

BOARD MEETING DATE: March 4, 2016

AGENDA NO. 37

**PROPOSAL:** SCAQMD Comments on CARB Plans to Mitigate Methane Emissions Resulting from Aliso Canyon Gas Leak

**SYNOPSIS:** Staff has prepared a comment letter, consistent with the December 2015 Board Resolution, requesting that funds be dedicated to benefit Porter Ranch that includes recommendations to CARB regarding projects to mitigate the methane emissions from the Aliso Canyon Gas Leak. This action is to approve the comment letter and direct staff to send the letter to CARB.

**COMMITTEE:** Stationary Source, February 19, 2016, Recommended for Approval

**RECOMMENDED ACTION:**

Approve submittal of comments to CARB on the development of the Aliso Canyon Climate Mitigation Program (Attachment).

Barry R. Wallerstein, D.Env.  
Executive Officer

PF:JW:AK

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**Background**

The natural gas leak at Aliso Canyon was first detected on October 23, 2015 and lasted for 118 days before the well was capped on February 18, 2016. The South Coast AQMD (SCAQMD) received 2,340 odor complaints and since October 24, 2015 has sent inspectors to perform ongoing site inspections, complaint investigations, and surveillances at the Aliso Canyon site, in Porter Ranch, and other downwind residential areas. In response to this event, the SCAQMD established an extensive local monitoring network that included mobile methane measurements in the surrounding communities, fixed monitoring sites, air analysis from individual complaint locations, and measurements at the leaking well. On November 5, 2015, the SCAQMD issued SoCal Gas with a Notice to Comply to safely and expeditiously stop the release of natural gas from the affected well site. This was then followed with SCAQMD served

SoCal Gas a Notice of Violation for creating a public nuisance on November 23, 2015. On January 23, 2016, the SCAQMD Hearing Board issued a comprehensive abatement order that, in part, required SoCal Gas to take immediate action in reducing odors and air pollution from the leaking well. The SCAQMD has been and continues to work closely with other agencies and the public to present information in response to the concerns of thousands of residents.

The Aliso Canyon Gas Leak created significant health concerns for nearby residents, increased stress, and disrupted the lives of thousands of residents, affected the education of thousands of children, and created economic impacts to home values and nearby businesses. Although the well has been sealed, the longer term community impacts will need further investigation and monitoring.

Currently it is estimated that the Aliso Canyon leak released over 190 million pounds of methane. Methane is a potent greenhouse gas that also increases background ozone levels. The release of this methane will remain in the atmosphere for over a decade with implications for both the climate and air quality.

SoCal Gas Co. has stated their intent to mitigate the release of the GHG emissions associated with the Aliso Canyon leak. As directed under the Governor's January 6, 2016 emergency proclamation, the California Air Resources Board (CARB) is tasked to develop an action plan for this mitigation effort. CARB presented the background and rapid development schedule for the Aliso Canyon Climate Mitigation Program at their Board meeting on February 18, 2016 (Attached). CARB is currently seeking comments on the proposed development of the plan prior to the release of formal draft plan during the week of March 7, 2016, with intent of finalizing the plan by March 31, 2016.

The CARB presentation shows the climate mitigation programs to offset the Aliso Canyon GHG emissions will occur within California, but does not prioritize projects within the impacted Porter Ranch Community or the South Coast Air Basin. At the January 8, 2016 SCAQMD Governing Board meeting, the Board approved Resolution No. 16-1, requesting that funds obtained for GHG mitigation of the Aliso Canyon emissions first occur within the Porter Ranch Community, to the extent feasible, and then within the Basin (Attached to Comment Letter).

CARB has yet to determine how the required amount of GHG emission mitigation will be calculated. Currently, California uses a 100 year global warming potential (GWP) factor within their climate programs. However, current science has shown the warming impact of methane as being more substantial, and using a 20 year GWP is more representative of the warming impacts. The difference between using a 20 year vs a 100

GWP to estimate the climate impacts of methane is over a factor of three. Within the Draft Short-Lived Climate Pollutant Reduction Strategy, CARB has started using the 20 year GWP for methane, therefore, SCAQMD staff recommends a 20 year GWP or other lower time-period value representing the best science.

Additionally, the mitigation programs that will be implemented to offset the Aliso Canyon GHG emissions should have significant criteria and toxic pollutant co-benefits to the degree possible. The initial indication from CARB is that the Aliso Canyon mitigation projects will be focused on reducing short lived climate forcers. These compounds are currently defined by California climate programs to include methane, black carbon, and fluorinated gases. Additionally, the slow reaction of methane in the atmosphere increases background levels of ozone, making it more difficult for the Basin to achieve the federal ozone standards. Tropospheric ozone itself is a greenhouse gas and the International Panel on Climate Change (IPCC) considers ozone criteria pollutant precursors (NO<sub>x</sub> and VOCs) to be short lived climate forcers. The State, in final development of their short lived climate pollutant strategy and, in this mitigation plan, should recognize ozone as a climate forcer to further maximize the climate and health benefits of emission reduction programs.

### **Proposal**

This action is to approve the submission of the attached comment letter and conduct outreach to garner local support from local public entities on focusing the Aliso Canyon Climate Mitigation Program in the communities surrounding Aliso Canyon to the extent feasible, and within the South Coast Air Basin.

### **Attachments**

1. SCAQMD Comment Letter with Attachments
2. CARB Board Presentation

# DRAFT

March 4, 2016

The Honorable Mary D. Nichols, Chair  
California Air Resources Board  
1001 "T" Street  
PO Box 2815  
Sacramento CA 95812

RE: Development of the Aliso Canyon Climate Impacts Mitigation Program

Dear Chair Nichols,

The Aliso Canyon Gas leak has been an environmental disaster for the local community. It has significantly impacted the health of nearby residents, created stress and disruption in the lives of thousands, affected the education of thousands of children, and impacted nearby local businesses. The SCAQMD received 2,340 odor complaints from nearby residents during this event, and established an extensive monitoring program in the impacted areas. While the well was capped on February 12<sup>th</sup>, the longer term community impacts from this event will need further investigation, along with the global environmental impacts. The resulting release of an estimated 190 million pounds of methane will persist in the atmosphere for well over a decade with implications for both climate and air quality.

SoCal Gas Co has stated their intent to mitigate the release of these GHG emissions, and as directed under the Governor's January 6, 2016 emergency proclamation, the California Air Resources Board (CARB) is tasked to develop a draft action plan for this mitigation effort. CARB staff presented the background and accelerated development schedule for the Aliso Canyon Climate Mitigation Program at your Board Meeting on February 18, 2016. The draft plan is scheduled to be released during the week of March 7, 2016, with a final plan being released by March 31, 2016. Our Board is concerned that the mitigation funds and projects are not currently required to be focused on the affected communities nor within the South Coast Air Basin (Basin).

At the SCAQMD's January 8, 2016 Governing Board meeting, Supervisor Michael D. Antonovich introduced a motion to adopt the attached resolution, which was approved by all Board members present (Attachment-A). As stated in the Resolution, the Governing Board of the South Coast Air Quality Management District requests that funds for the greenhouse-gas (GHG) mitigation program be dedicated, to the maximum extent feasible, to mitigation projects for the benefit of Porter Ranch, which is the Southern California community directly impacted by the air emissions due to the gas leak, and if projects are not feasible in Porter Ranch, to be dedicated to projects in Southern California. This Resolution and corresponding letter were sent to you on January 21, 2016 (Attachment A).

This mitigation program could and should have significant co-benefits for toxic and criteria pollutant reductions, especially if targeted at reducing short lived climate forcing pollutants. As you know, the population of the Basin accounts for nearly half of the state's population despite occupying only 7% of the state's land area. The Basin accounts for over a quarter of the State's directly emitted greenhouse gases reported by facilities. These emissions, combined with the Basin's over 17 million vehicles, two of the largest ports in the world, and significant waste streams result in the Basin having GHG emissions likely to amount to 30-40% of all GHG emissions in the state. The activities that lead to GHG emissions also result in the Basin having localized toxic impacts and non-attainment of federal standards for ozone and fine particulate matter.

Attached is a list of example GHG mitigation projects that potentially could be implemented (Attachment B). These examples are just some of the possibilities that exist and an RFP process would identify the best GHG mitigation projects along with co-benefits for the local Porter Ranch community and the Basin. Choosing GHG programs through an RFP process will be the best way to select worthy projects of this type. For example, projects could include measures that provide support for locally impacted businesses, decrease pollutant exposure for schoolchildren, and implement new technologies. These projects will help develop a more resilient energy infrastructure, potentially reducing the need for natural gas storage facilities, along with reducing emissions of criteria and toxic emissions while providing economic benefits.

Lastly, methane is a powerful greenhouse gas that persists in the atmosphere for approximately 12 years before reacting to produce ozone. The last three IPCC reports have increasingly highlighted the importance of methane as a heat trapping gas in the atmosphere (Attachment C). When determining the GHG mitigation needs, California should include the latest science on methane that shows the importance of using a 20 year global warming potential (GWP). Using the more appropriate 20 year GWP, the preliminary GHG mitigation need is 7.8 million MT CO<sub>2</sub>eq compared to 2.4 million MT CO<sub>2</sub>eq using the 100 year GWP. Additionally, the slow reaction of methane in the atmosphere increases background levels of ozone, making it more difficult for the Basin to achieve the federal ozone standards. Tropospheric ozone itself is a greenhouse gas and the IPCC considers ozone criteria pollutant precursors (NO<sub>x</sub> and VOCs) to be short lived climate forcers (Attachment C). The State, in final development of their short lived climate pollutant strategy and in this mitigation plan should recognize ozone as a climate forcer to further maximize the climate and health benefits of emission reduction programs.

Thank you for your attention to the importance of prioritizing the Aliso Canyon Climate Mitigation Program within the Porter Ranch community and the Basin.

Sincerely,

Dr. William A. Burke  
Chairman, SCAQMD

Enclosures:

Attachment A: SCAQMD Board Resolution No. 16-1 and Letter to Mary Nichols

Attachment B: Examples of Select GHG Mitigation Projects

Attachment C: Methane Global Warming Potentials and Short Lived Climate Forcers

*Attachment A: SCAQMD Board Resolution No. 16-1 and Letter to Mary Nichols*



## South Coast Air Quality Management District

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### Members of the Governing Board:

January 21, 2016

Chairman  
**Dr. William A. Burke**  
Speaker of the Assembly Appointee

Vice Chairman  
**Ben Benoit**  
Mayor, Wildomar  
Cities of Riverside County

**Michael D. Antonovich**  
Supervisor, Fifth District  
County of Los Angeles

**John J. Benoit**  
Supervisor, Fourth District  
County of Riverside

**Joe Buscaino**  
Councilmember, 15<sup>th</sup> District  
City of Los Angeles Representative

**Michael A. Cacciotti**  
Councilmember, South Pasadena  
Cities of Los Angeles County/  
Eastern Region

**Joseph K. Lyou, Ph.D.**  
Governor's Appointee

**Larry McCallon**  
Mayor, Highland  
Cities of San Bernardino County

**Judith Mitchell**  
Councilmember, Rolling Hills Estates  
Cities of Los Angeles County/  
Western Region

**Shawn Nelson**  
Supervisor, Fourth District  
County of Orange

**Dr. Clark E. Parker, Sr.**  
Senate Rules Committee Appointee

**Dwight Robinson**  
Councilmember, Lake Forest  
Cities of Orange County

**Janice Rutherford**  
Supervisor, Second District  
County of San Bernardino

The Honorable Mary D. Nichols, Chair  
California Air Resources Board  
1001 "T" Street  
P.O. Box 2815  
Sacramento, CA 95812

Re: Governor's Executive Order of January 6, 2016, directing the  
Air Resources Board to Develop a Program to Mitigate the  
Greenhouse Gas Effects of the Southern California Gas  
Methane Leak Affecting the Porter Ranch Community

Dear Chair Nichols:

The Governing Board of the South Coast Air Quality Management District is very concerned about the impacts of the Aliso Canyon Southern California Gas Company methane leak on the residents of Porter Ranch. The District has been working closely with the state agencies that are helping to address this problem. We appreciate that the Governor has declared a State of Emergency regarding this situation and has directed the Air Resources Board to develop a program, funded by Southern California Gas Company, to fully mitigate the greenhouse gas effects of the methane leak by March 31, 2016.

At our January 8 Governing Board meeting, Board Member Supervisor Michael D. Antonovich introduced a motion to adopt the enclosed resolution, which was approved by all board members present. As stated in the Resolution, the Governing Board of the South Coast Air Quality Management District hereby requests that funds for the greenhouse-gas mitigation program be dedicated, to the maximum extent feasible, to mitigation projects for the benefit of Porter Ranch, which is the Southern California community directly impacted by the air emissions due to the gas leak, and if projects are not feasible in Porter Ranch, to be dedicated to projects in Southern California.

*Attachment A continued: SCAQMD Board Resolution No. 16-1 and Letter to Mary Nichols*

Thank you for your attention to this Resolution, which is also being transmitted to Governor Brown.

Sincerely,

A handwritten signature in dark ink, appearing to read "W A Burke".

Dr. William A. Burke, Ed.D.  
Chairman, SCAQMD Governing Board

Enc: Resolution #16-1

cc: The Honorable Edmund G. Brown, Jr., Governor



**RESOLUTION NO. 16-1**

**A resolution of the Governing Board of the South Coast Air Quality Management District to urge that Governor Edmund G. Brown, Jr. request that funds obtained from the Southern California Gas Company for a greenhouse-gas program to mitigate methane emissions be spent on measures to benefit the Porter Ranch community adversely impacted by those emissions, and the Southern California region to the extent that it is infeasible to conduct projects in Porter Ranch.**

WHEREAS on October 23, 2015, a natural gas leak was discovered at a well within the Aliso Canyon Natural Gas Storage Facility in Los Angeles County near Porter Ranch, and Southern California Gas Company's attempts to stop the leak have failed; and

WHEREAS major amounts of methane, a powerful greenhouse gas, have been emitted into the atmosphere; and

WHEREAS on January 6, 2016, Governor Brown issued a proclamation that declared the situation an emergency and directed various State agencies to take further action to protect public health and safety, ensure accountability and strengthen oversight of gas storage facilities; and

WHEREAS, the South Coast Air Quality Management District has been working closely with the agencies identified in the Governor's proclamation to ensure a consistent approach to protecting public health and safety and the environment; and

WHEREAS, the South Coast Air Quality Management District is seeking an Order for Abatement from its Hearing Board to, among other things, impose enhanced monitoring requirements on the Southern California Gas Company at the Aliso Canyon Natural Gas Storage Facility, require that the Southern California Gas Company fund a health study to determine the long term health effects, if any, imposed on the Porter Ranch community due to the exposure to methane and other air emissions; and

WHEREAS, the Governor's proclamation directs the California Air Resources Board, in consultation with other state agencies, to develop a program to fully mitigate the greenhouse-gas effects of the leak's emissions of methane by March 31, 2016, and provides that the mitigation program be funded by the Southern California Gas Company and be limited to projects in California;

NOW, THEREFORE, BE IT RESOLVED that the Governing Board of the South Coast Air Quality Management District does hereby approve this resolution, which is to be submitted to Governor Brown, requesting that funds obtained from the Southern California Gas Company for the greenhouse-gas mitigation program be dedicated, to the maximum extent feasible, to mitigation projects for the benefit of Porter Ranch, the Southern California community directly impacted by the air emissions due to the gas leak, and if projects are not feasible in Porter Ranch, to be dedicated to projects in Southern California.

AYES: Antonovich, B. Benoit, J. Benoit, Burke, Cacciotti, Lyou, Mitchell, Nelson, Parker, Pulido, and Yates.

NOES: None.

ABSENT: Buscaino.

DATE: 1-8-2016

  
Sandra McDaniel, Clerk of the Board

*Attachment B: Examples of Select GHG Mitigation Projects*

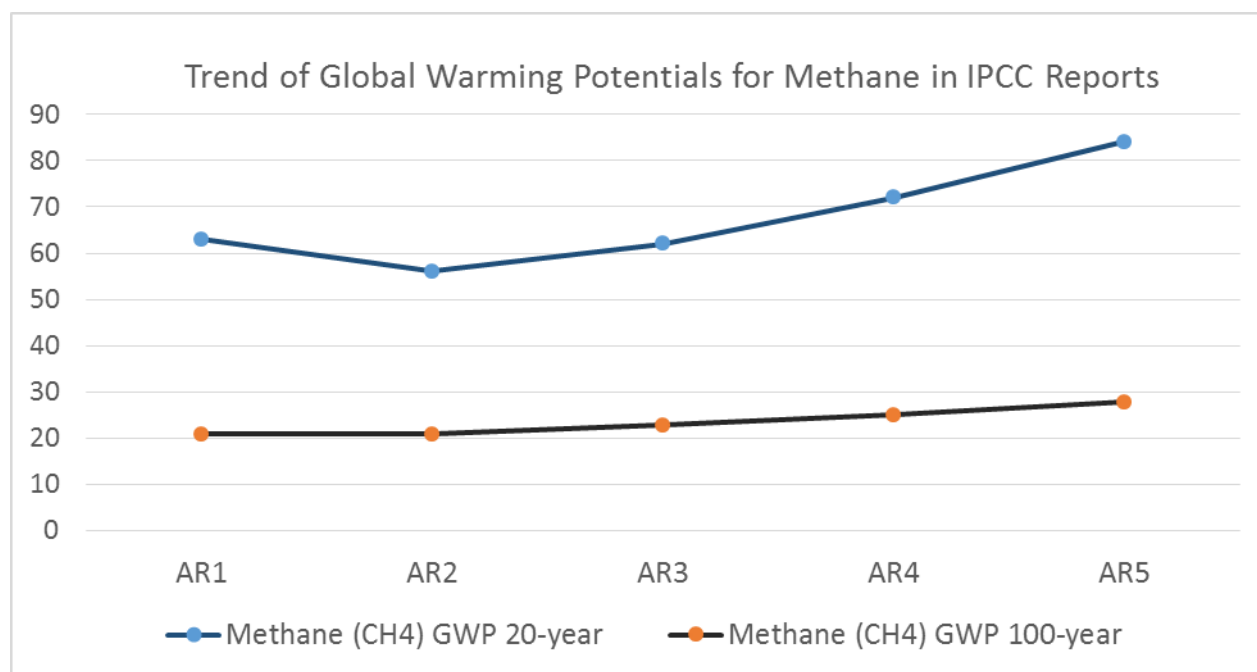
<b>Mitigation Program</b>	<b>GHGs reduced</b>	<b>Criteria and Toxic Pollutants Reduced</b>
Schools Renewable Generation, Solar Thermal, and Workplace Charging (Porter Ranch/Basinwide)	CO <sub>2</sub> , Methane, Black Carbon, Tropospheric Ozone (precursors)	NO <sub>x</sub> , Particulates
Electric School Bus Replacements (Porter Ranch/Basinwide)	CO <sub>2</sub> , Black Carbon, Tropospheric Ozone (precursors)	NO <sub>x</sub> , Particulates, Diesel Exhaust
Biogas Production from Waste Diversion, Landfills, and Other Waste Facilities (Basin)	CO <sub>2</sub> , Methane, Black Carbon, N <sub>2</sub> O, Tropospheric Ozone (precursors)	NH <sub>3</sub> , VOCs, Particulates, Diesel Exhaust
Commercial Building Energy Efficiency, Renewable Energy, and Solar Thermal (Porter Ranch/Basinwide)	CO <sub>2</sub> , Methane, Black Carbon, Tropospheric Ozone (precursors)	NO <sub>x</sub> , VOCs, Particulates, Diesel Exhaust
Residential Weatherization, Improved Appliance Efficiency, Renewable Energy, and Solar Thermal (Porter Ranch/Basinwide)	CO <sub>2</sub> , Methane, Black Carbon, Tropospheric Ozone (precursors)	NO <sub>x</sub> , VOCs, Particulates, Diesel Exhaust
Zero-Emission Urban Bus Replacements (Porter Ranch/Basinwide)	CO <sub>2</sub> , Black Carbon, Tropospheric Ozone (precursors)	NO <sub>x</sub> , Particulates, Diesel Exhaust
Enhanced Fleet Modernization Program (EFMP) Plus Up for (Disadvantaged Communities around Porter Ranch)	CO <sub>2</sub> , Black Carbon, Tropospheric Ozone (precursors)	NO <sub>x</sub> , VOCs, Particulates, Diesel Exhaust
Residential/Commercial Electric and Solar Thermal Space/Water Heating (Porter Ranch/Basinwide)	CO <sub>2</sub> , Methane, Black Carbon, Tropospheric Ozone (precursors)	NO <sub>x</sub> , VOCs, Particulates
Residential/Commercial Electric Landscape Equipment (Porter Ranch/Basinwide)	CO <sub>2</sub> , Black Carbon, Tropospheric Ozone (precursors)	NO <sub>x</sub> , VOCs, Particulates, Diesel Exhaust
Offroad Industrial/Commercial Equipment (Porter Ranch/ Basinwide)	CO <sub>2</sub> , Black Carbon, Tropospheric Ozone (precursors)	NO <sub>x</sub> , VOCs, Particulates, Diesel Exhaust

*Attachment B Continued: Examples of Select GHG Mitigation Projects*

Class 6 Truck Alternative Fuel/Hybrid Powertrains (Porter Ranch/Basinwide)	CO <sub>2</sub> , Black Carbon, Tropospheric Ozone (precursors)	NO <sub>x</sub> , VOCs, Particulates, Diesel Exhaust
Electric Storage/Smart Grid (Porter Ranch/Basinwide)	CO <sub>2</sub> , Black Carbon, Tropospheric Ozone (precursors)	NO <sub>x</sub> , VOCs, Particulates, Diesel Exhaust
Fireplace/Woodstove Retrofits (Porter Ranch/Basinwide)	CO <sub>2</sub> , Black Carbon, Tropospheric Ozone (precursors)	NO <sub>x</sub> , VOCs, Particulates
Offroad Tier 4 Construction Equipment (Basin)	CO <sub>2</sub> , Black Carbon, Tropospheric Ozone (precursors)	NO <sub>x</sub> , VOCs, Particulates, Diesel Exhaust
Tier 4 Emission Standard Non-Road Portable Engines (Porter Ranch/Basinwide)	CO <sub>2</sub> , Black Carbon, Tropospheric Ozone (precursors)	NO <sub>x</sub> , VOCs, Particulates, Diesel Exhaust

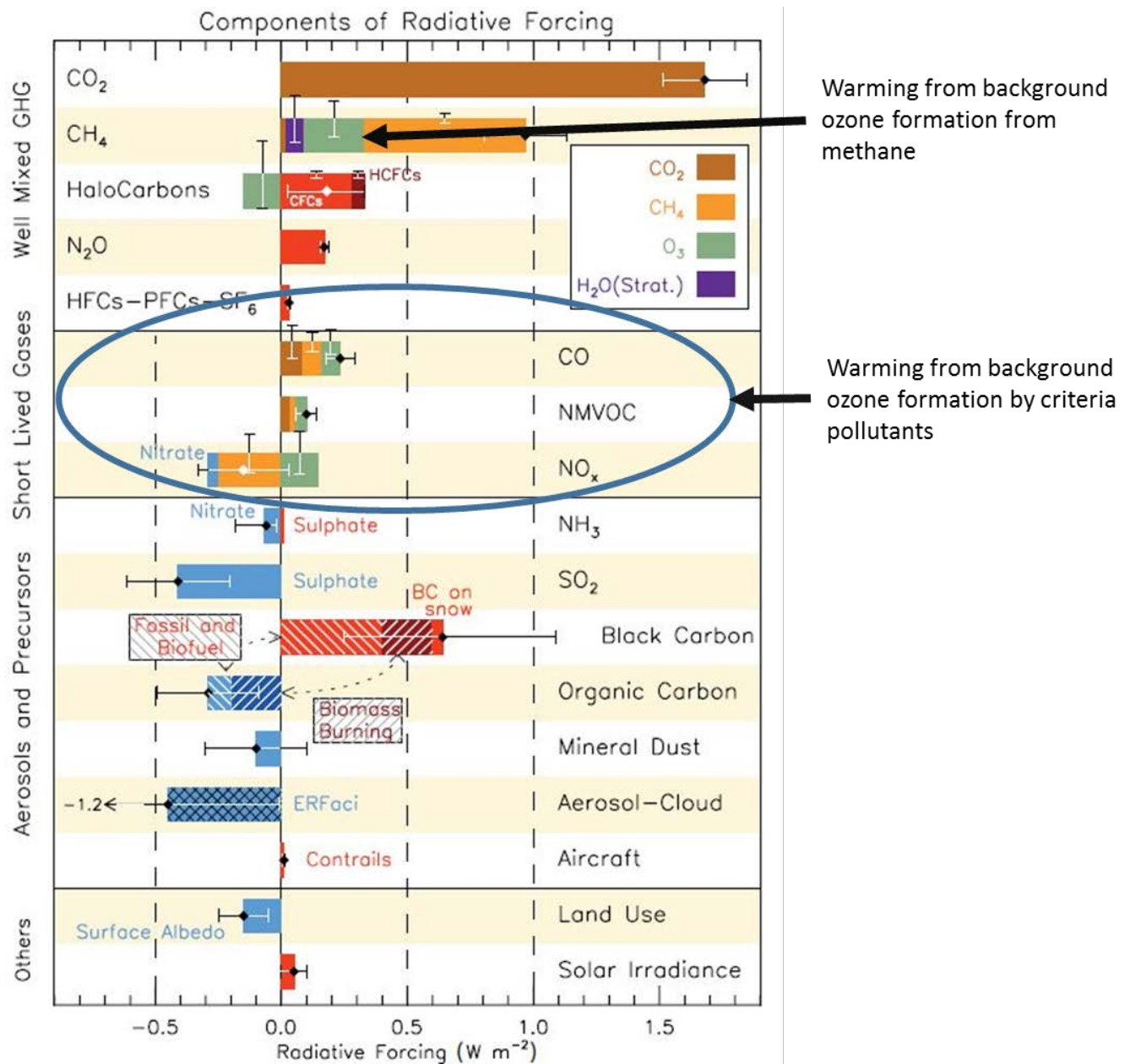
### *Attachment C: Methane Global Warming Potentials and Short Lived Climate Forcers*

Each subsequent IPCC report has increased the importance of methane as a climate forcer and adjusted the methane global warming potentials (GWP). Additionally, the global warming potential of 20 years should be used for methane since its atmospheric lifetime is only 12 years. Accounting for warming from a gas 88 years past its destruction in the atmosphere does not account for the strong near-term climate impacts. The GWPs for methane include an indirect component from the warming resulting from the production of background ozone.



Attachment C (continued): Methane Global Warming Potentials and Short Lived Climate Forcers

The increase in background ozone levels from both increased methane and criteria pollutants results in tropospheric ozone being one of the strongest climate forcers as shown below.



# ALISO CANYON: CLIMATE IMPACTS MITIGATION PROGRAM

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# Background

- Letter from SoCalGas to Governor (Dec. 18, 2015) – SoCalGas commits to:
  - “[M]itigate the environmental impact of the actual natural gas released from the leak”
  - “[W]ork[] with you and your staff to develop a framework that will help us achieve this goal”
- Governor’s Aliso Canyon Proclamation (Jan. 6, 2016):
  - Directs ARB to produce a climate impacts mitigation program
  - Program to be funded by SoCalGas

# The Mitigation Program

- The Proclamation directs ARB to develop a program to “fully mitigate the leak’s emissions of methane”
  - In consultation with other State agencies
  - Mitigation projects must be in California
  - Prioritize projects that reduce short-lived climate pollutants
  - Develop program by March 31, 2016



# Full Mitigation

- Program must define and achieve “full mitigation”
- Minimum: CO<sub>2</sub>e emission reductions commensurate with leak emissions
- Cap-and-Trade compliance instruments not eligible
- ARB seeks stakeholder input on topics relevant to “full mitigation,” including:
  - Global warming potential
  - Timeframes
  - Discounting
  - Other approaches toward “full mitigation”

# Key Principles

- For the program: full mitigation, achieved in an equitable and transparent manner
- Eligible projects would comport with several core principles, e.g.:
  - Focus on short-lived climate pollutants
  - Substantial nexus with climate impacts
  - Complementary
  - Additional
- Other relevant factors under consideration:
  - Co-benefits
  - Transformational qualities
  - Benefits to affected and economically disadvantaged communities

## Project Categories

- Current focus: creating a process for identifying and implementing viable mitigation opportunities
- E.g., opportunities identified in ARB's Draft Short-Lived Climate Pollutant Reduction Strategy\*:
  - Biomethane infrastructure (dairy manure, etc.)
  - Organic waste diversion from landfills
  - Anaerobic digestion at wastewater treatment plants
  - Incentive programs

\* Available at: <http://www.arb.ca.gov/cc/shortlived/2015draft.pdf>

# Program Implementation

- Implementation approach being considered:
  - Portfolio of project categories coupled with financial “backstop”
  - Oversight by third-party administrator
  - ARB would provide direction re: project selection and certify progress and compliance
- Ongoing judicial proceedings may offer avenues for implementation
  - *People v. Southern California Gas Company*

## Key Upcoming Dates

- Beginning today, comments can be posted and viewed on ARB's website\*
- Draft to be posted on ARB's Aliso Canyon web page during week of March 7, 2016\*\*
- Second comment period through March 21, 2016
- Final program description to be posted on ARB's Aliso Canyon web page by March 31, 2016

\* at <http://www.arb.ca.gov/lispub/comm/bclist.php>

\*\* at [http://www.arb.ca.gov/research/aliso\\_canyon\\_natural\\_gas\\_leak.htm](http://www.arb.ca.gov/research/aliso_canyon_natural_gas_leak.htm)