

#### **ATTACHMENT 3**

**Reach Codes Documents** 

DOCKETED	
Docket Number:	19-BSTD-06
Project Title:	Local Ordinances Exceeding the 2019 Energy Code
TN #:	231101
Document Title:	Californians for Balanced Energy Solutions Comments - REACH Codes
Description:	N/A
Filer:	System
Organization:	Californians for Balanced Energy Solutions
Submitter Role:	Public
Submission Date:	12/10/2019 7:02:21 PM
Docketed Date:	12/11/2019

 ${\it Comment Received From: Californians for Balanced Energy Solutions Submitted On: 12/10/2019}$ 

Submitted On: 12/10/2019 Docket Number: 19-BSTD-06

#### **REACH Codes**

Additional submitted attachment is included below.





































December 11, 2019

Joint Letter of Concerned Parties

Dear Chairman Hochschild:

We are joining with over 110 cities and counties from Southern California representing nearly 8 million citizens in supporting balanced energy policy and consumer choice in energy service, and in preventing overreliance on any one energy source.

Today, we ask the CEC to pause in its consideration of REACH code approvals, currently on the CEC's December 11 meeting agenda. More time should be given to address reliability concerns and consumer impact.

In 1974 the Warren-Alquist Act created the CEC and charged it with several basic responsibilities:

- One was to become the siting authority for large electric generating projects to ensure reliability of California's energy system.
- Another was to establish and enforce uniform statewide building codes and appliance standards.
- Another was to become the energy policy and planning agency for the state. In this
  responsibility under the law the CEC was specifically charged to: "to encourage the
  balanced use of all sources of energy to meet the state's needs, and to seek to
  avoid possible undesirable consequences of reliance on a single source of
  energy."

The CEC's consideration of REACH codes undermines statewide building codes and appliance standards leading to a patchwork quilt of local rules, something the Warren-Alquist act intended to prevent. Consideration of policy to prohibit an energy resource from being chosen by California consumers is not a balanced approach to energy policy, and undermines the intent of the CEC's policy and planning function to prevent overreliance on one energy resource.

We respectfully ask the CEC to set aside any consideration of locally adopted REACH codes.

Thank you.

(DATA REQUEST CALADVOCATES-HB-SCG-2019-09)

DATE RECEIVED: AUGUST 15, 2019 DATE SUBMITTED: AUGUST 29, 2019

#### **QUESTION 1:**

Did any SoCalGas employees or consultants attend the American Gas Association's Building Energy Codes & Standards Committee Meeting on May 14-15, 2019 (henceforth, "AGA C&S Meeting")? If so, please identify each SoCalGas employee or consultant who attended.

#### **RESPONSE 1**:

Yes, Kevin Carney, Customer Services Field Staff Team Leader. No other SoCalGas employees attended. Mr. Carney attended this meeting for the purpose of identifying and discussing any codes or standards that could potentially affect safety or operations at SoCalGas.

#### (DATA REQUEST CALADVOCATES-HB-SCG-2019-09)

DATE RECEIVED: AUGUST 15, 2019
DATE SUBMITTED: AUGUST 29, 2019

#### **QUESTION 2:**

Please state the total costs that SoCalGas incurred for employees' participation in the AGA C&S Meeting (including, but not limited to: preparation for the meeting; participation in the meeting; follow-up actions from the meeting; airfare; ground transportation; lodging; meals; per diem; and other expenses).

#### **RESPONSE 2:**

\$5,981.52

#### (DATA REQUEST CALADVOCATES-HB-SCG-2019-09)

DATE RECEIVED: AUGUST 15, 2019
DATE SUBMITTED: AUGUST 29, 2019

#### **QUESTION 3:**

Please disaggregate the costs in question 2 into the following categories:

- a. Labor
- b. Travel, lodging, meals, and incidental travel expenses
- c. Consultant costs
- d. Other

#### **RESPONSE 3:**

- a. Labor: \$3,857.82 (inclusive of loaders)
- b. Travel, lodging, meals, and incidental travel expenses: \$2,123.70
- c. Consultant costs: \$0
- d. Other: \$0

(DATA REQUEST CALADVOCATES-HB-SCG-2019-09)

DATE RECEIVED: AUGUST 15, 2019 DATE SUBMITTED: AUGUST 29, 2019

#### **QUESTION 4:**

Did SoCalGas charge any costs associated with the AGA C&S Meeting to ratepayers?

#### **RESPONSE 4**:

All of Mr. Carney's labor and non-labor costs, including those associated with his attendance at the AGA C&S meeting noted in the question, are charged to CSF Staff Cost Center 2200-0942, Internal Order Number FG8706502200 which includes operation, supervision, and engineering. This Cost Center and Internal Order is funded by ratepayers through the General Rate Case.

#### (DATA REQUEST CALADVOCATES-HB-SCG-2019-09)

DATE RECEIVED: AUGUST 15, 2019 DATE SUBMITTED: AUGUST 29, 2019

#### **QUESTION 5:**

Please itemize all staff time spent on activities related to the AGA C&S Meeting. For each SoCalGas employee involved, please provide the following information:

- a. Employee name and title
- b. Number of hours
- Cost to SoCalGas, including all associated loaders (such as payroll taxes and benefits)
- d. Funding source (specific account and cost center) to which SoCalGas charged this time, as of August 13, 2019.
- e. Documentation (including, but not limited to, executed journal entries) showing that the time was charged to the account and cost center specified.

#### RESPONSE 5:

- a. Employee name and title: **Kevin Carney**, **Customer Services Field Staff Team**Leader
- b. Number of hours: 36
- c. Cost to SoCalGas, including all associated loaders (such as payroll taxes and benefits): \$3,857.82 (wages, incentive compensation, pension, benefits, workers compensation, vacation, sick time, public liability & property damage) and \$2,123.70 in travel expenses
- d. Funding source (specific account and cost center) to which SoCalGas charged this time, as of August 13, 2019: CSF Staff, cost center 2200-0942, Internal Order Number FG8706502200. These accounts are funded by ratepayers through the General Rate Case.
- e. Documentation (including, but not limited to, executed journal entries) showing that the time was charged to the account and cost center specified: See file "EE ID 36425\_May 2019 labor.xlsx" attached. No journal entries were executed.

#### (DATA REQUEST CALADVOCATES-HB-SCG-2019-09)

DATE RECEIVED: AUGUST 15, 2019 DATE SUBMITTED: AUGUST 29, 2019

#### **QUESTION 6:**

Please itemize all consultant costs related to the AGA C&S Meeting. For each consultant invoice that included any costs related to the AGA C&S Meeting, please provide the following information:

- a. Consulting firm
- b. Brief description of the services provided
- c. Total amount billed to SoCalGas
- d. Invoice
- e. Funding source (specific account and cost center) to which SoCalGas charged this cost, as of August 13, 2019.
- f. Documentation (including, but not limited to, executed journal entries) showing that this cost was charged to the account and cost center specified.

#### RESPONSE 6:

- a. Consulting firm: **None**
- Brief description of the services provided: None
- Total amount billed to SoCalGas: \$0
- d. Invoice: \$0
- e. Funding source (specific account and cost center) to which SoCalGas charged this cost, as of August 13, 2019: **None**
- f. Documentation (including, but not limited to, executed journal entries) showing that this cost was charged to the account and cost center specified: **None**

#### (DATA REQUEST CALADVOCATES-HB-SCG-2019-09)

DATE RECEIVED: AUGUST 15, 2019 DATE SUBMITTED: AUGUST 29, 2019

#### **QUESTION 7:**

Please itemize every non-labor cost that SoCalGas incurred related to the AGA C&S Meeting. For each item, please provide the following information:

- a. Expense type or purpose (e.g., "airfare" or "meal reimbursement")
- b. Vendor/supplier
- c. Date of expenditure
- Employee who was reimbursed for the expense, if applicable.
- e. A receipt or invoice for the transaction
- f. Funding source (specific account and cost center) to which SoCalGas charged this cost, as of August 13, 2019.
- g. Documentation (including, but not limited to, executed journal entries) showing that the cost was charged to the account and cost center specified.

#### RESPONSE 7:

- a. Expense type or purpose (e.g., "airfare" or "meal reimbursement"): See file "Expense Documents and Receipts AGA BECS May2019\_Redacted.pdf" attached
- b. Vendor/supplier: See Response 7.a.
- Date of expenditure: See Response 7.a.
- d. Employee who was reimbursed for the expense, if applicable: **Kevin Carney**
- e. A receipt or invoice for the transaction: See Response 7.a.
- f. Funding source (specific account and cost center) to which SoCalGas charged this cost, as of August 13, 2019: CSF Staff, cost center 2200-0942, Internal Order Number FG8706502200. These accounts are funded by ratepayers through the General Rate Case.
- g. Documentation (including, but not limited to, executed journal entries) showing that the cost was charged to the account and cost center specified: See Response 5.e. No journal entries were executed.

SoCalGas has redacted in the "Expense Documents and Receipts AGA BECS May2019\_Redacted.pdf" attachment information not called for by this request (i.e. expenses not related to this trip or reimbursed by SoCalGas) and confidential personal information such as credit card numbers.

(DATA REQUEST CALADVOCATES-HB-SCG-2019-09)

DATE RECEIVED: AUGUST 15, 2019 DATE SUBMITTED: AUGUST 29, 2019

#### **QUESTION 8:**

Aside from the May 14-15, 2019 AGA C&S Meeting noted above, has SoCalGas (including any of its employees, agents, or consultants) participated in any other meetings that (a) focused on energy codes or standards; (b) were hosted or convened by a trade association or advocacy organization (including, but not limited to: the American Gas Association, the American Public Gas Association, and the American Council for an Energy Efficient Economy); and (c) occurred since June 1, 2018? If so, please provide the following information about each such meeting:

- Organization that convened the meeting
- b. Name and purpose of the meeting
- Date(s) of the meeting
- d. Did SoCalGas charge any costs associated with this meeting to ratepayers?
- e. For each such meeting, separately, respond to questions 2 through 7 of this data request, as applied to the meeting at issue.

#### **RESPONSE 8:**

SoCalGas objects to the phrase "focused on energy codes or standards" as vague, ambiguous, and overbroad. SoCalGas participates in multiple trade organizations and frequently attends industry meetings. These meetings often have various topics. Given the scope of this request and the uncertainty over what Cal Advocates' means by "focused on energy codes and standards", SoCalGas is not able to answer this request at this time. SoCalGas is willing to meet and confer with Cal Advocates' regarding this request and will attempt to provide the information requested once it has a better understanding of what information Cal Advocates is requesting.

Document No: 6000183326

Personnel No: 36425 - Kevin Carney

Activity:

#### EXPENSE SUMMARY

Date from: 04/01/2019

Reason: Business Expenses

Date To: 05/31/2019

Location: Various Locations

Country: US

#### COST ASSIGNMENTS

Company Code	Order	Cost Center	Amount	Currency Code
2200	FG8706502200	2200-0942	4,427.32	USD

#### ADDITIONAL INFO FOR RECEIPTS

DNo	Doc. Desc. Header(s)	Date From Desc. Values	То	Amount	Curr.
001					
002	Hotel / Lodging	05/13/2019	05/16/2019	1,008.63	USD
-	Description: Reason:		GA BECS Commit mmittee meeting	tee	4
	Location:	Washington DC		\$\$\frac{1}{2}\$\times \times \t	
003	All other meals	05/17/2019	•	10.73	USD
	Description:	Meal While trav	eling	•	
	Business partner:	self		•	
	Reason:	Meal While tray	eling		

Document No: 6000183326

Personnel No: 36425 - Kevin Carney

#### EXPENSE SUMMARY

Date from: 04/01/2019

Reason: Business Expenses Location: Various Locations

Date To: 05/31/2019

Country: US

Activity:

DNo	Doc. Desc. Header(s)	Date From To Desc. Values	Amount		Curr.
009	Taxi / Shuttle	05/17/2019	_	20.82	USD
	Description:	transportation to the aiport			
	Reason:	travel to meetings			
	Location:	Washington DC			
010	Taxi / Shuttle	05/13/2019		17.97	USD
	Description:	transportation to the alport			
	Reason:	travel to meetings			
C	Location:	Washington DC			
011	Air Travel	05/13/2019 05/17/2019		914.40	USD
	Description:	Travel to and from meetings			
	Business partner:	self			
	Reason:	travel to meetings			
	Location:	Ontario, CA Washington DC			
012	Parking	05/13/2019 05/17/2019		72.00	USD
	Description:	Ontario Airport Parking			r <sup>a</sup>
	Reason:	travel to meetings			
	Location:	Ontario Ca			



**Kevin Carney** 

**United States** 

Room No.

: 1407

Arrival Departure : 05-13-19 : 05-16-19

Page No.

: 1 of 1

Follo No.

Conf. No.

: 196338

Cashler No. :

**GUEST FOLIO** 

Company Name: AGA American Gas Association

Group Name: AGA Building Energy Codes & Standards DC

Date	Description	Charges Credits
Date		
05-13-19	Room Charge	289.00
05-13-19	Room Tax	43,21
05-14-19	Room Charge	289.00
05-14-19	Room Tax	43.21
05-15-19	Room Charge	289.00
	Room Tax	43.21
05-15-19		1,041.83
05-16-19	Pay Visa	1,041

**Total Charges** 

1,041.83

Total Credits

1,041.83

TIPS (Bellman & Doorman) 12

#### Qdoba #83 Ronald Reagan Mashington National Airport Washington, DC

#### 1050 Antwan S

27

Chk 1059	Kay 17'	19 12:43P	Gst	0
1 3 Combo Taco	3		9.75	
Visa			10.73	
Suototal Tax Payment			9.75 0.98 10.73	<u>}</u>

If we did or cid not exceed your expectations, we would like to hear from you. Please call 800-426-5971 x1021 or email 83@hbfcares.com or text 703-239-3710



#### STARBUCKS COFFEE C27 DFW AIRPORT

308722 Ripa

CHK 4204 GST 1

MAY13'19 5:57AM

TO GO

1 FLAT WHITE G 5.20
SUB NF MILK
1 LBE BSND DBL BAC 5.45

SUBTOTAL
TAX
0.88
AMOUNT PAIN 1 1 . 5 3
XXXXXXXXXXXXXX
551928
8al: 23.02
STBK CARD
11.53
--308722 Closed MAY13 05:57AM---

LaBoulange Brkifst Sand Obl

Smoked Bacon

WE WANT TO HEAR YOUR FEEDBACK! PLEASE CONTACT 1-877-672-7467 OR CUSTOMERSERVICE@HMSHOST.COM TO SHARE YOUR EXPERIENCE.

STOREID: DFWSTA050

THUNDER GRILL 50 Massachusetts Ave NE Washington DC 20002 (202)898-0051

Server: George 5/15/2019 7:10:00 PM Table #42 / Guests: 4 Person#: 3

#### Check #140847

1	Fresco Burger FRIED EGG	13.95 1.75
2	Old School Old Fashion	28.00
Food	Total	15.70
Bever	age Total	28.00
Order	· Subtotal	43.70
Tax		4.37
		=========
8:21:5	il PM Total Due	48.07
======		

Thank You, George

\*\*\*\*\* SUGGESTED GRATUITY \*\*\*\*\*

18%: \$7.87 20%: \$8.74 22%: \$9.61

Thank You For Dining With Us!

THUNDER GRILL 50 Massachusetts Ave NE Washington DC 20002 (202)898-0051

Date: 5/15/2019 Time: 8:21:55 PM

Status: Card Type: Approved

Type: Visa

Card Owner:	CARNEY/KEVIN
Server:	3409/George
Cashier: Register:	3409/George POS102WP
Check Humber:	140847
Tab Number:	42

AMOUNT: 48.07

TIP

Person:

TOTAL

Approval: 046920

00

I AGREE TO COMPLY WITH THE CARDHOLDER AGREEMENT /

CUSTOMER COPY

-28°00 -28°00 -28°00 -28°00 City Tap House DC 901 9th Street NW Washington, DC 20001 202-733-5333

30046 Tìosha F	
Tb1 52/2 Chk	2112 Gst
May14'19	09:03PM
1 Whistle Pig 10yr	16,50
1 THE GOAT	13,00
Subtotal	29,50
State-Lcl Tx	2,95
10:06PM Total Due	32,45
Happy Hour M-E S.	-7nm

Happy Hour M-F 5-7pm Looking for a space for your next event? Contact Us info@citytaphouse.com City Tap House DC 901 9th street NW Washington,DC 20001 202-733-5333

Merchant ID:
Terminal ID: 4
Check #: 2112
Table #: 52/2
Server: 30046 Tiosha

Expiry Date : \*\*/\*\*
Card Type : VISA
Trans Type : Authorize
Trans Date : 5/14/2019
Trans Time : 10:15 PM
Entry Mode : Chip
Auth Code : 06105C
Resp Code : 00
Mode : Issuer

AID : A000000031010 ARC : 00 TVR : 0080008000 TSI : F800

IAD : 06010A03602002 00 Approved - Thank You 000

Subtotal : USD\$ 32.45

TOTAL: 37

X\_\_\_\_\_Signature

I Agree to pay total amount as per the Card Issuer Agreement.

Customer Copy

\$20.95

Carney, Kevin P.	
Sent: Friday, May 3 To: kevin carney Cc: Carney, Kevin	
Thank you for your visit and kindly find below	your receipt.
Bakers & Baristas	
Check #: 5698 5/17/19	
Server: Olabanji A 7:31 AM	
TAB: Kevin	
1 Flat White	3.50
1 BREAKFAST Sandwich	
BREAKFAST SANDWICH MODS: Bacon	7.50
1 Cinnamon Roll	4.00
Sub-total	15.00
Sales Tax	1.50
TOTAL	16.50

**PAYMENTS** 



\$16.50

Sale

May 18, 2019 Transaction date

May 20, 2019 Posted date BAKERS AND BARISTAS WASHINGTON, DC 20004 (202) 347-7893

Description Bakers and Baristas
Also known as BAKERS AND BARISTAS

Category Food & drink

Rewards earned with this transaction

+ 1% (1 Pt)/\$1 earned on all purchases 17

Total Points 17

Transaction details may be preliminary or incomplete and may not match the transaction as it appears on your periodic statement, which is the official record of your account activity.



#### **Account Activity Transaction Details**

Post date: 05/14/2019

Amount: -3.10

Type: Debit card

Purchaser: KEVIN CARNEY

Description: NAYAX VENDING 21 05/13 PURCHASE HUNT

VALLEY MD

Merchant category: Fast Food Restaurants

Merchant category 5814

code:

Merchant name: NAYAX VENDING

Transaction Restaurants & Dining: Restaurants/Dining

category:

#### Carney, Kevin P.

From:

Uber Receipts <uber.us@uber.com>

Sent:

Friday, May 17, 2019 9:08 AM

To:

Carney, Kevin P.

Cc: Subject: receipts@certify.com [EXTERNAL] Thanks for tipping! We've updated your Friday morning trip receipt

## Uber

Total: \$20.82 Fri, May 17, 2019

## Thanks for tipping, Kevin

Here's your updated Friday morning ride receipt.



**Total** 

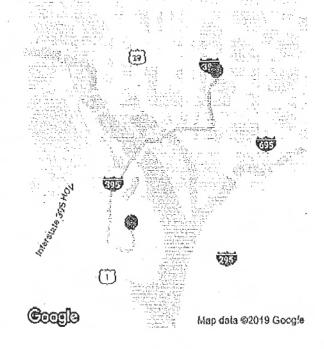
\$20.82

Trip Fare		\$11.04
- Tagatan Caractura ya	S a Comment of the Co	ga, Gaya Maria da Santa da Antara da
Subtotal		\$11.04
Tolls, Surcharges, and Fees 0		\$6.78
Tip		\$3.00
2.702		enterior de la company de la c

**Amount Charged** 

11:46am 525 New Jersey Ave NW, Washington, DC

12:07pm 4 Aviation Cir, Arlington, VA





Invite your friends and family.

Get \$5 off your next ride when you refer a friend to try Uber. Share code: kevinc16771ue

REPORT LOST (TEM.) | CONTACT SUPPORT.) | MY TRIPS.)

Uber

#### Carney, Kevin P.

From:

Uber Receipts <uber.us@uber.com>

Sent:

Monday, May 13, 2019 11:16 AM

To:

Carney, Kevin P.

Subject:

[EXTERNAL] Thanks for tipping! We've updated your Monday afternoon trip receipt

Follow Up Flag:

Flag Status:

Follow up

Flagged

## Uber

Total: \$17.97 Mon, May 13, 2019

## Thanks for tipping, Kevin

Here's your updated Monday afternoon ride receipt.



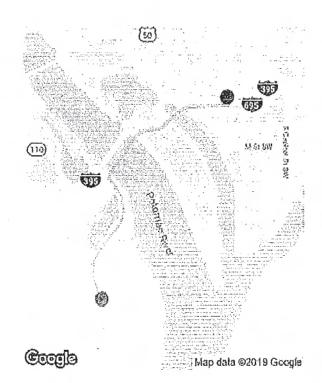
T	0	t	a	
---	---	---	---	--

\$17.97

	Ψ
	•
Base Fare	\$1.21
Time	\$3.38
Distance	\$2.38
we will a require the state of	egyangan dan jelyenleidelen "Annoose van oden an noorden, de deel alle ook an andoon doorden and an andoon doorden and an andoon de deel alle of the contract
Subtotal	\$6.97
Booking Fee <b>©</b>	\$2.00
DCA Airport Surcharge 0	\$4.00

01:53pm 4 Aviation Cir, Arlington, VA

02:04pm 601 4th PI SW, Washington, DC





Invite your friends and family.

Get \$5 off your next ride when you refer a friend to

try Uber. Share code: kevinc16771ue

REPORT LOST ITEM > | CONTACT SUPPORT > | MY TRIPS > |

Uber

#### American Airlines'

AA RECORD LOCATOR: RQIUBD

### 



Get your boarding pass fastert Soon this barcode at any American Attlines Self-Service

Ontario to Washington

1 Adult

Monday May 13, 2019 - Friday May 17, 2019

AA RECENCTION AFER

Reservation Masses

ONT/DCA

Your record locator is your reservation confirmation number and will be needed to relieve or reference your reservation.

Status: Ticketed Apr 12, 2019

long Papi

\$1,019.55 USD

Flight

Depart

Antenn an Michiga.

Create Notification (2)

RQIUBD

2797

Ontario (ONT)

May 13, 2019 12:40 AM

On time

Scheduled Time: 12:40 AM

Estimated Time: 12:40 AM

Actual Time:

Terminal: Gate: 409

freed her Shifting Class ; Comong

1 cot 171

Arrive

Dallas/ Fort Worth (DFW) May 13, 2019 05:29 AM

On time

Scheduled Time: 05:29 AM

Estimated Time: 05:29 AM

Actual Time:

Terminal: A Gate: A20

Baggage Area: A17

Pantago Leader 15

Francisco 321

Fare Amount

ásiall

57 213 0531

\$752 00 USD

**Trip Options** 

identità in ibita

\$165,15 USD

Taxes & Carrier Imposed Fees

1.176 5

\$102.40 USD

Carrie Impered Face \$0.00 USD

American Aidines

429

Create Notification 图

Dallas/ Fort Worth (DFW) May 13, 2019 07:01 AM

On time

Scheduled Time: 07:01 AM Estimated Time: 07:01 AM

Actual Time:

Terminal: A Gate: A17

transd time : 2 h Strin Class Leaning

Washington (DCA)

May 13, 2019 11:00 AM

On time

Scheduled Time: 11:00 AM Estimated Time: 11:00 AM

Actual Time:

Terminal: C Gate: 43

Baggage Area: 12

booking Code : M 19 me typ - 1321

**Flight Subtotal** 

\$1,019.55 USD

Flight

Depart

Arrive

American Airlines

323

Washington (DCA)

May 17, 2019 03:30 PM

figivel land , 3 h 26 m

Chas Feeting Sett: DA

Dallas/ Fort Worth (DFW)

May 17, 2019 05:56 PM

Booking Under M Flane Type: 371

Create Notification 四

American Aidmes

2740

Dallas/ Fort Worth (DFW) May 17, 2019 07:00 PM

hovel times . 3 h 11 mc Class Feedbonly 2pm - 0A

Ontario (ONT)

May 17, 2019 08:11 PM 155-yking Code : M

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DFW

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Cate

Get alerts for this flight

## Cost summary

Your total

\$1,019.5

5

Includes all taxes and carrierimposed fees Passenger

Taxes

Carrier-imposed fees

Subtotal

Main Cabin Extra

\$752.00

Bag and optional fees @

\$102.40

Reservation and tickets

FAQs @

\$0.00

Price and Tax Information

\$854.40

\$165.15

Total (all

passengers)

\$1,019.55

1 bag 50 2 way \$91440

### Travel offers



Save and earn miles on car rentals

Search cars @



Great rates on hotels

Search hotels @



Trip insurance protection

See what's covered 2

## American A

## TSA PRECHK CARNEY/KEVIN P

BOARDING PASS DOORS CLOSE 10 MINUTES PRIOR TO DEPARTURE

ROIUBD,

FREQUENT FLYER #

DALLAS/FT WORTH

ONTARIO, CALIFORNIA

GROUP MAIN

BOARDING TIME

FLIGHT CLASS DATE DEPARTS AA2740 M 17MAY 700P

625P

0017349965465

10A SEAT

CARNEY/KEVIN P BOARDING PASS

TO: ONTARIO, CALIFORNIA DALLAS/FT WORTH

10A AA 2740 FLIGHT

LYMAY 17MAY

E

GROUP 5

# TSA PRECHK

CARNEY/KEVIN P

WASHINGTON REAGAN

GROUP 5

MAIN

BOARDING PASS
DOORS CLOSE 10 MINUTES PRIOR TO DEPARTURE
FREQUENT FLYER # LOCAPOR AA323 M 17MAY 330P

**13A** SEAT ROARDING TIME

E

FROM: U DALLAS/FT WORTH CARNEY KEVIN P BOARDING PASS FLIGHT AA - 323 GROUP 5

330p DATE 17MAY

American

DALLAS/FT WORTH

255P SATE 32

0017349965465

American

**Boarding pass** 

Record Locator, RQIUBD



CARNEY KEVIN P

Record Locator, RQIUBD

Seat: 12F

CARNEY / KEVIN P

Frequent Flyer Number:

AA

AAdvantage® Member

ONT DFW
Ontafto to Dallas/ Fort Worth

100

Terminal --

AA2797

ı

Departing: Monday, May 13, 2019

12.05AM

Departing at 12:40AM (PDT)

🕑 2 h 49 m

GROUP 5

Main

More Flight Details

5:29AM (CDT)

Arriving at: 5:29AN

Inflight Services:

@ W

B

Ticket: 0017349965465

Doors close 10 minutes before departure

For gates, terminals and flight status, please check with us at an com/gates or cell 1-800-433-7300.



Boarding pass

Record Localor: RQIUBD



CARNEY KEVIN P

Record Locator, RQIUBD

Seal: 9F

CARNEY / KEVIN P TSA Pre V PM Frequent Flyer Number:

AAdvantage® Member

DFW→ DCA

Dallas/ Fort Worth to Washington

lenimaľ

**AA429** 

Departing: Monday, May 13, 2019

Establing free attractions

Departing at 7:01AM (CDT)

- Main

More Flight Details

(√) 2 h 59 m

Arriving at:

11:00AM (EDT)

Inflight Services:



Ticket: 0017349965465

Doors close 10 minutes before departure

For gales, terminals and flight status, please check with us at ap.com/gates or ca'l 1-800-433-7300.





PASSENGER NAME // CARNEY/KEVIN P

UPTO50LB 23KG AND62LI

1 30.00 USDi

ONT DFW - AA DFW DCA - AA

Total with Applicable TFC Credit Card VI XXXX VI XXXXXXXXXXX 30.00 USDi

30.00usp

30.00usb

FLIGHT 2797

DATE

MAY 12, 2019

TFC TEC

Total

PNR: RQTUBD

Agent: ONT-SSM 001

0260078691

TFC=TAXES, FEES & CHARGES

NOT VALID FOR TRAVEL

American



PASSENGER NAME CARNEY/KEVIN P

UPTO50LB 23KG AND62LI

1 30.00 USD

DCA DFW - AA DFW ONT - AA

Total with Applicable TFC Credit Card VI XXXX VI XXXXXXXXXXX 30.00 USD

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FLIGHT 323

MAY 17, 2019

PNR: RQIUBD

Agent: OCA-SSM 001

0260535474

TFC=TAXES, FEES & CHARGES

NOT VALID FOR TRAVEL





Ontario Airport Parking

#### Ontario International Airport Authority Lot 4

Receipt Number:	H0441900620832
Tickel-Nr.:	480048629
ln:	05/12/2019 22:38
Oul:	05/17/2019 20:66
Ouration:	4,22:18
Transient Parker	\$ 90.00
Total:	\$ 80.00
Validations:	\$ 0.00
Balance Due:	\$ 90.00
Credil Card	\$ 90.00
Change:	\$ 0.00
	- 18:00
	\$7200
	,

Cost Center and Internal Order number for Labor charged to AGA BECS

Exceptions 🕶 Time Off Balances | Schedule | FMLA | Results

1	Week - Work Date Pay Code	Pay Code	Paid Hours Unpa	paid Ho	ST Hours	VU Hours Order		Cost Center	Reason	Vehicle Code
<b>4</b> 27	05/06/2019	05/06/2019 Hours Work	8.00	00.00	8.00	00'0	FG8706502200	2200-0942		
•	05/07/2019	05/07/2019 Hours Work	8.00	00.0	8.00	0.00	FG8706502200	2200-0942		
•	05/08/2019	05/08/2019 Hours Work	8.00	00.00	8.00	00.00	FG8706502200	2200-0942	-	
,_	05/09/2019	05/09/2019 Hours Work	8.00	00.00	8.00	0.00	FG8706502200	2200-0942		
• • • • • • • • • • • • • • • • • • •	05/10/2019	05/10/2019 Hours Work	8.00	00.00	8.00	00.00	FG8706502200	2200-0942	Air	
И	05/13/2019	05/13/2019 Hours Work	8.00	00.00	8.00	00.00	FG8706502200	2200-0942	***************************************	
7	05/14/2019	05/14/2019 Hours Work	8.00	0.00	8.00	00.00	FG8706502200	2200-0942	and the state of t	
N	05/15/2019	05/15/2019 Hours Work	8.00	00.00	8.00	00.00	FG8706502200	2200-0942	On the latest states	
2	05/16/2019	05/16/2019 Hours Work	8.00	00:00	8.00	00.00	FG8706502200	2200-0942	unitarita in	
7	05/17/2019	05/17/2019 Hours Work	8.00	0.00	8.00	0.00	FG8706502200	2200-0942		

(DATA REQUEST CALADVOCATES-HB-SCG-2019-09R)

DATE RECEIVED: NOVEMBER 13, 2019 DATE SUBMITTED: DECEMBER 27, 2019

#### **QUESTION 8:**

- 8. Aside from the May 14-15, 2019 AGA C&S Meeting noted above, has SoCalGas (including any of its employees, agents, or consultants) participated in any other meetings that (a) focused on codes and standards; (b) were hosted or convened by a trade association or advocacy organization (including, but not limited to: the American Gas Association, the American Public Gas Association, and the American Council for an Energy Efficient Economy); and (c) occurred since June 1, 2018? If so, please provide the following information about each such meeting:
- a. Organization that convened the meeting
- b. Name and purpose of the meeting
- c. Date(s) of the meeting
- d. Did SoCalGas charge any costs associated with this meeting to ratepayers?
- e. For each such meeting, separately, respond to questions 2 through 7 of this data request, as applied to the meeting at issue.

Wherein the Public Advocates Office references "codes and standards," the Public Advocates Office means building codes and/or appliance standards related to energy efficiency or electrification.

Wherein the Public Advocates Office references meetings that "focused on" codes or standards," the Public Advocates Office means meetings where building codes or appliance standards related to energy efficiency or electrification were a topic of substantive discussion, including but not limited to any of the following instances:

- Any meeting where a meeting agenda item concerned building codes or appliance standards.
- Any meeting where a SoCalGas employee spoke or presented about building codes or appliance standards
- Any meeting of the AGA Building Energy Codes & Standards Committee;
- Any meeting of a similar committee to the AGA Building Energy Codes & Standards Committee whose purpose is to evaluate, analyze, present on, or advocate for building codes or appliance standards

(DATA REQUEST CALADVOCATES-HB-SCG-2019-09R)

DATE RECEIVED: NOVEMBER 13, 2019 DATE SUBMITTED: DECEMBER 27, 2019

#### **RESPONSE 8:**

SoCalGas objects to the phrase "focused on energy codes or standards" as vague, ambiguous, and overbroad. SoCalGas also objects to this request as overbroad and unduly burdensome. SoCalGas participates in multiple trade organizations and frequently attends industry meetings. These meetings often have various topics and are almost never focused on one specific issue. Subject to its objections, SoCalGas responds as follows:

SoCalGas complied the information in this response by querying the groups and employees most likely to attend the types of meetings subject to this request and asking those personnel to try to recall if they have attended any meetings within the scope of this request since June 1, 2018. The SoCalGas employees queried are all salaried employees and do not track their time each day with the intent of reporting out an hourly log of activities. Thus, SoCalGas has provided a rough estimate of time associated with each meeting. SoCalGas is unable to identify any labor costs that SoCalGas incurred associated with the meetings identified. The salaried employees would have been paid the same amount regardless of whether they attended the meetings or not and their normal workload did not go away during the timing of each meeting.

For responses to Question 8 (revised), 2, 4, and 5(a-d) see the excel file "HB-SCG-2019-09-Q8R" (**Attachment A**). For Question 5(b), the number of labor hours calculated is approximate and based on recollection. The Project Manager 1, who attended an American Gas Association Building Energy Codes & Standards Committee Meeting on September 10-13, 2018, is no longer with the company and because salaried employees do not track their time by hour or task, SoCalGas is not able to identify the time that the Project Manger 1 spent at the meeting. Regarding the cost centers and internal orders identified, these are the costs centers and internal orders originally charged for the identified expenses. During the development of the General Rate Case forecasts, it is sometimes necessary to remove incurred costs to further ensure that ratepayers are not funding activities that should be borne by shareholders.

For Question 3, 5(e), and 7, see the attached pdf file "HB-SCG-2019-09-Q8R \_Redacted.pdf" which contain costs associated with attendance at the meetings (**Attachment B**). SoCalGas has redacted in Attachment B information not called for by this request (i.e. expenses not related to the identified meetings and/or expenses not reimbursed by SoCalGas), as well as confidential personal information such as credit card numbers. SoCalGas is in the process of identifying any associated journal entries and will be providing any identified journal entries to Cal Advocates.

#### (DATA REQUEST CALADVOCATES-HB-SCG-2019-09R)

DATE RECEIVED: NOVEMBER 13, 2019 DATE SUBMITTED: DECEMBER 27, 2019

For Question 6, there are no known consulting costs associated with the meetings identified in Attached A.

(DATA REQUEST CALADVOCATES-HB-SCG-2019-13)
DATE RECEIVED: OCTOBER 24, 2019
DATE SUBMITTED: 11/25/2019

For questions related to cost accounting, please respond based on your accounting as of October 23, 2019. San Luis Obispo reach codes:



## **QUESTION 1:**

On September 3, 2019, the San Luis Obispo (SLO) city council adopted a local building code (a "reach code") that encourages all-electric new construction. Did any SoCalGas employees attend the SLO city council meeting on September 3, 2019?

## **RESPONSE 1:**

Yes.

(DATA REQUEST CALADVOCATES-HB-SCG-2019-13)
DATE RECEIVED: OCTOBER 24, 2019
DATE SUBMITTED: 11/25/2019

## **QUESTION 2:**

If any SoCalGas employees attended the SLO city council meeting on September 3, 2019, please provide the name and job title of each SoCalGas employee who attended.

## **RESPONSE 2:**

Information highlighted in \_\_\_\_\_ is confidential and protected material pursuant to PUC Section 583, GO 66-D, and D.17-09-023. Please see accompanying confidentiality declaration.

Alan Caldwell, Director Energy Policy and Strategy

Mr. Caldwell was 100% shareholder funded at the time of the meeting and he attended in his capacity as lead of the advocacy effort for SoCalGas' balanced energy vision.

- Maryam Brown, President
- Andy Carrasco, Director Regional Public Affairs
- Regional Public Affairs Representative
- •

These employees attended this meeting for the purposes of observing any governmental actions that have the potential to impact SoCalGas' business or operations. It is not uncommon for SoCalGas employees to attend such events where they have the potential to impact safety, operations, one of SoCalGas' franchises, or the affordability of customers' energy service.

SoCalGas is also aware that several hourly employees of SoCalGas who live in and around the city of San Louis Obispo were in attendance at the meeting. These individuals were not "on the clock" during the meeting and did not attend the meeting in any official job capacity. Further, SoCalGas did not collect the names of those in attendance who may happen to be SoCalGas employees, but who did not attend in any official job capacity.

(DATA REQUEST CALADVOCATES-HB-SCG-2019-13)
DATE RECEIVED: OCTOBER 24, 2019
DATE SUBMITTED: 11/25/2019

## **QUESTION 3:**

If any SoCalGas employees attended the SLO city council meeting on September 3, 2019, please state the total costs that SoCalGas incurred for employees' attendance at or participation in this meeting (including, but not limited to: preparation for the meeting; participation in the meeting; follow-up actions from the meeting; transportation; lodging; meals; per diem; and other expenses).

#### **RESPONSE 3:**

Information highlighted in \_\_\_\_\_ is confidential and protected material pursuant to PUC Section 583, GO 66-D, and D.17-09-023. Please see accompanying confidentiality declaration.

SoCalGas objects to this question as overbroad and unduly burdensome. Subject to and without waiving its objection, SoCalGas responds as follows:

Of the employees who attended in the course of their official job capacity at SoCalGas, those individuals are all salaried employees and do not track their time each day with the intent of reporting out an hourly log of activities. The meeting occurred during the evening, after normal business hours, and SoCalGas estimates that the meeting was approximately 6 hours long. SoCalGas has not attempted to calculate labor hours for the attendance at the meeting of salaried employees given that this was an after hours meeting occurring after the employees had already put in an 8 hour (or more) work day.

Alan Caldwell is no longer with the company and because salaried employees do not track their time by hour or task, SoCalGas is not able to identify the time, if any, that Mr. Caldwell may have spent on either preparation time for the meeting or on follow up activities.

The and the Regional Public Affairs Representative spent approximately 1 hour each preparing for the meeting (total 2 hours). Andy Carrasco spent approximately 2 hours preparing for the meeting. There are no known labor hours associated with follow-up actions from the meeting.

SoCalGas incurred approximately \$10,000 in consultant charges associated with preparation time for the meeting.

SoCalGas incurred approximately \$647.37 in nonlabor expenses associated with Alan Caldwell's and the attendance at the meeting.

## (DATA REQUEST CALADVOCATES-HB-SCG-2019-13) DATE RECEIVED: OCTOBER 24, 2019 DATE SUBMITTED: 11/25/2019

## **QUESTION 4:**

Please disaggregate the costs identified in question 3 into the following categories:

- a. Labor
- b. Travel, lodging, meals, and incidental travel expenses
- c. Consultant costs
- d. Other

## RESPONSE 4:

SoCalGas objects to this question as overbroad and unduly burdensome. SoCalGas has not attempted to calculate labor hours for the attendance at the meeting of salaried employees given that this was an after hours meeting occurring after the employees had already put in an 8 hour (or more) work day. Subject to and without waiving its objection, SoCalGas responds as follows:

- a) Labor: The employees who attended the meeting in their official job capacity are all salaried employees. Salaried employees are responsible for a myriad of tasks and do not track their time by activity or event. Thus, SoCalGas is unable to identify any labor "costs that SoCalGas incurred." The salaried employees would have been paid the same amount regardless of whether they attended the meeting or not and their normal workload did not go away during the timing of the meeting. Salaried employees often go above and beyond the normal 40 hour work week.
- b) Travel, lodging meals, and incidental travel expenses: \$647.37
- c) Consultant costs: \$10,000
- d) Other: **\$0**

(DATA REQUEST CALADVOCATES-HB-SCG-2019-13)
DATE RECEIVED: OCTOBER 24, 2019
DATE SUBMITTED: 11/25/2019

## **QUESTION 5:**

For each account to which any portion of the costs identified in question 3 were charged, please provide the following information:

- a. The name, number and description of the general ledger (G/L).
- b. The name, number and description of the invoice order (IO)
- c. The name, number and description of the cost center.
- d. Whether the account is ratepayer funded.
- e. How much of the costs identified in guestion 3 were charged to the account.

## **RESPONSE 5:**

SoCalGas objects to this question as overbroad and unduly burdensome. SoCalGas has not attempted to calculate any labor hours for the attendance at the meeting of salaried employees given that this was an after hours meeting occurring after the employees had already put in an 8 hour (or more) work day. Further, SoCalGas is unable to identify any labor "costs that SoCalGas incurred." The salaried employees would have been paid the same amount regardless of whether they attended the meeting or not and their normal workload did not go away during the timing of the meeting. Subject to and without waiving its objection, SoCalGas responds as follows:

- a) GL 6130012, Employee Travel Mileage
  - GL 6130014, Employee Travel-Parking
  - GL 6130015, Meals, Tips, and Entertainment
  - GL 6130016, Employee Travel-Car Rental
  - GL 6130017, Employee Travel-Taxi/Shuttle
  - GL 6130020, Employee Travel-Hotel/Lodging
  - GL 6220600, Service Consulting Other
- b) Although this asks for the "invoice order", SoCalGas has provided the "internal order":
  - (1) FG9200002200 IO, Administrative and General Salaries
  - (2) Mr. Caldwell's expenses were originally charged, due to his departure, to FG9200002200 IO, Administrative and General Salaries, through an inadvertent error, but will be moved to FG300796601 IO, Balanced Energy. The consultant charges were also charged to FG300796601.
- c) (1) 2200-2504 cost center, Public Policy and Planning

## (DATA REQUEST CALADVOCATES-HB-SCG-2019-13) DATE RECEIVED: OCTOBER 24, 2019 DATE SUBMITTED: 11/25/2019

(2) 2200-2204 cost center, Energy Policy and Strategy

- d) The FG200002200 IO is funded as O&M in SoCalGas' General Rate Case. The FG300796601 IO is funded by shareholders.
- e) \$256.03 in charges were charged to the 2200-2504 cost center and FG9200002200 IO and \$10,391.34 in charges has been or will be charged to the 2200-2204 cost center and FG300796601 IO.

## **QUESTION 6:**

State how SoCalGas determined the appropriate account(s) in which to record the costs identified in question 3.

## **RESPONSE 6:**

SoCalGas objects to this question as overbroad and unduly burdensome. SoCalGas has not attempted to calculate labor hours associated for the attendance at the meeting of salaried employees given that this was an after hours meeting occurring after the employees had already put in an 8 hour (or more) work day. Further, SoCalGas is unable to identify any labor "costs that SoCalGas incurred." The salaried employees would have been paid the same amount regardless of whether they attended the meeting or not and their normal workload did not go away during the timing of the meeting. Subject to and without waiving its objection, SoCalGas responds as follows:

See response to question 5(b). Costs associated with Alan Caldwell's attendance at the meeting will be charged to a shareholder funded IO because Mr. Caldwell was 100% shareholder funded at the time of the meeting and attended in his capacity as lead of the advocacy effort for SoCalGas' balanced energy vision. Costs associated with the use of the consultant have already been charged to a shareholder funded IO.

Employees who attended the meeting as part of their normal job duties to be aware of and observe governmental decisions that have the potential to affect safety, operations, one of SoCalGas' franchises, or the affordability of customers' energy service had the costs identified above associated with their attendance at the meeting charged to IOs that are ratepayer funded.

(DATA REQUEST CALADVOCATES-HB-SCG-2019-13)
DATE RECEIVED: OCTOBER 24, 2019
DATE SUBMITTED: 11/25/2019

#### Santa Monica reach codes



Attachment-2.pdf

## **QUESTION 7:**

On September 10, 2019, the Santa Monica city council adopted a local building code (a "reach code") that encourages all-electric new construction. At any time, has SoCalGas lobbied the City of Santa Monica regarding this proposed reach code?

## **RESPONSE 7:**

SoCalGas objects to the term "lobbied" as vague, ambiguous, and nonspecific. Subject to and without waiving its objection. SoCalGas responds as follows:

SoCalGas did not engage in any lobbying efforts regarding Santa Monica's proposed reach code. Three SoCalGas employees made public comments during the City Council meeting in Santa Monica on September 10, 2019. These brief comments were informational in nature and concerned the importance of energy system resiliency for local climate adaptation efforts, the benefits and availability of renewable natural gas, and the emission reduction potential for projects that capture methane. SoCalGas had no engagement with the City of Santa Monica on the reach code prior to the meeting and had no engagement after the meeting with the City of Santa Monica.

## (DATA REQUEST CALADVOCATES-HB-SCG-2019-13) DATE RECEIVED: OCTOBER 24, 2019 DATE SUBMITTED: 11/25/2019

## **QUESTION 8:**

If the answer to question 7 is yes:

- a. What were SoCalGas' recommendations to the City of Santa Monica regarding the proposed reach code?
- b. Who authorized such lobbying?
- c. When did such lobbying occur?
- d. Please provide the name and title of each SoCalGas employee who was involved in such lobbying.

## **RESPONSE 8:**

See response to question 7 and question 10.

(DATA REQUEST CALADVOCATES-HB-SCG-2019-13)
DATE RECEIVED: OCTOBER 24, 2019
DATE SUBMITTED: 11/25/2019

## **QUESTION 9:**

Did any SoCalGas employees attend the Santa Monica city council meeting on September 10, 2019?

## **RESPONSE 9:**

Yes.

(DATA REQUEST CALADVOCATES-HB-SCG-2019-13)
DATE RECEIVED: OCTOBER 24, 2019
DATE SUBMITTED: 11/25/2019

## **QUESTION 10:**

If any SoCalGas employees attended the Santa Monica city council meeting on September 10, 2019, please provide the name and job title of each SoCalGas employees who attended.

## **RESPONSE 10:**

Information highlighted in \_\_\_\_\_ is confidential and protected material pursuant to PUC Section 583, GO 66-D, and D.17-09-023. Please see accompanying confidentiality declaration.

A Senior Public Affairs Manager,	, an	, and a	
attend	ded the meeting.	_	

(DATA REQUEST CALADVOCATES-HB-SCG-2019-13)
DATE RECEIVED: OCTOBER 24, 2019
DATE SUBMITTED: 11/25/2019

## **QUESTION 11:**

If any SoCalGas employees attended the Santa Monica city council meeting on September 10, 2019, please state the total costs that SoCalGas incurred for employees' attendance at or participation in this meeting (including, but not limited to: preparation for the meeting; participation in the meeting; follow-up actions from the meeting; transportation; lodging; meals; per diem; and other expenses).

## **RESPONSE 11:**

SoCalGas objects to this question as overbroad and unduly burdensome. Subject to and without waiving its objection, SoCalGas responds as follows:

The individuals who attended the meeting are all salaried employees and do not track their time each day with the intent of reporting out an hourly log of activities. The meeting occurred during the evening, after normal business hours, and SoCalGas estimates that the meeting was approximately 5 hours long. SoCalGas has not attempted to calculate labor hours for the attendance at the meeting of salaried employees given that this was an after hours meeting occurring after the employees had already put in an 8 hour (or more) work day.

SoCalGas employees spent approximately 11 hours in preparation for the meeting and approximately 2 hours in follow-up actions after the meeting.

SoCalGas incurred approximately \$47.14 in nonlabor expenses associated with the meeting.

## (DATA REQUEST CALADVOCATES-HB-SCG-2019-13) DATE RECEIVED: OCTOBER 24, 2019 DATE SUBMITTED: 11/25/2019

## **QUESTION 12:**

Please disaggregate the costs identified in question 11 into the following categories:

- a. Labor
- b. Travel, lodging, meals, and incidental travel expenses
- c. Consultant costs
- d. Other

## **RESPONSE 12:**

SoCalGas objects to this question as overbroad and unduly burdensome. SoCalGas has not attempted to calculate labor hours associated for the attendance at the meeting of salaried employees given that this was an after hours meeting occurring after the employees had already put in an 8 hour (or more) work day. Subject to and without waiving its objection, SoCalGas responds as follows:

- a) Labor: The employees who attended the meeting in their official job capacity are all salaried employees. Salaried employees are responsible for a myriad of tasks and do not track their time by activity or event. Thus, SoCalGas is unable to identify any labor "costs that SoCalGas incurred." The salaried employees would have been paid the same amount regardless of whether they attended the meeting or not and their normal workload did not go away during the timing of the meeting. Salaried employees often go above and beyond the normal 40 hour work week.
- b) Travel, lodging, meals, and incidental travel expenses: \$47.14
- c) Consultant costs: \$0
- d) Other: \$0

(DATA REQUEST CALADVOCATES-HB-SCG-2019-13)
DATE RECEIVED: OCTOBER 24, 2019
DATE SUBMITTED: 11/25/2019

## **QUESTION 13:**

For each account to which any portion of the costs identified in question 11 were charged, please provide the following information:

- a. The name, number and description of the general ledger (G/L).
- b. The name, number and description of the invoice order (IO)
- c. The name, number and description of the cost center.
- d. Whether the account is ratepayer funded.
- e. How much of the costs identified in question 11 were charged to the account.

## **RESPONSE 13:**

SoCalGas objects to this question as overbroad and unduly burdensome. SoCalGas has not attempted to calculate labor hours associated for the attendance at the meeting of salaried employees given that this was an after hours meeting occurring after the employees had already put in an 8 hour (or more) work day. Further, SoCalGas is unable to identify any labor "costs that SoCalGas incurred." The salaried employees would have been paid the same amount regardless of whether they attended the meeting or not and their normal workload did not go away during the timing of the meeting. Subject to and without waiving its objection, SoCalGas responds as follows:

- a) GL 6130012, Employee Travel-Mileage and GL 6130014, Employee Travel-Parking
- b) Although this asks for the "invoice order", SoCalGas has provided the "internal order":
  - (1) FG9200002200, Administrative and General Salaries
  - (2) FG9215632200, Public Affairs Administration-NonLabor
- c) (1) 2200-2504 cost center, Public Policy and Planning
  - (2) 2200-0811 cost center, Public Affairs Manager LA
- d) These IOs are funded as O&M in SoCalGas' General Rate Case.
- e) \$14 in charges were charged to the 2200-2504 cost center and FG200002200 IO and \$33.14 in charges were charged to the 2200-0811 cost center and FG9215632200 IO.

(DATA REQUEST CALADVOCATES-HB-SCG-2019-13)
DATE RECEIVED: OCTOBER 24, 2019
DATE SUBMITTED: 11/25/2019

## **QUESTION 14:**

State how SoCalGas determined the appropriate account(s) in which to record the costs identified in question 11.

#### **RESPONSE 14:**

SoCalGas objects to this question as overbroad and unduly burdensome. SoCalGas has not attempted to calculate labor hours associated for the attendance at the meeting of salaried employees given that this was an after hours meeting occurring after the employees had already put in an 8 hour (or more) work day. Further, SoCalGas is unable to identify any labor "costs that SoCalGas incurred." The salaried employees would have been paid the same amount regardless of whether they attended the meeting or not and their normal workload did not go away during the timing of the meeting. Subject to and without waiving its objection, SoCalGas responds as follows:

Employees who attended the meeting as part of their normal job duties to be aware of and observe governmental decisions that have the potential to affect safety, operations, one of SoCalGas' franchises, or the affordability of customers' energy service had the costs identified above associated with their attendance at the meeting charged to IOs that are ratepayer funded.

(DATA REQUEST CALADVOCATES-HB-SCG-2019-13)
DATE RECEIVED: OCTOBER 24, 2019
DATE SUBMITTED: 11/25/2019

## **QUESTION 15:**

Please provide all written or electronic communications that (a) were between SoCalGas personnel and personnel or elected officials of the City of Santa Monica, (b) occurred since January 1, 2019, and (c) related to potential changes in building codes concerning energy efficiency or electrification.

## **RESPONSE 15:**

SoCalGas objects to this question as overbroad and unduly burdensome. Subject to and without waiving its objection, SoCalGas responds as follows:

In responding to this request, the business units most likely to come into contact with the City of Santa Monica were provided with Cal Advocates' question. This response relies, at least in part, on the memories of individuals and thus may not capture every communication.

See attachment, which includes the documents provided to the City of Santa Monica at the meeting. Note that "ICF – Re-Assessment of Renewable Natural Gas Study" may have been inadvertently left out of the materials provided to the City of Santa Monica, but is included here.

In addition, the Senior Public Affairs Manager emailed the City Clerk prior to the meeting to ask for a copy of the proposed language for the reach code in question. The City Clerk replied back that the proposed language would be available when the agenda for the meeting was posted. SoCalGas no longer has a copy of this communication.

## SLO CA passes new policy requiring allelectric buildings

By Nick Wilson | Akira Olivia Kumamoto

## SLO panel discusses benefits of making new homes all-electric

San Luis Obispo is considering new building policies that would require new housing to be all-electric. A panel on Aug. 22, 2019, discussed the benefits of using electric over gas.

San Luis Obispo is considering new building policies that would require new housing to be all-electric. A panel on Aug. 22, 2019, discussed the benefits of using electric over gas. By Nick Wilson | <u>Akira Olivia Kumamoto</u>

With an eye on its ambitious <u>2035 carbon neutrality target</u>, 10 years ahead of California's statewide goal, San Luis Obispo's City Council passed a new energy policy Tuesday that paves the way for all-electric new buildings.

The council — voting 4-1 with Councilwoman Erica Stewart casting the sole "no" tally — heard from dozens of speakers arguing for and against the new city law.

Mayor Heidi Harmon said that the future of the planet depends on climate action, and SLO's decision sets a worldwide example, just as its <u>smoking ban in indoor public</u> <u>areas such as bars and restaurants two decades ago</u> has had far-reaching impacts.

"This is a big night for the city of SLO and moving away from fossil fuels in general," Harmon said. "I'm just really truly appreciating it. The reason we're in such a jam right now is we have really little time to make this transition. We just have to know that the reason we're in a bad position is the fossil fuel industry has been misleading us for decades."

Public speakers included local gas industry workers as well as environmentalists, who spoke passionately on both sides of a policy that will require <u>new types of construction starting in January 2020.</u>

The new law either mandates constructing buildings with all electric power or, alternately, retrofitting gas-powered buildings to electric elsewhere in the city. A third option is to pay an in-lieu fee in the thousands of dollars to help fund retrofits elsewhere in the city that transition from gas to electric.

About 40 percent of the city's total carbon emissions currently come from use of natural gas generated from buildings, according to city officials.

And SLO is <u>transitioning into using carbon free</u>, <u>renewable energy sources</u> to supply electricity for the city. SLO joined the Monterey Bay Community Power community choice energy program, which begins serving city customers in 2020.

1 of 5

IMG\_1162.jpg SLO's City Council voted in favor of a new energy policy Tuesday encouraging electric power. Nick Wilson

## A controversial issue

Stewart said she agrees with the vision for climate action, but argued the city should offer more building incentives to help bring down costs to construct new homes. Stewart said affordability for homebuyers and renters needs to be at the forefront of the conversation.

City staff members, however, contended the cost to build all electric homes will be comparable to or less than homes using gas energy.

The decision came after about four hours of council discussion, including public comment from dozens of speakers.

Several workers from the Southern California Gas Company expressed concerns, saying the policy change would limit energy choice, cost more and potentially be a slippery slope to require all buildings in SLO to convert to electric.

Some people said they'd prefer to cook with a gas stove versus electric and worry about the stress of a potentially higher utility bill.

"Personally I would never buy an all-electric home," said Richard Reyes, a SoCal gas employee. "Most people don't know about (the city's planned transition to electric) and when they find out, they aren't happy about it."

But climate action activists celebrated the decision as a bold step forward.

"There are tremendous benefits of moving all zero-pollution buildings and tonight, the council made the clear-sighted and prudent decision to prepare our city for a carbon-free future," said Eric Veium, chair of the SLO Climate Coalition.

Carbon neutrality refers to the concept of reducing carbon emissions to the point where emissions are balanced out by savings through a variety of resource approaches, helping to reduce the impacts of climate change.

IMG\_1042.JPG SLO's City Council voted in favor of a new energy policy Tuesday encouraging electric power. Nick Wilson

## A transition from gas to electric hookups

The city projects more than 4,600 new homes planned for the city and more than 5 million square feet of nonresidential building units by 2035, which will be incentivized to electrify through the impending new law.

Development agreements between the city and Avila Ranch and SLO and San Luis Ranch included a provision that those incoming projects totaling 1,300 homes complying with greenhouse gas reduction policies that are citywide, such as the one

passed Tuesday.

The in-lieu fee would range from \$6,013 for a typical single-family residence up to \$88,549 for a large office of 54,000 square feet, the staff report stated.

Avila Ranch's builder representative, Carol Florence, said her client Wathon Castanos Homes is learning more about the costs and design aspects of constructing all electric, saying the company is committed to the idea of all-electric, but will also need to analyze expense and strive remain affordable at the same same, leaving the door open to possibly pay in-lieu fees.

Even new SLO buildings that are gas powered still would have to wire the units to allow for a smooth transition to electric in the future.

SLO officials cited multiple job-related programs, run by outside organizations, available to workers who wish to explore new options.

"We're deeply committed to a just transition to a carbon free economy," Veium said in public comment. "This applies to those whose lives and livelihoods are currently dependent on the fossil fuel economy."

Veium invited those who work in gas to meet with the SLO Climate Coalition about transitioning to clean energy jobs.

IMG\_1163 (1).jpg SLO's City Council voted in favor of a new energy policy Tuesday encouraging electric power. Nick Wilson

## Urgency for climate action spurred decision

SLO council members first broached the electrification idea two years ago, directing city staff to draft a code change to "avoid generating new greenhouse gas emissions as the result of energy use in new buildings."

The decision is in line with energy changes that more than 50 California cities are pursuing to reduce carbon emissions, according to city officials.

Berkeley has banned the use of natural gas. But cities such as San Francisco, Burlingame, Santa Monica and Morgan Hill are pursuing ordinances that encourage all-electric buildings in a manner similar to SLO's.

"Due to decades of rapidly increasing global greenhouse gas (GHG) emissions and insufficient climate action at all levels of government, atmospheric GHG concentrations have reached a level that guarantees substantial and unavoidable impacts for the foreseeable future," the city <u>wrote in a staff report.</u>

IMG\_1032.JPG
Panelists speak at a San Luis Obispo event on energy in August. Nick
Wilson nwilson@thetribunenews.com

At an August forum hosted by the SLO Climate Coalition, PG&E representative

Hannah Kaye said the company encourages policies promoting electric construction as long as they are cost effective, adding they won't "crash the grid."

Chris Read, SLO's sustainability manager, said that new high efficiency electric appliances are effective and affordable, such as induction cooktops and heat pumps.

"Many people have in mind the old coil cooktop that everyone hates and many people think about the resistance heaters that everyone hates," Ready said. "Just to be clear, that's not how people would comply with the energy code in 2019."

Utility bills are expected to go up \$5 to \$15 per month in an all electric household, though those expenses could be reduced with use of solar panels, which will become law to add to new homes in 2020 in California. And rate reduction programs would be available to low income residents.

## Multiple voices chime in

Multiple city residents wrote into the city in advance of the meeting.

"I believe that this policy change will support both local and state goals toward carbon reduction and create opportunities for a more broad system change," said Kris Roudebush, a SLO resident, in a letter to the city. "This policy change is one step towards a greater goal and sets the bar for best practices in an environmentally conscious community."

But SLO resident Richard Schmidt argued that the city is limiting choice, and locking the policy in without flexibility for adaption, contending the phasing out of gas means "there will be no hookups, no mains, no availability today or tomorrow."

"How do you know that's a good idea?" Schmidt said. "What if tomorrow's dream green tech needs gas, say for hydrogen fuel cell deployment, or some other tech we cannot imagine today? What if gas companies can develop a non-polluting 'gas' that can use those pipes?"

Schmidt added "the problem is we're building too many crappy buildings." Schmidt encourages low-energy, sustainable architecture with significant natural lighting.

IMG\_1169.JPG

The SLO City Council meeting had a packed house Tuesday for the decision on a new energy policy. Nick Wilson

The SLO Chamber of Commerce also weighed in, making <u>several suggestions about</u> the direction forward.

The Chamber called for incentives for developers to go all-electric, including "upzoning, reduced minimum parking standards, reduced electricity rates through Monterey Bay Community Power and a meaningful, guaranteed fast-track through the permitting process."

Councilwoman Andy Pease said that land use change regarding incentives should be separate from energy decisions.

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The Sierra Club weighed in after Tuesday's decision by saying that it hopes other communities will be inspired to follow the action.

"San Luis Obispo's forward looking ordinance is both an ambitious local policy and a piece of a broader statewide effort to move towards a clean, renewable energy future," said Sierra Club Senior Campaign Representative Matt Gough in a statement. "We applaud San Luis Obispo's leadership and look forward to what it and other cities across the state will accomplish next."



Nick Wilson covers the city of San Luis Obispo and has been a reporter at The Tribune in San Luis Obispo since 2004. He also writes regularly about K-12 education, Cal Poly, Morro Bay and Los Osos. He is a graduate of UC Santa Barbara and UC Berkeley and is originally from Ojai.

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# City Hall to encourage replacing gas appliances with electric alternatives -

Madeleine Pauker

City Hall will encourage residents and businesses to replace natural gas appliances with electric heating and cooking equipment as it pursues its goal of reducing carbon emissions to 20% of their 1990 levels by 2030.

The City Council discussed Tuesday how to incentivize consumers to forgo appliances powered by natural gas in favor of electric heating and cooling systems, stoves and dryers.

Natural gas is the second-largest source of Santa Monica's emissions after gasoline since the city switched from Southern California Edison to the Clean Power Alliance in January. About 92% of residents and businesses now pay slightly higher rates for 100% renewable electricity and about 5% opted to stay with SCE.

Natural gas is more than 90% methane, which is 80 times more potent than carbon dioxide. Extracting, producing, transporting and storing natural gas results in methane leaks at a rate of up to 3%, said sustainability analyst Drew Lowell.

While renewable natural gas is one alternative, its scarcity and high cost relative to renewable electricity makes it unlikely to ever meet a significant share of the demand for natural gas, Lowell said. It also still consists largely of methane and still leaks into the atmosphere. But replacing heating and cooling systems, gas stoves and clothes dryers is a lot trickier than changing utilities.

Eliminating natural gas in Santa Monica's buildings will also only reduce carbon emissions by 2%, while renewable electricity cut emissions by 19%. Lowell said a new building with electric instead of gas equipment is \$5,000 to \$10,000 cheaper to construct and twice as efficient. The city is developing building codes that incentivize developers to construct electric buildings, he said.

Replacing an existing building's gas appliances improves indoor air quality and eliminates hazards like carbon monoxide and explosions, he said.

However, most consumers are unfamiliar with electric equipment and may not want to replace their appliances until they are unusable, Lowell said. Older buildings may also have limited electrical capacity.

Councilmembers said the city would need to develop an outreach program to educate property owners about how to replace natural gas appliances and possibly offer financial incentives.

"We need to guide people into this," said Councilmember Sue Himmelrich.

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Mayor Gleam Davis said financial incentives or rebates should go toward people who most need them.

"When we gave rebates for people to switch out their lawns for drought-tolerant plants, people who took advantage of that were people in single-family homes who could afford to do it anyway," Davis said. "We need to figure out if there is a way to focus rebates on people with the least wherewithal to make those changes."

Councilmember Greg Morena said it would be challenging for restaurants to switch to electric induction stoves because the vast majority of chefs cook with gas. Induction stoves are also much more expensive than gas stoves, he said.

"I want to caution us against going down a path that we don't necessarily have a solution for," Morena said. "Costs increasing in a restaurant industry where margins are single digit ... we don't have a lot of room for it."

madeleine@smdp.com

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#### **ENERGY EFFICIENCY**

(DATA REQUEST CALADVOCATES-HB-SCG-2019-12) RECEIVED: SEPTEMBER 6, 2019 SUBMITTED: OCTOBER 11, 2019

## **QUESTION 1:**

The San Luis Obispo Tribune reports that SoCalGas sent the City of San Luis Obispo a letter opposing proposed building code changes that would encourage all-electric new construction.<sup>1</sup>

- a. Please provide a copy of this letter.
- b. Who authorized sending this letter?

## **RESPONSE 1:**



C. Read SLO Local Amendments to 2019

a.

b. Sharon Tomkins, Vice President, Strategy and Engagement, was SoCalGas' signatory on the letter.

<sup>&</sup>lt;sup>1</sup> San Luis Obispo Tribune, "Should all houses in SLO switch to electric appliances? These experts think so," August 24, 2019, <a href="https://www.sanluisobispo.com/news/local/environment/article234312802.html">https://www.sanluisobispo.com/news/local/environment/article234312802.html</a>. See Attachment 1.

#### **ENERGY EFFICIENCY**

(DATA REQUEST CALADVOCATES-HB-SCG-2019-12) RECEIVED: SEPTEMBER 6, 2019 SUBMITTED: OCTOBER 11, 2019

## **QUESTION 2:**

Was SoCalGas' advocacy to the City of San Luis Obispo on building codes associated with the Reach Codes program in SoCalGas' energy efficiency portfolio (program ID: SCG 3727).

## **RESPONSE 2:**

SoCalGas' letter to the City of San Luis Obispo regarding its proposed Draft Local Amendments to the 2019 California Building Code ("Reach Code") (See Response 1) and follow-up communications related to that letter (See Response 6) were not associated with the Reach Codes program in SoCalGas' energy efficiency portfolio.

#### **ENERGY EFFICIENCY**

(DATA REQUEST CALADVOCATES-HB-SCG-2019-12) RECEIVED: SEPTEMBER 6, 2019 SUBMITTED: OCTOBER 11, 2019

## **QUESTION 3:**

Was SoCalGas' advocacy to the City of San Luis Obispo on building codes associated with any ratepayer-funded program other than the Reach Codes program?

## **RESPONSE 3:**

SoCalGas objects to the term "ratepayer-funded program" as vague and ambiguous. Notwithstanding its objection, SoCalGas responds as follows: SoCalGas' letter to the City of San Luis Obispo regarding its proposed Reach Code (See Response 1) and follow-up communications related to that letter (See Response 6) were prepared by employees whose time is generally recorded to ratepayer funded cost centers. See Response 7.

## **ENERGY EFFICIENCY**

(DATA REQUEST CALADVOCATES-HB-SCG-2019-12) RECEIVED: SEPTEMBER 6, 2019 SUBMITTED: OCTOBER 11, 2019

## **QUESTION 4:**

Did any SoCalGas employees attend the event hosted by the SLO Climate Coalition that is discussed in the Tribune article (Attachment 1)? If so, please provide the name and job title of each SoCalGas employees who attended.

## **RESPONSE 4:**

No.

#### **ENERGY EFFICIENCY**

(DATA REQUEST CALADVOCATES-HB-SCG-2019-12) RECEIVED: SEPTEMBER 6, 2019 SUBMITTED: OCTOBER 11, 2019

## **QUESTION 5:**

Please list all telephone communications that (a) were between SoCalGas personnel and personnel or elected officials of the City of San Luis Obispo, (b) occurred since January 1, 2018, and (c) related to potential building code changes. For each such communication, list the date, participants, and subject matter.

## **RESPONSE 5**:

SoCalGas objects to the question as overbroad and nonspecific. These responses are limited to the initial letter and two follow-up communications related to the City of San Louis Obispo's proposed Reach Code.

A SoCalGas Regional Public Affairs representative spoke with a City of San Louis Obispo representative (Chris Read) by telephone on several occasions regarding the city's proposed Reach Code. While the exact dates are not recalled, the phone calls took place between February and September 2019. The phone calls are recalled to have each lasted less than 5 minutes and were limited to seeking clarifications about the process the Reach Code Amendments would go through for adoption. The specific content of SoCalGas' initial letter and two follow-up communications were not discussed.

#### **ENERGY EFFICIENCY**

(DATA REQUEST CALADVOCATES-HB-SCG-2019-12) RECEIVED: SEPTEMBER 6, 2019 SUBMITTED: OCTOBER 11, 2019

## **QUESTION 6:**

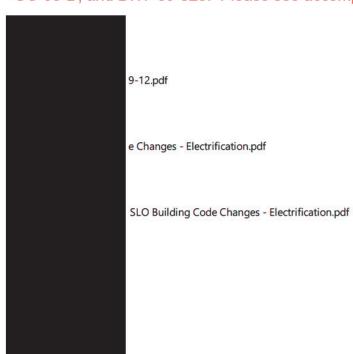
Please provide all written or electronic communications that (a) were between SoCalGas personnel and personnel or elected officials of the City of San Luis Obispo, (b) occurred since January 1, 2018, and (c) related to potential building code changes.

## **RESPONSE 6:**

SoCalGas objects to the question as overbroad and nonspecific These responses are limited to the initial letter and two follow-up communications related to the City of San Louis Obispo's proposed Reach Code.

As it relates to the City of San Louis Obispo's proposed Reach Code, in addition to the letter provided in Response 1 SoCalGas provided two follow-up electronic communications in response to direct inquiries from the city. These communications are attached.

Attachments contain confidential and protected material pursuant to PUC Section 583, GO 66-D, and D.17-09-023. Please see accompanying confidentiality declaration.



#### **ENERGY EFFICIENCY**

(DATA REQUEST CALADVOCATES-HB-SCG-2019-12) RECEIVED: SEPTEMBER 6, 2019 SUBMITTED: OCTOBER 11, 2019

## **QUESTION 7:**

Please provide the following information about SoCalGas' labor costs for activities related to proposed building code changes in the City of San Luis Obispo.

- a. Since January 1, 2018, how many hours have SoCalGas personnel spent on activities related to proposed building code changes in the City of San Luis Obispo?
- b. Name and title of each employee who has worked on activities related to proposed building code changes in the City of San Luis Obispo since January 1, 2018.
- c. Funding source(s) (specific account and cost center) to which you have charged the employees' time, as of September 5, 2019. If you have charged costs to more than one funding source, state the amount charged to each one.
- d. Documentation (including, but not limited to, executed journal entries) showing that the time was charged to the account and cost center specified.

## **RESPONSE 7:**

Information highlighted in yellow is confidential and protected material pursuant to PUC Section 583, GO 66-D, and D.17-09-023. Please see accompanying confidentiality declaration.

Confidentiality
Declaration HB-SCG-2

SoCalGas objects to the question as overbroad and nonspecific. These responses are limited to the initial letter and two follow-up communications related to the City of San Louis Obispo's proposed Reach Code.

SoCalGas employees typically work on a variety of projects and issues and do not track their time each day with the intent of reporting out an hourly log of activities. For the

#### **ENERGY EFFICIENCY**

(DATA REQUEST CALADVOCATES-HB-SCG-2019-12) RECEIVED: SEPTEMBER 6, 2019 SUBMITTED: OCTOBER 11, 2019

purposes of providing a response, SoCalGas has made a good faith effort to compile estimates of the amount of time spent by principal contributors. SoCalGas does not include in the response personnel who only provided review of the various documents (generally amounting to less than one hour of time).

- a. The principal author of the initial letter spent approximately 36 hours doing so. The principal preparers of the follow-up communications spent approximately 37 hours doing so. Other employees reviewing either the initial letter or follow-up communications spent less than one hour of their time doing so and are not included in the above time estimates. Further, as noted in Response 5, a SoCalGas Regional Public Affairs representative engaged the city of San Louis Obispo seeking clarifications about the process the Reach Code Amendments would go through for adoption. These brief phone calls are not included in the above time estimates, nor in the following responses.
- b. Pursuant to a September 5, 2019 meeting between SoCalGas (Dan Skopec, Vice President Regulatory Affairs and Brian Prusnek, Director Regulatory Affairs), and Cal Advocates (Mike Campbell, Program Manager), names of employees will not be provided. The principal author of the initial letter was an preparers of the follow-up communications included a
- c. 72 of the 73 total hours identified were attributable to the who share the same cost center (2200-2504) and I/O account (FG9200002200). This I/O is funded as O&M in SoCalGas' General Rate Case. The spent 1 hour assisting on the second follow-up communication (cost center 2200-2519). In a typical pay period, this employee charges 40% of time to an O&M ratepayer funded I/O (FG9080002200), and 60% of time to a series of I/Os funded by Energy Efficiency (300794320, 300794236, 300794233, 300794304, 300794301, 300794317, 300794153, and 300794165).
- d. SoCalGas will follow-up with this information on October 14.

#### **ENERGY EFFICIENCY**

(DATA REQUEST CALADVOCATES-HB-SCG-2019-12) RECEIVED: SEPTEMBER 6, 2019 SUBMITTED: OCTOBER 11, 2019

## **QUESTION 8:**

Please provide the following information about SoCalGas' labor costs for activities related to proposed building code changes in the City of San Luis Obispo.

- a. Since January 1, 2018, how many hours have SoCalGas personnel spent on activities related to proposed building code changes in the City of San Luis Obispo?
- b. Name and title of each employee who has worked on activities related to proposed building code changes in the City of San Luis Obispo since January 1, 2018.
- c. Funding source(s) (specific account and cost center) to which you have charged the employees' time, as of September 5, 2019. If you have charged costs to more than one funding source, state the amount charged to each one.
- d. Documentation (including, but not limited to, executed journal entries) showing that the time was charged to the account and cost center specified.

## **RESPONSE 8:**

This appears to be a duplicate of Question 7. See Response 7.

#### **ENERGY EFFICIENCY**

(DATA REQUEST CALADVOCATES-HB-SCG-2019-12) RECEIVED: SEPTEMBER 6, 2019 SUBMITTED: OCTOBER 11, 2019

## **QUESTION 9:**

Since January 1, 2016, has SoCalGas contacted other governmental entities to oppose, express concerns about, or raise doubts about potential changes in building codes? If so, please identify each such governmental entity, and provide the following information for each such governmental entity:

- a. Identify the time period (month and year) in which SoCalGas communicated with the governmental entity.
- b. Describe the nature of the proposed code changes at issue for the governmental entity.
- c. Provide any written communications from SoCalGas to the governmental entity that oppose, express concerns about, or raise doubts about potential changes in building codes.

## **RESPONSE 9:**

SoCalGas objects to the question as overbroad, nonspecific, and unduly burdensome.

## Electric appliances in SLO CA recommended by energy experts

By Nick Wilson | Akira Olivia Kumamoto

#### SLO panel discusses benefits of making new homes all-electric

San Luis Obispo is considering new building policies that would require new housing to be all-electric. A panel on Aug. 22, 2019, discussed the benefits of using electric over gas.

San Luis Obispo is considering new building policies that would require new housing to be all-electric. A panel on Aug. 22, 2019, discussed the benefits of using electric over gas. By Nick Wilson | Akira Olivia Kumamoto

What would it be like to live in a home that uses all electric appliances?

A panel of experts who spoke Thursday at an event hosted by the <u>SLO Climate Coalition</u> at the SLO library touched on questions around cost, safety and the ability of the grid to handle a transition from gas to electrically-powered homes.

The discussion comes in advance of a planned SLO City Council meeting Sept. 3 when a new policy around energy requirements for constructing new homes will be considered.

The proposed changes to building codes would incentivize electrification by allowing construction with all-electric appliances to meet minimum state standards.

If the new policy is approved, those who choose to construct gas-powered systems would have to retrofit existing buildings to electric appliance systems or pay an in-lieu fee that will be used for the same purpose, according to city officials.

A panel of four state building and energy experts said they believe a transition to electrification is inevitable given California's target of carbon neutrality in 2045.

It makes good sense, they said, to start planning for a future in which communities will be faced with finding ways to reduce as much carbon dioxide and other greenhouse gases from the atmosphere as possible — a significant portion of those emissions now coming from use of gas appliances in homes.



Panelists speak at a San Luis Obispo event on energy on Thursday. From left to right are: Pierre Delforge, senior scientist at the Natural Resources Defense Council; Nick Young, senior project manager with Association for Energy Affordability; Bronwyn Barry, board chair of the North American Passive House Network; Hannah Kaye, expert product manager with Grid Edge, PGE& E. Nick Wilson nwilson@thetribunenews.com

"We support local governments taking action to promote all electric, new construction when it's cost effective," said Hannah Kaye, an expert product manager with PG&E. "We're excited to partner with cities like SLO to make it happen, to achieve its policy goals."

Kaye said PG&E supplies San Luis Obispo area customers with electric power, but not gas, though it offers gas services elsewhere in California. She said the statewide grid can handle electric-powered homes.

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"We see the economics and think it's good for customers," Kaye said. "It's not going to crash the grid."

While the cost to retrofit a home by converting gas to electric can be expensive, building new homes with that infrastructure already in place helps meet climate action goals and reduce home utility costs, speakers said.

Nick Young, of the Association for Energy Affordability, said <u>electric heat pumps</u> are an effective way to supply energy for water heaters, for example, and high efficiency models can save people on costs because they require much less energy to operate.

Additionally, they are generally safer because flammable materials aren't running through the home, risking a potential explosion.

"In 10 or 15 years, people will say, 'Gosh, they used to pipe gas through their buildings," Young said. "That's crazy."

Statewide standards will require all newly constructed homes to have solar panels starting in 2020, which also will help reduce energy costs and make electricity use more efficient, panelists said.

A demonstration that was part of an energy efficiency display at SLO's Farmer's Market. Nick Wilson nwilson@thetribunenews.com

Bronwyn Barry, the board chair of the North American Passive House Network, said electric-powered homes she has showcased have included easy-to-use devices such as induction cooktops with convenient temperature controls, quiet compressors using an electric motor to convert power into potential energy stored in pressurized air and LED light fixtures, among other features.

Questions from the audience included potential resistance to policy changes from labor unions and opposition from SoCal Gas.

Chris Read, the city's sustainability manager, acknowledged that SoCal Gas has sent the city a letter opposed its proposed building code changes.

Read told The Tribune on Friday that the city is preparing for a future that will make it easier to transition to electric-powered energy in the face of climate change and California's energy policies.

But Read emphasized that the city's proposal will maintain choice for builders to use gas or electric.

"There's also tremendous opportunity here," Read said. "There's additional work for electricians. The state's mandate to include solar is beneficial to local solar contractors."

Pierre Delforge, a senior scientist at the Natural Resources Defense Council, said workers in the gas industry will have the opportunity to transition to new career paths as gas starts to phase out in coming decades, and the phasing out of gas will be "gradual."



Nick Wilson covers the city of San Luis Obispo and has been a reporter at The Tribune in San Luis Obispo since 2004. He also writes regularly about K-12 education, Cal Poly, Morro Bay and Los Osos. He is a graduate of UC Santa Barbara and UC Berkeley and is originally from Ojai.

2 of 2



Sharon Tomkins Vice President, Strategy & Engagement

> 555 W. Fifth Street, GCT 21C5 Los Angeles, CA 90013

Email: STomkins@socalgas.com

August 9, 2019

Chris Read Sustainability Manager Office of Sustainability City of San Luis Obispo 900 Palm Street San Luis Obispo, CA 93401

RE: OPPOSE City of San Luis Obispo – Local Amendments to the 2019 California Building Code

Dear Mr. Read,

Southern California Gas Company (SoCalGas) appreciates the opportunity to comment on the City of San Luis Obispo's proposed Draft Local Amendments to the 2019 California Building Code ("Reach Code"). The City is one of many other cities and counties currently evaluating advanced sustainability goals and targets, especially regarding greenhouse gas emission reductions, energy efficiency/conservation, and climate adaption considerations. We strongly believe that solutions proposed in furtherance of achieving these goals should not only be evaluated in terms of potential local environmental benefits, but also in terms of economic feasibility, customer adoptability, and overall contribution to broader State sustainability goals and targets. Further, such evaluation should be based on comprehensive, unbiased data that accurately reflects real-world conditions.

Local jurisdictions attempting to pass building reach codes are required to apply to the California Energy Commission (CEC) for approval and include supporting analysis demonstrating that 1) their proposed standards are more energy efficient than current State building code standards and 2) that the local standards are cost-effective. The City of San Luis Obispo in looking at this issue is using analyses prepared by Frontier Energy, Inc. and Misti Bruceri & Associates, LLC for Pacific Gas and Electric Company, titled "2019 Energy Efficiency Ordinance Cost-Effectiveness Study<sup>2</sup>" and "2019 Nonresidential New Construction Reach Code Cost

<sup>1</sup> California Energy Commission. Local Ordinances Exceeding the 2016 Building Energy Efficiency Standards. https://ww2.energy.ca.gov/title24/2016standards/ordinances/

<sup>&</sup>lt;sup>2</sup> Frontier Energy, Inc., Misti Bruceri & Associates, LLC. 2019 Cost-Effectiveness Study: Low-Rise Residential New Construction. August 2019

Effectiveness Study<sup>3</sup>," as a sources to satisfy the cost-effectiveness requirement for approval of their proposed Reach Code. Each analysis document concludes that all-electric building models for both residential and nonresidential new construction to be the most cost-effective and energy efficient building options, thereby seeming to validate the City's proposed Reach Code that favors all-electric construction for new buildings. The data, however, used to reach these conclusions is flawed, as discussed in a summary below and further expanded on the Concern Detail section attachment.

## **Summary of Concerns**

- Use of PG&E gas infrastructure costs in SoCalGas territory Because SoCalGas is the
  sole provider of gas service to the City of San Luis Obispo, the City should not rely on a
  cost-effectiveness analysis that uses infrastructure cost estimates provided by PG&E to
  determine incremental customer costs for a mixed fuel home. PG&E's provided
  estimates are approximately three times greater than SoCalGas' infrastructure costs.
- Use of an unsubstantiated and flawed study to support affordability analysis the
  analysis relies on the flawed conclusions of E3's Deep Decarbonization study that
  contains inaccurate projections of utility gas rate increases and underestimates.
  electricity rate increases. For example, it does not take into account wildfire damage
  recover costs or system infrastructure expansion costs
- Inaccurate valuation of the societal costs of electrical infrastructure and societal benefits of gas infrastructure – The cost-effectiveness analysis overlooks the vulnerability of electric infrastructure to climate change impacts and how such impacts affect energy reliability to residents. It also does not account for the public health and environmental impacts from the fires caused by electric infrastructure.

Overall, the cost-effectiveness analysis appears to be designed to reach a predetermined conclusion to support building electrification as the optimal pathway to decarbonize buildings, which is reflected in the language of the City's Reach Code. Large scale, economy-wide cost impacts to City residents and businesses should be based on robust and broad technical support and analysis, which as discussed above and in the attachment, the current cost-effectiveness study does not do.

We support the city's goal to reduce its carbon emissions but do not believe an all-electric scenario achieves that and places unnecessary costs on residents. We have enclosed a copy of our white-paper, which provides a high-level policy discussion of a broad-based approach to help California achieve its ambitious climate change goals.

<sup>&</sup>lt;sup>3</sup> Frontier Energy, Inc., Misti Bruceri & Associates, LLC. 2019 Nonresidential New Construction Reach Code Cost Effectiveness Study. July 2019

Sincerely,

**Sharon Tomkins** 

Vice President, Strategy & Engagement

# ATTACHMENT

### **Concern Details**

Below we elaborate further on these points and request that the City redo the analysis to incorporate these additional comments.

# 1. Development infrastructure costs for SoCalGas are overestimated

As stated above, the cost-benefit analysis only uses gas infrastructure cost estimates from PG&E to calculate incremental costs to mixed fuel residences. This is inappropriate as SoCalGas is the only utility responsible for providing gas service to the City of San Luis Obispo, not PG&E. Therefore, the City should have used an analysis that included infrastructure cost estimates from SoCalGas, which are considerably lower than PG&E's provided estimates. For example, the cost-effectiveness analysis currently states that total first cost of running a natural gas line to a new residential development is approximately \$11,836. However, SoCalGas average direct costs for 2019 for gas line installs was only \$4,400. This is approximately 63% less than PG&E's estimate. If SoCalGas' cost estimates had been incorporated into the analysis, costs to consumers for natural gas energy would be significantly lowered, and in turn, would considerably alter both the On-Bill and TDV analyses. Therefore, because the current analysis uses cost estimates from a utility that has no role providing gas service to the City, the analysis cannot be justifiably used to support the City's Reach Code, as this generates an overestimated assessment of the customer costs for natural gas infrastructure/service within the City.

# 2. Analysis relies on deeply flawed E3 Deep Decarbonization Study for exacerbated utility rate projections

The cost-effectiveness analysis states that it relies on E3's Deep Decarbonization Study to model escalating utility rates over time, as well as SoCalGas' and PG&E's General Rate Case (GRC) filings, and further states that rates from 2023-2025 are assumed to escalate 4% per year above inflation, which "reflects historical rate increases between 2013 and 2018." Addressing these sources in turn, SoCalGas would like to emphasize the flawed nature of E3's Deep Decarbonization Study, which was largely funded and supported by the Building Decarbonization Coalition, an entity largely supported by electricity providers and equipment manufacturers. Most importantly this study severely underestimates electric rate increases, which then falsely makes building electrification seem more economically attractive to consumers. Currently, the analysis shows electric rate increases to be at only 2% which, alone, is specious given that electric rates have been shown to increase three times faster than natural gas rates. Further, as stated in SoCalGas' 2019 public comments to the California Energy Commission (CEC) regarding this study, "[it] is disturbingly misleading in estimating an 'uncertain' 6%-8% increase in rates for 2018-2022." Among other things, this is unrealistic as the electric rate projections do not appear to factor in potential increases from, for example,

A Navigant Consulting, Inc. Analysis of the Role of Gas for a Low-Carbon California Future, 2018

revenue requirements for infrastructure upgrades for wildfire mitigation,<sup>5</sup> changes in cost of capital,<sup>6</sup> or additional distribution infrastructure required to meet increased electricity demand from battery-electric vehicles and all-electric buildings. Further, the E3 study shows the cost of electrification declining post-2030 with costs returning to approximately the 2030-level by 2050.<sup>7</sup> This is in stark contrast to their previous work.<sup>8</sup> This new outlook on post-2030 incremental cost for the electrification scenario has not been justified and seems counter to all recent studies and trends. Therefore, as the E3 study does not incorporate the increased electric infrastructure system expansion costs or the increased costs to ratepayers from wildfire damages caused by the electric system, the modeled utility rate escalation of only 2% per year until 2025, and then only 1% afterwards, is severely underestimated and unsubstantiated.

Regarding use of SCG's GRC and historical rate cases, there are several areas we would like to highlight for concern and needed clarification. None of the appendices or foot notes within the cost-effectiveness study seem to include citation for use of our GRC filing for rate increases and, further, as no GRC filing has yet been approved, it is not valid to assume that SCG would receive the full amount requested to recover in rates. Instead, it would be most accurate for the analysis to use existing recent rate increases, which are not 6%. Further, Appendix B of the document, which contains utility rate information sources, instead has a page of a SCG seasonal rate report that shows costs of residential rates during the winter. As these prices reflect peak rates, which occur during winter, it is inappropriate for the cost-effectiveness analysis to assume these rates are constant and apply them over a 30-year time period. Rather, as California has very short winter seasons and long warm seasons, the analysis should have used rates that are in effect during the spring, summer, or fall seasons, which are on average about 40 cents less per therm. Because the analysis inaccurately extrapolates peak winter rates which only persist, at most, a few months—as annually consistent over 30 years, the analysis overestimates costs to consumers for using natural gas as an energy source. Further, the claim that SCG's rates have increased 4% above inflation on average between 2013 and 2018 is plainly false. In fact, looking strictly at peak winter rates during that time period, SCG residential

<sup>&</sup>lt;sup>5</sup> In the 2019 wildfire mitigation plans, for example, the investor-owned utilities proposed a range of important activities to address wildfire risks. The 2019 plans alone are expected to have an annual residential bill incremental impact of about \$85 for Pacific Gas & Electric customers, \$40 for SCE customers, and \$5 for SDG&E customers (SB 695 report), pages 53-64. Available at:

https://www.cpuc.ca,gov/uploadedFiles/CPUCWebsite/Content/About\_Us/Organization/Divisions/Office\_of\_Governmental\_Affairs/Legislation/2019/SB%20695%20Report\_May%202019\_FINAL.pdf

<sup>&</sup>lt;sup>6</sup> SCE's Cost of Capital filing requests an 11% increase in system average rate, with an increase of over 13% on residential rates by 2020 compared to current 2019 rates. The 2019 rates in SCE's filing do not include the extensive infrastructure investment SCE has proposed for transportation electrification and grid modernization over the next 5 years. SCE's higher cost of capital request will also increase the rate impacts of these capital investments programs. https://www.sce.com/sites/default/files/inlinefiles/Notice\_SCECostofCapital.pdf

<sup>7</sup> E3 Draft Results, at page 19

<sup>&</sup>lt;sup>8</sup> In its 2018 report on Deep Decarbonization, E3 showed the incremental cost of their 'Base Mitigation' case would be roughly \$8 billion in 2030 and \$26 billion in 2050. E3 further indicated the 2050 costs could be \$8 to \$35 billion higher in 2050, depending on the assumptions about the diversity of the renewables portfolio. E3's Deep Decarbonization study slides from the June 2018 workshop (Slides 48 and 18) can be accessed here: https://efiling.energy.ca.gov/GetDocument.aspx?tn=223756&DocumentContentId=53938

rates increased only 3%, which is just about 1% above the current inflation rate.<sup>9</sup> This further contributes to overestimation of consumer utility costs in the analysis.

3. Analysis of Time Dependent Valuation values do not reflect societal and environmental benefits of renewable natural gas or the societal and environmental impacts of electric infrastructure

SoCalGas understands that the purpose of using a Time Dependent Valuation (TDV) methodology is to attempt to capture the societal value/cost of energy use over the long term, including costs of carbon emissions. However, the cost-effectiveness analysis does not equitably assess electric and mixed fuel homes for this valuation. Rather, the analysis only evaluated a biased context for an all-electric home, where it satisfied only the bare minimum requirements to be just compliant with the 2019 State Building Code. This analysis did not look at the potential benefits of using renewable natural gas in a mixed fuel home, and further did not account for the negative environmental and societal impacts associated with the vulnerable nature of electric infrastructure. Therefore, because the study did not incorporate these considerations, its conclusion regarding the cost-effectiveness of all-electric buildings is erroneous, and in result cannot be used to support the City's proposed Reach Code.

Most prominently, the TDV analysis did not consider the environmental and societal benefits that would be generated from using renewable natural gas as an energy resource in a mixed fuel home. Supporting building transition to use of renewable natural gas (RNG) instead of traditional fossil natural gas, has significant carbon emission reductions and can even be carbon negative in application, which would contribute considerably greater and more effectively to the City's goal to decarbonize buildings, and at no additional cost to consumers 10. In fact, replacing only 20% of existing natural gas supply with RNG achieves the same emissions reductions as electrifying the entire building sector by 2030, but at one-third of the cost. As previously communicated, RNG, or biomethane, can be produced from existing waste sources including agricultural waste, waste water, and landfills, and then upgraded to delivery quality in our pipelines. Because this energy is produced from existing methane sources that are otherwise being emitted into the air, unabated, capturing these emissions to produce biomethane helps reduce both regional and local methane and GHG emissions. As a short-lived climate pollutant, methane has a greater global warming potential than carbon dioxide specifically, methane is approximately 28 times more potent than carbon dioxide in the atmosphere 11,12. Therefore, from a lifecycle perspective, because biomethane production removes a greater quantity of more potent GHG emissions from the air than what it produces at end uses, its production is a carbon negative process, and can be used to offset other uses that cannot achieve carbon neutrality. The TDV analysis' findings undermine the importance of

<sup>&</sup>lt;sup>9</sup> Kimberly Amadeo. "US Inflation Rate by Year from 1929 to 2020." The Balance, July 2019. https://www.thebalance.com/u-s-inflation-rate-history-by-year-and-forecast-3306093

<sup>19</sup> Navigant Consulting, Inc. Analysis of the Role of Gas for a Low-Carbon California Future, 2018

<sup>&</sup>lt;sup>11</sup> IPCC. Global Warming Potential Vallueshttps://www.ghgprotocol.org/sites/default/files/ghgp/Global-Warming-Potential-Values%20%28Feb%2016%202016%29\_1.pdf

<sup>&</sup>lt;sup>12</sup> California Air Resources Board (CARB). Understanding Global Warming Potentials. https://www.epa.gov/ghgemissions/understanding-global-warming-potentials

addressing methane emissions from California's waste stream and, further, it contradicts the California Air Resources Board's (CARB) Climate Change Scoping Plan Update (Scoping Plan) which identifies a number of different approaches for "achieving successes in clean energy," including cost-effective access to renewable gas. <sup>13</sup> An important part of CARB's strategy in the Scoping Plan is putting waste resources to beneficial use, including organic sources of methane from waste streams. The existing natural gas infrastructure provides a solution to reduce emissions from these sectors by transporting RNG over existing, safe transmission and distribution infrastructure. Therefore, not only would use of RNG in mixed fuel homes have significant societal and environmental benefit by helping residential buildings be carbon negative and helping achieve local organic waste diversion goals, but also would not require any expansion in infrastructure capacity, thereby preventing increased costs to residents. This multitude of co-benefits should be analyzed and incorporated into the TDV analysis to provide a more accurate context of the societal value of natural gas infrastructure use.

Further, the inherent resiliency of natural gas infrastructure to damage from climate change impacts is critical to include in the TDV analysis. With passage of SB 379 in 2015, municipalities are required to incorporate climate change adaptation and resiliency considerations into local and regional planning efforts by 2022. As the natural gas system is mostly underground, it is very resilient to extreme weather events. For example, in 2012, after Superstorm Sandy, the entire natural gas system in the Northeast was essentially intact, allowing residents to support back-up generators, cook, and keep warm. Businesses with natural gas-powered fuel cells were able to operate and compressed natural gas (CNG) buses in New Jersey were used to shuttle residents to safety<sup>14</sup>. Further, when Hurricane Harvey temporarily disabled almost 30% of the nation's refining capacity, CNG shuttles were able to continue operating, and hospitals that had on-site combined heat and power systems were able to provide urgently needed medical attention, despite flooding. These examples demonstrate the critical role natural gas infrastructure can play in supporting local and regional energy supply resilience in the face of extreme climate events and use of renewable natural gas can achieve additional co-benefits in reducing GHG emissions. Further, they emphasize the importance of energy supply diversification as a climate change adaptation strategy, and specifically distributed generation resources such as combined heat and power, which offer a clean, flexible, and reliable form of energy. The UN Framework Convention on Climate Change clearly states that expanding the energy portfolio increases system reliability in a cost-effective manner, and over-reliance on a single energy source can create avoidable and unnecessary risks for public safety and the economy. Rather, maintaining diverse energy sources across the economy is a prudent measure to ensure resiliency.

<sup>13</sup> California's 2017 Climate Change Scoping Plan Update, ES-11. Accessed from https://www.arb.ca.gov/cc/scopingplan/scoping\_plan\_2017.pdf

<sup>&</sup>lt;sup>14</sup> https://www.energy.gov/eere/articles/5-ways-alternative-fuels-aid-response-hurricanes-and-natural-disasters?utm\_source=EERE+Weekly+Digest+of+Clean+Energy+News&utm\_campaign=f048cbec65-EMAIL CAMPAIGN 2017 09 25&utm\_medium=email&utm\_term=0\_96dffafa2f-f048cbec65-34678197

The electric grid, in comparison is more vulnerable to widespread service disruptions caused by wildfires, extreme heat, sea-level rise, flooding, and other extreme climate-driven events, 15 the associated costs of which are blatantly overlooked by the current TDV analysis. Rather, the exposure and vulnerability of electric infrastructure to climate change impacts, and its role in initiating and/or exacerbating such impacts, substantially affects the ability to provide power to end uses and, in turn, achieve local community resiliency goals. As seen in the recent wildfires and mudslides, as the electric system is almost entirely aboveground, it is significantly more exposed to climate threats and, when impacted, can not only leave hundreds to thousands of residents without power at their homes, but also affect operation of critical facilities. For example, in 2017 the Thomas Fire damaged electric power lines throughout the City of Ventura. Because the City's water pumps to supply water to firefighters ran on electricity without any other form of backup power, firefighters were unable to get water from the pumps to put out burning residences. 16 If the water pumps had been connected to a backup power system, such as a natural gas generator, firefighters would have been able to access the water. Further, as seen in the hurricanes Irma and Harvey, severe storms could knock out electricity supplies for weeks at a time, putting essential serves like hospitals and wastewater treatment facilities at risk, as well as costing a single county billions of dollars in damages in lost economic activity.

The TDV analysis also does not consider the public health, environmental, or economic costs associated with electricity-caused environmental disasters. According to ARB and the Sierra Nevada Conservancy, wildfire emissions now exceed all the reductions California has achieved across all other sectors. In fact, wildfire is now one of the largest sources of climate pollution. If the TDV analysis includes societal impacts from fossil natural gas emissions, it should also include the impact of the millions of tons of black carbon and other pollutants emitted into the atmosphere from fires caused and/or exacerbated by electric infrastructure. The analysis also ignores the high cost of fires for electricity ratepayers, as electric utilities have caused the majority of California's large fires in recent years, including the Rim Fire in 2013, the Thomas Fire and Wine Country Fires in 2017, and the Paradise Fire in 2018. The cost to PG&E alone of the 2017 and 2018 fires is likely to exceed \$30 billion in direct damages, Further, the Rim Fire alone, which was caused by electricity wires in 2013 and is now the 6th largest fire in the state's history, caused more than \$600 million in health-related costs. This does not include the increased costs of mitigation going forward such as increased vegetation removal requirements, Public Safety Power Shutoffs, and other operational changes, Although the settlements for the Thomas Fire (SoCal Edison) and Paradise Fire (PG&E) have not yet been determined, as the companies will be allowed to recover the multi-billion-dollar damages through increased rates, ratepayers will face significantly increased costs for electricity. This is in addition to the increased rates that consumers will already face from expansion of costly

<sup>&</sup>lt;sup>15</sup> CEC. Regional Workshop held on January 24, 2019. Potential Impacts and Adaptation Options for Electricity and Natural Gas Systems from Climate Vulnerability in San Diego Area. Slide deck available at: http://www.climateassessment.ca.gov/events/docs/20190124-Slides\_ICF.pdf

<sup>&</sup>lt;sup>16</sup> ICF. Case Studies of Natural Gas Sector Resilience Following Four Climate-Related Disasters in 2017. https://www.socalgas.com/1443742022576/SoCalGas-Case-Studies.pdf

electric transmission and distribution infrastructure needed to support the increased demand from electrification policies attempting to be applied to transportation and buildings.

This is not an isolated anomalism. As we know, the impacts of global climate change are set to continually increase in severity, which will result in more severe wildfires, storms, and floods. Given the vulnerability of the electric system to such impacts, as seen not only in California but across the country<sup>17</sup>, it seems counterintuitive to adopt a building energy policy that relies solely on one source of power. When the state experiences another devastating fire, the electric lines will be damaged, preemptively shut off, or both, which will cut power to thousands of residents and could very likely take weeks to restore. In such situations, residents will be left quite literally in the dark, with no way to heat or cool their homes, cook, or shower. Heat sensitive uses will also be without power, including hospitals, cooling centers, and senior centers/homes. Batteries may be able to provide temporary power but will not be able to sustain these uses for weeks on end. Further, solar panels will not be able to provide charge to the batteries during storm conditions (where there is cloud cover), or wildfires (due to smoke obstruction). Solar panels are also shutoff during power outages or when utilities do preemptive power shutoffs, so that even if sunlight is available, the solar panels won't be operable, leaving residents stranded and without power<sup>18</sup>. These uses will experience increased suffering during such climate events when served by only a single energy source.

Because the TDV analysis does not account for these considerations, the current conclusion that the societal value of electric power is superior to that of the gas system is both inaccurate and uninformed.

<sup>17</sup> Ibid

<sup>&</sup>lt;sup>18</sup> Third Sun Solar. "Does solar work in a blackout?" May 2013. <a href="https://thirdsunsolar.com/residential/does-solar-work-in-a-blackout/">https://thirdsunsolar.com/residential/does-solar-work-in-a-blackout/</a>

California's Clean Energy Future

# Imagine the Possibilities





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# Introduction



California has led the way in setting goals to reduce greenhouse gas (GHG) emissions and in getting consumers to be more energy efficient. In fact, California energy efficient. In fact, California energy efficiency efforts—which began in the 1970—have been a significant factor in the state's per capital efectricity use remaining relatively flat over the last 40 years.

Landmark legislation passed in 2008, known as AB 32, sat into law requirements for California to reduce its GHG emissions, mandating the state reduce its GHG emissions to 1950 levels by 2020, California accomplished this goal four years shear of schedule in large pert because of investments in wind and solar technologies, aggressive energy efficiency goals, and the movement away from coal to netural gas.

In the fall of 2018, California set its sights on achieving an even more ambilious goal; carbon neutrality and 100 percent clean energy by 2045. Making this vision a reality will not be easy. As Governor Brown parts. 100 percent clean energy and carbor neutrality by 2045. "[putt] California on a path to meet the goals of Paris [Climats Accord) and beyend. It will not be easy. It will not be immediate, But it must be done."

For many, California is a leat case to determine whether it's possible to draetically cxt GHG emiscions while still emjoying robust econemic growth. It's a venture on which California is alkaning its leadership, and other states are watching closely to inform future policy decisions. To have any meaningful impaction global GHG emissions, California—which methis less than 1 percent of global GHG emiscions—will med to develop scalable solutions that can work and are likely to be adopted by California emergy consumers, as well as other regions of the country and around the world.

There is no clear path today to reach Dallfornia's carbon neutral vision. The clate's investment in solar and wind technologies has made them price comprete and is a proof point of remevable energy innovation. Similar po

A more inclusive approach is going to be needed—one that to technology-neutral, welcomes all Ideas, considers all forms of energy, and that encourages and allows for innovation. Any energy solution will also need to factor in cast to people to be able to work and live here and businesses to remain, Celifornia must find a way to achieve the state's ambitious climate goals that is offendable.

Such an approach requires California to think more broadly about other forms of renewable energy, such as renewable natural gas. (RNG), We will also need to learn from and collaborate with others in the U.S. and abroad to advance other forms of energy, such as hydrogen, for utilities "decadence" our energy streams. These ideas, elergy with technology-resultad pictices that allow for the advancement of nascent and future innovations, are what will be needed for California to realize its carbon-negular vision.

SoCalGas is focused on becoming the cleanest natural gas utility in North America, and is committed to 20% RNG being delivered in our system by 2030.

# California's **Energy Landscape**

# Answering Three Fundamental Questions

California has reduced its GHG emissions by \$1 percent' since the passage of the landmark Global Warming Solutions Act 2006 (AB 32). These results were fueled by innovation on a

The state loyer and the state of the U.S., by contrast, that increased by show 35 percent. I tegislation passed in 2015, known as the Clean Energy and follution Reduction Axt (SB 350), set California on an even more mixibilities path, requiring the state to double its energy efficiency asvings by 2030—a mandate squivalent to evicining the annual efectivity use of 12 million fusionableds and the natural gas consumption of more than 3 million horses.

### valile Electric Generatio

Tria Renewable Portfelio Standard (RPS), along with the use of natural gas instead of coal as a base fuel, has helped to reduce the GMC footprint of California's electricity sector. From 2007 to 2015, California's consumption of coal-generated electric power drapped 60 percent—the steepest percentige decrease of any otals. 'Still, coal has not yet been eliminated as a source of electricity in the elate. California also has reduced its use of inticionary of the coal and the california also has reduced its use of inticionary power. The stale's last operating nuclear power plent is idlated to close in August 2025.

Through policies, investments and incentives, the state has built the targest solar market in the nation. While energy projects totaling at least 5,454 megawaits (MV) of capedly are operating in California foldary. providing enough electricity to power more than 2 retilion California households. \*This represents more than a tricking of wind energy capacity since California's RPS law was adopted in 2002. Today. 20 general of California's total in-state-generalion comes from solar and wind.

Natural gas has enabled the growth in renewable goneration by addressing Intermittency Issues and ensuring a continuou power supply when renewable sources go down. For long-ter reliability, need pole-ymakes understand that natural gas will need to continue to play a role.

The transportation sector continues to be California's biggest errissions challenge and opportunity. Since 2006, the state has reduced errissions from the sector by nearly 10 percent." California Indroduced the Low Carbon Fuel Standard (LCFS) during the same period, establishing the most stringent fuel standards in the U.S. Despite these efforts, emissions from the transportation sector increased 2 percent from 2015 to 2016, in line with post-recession economic growth.\*

Much of the state's stategy to reduce on-road emissions has centared on the transition to electric vehicles, but consumer adoption has been slower than anticipated. As of May 2017, only 300,000 ero entirestory whethers (ECVs) and plug-in hystrist (PHEVs) had been sold in California "Governor Broon challenged California to do nore, by issuing Executive Order B-46-18. It set a target of 5 million ZEVs on California roads by 2000, supported by a network of new slectric charging and hydrogen fweing stations.

On the economic front, California's Gross Domestic Product (GDP) during this same period increased by almost 16.5 percent, from \$1.97 fulloon to \$2.3 faillion. \*Californians, however, flavor not reaped all of the benefits. By a number of other important measures, quality of life in Californians is not keeping pace with the states (DPP Housing proces continued to climb—with only \$1 in 10 Californians able to allord a median-pixed home. \*Rent prices have increased to a percent since 2005—with Californian cretes poying almost 50 percent more than the U.S. median price. \*Event with Californian's leading efficiency efforts, residents in the state still pay some of the hulpest electricity rates in the nation. In November 2016, households in the South Coast Basin paid 16.4 centra/Whi for electricity—37 percent more than the hastonial average. \*\*

Californians are elso experiencing a growing chasen in income-disparity, according to the U.S. Cenaus Bureavia 2017 American Community Survey, California has the fourth highest tevel of income inequality in the nation and rains's excood in forms of the rate in which is corne inequality is growing?

Energy policy directly relates to many of these costs and presents state policy riskers with a challenge of addressing competing (although not mutually exclusive) priorities—environmental leadership, economic growth at the macro level and the cost of living for average California families.

### Extending California's Leadership

Today, the state is looking to expand its leadership— eccelerating its climate goets by mendaling envisions reductions to 40 percent below 1950 levels by 2030 (SB 32), committing to achieve 100 percent clean energy by 2045 (SB 100) and espiring to achieve economy-wide carbon insutrality in the same timeframe (Eccolive Order B-55-16).

For many, California is a tost case for the rest of the country ror many, concerns as test case for the rack of the county—as experiment to determine whether it's possible to disabetally cut GHC enrissions while still enjoying robust economic gravith. It's a venture on which Californis is staking its eledership, and other states are watching closely to inform their future policy decisions

Success will depend on addressing three fundamental challenges to expending the state's use of renewable energy.

### 01 How will we store it? Addressing intermittency

The solution to Californa's renewable future is not as simple as generating mote solar and wind power and adding them to the grid. What and solar are intermittent forms of energy—they do not provide a reliable, continuous power supply—and, must importantly, the power hey generate is not always a validate when people need it must.

In fact, California totaly produces excess wind and solar power that cannot be used. To avoid overloading the grid, California either pays of the state to take the excess renewable electricity, or cut-disp production—exactly when wind and solar are most available. California is vasiting all of density. The California Independent Bystem Operator (CAUSO), which is responsible for minanging the state's electricity grid, reported cutal/ments of the state's colar and wind gimeration more than doubled from 2015 to 2017. 9

This criergy waste is expected to gray. CAISO estimates that by 2023, California will be washing between 3,300 to 7,600 GWh/yard generated by solar and/wind due in stenger, constraints. That equalities to 4 percent to 11, percent of all the electricity used in Los Angeles County very year. "Put in angiver confers, thinks anough energy to power L.A. County for more than a menoti.

As the RPS requirement climbs to 50 percent and above. thuse cutralitations are likely in increase even more sharply, the security of the second sec

To achieve dramatic GHG reductions, we must dramatically shift our thinking and foster an environment that fuels breakthrough innovation.



# 02 How will we pay for it? Addressing affordability

Expanding renewable energy in any form will be more expensive than relying solely on traditional energy sources. California will need to make smart decisions so that the pursuit of the state's climate goals does not undermine efforts to address another important priority—namely, affordable living.

access another important promy—narray, anothouse every. The real cost in living is already too high for too many Californians. According to The United Way's 2018 The Roaf Cost of Living Report, nearly 40 percent of California households are rent burdened and spend more than 30 percent of their income on housing. After housing, utility bills are Californians' next biggest financial concern. This is particularly an issue for low-income families, who spend 20 percent or more of their monthly income on energy costs, if

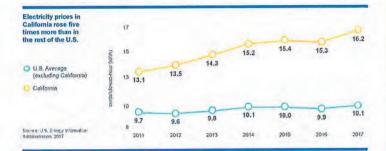
It is true that the state's investments in the wind and solar markets have driven down the costs of wind turbines and solar panels. Between 2008 and 2017, the price of solar panels per watt declined by 75 percent, "While the price of I wind turbines per watt declined by 50 percent," That, however, has not equated to lower electricity costs: During roughly that same period, the price of electricity in California increased 24 percent.<sup>30</sup>

California is not an anomaly. The price of electricity soared in other places where significant quantities of renewables were deployed—a 51 percent increase in Germany during its expansion of solar and wind energy from 2000 to 2016,<sup>27</sup> and more than a 100 percent price (jump in Demmark since it began deploying renewables (mostly wind) in 1995,<sup>27</sup>

A large protion of the future cost challenge lies back to storage. A recent Black & Vealch analysis, found that without gar-fired generation or significant cuttalliment, activiting 100 percent renewable electricity in Celifornia will require about 25,000 GWH of expactly to store energy for veaks or months. Current technologies are not able to store energy for extended periods at this scale. The cost of battery storage in California will fixely be very high—52.5 trillion by one estimate.

### California for All

Enacting energy policy that works for every Californian.





These aren't merely policy problems, they are moral imperatives. And so long as they persist, each and every one of us is diminished.

Gavin Newsom,

Inaugural Address; January 7, 2019

# California's Affordability Crisis: Why Energy Policy Cannot Be Addressed in a Vacuum







Galifornia accounts for 25% of the fre nation's homeless populations:







Celifornians pay the 2nd-highest gasoline prices in the nation 2

With a path to 2030 in sight, the road to California's 2045 goals is less clear. The total expense of reaching the 2045 target, as well as the full implications to California's consumers, is unknown. What is certain is that the decisions California makes today will have far-reaching consequences across many facets of Californians' daily lives. Success will depend on remaining open to all technologies and resources that can help create a realistic and affordable path to carbon neutrality.

open to all technologies and resources that can help create a realistic and affordable path to carbon neutrality.

103 How will we get people to adopt it?

Addressing consumer behavior

To meet the 2045 goals, California must change consumer thinking and behavior to increase energy conservation, shift energy use to different times of the day and embrace clean vehicles.

To date, California's Clean Vehicle Rebate Project has distributed nearly \$525 million in rebates for electric vehicles. \*\*Despite policy efforts and investments, emissions from cars, and trucks, elecarly California's biggest source of GHGs, have increased over the last several years.

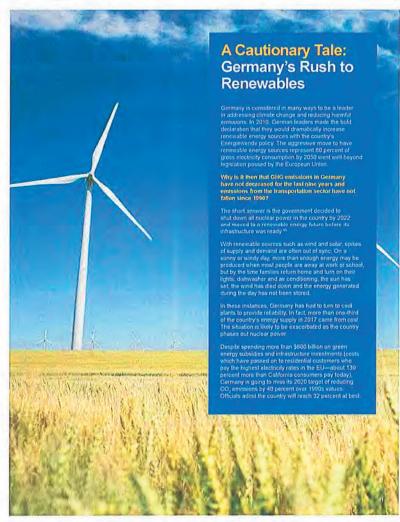
The increase in vehicle emissions has been attributed to a combination of low gas prices, a growing economy, consumers' preference for roomier, less-efficient vehicles and a slower-lhamanticipated transition to olectic models. "A of May 2017, only 300,000 ZEVs and plug-in hyporias (PriEVs) have been cold in California." That number represents just over 1 percent of the nearty 25.5 million automobiles on California." That number represents just over 1 percent of the

One lesson from the slow adoption of ZEVs in the transportation sector is that the more California's GHG reduction targets rely on consumer behavior change, the more those targets are at risk. Preserving choice, providing affordable options and minimizing disruption to people's daily lives are all important strategies to inspire consumer adoption.

# How we innovate matters.

As California policymakers set the path to achieve carbon neutrality in less than three decades, storage, affordability and consumer adoption should weigh significantly in the conversation. California has the fifth-largest economy in the world, "even though its carbon footprint is quite small (less than 1 percent of global GHG emissions)". To lead on the global stage—beyond setting an exampte—California will need to develop scalable solutions that can work and are likely to be adopted both here in California and elsewhere.





# Achieving Environmental Goals 2030 and Beyond

Achieving carbon neutrality in less than three decades will require:

- Building a reliable and resilient infrastructure with utility-scale, seasonal storage for wind and solar power;
- · Inspiring rapid consumer adoption with scalable and affordable energy options;
- Setting technology-neutral policies that will drive innovation to reduce GHG emissions.

California's carbon-neutral future depends on leaders in the private and public sectors embracing and developing diverse fechnology solutions, bolstered by policies that foster innovation. If California limits is options, it intities the future. Creating an integrated, multi-faceted strategy will provide the innovation necessary for teaker California's bold vision and facilitate national and global adoption.

A more integrated energy system will be needed, where the natural gas and electric systems work together to achieve maximum emissions reductions and relability. It will also need to draw on the collective power of natural gas, renewable natural gas, wind, solar, hydroelectricity, batteries, and Powertor-Gas—as well as yet-to-be-developed technologies—to meet the state's energy demands, while reducing GHG emissions and rein/mixing disruption and costs for Californians.

Today, there are technologies that have been testled and proven in other parts of the world that are untexped here in California Camplementing the state robust build-out of wind and solar generation, these technologies will help maintain a reliable, resilient and renewable energy system. They also do not require consumers to change out existing infrastructure.

Leaders in the private and public sectors have the opportunity to work together and re-imagine how our energy infrastructure can operate as one integrated system.



# Reducing Our Waste

# Renewable Natural Gas (RNG)

For every methane molecule we take out of the atmosphere, it's the equivalent of removing 25 molecules of carbon dioxide (CO<sub>2</sub>).<sup>48</sup> Today, more than 80 percent of California's methane emissions come from daily human life activities that create waste.<sup>47</sup>

Renewable natural gas gives us a way to mitigate and reduce emissions from the state's largest methane emitters.

### Here's How RNG Works



Natural gas is essentially methane (CH.)—an organic, naturally occurring gas that comes from decomposing matter. You can procure natural gas from the ground through drifting underground (thermogenic) sources or, like electricity, you can generate it from renewable, above-ground (blogenic) sources.

Methane is a natural byproduct of our farms, our kitchens, and our toilets. In other words, you produce methane every day. The largest sources of methane envisions in California—more than 80 percent—come from agriculture, dairies, landfills and waste water. <sup>5</sup> We can capture those emissions, prevent them from going into our atmosphere, and convert them to renewable natural gas to fuel our homes and vehicles.

RNG is created by re-purposing the methane that otherwise would be escaping into the atmosphere. This means its overall impact on the climate is cathon-neutral or even culton-negative. For example, when a clean heavy-duly truck is fueled with RNG created from a disry, more cathon is removed from the atmosphere than is emitted from the tailpipe. "

In addition to reducing the carbon content of our natural gas supply, RNG gives us a clear and practical path to help California chieve the goals set in the Short-Lived Climate Pollutants Reduction Plan (SB 1383), by largeing the state's largest methane emitters. Reducting methane emissions represents a significant person of the California Air Resources Boards Ecoping Plan to achieve the state's GHG reduction goals.



# Driving Down Emissions Through Efficient, Distributed Generation

Electricity is an inefficient form of energy—it loses power as it travels over distance. Most of California's solar fields, wind farms and power plants are located far from major population centers. We end up having to generate a for more electricity to make up for the power that is lost over transmission and distribution lines.

Distributed generation helps to address this challenge it is small-scale electric generation located in the community where the energy is used. The most familiar example of distributed generation is rooflop solar panels (hobovoidla) existens).

Twenty years ago, opponents of solar claimad it would never be viable in California—that the costs would be too prohibitive. After the state invested and created stocentives. California brids thed! in this situation where distributed solar generation in a growing and critical part of the state's energy mix. California has similar opportunity with other forms of distributed generation in fact, these technologies can enable renewable renewable and make cleaner effectivity.

Fuel Cells - A battery storee electricity, but a fuel cell can generate it. Similar to a battery, a lucifical cell is comprised of many individual cells that are grouped together to form a fuel cell stack. When a hydrogen rich fuel such as clean natural gas or renewable natural gas enters the fuel cell stack, it reacts electrochemically with oxygen (i.e., ambient air) to produce electric current, heat and water, While a hydraid battery has a fixed supply of energy, fuel cells confusiously generate efectivity as long as fuel is supplied. Fuel cells can help to misgate Calfornia's fire risk as well—by supplying power in backcountry focations using natural gas where available or hydrogen created through power-to-gas technology.

Combined Hold and Power (Co-Generation) – Distributed co-generation sources use flaam hubines natural gas-fired field cells, micro hubines or reciprocating engines to hair generations. The hold exhaust is then used for space or wighter healing, or to drive an absorptive chiller for cooling such as alreadisoning. The technology can run or nerverable natural gas or lowcathon fields to further reduce emissions.

Visite-to-Energy: -Vinen municipal solid waste and natural waste such as sewage subge, food waste and animal manuse decompose, they discharge a mitanticontaining as that can be collected and used as fuel in gas furbines or micro furbines to produce electricity as a distributed energy resource. This power can be used in lieu of grid power at the waste source (a treatment plan farm or dairy).

# **Focusing Our Efforts**

Understanding the apportunities to reduce Celifornia's carbon footprint begins with understanding the overall tandscape of the state's GHC emissions. The transportation sector is the largest centificate to California's GHC emissions, contributing 4.5 percent of the Idol. Next is the industrial sector at 23 percent, Idolewed by electicity at 16 percent, and several econs with relatively smaller contributions, including residential buildings and commercial buildings at 7 percent and 5 percent respectively.



Briefe Caltuma Air Remandre Briefe, 2018 Greenenius Carea Emilysien Intentiny, 2016 Magnarie Emilysiens % strial

Some state leaders are pushing to transition California's energy supply to a single source; renewable electricity. This strategy is porhape most prominent in discussions around decarbonizing California's building sector, which receives a disproportionate monornt of attention given that the sector represents 12 percent of the slade's total emissions, "I and that it would require replacing exhaling missions of California homes and businesses. But that document on the percent is the sector promise that the sector promise homes are designed in the sector promise and businesses. But that document on the percent is set to the promise sector in the sector promise sector.

A 2018 study by Navigant Consulting shows that there is no need to electify California's building sector to meet state climate goals. The study concludes that California' should address the role of renewable gas as part of its low-carbon building strategy."

Adding less than 20 percent renewable gas to California's gas supply by 2030 can achieve the same outcome as electrifying the entire building sector; while continuing to allow consumer choice to meet their energy needs, as well as avoiding future building and appliance change-out mandates.

Importantly, the study finds that reducing the carbon content of the gas supply by adding renervable gas to displace traditional gas can be eignificantly loss cody, and is far more cost effective in reducing GHOs, than building electrification.

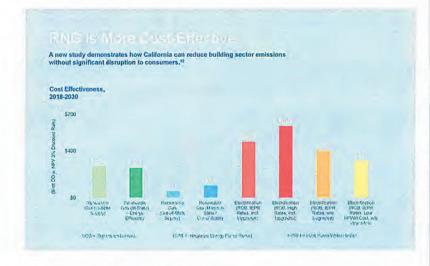
A balanced rolx of both in- and out-of-state resources (reflecting today's reality with both renewable electricity and renewable gas) is three lines more cost effective in reducing GHGs than any electrification pathway.

Achieve the same GHG reductions as overhealing 100 percent of California's buildings to all electricity with <20% RNG

Sourced from the likely mix of in- and out-of-state feedstocks,

RNG is significantly more cost effective

Science: Analysis senducted by Nangard Consisting dated on its 10 fb report. Our Sindinges for a Lore Conton Cathorial Facure. The professor further or give on 10 million report not been updated for reflect the 2003 50 process. ARS good excellentation in 8th 100.



# Reducing Emissions Today

GR&R Environmental provides a view into what's possible.

CR&R, one of the largest waste and recycling companies in Southern California, has successfully put RNG to work. They've bulk what is believed to be the world's largest and most automated anaerobic digester, which allows them to produce RNG from organic waste.

The RNG CR&R produces is injected into the SoCalGas system and used to fuel approximately 400 of their waste habiling trucks. Convexting just one of CR&R's trash trucks from diesel to natural gas is the pollution reduction equivalent of taking 325 cars off the road, which means CR&R's fleet of RNG trucks is reducing GHG emissions by the same amount as taking approximately 130,000 cars off the road!

This story is one example of the 40 RNG projects occurring right now in California. RNG also allows for waste products to be converted into new revenue streams, boosting the contemp of regions of the state—like the San Joaquin Valley—where there are feedstock opportunities.





1

# RNG as a transportation fuel has a negative carbon intensity

- By switching to renewable natural gas, we can reduce vehicle GHG emissions by 80 percent.<sup>50</sup>
- Renewable natural gas gives us a way to prevent emissions from biogenic sources from going into the etmosphera, by capturing and converting them into a renewable fuel to power our vehicles.
- Renewable natural gas produced from food and green waste has a negative carbon intensity. That means it's not just carbon-neutral, it schoolly takes carbon out of the air.<sup>44</sup>

Carbon Intensity Rating of Key Transportation



Theires California An Managera's Georgians | LCFG Foot Pointings to be Permany 2017. According to the principle back apply being







# If cows were a country, they would be in the top five emitters in the world."

In one succinct statement, Microsoft bunder Bill Gates villustrated the scope of the environmental challenge and opportunity to reduce emissions from animal againstatute. In California stone, Eventock and dairies represent 8 percent of the state's GNG emissions, and more than half—55 percent—of the state's GNG emissions, and more than half—55 percent—of the state's methance emissions. If

In October 2018, Renewable Dairy Foels opened the nation's largest dairy renewable natural gas plant, in Jasper County, Indiana. The operation collects doily wrists from 16,000 miking cows on four farms, furning 945 tons of cow manuse each day into fuel for transportation, delivered through Northern Indiana Public Service Company's (NIPSCO) natural gas pipeline system.

between company a verrous presence are presented at a digester facility built by Colgren Dairy Fuels in Pickey, California began towing into SocialGas pipelines. Calgren's facility, known as a dairy digester pipeline custer, will eventuelly collect biogas from anaerobic digesters at 12 Tufare County darries, then cloan it to produce pipeline-quality terrouvable natural gas. This is the first such dairy digester pipeline cluster in California, and is expected to be the largest dairy biggas operation in the U.S. when Calgren adds nine additional dalies futer in 2019. The facility will capture

the methane produced from the measure of more than 75,000 cows, preventing about 130,000 tons of GHGs from entering the atmosphere eachy part—the annual equivation of taking more than 25,000 posenger cars off the road. ScCalGas will be capable of adding up to 25 billion cubic fact of renevable notural gas each year to its pipeline system from the facility.

These are examples of the many renewable natural gas projects happening across the country. With current regulation and incentives, it is estimated that California has about 100 billion cubic feet (Bof) of renewable natural gas supply. "Outside of California's borders, the U.S. is producing 1 trillion cubic feet (Tof) of renewable natural gas. That number is expected to increase tenfold by 2030.\*

By Investing in in-state renewable natural gas projects and expanding feedstocks to include out-of-state sources, California can make significant progress in achieving the goals set in the Air Resource Board o Short-I-ved Climate Poliulants Plan. It will also provide California residents with a cost-effective way to power their homes, businesses and cars with a clean-burning, renewable fuel.

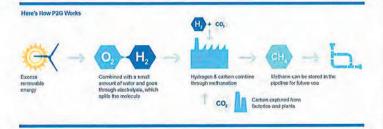
110

# Utilizing Current Infrastructure

# Power-to-Gas (P2G) Technology

Today, when excess electricity is generated from solar and wind, California either has to dump it or pay other states like Arizona to take it from us. While batteries can help store some of this excess energy, they will not solve the storage problem alone, especially for long-term storage needs.

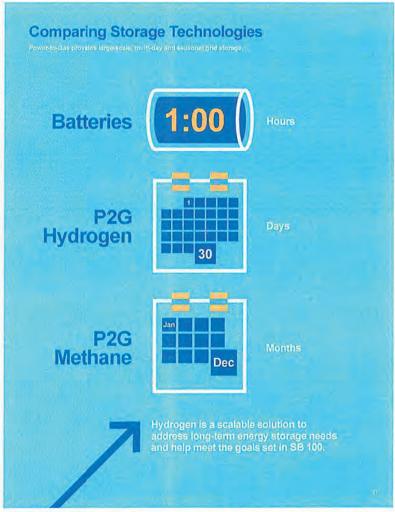
Rather than wasting the energy batteries cannot store, we can convert it into renewable gases using a process called "Power-to-Gas." Through this process, we can use our existing natural gas infrastructure to store the renewable energy and make it available where and when people need it.



Power-to-Gas works by taking excess electricity generated from solar and wind, combining it with a small amount of water and running it through electrolysis. The electrolysis process converts the electrical energy into chemical energy and splits the molecules into pure hydrogen and oxygen.

The oxygen can be soil and used for other applications such as healthcare. The hydrogen gas can be used as a fivel or some of it can be stored in existing pipelines. Additionally, the hydrogen can be combined with CQ, and run through the process of melhanation to create renewable methane. The clean, renewable methane produced through the Power-to-Gas process can be stored in the existing pipeline system for use when people need it. That means infrastructure is already in place to store and deliver the renewable energy of any time of day, during any season. We can use the hydrogen produced through electrolysis in the Power-to-Gas process to fuel power plants and for other industrial applications, such as metal refining and fertizer production. Hydrogen is also a zero-emissions fuel that can help reduce emissions from the millions of cars and trucks on California's roads. Some percentage of hydrogen also can be injected into the natural gas stream in further reduce the carbon content of the natural gas supply.

The renewable gas produced through methanation in the Power-to-Gas process can be delivered to Californians through the existing pipeline infrastructure and used for cooking, as well as for space and water heating. And, as a fuel for mobile generators, renewable gas supports system reliability during emergency situations. It can also be used as a transportation fuel



# Reality Check: The Real Impact of 100% Renewable Electricity

When SB 100 was signed by Governor Brown, at challenged the California Energy System to transform to 100 percent Cladiornia Energy System to transform to 100 percent Cladiornia Energy by 2045. To date, state leaders have focused on electrification behavior to be called transformation—pockles almed at transitioning home transformation—pockles almed at transitioning home decreases, equipment and vehicles to electricity, and decreated preferration, implementation of SB 100, however, could create unintelled economic hardships and actually increase GHG emissions.

An analysis conducted by Black & Vealch underscores the potential impact of 100 percent renewable electricity on Galifornia, based on several scenarios with high-level assumption to reliable qualitative disciplinary of the property of the

tenewable electricity.

All scenarios in the analysis indicate that 100 percent renewable electricity requires a significant increase in renewable electricity requires a significant increase in renewable especify, storage and transmission build-out beyond Californias current information of the significant increase processing to exhibit a solar and energy storage. California energy at each of a renew growing and solar capacity at accept a specifically to exhibit a solar capacity at a cost of approximately \$13.5 leads and solar capacity at a cost of approximately \$13.5 leads and solar capacity at a cost of approximately \$13.5 leads and solar capacity at a cost of approximately \$1.5 leads and solar panels would be approximately 1,600 square miles, with four fines the four fines the solar panels contained and panels cost and fand availability are only too variables; we must allow took at the technology is finded only allowing for a few preded to ensure relability and capacity. Current battery storage technology is finded storage capability is needed to ensure relability and reallency to meet variable demand loads at vanous times of day and across seasons.

The analyses also varies of potential unitended consequences of an all-electrically. The check of the control o

transportation sector.

This reality check on the unintended consequences of using a single source for energy generation frightights the importance and the need for a robust balanced energy policy in California. If infrastructure cost or the control of the control of the cost of th

# Comparison of Energy Storage Alternatives



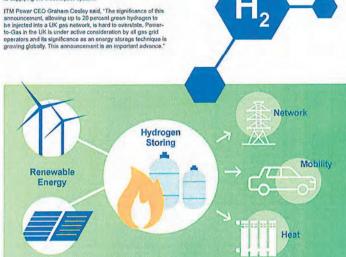
Ma rydrogenor spransk metana Susce-Ela Enelly Technology Hondaup, Hydrogen and Fuel Cells

# The UK's First Practical **Demonstration of Hydrogen**

A groundbreaking trial that could help Britain dramatically cut its carbon emissions and open the door to a low-carbon hydrogen economy was recently approved by the Health & Safety Executive (HESP,\*7 The United Kingdom's HyOopboy project will inject hydrogen into an existing natural gas network.

In a year-long pillot due to start in 2019, HyDeploy will blend up to 20 percent of hydrogen (by volume) with the normal gas supply in part of Keele University's gas network. Customers will continue to use gas as they do today, without any changes to gas epitaines or pipework. Energy storage and clean fuel company ITM Power is supplying the electrolyzer system.

Announced in November 2018 and backed by Olgem's Network Innovation Competition, the £7 million project is being led by gas network Cadent. In partnership with Northern Gas Networks, Keela University and a consortium of technical experts.



Battery storage may feel like a headline act in the transition. But ultimately it will play second fiddle to hydrogen."

Francis O'Sullivan,



# UC Leads the Way to Carbon Neutrality

The University of California recently announced ambilious plans to be carbon neutral by 2025—and renewable natural gas and hydrogen will play a significant role in achieving its goal.

As part of its strategy, UC has set a larget for at least 40 percent of the natural gas combusted on-site at each campus and health location to be fueled by bloges by 2025.9

The UC system is already a consumer of biogon at multiple campuses. For example, UC San Diego purchases biogastredis from a sewage treatiment plant on Point Loma, about ten miles oway. Biogos from the plant is injected into the natural gas pipeline system on Point Loma where it displaces conventional gas. UC San Diego then draws conventional gas to power a fuel cell. The credits allow the fuel cell to qualify as a renewable energy cource, earning valuable financial treatment under California policy.

UC also is a teader in ploneering Power-to-Gas technology. Research conducted at the University of California Invine (UCI) and fixeded by SoCalifos demonstrated in 2017 that the campus micro-grid could increase the portion of renewable energy if uses, from 3.5 percent to 35 percent, by Implementing a Power-to-Gas strategy.\*\*

# Using Power-to-Gas, UCI demonstrated it could increase its renewable energy use from 3.5 percent to 35 percent.

The study used data from the UCI campus micro-grid, which includes solar panels that produce about 4 magawatts of peak power. Simulations showed that by slonning excess solar power on sunny days and using an electrolyzer to produce renewable hydrogen, the micro-grid could support an additional 30 megawatts of solar panels.

an addisonal 30 megawatis of solar panels.

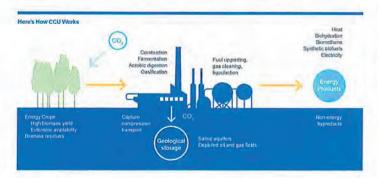
\*The ability to increase the mix of renovables on campus by tenfold is truly significant," said Jack Brower, professor of mechanical & aetospace engineering and crivil & environmental engineering at UCI and associate director of the Advanced Power & Energy Program (APEP). With Power-Io-Gas technology, you don't need to stop renewable power generation when demand is low. Instead, the excess electricity can be used to make hydrogen that can be entegrated into existing natural gas pipeline infrastructure and stored for later use. The Southern Culifornia Gas Company system alone is made up of over 100,000 mixes of pipeline. This study suggests that we could leverage that installed infrastructure for atorege and significantly increase the amount of renewable power generation deployed in cellifornia.

# Capturing and Using Carbon

# Carbon Capture and Utilization (CCU)

Carbon is the building block of life. Many of the products we use every day—our computers and smart phones, our cars and the plastic Tupperware in our kitchens—are made with carbon.

With CCU, we can take the carbon dioxide (CO<sub>3</sub>) released from industrial processes, capture it and recycle it as a raw material to produce these products. The carbon can also be combined with hydrogen to form renewable gas to fuel homes, businesses and vehicles.



CCU in a simple concept. Gain and particle waste produced from industrial sources like power faints, stell making or other factories is first centured. The carbon from that waste is then extracted using chemical processes and reissed as the raw material for new products. Reusing this carbon not only decreanes CO enhances into the atmosphere, but also decreanes Cost fluid use.

Many CCU technology companies are beyond the development stage and in the market graving their businesses. One California-based company is making planties from capitured cartion instead of percelurun. A Canadian company is using carbon captured from power plants to make stronger concrete. And a German computer gravity the stronger concrete. And a German computer uses waste CO, to make polymers. According to the Global CO;

Initiative, the market for products made from CO $_2$  could be more than \$800 billion and use 7 billion metric tons of CO $_2$  per year by 2030—the cutivalent of approximately 15 percent of current annual global CO $_2$  emissions.

CCU technologies follow the sustainability principles of reduce, repurpose and recycle—they simply recycle the carbon in fossil fuels. Once the fuel releases energy, the wasie is sayed to be reused where it is needed, and the use of fossil carbon is reduced. CCU will become an increasingly important strategy for California to ochieve carbon resultability.



# Confidential and Protected Material pursuant to PUC Section 583, GO 66-D, D.17-09-023

From: To: Cc: Subject:

Date: Tuesday, August 13, 2019 5:47:16 PM

Attachments: <u>image004.pnq</u>
Importance: High

Good afternoon

Regarding Comment #1, are you able to provide the data and underlying analysis that supports the \$4,400 per unit estimate? Thank you in advance, and please don't hesitate to follow up with any questions.

Sincerely,

# **Chris Read**

Sustainability Manager

SLO\_City\_E-Signature\_1



City Administration

990 Palm Street, San Luis Obispo, CA 93401-3249

E cread@slocity.org

**T** 805.781.7151

slocity.org

From:

**Sent:** Friday, August 9, 2019 3:24 PM **To:** Read, Chris <cread@slocity.org>

Cc: Tomkins, Sharon <STomkins@socalgas.com>; Carrasco, Andy <ACarrasco@socalgas.com>;

Subject: SoCalGas Letter - City of SLO Building Code Changes - Electrification

# On behalf of Sharon Tomkins

-

Good afternoon Chris,

Attached please find the SoCalGas Letter – City of SLO Building Code Changes – Electrification and white paper.

Below is the link for the white-paper.

https://www3.socalgas.com/sites/default/files/1443742344191/scg-vision-paper-04032019.pdf

Thank you,





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# Confidential and Protected Material pursuant to PUC Section 583, GO 66-D, D.17-09-023

From: TERM-2019-09-06 Caldwell, Alan K

To: Read, Chris

Cc: Tomkins, Sharon;
Subject: RE: Response to Your Data Request
Date: Monday, August 26, 2019 4:35:57 PM

Attachments: <u>image003.pnq</u>

Hi Chris, hope you had a good weekend. As a follow-up to your email, below are responses to the information you requested:

- Direct cost refers to the total company cost for work requisition order. It does not include any allowances referenced under Rule 20.
- Work requisitions can consist of a single service or multiple services per site. The \$4,400 cost estimate averaged work requisitions that were both single service and multiple service.
- The work requisitions estimate we provided (\$4,400) included main line and lateral services, but not meter.
- The \$4,400 cost estimate was a 3-year average for orders from 2017-2019 to date.

Please note, the \$4,400 cost provided was a conservative estimate across our entire service territory. To provide you with a cost estimate specific to our San Luis Obispo service territory, please find this data below. This data will be more accurate for your analysis. Note, these cost estimates (distinguished between single family and multi-family, as requested), include meter costs in addition to the other services and are average costs for projects between 2017-2019.

# Single Family Construction

Total # of Dwelling Units	Sum of Contract Cost	Sum of Allowance Applied	Sum of Net Cost	Avg Contract Cost per Unit*	Avg of Net Cost to Builder per Dwelling Unit (pre tax)**
1045	\$ 1,422,566	\$ 880,964	\$ 515,590	\$ 1,361.31	\$ 493.39

<sup>\*</sup> Determined by dividing the total contract costs by total number of dwelling units

### Multi-Family Construction (service + meter)

Total Projects	Total Dwelling Units	Total Contract Costs	Total Allowances	Total Net Costs	Avg. Cost Per Project*	Average cost per unit**
13	158	\$87,421	\$83,941	\$3,088	\$6,724.71	\$553.30

Avg. Net Cost to	Avg. Net Cost to
Builder per	Builder per
Project***	Dwelling Unit****
•	8

<sup>\*</sup>Determined by dividing total contract costs by total projects

# Multi-Family Construction (main + service + meter)

Total Projects	Total Dwelling Units	Total Contract Costs	Total Allowances	Total Net Costs	Avg. Cost Per Project*	Average cost per unit**
7	1599	\$227,836	\$196,572	\$24,285	\$32,547.94	\$1,432.93

Avg. Net Cost to	Avg. Net Cost to
Builder per	Builder per

<sup>\*\*</sup> Determined by dividing the total net costs (contract costs minus allowances) by total number of dwelling units

<sup>\*\*</sup>Determined by dividing total contract costs by total dwelling units

<sup>\*\*\*</sup> Determined by dividing total net costs by total projects

<sup>\*\*\*\*</sup>Determined by dividing total net costs by total dwelling units

Project***	<b>Dwelling Unit****</b>
\$3,469.29	\$152.74

<sup>\*</sup>Determined by dividing total contract costs by total projects

From: Read, Chris <cread@slocity.org>
Sent: Wednesday, August 21, 2019 2:25 PM
To: Caldwell, Alan K <ACaldwell2@socalgas.com>
Cc: Tomkins, Sharon <STomkins@socalgas.com>;

Subject: [EXTERNAL] RE: Response to Your Data Request

Mr. Caldwell,

Apologies for the additional request, please also provide the following:

Please disaggregate the data to provide a per unit cost for single-family and multi-family projects.

Sincerely,

Chris

From: Read, Chris

Sent: Wednesday, August 21, 2019 12:45 PM
To: Caldwell, Alan K < ACaldwell2@socalgas.com>
Cc: Tomkins, Sharon < STomkins@socalgas.com>;

Subject: RE: Response to Your Data Request

Mr. Caldwell,

Thank you for providing this information. In its present form, it is insufficient for our analysis. Can you please provide the following additional information:

- · Please define "direct cost" as it relates to Rule 20.
- Please define the scope of all "Work Requisitions" (does it include main line, lateral, meter, etc.?)
- Please define the scope and timing of "Work Requisitions" (does each site have a single work requisition; are there instances where there are multiple requisitions per site?)
- Please provide data for any full years, as available, for comparison.

Sincerely,

# Chris Read

Sustainability Manager

SLO\_City\_E-Signature\_1



City Administration

990 Palm Street, San Luis Obispo, CA 93401-3249

**E** <u>cread@slocity.org</u> **T** 805.781.7151

<sup>\*\*</sup>Determined by dividing total contract costs by total dwelling units

<sup>\*\*\*</sup> Determined by dividing total net costs by total projects

<sup>\*\*\*\*</sup>Determined by dividing total net costs by total dwelling units

# slocity.org

From: Caldwell, Alan K < ACaldwell2@socalgas.com >

Sent: Monday, August 19, 2019 2:59 PM
To: Read, Chris <cread@slocity.org>

Cc: Tomkins, Sharon < STomkins@socalgas.com >;

Subject: Response to Your Data Request

Dear Chris,

On behalf of Sharon Tomkins, VP, Strategy and Engagement, we thank you for your patience while we gathered the background information from our team. The \$4,400 per unit estimate for gas installations in SoCalGas' service territory stated in our August 9, 2019 letter was determined by dividing the total cost of all gas installations in our service territory in 2019 (year to date) by the total number of installations. These numbers are shown in the table below.

Sum Direct Cost*	Count of WR Number**	Avg Direct Cost per Order
\$ 106,853,977	24286	\$ 4,400

<sup>\*</sup>Sum of Direct Cost – actual total cost of all Work Requisitions (i.e., work orders)

I hope this information is helpful and please let me know if you need anything else. We would welcome the opportunity for further discussions about how SoCalGas can support the City's carbon reduction goals.

Sincerely,

Alan

### Alan K. Caldwell

### Director of Energy Policy & Strategy

Southern California Gas Company
555 W. Fifth Street, GT21C5 | Los Angeles | California | 90013
O: 213.244.2216 | E: acaldwell2@semprautilities.com



This email originated outside of Sempra Energy. Be cautious of attachments, web links, or requests for information.

<sup>\*\*</sup>Count of WR Number -total number of Work Requisitions included in the direct cost sums