

MEETING NOTES

PASADENA CITIZENS' ADVISORY COUNCIL

www.pasadenacac.org

Tuesday, October 24, 2023

Revive! Church

The 302nd meeting of the Pasadena Citizens' Advisory Council (PCAC) was held on Tuesday, October 24, 2023, at the Revive Church, 1062 Fairmont Parkway. The agenda was adopted as presented. The meeting notes from September 26, 2023, were accepted without change.

ATTENDEES *italicized*

PCAC Members

Andrew Aleman, City of Pasadena OEM
Jed Aplaca, City of Pasadena Parks and Rec.
Ruth Askine
Diane Barnes, CTHS
Hal Burke, City of Pasadena Neighborhood Network
Raul Camarillo, Harris Co. Pct. 2
Emilio Carmona
Azell Carter, City of Pasadena OEM
Monica De La Portilla
Tammy De Los Santos, City of Pasadena Parks and Rec.
Tish Eubanks, City of Pasadena
Albert Gonzales
Rick Guerrero, Pasadena Economic Development Corp.
Mike Jackson
Luz Locke
Loretta McCarthy
Lupita Monreal, City of Pasadena Neighborhood Network
Ellis Orozco
Ernesto Paredes
Margie Pena, Baker Ripley

Brenda Pritchard, City of Pasadena Neighborhood Network
Dominick Rezza
Giovanna Searcy
Richard Sims
Sue Sims
Joe Valdivia
Christian Rocha, Chamber of Commerce
Cristina Womack, Chamber of Commerce
Jack Womack

Support

Diane Sheridan, Facilitator
Emily Morris, Secretary

Observers or Resources

Vanessa Ayala Medina
Chris Baecke, Harris Co. Pollution Control
Scott Castleman, speaker Houston Carbon Capture & Storage Alliance
John Collins
Brett Conaway, Harris County OHSEM
Brenda Deason, Air Alliance
Jen Hadavia, Air Alliance

Ninfa Herrera
Ramanan Krishnamoorti, UH VP of Energy & Innovation and Professor of Petrochemical Engineering
Holly Kurth, EHCMA
Virginia Pate
Diamond Pham, Air Alliance
Ramon Rodriguez, HCA Health Care
Alex Spike, Air Alliance
Pat Van Houte, Pasadena City Council
David Wade, HCOHSEM
Scott Wasilowski
Steve Zach, Pasadena Public Library

CAC Plant Members

Afton Chemical, Hari Sundaram,
Maryam Shekari
Air Products, Brian Farhadi
Albemarle, Lisa Fruge rep by Kevin Paul,
Paul Hernandez, Doug Thompson
BASF, Abe Ahmed rep by John Igoe
Chevron Pasadena Refinery, Joe Ebert rep by Angela Fall,
Jennifer Silva, Nathan Kangas

Chevron Phillips, Andy Woods,
William Rutherford
Enterprise Products, Karla Arriaga Ethyl, Hari Sundaram, Maryam Shekari
Evonik, Nathan Locklar rep by Donovan Phelan
Gulf Coast Authority, Denise Ehrlich rep by Rachel Cunningham
INEOS Phenol, Mike Meyer, Pedro Hernandez
Intercontinental Terminals Co., Robert Surguy rep by Jesus Davila,
Gary Sterkel
Kinder Morgan Pasadena Terminal, Robert Hammons, Scott Eady, Marlin Collins
KM Export Terminal, Mike Dugger, Scott Eady
LyondellBasell Refinery, Clint Titzman, Lauren Gonzales
Next Wave Energy, Shane Presley, David Muscat, Ken Livengood
OxyChem, Eric Delgado rep by Brandon Pearson
Brandon Pearson
Sekisui, Jeff Thompson, Kevin Therault, Scott Stephens

AN INTRODUCTION TO CARBON CAPTURE AND STORAGE

Slides from both speakers will be posted at www.pasadenacac.org

Two guest speakers explained the basics of carbon capture and storage (CCS) and carbon capture, utilization, and sequestration (CCUS). They discussed the current state of this technology and its future.

Scott Castleman, with Houston Carbon Capture & Storage (CCS) Alliance, explained the three steps in the process: capture, transportation, and storage. In his presentation he shared the following highlights:

- Safe and proven for more than 50 years
- It improves air quality = improved health

- 40 million metric tons of CO₂ currently captured globally
- 50 million metric tons will be captured and stored by 2030
- Far-reaching economic benefits
- Alliance members include leaders in the Houston petrochemical industry
- Educational materials, including [Alliance Connect](#), are available in English and Spanish

Castleman said the alliance is open to publishing materials in other languages to help inform all stakeholders about the efforts to pursue carbon capture. More information can be found in Castleman's slide presentation.

Ramanan Krishnamoorti, University of Houston's Vice-President of Energy and Innovation, and Professor of Petrochemical Engineering, went into greater detail about the process of carbon capture and why the technology needs to expand rapidly to yield maximum health and economic benefits in the future. Krishnamoorti emphasized that the scale of carbon capture, utilization, and sequestration is a fraction of what it needs to be, and the global demand is growing exponentially. Among his points and information found in slides are the following:

- Houston is the largest single carbon dioxide (CO₂) emitter globally
- U.S. currently captures 22 million tons annually. Carbon capture and sequestration are mature fields, technologically but need to be scaled up greatly and quickly.
- CO₂ can be stored or used as a commodity with unprecedented value. Creating value is key to growth in CCUS.
- There is no single solution to controlling CO₂ emissions; carbon capture should accompany other proven technologies, such as solar, hydrogen, geothermal, etc.
- Details about technical pathways for CO₂ removal, use, and storage
- Historical timeline of carbon capture dating back to 1930s
- Top 10 examples of carbon capture operations in the U.S., including 4 in Texas
- Critical challenges for carbon capture technology and liability management
- CO₂ is a deadly colorless, odorless gas – industry leaders are considering mixing it with an aromatic additive that would indicate leaks

Krishnamoorti also suggests that global leadership in the carbon capture industry should be in Houston. More information can be found in Krishnamoorti's slide presentation or by emailing questions to ramanan@uh.edu.

Questions among the attendees centered around:

- Scale of capture and storage needs vs. ability to accommodate rapidly growing production of CO₂.
- Costs, including transportation and storage infrastructure.
- Safety along the carbon capture chain (capture, transport, storage). He emphasized that guardrails need to be put in place including, but not limited to, monitoring of air and seismic activity. The University of Houston currently is taking seismic readings so there is a baseline against which to measure any changes resulting from CCUS.

Small Group Discussion

1. Why is it important to talk about this topic?

- Environment is important
- Global warming and climate change
- Climate change

- Future generations, what planet will we leave them?
- Education and awareness
- We don't understand where all emissions are coming from
- Very important topic
- It is a hot topic, politically and socially
- It could have applications down the road that we have not thought of yet

2. What, if anything, were you glad to hear?

- Good discussion
- Proven but very costly
- Transparency that this is not the only solution to CO₂ emissions
- Glad to hear about the various options and solutions
- At least they are trying.
- Part of solution and not only
- Glad to hear

3. What, if anything, concerned you?

- A lot of unknowns
- Cost vs. benefit
- Scale
- Not acting fast enough
- Will focus change with leadership?
- Solutions (in soil) are still finite so have we looked far enough ahead of effects
- Houston is the largest producer of CO₂!!
- What is the ideal CO₂ concentration in the atmosphere?
- What is the ideal surface/air temps of the atmosphere?
- The volatility of CO₂ at profit-generating - If the price of oil drops, what keeps CO₂ going?
- What if the carbon leaks?

4. What questions, if any, do you still have?

- Is Houston staying in the same mindset when new leadership comes in?
- Does leadership mean politics or industrial?
- Is it 40 million metric tons or 80 million metric tons currently being captured?
- Manmade vs. nature made – which produces the most CO₂?
- Where will these new pipelines be built? Will they be responsible not to disrupt ecosystem services and existing infrastructure and homes?

5. If you would like another PCAC meeting on this topic, what issues would you like to address? Whom would you suggest as speakers?

- Near misses – best practices, companies and communities to encourage reporting
- Someone who can speak on specific projects
- Politicians
- Steel industry
- Energy industry (electric)
- Geologists
- I don't think we need another meeting

- Petroleum industry, different industries
- What is the plan for permitting all the pipeline required for this upscale?
- Federal CO₂ _____
- DAC – (*NOTE*: direct air carbon capture)
- HyVelocity (hydrogen hub)
- Regulatory role
- Well storage: RRC (*NOTE*: Railroad Commission)

6. Anything about anything else?

HOST PLANT INTRO: Kinder Morgan Export Terminal (KMET)

A slide for Kinder Morgan Export Terminal will be posted at www.pasadenacac.org

Mike Dugger, terminal manager, said KMET is located on approximately 41 acres on the Houston Ship Channel. The facility was acquired from HLP in 2017 and comprises a staff of 19 employees and 2 managers. KMET provides product storage and distribution of bulk liquid petroleum storage. The facility holds 12 storage tanks, including 10 product tanks for a total storage capacity of 1,465,000 bbl, and two wastewater tanks. KMET has a ship dock with a 40-foot draft, a barge dock with a 15-foot draft, and can load two barges simultaneously at a rate of 5K bph per barge. The export terminal handles ULSD, gas blendstock, CBOB, OP400, light cycle oil, jet, MTBE, UMD, reformer feed, and alkylate.

PLANT UPDATES

Plant Update Summary was mailed to attendees shortly before the meeting and mailed to all members the day afterward. Direct questions to Diane Sheridan facilitator, dbsfacilitator@gmail.com, 281-326-5253 or raise questions at the next meeting.

In a Nutshell:

- Updates were received from all 18 plants
- **2 of 18** had reportable environmental incidents (Gulf Coast Authority, Kinder Morgan Pasadena Terminal)
- **3 of 18** had OSHA recordable injuries (Afton, Albemarle, Chevron Pasadena Refinery)
- **13 of 18** had neither environmental nor safety incidents

16 plants had no environmental incidents:

- | | | |
|------------------------------|--------------------------------|-------------------------------|
| 1. Afton Chemicals | 7. Enterprise Products | Terminal |
| 2. Air Products | 8. Ethyl | 13. LyondellBasell |
| 3. Albemarle | 9. Evonik | 14. Next Wave Energy Partners |
| 4. BASF | 10. INEOS Phenol | 15. OxyChem |
| 5. Chevron Pasadena Refinery | 11. Intercontinental Terminals | 16. Sekisui |
| 6. Chevron Phillips | 12. Kinder Morgan Export | |

15 plants had no safety incidents:

- | | | |
|------------------------|-------------------------------|-------------------------------|
| 1. Air Products | 7. Gulf Coast Authority | Terminal |
| 2. BASF | 8. INEOS Phenol | 12. LyondellBasell |
| 3. Chevron Phillips | 9. Intercontinental Terminals | 13. Next Wave Energy Partners |
| 4. Enterprise Products | 10. Kinder Morgan Export | 14. OxyChem |
| 5. Ethyl | Terminal | 15. Sekisui |
| 6. Evonik | 11. Kinder Morgan Pasadena | |

Gulf Coast Authority (GCA): Rachel Cunningham reported that, on Oct. 3, 2023, GCA Washburn Tunnel Facility exceeded the daily maximum limits for toluene and ethylbenzene. A slug discharge from an industrial user was identified and GCA will issue a Notice of Violation as appropriate under GCA's approved pretreatment program. The plant was back in compliance on Oct. 4, 2023, with permitted daily maximum limits. Robert Hammons reported that the source of the slug discharges was **Kinder Morgan Pasadena Terminal**. The cause of the discharge and corrective actions are currently under investigation by terminal personnel. Interim corrective actions are being taken by the facility to avoid a repeat incident. PCAC attendees had no questions about the plant incidents.

COMMUNITY ANNOUNCEMENTS

Pasadena Taste of the Town 2023 – Pasadena Chamber of Commerce hosts its annual Taste of the Town from 5-9 p.m. on Nov. 2, 2023. Enjoy food from area restaurants, a live auction, and a business and shopping expo, featuring local businesses. For more information, contact Christian E. Rocha, Membership Coordinator, 281-487-7871 (o), 832-457-9115 (c).

<https://www.pasadenachamber.org/events/details/taste-of-the-town-2023-10111535>.

TxDOT public meetings – PCAC members and friends still may provide input on the TxDOT SH225 and I-610 East Planning and Linkages (PEL) Study. Comments from the public may be submitted in any language to the TxDOT Houston District Office. **All comments must be received or postmarked by Friday, Nov. 3, 2023.** [Click this link for more information](#) on the PEL Study and how to provide input online or through the Postal Service.

Dec. 2 Fields of Honor at San Jacinto Monument – Knowing that some PCAC members assisted with the 2021 event, Sheridan announced that more than 1,000 volunteers are needed for this event, which placed 21,500 luminarias around the battleground in 2021 to commemorate the sacrifice of Texans who gave their lives in armed combat. For more information and to volunteer for the 2023 event, complete the [“Volunteer Form - Fields of Honor: A Luminous Tribute at San Jacinto”](#) at this link.

FUTURE PCAC MEETINGS

Dinner available at 5:30 pm. Meetings are from 6:00 – 7:30 p.m. unless otherwise indicated.

Nov. 28 – Annual Report on Emissions from PCAC Plants

- Data from PCAC plants will be compiled and presented to show Pasadena industry trends in the EPA Toxics Release Inventory releases to the air and the TCEQ air emissions inventory of criteria pollutants. Chevron Pasadena Refinery will present.

Jan. 23 – PCAC at Age 33 and How to Improve

DATES FOR 2024

Unless otherwise noted, all are 4th Tuesdays. 5:30 dinner – 6:00 call to order – 7:30 adjourn

Tues. Jan. 23	Tues. May 28	Tues. Oct. 22
Tues. Feb. 27	No June or July meetings	Tues. Dec. 3
Tues. Mar. 26	Tues. Aug. 27	No late December meeting
Tues. Apr. 23	Tues. Sept. 24	