

PG&E / CARB Board Member Update

September 2020

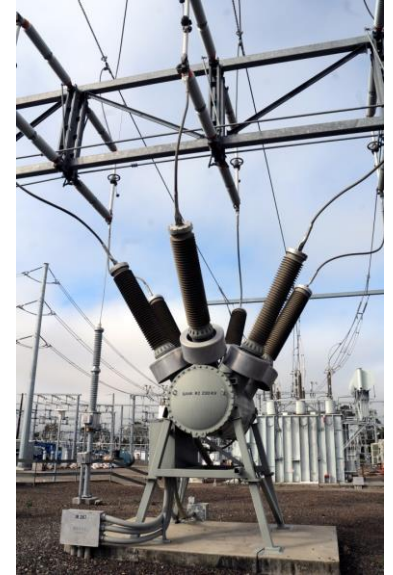


Together, Building
a Better California

- 1. Sulfur Hexafluoride (SF₆)
Regulation Briefing**
- 2. Natural Gas Strategy Update**
- 3. Other items**

Context

- SF₆ is an extremely potent and long-lived GHG (22,800 100-yr GWP)
- SF₆ is used as an insulating gas in transmission & distribution substation switchgear equipment
- PG&E uses SF₆ in electric transmission equipment (circuit breakers, transformers, gas insulated switchgear)



Current Amendments

- Adds phase-out of SF₆ in new equipment starting in 2025
- Preserves the aggressive 1% SF₆ leak limit
- Offers early action emissions credit adjustment, case-by-case technical phase-out exemption
- Clarifies other regulatory requirements for SF₆ compliance



SF6 Regulation | PG&E Position

Support

- PG&E supports the phase-out of SF₆ GIE and the overall amendments
- We appreciate the work CARB staff has put in to structure the phase-out; this allows utilities to ensure the safety, reliability and resilience of our systems while planning carbon-free options
- Some outstanding issues remain but we believe they can be addressed with staff through one or more 15-day changes



Natural Gas Strategy: Gridworks

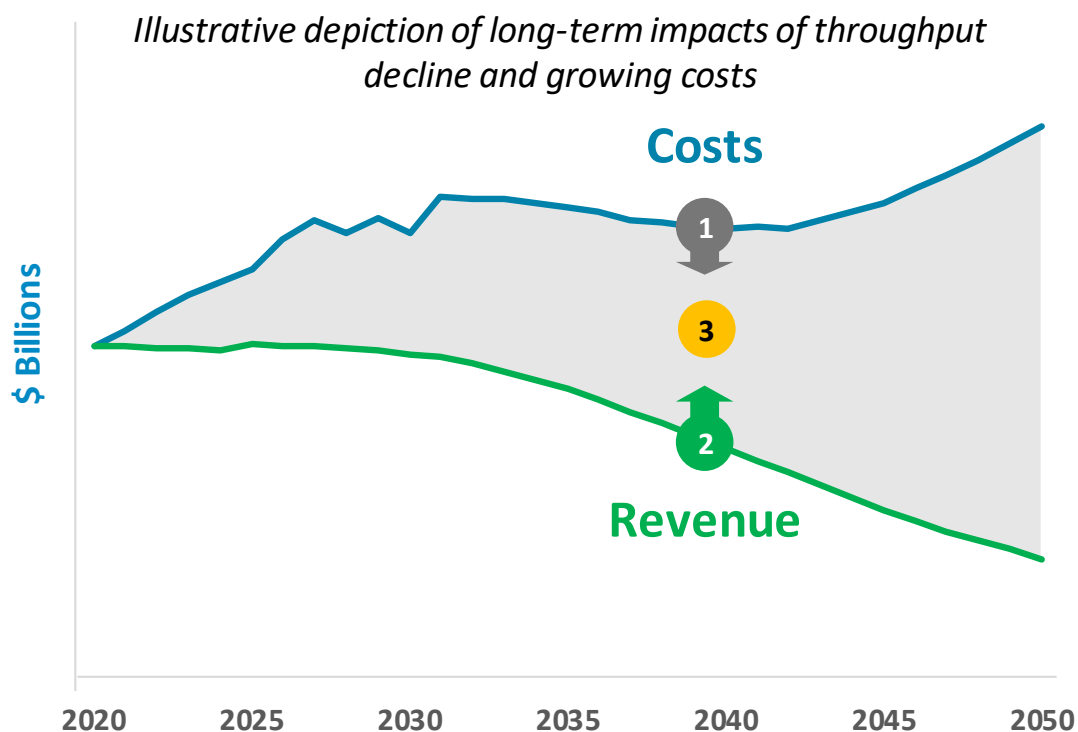
Future throughput on California's gas system will decline, while the cost of operating the gas system increases; these trends need to be managed to avoid adverse impacts

| Participants | Conclusions | Recommendations |
|--|--|--|
| <ul style="list-style-type: none">• CA Environmental Justice Alliance• CAISO• City of Palo Alto• CPUC Public Advocates Office• Coalition of California Utility Employees• Communities for a Better Environment• Crossborder Energy (Tom Beach)• Energy and Environmental Economics• Environmental Defense Fund• Greenlining Institute• Inclusive Economics• IBEW Local 1245• Natural Resources Defense Council• PG&E• The Utility Reform Network | <p>If not managed, the gas transition could lead to adverse impacts on:</p> <ul style="list-style-type: none">• Rates and the affordability of gas service for the remaining gas customers• The gas workforce• Public and worker safety and gas system reliability• Low-income and disadvantaged communities• The broader state economy | <ul style="list-style-type: none">• Initiate interagency, integrated long-term planning• Consider requiring all-electric new construction• Identify alternatives to new investments• Organize a just gas workforce transition• Ensure that low-income and disadvantaged communities benefit from and are not burdened by the gas transition• Clarify that a utility's "obligation to serve" could be met with alternative fuels• Align financial recovery of gas infrastructure investments with the integrated long-term gas infrastructure plan• Consider ratemaking adjustments to minimize customer impacts• Explore external funding sources (beyond gas utility customers) to recover costs |



Gridworks: Potential Solution Levers

A projected long-term net decline in overall natural gas throughput, coupled with forecasted increases in PG&E's natural gas revenue requirement, will result in unaffordable natural gas bills and an unsustainable outcome for PG&E customers.



1 Reduce Costs

- A. Limit Expansion of Gas Delivery System
- B. Zonal Electrification
- C. Strategic Reductions in CapEx / OpEx

2 Increase Revenue

- A. Increase Throughput of RNG and Hydrogen
- B. Supply New End-uses (e.g., marine)

3 Allocate Remaining "Gap"

- A. External Funding
- B. Changes to Cost Allocation and Rate Design
- C. Gas Asset Depreciation



Gridworks Phase 2 & 3 (ongoing)

Ongoing work aims to develop a long-term gas planning proposal to support agency processes, such as the IEPR and the CPUC Long-term Gas System Planning OIR

| Participants | Phase 2 | Phase 3 |
|--|--|--|
| <p>All of the participants from Phase 1 along with the following new participants:</p> <ul style="list-style-type: none">• Aspen Energy (Katie Elder)• Earth Justice• Energy Foundation• The Coalition For Renewable Natural Gas• Southern California Gas Company• Utility Workers Union of America 132 | <p>Phase 2 plans to provide:</p> <ul style="list-style-type: none">• A “how to” manual for state agencies on integrated long-term gas planning• Support to the CPUC Gas Planning OIR and the CEC IEPR | <p>Phase 3, beginning in 2021, is expected cover the policy responses to the integrated long-term gas plan:</p> <ul style="list-style-type: none">• Targeted pilots• Testing financial solutions• Focused community engagement• Workforce management plan |

Thank You

