

December 17, 2024
10:00 a.m. – 2:00 p.m.



A N G E L E S L I N K

Community Based Organization Stakeholder Group (CBOSG) & Planning Advisory Group (PAG) December Meeting

Warm welcome to our participants!
We will be starting at 10:00 a.m.
to make sure everyone is present.



WELCOME FROM OUR FACILITATOR



ANGELES
LINK



CHESTER BRITT

Executive Vice President
Arellano Associates
PAG Lead



ALMA MARQUEZ

Vice President Gov. Relations
Lee Andrews Group
CBOSG Lead

HOUSEKEEPING



This meeting will be recorded (video and audio), and a court reporter will be transcribing the meeting. Please announce yourself before you speak



Zoom microphones are muted by the host to eliminate background noise. You will need to unmute your microphone when called on to speak. *For both in-person and on-line participants please speak directly into the microphone to ensure everyone can hear*



We encourage you to turn on your cameras so we can better engage with you



Please feel free to use the Zoom chat to provide input and ask questions throughout the meeting



If you would like to speak, please use the "Raise Hand" button at the bottom of the Zoom screen



Wireless microphones will be passed to those speakers attending in person

AGENDA



- » Arrival and Continental Breakfast
 - » SoCalGas Safety Moment, Land Acknowledgement & Roll Call
 - » SoCalGas Executive Welcome
 - » Angeles Link Phase 1 Summary of Studies
 - Member Discussion
 - » Summary of PAG & CBOSG Process
 - » Lunch
-
- » Angeles Link Phase 2 Update
 - Member Discussion
 - » Next Steps
 - » Roundtable Discussion
 - » Closing Executive Remarks
 - » Reception

SOCALGAS SAFETY MOMENT



ANGELES
LINK



OLGA QUINONES

Media Relations and Strategic
Engagement Project Manager
SoCalGas



LAND ACKNOWLEDGEMENT & ROLL CALL

SOCALGAS EXECUTIVE WELCOME



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MARYAM BROWN

President
SoCalGas

ANGELES LINK PHASE 1 SUMMARY OF STUDIES



ANGELES
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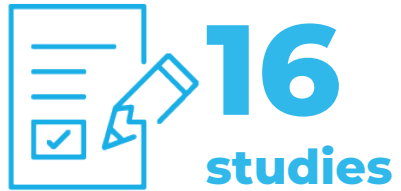


YURI FREEDMAN
Senior Director
Business Development



AMY KITSON
Angeles Link Director
Engineering & Technology

PHASE 1 STUDIES



VIABILITY

1. Demand
2. Production
3. Water
4. Options and Alternatives
5. Cost Effectiveness



TECHNICAL

6. Safety
7. Sizing and Design
8. Routing/Configuration
9. Leakage
10. Permitting
11. Environmental

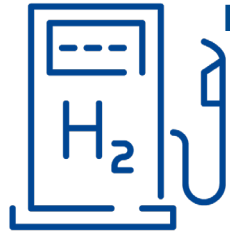


PUBLIC INTEREST

12. GHG
13. NOx
14. Workforce
15. Affordability Framework
16. ESJ Plan



VIABILITY



Demand - Takeaways

Total Addressable Market (TAM) is projected to be between

1.9 - 5.9 MMT/year

for clean renewable hydrogen

Angeles Link is designed to transport between

0.5 & 1.5 MMT/year of the TAM



Demand - Feedback

Added Section 5 to compare SoCalGas's forecasts with key studies, including

CARB, CEC, UC Davis, and the National Petroleum Council.

Section 6 clarifies that Angeles Link's throughput is a subset of the

Total Addressable Market.



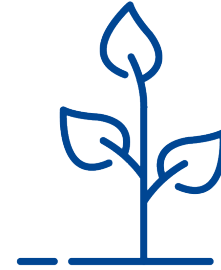
Production - Takeaways

1.5 MMT/year of clean renewable hydrogen throughput requires

~39 GW

of solar capacity and

~240,000 acres of land



Hydrogen production represents

~12% (240,000 acres) of the total land area

identified within the target production areas



Production - Feedback

Footnote was added to address stakeholder feedback on additional land constraints for hydrogen production.





Project Options & Alternatives - Takeaways

Angeles Link emerged as the **best suited and least cost option** to deliver clean, renewable hydrogen at scale. Clean, renewable hydrogen delivered by Angeles Link is a **competitive and viable decarbonization pathway** compared to electrification and CCS.

Project Options & Alternatives - Feedback

In response to stakeholder feedback, the study clarified that Angeles Link is intended to be **scalable** and serve both the lower, near-term demand in the 2030s and higher, long-term demand post 2045. While trucking may be used for certain last mile delivery solutions, pipelines allow for **greater throughput volumes over longer distances** offering economies of scale and lower costs which increase the likelihood for adoption.

High Level Economics & Cost Effectiveness - Takeaways

Angeles Link **offers the most cost-effective solution to transport clean renewable hydrogen** to serve Central and Southern California, including the L.A. Basin, at scale.

Found to be **cost effective** relative to electrification and CCS as alternative decarbonization pathways for certain hard-to-electrify industrial sectors, dispatchable power generation, and medium- and heavy-duty transportation.

High Level Economics & Cost Effectiveness - Feedback

Added **Section 7.5.2** to assess using **High Voltage Direct Current (HVDC)** for in-basin electricity transmission.



Updated **Key Findings** to clarify hydrogen purification costs and explain storage assumptions from early demand to market maturity.

GHG AND AIR QUALITY

GHG - Takeaways



Mobility, power generation, and hard-to-electrify industrial sector GHG emissions are **significantly reduced by approximately:**

4.5-9.0 MMT/yr

when fossil fuels are replaced by clean renewable hydrogen.

The equivalent of the annual GHG emissions of removing approximately



**725,000 –
1,000,000**

gasoline passenger vehicles off the road per year

GHG - Feedback

- » Estimated GHG emissions reductions account for hydrogen leakage using volumetric estimates
- » Applied a range of estimated Global Warming Potential values

NOx - Takeaways

Meaningful improvement in regional air quality due to

~3,800-5,200 TPY

of avoided NOx emissions in addition to reductions of diesel particulates.



NOx - Feedback

Prepared maps geographically depicting anticipated NOx emission reductions

SAFETY AND WORKFORCE



Hydrogen Safety Panel peer-reviewed study identified

Safety Requirements

ranging from material selection and pipeline design to monitoring and emergency response protocols, which forms a comprehensive framework to mitigate risks associated with hydrogen transport.

Safety Management System

Incorporating hydrogen into existing framework for managing safety holistically through the integration of various safety management activities.



Applicable Safety Regulations, Codes, & Best Practices

- » Leverage existing requirements, modify, and create new safety practices according to the unique physical and chemical properties of hydrogen.
- » Incorporate and continue collaboration with the Center for Hydrogen Safety and the Hydrogen Safety Panel's expertise.



Construction could create

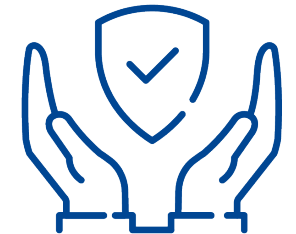
75,000 jobs

direct, indirect & induced

and existing workforce capable of safely operating infrastructure with training.

Enterprise Risk Management

Expand systemic approach that is comprehensive and iterative in nature, and designed to identify, manage, and reduce risks and help prevent or mitigate safety incidents, to employees, contractors, or the public



53,000

direct construction jobs

23,000

Diverse Bus Enterprise Jobs

ESJ PLAN AND SCREENING

ESJ Plan - Takeaways



2 CBOSG breakout sessions (September 2023 and July 2024)

held to inform development of Angeles Link

Developed in response to stakeholder feedback
Provides a framework for engaging **ESJ Communities**.

Includes mechanisms SoCalGas may leverage to build relationships with important stakeholders and ESJ communities



ESJ Plan - Feedback

- » Engagement Mechanisms vs. Strategies
- » Revision to ESJ Plan Goals
- » PAG/CBOSG membership roster added
- » Clarified federally recognized tribes and tribal organizations to be engaged in Phase 2
- » Emphasized education and direct community engagement

ESJ Screening - Takeaways



ESJ Screening intended to assist SoCalGas in identifying DACs/ESJ communities along preferred routes

Provides community profile; census tract statistics; disadvantaged communities; socioeconomic conditions; public services; and minority/ethnicity/languages spoken

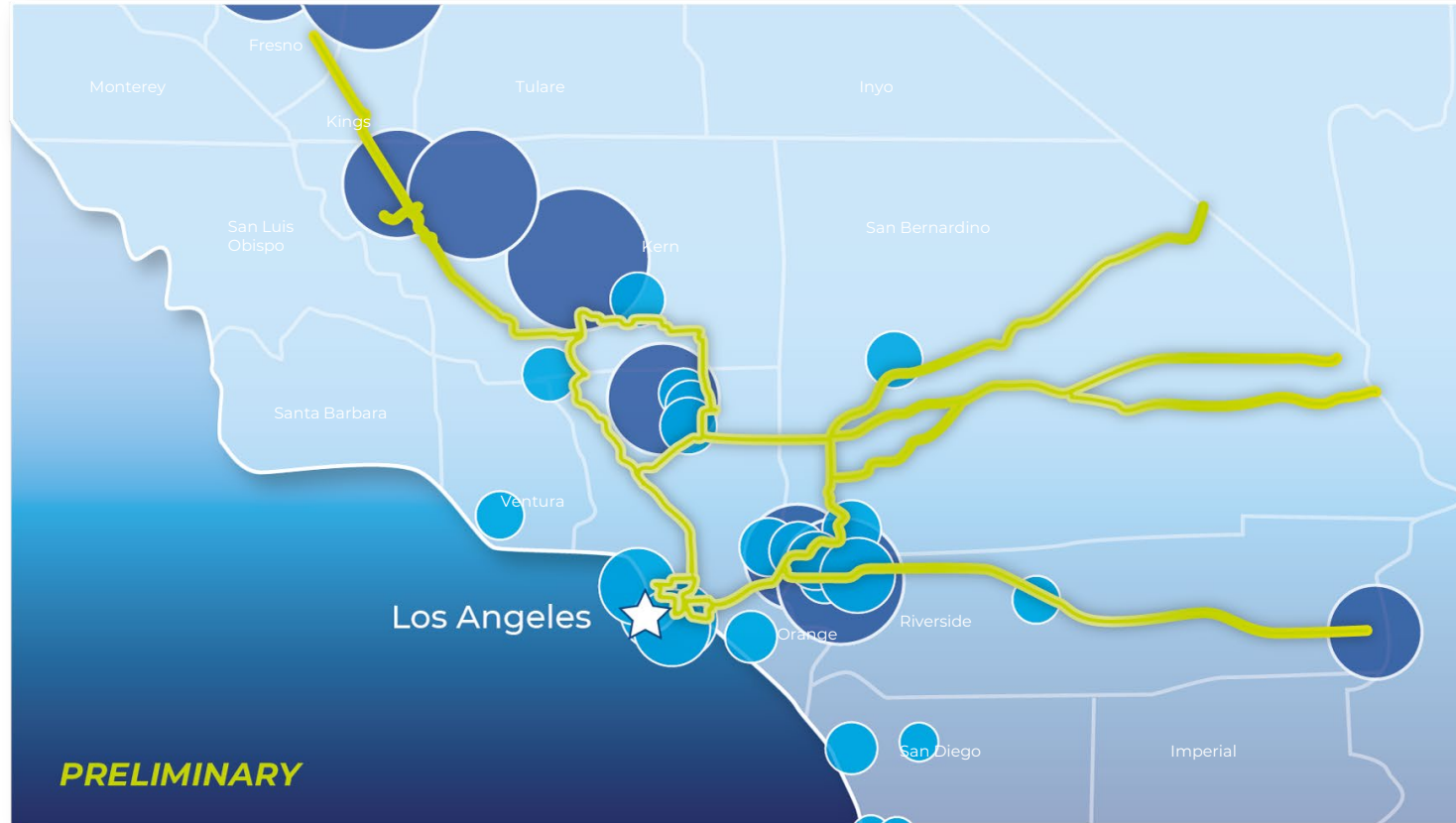
To be leveraged in **Phase 2** to support stakeholder engagement efforts

ESJ Screening - Feedback

- » City information added to CalEnviroScreen census tract tables
- » Languages spoken in areas crossed by evaluated segments added
- » Data from the Community Development Index Tool (CRCD and USC) added for all relevant census tracts
- » Justification for indicator data used added
- » CalEnviroScreen overall percentile and pollution burden percentile added to DAC designation data tables
- » Addition of overview map of evaluated conceptual pipeline route segments

ARCHES & ANGELES LINK: AN INTEGRATED NETWORK

1,300 MILES OF POTENTIAL ROUTE CONFIGURATIONS STUDIED



- » When combined, initial route configurations studied traversed approx. 1,300 miles
- » Angeles Link is anticipated to be approximately 450 miles

ARCHES Production and Offtake sites are from the ARCHES Fact Sheet, October 2023

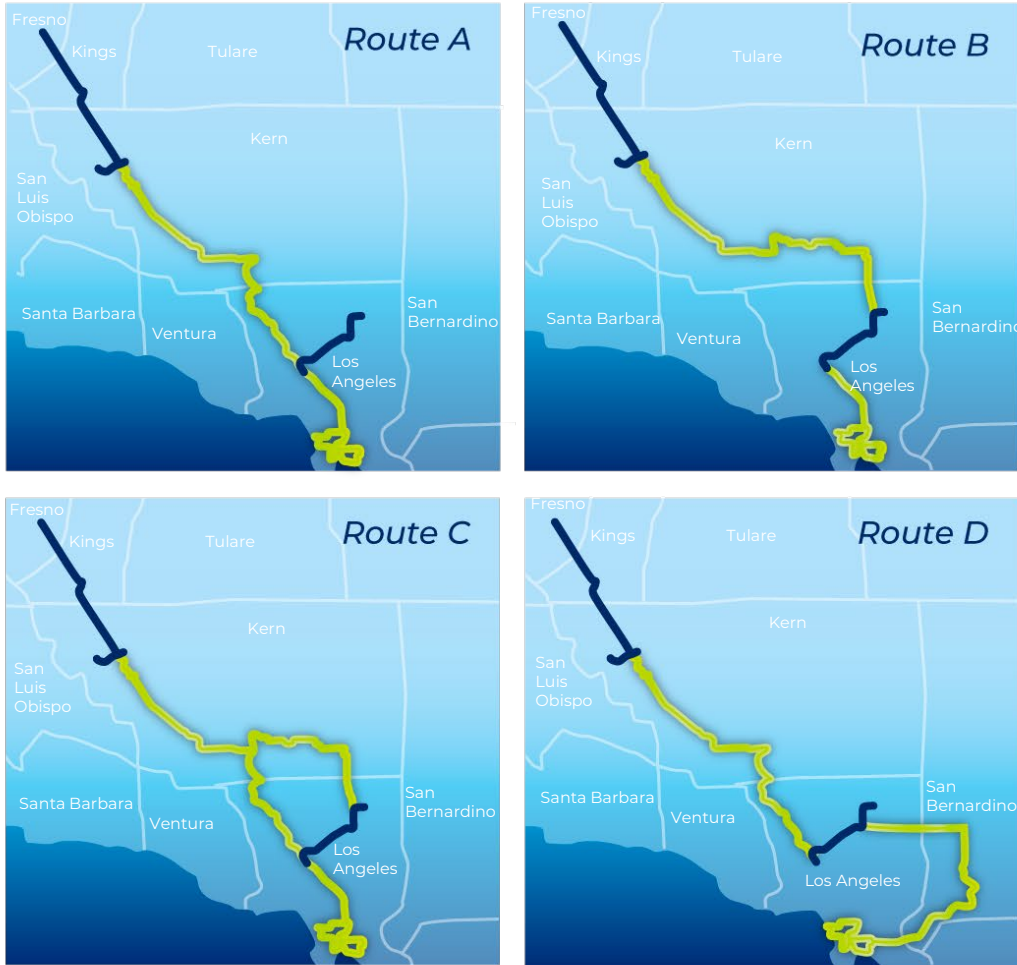
- ARCHES Offtake Sites
- ARCHES Production Sites

These renderings illustrate conceptual preferred route options for Angeles Link. The routing of the pipeline system will be optimized through further detailed siting analysis, considering environmental, social, and technical factors to minimize impacts and enhance operational efficiency.



ANGELES LINK POTENTIAL DIRECTIONAL ROUTES

Four potential directional routes and 1 route variation identified



Potential directional routes are subject to change and will be further analyzed (e.g., for hydraulics, engineering, production, demand, etc.).





MEMBER DISCUSSION: ANGELES LINK PHASE 1 SUMMARY OF STUDIES

- Please announce your name and speak directly into the microphone
- Be concise and focus on discussion topics
- Verbal comments are not the only way to provide input, feel free to type a chat

SUMMARY OF PAG & CBOSG PROCESS



ANGELES
LINK



FRANK LOPEZ

Regional Public Affairs Director
SoCalGas

PAG/CBOSG Participating Organizations

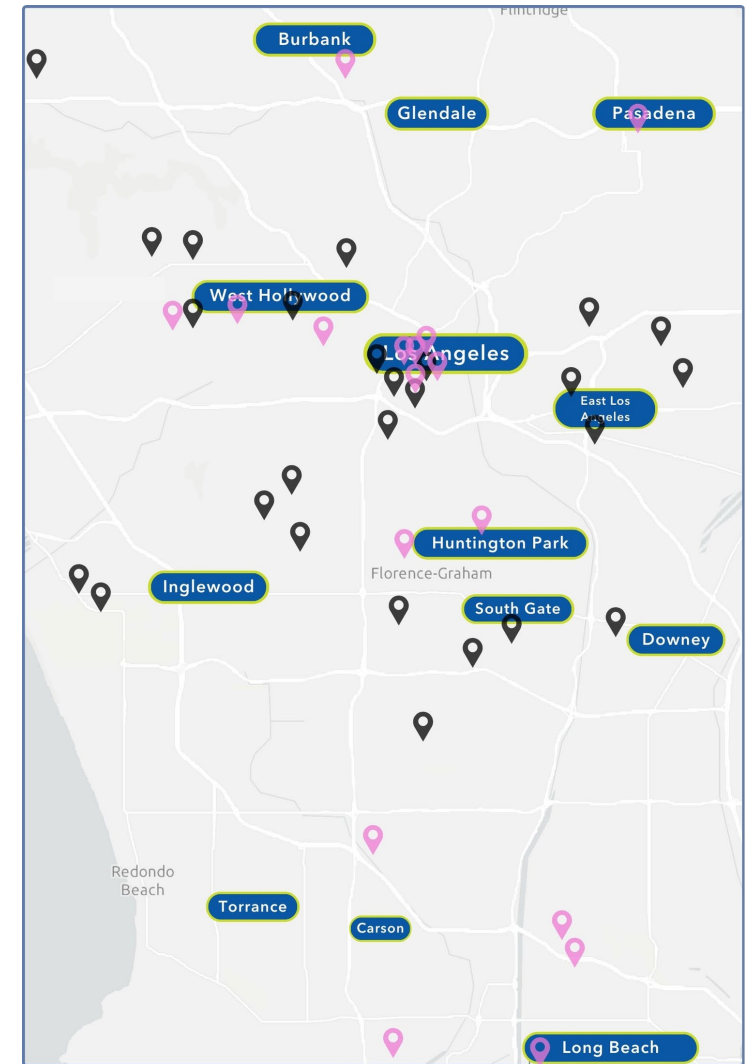
This slide highlights the organizations comprising the PAG and CBOSG, along with a map pinpointing the locations of their headquarters across Los Angeles County.

PLANNING ADVISORY GROUP

- Agricultural Energy Consumers Association*
- Air Products*
- ARCHES
- Bizfed
- Bloom Energy*
- California Air Resources Board*
- California Energy Commission*
- California Hydrogen Business Council*
- California Manufacturers and Technology Association*
- California Water Data Consortium*
- City of Burbank
- City of Long Beach - Long Beach Water
- City of Long Beach - Utilities
- Clean Energy
- Clean Energy Strategies representing the Utility Coalition*
- Communities for a Better Environment
- Earth Justice*
- Energy Independence Now
- Environmental Defense Fund*
- Environmental Justice League*
- Fernandeno Tataviam Band of Mission Indians*
- GoBiz*
- Green Hydrogen Coalition*
- Harbor Trucking Association
- Independent Energy Producers Association*
- International Longshore and Warehouse Union Local*
- Local Union 250
- Los Angeles Department of Water and Power
- Metropolitan Water District*
- Natural Resources Defense Council*
- Pasadena Water & Power
- Port of Los Angeles*
- Protect Our Communities Foundation*
- Reimagine LA
- Sierra Club
- South Coast AQMD*
- Southern California Water Coalition
- Southern California Association of Governments
- Southern California Generation Coalition
- Southern California Leadership Council
- Southern California Pipe Trades
- Southern California Public Power Authority*
- The United Association*
- UC Davis Institute of Transportation Studies*
- UC Davis Sustainable Transportation Energy Pathways*
- UCI Advanced Power and Energy Program*
- University of California, Riverside*
- Utility Reform Network (TURN)*
- Utility Workers Union of America 483
- Utility Workers Union of America Local 132*

COMMUNITY-BASED ORGANIZATION STAKEHOLDER GROUP

- Alma Family Services
- Ballona Wetland Institute
- Breathe Southern California
- California Greenworks
- California Native Vote Project
- Chinatown Service Center
- Climate Action Campaign
- Coalition for Responsible Community Development (CRCD)
- Communities for a Better Environment
- Comunidades Indigenas en Liderazgo (CIELO)
- Defend Ballona Wetlands
- Faith and Community Empowerment (FACE)
- Food and Water Watch
- Go Green Initiative
- Greater Zion Church Family
- LA Black Workers Center/Care at Work, UCLA Labor Center
- Little Tokyo Community Council (LTCC)
- Los Angeles Indigenous People's Alliance
- Mexican American Opportunity Foundation (MAOF)
- Nature for All
- Parents, Educators/Teachers, and Students in Action (PESA)
- Physicians for Social Responsibility-Los Angeles
- Protect Playa Now
- Reimagine LA Foundation
- Soledad Enrichment Action (SEA)
- Southside Coalition of Community Health Centers
- Vote Solar
- Watts Labor Community Action Committee
- Watts/Century Latino Organization
- YMCA of Greater Los Angeles



*Some of the represented organizations have offices located outside the mapped area.

Phase 1 Process Update

Since March 2023, SoCalGas also made process improvements to enhance stakeholder engagement and transparency in response to member requests, including:

- » **Virtual Meeting Options:** All meetings offered virtual attendance to increase accessibility.
- » **Expanded Membership:** Stakeholders were invited to suggest new group members, broadening participation.
- » **Advance Distribution of Meeting Materials** Materials were provided at least one week in advance, with a goal of two weeks.
- » **Extended Comment Periods:** Comment deadlines were extended as needed, ensuring stakeholders had ample time to review materials and provide feedback.
- » **Improved Communication:** Introduced a deadline matrix for clear communication of comment submission timelines.



PHASE 1 ACTIVITIES

SINCE CPUC APPROVED ANGELES LINK MEMORANDUM ACCOUNT APPLICATION (DECEMBER 2022):

Received
100+
COMMENT LETTERS
from PAG and CBOSG

Reviewed and responded to
1,000+
PAGES
of comments

Conducted
16
STUDIES
includes multiple feasibility studies,
an Affordability Framework, and an ESJ plan

FEASIBILITY STUDIES
which collectively span
2,500+
PAGES
covering a wide
range of topics

TOP FIVE STAKEHOLDER PRIORITIES BASED ON FEEDBACK

SAFETY

HEALTH

COST

WORKFORCE
DEVELOPMENT

ROUTING /
ENVIRONMENTAL

70 PARTICIPATING ORGANIZATIONS
PLANNING ADVISORY GROUP (PAG)
offers technical advice and feedback
42
PAG

+

**COMMUNITY BASED ORGANIZATION
STAKEHOLDER GROUP (CBOSG)**
provides community feedback
28
CBOSG

27 TOTAL MEETINGS

14 Quarterly
Meetings

13 Workshops



ANGELES LINK



MEMBER DISCUSSION: SUMMARY OF PAG/CBOSG PROCESS

- Please announce your name and speak directly into the microphone
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LUNCH

ANGELES LINK PHASE 2 UPDATE



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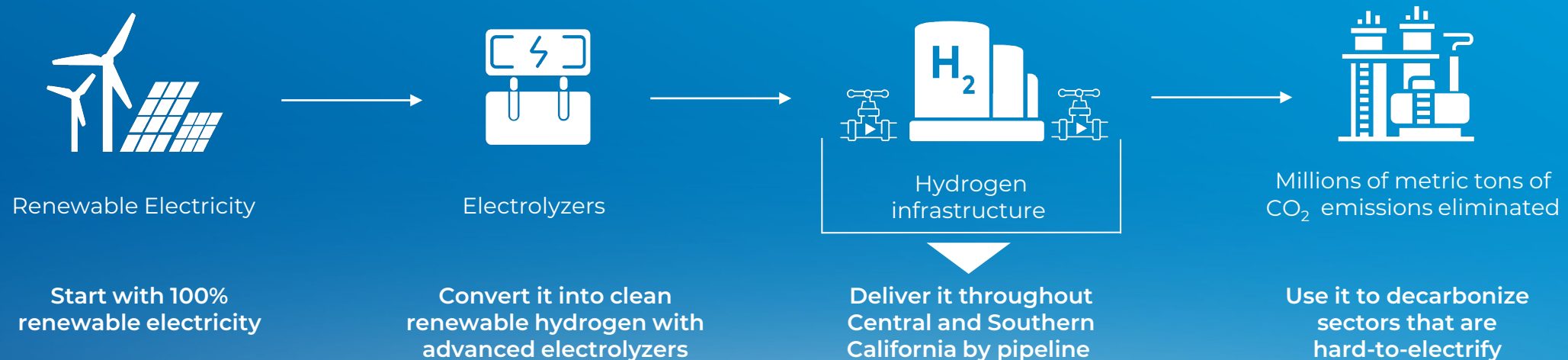


SHIRLEY ARAZI
Angeles Link Director
Regulatory & Policy

ANGELES LINK AS ENVISIONED TODAY

- » An open access ~450-mile **pipeline system** that is dedicated to public use
- » Would transport clean renewable hydrogen¹ from regional third-party production and storage sites to end users in Central and Southern California
- » Includes two pipeline segments (San Joaquin Valley and North LA County) identified by ARCHES
- » Serving clean electric generation, transportation, manufacturing/industrial sectors
- » Sized for an annual total throughput of approximately 0.5 to 1.5MMT over time
- » May be constructed in stages

¹ For purposes of Angeles Link, per CPUC directives, clean renewable hydrogen is defined as that which does not exceed a standard of four (4) kilograms of carbon dioxide equivalent produced on a lifecycle basis per kilogram of hydrogen produced and does not use fossil fuel in its production process.



PHASE 2 APPLICATION OVERVIEW

What it is:

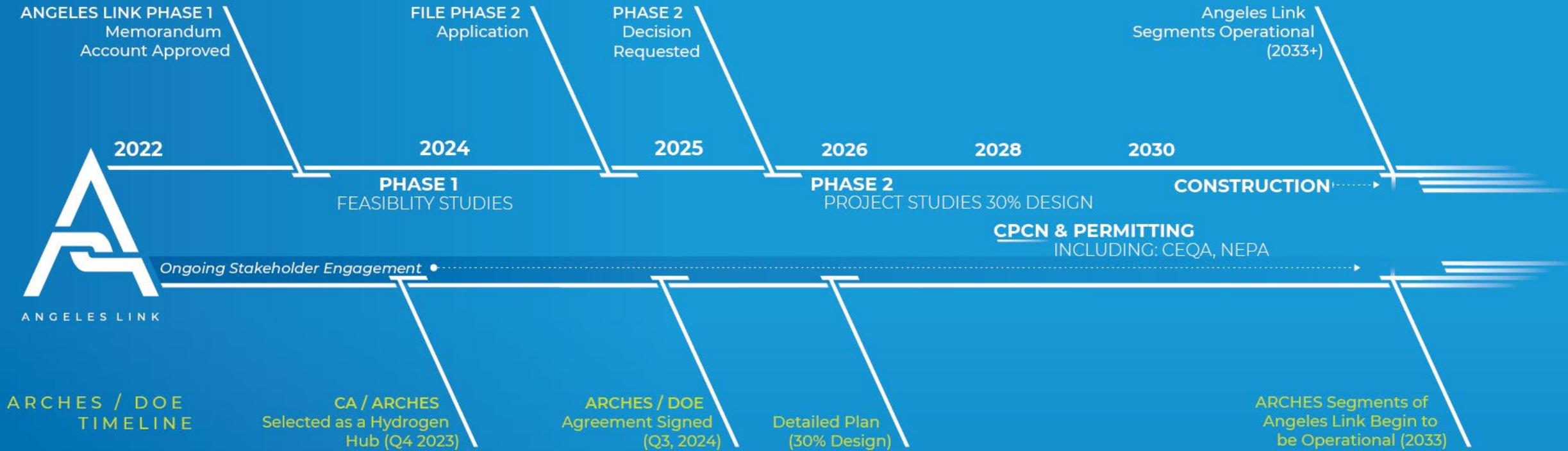
- » Build upon Phase 1 activities
- » ~\$266 million estimated cost
- » Identify preferred system route and refine engineering
 - » Siting, technical, and design analysis
 - » System evaluation and modeling
 - » 30% engineering design
- » Evaluate topics such as:
 - End user and producer requirements
 - Environmental analysis
 - Safety
 - Workforce planning
- » Advance and align timing with ARCHES' schedule
- » Expand stakeholder community outreach
- » Forecasted 30-month schedule after CPUC decision
- » Cost recovery
- » Refined analyses will inform affordability assessments and opportunities

What it is NOT:

- » Procurement of materials
- » CEQA or NEPA review
- » Obtaining permits and entitlements
- » Construction



CONCEPTUAL ANGELES LINK TIMELINE



ESTIMATED AS OF DECEMBER 2024

Timeline Not to Scale



PROPOSED CPUC APPLICATION PROCESS FOR PHASE 2

APPLICATION MILESTONES

ANTICIPATED TIMING

File Phase 2 Application



Est. Dec 2024

Intervenor Protest Period



Early 2025

Prehearing Conference



Scheduled by Administrative
Law Judge

Public Workshop



Est. Q1 2025

Proposed Decision Issued & Intervenor
Comments



Est. Q4 2025

Final Decision



Est. Q4 2025



PROPOSED STAKEHOLDER ENGAGEMENT: PHASE 2



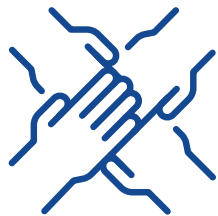
» SoCalGas will continue to meet with and solicit feedback from a PAG on Phase 2 activities at key milestones.



» Phase 1 PAG and CBOSG members would be invited to participate in Phase 2 PAG. Membership would be expanded to include broader set of stakeholders



» SoCalGas would hold hybrid and virtual public meetings to solicit feedback from communities on route selection and alignment, including EJ and tribal communities



» SoCalGas would leverage its Phase 2 stakeholder engagement activities to gather input on the future development of a community benefits plan for Angeles Link.

HOW TO STAY INFORMED AND ENGAGED IN THE REGULATORY PROCESS

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Submit a Letter



How to Become a Party in a Proceeding

What Does it Mean to be a Party in a Proceeding?

A Party is a person or organization that is formally and directly involved in the decision-making process.

Participating as a formal party in a proceeding of the California Public Utilities Commission (CPUC) is the best way to influence decisions. Formal participation as a party comes with rights and responsibilities.

As a party you have the right to:

- Present evidence and witnesses to strengthen your position.
- Obtain information from other parties.
- File relevant motions, petitions, objections, and briefs.

As a party you must:

- Make witnesses available for cross-examination when witnesses have presented testimony.
- Serve documents on all parties.
- Respond to data and information requests from other parties.
- Fully disclose on whose behalf the filing is made, and fully disclose the interests of such persons or entities during the proceeding.
- Demonstrate that your perspective will be relevant to the proceeding's issues.



Become a Party
in a Proceeding

ANGELES LINK WEBSITE

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[Report a gas leak](#) [Ver en español](#)



[Services](#) [Billing & Payment](#) [Savings](#) [Safety](#) [Sustainability](#)



Log In

Angeles Link



Feedback



SoCalGas plans to phase out the use of the Living Library at conclusion of Angeles Link Phase 1. The Living Library will remain accessible to all members until **Friday, December 27, 2024**.





NEXT STEPS





MEMBER DISCUSSION: ANGELES LINK PHASE 2 UPDATE

- Please announce your name and speak directly into the microphone
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ROUNDTABLE

SOCALGAS EXECUTIVE CLOSING



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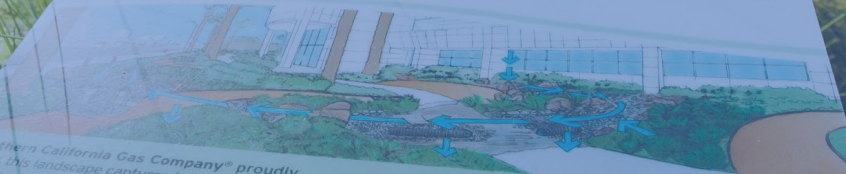
NEIL NAVIN
Chief Clean Fuels Officer
SoCalGas



ANGELES
LINK

THANK YOU FOR YOUR PARTICIPATION

Storm Water and Best Management Practices



Southern California Gas Company® proudly states this landscape captures tens of thousands of gallons of potentially hazardous runoff and is Ocean Friendly. Here's how it works:

- Rain is captured on the roof with drains, grates and gutters
- The runoff then is transported throughout the landscape by perforated pipes in gravel-filled trenches, eliminating standing water

- The pipes eventually lead the water to dry streambeds where much of it will sit and infiltrate
- To minimize erosion, excessive and possibly damaging runoff from large storms is directed to overflow drains that quickly transport it to the storm drain system





RECEPTION