

Renewable Natural Gas
Request for Information
(RNG RFI)
Participants Conference

June 20, 2019

Skype Presentation

<https://meet.lync.com/edisonintl-sce/tamara.l.rodriguez/TWCQ1P1B>

(for the presentation only) - Select "**Don't Join Audio**".

Call-in Information (Participants MUST dial in to receive audio)

Number: (800) 857-9632

Participant Passcode: 9308122



Agenda

1. Webinar Purpose
2. Background on RNG RFI
3. Southern California Edison's (SCE) Clean Power and Electrification Pathway and RNG
4. RNG RFI Overview
5. Products of Interest
6. RFI Documents
7. RFI Questions
8. RFI Website
9. RFI Schedule
10. Q&A

Webinar Purpose

- In this Webinar, SCE will provide information to help potential Participants in understanding the need and purpose of the RNG RFI as well as understanding the RFI process and how to submit proposals.
- There is time allotted at the end of the presentation for Q&A
- After the webinar, SCE will post this presentation and a recording of the webinar on the SCE procurement website under RNG RFI – <https://www.sce.com/procurement/solicitations>
- This presentation is intended to be a summary level discussion of the information and requirements established in the RNG RFI and does not include all of the detailed information that can be found in the documents posted to the RNG RFI PowerAdvocate© Website
- To the extent that there are any inconsistencies between the information provided in this presentation and the information contained in the documents posted to the Website, the information in the documents posted to the Website will govern

RNG RFI - Background

- According to SCE's Clean Power and Electrification Pathway whitepaper, for the preferred and least-cost electrification-led Pathway scenario, to mitigate the California duck curve will require adding more energy storage solutions and also maintaining some amount of gas-fired generation for grid reliability¹
- In the Clean Power and Electrification Pathway Appendices, it states further that
 - For the Preferred Pathway, RNG will need to replace 5-7% of natural gas usage as a fuel for the Clean Power and Electrification Pathway scenario, and
 - For the alternative Renewable Natural Gas Pathway scenario, 42% of conventional natural gas will need to be replaced by RNG²

¹ SCE, The Clean Power and Electrification Pathway, November 2017, page 6

² SCE, The Clean Power and Electrification Pathway - Appendices, November 2017, page 5

SCE – Clean Power and Electrification – Preferred Pathway

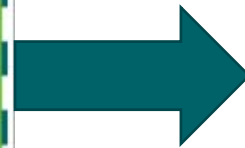
PREFERRED PATHWAY

CLEAN POWER AND ELECTRIFICATION

- **80%** carbon-free electricity supported by energy storage
- At least **24%** of light-duty vehicles are EVs (7MM)
- **15%** of medium-duty and **6%** of heavy-duty vehicles are electrified
- **Up to 30%** efficient electrification of commercial and residential space and water heating

- Dependent on broad adoption of electrified technologies
- Most feasible pathway because technology already exists

Incremental abatement cost (last 36 MMT)*
\$79/ton



	Clean Power and Electrification	Renewable Natural Gas (RNG)
Carbon-Free Electricity Delivered	80%	60%
Renewable Energy Over Generation	Managed through up to 10 GW of battery storage	Used to produce synthetic methane through "power to gas"
Transportation: Light-Duty Passenger Vehicles (EVs)	7MM EVs 24% of LDV stock	7MM EVs 24% of LDV stock
	~13% reduction in transportation-related	
Transportation: Medium-Duty (MDV) and Heavy-Duty (HDV) Vehicles (Buses and Trucks)	9% MDVs, 6% HDVs are compressed natural gas (CNG)	12% MDVs, 12% HDVs are CNG
	15% MDVs and 6% HDVs are EVs	7% MDVs and 1% HDVs are EVs
Space and Water Heating (Residential and Commercial buildings)	Up to 30% electrification of space and water heating end uses	42% of natural gas replaced by RNG, 7% of natural gas replaced by H2
Fuels and Other End Uses	7% of natural gas replaced by RNG	
Risks	- Most feasible pathway as technology already exists - Dependent on broad adoption of electrified technologies	- Power to gas not yet commercially available - A large biogas market requires expensive imports
Average Abatement Cost (180 MMT)	\$37/metric ton	\$47/ metric ton
Incremental Abatement Cost (last 36 MMT)	\$79/metric ton	\$137/metric ton

RNG RFI Overview

- In alignment with SCE's Clean Power and Electrification Pathway, SCE is interested in learning about the Renewable Natural Gas or biomethane (RNG) marketplace, including the following:
 - Quantity of RNG supply available for the California market, both internal supply and imports
 - How consistent can RNG deliveries be (daily, monthly, annually)
 - Current market pricing for RNG and for electricity generated from RNG
- Based on the information learned from the RFI, SCE may in the future decide to issue a Request for Offer for RNG

RNG RFI Products of Interest

- Products of Interest
 - RNG that is RPS eligible or
 - Electricity generated from RNG that is RPS eligible
- Products must meet definitions according to California Energy Commission (CEC) Renewable Portfolio Standards (RPS) Guidebook Version 9 rules¹, including:
 - A facility may qualify for RPS certification if it generates electricity using biomethane derived from digester gas and/or landfill gas.
 - Biomethane may be used to generate electricity at a facility that receives the biomethane in one of four ways:
 - Onsite Generating Facility Using a Dedicated Pipeline
 - Offsite Generating Facility Using a Dedicated Pipeline
 - Offsite Generating Facility Using a Fuel Container
 - Offsite Generating Facility Using a Common Carrier Pipeline
- RFI Participants are encouraged to review the CEC RPS Guidebook Version 9 for all the definitions and requirements that need to be met for the Products of Interest to be RPS eligible

¹California Energy Commission, Renewables Portfolio Standard Eligibility, Ninth Edition (Revised), Commission Guidebook, January 2017, CEC-300-2016-006-ED9-CMF-REV, <https://www.energy.ca.gov/renewables/documents/>

RNG RFI Documents

- RNG RFI Documents can be downloaded from the RFI Website:
 1. RNG RFI Instructions
 2. RNG RFI Offer Workbook

RNG RFI Questions

1. RFI Participant Name
2. Email/Phone/Address
3. Company Name
4. Parent Company
5. Company Experience with Renewable Natural Gas/ Biomethane
 - a. (e.g., Explanation, number of years of experience, projects completed, link to website, etc.)
6. Product Description/Application
 - a. (e.g., Pipeline-quality biomethane, On-site electric generation, etc.)
7. RNG Resource Vintage
 - a. (New, Existing)
8. Source of RNG (please be specific as to location; please include a map)
 - a. (e.g., ABC Dairy, Inc. located in Farmington, CA; City of Centerville, CA wastewater treatment facility, etc.)
9. RNG Collection Technology
 - a. (e.g. Digester, lagoon, etc.)
10. RNG Point of Delivery or, as applicable, Point of Burn
11. RNG Delivery Profile
 - a. (e.g. Baseload; variable – what rate and interval; interruptible – how often and when)

RNG RFI Questions

12. RNG Volume/Quantity per Day/Month/Year
13. Delivery Start or Commercial Operation Date
 - a. (e.g. Facility availability date, lead time after executing an applicable purchase agreement, etc)
14. RNG Supply Term Length or PPA Term Length (5, 10, 15, 20 yrs)
15. Indicative Price – for RNG and/or electricity generated by RNG
 - a. (OK to provide a range, peg to an index, etc.)
16. Other Benefits
 - a. (e.g. Other program benefits/revenue)
17. Misc. Project Comments
 - a. (Any other project-specific information to convey to SCE)
18. Proposed Contract Type
 - a. (e.g. Short term, NAESB confirms; long term – structured purchased agreement or PPA or other)
19. Project Details (including status of site control; pipeline or grid interconnection; permitting; financing)
20. Misc. General Comments

RNG RFI Website – PowerAdvocate©

- Participants intending to present Submissions, but who do not yet have an existing PowerAdvocate® account, must first register to create a username/password with PowerAdvocate® to receive access to the event (**event code 92739**).
- Users with an existing PowerAdvocate® account may request access here: <https://www.poweradvocate.com/pR.do?okey=92739&pubEvent=true>
- For additional information on registering on PowerAdvocate®, please visit:
 - https://www.poweradvocate.com/WebHelp_Sourcing_Intel_Supplier/Content/Resources/Sourcing_Intel_Supplier_Guide.pdf
- In the event of issues accessing Power Advocate® or the event, please send an email addressed to RFO@sce.com with “RNG RFI Issue” in the email title, and a detailed description of the issue in the body of the email.

RNG RFI Schedule

Milestones	Estimated
Launch RFI	June 13, 2019
Participants Web Conference	June 20, 2019
Participants Submit Responses	July 25, 2019
Analyze Responses and Conduct Market Analysis	July and August, 2019
SCE to Follow-Up with Thank You Letters with potential next steps	Mid-September 2019

- Offers must be uploaded to PowerAdvocate® no later than 12 PM, Pacific Prevailing Time (PPT), on July 25, 2019 as specified in the RFI Schedule and on the PowerAdvocate® RNG RFI website.
- Please note that early submittals are permitted and encouraged.

*Dates and Milestones are subject to change

Q&A

To ask a question, press *1 and wait for the prompt from the operator

Thank you for attending the
Renewable Natural Gas RFI
Participants Conference. SCE looks forward to your
participation!