Deer Park Community Advisory Council

September 28, 2026

How Plants are Reducing Emissions

In preparation for the Annual Report on Plant Emissions in October, Gowan asked plants to talk about the following: 1) What specific projects or process changes have you implemented in the past 3-5 years to reduce air emissions, and how much have those projects actually reduced emissions. 2) Looking ahead 3-5 years, what is the biggest emission-reduction project your facility plans to undertake, and what measurable reduction do you expect it to achieve.

Clean Harbors: Marc Poppe said the largest recent reduction came from closing the last active landfill cell, eliminating about five tons per year of particulate matter from vehicle traffic. Operational improvements included using a wider mower to increase coverage from 7 to 15 feet across more than 100 acres, reducing weekly mowing time from 60 hours to 20–30 hours and cutting equipment runtime by about two-thirds.

Looking ahead, permit modifications will add sealed COMAR shredders to both incinerators, eliminating the second drum-opening step and reducing emissions during container emptying. The site is also removing an older positive-pressure rotary reactor and its ash drag-out system, eliminating potential leak-related emissions and another particulate source. Although the reductions are difficult to quantify now, their impact should become clearer within two years.

Dow: Rafael Mendes described three projects to reduce natural gas use and emissions. The first, already in operation, routes absorber off-gas (AOG) to a boiler instead of a flare, reducing NOx by about two tons and hydrogen cyanide (HCN) by one ton annually through more efficient destruction. A second project, recently approved by TCEQ, will route B3 unit flare gas to furnaces, reducing VOCs by about nine tons and NOx by four tons annually. A third project, planned for 2027 on the P-North unit, will improve flare assist-gas control, reducing CO by about two tons and NOx by 0.5 tons annually.

Evonik Oil Additives: Chelsea Ward said they are a minor source of emissions. VOCs from the reactor are routed to a scrubber that binds vapors into oil so they are not emitted. As part of an EPA enforcement action and a supplemental environmental project, two condensers were added to the poly kettles this year. They cool VOCs so they condense and return to the reactor instead of going up the vent to the scrubber.

ITC: Information was not provided due to ongoing litigation as a result of the 2019 storage tank(s) fire.

Kinder Morgan Deer Park Rail Terminal: Curtis Carr said is a small facility with a small emissions footprint.

Lubrizol: Dave Theiler said they have installed a new incinerator that covers multiple units, replacing an older unit and improving destruction efficiency on controlled waste streams. A manual gas valve was replaced with an automatic valve, which improved natural gas control to an incinerator. A hydrogen sulfide scrubber was installed in the utility's unit. Future work is aimed at incinerator performance and reliability, both intended to cut VOCs, SO2, NOx, and CO.

Novvi: Bob Wolff said they are permitted as a minor source. The main points are VOCs and NOx from furnaces and a boiler. Business conditions have held the plant at about 50 percent capacity for roughly a year. To limit emissions, run time is batched into larger campaigns so the site avoids frequent startups and shutdowns, which require lighting boilers and furnaces and moving vapors to the flare during tank transfers.

OxyChem PVC/KOH: Jeff Koetitz was unable to attend, but provided information for Gowan to share. Ammonia emissions were reduced by about 50%, from 10.5 tons annually to 5.87 tons in 2025, following a 2024 redesign of compressor filter housings and replacement of older, leak-prone valves. The improvements also reduced oil waste by more than 50%, or over 1,000 gallons annually, and decreased equipment openings and ammonia losses. VCM emissions declined about 16% when comparing 2024–2025 with 2021–2023, largely due to fewer equipment openings and less VCM remaining in vessels before maintenance. Although reported acetaldehyde emissions appeared to drop 23% in 2025, the difference resulted from a calculation error that had overstated previous years' emissions, not an actual operational reduction. The No. 2 boiler's burner and controls were upgraded to allow stable operation at lower steam demand, with emissions reductions expected in 2026. Capital funding is being sought to replace the burner on boiler No. 1.

OxyChem VCM: Josh Munn said the plant is focusing on reducing fugitive emissions from gaskets, flanges, threaded connections, and valves. Because the 1969 plant has an estimated 10,000–30,000 joints, the site has been converting about 100 per year to welded connections or bellows-seal valves. The program reduces process chemical emissions by roughly 30–33 pounds annually and is expected to remain a key initiative over the next five to 10 years, benefiting both workers and the community.

Pemex Deer Park: Prem Vuthandam said the site is focusing on tank and combustion improvements. Tank projects, including domed covers, double seals, and internal floating roofs, are reducing VOC emissions by about 10.8 tons per year at the Deer Park terminal. Low-NOx combustion technology on fired heaters is reducing NOx by about 21 tons annually. Additional projects are planned, primarily using existing technologies during scheduled maintenance.

Shell Deer Park: Lesli Jackson said they have focused on equipment reliability, reducing upsets and flaring, and improving flare performance. Annual air emissions fell about 70% from 2024 to 2025, driven largely by fewer upset-related flaring events. The site is continuing investments in process equipment and flare systems, including new pilots, automated ignition, and improved flame monitoring on the HIPA flare, as well as burner, piping, refractory, and control upgrades on the OP3 ground flare. The goal is to prevent emissions at the source, with fewer upsets and less flaring.

Texas Molecular: represented by Walt Stringer said the facility does not operate combustion units but instead handles large volumes of aqueous liquids containing hydrocarbons and VOCs. An ammonia/amine gas scrubber was added to capture ammonia and odors from waste unloading, and NOx scrubbers and carbon were added for mercury-related waste. The NOx scrubbers remove about 99.9% of NOx, while carbon removes about 99.9% of elemental mercury. No additional emissions projects are planned in the next few years unless a customer waste stream requires new controls.

Valvoline: Not a source of emissions.

Vopak Exolum: No report.

Vopak Terminal: No report.

Westlake Epoxy: Brian Wilkinson said the facility uses a sulfur-based catalyst whose off-gas is sent to the flare. An SO_2 reduction project completed over two years cut the amount of SO_2 sent to the flare by an estimated 75%. Future work includes EPA hazardous organic rule compliance, including additional fence-line monitors to identify process and fugitive emissions, with further projects planned over the next two to five years.

Read about DPCAC meetings and see summaries of our most recent presentations at www.deerparkcac.org.

DPCAC's October 26th meeting will feature *Annual Report on Deer Park Plant Emissions.*

Visitors are welcome! For an invitation, contact annelgowan@gmail.com.