Benicia Refinery
Benicia, California

Community Presentation

Valero Benicia Refinery

Valero Energy Corporation

Our Business

Click here to watch the Valero Energy Corporation video

GROWTH PROJECTS FOCUSED ON COST CONTROL, OPTIMIZATION AND MARGIN EXPANSION

15 refineries — lowest cost producer

3.2 million barrels per day of high-complexity throughput capacity

advantaged refining and logistics assets well positioned for feedstock and product optimization

ratable wholesale supply of >1.5 million barrels per day or over 50% of our light products

2024 BEST YEAR EVER FOR PERSONNEL & PROCESS SAFETY

PREMIER REFINING PORTFOLIO INDEPENDENTLY FOUND TO BE RESILIENT EVEN IN A CARBON-CONSTRAINED SCENARIO[1]

PROFITABLE, HIGH RETURN PROJECTS TARGETING GROWING LOW-CARBON MARKETS

DIAMOND GREEN DIESEL (DGD)

up to **1.2** billion gallons per year of renewable diesel

up to **235** million gallons per year of SAF

low-carbon intensity renewable products produced primarily from recycled animal fats, used cooking oil and inedible corn oil

up to **80%** reduction in life cycle GHG emissions

SUSTAINABLE AVIATION FUEL (SAF) PROJECT COMPLETED IN 4Q 2024

DEVELOPING ECONOMIC PROJECTS TO FURTHER REDUCE CARBON INTENSITY

12 ethanol plants

1.7 billion gallons per year production capacity

high-octane renewable fuel with lower CO_2 emissions

at least **30%** reduction in life cycle GHG emissions

existing logistics assets well positioned to support export growth

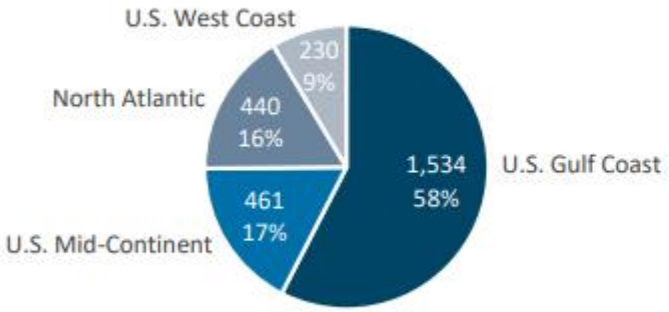
PURSUING REDUCTIONS IN CARBON INTENSITY THROUGH CARBON SEQUESTRATION

Best-in-class producer of fuels and products that are essential to modern life

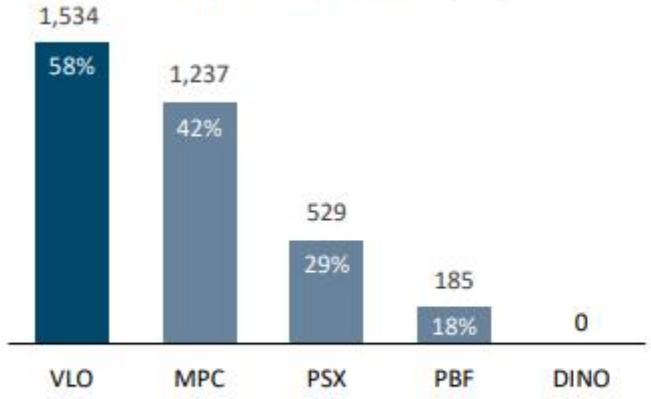
Valero

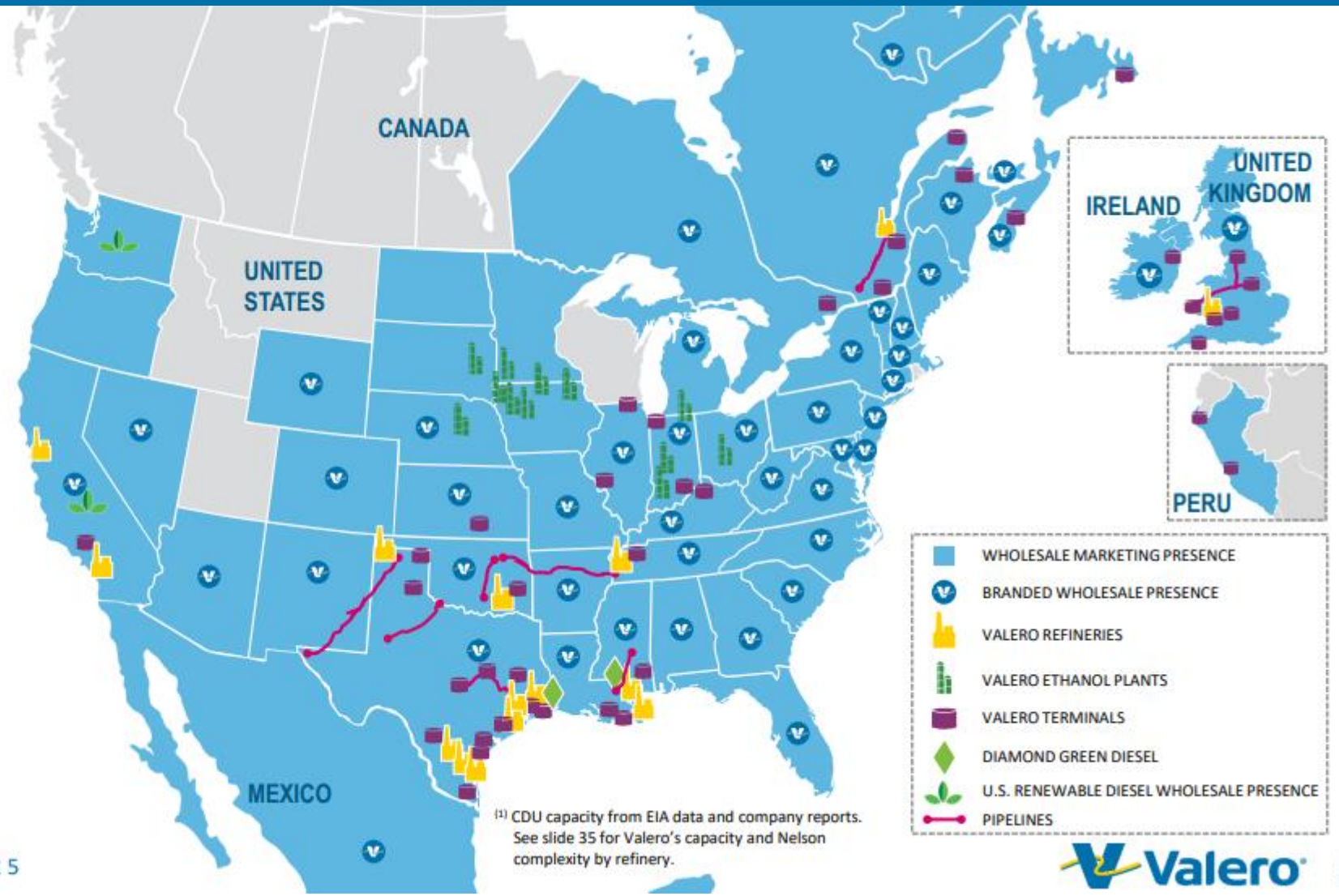
Valero Energy Corporation
Map of Operations

2.7 mmbpd Refining Capacity
(mbpd, % of overall crude capacity)



Gulf Coast Refining Capacity[1]
(mbpd, % of overall crude capacity)





[1] CDU capacity from EIA data and company reports. See slide 35 for Valero's capacity and Nelson complexity by refinery.

INVESTOR PRESENTATION | MARCH 2025

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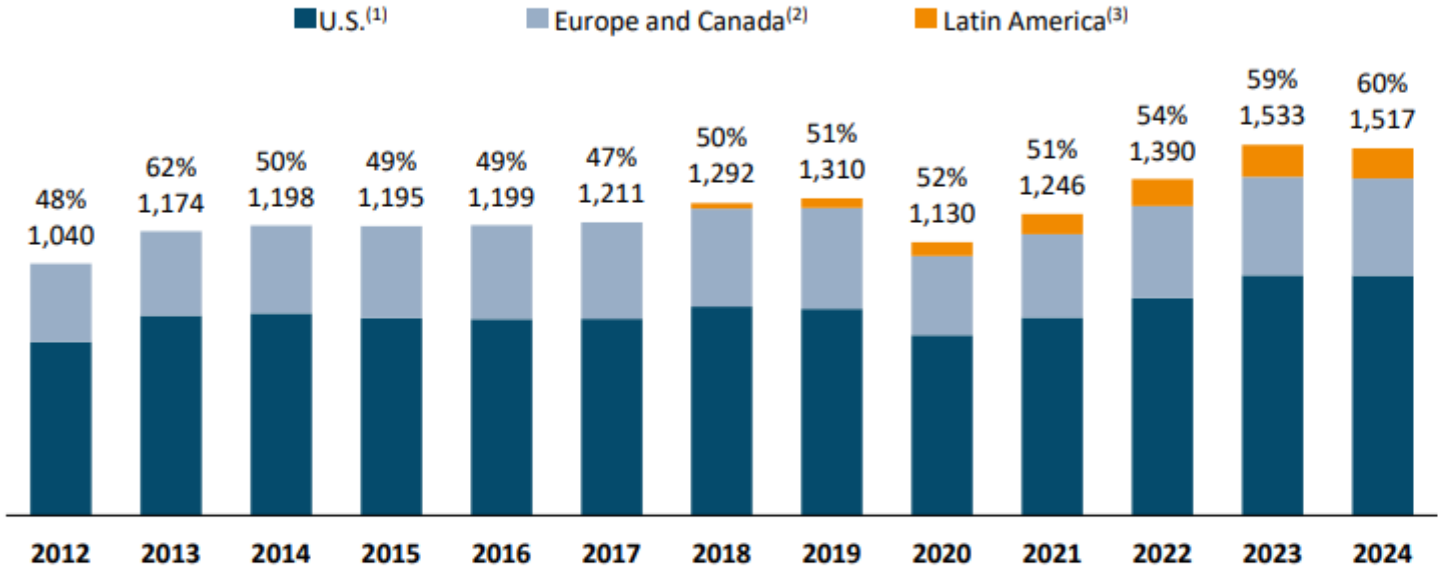
Refining Capacity and Nelson Complexity

Refinery	Capacities (mbpd)[1]		Nelson Complexity Index[1]
	Throughput	Crude	
Corpus Christi[2]	370	290	14.4
Houston	255	205	8.0
Meraux	135	125	9.7
Port Arthur	435	385	13.7
St. Charles	340	215	17.4
Texas City	260	225	11.1
Three Rivers	100	89	13.2
U.S. Gulf Coast	**1,895**	**1,534**	**12.9[3]**
Ardmore	90	86	12.1
McKee	200	195	8.3
Memphis	195	180	7.9
U.S. Mid-Continent	**485**	**461**	**8.9[3]**
Pembroke	270	210	10.1
Quebec City	235	230	7.7
North Atlantic	**505**	**440**	**8.8[3]**
Benicia	170	145	16.1
Wilmington	135	85	15.8
U.S. West Coast	**305**	**230**	**16.0[3]**
Total	**3,190**	**2,665**	**11.8[3]**

(1) Capacities and Nelson complexity indices as of December 31, 2024.
(2) Represents the combined capacities of two refineries—Corpus Christi East and Corpus Christi West.
(3) Weighted average.

Valero Energy Corporation
Wholesale Supply Business – Marketing Network

Valero's Global Wholesale Volumes
(% of total light products production, mbpd)



>1.5 million barrels per day of ratable wholesale supply

>50% of our light products production

~7,000 outlets carry our brand names

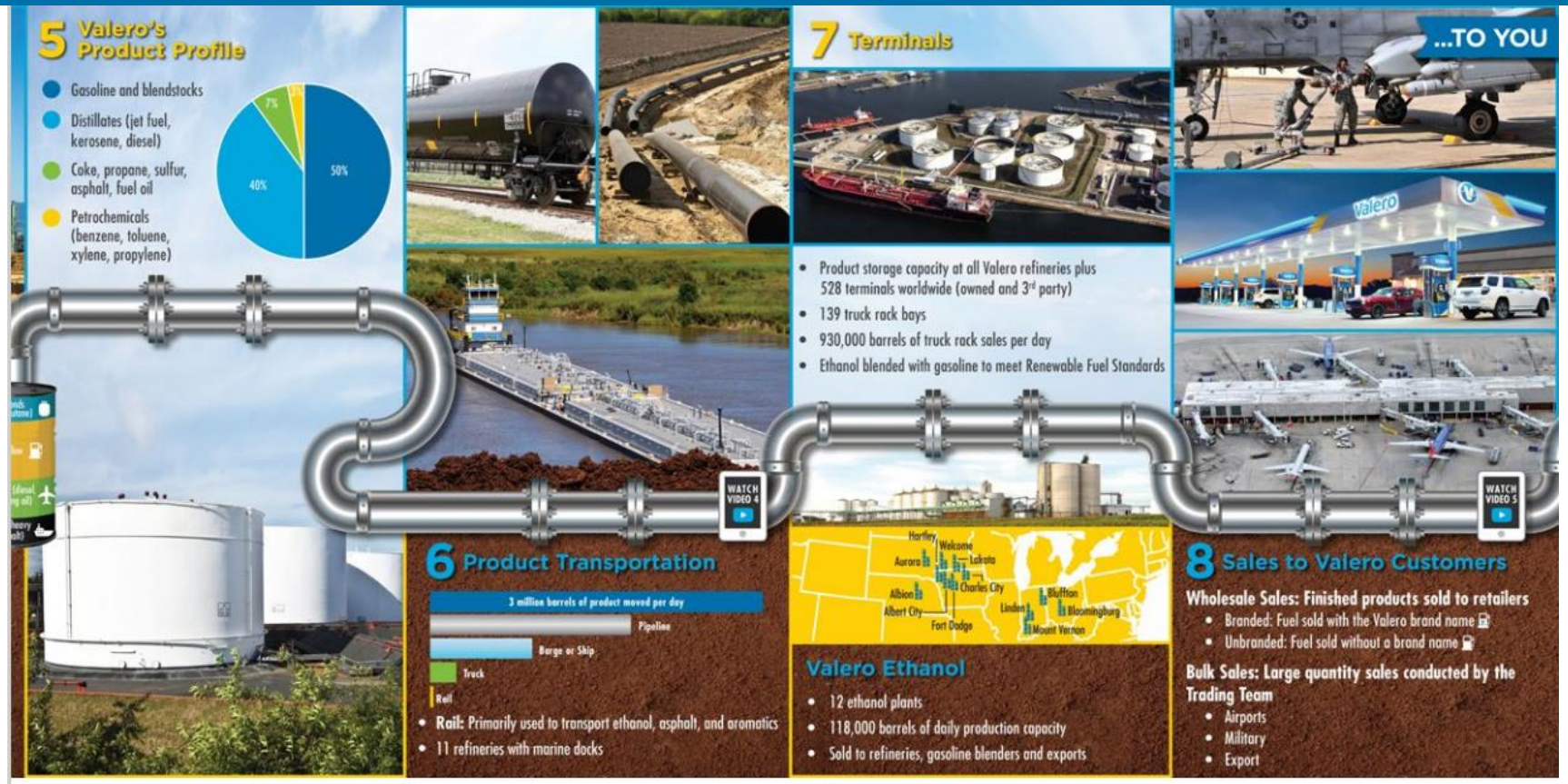
(1) U.S. volumes exclude jet rack sales.
(2) Europe and Canada volumes include jet fuel.
(3) Peru volumes include jet fuel.

Valero Energy Corporation
Supply Chain

ALKYLATE | A substance produced by adding one or more alkyl groups to a compound
BLENDING | The combining of final products to meet standards or specifications
BRANDED | Retail owner has exclusive agreement to purchase fuel from one supplier and display their banner and is contract based
CONVERSION | Changes products into higher valued materials by using heat, hydrogen, pressure and/or catalysts
CRUDE OIL | Classified as light, medium or heavy according to gravity
CRACKING | The refining process of breaking or "cracking" large, complicated hydrocarbon molecules into two or more smaller molecules

CUSTOMER SHORTS | Insufficient amount of finished product available to complete an order; creates the need to fill the order by acquiring product from another supplier
DEMURRAGE | A charge paid for exceeding loading or unloading time agreed upon
EXTERNAL COUNTER PARTY | Contact at other companies we have sold to
EXTERNAL REFINER | A company who refines crude oil that is not Valero
GRAVITY | The measure of how heavy or light a petroleum liquid is compared to water
LIQUEFIED NATURAL GAS | (LNG) Natural gas that has been converted to liquid form for ease of storage or transport
MARGIN | The difference between the cost of a commodity or service and the value of the commodity or service in the market

Valero Energy Corporation
Supply Chain



NETBACK | A measure of oil and gas sales net of royalties, production, and transportation expenses
REFINERY OUTAGE | An unplanned/unscheduled period of time when refinery process equipment is unavailable or shut down
REFINERY UPSET | An unexpected disruption in the refinery process; reported to schedulers due to potential impact on crude and product movement
REFORM | To make changes to the crude oil in order to improve it
SEPARATION | To separate products by using heat
SOUR CRUDE | Petroleum containing higher levels of sulfur, >0.5%
SPEC/SPECIFICATION | Document that provides the precise requirements for a final product
SWEET CRUDE | Petroleum containing low levels of sulfur, <0.5%

TARIFFS | Tax imposed on imported or exported goods and services
TREATMENT | Removal of impurities in the crude oil by using hydrogen and catalysts
UNBRANDED | Retail owner has option to purchase fuel from any supplier and is contract based
WHOLESALE CHANNEL | An entity in the distribution channel that sells in bulk to resellers rather than to consumers
WHOLESALE DEPARTMENT | Responsible for the selling of Valero finished products to retailers, industrial or commercial users, or other wholesalers
WHOLESALE SPOT | No contract base; fuel purchased based on current product price

Valero Energy Corporation

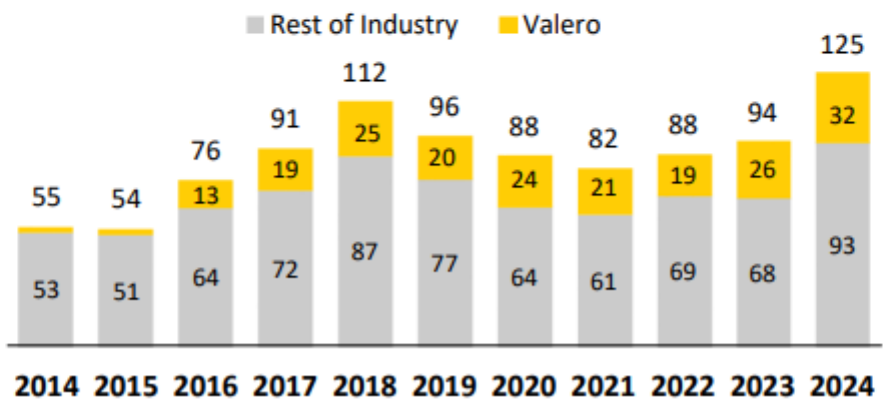
Renewables - Ethanol

- Ethanol is an environmentally friendly, high-octane renewable fuel produced by fermenting converted corn starch with yeast. It is used as a blending agent with gasoline & the entire kernel of corn is converted to ethanol or distillers grains. Ethanol lowers life cycle greenhouse gas emissions up to 28% compared to non-blended gasoline.
- **Click here to learn more about the Basics of Ethanol** & **Click here to watch a video about ethanol**

- 12 plants with **1.7 billion gallons** annual production capacity
  - Dry mill production process, where corn is ground into flour and mixed with water before fermentation
  - **Efficient plants with scale**, located in the corn belt
  - Operational best practices transferred from refining
  - Increasing production of lower carbon intensity **fiber cellulosic ethanol**
- **Cost advantaged** versus the industry

Ethanol

U.S. Fuel Ethanol Exports
(mbpd)



- Ethanol will remain a significant part of the **domestic fuel mix**
- Global renewable fuel mandates should drive **export growth**, such as Canada's new CFR regulation
- Evaluating **carbon sequestration projects**
  - **45Q Tax Credit** provides economic incentive
  - **LCFS** provides higher value for the **lower carbon intensity ethanol**
- Evaluating conversion of **low-carbon intensity ethanol to SAF**

Valero Energy Corporation

Renewables - Renewable Diesel

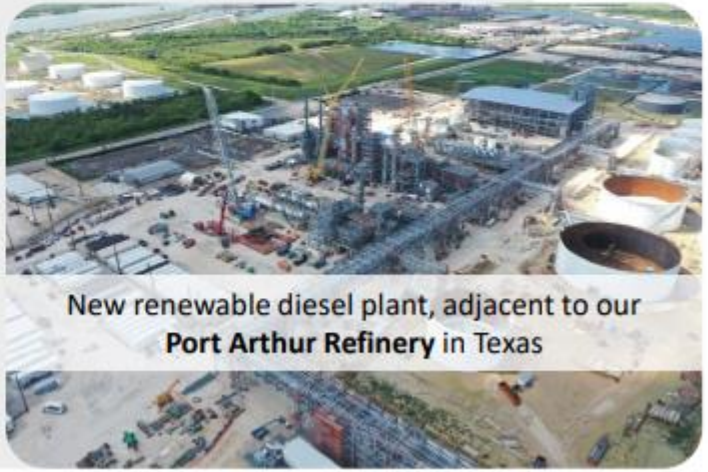
- Renewable diesel (RD) is an alternative drop-in fuel that is chemically similar to petroleum diesel while meeting the most stringent of low-carbon fuel standards & does not require infrastructure investments.
- Valero operates Diamond Green Diesel, a joint venture with Darling Ingredients Inc., producing RD fuel from recycled animal fats, used cooking oil and inedible corn oil.
- **Click here to learn more about the Basics of Renewable Diesel** & **Click Here to watch a video about Renewable Diesel.**

Renewable Diesel Offers Up to 80% Lower Life Cycle GHG Emissions Versus Diesel

Life cycle emissions of low-carbon fuels, expressed in carbon intensity, represent the total GHG emissions.

Valero is the World's 2nd Largest Renewable Diesel Producer:

- Current annual production capacity of **700 million gallons** of renewable diesel and **30 million gallons of renewable naphtha**.
- New plant expected to startup in Q4 2022 adjacent to our refinery in Port Arthur, Texas, will **increase capacity to 1.2 billion gallons** of renewable diesel and **50 million gallons** of renewable naphtha annually.
- Uses **animal fats, used cooking oil** and **inedible corn oil** as feedstocks to produce renewable diesel sold in the U.S., Canada, and Europe.
- Renewable diesel is **100% compatible** with **existing infrastructure** and **engines**.
- Capability to process **100% waste feedstocks provides margin advantage** over peers.



New renewable diesel plant, adjacent to our **Port Arthur Refinery** in Texas

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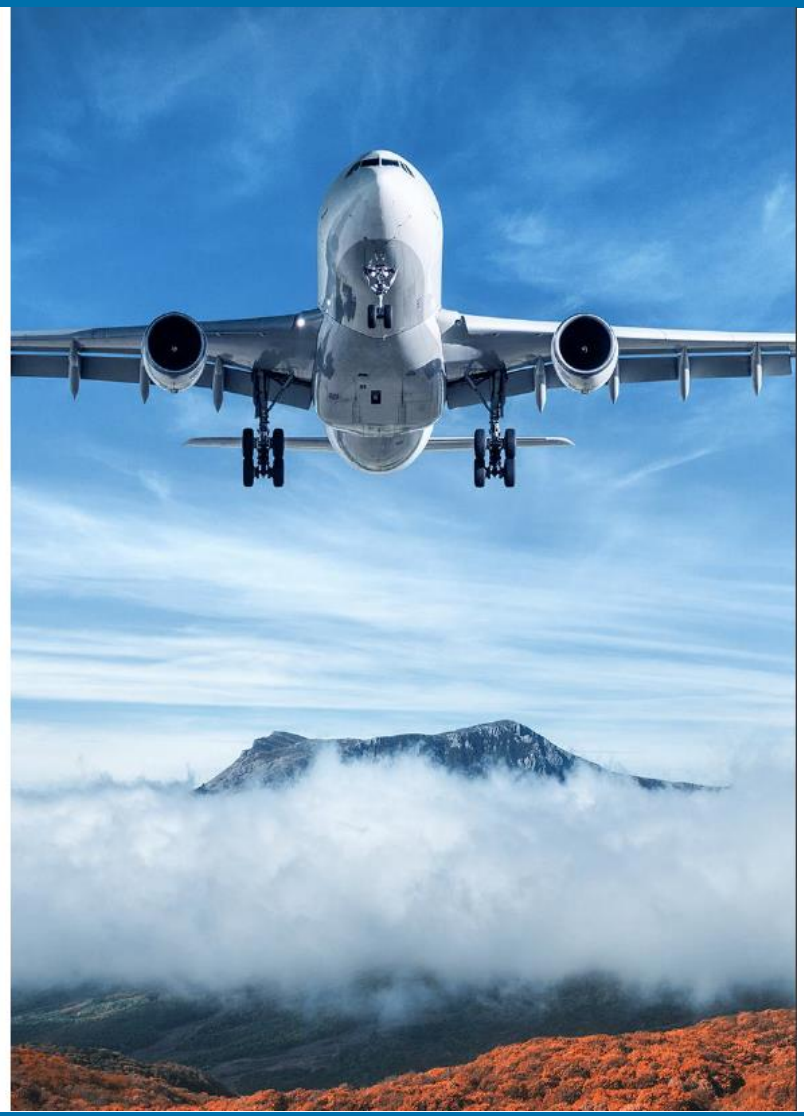
Renewables – Sustainable Aviation Fuel

Expanding our competitive advantage with sustainable aviation fuel (SAF)

DGD Port Arthur SAF Project

- **Large-scale SAF project** at the DGD Port Arthur plant was completed in the fourth quarter of 2024
  - The plant has the capability to upgrade up to 50% of its current renewable diesel production capacity to SAF, or ~**235 million gallons per year**
  - The project **cost was $315 million**, with half of that attributable to Valero
  - Project includes a heater, a fractionation unit to separate the SAF and renewable diesel product streams and additional product tankage
- Project is expected to **exceed our minimum return threshold** of an after-tax IRR of 25%
  - Under the Inflation Reduction Act (IRA), SAF receives a higher Clean Fuel Production Credit value than renewable diesel, resulting in **higher margin for SAF** production
  - SAF supports airlines' compliance with **global mandates** and reduces their offset obligations
- Valero is independently evaluating an **Ethanol-to-Jet** process that would convert ethanol from our ethanol plants that have carbon sequestration capability to SAF



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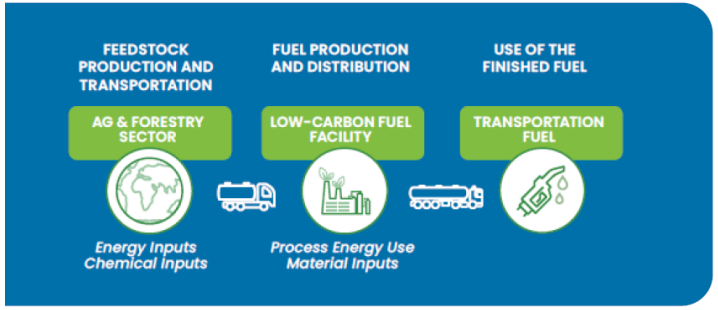
Renewables - Low-Carbon Innovation

About Low-Carbon Fuels

Life cycle analysis is used to measure the total GHG emissions impact of low-carbon fuels relative to benchmark petroleum fuels and is expressed in terms of carbon intensity (CI) per unit of energy.



Vehicles running on low-carbon fuels produce less net CO_2 than conventional vehicles per mile traveled. California reported that **more than 44% of transportation diesel and more than 6% of gasoline have been displaced by low-carbon fuels since 2011.**[11]

GHG emissions from low-carbon fuels are independently audited and certified. Low-carbon fuels are sold in regulated low-carbon markets and must comply with standards and policies such as the U.S. Renewable Fuel Standard, California Low Carbon Fuel Standard, Canada's Clean Fuel Regulations and the EU's Renewable Energy Directive II.

Renewable Diesel

Drop-in fuel interchangeable with petroleum diesel, renewable diesel is produced primarily from waste feedstocks and offers up to 80% lower life cycle GHG emissions, compared with diesel.[1]

Renewable Naphtha

Can be used as a low-carbon gasoline blendstock or a feedstock for low-carbon petrochemicals production.

Renewable Propane

Has multiple uses, including as a renewable petrochemical feedstock or a feedstock in the production of low-carbon hydrogen.

Carbon Capture and Sequestration (CCS)

Captured approximately 1 million MT CO_2 per year since 2013 from two third-party hydrogen plants at Valero Port Arthur Refinery.

Evaluating standalone CCS projects at certain ethanol plants to potentially remove 1 million MT CO_2 annually.

Valero has agreed to participate as a shipper on Summit's proposed pipeline by potentially connecting eight ethanol plants and capture more than 3 million MT CO_2 annually.

Tailpipe CO_2 Onboard Capture System

Supporting Southwest Research Institute (SwRI) in developing a solid separation membrane to remove CO_2 from the exhaust gas of internal combustion engine (ICE) vehicles.

Plans are in place for prototype scaling and testing, and we have filed patent applications for several novel technologies.

Sustainable Aviation Fuel (SAF)

Large-scale SAF project at Port Arthur renewable diesel plant, expected to be completed in the fourth quarter of 2024, would enable about 50% of the current 470 million-gallon annual renewable diesel production to be upgraded to SAF.

Evaluating ethanol-to-jet opportunities.

Fiber Cellulosic Ethanol

Used primarily as a high-octane gasoline blendstock, corn ethanol offers at least 30% lower life cycle GHG emissions,[1] while cellulosic ethanol is a second-generation fuel produced from waste fibers and has a CI in the high 20s gCO2e/MJ,[7] compared with ethanol's CI of approximately 100 gCO2e/MJ and EV's average CI of about 50 gCO2e/MJ (depending upon battery components, manufacturing place and the electric grid).

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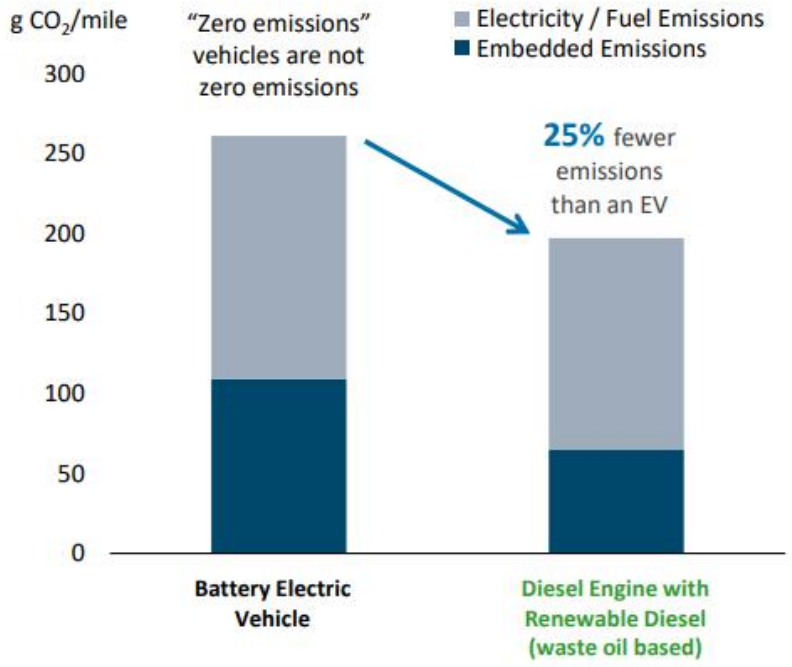
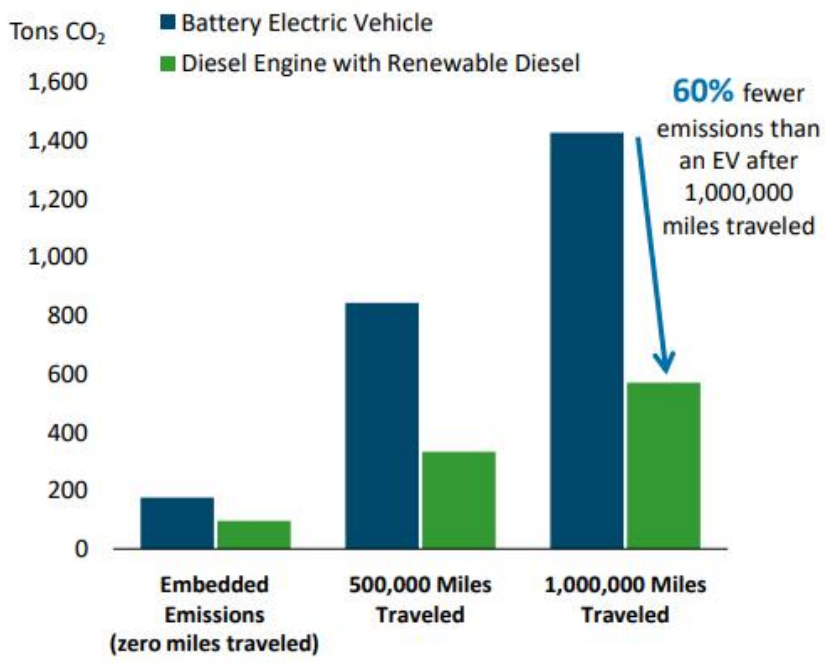
Renewable Diesel - Life Cycle Emissions

A vehicle running on renewable diesel emits fewer emissions than an electric vehicle

U.S. Light-Duty Vehicle Life Cycle Emissions
2022 Southwest Research Institute Study



U.S. Heavy-Duty Long-Haul Vehicle Life Cycle Emissions
2022 Southwest Research Institute Study



A single light-duty vehicle running on renewable diesel emits **10 tons less CO_2 emissions** than an electric vehicle, an amount equal to planting **165 trees***

A single heavy-duty long-haul vehicle running on renewable diesel emits **858 tons less CO_2 emissions** than an electric vehicle, an amount equal to planting **14,187 trees***

*Estimated based on EPA's GHG Equivalencies calculator for urban tree seedlings grown for ten years.

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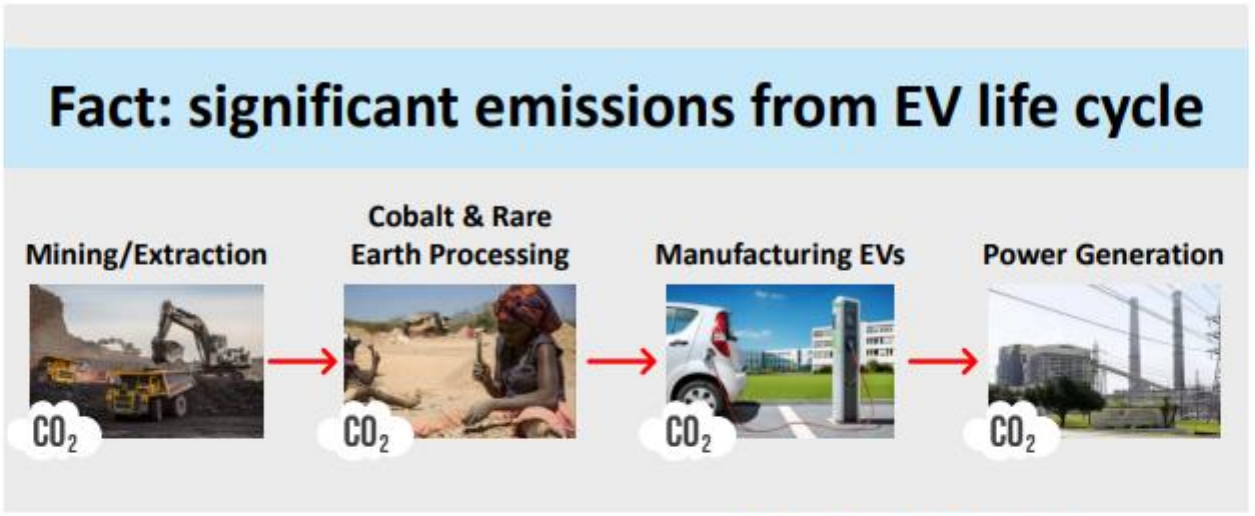
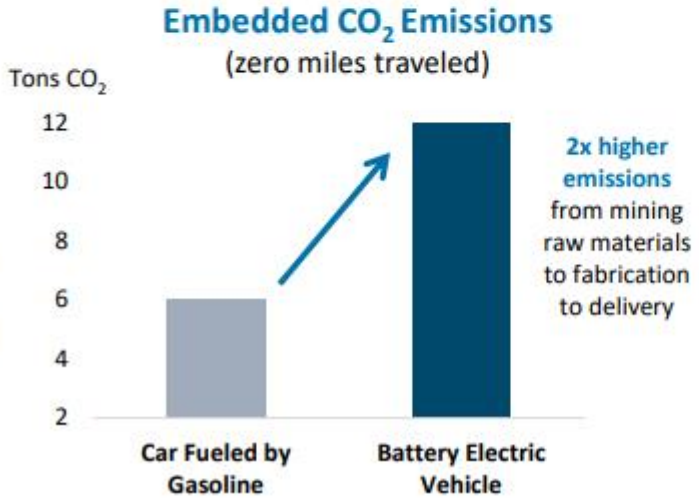
Electric Vehicle (EV) myth: zero emissions



- Life cycle emissions from EVs are significant from mining raw materials to fabrication to delivery to the showroom
  - Two times as much CO_2 emissions are generated compared to cars fueled by gasoline
  - Before it leaves the showroom, 12 tons of CO_2 emissions have already been generated vs. 6 tons of CO_2 emissions from cars fueled by gasoline
- 25 tons of CO_2 emissions are needed to make an EV that can drive a similar range as a car fueled by gasoline
- *"The problem is that batteries are big and heavy. The more weight you're trying to move, the more batteries you need to power the vehicle. But the more batteries you use, the more weight you add—and the more power you need. Even with big breakthroughs in battery technology, electric vehicles will probably never be a practical solution for things like 18-wheelers, cargo ships, and passenger jets. Electricity works when you need to cover short distances, but we need a different solution for heavy, long-haul vehicles"* – GatesNotes
- Southwest Research Institute Ted Talk, presented by Graham Conway



Before it leaves the showroom, an EV emits twice the CO_2 emissions compared to a car fueled by gasoline

Valero Energy Corporation
Climate & Environmental Justice Policy

Many localities are promoting the adoption of climate policies. These policies are promoted as aspirational roadmaps that outline specific activities designed to reach the same goals of the Paris Agreement and address the climate challenge. There are challenges which are often not addressed by local climate policies, but all stakeholders should consider.

Goal: Valero advocates for a full understanding of the risks and complexities of local climate policies. We educate policy makers on cost effectiveness and feasibility of policies to reduced carbon emissions, including promoting the use of low carbon liquid fuels such as renewable diesel, which has a smaller carbon footprint. Valero will continue to pursue our goal to be the best operator in the business while addressing global climate change risks and protecting our employees and the communities where we work and live.

- Where appropriate, Valero has proposed existing low-carbon alternatives, such as renewable fuels produced at our facilities in the U.S., that may not have been previously considered. Any mandate or restriction should ensure the cost of doing business stays reasonable and competitive to support continued economic development in our communities.

ENVIRONMENTAL JUSTICE

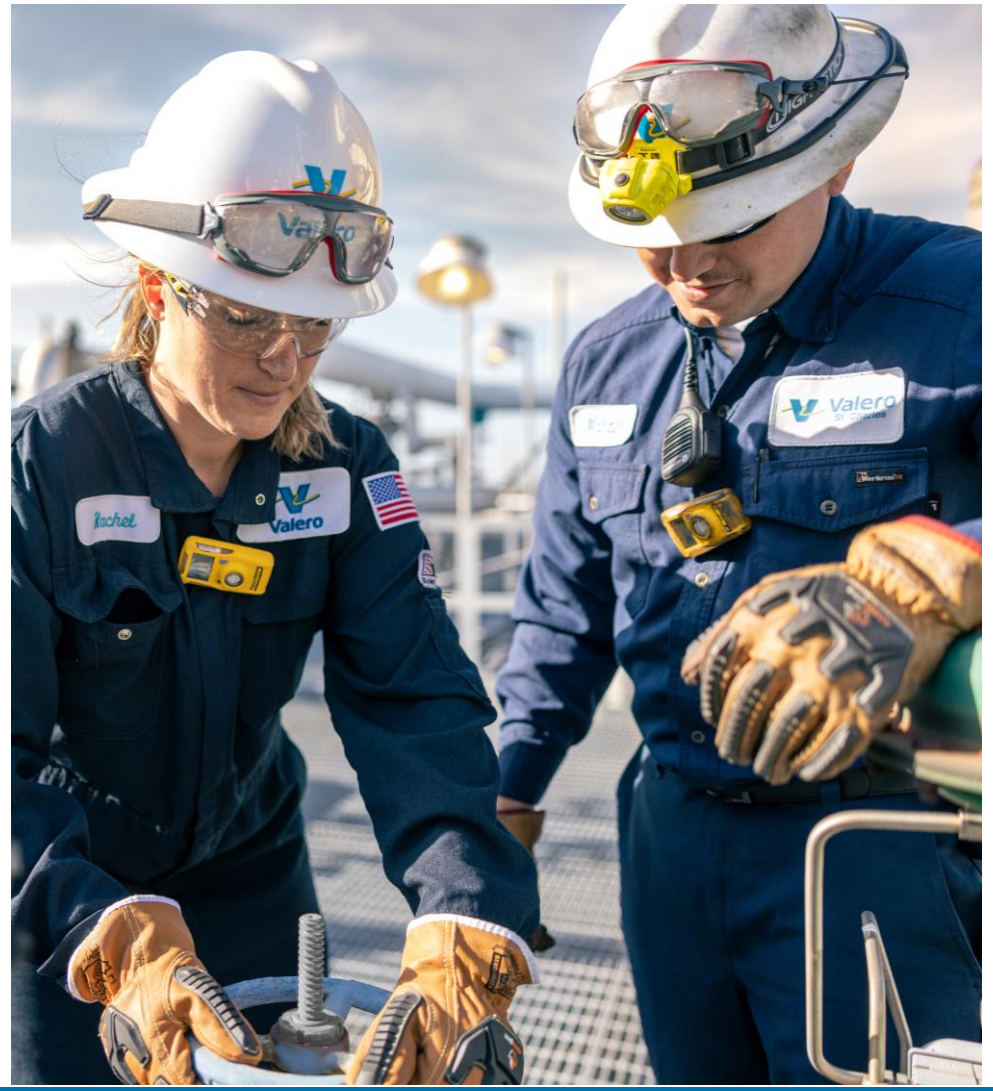
Valero was the first major energy company to adopt a formal environmental justice policy aimed at improving quality of life for nearby neighborhoods.

ENVIRONMENTAL JUSTICE POLICY

Valero strives to operate as a good neighbor and looks for opportunities to work with local officials and directly with fence-line neighbors to improve the quality of life for its neighbors and communities.

Valero aims to treat its fence-line neighbors fairly, regardless of race, color, national origin, culture or income. We work to ensure our neighbors have an opportunity to understand our proposed activities and to provide them with a meaningful opportunity to have their concerns heard, with the goal of providing them with greater comfort in our operations.

Valero Energy Corporation
Our Guiding Principles



Safety
Safety is our foundation for success.

Environment
We are committed stewards of the environment.

Community
We will be a good neighbor by sharing our success with the communities where we live and work through volunteerism, charitable giving and the economic support of being a good employer.

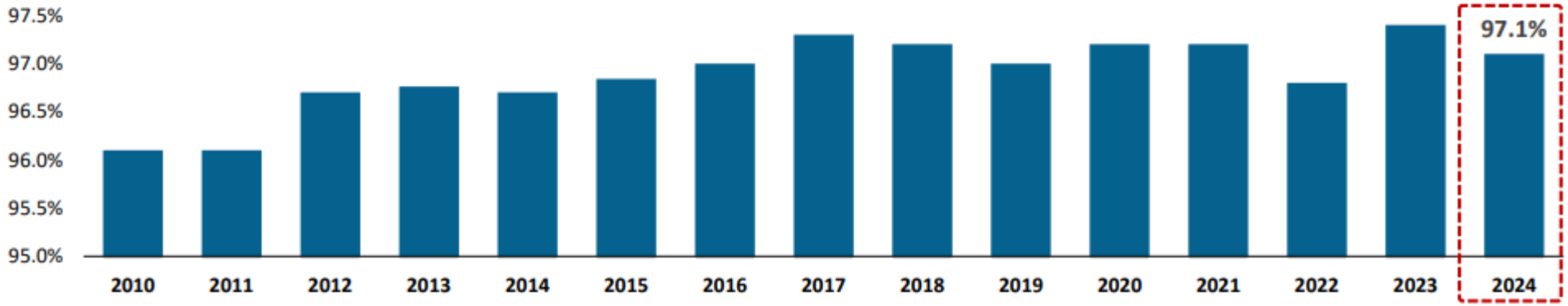
Employees
We consider our employees a competitive advantage and our greatest asset. We foster a supportive culture and provide a safe, healthy and rewarding work environment with opportunities for growth.

Governance
We view our stakeholders as partners to whom we seek to deliver operational excellence, disciplined management of capital and long-term value on a foundation of strong governance and ethical standards.

Basics of Refining
Industry Safety Metrics

2024 was our **best year ever** for **Employee and Contractor Safety** and **Tier 1 Process Safety Event** rate

Reliable refinery operations reflected in Valero's strong **Mechanical Availability** record



Basics of Refining
Energy Matters: Refining 101 Series

Basics of Refining and Optimization

Click on the green hyperlinks to learn more about each subject

Crude Basics

Distillation Basics

Refinery Configurations

Valero

Basics of Refining
Maintenance Turnaround Facts

What is a Refinery "Turnaround“?

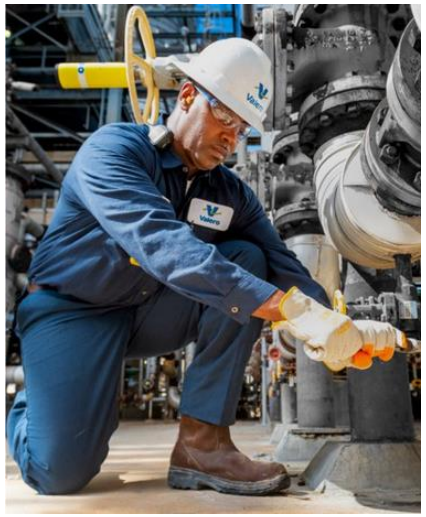
Turnarounds are periodic planned shutdowns of part or all of the refinery in order to conduct routine and preventative maintenance. The turnaround should only impact a few units, while the rest of the refinery will continue to operate. Given the complexity of refining units and the high priority Valero Benicia gives to safety, these turnarounds can last several weeks.

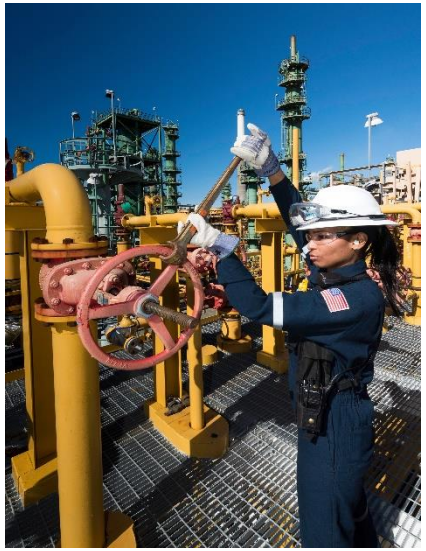
Why do we do it?

Maintenance and upkeep of our facility are crucial to ensure that the refinery continues to meet the highest, most up to date standards in safety and efficiency. During a maintenance turnaround, workers are able to access portions of the refinery that are not accessible during operation. This allows for maintenance, internal inspection and equipment updates that help the refinery run smoothly.

What do you need to know?

As the refinery process units start back up, there may be intermittent and visible flaring. Flaring is the safest and most environmentally sound manner for a refinery to dispose of unusable refinery gases as units are restarted. The planned flaring activities are managed in accordance with Valero’s approved Flare Minimization Plan under BAAQMD Regulation 12, Rule 12. Valero, along with the City of Benicia and other regulatory agencies will continue to conduct air monitoring in the area to ensure the protection of the community.





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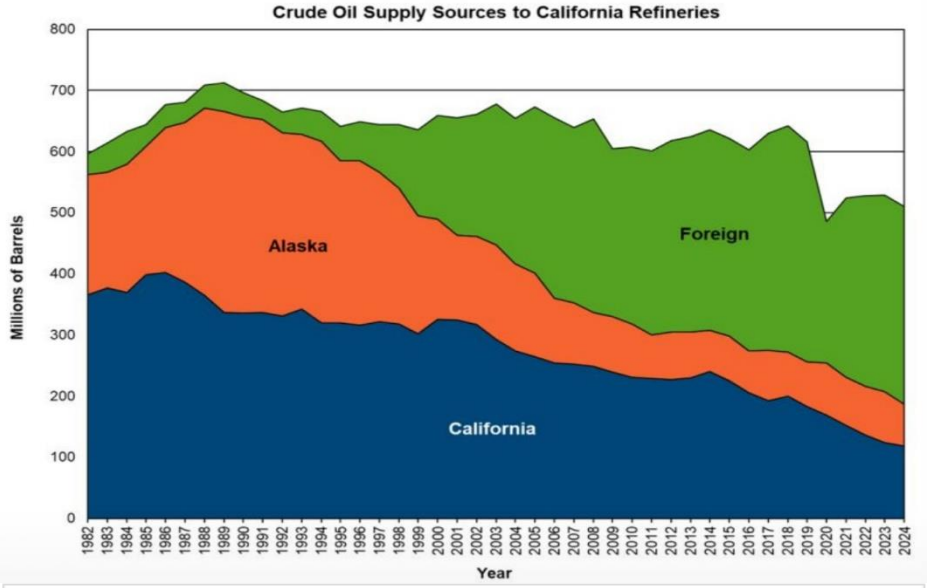
Refining in California

California Crude Oil Supply



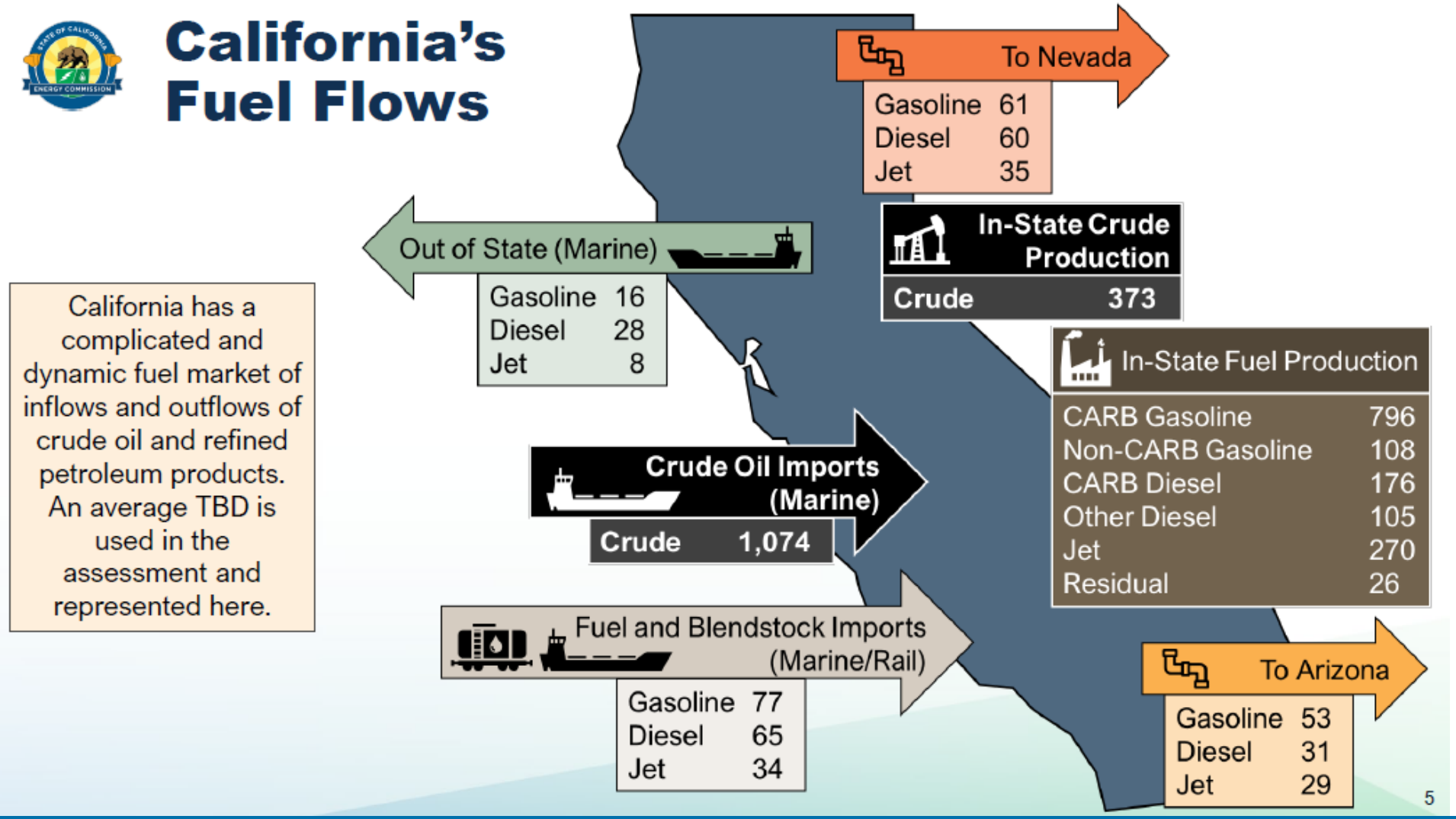
- California crude oil production has declined at an average annual rate of 3.4% since 2000.
- The decline rate has been accelerating and was close to 14% in the second half of 2023.
- The decline in California domestic crude oil production has more to do with difficulties in obtaining permits to drill than lack of oil reserves.
- As of December 2022, California held almost 1.5 billion barrels of proved and probable crude oil reserves, which ranked it sixth among the 50 states.

Refining in California

California Crude Oil Supply

CALIFORNIA ENERGY COMMISSION

California's Fuel Flows



California has a complicated and dynamic fuel market of inflows and outflows of crude oil and refined petroleum products. An average TBD is used in the assessment and represented here.

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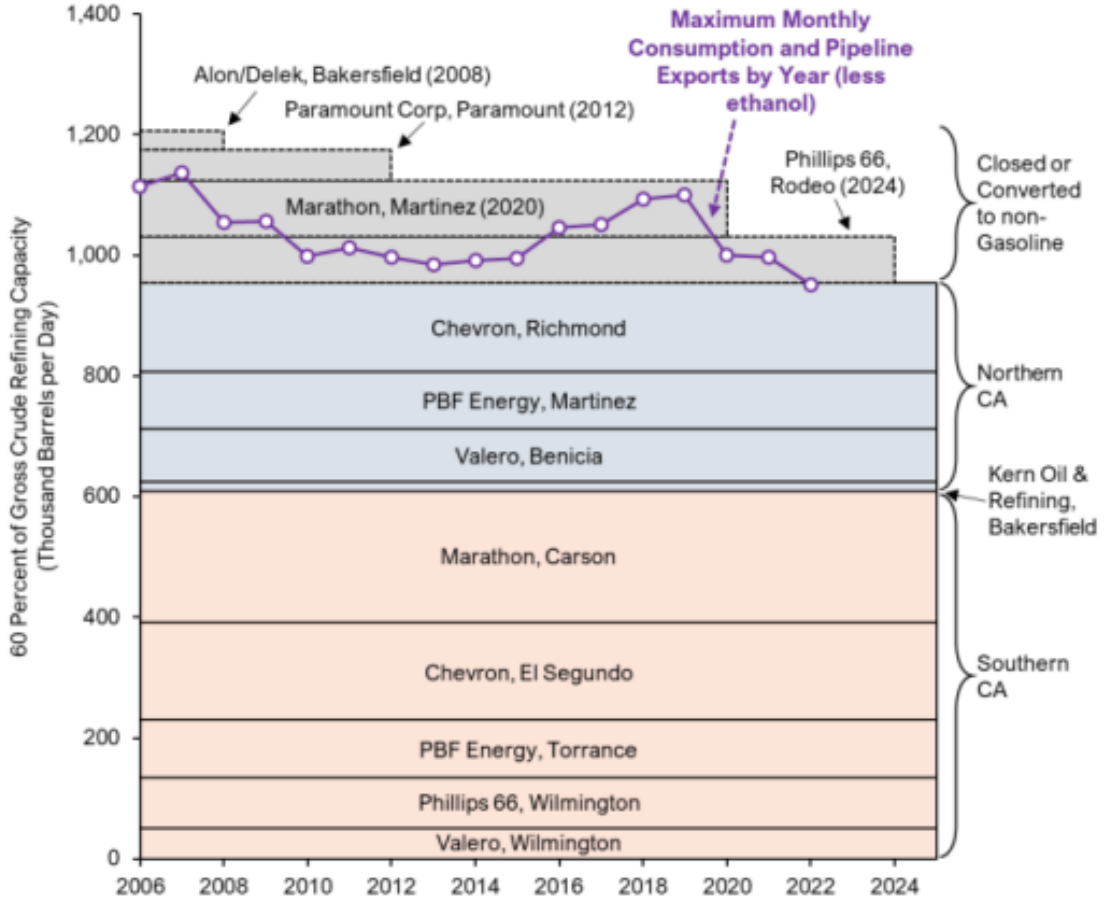
Refining in California

Estimated Gasoline Refinery Capacity

Figure ES- 2. Approximate Peak Gasoline Refinery Capacity Compared to Maximum-Monthly Consumption



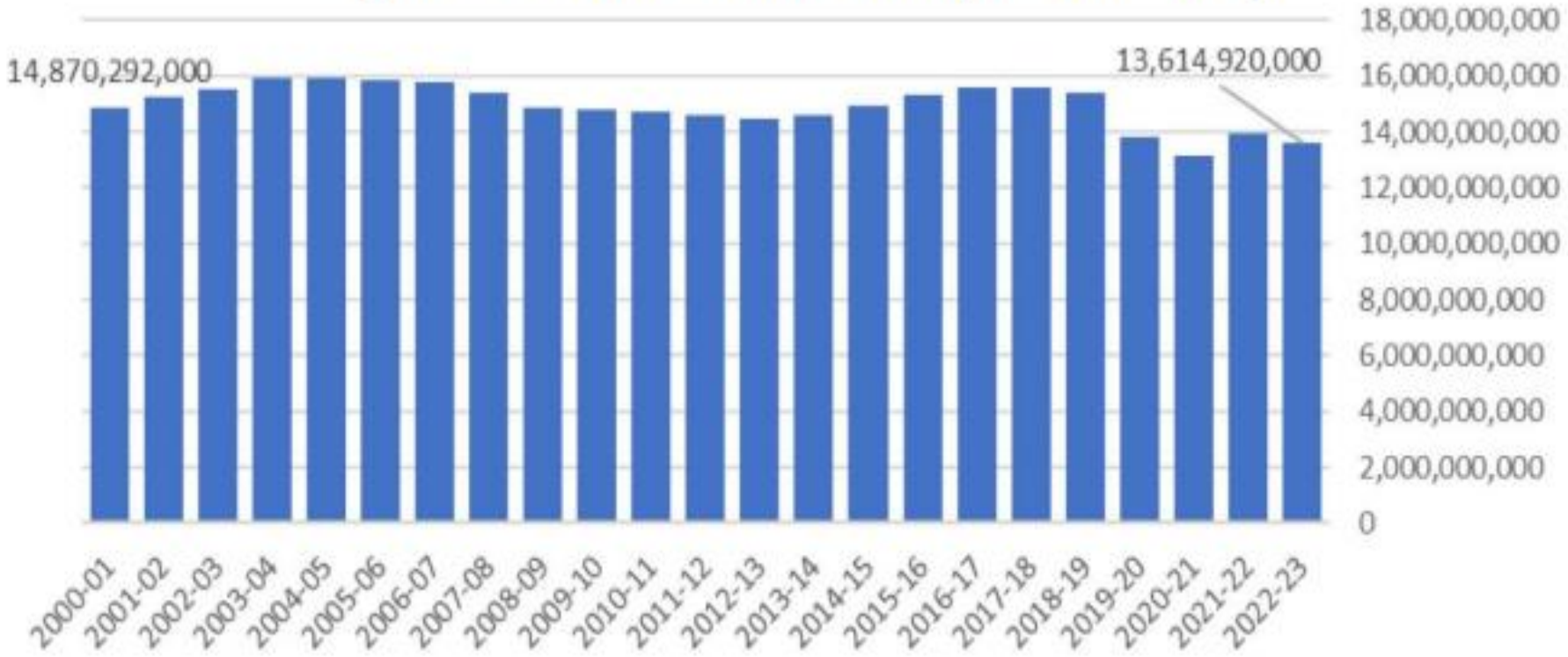
Credit: CEC Staff

Refining in California

California Gasoline Consumption

CALIFORNIA DEPARTMENT OF TAX AND FEE ADMINISTRATION

Figure 2: Gasoline Volume Sold (FY 2000–2023)



Source: CDTFA

Valero

Benicia Refinery
Facts

Refinery Overview

- Refinery began operation in 1969 under Humble Oil (later Exxon) and is the youngest refinery in California
- Valero acquired the Benicia Refinery in 2000
- Today it is considered one of the most high conversion & highly complex refineries in the United States
- Currently, the refinery can processes up to 165,000 BPD of medium-sour crude slates from the San Joaquin Valley in California and the Alaska North Slope, along with foreign sour crudes.
- Green/gold paint scheme intended for refinery to “blend-in” with local landscape

City of Benicia

- Population 28,000; former state capital in 1853
- Valero is a major landowner with nearly 900 acres and 400+ acres of buffer
- Refinery and associated BIPA facilities fees and taxes produce millions of dollars towards the City’s General Fund

Industry Overview

- Western States Petroleum Association Regional Economic Impact Factsheet

Benicia Refinery
Timeline

1966-8 Refinery built on lands occupied by former U.S. Army arsenal dating back to 1860's. Specifically designed and constructed to process Alaskan North Slope (ANS) crude for a rapidly growing California economy with heavy gasoline demand

1969 - First ANS to crude unit; crude unit at 63 MBPD

1996 - Installed facilities to produce reformulated gasoline

2000 - Valero acquires the refinery and California retail marketing assets from Exxon

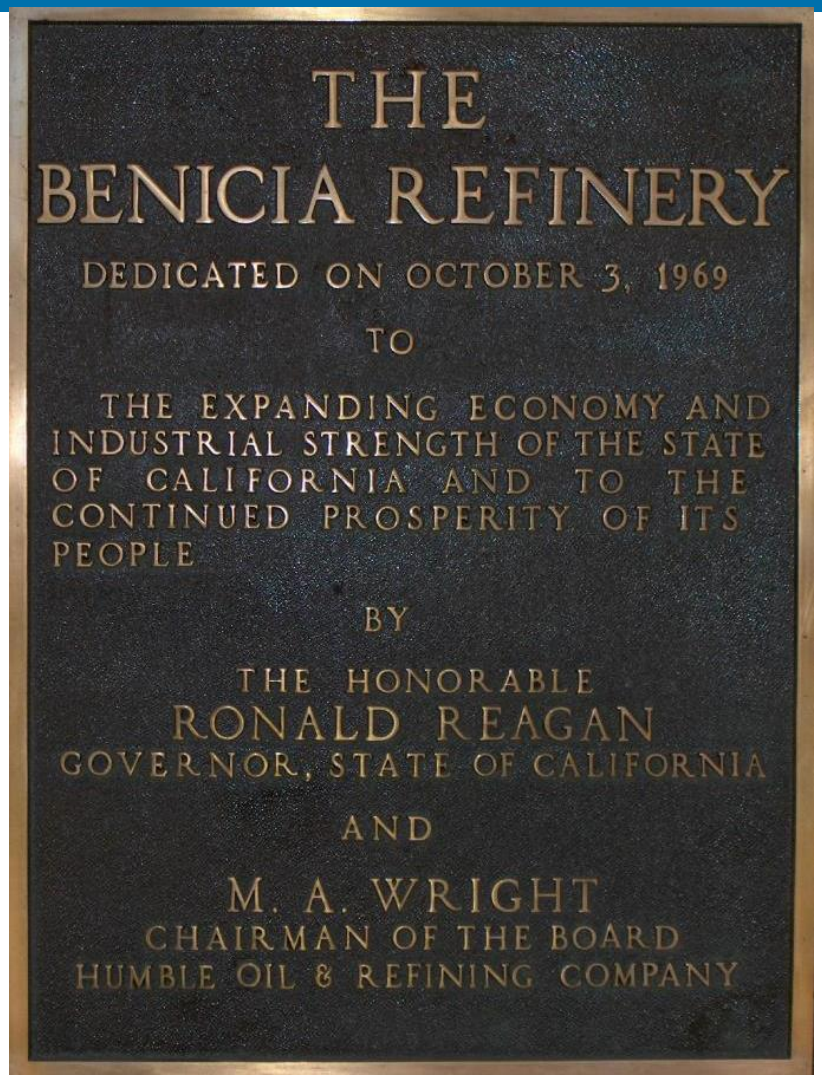
2001 - Valero acquires adjacent asphalt plant from Huntway

2002 - COGEN unit commissioned

2006 - Earned VPP STAR Site status

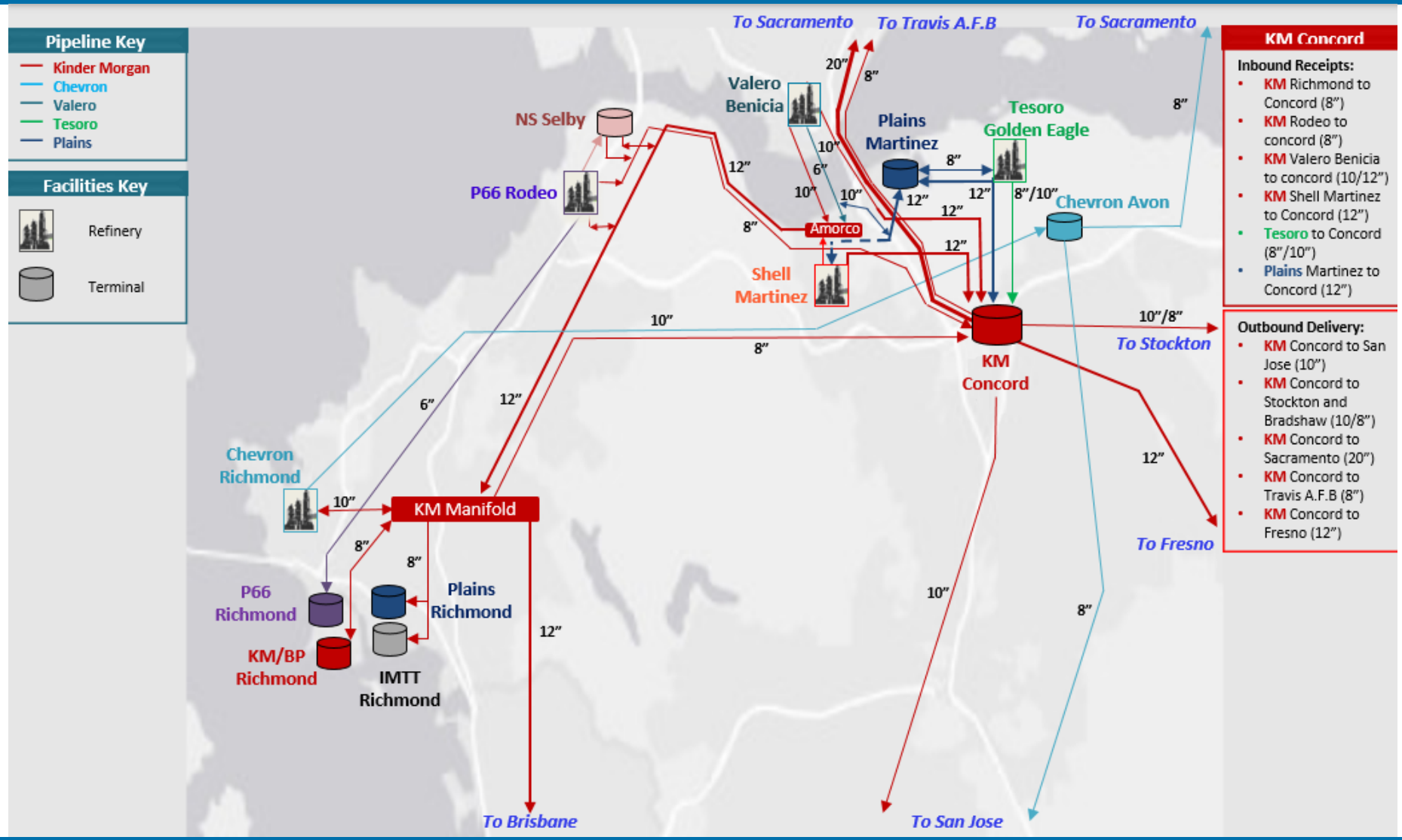
2007 - Begin production of Ultra Low Sulfur Diesel (ULSD)

2011 - Flue Gas Scrubber begins operation lowering SO2 emissions by ~5,000 tons/yr and NOX by ~1,000 tons/yr



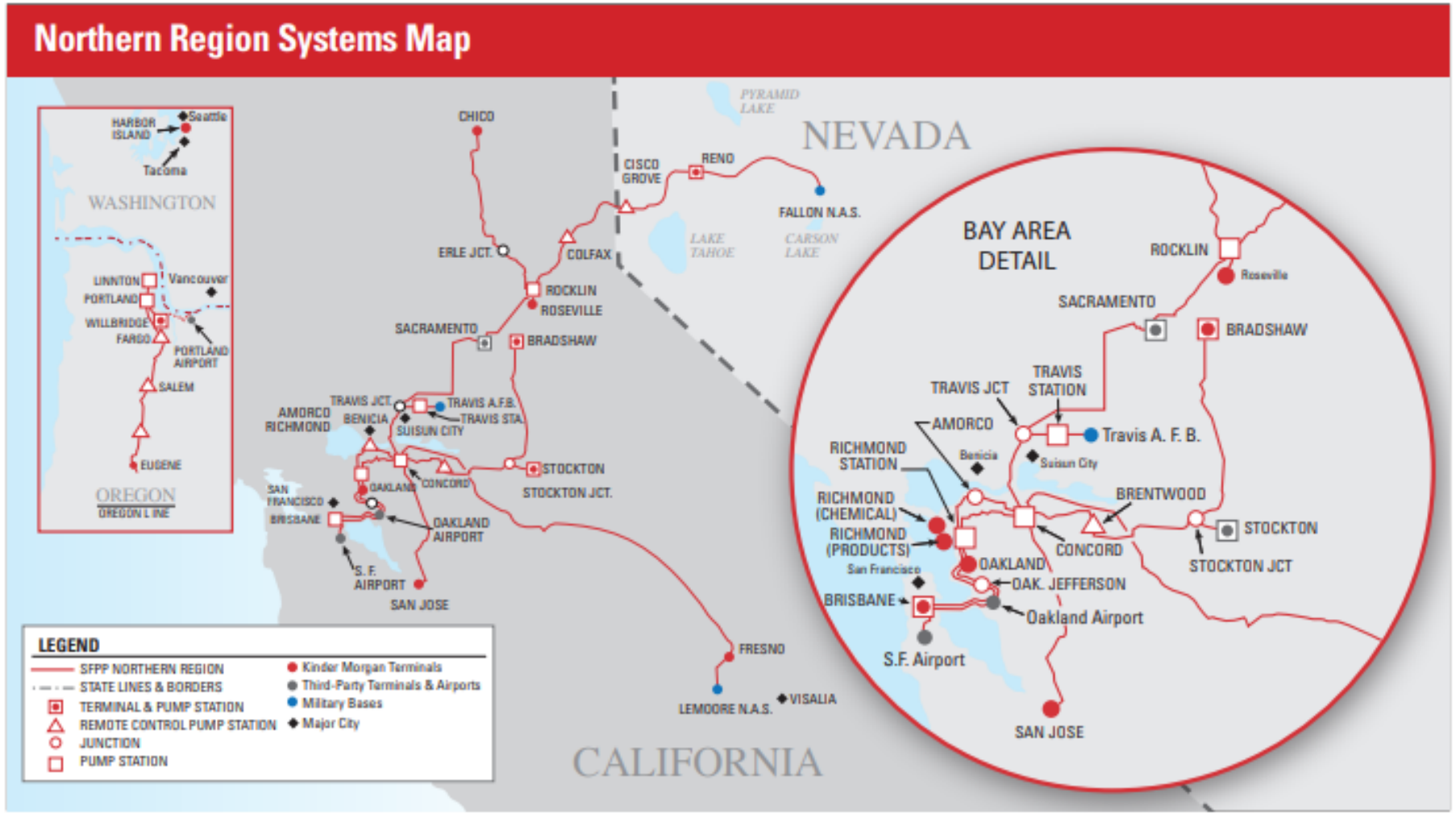
Benicia Refinery

Northern California Products Pipelines



Benicia Refinery

Northern California Products Pipelines



https://www.kindermorgan.com/WWWKM/media/Documents/2019-March-Pacific-Ops-brochure.pdf

Valero

Benicia Refinery
Career Paths: Operations

Benicia Refinery
Career Paths: Technical

Benicia Refinery
Career Paths: Maintenance


Roto Technicians


Electricians


Mechanical

Pipe Fitter

Benicia Refinery
Benicia Asphalt Plant (BAP)

Benicia Asphalt Plant (BAP)

- Asphalt covers about 93% of all roadways and parking lots in CA
- BAP provides about ~50% asphalt on northern California streets, roads & highways
- **"Sustainable asphalt"** video developed by the Asphalt Pavement Alliance

Click on the green hyperlinks to more about each subject

Valero

Benicia Refinery
Processing Units

Benicia Refinery
Air Quality Monitoring Program for the Community

Refinery Monitors (Measures Refinery Operations)

- Routine operations monitored by analyzers
  - Continuous Emissions Monitors (CEMs) for Nitrogen Oxides (Nox), Carbon Monoxide (CO), Sulfur Dioxide (SO2), Hydrogen Sulfide (H2S), Total Reduced Sulfur (TRS), etc.
  - Over 100 devices requiring daily calibration and data historization
  - Stack testing for non-CEM constituents (eg: Particulate Matter (PM), etc.)

Ground Level Monitors (Measures Ambient Air from all sources)

- Before Valero acquired the Benicia Refinery, three ground level monitors (GLMs) were installed and are currently in continuous operation in the community
- GLMs measure H2S & SO2 in the ambient air from all sources, including mobile sources (e.g. cars and trucks) and stationary sources (e.g. refinery, homes and other businesses)
- Data is also available on the Valero Benicia Refinery Fenceline monitoring website: **www.beniciarefineryairmonitors.org**

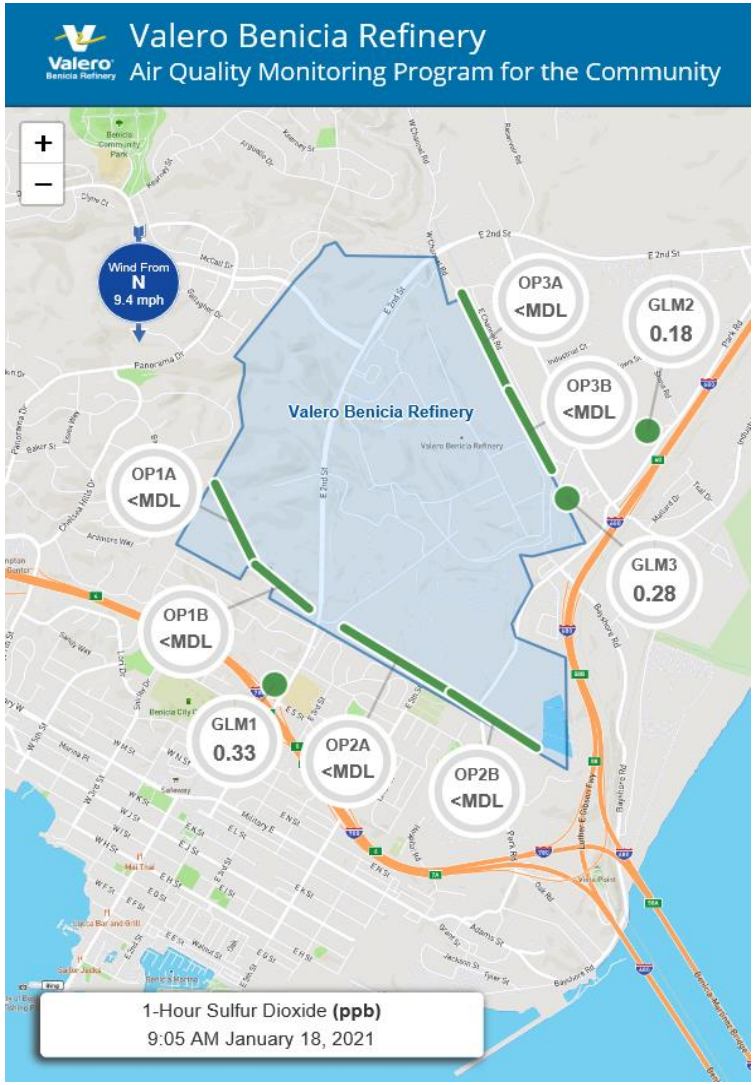
Fenceline Passive Monitors (Measures Ambient Air from all sources)

- Under EPA's Petroleum Refinery Sector Rule (RSR), refineries across the United States are required to monitor concentrations of benzene at their property boundary, or fenceline. Data was sent to EPA on a quarterly basis starting in 2018.

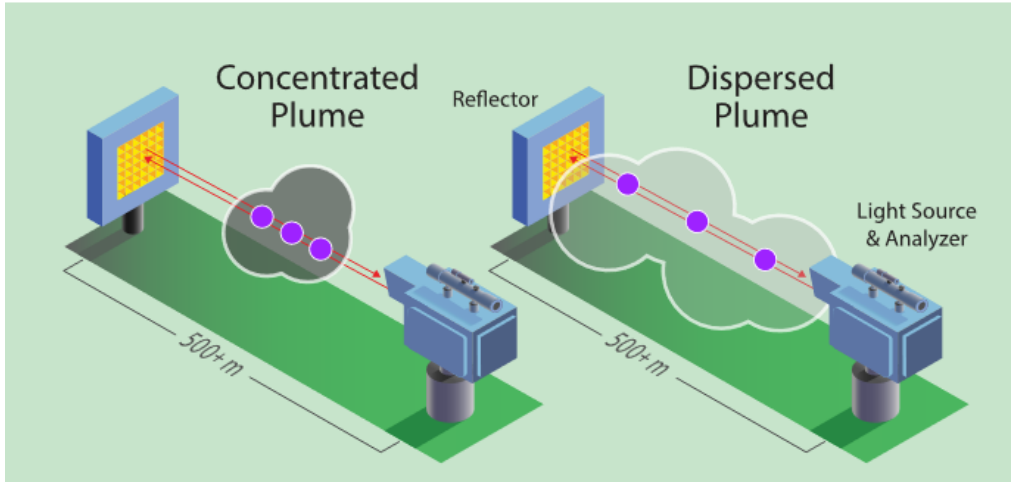
Fenceline Open Path Monitors (Measures Ambient Air from all sources)

- Fenceline monitors measure specific pollutants that cross the facility's fenceline in real time. This system has the ability to monitor, record and report air pollutant levels of multiple compounds

Benicia Refinery
Open-Path Fenceline Monitoring - Pathways 1, 2, & 3

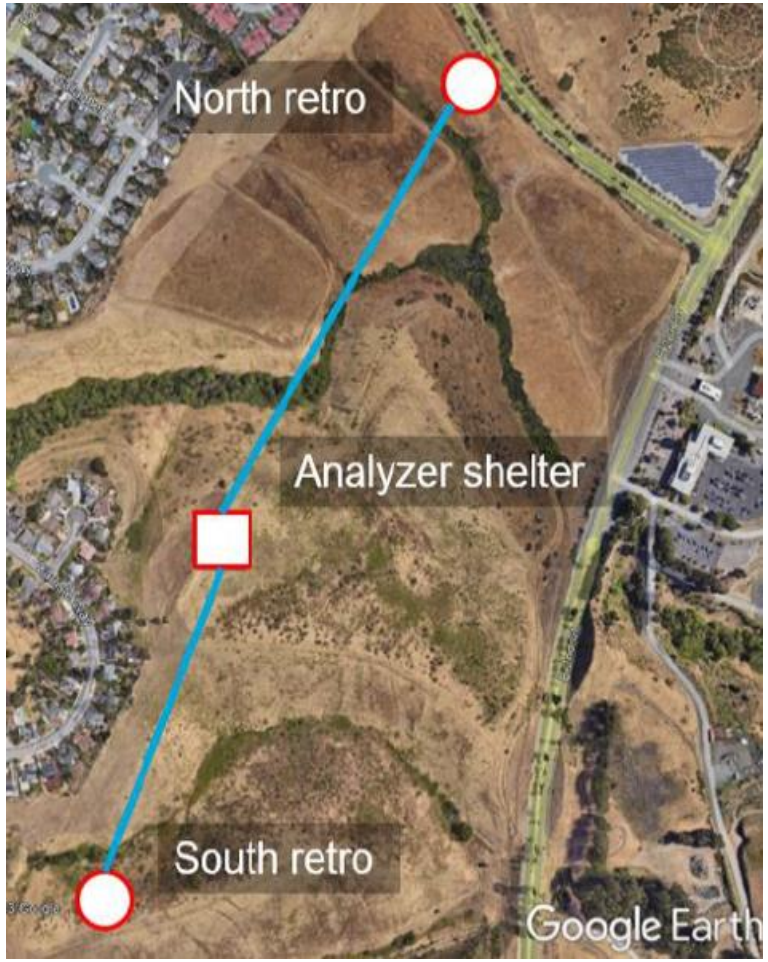


- Local Air District rule requires active, real-time monitors along “fence line” based on prevailing winds and percent of time blowing in a given direction
- Data will be validated and posted on a publicly accessible website in near real-time
  - www.beniciarefineryairmonitors.org



Benicia Refinery

Future Capital Improvements – Pathway 4



Fenceline – Open Path '4' Monitor

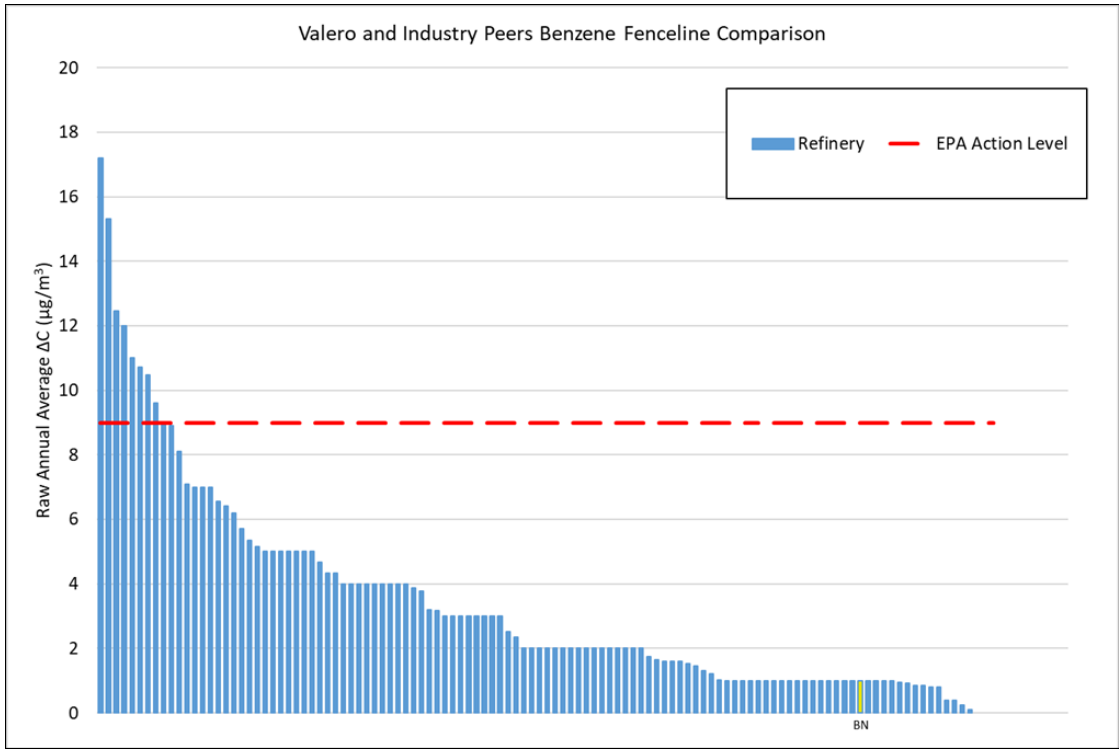
- Plan is to proceed with Pathway 4 civil work once the City permit is received
- Carlisle Way will be used as an Access Point (2800 ft) and pave road
- PG&E drop power option (Xfmr, Power pole with Meter, 700 ft of direct buried cable)
- Drill piers for shelter & retroflectors
- Level site & install foundation for shelter
- Install & mount retroflectors
- Set shelter, install instruments & communication
- Perform SAT (Site Acceptance Test) on Analyzers
- Collect background data, upload onto website

Valero

Benicia Refinery
Passive Fenceline Monitoring

US EPA Fenceline Monitoring Program for Benzene

- Under United States Environmental Protection Agency (EPA) Petroleum Refinery Sector Rule, refineries across the United States are required to monitor concentrations of benzene at their property boundary, or fenceline. The specific methods and equipment required to conduct monitoring are prescribed by USEPA.
- Sorbent tubes are placed at each of the prescribed locations. The tubes trap and retain benzene over a two week period. The tubes are then gathered and sent to an accredited lab for processing and analysis. Valero submits that data to EPA on a quarterly basis.
- The USEPA uploads lab results for refineries across the country to their website.
- Valero Benicia Refinery is below the EPA action levels.



Benicia Refinery

Flare Vent Gas Volume & Emissions – Reducing Flaring

- As required by Regulation 12, Rule 12, Valero annually submits an updated Flare Minimization Plan (FMP) to BAAQMD
- BAAQMD uploads a copy of the refinery FMPs on their website

Figure 1 – Flare Vent Gas Volume

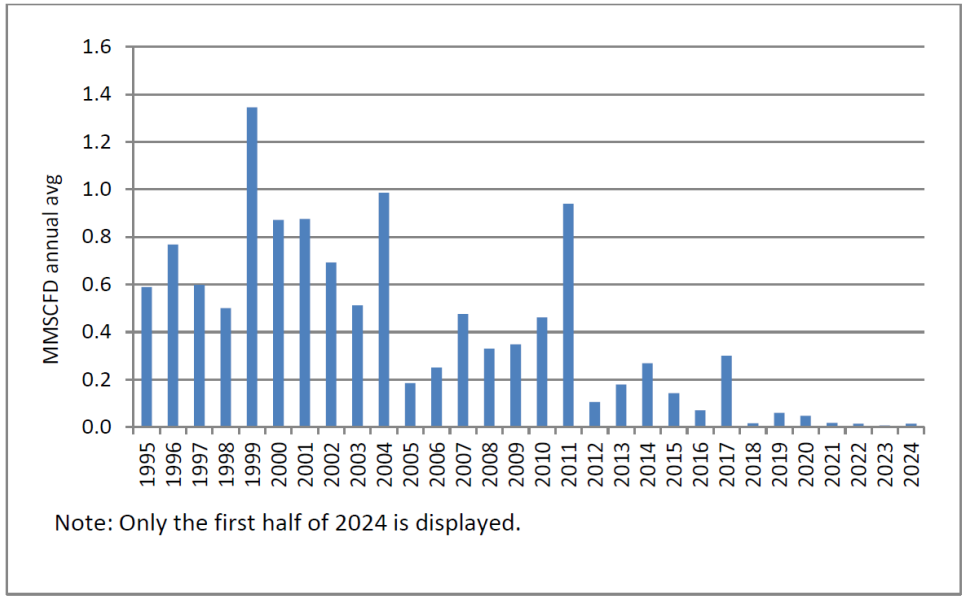
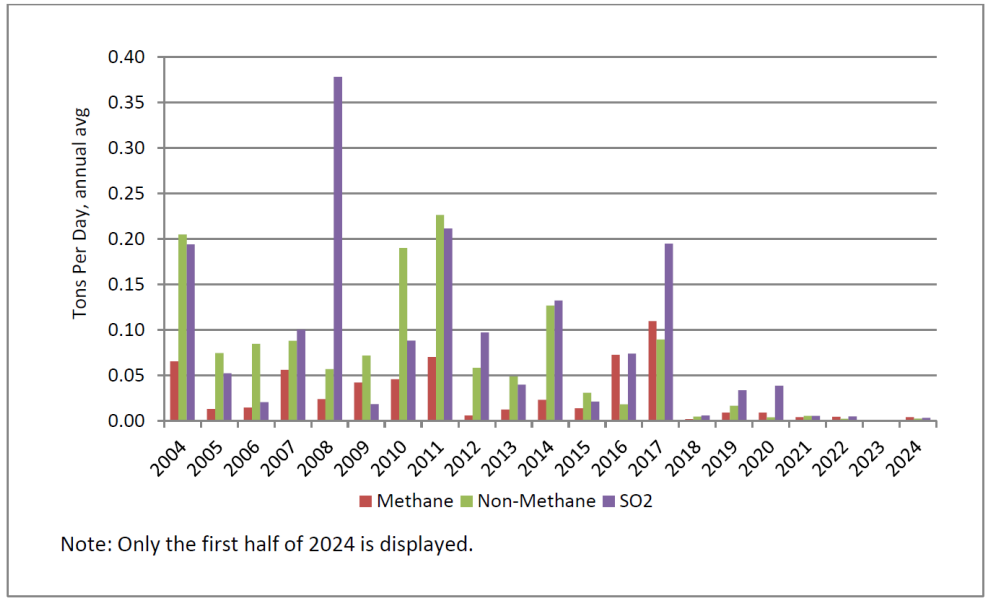


Figure 2 – Flare Vent Emissions

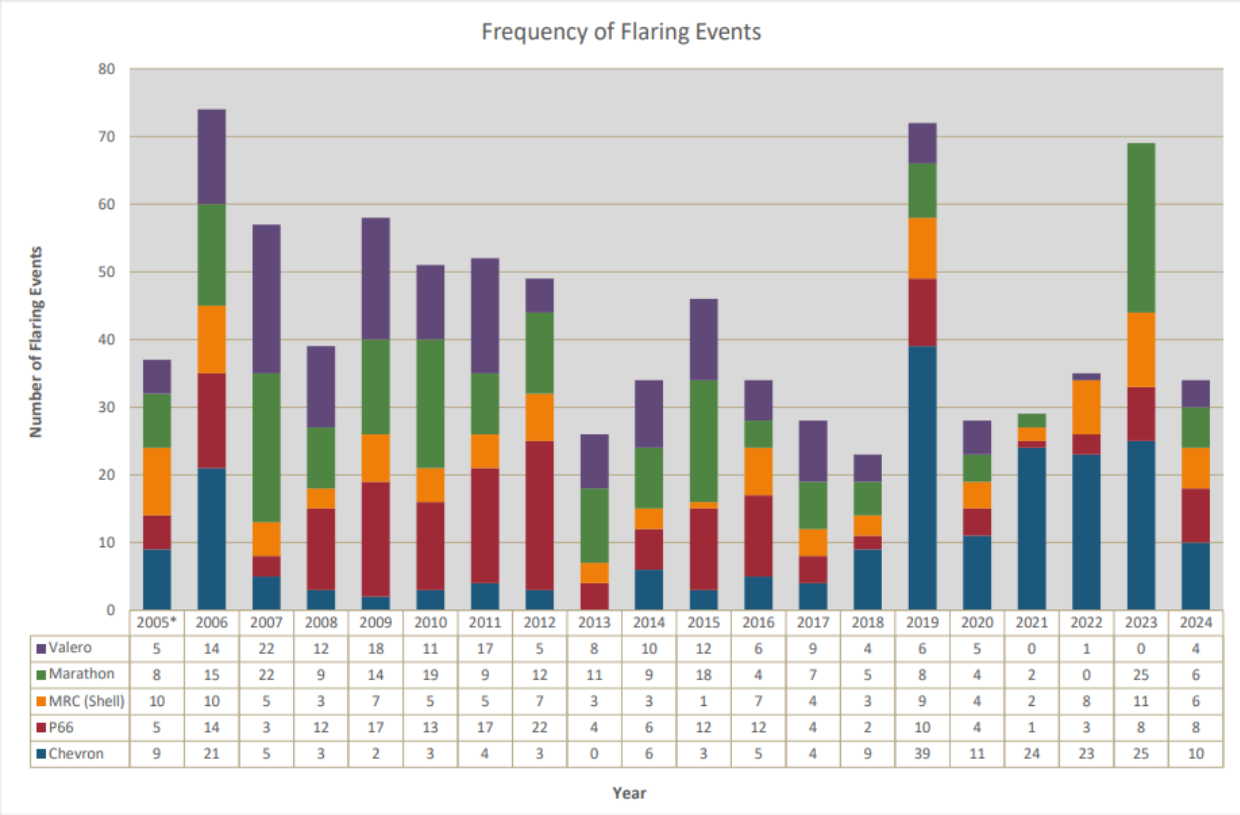


The State of California determines where 'overburdened communities' are located within our state by using publicly available data from Cal EPA's:
Cal EnviroScreen 4.0 Mapping Tool.

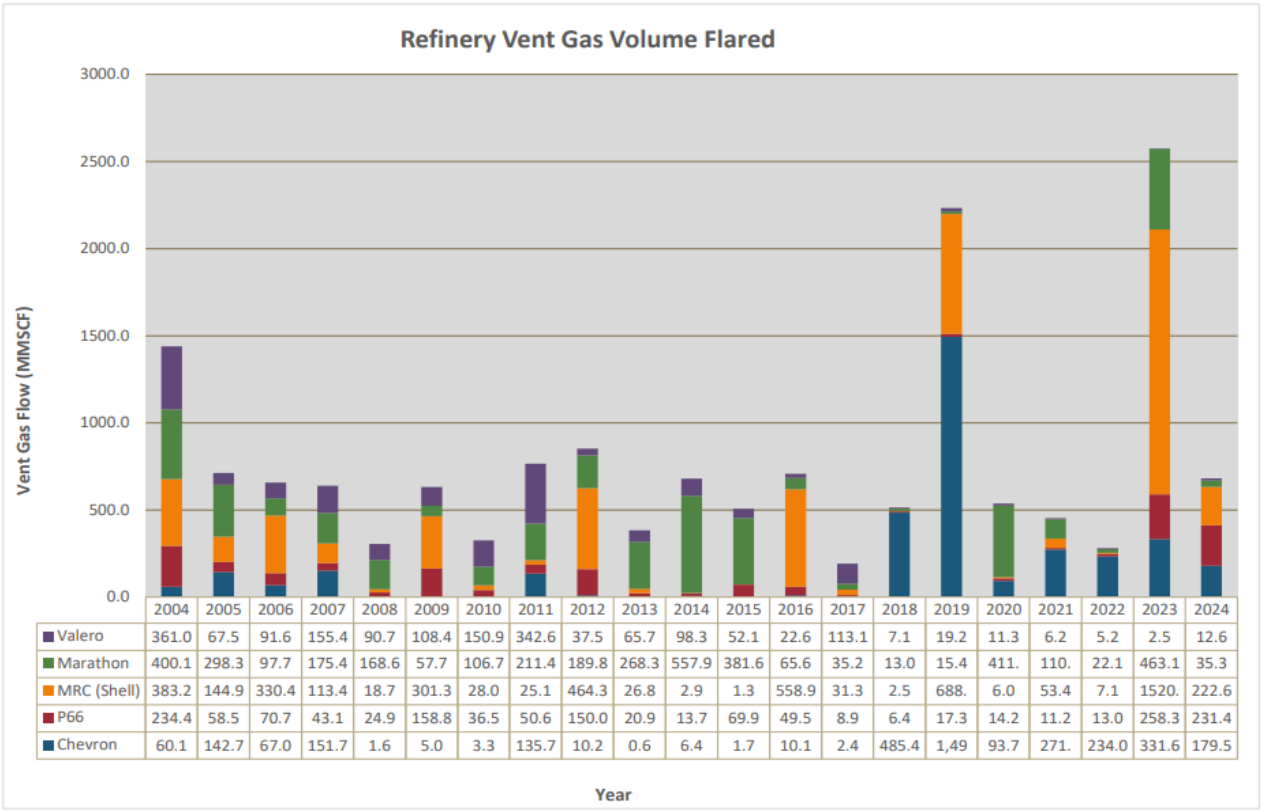
Benicia Refinery

Flare Vent Gas Volume & Emissions – Reducing Flaring

Bay Area Air District
CLEAN AIR FOR ALL



	2005*	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Valero	5	14	22	12	18	11	17	5	8	10	12	6	9	4	6	5	0	1	0	4
Marathon	8	15	22	9	14	19	9	12	11	9	18	4	7	5	8	4	2	0	25	6
MRC (Shell)	10	10	5	3	7	5	5	7	3	3	1	7	4	3	9	4	2	8	11	6
P66	5	14	3	12	17	13	17	22	4	6	12	12	4	2	10	4	1	3	8	8
Chevron	9	21	5	3	2	3	4	3	0	6	3	5	4	9	39	11	24	23	25	10



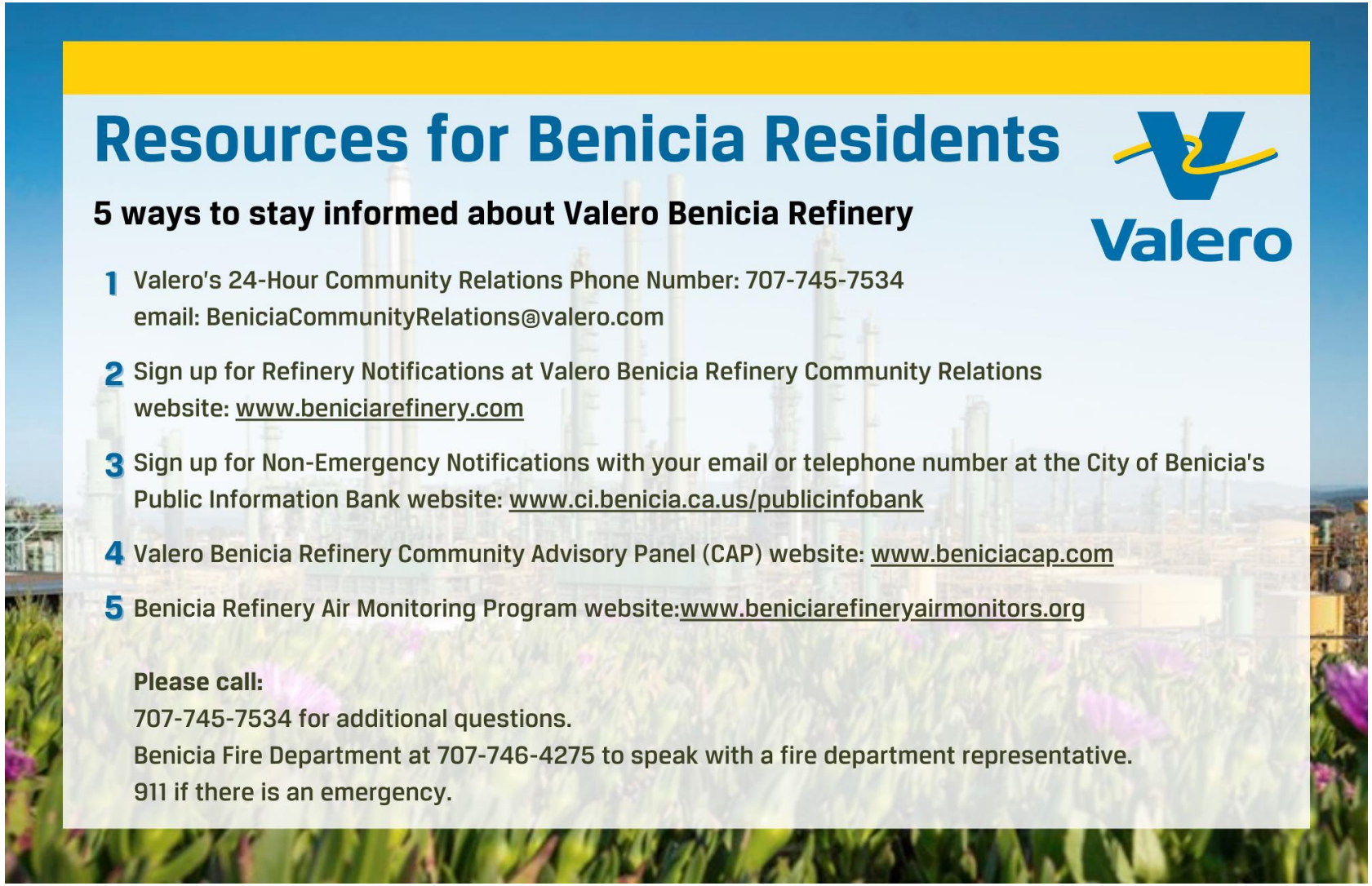
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Valero	361.0	67.5	91.6	155.4	90.7	108.4	150.9	342.6	37.5	65.7	98.3	52.1	22.6	113.1	7.1	19.2	11.3	6.2	5.2	2.5	12.6
Marathon	400.1	298.3	97.7	175.4	168.6	57.7	106.7	211.4	189.8	268.3	557.9	381.6	65.6	35.2	13.0	15.4	411.	110.	22.1	463.1	35.3
MRC (Shell)	383.2	144.9	330.4	113.4	18.7	301.3	28.0	25.1	464.3	26.8	2.9	1.3	558.9	31.3	2.5	688.	6.0	53.4	7.1	1520.	222.6
P66	234.4	58.5	70.7	43.1	24.9	158.8	36.5	50.6	150.0	20.9	13.7	69.9	49.5	8.9	6.4	17.3	14.2	11.2	13.0	258.3	231.4
Chevron	60.1	142.7	67.0	151.7	1.6	5.0	3.3	135.7	10.2	0.6	6.4	1.7	10.1	2.4	485.4	1,49	93.7	271.	234.0	331.6	179.5

https://www.baaqmd.gov/en/plans-and-climate/air-quality-plans/flare-minimization-plans/flare-trends-and-data

Valero

Benicia Refinery

Benicia Refinery Resource Tools



Valero

Benicia Refinery
City of Benicia - Noise Ordinance

- In June 2018, the Benicia city council updated the noise ordinance for the Industrial Park.
- The maximum permissible decibel levels are set at 75 dBA, during all time periods, throughout the day.
- Atmospheric conditions, such as wind direction, can increase or decease sound decimal levels and Valero performs decimeter readings to make sure operational activities are below the industrial park's noise ordinance threshold.
- Noises associated with the flaring process and sounds such as the release and production of steam coming from our cooling towers, is monitored by refinery personnel & the Benicia Fire Department.

Source	Sound Level (dBA)	Distance (ft)	Exposure Duration
Empty / Quiet room	40	-	-
Normal conversation	60	3	-
Household shop vacuum	85	10	16 hours
OSHA Action Level	85	-	-
Lawn mower	90	-	-
Diesel compressor / Welder at load	90	10	8 hours
OSHA PEL	90	-	8 hours
Loud bar / Dance music	95	-	4 hours
Router / Radial arm saw / Chop saw	95	3	4 hours
Monster truck rally / Loud headphones	100	-	2 hours
Chainsaw / Jackhammer	110	10	30 mins
Threshold of discomfort	120	-	-
Loud rock concert	125	100	195 secs
Threshold of pain	130	-	-
Pile driving rig on impact	130	30	98 secs
Jet aircraft engine on takeoff	140	150	24 secs
Gunshot	140-170	-	-

Decibels	Sound Source
10	a pin dropping
20	rustling leaves, ticking watch
30	whisper
40	babbling brook, quiet library
50	light traffic, refrigerator
60	conversational speech, sewing machine
70	dishwasher, toilet flushing
80	vacuum cleaner, garbage disposal
90	shouting, lawn mower, MRI machine
100	subway train, blow dryer
110	rock band, leaf blower, jackhammer
120	thunder, screaming baby
130	stadium crowd, ambulance siren
140	jet engine at takeoff
150	cap gun, baloon popping
160	handgun, fireworks
170	shotgun
180	rocket launch

Benicia Refinery
Community Investments

- Sharing our success through volunteerism, charitable giving and being a good employer
  - Over $19.0MM contributed to Northern California community stakeholders over the past 10 years
  - ~$2.29MM invested in community investments during 2024
    - United Way – Employee contributions
    - Valero Texas Open Golf Tournament - Benefit for Children fundraiser
    - Valero Energy Foundation – Corporate contributions
    - Benicia Refinery – Local contributions & Trap Shoot fundraiser
  - ~3,700 volunteer hours were donated by employees, family members & friends to non-profit organizations
- Maintain a solid relationship with Travis Air Force Base & member of Travis Community Consortium
  - U.S. Dept. of Defense – Army & Air Force Exchange Service contract & DLA Energy contract
- Investments in pollution control
  - $1.6 billion dollars spent in infrastructure upgrades to improve air quality and safety

TCC

MVF MOVING VETERANS FORWARD

- Wet Gas Scrubber
- Flare reduction
- Air emissions reduction
- Wastewater discharge
- Lower energy consumption
- Air Quality Monitoring Projects

Valero

Reference Tools & Websites

- Valero Energy Corporation - ESG Reports & Investor Relations Presentations
https://investorvalero.com/home/default.aspx

- U.S. Energy Information Administration – Number & Capacity of Petroleum Refineries & Gasoline Explained
https://www.eia.gov/dnav/pet/pet_pnp_cap1_dcu_nus_a.htm & https://www.eia.gov/energyexplained/gasoline/where-our-gasoline-comes-from.php

- United States Department of Transportation – Motor Fuel Gasoline Consumption
https://www.fhwa.dot.gov/policyinformation/motorfuelhwy_trustfund.cfm

- California Energy Commission – California's Petroleum Market
https://www.energy.ca.gov/data-reports/energy-almanac/californias-petroleum-market/oil-supply-sources-california-refineries

- Bay Area Air Quality Management District – Air Quality Research & Data
https://www.baaqmd.gov/about-air-quality

- Solano County Hazardous Material Information and Cal ARP Program 4 Investigation Reports
https://www.solanocounty.com/depts/rm/environmental_health/hazmat/default.asp
- American Fuel Petroleum Manufacturers – Price & Availability of Gas
https://www.afpm.org/newsroom/blog/what-do-refineries-have-do-price-and-availability-gas

- Western States Petroleum Association – Estimated Impact of California Gasoline Taxes
https://twitter.com/OfficialWSPA/status/1504147265140666369

- California Office of Environmental Health & Hazard Assessment – Reference Exposure Levels
https://oehha.ca.gov/air/general-info/oehha-acute-8-hour-and-chronic-reference-exposure-level-rel-summary

Questions and Answers