this issue.

Water Recycling

Chesapeake was one of the first of our peers to have a dedicated water recycling program and we continue to evolve our broader water recycling efforts. In line with the American Exploration and Production Council (AXPC), we define water recycling as water produced in the field and reused by field (drilling and completions) operations.

Our Marcellus operations team aim to recycle 100% of our produced water in Pennsylvania. We reuse our produced water for completions activities — helping to remove the need for disposal and reducing local freshwater usage. In 2023, Chesapeake recycled more than 6 million barrels of produced water.

We have also developed a produced water sharing program with other operators in the Marcellus basin. This allows us to accept produced water for use in our completions jobs from local E&P companies. This efficient reuse benefits the local operators as we provide them with alternatives to disposal.

In 2023, our Haynesville Operations and Completions teams continued to pilot and evaluate economic ways to reuse produced water. The ability to reuse water was expanded and Chesapeake helped lead an effort that resulted in the updating of Louisiana regulations to broaden the applications of produced water reuse.

Water Sampling

Chesapeake's robust approach to groundwater protection includes pre- and/or post-drill water quality sampling as appropriate. We comply with state regulations and lease obligations that require sampling, and we conduct risk-based sampling to further safeguard ground and surface water during operations including:

- **Collection:** Independent, third-party consultants collect landowner water samples near our production sites, which are then analyzed by a state or nationally accredited laboratory.
- **Testing:** We test water supplies for a predefined set of parameters, including general water quality indicators, biological parameters, metals, dissolved gases and petroleum constituents.
- **Communication:** Landowners receive an analytical data package that includes fact sheets, links to appropriate state environmental agency websites and the EPA Water Systems Council WellCare Hotline.
- **Data Retention:** Sampling results are stored in our extensive water quality database to help aid in decision-making on where and when to sample in the future.

In 2023, Chesapeake recycled more than 6 million barrels of produced water, including 100% of our produced water used in the Marcellus.

FracFocus

We disclose the ingredients contained within completion fluids to state regulatory agencies and to the public on fracfocus.org. Since 2011, we have reported 100% of our well completions to FracFocus, a web-based registry that provides detail on completion process additives, chemicals and the amount of water used, as reported by oil and natural gas operators.

When reporting to FracFocus, Chesapeake utilizes information supplied to us by our vendors in the form of Safety Data Sheets. We encourage our additive suppliers to be as transparent as possible reporting both the actual additives used in their hydraulic fracturing operations and, separately, the individual chemistries contained in the additives.

(1) These breakout numbers reflect data from our two operating areas as of the report publication date. The Eagle Ford divested assets are not included in these charts.
(2) This percentage includes water recycled from other local E&P companies.

Spill Prevention

We work to prevent spills every day through operational best management practices, trained and experienced employees, and facility design.

In 2023, we incentivized spill prevention behavior by including a net spill intensity in our compensation program — driving accountability across all employee levels. We calculate our net spill intensity by taking the ratio of liquids spilled outside of secondary containment (and not recovered) to total liquids produced, allowing for a more accurate year-over-year comparison.

Integrity Management	Over time, environmental conditions and produced water can corrode steel equipment, particularly tanks, valves, pipes and gathering lines. Our company-design standard requires new steel storage tanks to be internally coated to resist corrosion and built according to API standards. We typically use sacrificial anodes to protect our metal equipment or structures from corroding. These anodes work by oxidizing more quickly than the metal it protects and are consumed completely before the other metal reacts with the electrolytes. Chesapeake also utilizes cathodic protection to safeguard buried equipment including flow lines and pipelines. In addition to internal protection, steel tanks are externally coated with a protective primer and paint layer and placed on gravel rings or other elevated bases to limit corrosion from standing rain or surface water. Visual assessments and ultrasonic testing help to measure wall loss on equipment so it can be repaired or retired when appropriate. In certain areas with more corrosive fluids, we utilize non-metallic, internally lined, or piping and fiberglass tanks (instead of carbon steel) for durability.
Impervious Secondary Containment	On all Chesapeake constructed facilities, impervious (secondary) containment is required around storage tanks to capture any fluid that could escape primary containment. Secondary containment consists of steel walls layered with a polyurea coating or other acceptable materials designed to last the lifetime of the facility.
Regular Maintenance	Early detection of corrosion is key to mitigating risk. Our operational staff receives training on how to identify corrosion as part of their routine field equipment inspections and maintenance. Production lines, vessels and tanks are regularly monitored through a corrosion chemical management program.
Continuous Monitoring	Our tank fluid-level sensors alert employees if tank levels change unexpectedly, indicating the potential for a leak. If an instance should occur, we either repair the corroded area or replace the equipment. As an additional precaution, our Operations team conducts reviews of near miss incidents to identify causal factors and any necessary mitigations.

Enhanced Monitoring, Efficient Response Reduces Spills and Releases

President's Award Nominee for Environmental Impact

With a goal of minimizing liquid and gas releases, our Operations Support Center (OSC) team worked closely with our field operators and security team to conduct enhanced monitoring of cameras, trends and logic-based alarms. The OSC heightened its emphasis on improving the logic for alarms that detect fluid escaping our facilities, visually monitoring key operations on saltwater disposal wells, and following up on release notifications.

The field teams have been critical in the success of this effort by quickly responding to alerts from the OSC, building more effective alarms that reduce false alarm notifications and decreasing the time between the start of a spill and controlling it.

In the first quarter of 2023 alone, this initiative identified and mitigated 20 spills, preventing more than 1,000 barrels of liquid from being released.

Spill Management and Containment

We measure spills by count, total barrels and percentage recovered for regulatory reporting and internal analysis for continuous improvement.

In 2023, we handled more than 43 million barrels of produced liquids, including produced water and oil, and contained more than 99.99% of these liquids.

Hydrocarbon Spills[1]

>1 bbl outside of secondary containment; includes crude oil / condensate, drilling muds, fuel, hydraulic oil and refined oil.

Haynesville	# of Spills	Total barrels	% Recovered
2023	1	15	100%
2022	5	42	100%
2021	2	140	99%
Marcellus			
2023	2	9	100%
2022	1	1	100%
2021	0	0	N/A

Non-Hydrocarbon Spills[1]

>1 bbl outside of secondary containment; includes produced water, acid, glycol and chemicals used in hydraulic fracturing and/or production.

Haynesville	# of Spills	Total barrels	% Recovered
2023	16	798	100%
2022	36	551	95%
2021	11	736	98%
Marcellus			
2023	6	96	98%
2022	7	344	100%
2021	6	174	96%

Spill Response

If a spill occurs, we're prepared to respond efficiently with a comprehensive, cross-functional team of operational experts.

Operations	Emergency Response	Environmental
• Secures site • Determines resources needed • Initiates containment measures to control the spill	• Initiates emergency response plan tailored to the severity level • Establishes an incident command system • Engages with outside responders as needed	• Notifies the appropriate parties, including regulatory agencies and landowners • Develops a spill delineation plan • Implements a remediation plan • Requests regulatory closure

In 2023, our net spill intensity was 0.003. Not only is this a low spill intensity, but we also consistently recovered nearly all of the spilled volumes.

(1) These breakout numbers reflect data from our two operating areas as of the report publication date. The Eagle Ford divested assets are not included in these charts.

Waste Management

Our exploration and production operations inherently generate wastes such as drill cuttings, produced water and containment fluid, which are characterized as non-hazardous. We work to minimize this waste through reuse or recycling, and responsibly dispose of remaining materials.

Less than 1% of our waste is classified as hazardous waste. The majority of this waste is aerosol cans.

Each operating area has a waste management plan that lists waste generated, waste characterization, on-site management requirements and best practices, and approved waste disposal vendors. Each plan is reviewed and updated at least annually to address changes to state regulations, operations and vendor capacity. Chesapeake also conducts due diligence on each vendor and landfill.

Reducing Waste

Our waste and operations teams implement innovative reduction and recycling solutions such as:

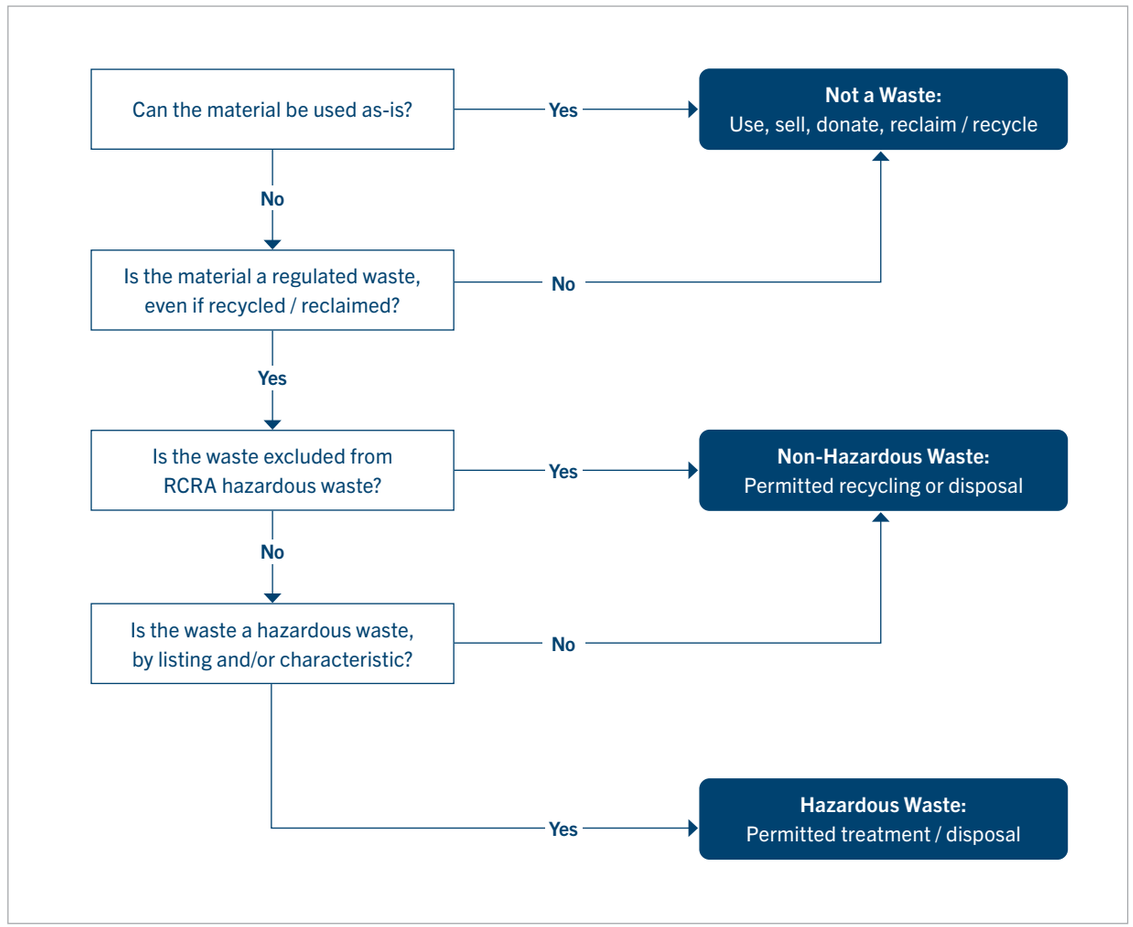
- Treating and reusing produced water
- Implementing closed loop drilling systems, which decrease liquid waste (and entrained solid waste) by recycling drilling fluids
- Facilitating drilling programs with longer lateral lengths, in part to reduce surface disturbance and cuttings
- Implementing an enterprise-wide battery recycling program
- Offering an office supply exchange and recycling program on our corporate campus
- Composting and recycling at our corporate headquarters restaurant

Waste Management Best Management Practices

Seven key elements applicable to our E&P and ancillary facility operations:

1. Identify the wastes generated in the area
2. Characterize all waste streams based on regulatory status in the area
3. Store, label and conduct periodic inspections according to local, state and federal requirements or best management practices
4. Use approved vendors for waste transportation and disposal
5. Train employees in proper waste management
6. Communicate waste management expectation to contractors
7. Document waste characterization and disposition

Waste Management Decision-Making Process



Hazardous Waste

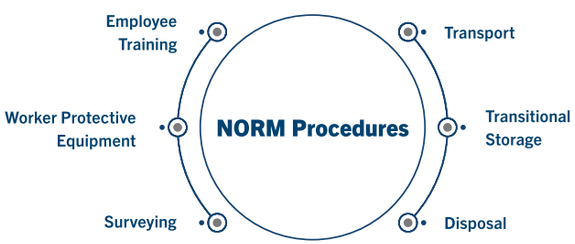
Under the EPA's Resource Conservation and Recovery Act (RCRA), facilities determine their regulated generator status based on monthly rates of hazardous waste generation. Under normal operations, all active Chesapeake facilities are classified as Very Small Quantity Generators and generation rates are monitored to verify this status. Less than 1% of Chesapeake's generated waste meets the RCRA hazardous criteria.

NORM Waste

Subsurface sediments can contain naturally occurring radioactive material (NORM) which transfers onto drill pipe and production equipment during operations. The disposal of NORM-impacted waste is highly specialized, requiring proper handling, removal and transport procedures.

Our HSER and Operations teams partner to measure the level of NORM on all locations using specialized radiation survey equipment. This data is then used to implement appropriate safe work practices, including the use of specially licensed and trained professionals for handling and disposal. Chesapeake also follows the As Low As Reasonably Achievable (ALARA) radiation protection standard, the guiding principle of radiation protection across the globe.

All Chesapeake locations that generate, process or dispose of produced water are surveyed regularly to properly identify and manage accumulations of NORM.

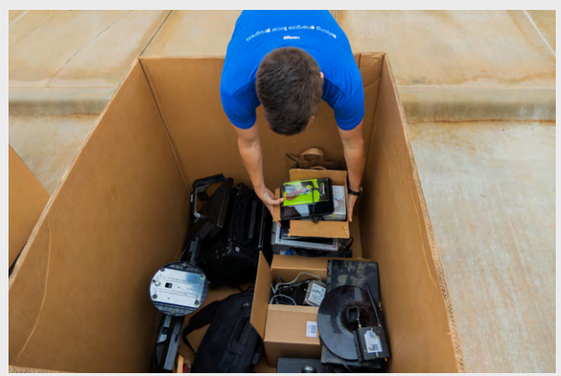


Business Waste

Our office locations produce a limited amount of waste, primarily paper, plastic, electronic and battery. We recycle these materials by partnering with entities that specialize in their disposal. For example, we collect batteries on our corporate campus and in our field locations before sending them to a national collection firm for recycling and recovery of usable materials.

Our electronic waste recycling vendor repurposes reusable IT equipment and parts, recycling any non-usable assets. This process also includes comprehensive data destruction and protection of company assets while preparing the equipment for additional use.

In 2023 and 2024, we expanded our composting program at our corporate restaurant to include both cooking waste and consumer food waste. Last year we diverted more than six tons (more than 12,000 pounds) of waste from landfills.



On our corporate campus, we host targeted recycling drives to encourage sustainable practices among our employees. For Earth Day 2023, we encouraged campus employees to bring batteries, computer equipment, hard drives, plastic bags and unwanted medication for recycling or appropriate disposal. We also accepted paper for shredding and sports equipment, which was donated to a local nonprofit. On that day alone, more than 1,400 pounds of paper was recycled.