

**Valero Community Advisory Panel (CAP) Public Meeting
Approved Summary Meeting Minutes
Tuesday, December 11, 2018
Valero East Conference Room A**

CALL TO ORDER

The meeting was called to order at 4:35 p.m.

The following attended:

CAP Members

Marilyn Bardet	Good Neighbor Steering Committee
Diane Ferrucci	Benicia Unified School District
Libbey McKendry	Community at Large
Brian Tulloch	Benicia Industrial Park Association

Valero CAP Representatives

Don Wilson	VP and General Manager
Paul Adler	Director Community Relations & Government Affairs
Don Cuffel	Director Health, Safety, Environment and Regulatory Affairs

Welcome & Safety – Don Wilson, VP and General Manager

Call to Order – Diane Ferrucci

- The Mission Statement and Role of the Community Advisory Panel (CAP) was read:

Mission Statement

The objectives of the CAP are to provide an ongoing means of communications between the community and Valero on matters of mutual concern and interest that relate to refinery operations and their impact on the community, and to provide an advisory role to Valero on those matters.

Role of the CAP

The role of the CAP shall be to provide an on-going means of communication between the community, civic leaders, and the Valero Benicia Refinery. The CAP will identify and address activities and issues of mutual interest. The CAP will provide a forum for dialogue between the community and the refinery. CAP meetings will be organized and facilitated by the refinery in a fashion that encourages an open exchange of information. It is assumed that CAP members agree to work cooperatively with other CAP members and representatives of the City of Benicia and Valero Refining Company to insure efficient use of the CAP and its volunteer community members.

- CAP members and Valero CAP representatives introduced themselves
- Agenda was approved
- Summary minutes from the October 9, 2018 CAP meeting were approved.

CAP Update – Paul Adler, Director Community Relations & Government Affairs

- CAP Membership Update
 - One at-large position open
 - Eleven applications received, and six applicants interviewed
 - Another at-large position has opened so two applicants from the six received will now be chosen
- CAP 2019 Calendar
 - Tuesday, March 12, 2019 – 4:30 p.m.
 - Tuesday, June 11, 2019 – 4:30 p.m.
 - Tuesday, September 10, 2019 – 4:30 p.m.
 - Tuesday, December 10, 2019 – 4:30 p.m. (Public Community Meeting)



- CAP Website
 - Public may view past CAP agendas and minutes
 - Draft minutes of current CAP meeting should be uploaded by the next Friday
 - Power Point presentation from December 12, 2018 CAP meeting will also be available on the CAP website

Refinery Presentation – Don Cuffel, Director Health, Safety, Environment and Regulatory Affairs

- Overview of Valero Benicia Refinery (PowerPoint Presentation attached)
 - Valero's Air Quality Monitoring Program for the Community
 - www.beniciarefineryairmonitors.org
 - Communication and Being a Good Neighbor (Paul Adler)
- Questions and Answers

Meeting adjourned for tour at 5:35 p.m.

Benicia Refinery
Benicia, California



Community Presentation

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Agenda

- Valero Energy Overview
- Refining in California
- Benicia Refinery Overview
- Basics of Refining
- Emissions and Energy Use

Renewable Fuel Business – Diesel

What is Renewable Diesel?

Renewable diesel is a true hydrocarbon just like diesel, and meets ASTM International's standard for Diesel Fuel Oils (D-975). It has a different molecular structure from biodiesel, which is a methyl-ester.

Because of this structural difference, renewable diesel is a superior product with a higher cetane index than typical ultra-low sulfur diesel (ULSD), and unlike biodiesel, an energy density value equivalent to ULSD. Renewable diesel can be distributed using the established petroleum pipeline system, while biodiesel requires truck or rail transport.

With the combination of Darling's ability to provide low-cost, carbon-friendly feedstock – in the form of tallow from recycled meat waste and used cooking oil collected from restaurants – and Valero's experience as the world's largest independent petroleum refiner and a leading marketer, Diamond Green Diesel is a sustainable biofuel facility that is helping meet growing renewable energy demands.

Rendered animal fats, used cooking oil and inedible corn oil are byproducts that provide a responsible and sustainable feedstock for producing renewable diesel. Renewable diesel produced from these byproducts is fully compatible with existing engines and infrastructure and has a substantially lower carbon intensity than soybean-based biodiesel.

Diamond Green Diesel's feedstock is shipped by rail or truck, and then processed mostly into renewable diesel for shipping by pipeline, rail or vessel into markets in the U.S. and internationally. Naphtha from the production process is sent to the St. Charles refinery for further processing into gasoline.



Diamond Green Diesel is North America's largest biomass-based diesel plant and also produces renewable gasoline. Next-Gen.

The 18,000-barrel-per-day facility is a joint venture of Diamond Alternative Energy LLC, a subsidiary of Valero Energy Corporation, and Darling Ingredients Inc., producing renewable diesel fuel from animal fat, used cooking oil and inedible corn oil at a plant next to Valero's St. Charles Refinery in Harco, Louisiana.

Darling, the nation's leading renderers and recycling company serving the food industry, provides much of the feedstock. Valero operates the plant, and markets renewable diesel and co-products such as naphtha for gasoline.

The plant is capable of annually converting approximately 2.3 billion pounds of rendered and recycled material into more than 275 million gallons of renewable diesel.

The product meets the most stringent of low-carbon fuel standards. And unlike biodiesel, which primarily is made from soybean oil, renewable diesel is not susceptible to heating temperatures and degradation during storage, and can be shipped by traditional pipelines.

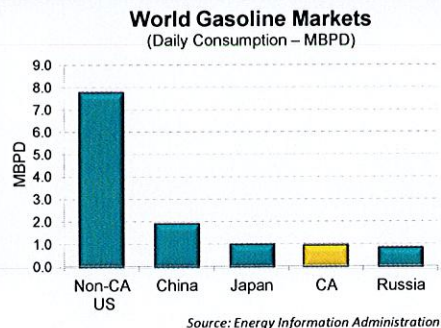
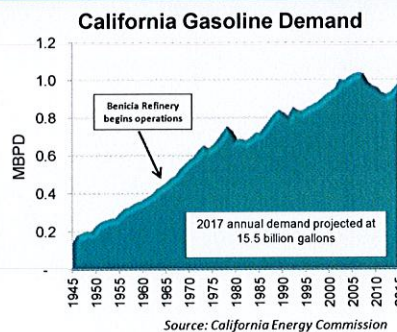
The fuel previously is sold into the large California on-road diesel fuel market for Low Carbon Fuel Standards compliance. Significant volume also goes to Canadian and European customers for their respective low-carbon fuel requirements.

Diamond Green Diesel
PROFILE



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World's 4th Largest Gasoline Market



- California is one of the largest gasoline markets in the world
- More than 30 million cars and light trucks on the road today
- Gasoline demand coming back with broader economic recovery and employment

How Oil Gets from below the Ground to your Car



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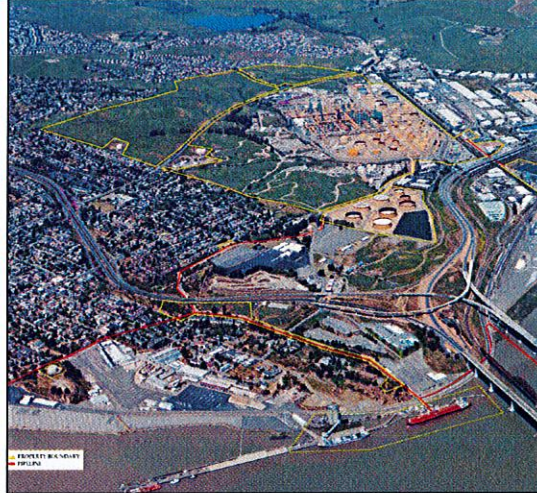
Benicia Facts

Refinery

- 165,000 BPD capacity
- Medium-sour crude slate
- High conversion, highly complex
- Highly integrated and compact
- 430 employees
- Green/gold paint scheme intended for refinery to "blend-in" with local landscape
- Youngest refinery in California

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
- \$10.8 MM generated in local taxes (2017)
- Refinery and associated BIPA facilities fees and taxes produce 25% of City's General Fund

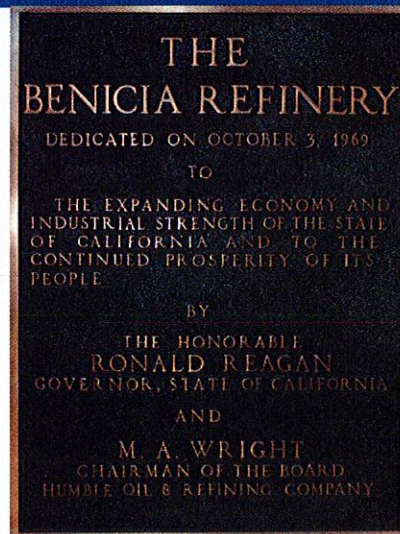


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The Benicia Refinery

- 1966** - Refinery built on lands occupied by former U.S. Army arsenal dating back to 1860's
- 1968** - Specifically designed and constructed to process Humble Oil's share of Alaskan North Slope (ANS) production for a rapidly growing California economy with heavy gasoline demand
- 1969** - First ANS to crude unit; crude unit running at 63 MBPD
- 1996** - Investment in 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
- 2003** - Valero Improvement Project (VIP) investments begin
- Today** - Feedstock flexibility has increased, very high clean products yield (transportation fuels)



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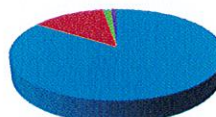


Crude Oil Characteristics

- Crude oil is the **feedstock** for Valero Refineries
- Once refined, crude oil becomes **finished products** which consumers will buy
- Crudes are classified and priced by density and sulfur content
- Crude density is commonly measured by API gravity
 - API gravity provides a relative measure
 - The higher the API number, the lighter the crude
 - ▢ Light crudes are easier to process
 - ▢ Heavy crudes are more difficult to process
- Crude sulfur content is measure as a percentage
 - Less than 0.7% sulfur content = sweet
 - Greater than 0.7% sulfur content = sour
 - High sulfur crudes require additional processing to meet regulatory specs
- Acid content is measured by Total Acid Number (TAN)
 - Acidic crudes highly corrosive to refinery equipment
 - High acid crudes are those with TAN greater than 0.7

CRUDE OIL COMPOSITION

- Average crude oil contains about:
 - 84% to 85% carbon
 - 13% to 14% hydrogen
 - 1% to 3% sulfur
 - Less than 1% of nitrogen, oxygen, metals, and salts



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What's in a Barrel of Crude Oil?

Crude Oil Types

Light Sweet
(e.g. WTI, LLS, Brent)

Medium Sour
(e.g. Mars, Arab Light, Arab Medium, Urals)

Heavy Sour
(e.g. Maya, Cerro Negro, Cold Lake, Western Canadian Select)

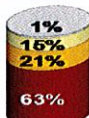
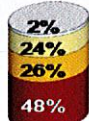
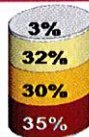
Characteristics

> 34+ API Gravity
< 0.5 % Sulfur
35% Demand
Most Expensive

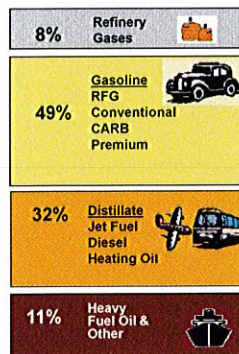
24 to 34 API Gravity
> 0.5 – 2.5 % Sulfur
50% Demand
Less Expensive

< 24 API Gravity
> 2.5 % Sulfur
15% Demand
Least Expensive

Inherent Yields



U.S. Refinery Production

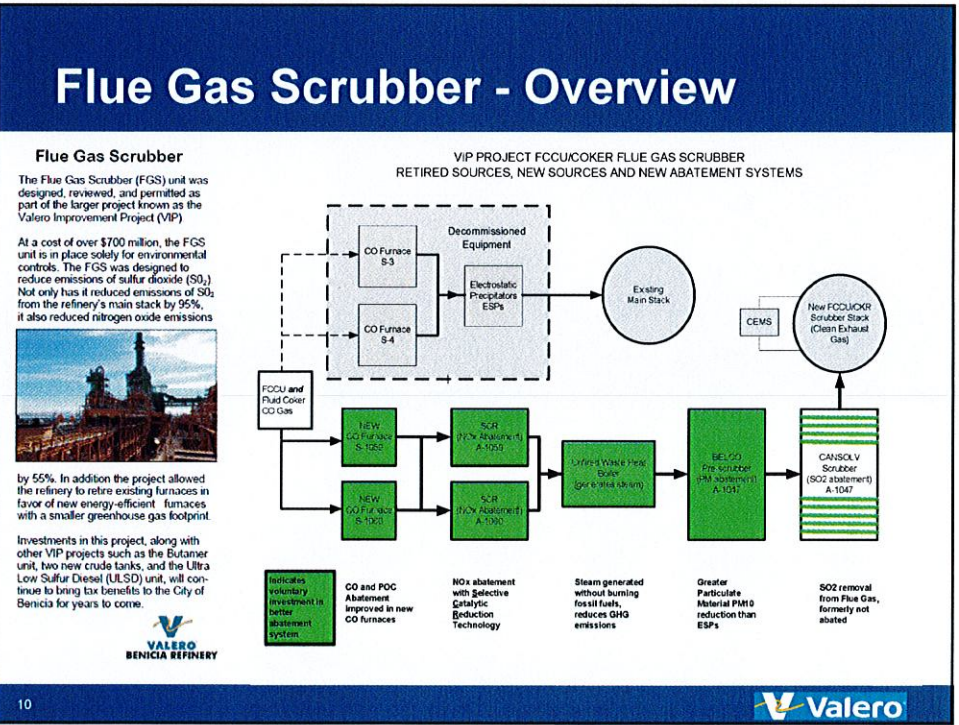
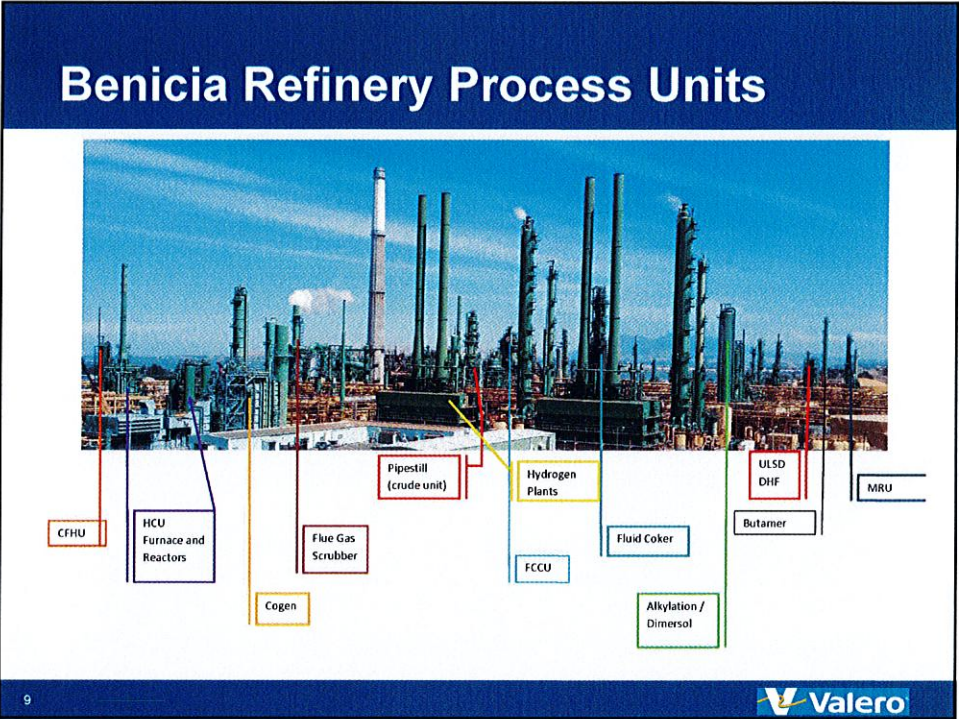


Source: EIA Refiner Production

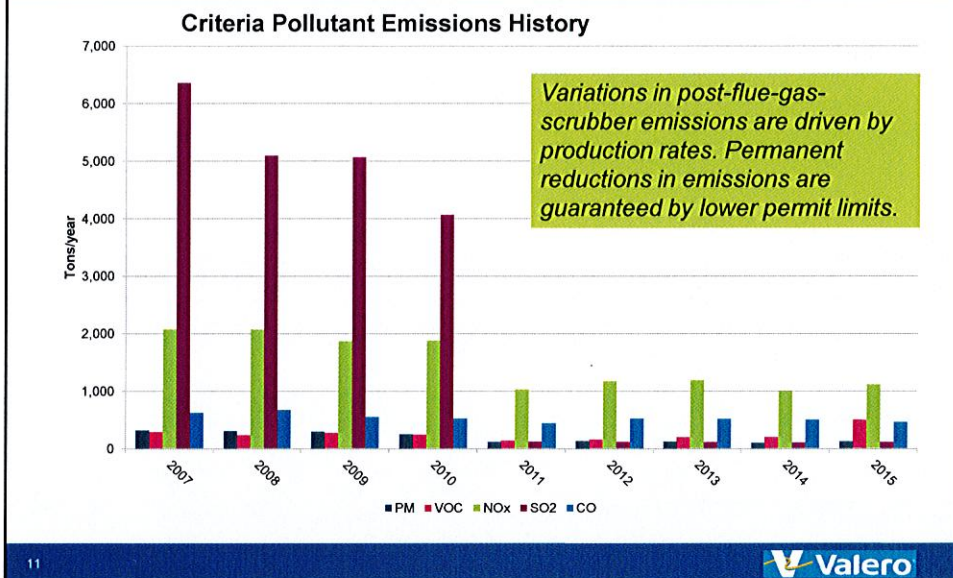
Refineries upgrade crude oil into higher value products

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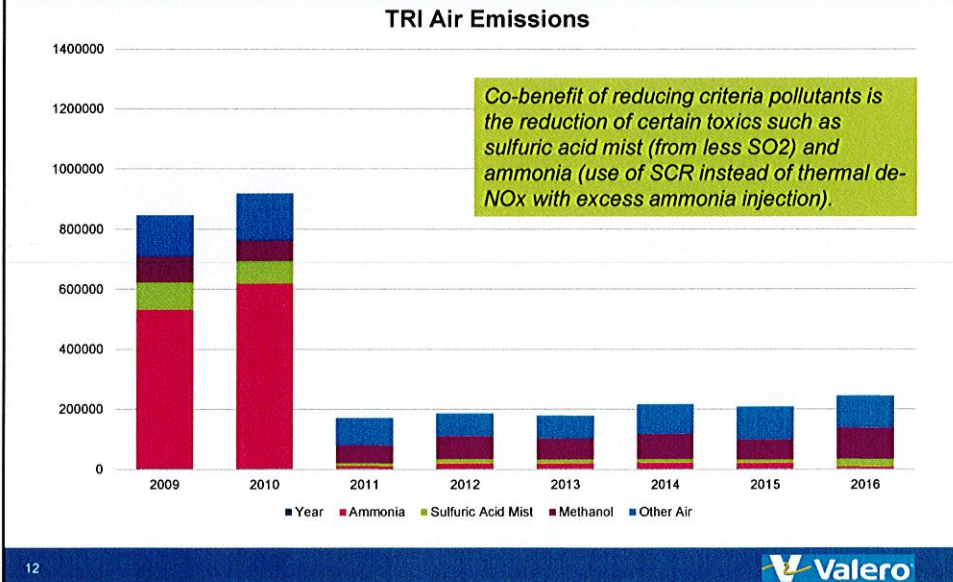




Criteria Pollutant Trend



Toxic Release Inventory (TRI) Trend



Air Quality Monitoring Program for the Community

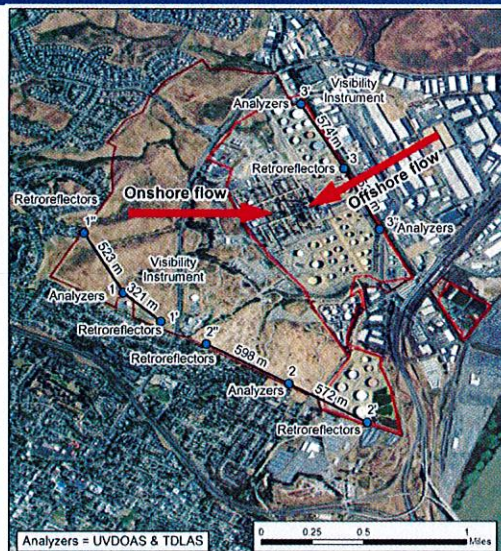
- Routine operations monitored by analyzers
 - (Continuous Emissions Monitors or "CEMs" for NOx, CO, SO2, H2S, TRS)
 - Fuel quality analyzers (H2S, TRS, heating value, speciation)
 - Over 50 devices requiring daily calibration and data historization
 - Stack testing for non-CEM constituents (PM, SAM)
- Ground Level Monitors
- Three ground level monitors (GLMs) were installed decades ago and are in continuous operation in the community.
- Ground level monitors (GLMs) measure hydrogen sulfide (H2S) and sulfur dioxide (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)
- Fenceline Monitors
- Fenceline monitors go a step beyond, by measuring specific pollutants that cross the facility's fenceline in real time. The systems have the ability to monitor, record and report air pollutant levels of multiple compounds.
- The Bay Area Air Quality Management District's Regulation 12-15 requires refinery fenceline monitoring by June of 2019.

www.beniciarefineryairmonitors.org

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Fence Line Monitoring



- 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

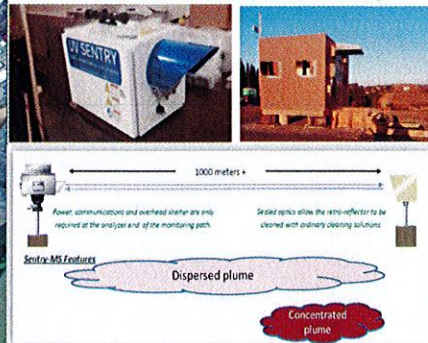


Figure 16 Basic principle for open path instrument operation. Image from CERI's Scint-M5 monitoring brochure.

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Communication

- Incident Reports/Notification
 - Valero will notify the city when regulatory notifications are submitted to California OES
- Emergency Operations Center (EOC)
 - Valero will have a representative at the City of Benicia EOC when a major incident occurs
- Community Warning System (CWS)
 - Valero will participate with the City during incident response drills/training
- Community Advisory Panel (CAP)
 - CAP meetings are held on a quarterly basis and an annual Community-CAP meeting will be held each year (Tuesday, December 11th) - <https://www.beniciacap.com/>
- Community Relations
 - Valero Community Relations - 24-Hour Phone Number: 707-745-7534

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Being a Good Neighbor - Community Contributions

- Sharing our success through volunteerism, charitable giving and being a good employer
 - \$15MM contributed to Northern California charities over the past 10 years
 - 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
 - 2,100 hours volunteered by 450 employees to local non-profit organizations
- Investments in pollution control
 - \$1.6 billion dollars spent in infrastructure upgrades to improve air quality and safety
 - Flare reduction
 - Air emissions reduction
 - Wastewater discharge
 - Lower energy consumption



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