Dual Drive Technologies

*In 2022, this one-of-a-kind compression technology allowed us to operate using electric power on our units over **80 percent of the time**, reducing emissions by 752,062 tons of carbon dioxide annually.*

Through our subsidiary, Dual Drive Technologies, the use of our proprietary Dual Drive compression technology offers the ability to switch compression drivers between an electric motor and a natural gas engine. This allows us to reduce our emissions of nitrogen oxide, carbon monoxide, carbon dioxide and volatile organic compounds. The first Dual Drive was installed in East Texas in 2000. Since then, our fleet has grown to include nearly 100 units with approximately 425,000 total horsepower and 316 megawatts in multiple services from field gathering, transmission and cryogenic plant installations.

DUAL DRIVE IN ACTION

In addition to the environmental benefits, the Dual Drive compression system significantly reduces the burden on the electrical grid during severe weather events and peak usage periods. Since the compressor is driven by either a natural gas or electric motor, it is capable of seamlessly transferring between the two drivers with no change in throughput. Dual Drives are the only critical infrastructure compressors allowed to participate in the ERCOT Ancillary Service market without the use of back-up generation.

Energy Transfer recently began selling Dual Drive compressors to third parties under a licensing agreement, which helps further reduce the industry's carbon footprint. This is in addition to the energy management agreements that have been available to third parties since the inception of Dual Drive compressors. In 2022, there were 11 units operated by third parties across the West Texas region, saving an additional 110,000 tons of carbon dioxide annually.

2022 Energy Transfer's Emissions Saved Using Dual Drive Technologies
(82 Dual Drive Units)

NOx 859 tons **CO 899 tons** **VOC 570 tons** **CO_2 752,062 tons**

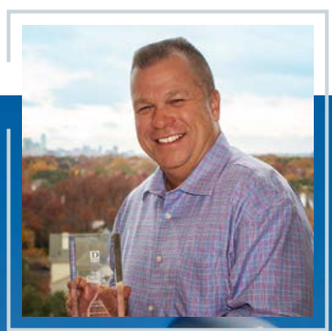
2022 Estimated Third Parties' Emissions Saved Using Dual Drive Technologies
(11 Dual Drive Units)

NOx 160 tons **CO 170 tons** **VOC 106 tons** **CO_2 110,000 tons**

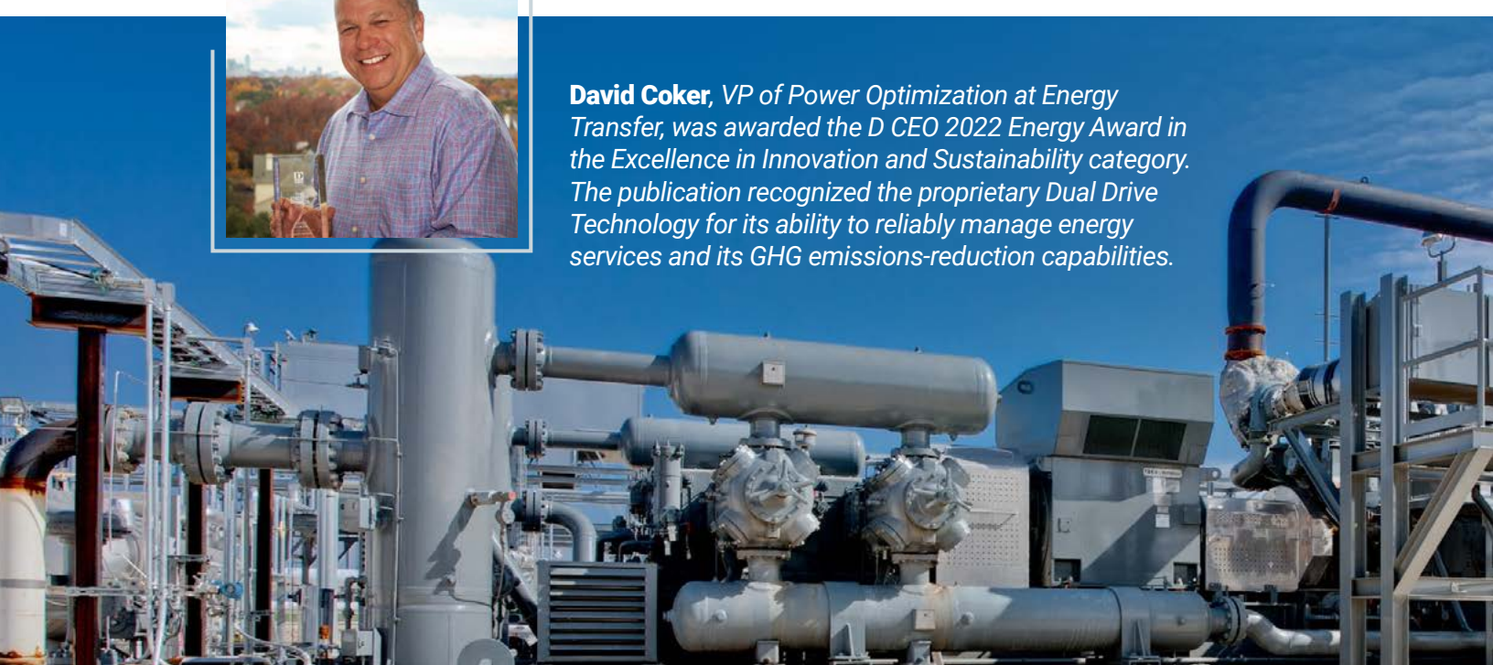
2022 Emissions Reduction from Dual Drive:

862,062

tons of CO_2



David Coker, *VP of Power Optimization at Energy Transfer, was awarded the D CEO 2022 Energy Award in the Excellence in Innovation and Sustainability category. The publication recognized the proprietary Dual Drive Technology for its ability to reliably manage energy services and its GHG emissions-reduction capabilities.*



Dual Drive Disclosure – The emissions saved using Dual Drive Technologies are calculated by first aggregating the total motor runtime for the year with the assumption that there are no emissions associated with electricity usage. The motor runtime is multiplied by the engine design fuel usage in million British thermal units per hour for each respective Dual Drive unit, which results in the total fuel on a heat basis that would have been combusted by the engines. The total fuel on a heat basis is multiplied by the weighted U.S. average default CO_2 emission factor for natural gas from Table C – 1 to Subpart C of Part 98 in Title 40 of the U.S. Code of Federal Regulations to determine the kilograms of CO_2 saved, which is then converted to long tons. Although the dual drive NOX, CO, and VOC emission reductions are reported in short tons, the CO_2 numbers are reported in long tons. In addition, as stated above, the CO_2 calculations are not offset by the Scope 2 emissions associated with generation of electricity used by the motors. Energy Transfer did not complete an independent third-party verification of the referenced data or emission reduction claim.