Section V

Environmental Management

Energy Transfer continues to take an active industry role in demonstrating real and sustainable achievements in Environmental, Social, and Governance (ESG) initiatives. We are committed to protecting the environment and we recognize the importance of reducing emissions across our operational footprint which covers 38 states and Canada. We do this by incorporating a variety of technology and environmental management processes, using renewable energy sources when possible, and partnering with industry organizations to share in best practices and further the advancement of a clean energy future.

> Energy Transfer supports the principles of ESG as they relate to promoting environmental stewardship, safety excellence, community engagement, operational excellence, and good governance.
>
> — ESG Director, Eric T.

Environmental Management Systems

Energy Transfer operates and maintains an Environmental Management System to drive improved performance and compliance, and we also provide necessary capital and personnel to implement our environmental policies. In addition, we employ environmental management teams whose primary initiative is to protect public health and the environment, both in the construction and operation of our assets. These teams consist of more than 80 environmental engineers, scientists, and geologists who are focused on ensuring that our environmental management systems responsibly and efficiently reduce emissions, protect, and preserve the land, water, and air around us, and remain in compliance with all applicable regulations. We also monitor and report environmental performance to executive management on a regular basis.

team of **80+**
environmental engineers, scientists and geologists

sequestered
81,000+
metric tons of carbon dioxide
through utilization of AGI

Emissions Prevention Technology, Opportunities & Initiatives

We are committed to identifying and implementing cost-effective emissions reduction and prevention programs, including the reduction of our carbon footprint (methane and CO_2). As part of this commitment, we make significant investments each year in technology to reduce emissions and improve our overall operations performance and efficiency. These technology investments include carbon capture, pneumatic devices, thermal oxidizers, FLIR optical imaging cameras and pipeline pump-down techniques, among others.

Carbon Capture & Sequestration

We implement carbon capture and sequestration at several of our existing treating and processing facilities that are already allowing us to sequester more than 81,000 metric tons of CO_2 on an annual basis. Carbon capture and sequestration is a method for reducing the amount of CO_2 emitted to the atmosphere through the process of capturing and storing the emissions. We are also actively pursuing numerous other carbon capture and sequestration projects related to our gathering and processing facilities.

One way we capture carbon is through the process of Acid Gas Injection (AGI). In 2020, Energy Transfer sequestered more than 81,000 metric tons of CO_2 through utilization of AGI.

Currently, three of our natural gas processing facilities capture and recover H_2S and CO_2 from various process streams and inject the gas into permanent geologic storage formations. AGI is an environmentally beneficial method of managing acid gas and is essentially the compression of a low-pressure gas stream to sufficient pressure to achieve injection and storage in a deep and secure geologic formation. Acid gas storage wells and related infrastructure must meet rigorous safety design requirements, even beyond those of a normal production or service well.

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Emissions Prevention Technology, Opportunities & Initiatives continued

Engine and Turbine Emission-Reduction Technologies

Energy Transfer has used various emissions-reduction technologies on engines and turbines for several years. These include:

Engines

- Lean-burn Technologies – computer programs are used to maximize air-to-fuel ratios so that consistent low emissions (primarily NOx and CO) may be achieved on a more regular basis.
- Oxidative Catalysts – these are filter media which are inserted in the exhaust stream of the engine. They reduce CO, VOC and formaldehyde in varying quantities depending on the type of specific catalyst. These are mainly used on lean-burn-style engines and some turbines.
- 3-Way Catalysts – these catalysts are used on rich-burn engines where a reduction in NOx, CO, VOC and formaldehyde are needed.
- Selective Catalytic Reduction (SCR) – this catalyst is used to reduce a specific pollutant, typically NOx, within an exhaust stream. This may be used in conjunction with an oxidative catalyst to obtain a reduction in multiple pollutants. Typically urea or ammonia is injected as a fine mist into the exhaust stream to cause a chemical reaction with NOx. After the injection process, the exhaust stream is routed through a catalyst media to complete the reduction process.

Turbines

Gas turbines are used as an energy efficient way to increase pipeline gas pressure at our control and transmission stations, as well as generate electricity for critical facilities. Gas turbines without any emissions controls normally produce 10% of the emissions of engines on a per energy input basis as well as to generate electricity for critical facilities.

- SoLo NOx [Solar Turbines] and Dry Low NOx (DLN) – are company-specific technologies that are similar to the lean-burn methodology on engines. They use proprietary techniques to reduce NOx and CO emissions. Approximately 75% of our gas turbines are equipped with SoLoNOx, a proprietary emissions reduction package that allows us to reduce NOx, CO and Unburned Hydrocarbons emissions by 32% annually.
- SCR and Oxidative Catalyst are similar options to those discussed above.
- Water Injection – this technique uses water injected into the combustion chamber to reduce the combustion temperature, thereby reducing NOx generation.

Thermal Electric Generators

In remote areas where local commercial power isn't available, we often use a Thermoelectric Generator, also called a Seebeck generator, which is a solid-state device that converts heat flux (temperature differences) directly into electrical energy through a phenomenon called the Seebeck effect. These generators consume up to 50% less fuel than competitive technologies and are tied directly into our pipelines. They use natural gas as a fuel source for heat and produce low voltage that keeps our batteries charged and communications up and running for our Gas Control Centers.

Pneumatic Controllers

To date, we have installed approximately 12,000 low-bleed pneumatic controllers throughout our approximately 90,000 miles of pipeline systems to reduce methane emissions primarily at our automated valve sites. Pneumatic controllers allow us to safely and efficiently adjust and control our operations through liquid level controllers, pressure regulators and valve controllers. Low-bleed pneumatic controllers allow us to effectively prevent approximately 71 tons (2.9 million standard cubic feet) of methane emissions every day.

pneumatic controllers
prevented
2.9 million
cubic feet of methane per day
of emissions

Solar Turbine Emissions Summary

Solar units with SoLoNOx packages:
44.34%

Solar horsepower with SoLoNOx:
73.99%

Reduction in emissions by using SoLoNOx:
31.53%

FLIR Cameras

Our belief in incorporating leading-edge technology to constantly improve the operations of our assets extends to the use of FLIR cameras. These Optical Gas Imaging (OGI) cameras can identify methane emissions that are normally invisible to the human eye. This allows us to quickly pinpoint exact locations of any emissions that may be originating within our processing or compressions facilities, thus shortening our response and repair times when emissions are detected. FLIR cameras provide an additional layer of safety and emissions prevention measures as they are used in addition to the regularly scheduled inspections performed by our highly skilled technicians several times per year.

Thermal Oxidizers

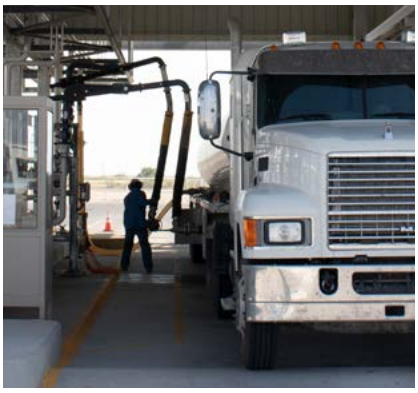
Thermal oxidizers are an important emission control device that reduce the environmental footprint of the operation. Thermal oxidizers convert volatile organic compounds (VOCs) and methane to CO_2 (a less carbon-intense green house gas), thereby reducing VOC and methane emissions by 98%, and in some cases by more than 99%. Thermal oxidizers are used at many of our more than 50 natural gas processing and sweetening plants. These plants improve the quality of the gas product and make it suitable for transportation and use in homes and businesses.

Pipeline Pump-Down Techniques

Pipeline pump-down techniques are used to reduce the pressure within the pipeline, resulting in a reduction of the amount of methane released to the atmosphere. We use these techniques where applicable when performing maintenance operations and testing on our pipelines. The pump-down technique uses in-line compressors either alone or in sequence with portable compressors to reduce pipeline pressure prior to depressurization.

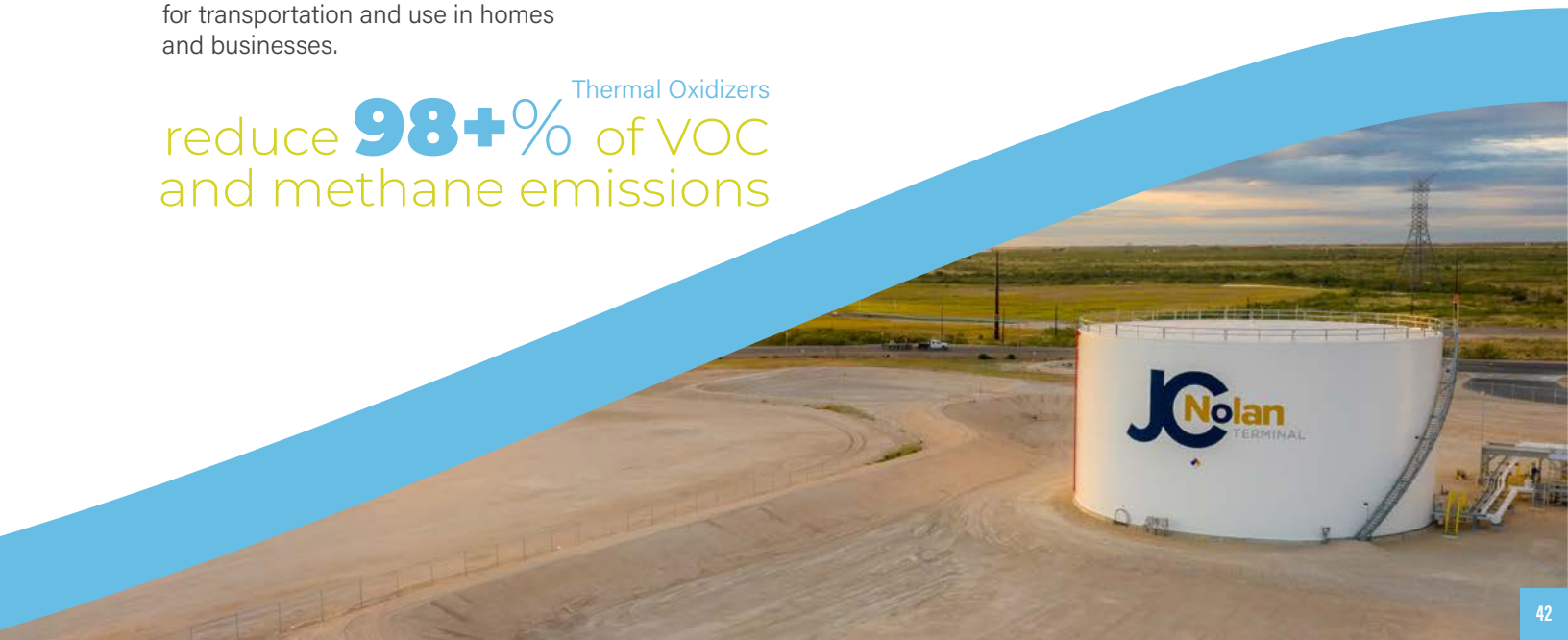
Crude Trucking Direct Injection

Using a direct injection method to move crude oil from delivery trucks in a one-step process rather than an often-used two-step process allows us to reduce emissions at our crude trucking unloading stations. Our direct injection process routes crude oil directly into large pipeline storage tanks rather than multiple small temporary storage tanks that are then required to be pumped into the larger pipeline tanks. In addition, hundreds of tons of VOC emissions are prevented annually through the process of pulling the vapors back into the large pipeline tanks when unloading the crude trucks through a vapor vent-back process.



Thermal Oxidizers

reduce **98+%** of VOC and methane emissions



Emissions Prevention Technology, Opportunities & Initiatives continued

Liquids Management Process

We use an advanced liquids management process that includes the use of stabilizers, slug catchers, storage and truck loading throughout much of our natural gas gathering pipeline system. All 44 of our stabilizers, which reduce the vapor pressure of natural gas liquids for storage and transport, have vapor recovery units to route any vapors from the stabilization process back into the plant for processing. Slug catchers capture free liquids coming in on the pipeline or from the pigging operations to remove liquids in the gas pipeline. These liquids come into the slug catcher at times with water entrained in the condensate/NGLs. This is one of the primary reasons to route these liquids to the flash tank so that the water entrained in the liquids can be removed before process into the stabilizers. Flashing these liquids in the flash tanks recovers any of the lighter molecules entrained in the condensate/NGLs.

By conducting this process, we capture these lighter molecules using our vapor recovery compressors, compressing these gasses and returning them to the inlet gas stream for further processing in our Cryo plants.

Flashing these liquids also reduces the amount of flashed liquid storage needed before the stabilizing process. Vapors generated from the stabilizer process are also captured and compressed through our vapor recovery compressors and returned into the Inlet gas stream for further processing in our Cryo plants. The stabilized liquids are then stored in tanks for truck loading, removing them from the facility.

By stabilizing the liquid instead of storing it in an atmospheric liquid storage tank, a single 10,000 barrel per day stabilizer can prevent as much as 40,000 tons of VOCs per year from being emitted into the atmosphere. In addition to preventing flash emissions, this process also prevents emissions from tanks and liquid loading/unloading that occur when vapors are displaced as a tank is filled, and when vapors are displaced due to changes in tank temperature and pressure (tank working and breathing losses).

Stabilizing liquid can
prevent
4,000 tons
of VOC per year
from being emitted into
the atmosphere

Chemical Injection Pumps

We are evaluating opportunities for converting our gas-driven injection pumps to electric, solar or pneumatic, which would eliminate the gas exhaust on existing injection pumps in the field. Solar-powered electric chemical pumps are in the U.S. EPA Natural Gas STAR Program's list of recommended technologies to reduce methane emissions. Additionally, we are evaluating the feasibility of retrofitting our gas-driven injection pumps with low- or no-emission technology such as exhaust gas recovery.

Energy Efficiency

We have integrated various technology and work practices in the design and operation of our facilities to achieve synergistic environmental impact reductions. Below are some of the ways in which we optimize our facilities and practices to be energy efficient.

Fractionators

Our Mont Belvieu, Texas, fractionators are world-class facilities that are designed to be resource efficient and built with state-of-the-art emissions-reduction equipment. The heaters at our Mont Belvieu fractionators are equipped with ultra-low NOx burners. In addition to ultra-low NOx burners, the hot oil heaters are outfitted with selective catalytic reduction (SCR) emission control systems that further reduce NOx emissions. In addition to the control technologies, the hot oil heaters are equipped with continuous emission monitoring systems.

Our Mont Belvieu fractionators recover heat from the overhead products and product compression which decreases the necessary firing rate of our hot oil heaters and reduces potential emissions from combustion. Another added benefit of recovering and utilizing the heat in the process is the reduction of necessary cooling of the products in the cooling systems. By reducing the amount of necessary cooling, the amount of raw water, water discharge and particulate matter emissions is decreased.

The product and refrigeration cooling systems at the Mont Belvieu fractionators utilize Wet Surface Air Coolers in lieu of conventional evaporative cooling towers, and their design eliminates VOC emissions from the cooling tower effluent and further reduces particulate matter emissions, raw water usage and water discharge when compared to conventional evaporative cooling towers. The Wet Surface Air Coolers are equipped with an emissions control technology called drift eliminators which further reduce particulate matter emissions. The Wet Surface Air Coolers also require less air and water flow when compared to conventional evaporative cooling towers, which reduces the amount of horsepower needed to drive the fans and water pumps and results in an overall reduction of the carbon footprints of the systems. Additionally, the Wet Surface Air Cooler water is sourced from a local water conservation and reclamation district.

Additionally, the Mont Belvieu fractionators employ a fugitive emission monitoring program to detect leaks. Approximately 150,000 components are individually monitored quarterly utilizing flame ionization detectors, and every week the components undergo an audio, visual, and olfactory inspection. Any component found to be leaking undergoes directed maintenance, which consists of repairing the component while assisted by a flame ionization detector in order to ensure that the lowest possible emission concentration is obtained.

Liquids Pipelines System Optimization

To further limit environmental impacts, Energy Transfer implements a variety of techniques to optimize its operations, reduce power consumption, and reduce indirect emissions across its network of oil pipelines. These techniques include:

- Allocating larger volumes of crude oil to the more energy efficient pipelines and ensuring that oil is balanced across both heavy and light crude lines.
- Operating pipelines at consistent flow rates leads to more energy efficient operations and less overall power consumption, similar to an automobile having greater fuel efficiency on the highway rather than in the city.
- Adding a Drag Reducing Agent to the crude oil reduces pipeline fluid friction, which causes the oil to flow more efficiently, thereby decreasing the amount of energy needed to move the crude oil through the pipeline and allowing some pump stations to be bypassed.
- Introducing power limits on some stations to avoid unnecessary spikes on the flow rate.

Fractionators utilize
Wet Surface Air Coolers to

eliminate **VOC** emissions

Dual Drive Technology

electric motor + natural gas engine

As we focus on emissions reductions across our operations, our patented Dual Drive compression technology offers the industry a hybrid natural gas compression solution that reduces greenhouse gas emissions through a patented system capable of reciprocally switching compression drivers between an electric motor and a natural gas engine. This unique compression system significantly reduces the burden on the electrical grid, particularly during severe weather events and peak usage periods. In 2020, this technology allowed us to reduce Scope 1 CO_2 emissions by more than 630,000 tons.

This unique compression system significantly reduces the burden on the electrical grid.

total tons of
emissions saved
using Dual Drive:

CO_2
632,267
tons saved

NOx **703**
tons saved

VOC **475**
tons saved

CO **771**
tons saved

Noise Mitigation

We take responsibility for controlling noise from our operations and take measures to mitigate it within our surrounding environment and communities. We ensure compliance with federal, state and local regulations. Noise impact is a key consideration in our engineering and construction process. We carefully analyze anticipated noise levels during the job scoping and planning stages of our projects and incorporate equipment and sound abatement tools in our operations.

If noise levels are expected to be an issue during both the construction and operation of the asset, meaning the location is not remote, mitigation measures are addressed during the project scoping, site selection process, and planning stages. Priority is determined based on the location selected and its proximity to high consequence areas (HCAs). Several factors are taken into consideration during this process:

- Location and population density of selected location
- Equipment or Type of facility to be installed
- Proximity to HCAs
- Decibel rating on equipment to be installed
- Decibel rating on construction equipment to be utilized

All sound mitigation solutions are tailored to match specific noise abatement requirements, however, the most common form of sound mitigation used during construction are sound walls. Controls are determined by city, county and state regulations. Should a noise complaint arise, project managers are responsible and accountable for addressing the matter, and the stakeholder has multiple approaches to launch an inquiry through:

- The construction contractor
- A company representative i.e. inspector onsite
- A ROW agent
- Pipeline control
- Local city, county or state officials

Water Management

Energy Transfer utilizes wastewater oil recovery at many locations throughout our extensive gas gathering system. Wastewater is collected in produced water tanks located at many of our facilities. We also have trucks that extract small amounts of wastewater from hundreds of pipe risers along our system. These wastewater streams are aggregated at centrally located processing sites that separate the oil and water. Through autonomous gravity separation processes, these recovery systems allow us to recover approximately 95% of the oil entrained in the wastewater from our gathering and boosting assets. The remaining water is then sent to third-party skimming processes where additional oil recovery occurs. Energy Transfer recovered approximately 32,916 barrels of oil/condensate in 2020.

Industry Collaboration

Energy Transfer aligns with organizations that focus on emissions reductions, sharing in best reporting practices, research and the development of new technology to promote safety and improve environmental performance.

In December, the Energy Infrastructure Council (EIC), in collaboration with GPA Midstream, released the first-ever Midstream ESG Reporting Template. Almost a year in the making, this ESG Reporting Template is the product of an extensive review of best-practice ESG reporting among EIC member companies and the ESG reporting requirements from numerous critical stakeholders. The collaborative process included members from both EIC and GPA Midstream (including Energy Transfer) and involved significant participation from in-house ESG specialists and professionals with operational and technical expertise. To ensure widespread adoption, EIC also received critical input and guidance from numerous investors. EIC and GPA Midstream are also continuing to expand investor and stakeholder engagement to ensure that the Reporting Template evolves as the ESG environment and midstream companies' ESG efforts advance.

Energy Transfer supports the EIC/GPA ESG Reporting Template and reports applicable ESG metrics through the template, which is posted on our website. This tool helps midstream companies focus on the most consequential and highest priority ESG metrics while giving the investment community and other stakeholders confidence in the relevance and comparability of midstream ESG reporting.

Center for LNG

The Center for Liquefied Natural Gas (CLNG) advocates for public policies that advance the use of liquefied natural gas (LNG) in the United States, and its export internationally. Natural gas has played a significant role in reducing CO_2 emissions from the U.S. power sector to 25-year lows. LNG offers the promise of a clean energy future that is affordable and accessible to all communities across the globe. Access to LNG can help lift people out of poverty, grow local economies, clean up the environment and enable access to modern, reliable energy.

PRCI

The Pipeline Research Council International (PRCI) is an industry research forum for technology developments and projects that assure the safe, reliable, environmentally sound and cost-effective pipeline transportation of energy to consumers worldwide. Energy Transfer plays a leadership role in PRCI through Board membership and participation in every technical committee. Many of the research projects focus on the development of new technologies that help reduce direct and indirect emissions from pipeline operations.

iPIPE

The intelligent Pipeline Integrity Program (iPIPE) is an industry-led consortium whose focus is to contribute to the advancement of new and emerging technologies to prevent and detect gathering pipeline leaks. Our participation in iPIPE is a proactive industry effort to evaluate new technologies that can be used for leak detection, leak prevention, change detection and pipeline risk modeling.

promoting safety & **improving** environmental performance

Q&A with

ESG Director Eric Tiemeyer

We take a moment to have a conversation with Energy Transfer's ESG Director about the practices and programs that shape our approach to ESG.

What is Energy Transfer's approach to ESG?

Energy Transfer supports the key principles of ESG as they relate to promoting environmental stewardship, safety excellence, community engagement, operational excellence, and good governance. These are the same principles that are inherent in our seven core values and beliefs—and these core values have directed and guided our company from the beginning. We consider ESG a rebranding of the fundamental philosophy embedded in everything we do as a company and as individual employees; our motto is—

"We do the right thing."

How does Energy Transfer factor the principles of ESG into its operations?

At Energy Transfer, this is accomplished through community involvement, employee and asset investment, emissions prevention and reduction, technology innovation and development, and robust governance. We believe in a transparent process that encourages open and robust reporting and risk reduction engagement. By understanding that no company or individual is "perfect," we strive to maximize the learning experience in our commitment to continuous improvement. We are also committed to governance policies that assure our management and our board of directors that the Partnership's business is conducted in a lawful and ethical manner. And we believe that one of the keys to our success has been the cultivation of an atmosphere of inclusion and respect within our family of partnerships. These values define Energy Transfer ESG and drive our unified focus on operating excellence, respecting all people, and creating a sustainable future.

What outcomes do you see from implementing these principles and practices?

We believe that long-term value creation should inform and drive every ESG program, and that the primary measure of success should be the improvement of human lives. The affordable and reliable energy molecules that we move and provide daily are essential to sustaining and improving life. Moreover, attaining any level of a

clean and sustainable environment would be impossible without using clean energy, like natural gas, ethane and propane. Our current approach is an action-based initiative to reduce ALL of our emissions, not just GHGs, and also to reduce global emissions through our export of clean fuels. For example, as one of the leading exporters of propane and ethane, we significantly impact global emissions reductions by providing clean-burning fuel as a replacement for more carbon-dense fuels. Developing countries commonly use carbon-dense fuels such as wood, coal, diesel and bunker fuel for power generation and residential heating, and these fuels emit significantly more emissions than propane or ethane. Unfortunately, nearly 800 million people have no electricity, and approximately 2.6 billion people are still using wood or animal waste for heating and cooking. Low-cost, reliable energy allows billions of people to enjoy the miracle of modern machines that keep us productive and prosperous.

How is Energy Transfer preparing for a possible "Energy Transition"?

Our Alternative Energy Group is looking at carbon capture utilization and sequestration opportunities in Texas and Pennsylvania. Additionally, we are looking to develop renewable diesel and renewable natural gas opportunities along with solar and wind projects that go beyond our recently announced energization of the Maplewood 2 solar project that is helping to power our assets in West Texas. We are also in advanced discussions to support a significantly larger solar project with a long-term power purchase agreement. This will increase the total amount of electrical energy that we purchase on any given day, originating from solar and wind sources, to above the 20 percent that we report today. And we are also in discussions with renewable energy developers regarding the utilization of some of our existing acreage in Appalachia for solar and/or wind projects for which we could be a co-developer.

Additionally, Energy Transfer's Dual Drive Technologies was awarded GPA Midstream's Environmental Excellence Award for reduction in greenhouse gas emissions and increased function efficiency associated with natural gas compression units. The unique technology features both a gas driver and electric driver operating system on the same compression skid, relying on the electric motor 80% of the time, to significantly reduce greenhouse gas emissions while providing important reliability to the electrical grid during periods of critical load.

How will Energy Transfer continue to evolve and shape ESG in the future?

You might say, "we were doing ESG before ESG was cool." Throughout our organization, from the top down, we have always been committed to maintaining and operating our assets safely, efficiently and in an environmentally responsible manner. To protect our employees, the public and the environment, we invest hundreds of millions of dollars each year on safety, integrity and reliability management, maintenance, and environmental programs to achieve these goals. To enhance and better communicate our existing environmental and social responsibility programs, Energy Transfer continues to formalize its ESG Program to highlight specific policies and programs, provide examples of positive and proactive projects, and report performance-based metrics and Key Performance Indicators (KPIs). We also make every effort to directly engage with all stakeholders regarding our ESG initiatives and programs. And, we are working with the ESG ratings industry to provide additional and correct information in the assessment of our ESG scores.

You might say,
"We were doing ESG before ESG was cool."