



**PENNENERGY**  
RESOURCES



# Sustainability Report

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2024

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About this Report

PennEnergy Resources, LLC (“PennEnergy”, “PennEnergy Resources”, or “the Company”) is a Pittsburgh, Pennsylvania-based independent oil and gas company focused on the acquisition and development of unconventional shale resources in the Appalachian Basin.

We are committed to being a best-in-class shale development company that creates value for our investors, stakeholders, employees, and landowners through the safe and environmentally responsible development of unconventional resources. PennEnergy Resources’ operations are currently focused in Southwest Pennsylvania in the counties of Armstrong, Beaver, Butler and Lawrence.

PennEnergy makes the safety of its employees, contractors, and neighbors as well as the stewardship of the environment in which we operate a non-negotiable priority. As a result, we believe that integrating sustainability considerations into our business decisions is essential to drive long-term value for all stakeholders.

We also believe that Core Values are an essential element of respected and successful companies like PennEnergy. The way we respond to the many challenges of our everyday work environment speaks directly to who we are as individuals and as a company. PennEnergy employees conduct themselves in accordance with our company’s fundamental Core Values:

- **Honesty & Integrity**
- **Health & Safety**
- **Teamwork, Respect & Collaboration**
- **Environmental Stewardship**
- **High Performance**

This sustainability report reflects our commitment to our sustainability efforts, as well as our underlying Core Values and highlights our values and identifies the key risks and opportunities of our business. We have identified disclosure topics relevant to the oil and gas industry and tailored them as applicable to our company to focus on those that support our long-term financial performance.

# MESSAGE FROM OUR LEADERS

At PennEnergy Resources, we believe it is important to annually assess our accomplishments and opportunities to drive continuous improvement in our overall performance and our sustainability efforts. Since our beginning in 2011, sustainability and responsible operations have played a significant role in all of our planning and development activities. We strive to be a strong, responsible partner with our communities, investors, employees, and industry collaborators and are continually evaluating how we can play a more active and constructive role as we grow and create long-term value for our stakeholders.

We believe it is important to have transparency in our sustainability policies and performance metrics. Our efforts focus on identifying key sustainability (a term often used synonymously with Environmental, Social & Governance or “ESG”) metrics that have a significant and lasting impact on our core business strategy and to the overall strategic objectives of our investment partners. From inception, we have integrated sustainability data and metrics into our operations and strived to continuously improve how we gather and report this data to ensure transparency and comparability to peers.

We work in tandem with our investment partners to identify joint sustainability focus areas, and the key risks and opportunities for our business. PennEnergy Resources is founded on and driven by our company’s fundamental Core Values. We are committed to working alongside our investors, customers, and communities to make meaningful advances in preparing our company for a sustainable future.

Our Core Values – centered on honesty, integrity and environmental stewardship, inform and guide every decision and action we take. We’ve built our business around top talent, best practices, and industry-leading performance, and to validate these efforts in the area of Environmental Stewardship we achieved “Grade A” certification across our entire asset base via MiQ’s methane emissions performance standard in 2023. We have maintained certification at this level across our asset in subsequent annual audits since, and continue to evaluate and implement effective processes and procedures across our business to improve our performance for a sustainable future.



Thank you for your interest in our ongoing sustainability progress.

Gregory D. Muse  
Chief Executive Officer

Benjamin Bates  
President



# SUSTAINABILITY HIGHLIGHTS

“ **Sustainability** is a longstanding term and there is no singular definition – it is a continually evolving topic among our industry and the world-wide economy at large. To try to utilize a concise definition – we believe that sustainability is a forward-thinking philosophical principle that, when put into practice, ensures that our business does not compromise itself, its employees or the environment in the long-term with its operations and activities.

Putting it into practice primarily involves balancing environmental, safety and economic concerns. Simply put, it's smart business to be concerned long-term with the impact of our business – those who are not may see some brief short-term economic gain, but will almost certainly find themselves facing viability issues down the road.

- **DOMENIC TEDESCO**  
DIRECTOR OF AIR QUALITY & SUSTAINABILITY

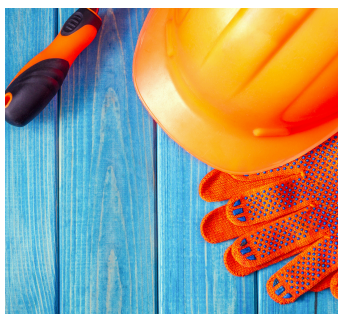


## Knowledge Sharing

- Site visits for Local Government and landowners
- Classroom and site visits for Higher Education Institutions
- Participation in industry trade groups & roundtables for Best Management Practice Sharing

## Process Improvement

- Enhanced remote monitoring analytics to optimize facility environmental performance
- All natural gas-powered pneumatics converted to non-emitting
- Leak quantification on all fugitive component emissions



## Environmental & Safety

- Classroom and on location training with Local First Responders
- Impoundment liner recycling program
- Polyurea spray lining containments for enhanced spill prevention
- Water-sharing agreements with other basin operators to increase reuse

# GOVERNANCE



## **Honesty & Integrity**

*We uphold high standards of business ethics and integrity and enforce strict principles of corporate governance and support transparency in all of our operations.*

## CORPORATE GOVERNANCE OVERSIGHT

PennEnergy Resources is backed by EnCap Investments L.P. (“EnCap”), a leading provider of private equity to independent energy companies. We work in tandem with EnCap to develop both our overall business strategy and improve upon the integration of relevant sustainability factors into our business processes.

Our management team members are fully aligned with EnCaps’ overall commitment to sustainability principles and have a like-minded policy and supporting policies and procedures in place. PennEnergy reports on significant issues related to sustainability and provides details of ongoing developments during each quarterly Board meeting.

## MANAGEMENT OF THE LEGAL & REGULATORY ENVIRONMENT

Risks of substantial costs and liabilities related to environmental compliance issues are inherent to our operations. These operations are subject to changes in public policy and by federal, state, and local laws and regulations related to the storage, handling, air emissions, transportation, and discharge of materials into the environment.

The operations of our company are also affected by environmental, safety, and labor laws, as well as changes in related administrative regulations or enforcement priorities. It is possible that these laws and regulations in the future may add to the capital and operating costs of our company or may directly or indirectly affect operations. We continue to stay abreast of the legal and regulatory landscape and how these laws and regulations may impact our operations and financial condition to proactively minimize our risks and maximize our opportunities.



## BUSINESS ETHICS

PennEnergy Resources is committed to ensuring it operates ethically and meets or exceeds regulatory requirements. Our management team is committed to high standards of professional and ethical business practices. We advocate for an environment where our employees act with honesty and integrity, and are respectful in dealings with customers, employees, and in the communities in which they operate.

We conduct ourselves in accordance with our Core Values, which we believe are an essential element of respected and successful companies. How we respond to the many challenges of our everyday work environment speaks directly to who we are as individuals and as a company. Our Core Values include Honesty & Integrity, Health & Safety, Environmental Stewardship, High Performance, and Teamwork, Respect & Collaboration.

We have formal rules and policies governing employee conduct, including gifts and entertainment, non-discrimination, diversity and equal opportunity, whistleblowing, and political contributions. We also advocate for increased transparency relative to sustainability metrics and disclosures. We respond to annual questionnaires with our investment partners regarding our operational, environmental, safety and regulatory data to determine the quality of our performance and measure of continued improvement. We ensure our reported sustainability data aligns with our investors' strategic plan and that our results are clearly and accurately communicated to our Board.

## RISK MANAGEMENT

Risk management is a fundamental part of our business, and our investment partners expect us to appropriately manage risks while also creating long-term value. Our risk management practices complement our overall governance approach and include sustainability related matters. Our risk management program includes the identification, evaluation, and monitoring of financial and operational risks and include sustainability risks and opportunities. We understand that risks to our business are evolving. Our programs aim to monitor and proactively mitigate and manage those risks.



## CRITICAL INCIDENT RISK MANAGEMENT

We proactively prepare to respond to an emergency that may occur onsite or within our facilities. It is our expectation that our company maintains a comprehensive plan to confirm the structural integrity of our facilities and associated equipment in an effort to meet and exceed safety and environmental expectations. This plan plays an integral role in protecting the public, our employees and contractors, and the environment through adherence to a set of safety management, analytical, operating, and maintenance processes.

Prior to conducting any field operations, we adhere to our comprehensive risk/probability matrix for each of our operating phases including well site selection and construction, drilling operations, completion operations, and production operations. We have identified the key risks of these areas and have developed and employed a variety of management systems to mitigate these risks. We continuously evaluate and adjust our processes and procedures to ensure we are conducting our operations in a manner to mitigate catastrophic and non-catastrophic risks.



Should PennEnergy experience an environmental or safety incident, we have formal incident review meetings identifying incident root cause(s) and mitigating corrective actions. Leadership for these review sessions are typically driven by the Company's President and Chief Operating Officer.

We are dedicated to seeking continuous improvement in all aspects of our daily activities, especially with the safety of our employees, contractors, the public and the environment. Our company has established safety policies, procedures, and manuals; and workers have the ability to provide feedback on those documents, pose questions or ask for revisions. Employee engagement and participation are necessary to help improve the safety of all workers and to prepare for a response in the event of an emergency.



# SOCIAL



## **Teamwork, Respect & Collaboration**

*We will drive our success by effectively working together to achieve the common objectives of PennEnergy Resources. Only through selfless teamwork, collaboration and respect for others will we reach our full potential.*

## COMMUNITY RELATIONS

PennEnergy operates under the premise that we are invited guests on the land in which we operate. We are dedicated to the health and safety of all stakeholders impacted by our operations including our employees, contractors, neighbors, and the communities in which we operate. Our Core Values were established as our commitment to operating in a manner that meets and exceeds regulatory requirements and has a positive impact on our surrounding communities. Throughout the lifecycle of our operations, our team regularly and continuously engages with landowners, local government, and regulatory agencies to ensure that the potential risks and opportunities are identified and addressed.

In the selection of well sites, we employ a thorough process that includes such considerations as:

- Assessment of lease terms and obligations
- Environmental issues or concerns such as wetlands, potential erosion, or other issues
- Well site access, road conditions, and proper truck routing
- Potential noise issues and mitigations during drilling/completion/production activities
- Pipeline routing to minimize impact to residents
- Water access for drilling and completion operations
- Baseline water sampling
- Air quality issues related to drilling, completion, and production operations

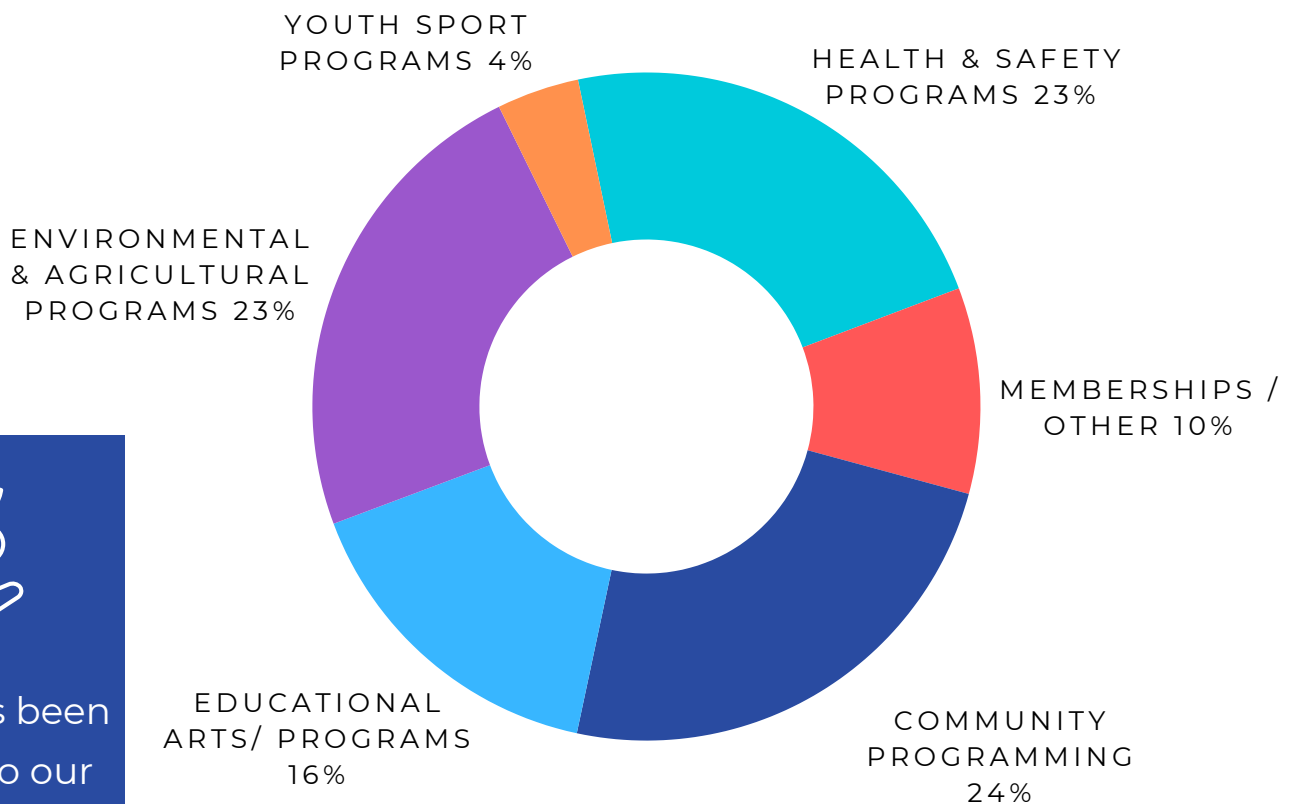
We strive to build strong community relationships and be an advocate for engagement programs that improve the quality of life in the communities where we operate. We have policies in place to ensure our employees deal directly with landowners to confirm their satisfaction with our operations. Our company experienced zero days of site shutdowns or project delays due to non-technical factors during 2024.



## COMMUNITY INVESTMENT

PennEnergy Resources also models our commitment to building valuable community relationships through our charitable contributions and volunteer efforts. In 2024, our community investment program proudly supported 75 local organizations totaling \$107,613.96. Some of our partner programs included: Cornerstone of Beaver County, South Butler Community and Evans City Library Systems, Cystic Fibrosis Foundation, 13 local first responder organizations, 4H, Future Farmers of America, the Beaver and Butler County Conservation Districts and several youth sports organizations.

In addition to monetary donations, employees actively participated in volunteer events and through in-kind donations. Holiday gifts were donated to children in need through the Mars Home for Youth Foundation. Over 2,000 pounds of meat and dry goods were distributed to the Southwest Butler Food Cupboard, Center for Hope, and Inspired Hearts and Hands food pantries and our employees maintain six miles of roadway through state & municipal Adopt-a-Highway programs.



\$537K+ has been donated to our communities since 2017



## SECURITY, HUMAN RIGHTS & RIGHTS OF INDIGENOUS PEOPLES

PennEnergy is committed to the safety and security of our organization and the communities in which we operate. We strive to plan, prepare, prevent, and recover from adverse security incidents that could injure, harm, disrupt, or affect our workers, sites, business, or communities.

Through strategic alignment with our business and operational teams, we can efficiently and swiftly identify and direct resources to preserve and safeguard our assets, both tangible and intangible. Our strong relationships with federal, state, and local first responders strengthen our commitment to keeping our communities safe.

Human rights considerations are taken into account when making business decisions and are driven by our Codes of Business Conduct and Ethics. These codes provide guidance on human rights issues such as non-discrimination, anti-harassment, workplace safety and equal employment opportunities. We actively participate in the lives of the communities where we live and operate, and engage with our neighbors to understand the environmental and human impacts of our operations. When assessing and addressing these impacts, we consult with those who may be affected.

Our assets are typically located in rural areas with low populations, such as farms or ranch lands and are not located near indigenous lands. In the event of future acquisition or expansion, PennEnergy will ensure respect of human rights and native lands, as well as honor the traditions and the cultural, social, and religious beliefs of others, including those of indigenous peoples if applicable.





## EMPLOYEE DIVERSITY & INCLUSION

PennEnergy has a zero-tolerance policy for discrimination based on age, gender, nationality, socioeconomic background, disability, religion, or sexual orientation. We are committed to providing equal opportunity in all our hiring and compensation practices. We aim to attract the most talented employees and provide an environment for them to grow and succeed.

We seek to foster an inclusive and respectful work environment. We promote diversity externally through soliciting applicants from various sources and internally through management development programs. PennEnergy promotes female leadership and advancement through support of the Women's Energy Network ("WEN") professional group. We recognize that genuine value is added to an organization when thoughts are shared among individuals with varying perspectives in an effort to generate better ideas and reach more balanced decisions.

## WORKFORCE HEALTH & SAFETY

PennEnergy takes pride in developing and retaining the best talent and we are committed to the well-being of the employees, as well as the safety of the many vendors and suppliers with whom we do business. Consistent with our Core Values, we strive to have a zero-incident rate. Employee health and safety is a central pillar that supports and strengthens each project we undertake. We believe that exceeding industry performance standards and having a zero-incident rate is achievable through a culture that promotes caring for each other and continued improvement of safety management systems.

### **Health & Safety**

*Protecting and ensuring the health and safety of our employees, contractors and neighboring communities is of paramount importance to our expected performance and the perception of our company and employees.*

Compliance issues and other health, environmental and safety ("HES") incidents are identified through various methods including field operations personnel, internal reviews, weekly operations & communications meetings, and audits. PennEnergy has a strong culture of cooperation with contractors and business partners who routinely communicate HES issues and incidents back to PennEnergy supervisors and managers. We utilize a team approach to ensure issues and incidents are properly identified and corrected.



## 2024 Safety Data Metrics

Total Recordable Incidents	1
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Total Recordable Incident Rate (TRIR)	.85
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Lost Time Injury Rate (LTIR)	0
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Total Fatalities	0
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We prepare our team to work safely through comprehensive training and orientations, on-the-job guidance and tools, safety engagements and other resources. Our employees are trained to report and to correct HES incidents and near misses, and every employee and contractor has the authority and is encouraged to halt operations (“STOP Work Authority”) should they have an issue or concern regarding any planned or ongoing operation.

All employees are trained and understand that the timeliness of reporting is paramount and that all incident reports (HES and others) are to be completed as soon as possible. All incidents are reviewed during weekly operations meetings.

### FIRST RESPONDER TRAINING

In addition to internal trainings, our staff host a number of annual trainings with the local first responders (fire department and police) within our operating footprint. Our efforts consist of both classroom and on location trainings at our facilities. Trainings are designed to familiarize departments with PennEnergy processes and procedures, mitigation and safety mechanisms, as well as an open dialogue for any questions or concerns. These proactive steps help ensure a safe and appropriate response in the event of a call for service to one of our locations.

# ENVIRONMENT



## **Environmental Stewardship**

*We will use commercially reasonable efforts to minimize the environmental impact of our development and will strive to meet or exceed all applicable laws and established industry best practices. We operate as guests of our landowner partners and will conduct ourselves accordingly.*

## ENVIRONMENTAL MANAGEMENT & COMPLIANCE

PennEnergy maintains several dedicated teams responsible for environmental matters (risk assessment, compliance, maintenance, etc.) falling under their purview, including the Air Quality & Sustainability (“AQS”) and Health, Environmental & Safety (“HES”) departments. Both teams work directly with the Vice President of Asset Development & Compliance, who is tasked with oversight of company compliance (i.e. “compliance officer”). These teams and the individuals within work to evaluate upcoming regulations (air quality, waste, safety, environmental, etc.), comply with existing regulations, and ensure that programs and processes are developed to mitigate environmental risk and comply with all applicable regulations, as well as to forecast, evaluate and plan related to expected or looming environmental obligations.

## EMISSIONS MANAGEMENT & REDUCTIONS

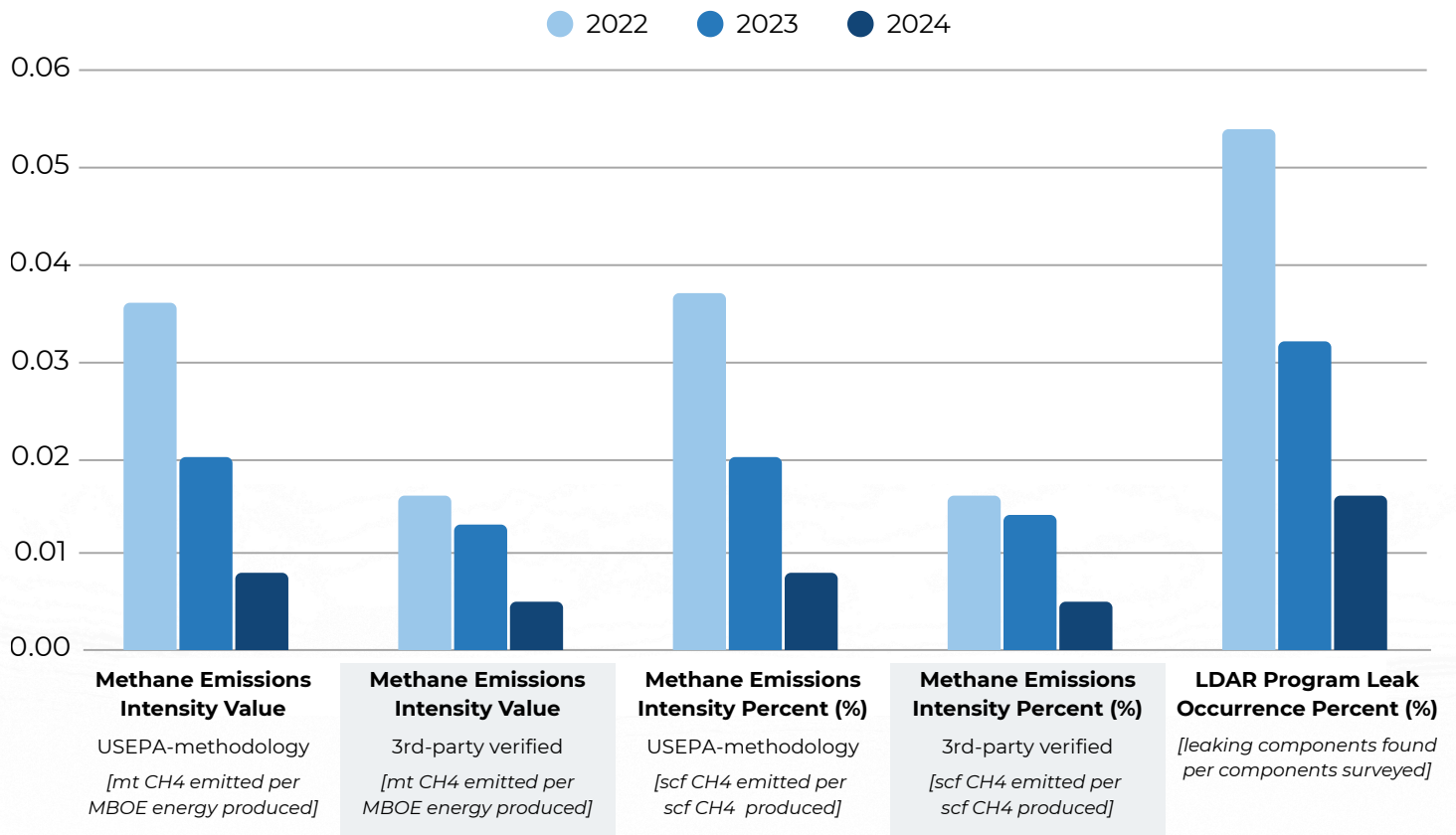
PennEnergy is responsible for the development of affordable, reliable, and responsibly produced energy. In doing so, we work to preserve the lands and environment in which we operate. The management of emissions, including those of volatile organic compounds (“VOCs”) and greenhouse gases (“GHGs”, such as methane) from oil and gas production has emerged as a significant operational, reputational, and regulatory focus area for our company. Our regulatory and environmental performance goes beyond mere compliance with applicable regulations.

We remain committed to the communities we work in and to our stakeholders to uphold our Core Value of Environmental Stewardship. We believe that minimizing emissions, including those of VOCs and GHGs, is a critical responsibility of upstream oil & gas companies. We strive not only to meet or exceed all regulatory requirements but also to continuously reduce the emissions of our operations.



We quantify emissions from our drilling, completion, and production activities using industry best practices (measurement, calculation, metering, etc.) and actively monitor a range of emissions sources – including combustion processes, liquid storage, venting and fugitive emissions. We ensure we have proactive programs in place to find the root cause of emission instances and take immediate steps to perform corrective actions to mitigate these events.

## Emissions Metrics



**Notes:** Abbreviations above include metric tons of methane ("mt CH<sub>4</sub>"), thousands of barrels of oil equivalent ("MBOE") and standard cubic feet of gas ("scf"). USEPA-methodology values are in accordance and alignment with 40 CFR 98 Subpart W GHG reporting. Third-party verified values are from PennEnergy's Air Quality & Sustainability team's Environmental Management Information System ("EMIS") and represent a fully reconciled bottoms-up Pennsylvania Department of Environmental Protection state-level emissions inventory which utilizes current industry best practices, methodologies, calculations and technologies for quantification; these are further verified via a top-down verification program through an additional third party. LDAR program leak occurrence values are based on optical gas imaging ("OGI") surveys.



# THIRD-PARTY VERIFIED METHANE EMISSIONS PERFORMANCE CERTIFICATION

MiQ is the not-for-profit global leader in methane emissions certification; independently certified gas (“ICG”) certification under their standard is conducted by accredited third-party auditors (an additional level of assurance) and assessed against the MiQ Standard to assign an A to F grade for methane emissions performance.



ICG is a classification of natural gas produced in the most environmentally responsible way. The robust MiQ Standard was developed in a partnership between the Rocky Mountain Institute (“RMI”) and SYSTEMIQ, Ltd to reduce methane emissions in the oil and gas industry by differentiating producers that excel in methane mitigation, advanced technology deployment, and environmental stewardship.

## **High Performance**

*We create sustainable value through the development of highly productive assets, disciplined capital allocation, efficient operations, and enabling our team to perform at the highest level with the appropriate resources and a collaborative and supportive work environment.*

In October 2023, PennEnergy achieved top marks in all three MiQ scoring categories: methane intensity (the percentage of methane emitted to atmosphere vs. methane produced as a product – less than 0.05%), monitoring technology deployment and company practices. This earned PennEnergy an “A” grade through MiQ – the highest rating available, and a rating through what is often currently considered the gold-standard in terms of emissions certification. PennEnergy’s MiQ certification (at an “A” grade) continues to be maintained via regular reporting and annual recertification auditing via third party.

In prior years, all of PennEnergy production had been certified by Project Canary as Responsibly Sourced Gas (“RSG”, now known as “ICG”) at a “Platinum” (highest available) rating on > 99% of its producing wells. In September 2024, PennEnergy was advised that Project Canary would no longer certify new production from any producer. With this change PennEnergy has opted out of recertification for its existing portfolio, all prior certifications expired in December 2024.





# EMISSIONS REDUCTION-FOCUSED FACILITY DESIGN & MONITORING

Ensuring that a natural gas production facility is able to operate in an environmentally-conscious manner begins long before the production of gas, and even long before well pad construction. It starts with thoughtful and deliberate engineering related to facility design - this sets the foundation for reducing environmental impact and safeguarding worker safety, in addition to optimizing production. PennEnergy prides itself on continually improving its engineering design (especially in the area of emissions control and mitigation), a process which is integral to the conceptual design phase and verified by millions of real-world process data points (of various parameters from field-based instrumentation) which have been collected over years of operation.

PennEnergy's proprietary engineering models leverage best-available calculations, software, and empirical data to simulate pad operations – everything from well head fluid flows through waste vapor combustion. With this forward-looking approach, PennEnergy simulates equipment performance under both expected and non-routine conditions, and hand-selects the most suitable components and equipment for safe and reliable operation. In addition to mitigation-centric engineering, PennEnergy builds (and periodically upgrades) facilities with features that eliminate or reduce emissions at the source, including technologies which reduce or eliminate emissions (ex. air compressors to power pneumatic devices, electric-driven vapor recovery units to recover tank vapors). These designs and choices allow environmental performance to be maximized while simultaneously minimizing operational costs, downtime risk, and maintenance.

Once production begins, continuous monitoring of carefully selected process parameters begins. This enables real-time monitoring of the facility's health and its environmental performance. Constant visibility and automatic alerts related to these parameters allows PennEnergy to quickly identify abnormal conditions and mitigate events promptly. By layering thoughtful facility design with continuous monitoring, PennEnergy maintains a proactive and data-driven approach to environmental stewardship and sustainability.





**Before:** An acquired facility in its as-purchased state, prior to beginning any PennEnergy upgrades or modifications.



**After:** The same acquired facility after a full modification project, which enhanced its environmental and safety profile.

A notable achievement occurred in the 2024 calendar year related to facility design and emissions reduction: on December 17<sup>th</sup>, PennEnergy completed a long-term endeavor to fully retrofit all existing natural gas-powered pneumatic devices in its asset base to non-emitting (i.e. zero emission).

Although many PennEnergy facilities had been originally constructed with zero emission pneumatic devices (i.e. powered by compressed air), the effort to retrofit the remaining natural gas-powered devices had been ongoing for many years at legacy and acquired facilities, and required extensive coordination related to the associated facility retrofits, including utility power connections and equipment installations. The table below shows the approximate number of natural gas-powered pneumatic devices which were in operation during (at least part of) that calendar year.

Year	2018	2019	2020	2021	2022	2023	2024	12/17/2024
No. of Devices	1,436	1,411	1,335	1,253	1,043	696	398	0



# BUILDING A COMPREHENSIVE LDAR PROGRAM

PennEnergy Resources takes a proactive and thoughtful approach towards reducing emissions through its Air Quality & Sustainability program. A key element of this program is the comprehensive leak detection and repair (“LDAR”) program, which monitors all facilities for fugitive leaks via multiple technologies (with prompt, predominantly same-day repairs) and goes well beyond the basic regulatory requirements.

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## Optical Gas Imaging (“OGI”) Inspections

On a monthly basis, PennEnergy conducts OGI camera inspections – triple the frequency required under current regulation. OGI cameras are a ubiquitous and sensitive industry tool for leak detection, and the cornerstone of PennEnergy’s LDAR program.

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## Audio, Visual, and Olfactory (“AVO”) Inspections

On a weekly basis, PennEnergy conducts AVO inspections – quadruple the frequency required under current regulation. AVO leaks are detected using senses (sound, sight and smell) by operators familiar with the facilities to frequently hone in on potential leaks.



## 3rd Party Flyovers

In addition to boots-on-the-ground inspections, voluntary aerial inspections are conducted by contractors to detect potential anomalous emissions from above on an annual basis.

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## Emissions Quantification

PennEnergy began quantifying fugitive component leaks with a precision methane analyzer in 2024. This equipment has allowed PennEnergy to obtain more accurate emissions data for this category of emissions source.





## WATER MANAGEMENT, INFRASTRUCTURE & REUSE

PennEnergy goes above and beyond industry standards when it comes to water safety and water management. We understand the importance of minimizing water usage and the value of implementing recycling efforts whenever possible. Freshwater is a precious resource, and we seek innovative ways to use non-potable water and reduce the overall amount of water used throughout our operations. We are also mindful of the effect of our operations on local communities and strive to ensure other end users have the water resources they need.

Upstream operations require significant quantities of water to produce the most prolific amount of oil and gas. Water for use in operations is sourced from surface waters, municipal water, and produced formation water. The possibility of reduced water availability, regulations limiting usage, or related cost increases, particularly in water-stressed regions, must be closely monitored. In addition, the process of oil and gas production creates “saltwater” (brine), which must be safely discarded or reused. We follow comprehensive procedures for safeguarding water quality and for handling produced water responsibly.

Our water infrastructure at PennEnergy reflects our commitment to sustainable water management practices in the oil and gas industry. With a focus on maximizing reuse and minimizing freshwater consumption, we strategically plan our development schedule to optimize the utilization of our produced water resources.



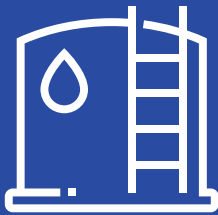


We utilize temporary water lines to facilitate the movement of freshwater to operational sites, enhancing flexibility and efficiency in water distribution. This allows us to minimize truck traffic and reduce the environmental footprint of our operations. Our infrastructure also includes large impoundments that serve as storage reservoirs for freshwater. By storing significant quantities of freshwater at centralized locations, we reduce the need for supplemental trucking.

Decrease of an estimated  
~18,290 truck trips on  
community roadways through  
use of temporary water lines in  
2024



During periods of inactive operations, we utilize large MASS (“Modular Aboveground Storage Structure”) tanks to store produced water. This temporary storage solution ensures efficient management of produced water volumes, allowing for safe containment and future reuse.



Reduction of approximately 474,000  
barrels of water being sent to disposal  
through utilization of MASS (Modular  
Aboveground Storage Structures) tanks  
in field storage in 2024

By integrating these elements into our water infrastructure, we demonstrate our commitment to responsible water management practices while supporting the long-term sustainability of our operations and the surrounding environment. Our water infrastructure not only focuses on efficient water management but also prioritizes the protection of water quality and environmental stewardship.


We prioritize the reuse of our own produced water wherever feasible, which helps us reduce our reliance on freshwater sources. This approach minimizes both costs and environmental impact associated with water procurement and disposal.



Additionally, through partnerships and water sharing agreements with other oil and gas operators, we participate in the exchange of produced water.

This collaborative approach enables us to optimize water resources regionally, reducing overall freshwater demand and enhancing sustainability across the industry.

Water that cannot be reused or recycled throughout the lifecycle of our operations must be disposed of through alternative means, including injection into permitted working reservoirs (which improves oil and gas recovery), as well as other options to discharge water in accordance with applicable regulations and industry best practices.



During a typical year PennEnergy recycles 70-75% of its produced water

## CHEMICAL DISCLOSURE

FracFocus is the national database used to report the chemical ingredients in hydraulic fracturing fluids. In Pennsylvania, the Pennsylvania Department of Environmental Protection (“PADEP”) oversees the submittal of these disclosures.

PennEnergy Resources is committed to responsible chemical management, and maintaining compliance with ongoing FracFocus submittals supports our environmental stewardship and regulatory reporting goals.

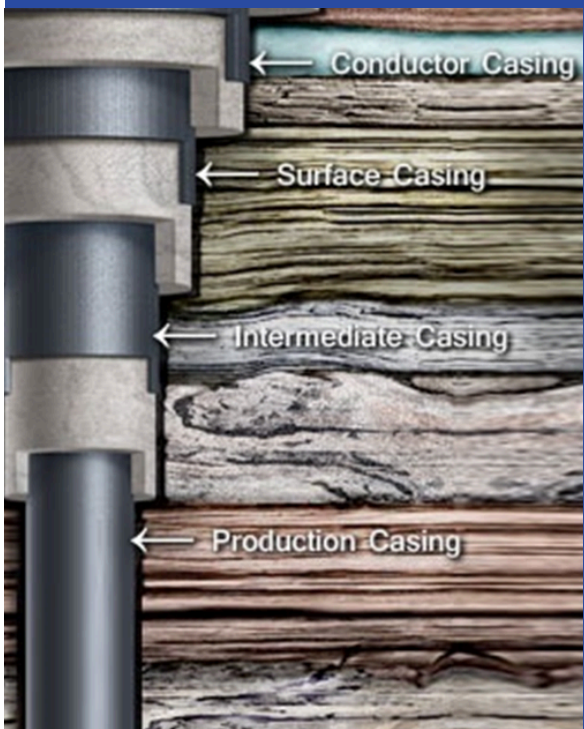




# GROUND WATER PROTECTION

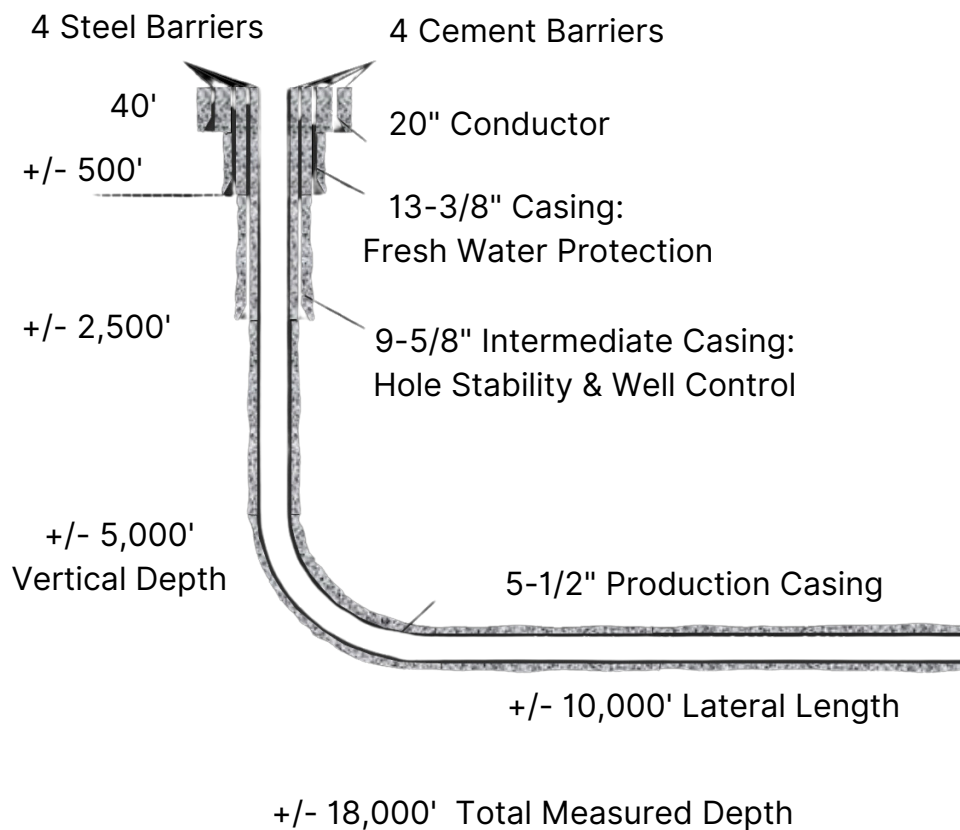
During project planning, construction, and operations, we seek to protect natural resources and to maintain biodiversity. All new projects undergo intensive assessments for the presence of natural resources that could be affected by our operations. Our surface facilities are also designed and constructed with a variety of containment measures to prevent impact to the environment should a leak or spill occur.

**Below-** Diagram depicting cement between casings isolating rock formations and protecting ground water.



**Right-** Well schematic showing all casing strings with lateral. This gives the range of depth for each casing string, lateral length, and true vertical depth of each well.

During operations, we are required to follow strict well integrity standards and routinely assess operating equipment to ensure compliance with recognized industry practices. Casing integrity of each well is designed, confirmed, and verified to ensure that the surface and groundwater bearing zones are protected. We also require a robust well integrity monitoring program to verify the mechanical integrity of production wells. Preventing and minimizing spills throughout the lifecycle of our operations is a top priority that allows for prompt remediation in the event a spill occurs.

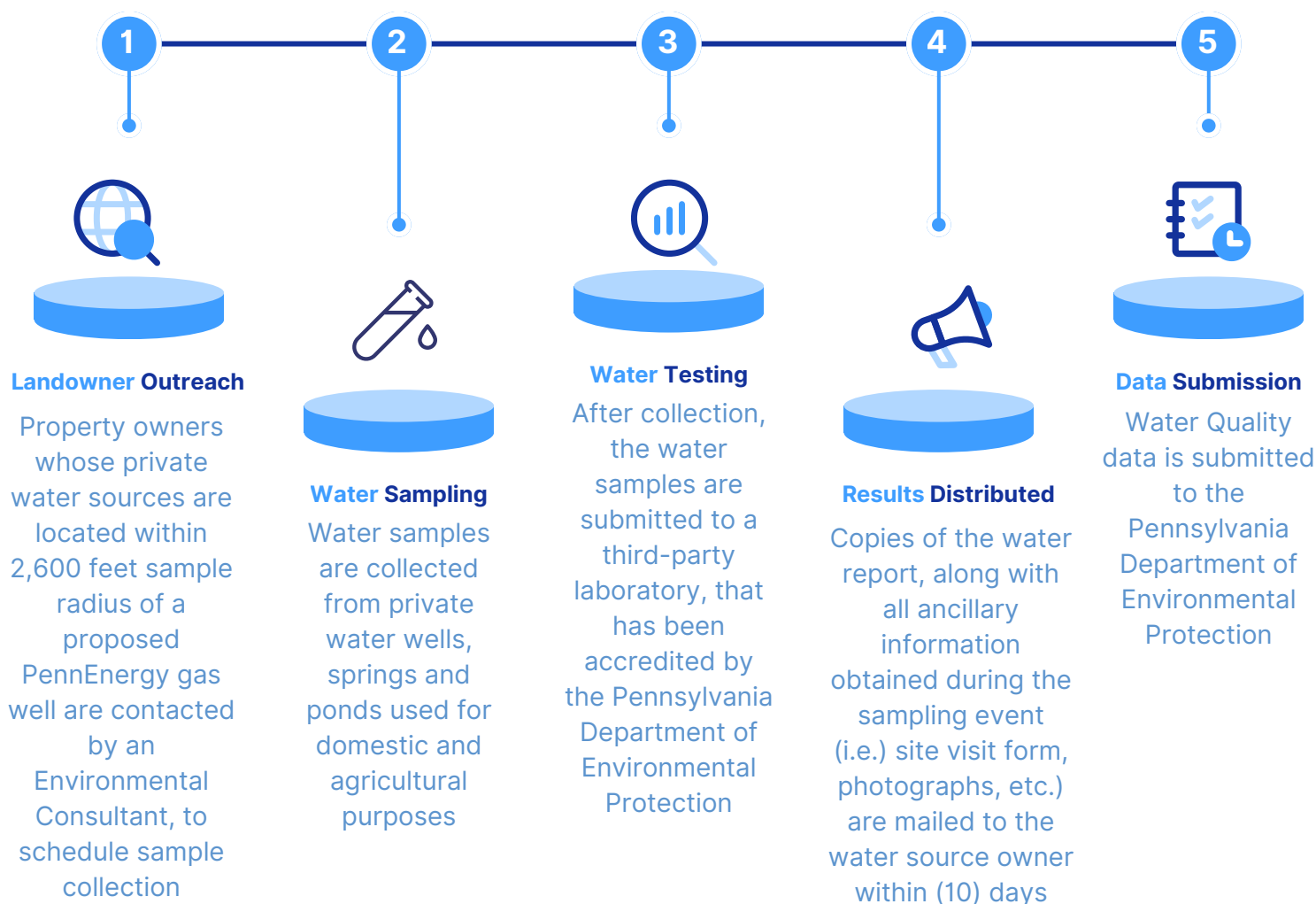




# WATER QUALITY SAMPLING

In addition to water reuse and recycling efforts, we conduct baseline water sampling before any earth disturbance takes place. We begin by identifying all private water sources / drinking water sources within two thousand six hundred feet of a natural gas well surface hole location. Landowner water sources are sampled and submitted to a Pennsylvania state certified laboratory where they are analyzed for a predefined set of constituents to indicate baseline water quality. Landowners are provided copies of these results.

The baseline water sampling program is performed in accordance with guidelines for conducting pre-drilling surveys and water testing established by the Pennsylvania Department of Environmental Protection (“PADEP”). All field and office work is completed by, or under the supervision of, a geologist licensed to practice geology in the Commonwealth of Pennsylvania and experienced with the latest techniques for completing pre-drilling surveys.







# SPILL PREVENTION & RESPONSE

We recognize that ecological impacts are closely tied to well design and integrity management. Preventing and minimizing spills throughout the lifecycle of our operations is a top priority that allows for prompt remediation in the event a spill occurs.

Primary containment is the first line of defense for ensuring that liquids remain in their intended storage system - as such, ensuring the proper integrity of these tanks/vessels/containers is a constant task for PennEnergy and its contractors.

Proper design of secondary containment is an integral portion of all activities, operations and facility builds, and is designed to hold 110% of the maximum capacity of an individual storage vessel. Similar to primary containment, continually ensuring the proper integrity of these systems (and continually evaluating/upgrading their design) is a routine task for a variety of personnel.



In accordance with our commitment to preventing spills, we employ (and regularly evaluate) industry best practices such as the utilization of spray polyurea in our secondary containment systems where feasible. The polyurea hardens and forms a seamless, watertight, flexible seal that holds up in a variety of changing environmental conditions (such as heat, cold and sunlight exposure) and effectively prevents leaks and spills from breaching containment boundaries, while also extending the lifespan of these containment systems.

2024 Release Data	
Total number of hydrocarbon releases > 1 Bbl	0
Total volume of hydrocarbon released (Bbls)	0
Total volume of recovered released hydrocarbons (Bbls)	N/A
Total number of produced fluid releases > 1 Bbl	1
Total volume of produced fluid released (Bbls)	1
Percentage of released produced fluid recovered during response	100%



## KEY WATER PRACTICES

In addition to maximizing water reuse and minimizing freshwater consumption, we implement stringent measures to safeguard ground water quality throughout our operations.

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### Secondary and Tertiary Containment



We utilize secondary and tertiary containment measures to prevent the release of any materials used during operations into the environment. These containment systems act as barriers, ensuring that any potential spills or leaks are contained and mitigated before they can impact surrounding areas.

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### Compliance with Regulatory Practices

We adhere to strict guidelines set forth by the Pennsylvania Department of Environmental Protection (“PADEP”) and Federal guidelines for containment inspections, spill prevention, response protocols, and water storage. Our commitment to regulatory compliance ensures that our operations meet or exceed environmental standards, minimizing the risk of a contamination event.



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### Collaboration with Qualified Professionals



We collaborate with qualified environmental professionals to ensure responsible water sourcing practices. By working with experts, we verify that we never pull water from water-stressed areas or regions, prioritizing sustainable water sourcing practices.

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### Adherence to Regulatory Permits

We operate within the parameters of our regulatory permits, ensuring that our water usage and disposal activities comply with legal requirements. By strictly following regulatory guidelines, we mitigate the potential impact on water resources and maintain responsible stewardship of the environment.





## BIODIVERSITY IMPACTS

We demonstrate environmental stewardship by respecting and protecting species and habitats on all of the lands where our company produces oil and gas. As a leader in the acquisition, exploration, production, and development of oil and gas properties in the Appalachian Basin, we have an important responsibility to preserve our areas of operation.

We are committed to being responsible stewards and endeavor to operate in a manner that protects species and habitats from the potential effects of our operations. None of our proved reserves are located in or near sites with protected conservation status or in areas that adversely affect endangered species habitat.

## PNDI PROCESS

All PennEnergy's projects must be screened through Pennsylvania's Natural Diversity Inventory ("PNDI") to determine if there are known endangered species, rare plants, or special habitats nearby. This online tool allows us to select project areas responsibly and protect biodiversity by avoiding special habitats and sensitive species with verified state and federal GIS data.

Western Pennsylvania is known for its biodiversity and certain project areas require further detailed reviews. The PNDI tool provides opportunities to coordinate with state and federal agencies for project approval. Some projects may require conducting a presence/absence survey or committing to a time of year restriction for tree clearing or stream crossings. Regardless of the species or project restrictions, PennEnergy's goal is to avoid impacts and the first step in that process is using the PNDI screening tool.



# ACKNOWLEDGEMENTS

\*The information included in this report has been subjected to the Company's policies surrounding the disclosure of financial and non-financial data. The information included in this report is as of and for the year ended December 31, 2024. Some of the financial information included in this report may not have been subjected to a third-party audit verification process.

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\*\*Note also that a portion of the actions and expenditures related to the conversion of natural gas powered pneumatic devices to non-emitting devices discussed in this report were required by a Consent Decree entered into by PennEnergy Resources with the United States Environmental Protection Agency and Pennsylvania Department of Environmental Protection.

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## CONTACT

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