

PG&E's Bidders' Webinar

PG&E's Request for Offers:

- Bioenergy Renewable Auction Mechanism (BioRAM)

July 7, 2016

Agenda

Topics

Introduction

Solicitation Overview

Eligibility Requirements

PPA Overview

Evaluation Methodology

Offer Submittal Process

Interconnection Process

Intermission

Q & A

Presenter

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Team

Objective

- The purpose of this webinar is to provide information to participants who may submit Offers to PG&E's Bioenergy Renewable Auction Mechanism (BioRAM) Request for Offers.
- This webinar will not cover other procurement programs such as:
 - Future RPS Solicitations
 - Feed-in-Tariff Programs
 - Net Metering
 - Self Generation Incentive Program
 - Storage
 - Green Tariff or Enhanced Community Renewables programs (part of the Green Tariff Shared Renewables Program)

Q&A / List of Attendees / Audio Replay

- At any time during this presentation Participants should e-mail their questions to the following mailbox:
BioRAM: RAMRFO@pge.com
- Questions will be answered at the end of the Webinar or posted Q&A
 - PG&E may not address all of the questions during the Q&A portion of the Webinar.
 - After the Webinar, PG&E will compile and post a Q&A document on PG&E's website at: www.pge.com/rfo/bioram
- PG&E will be posting a list of attendees on PG&E's website. If you do not want your name or the name of your company published, please let us know by sending us an email to the BioRAM RFO mailbox at RAMRFO@pge.com by July 11.
- The audio portion of the Webinar will be posted on PG&E's website at: www.pge.com/rfo/bioram

Document Conflicts

- This presentation is intended to be a summary level discussion of the information and requirements established in the RFO materials (it does not include all of the detailed information in the RFO materials).
- To the extent that there are any inconsistencies between the information provided in this presentation and the requirements in the RFO materials, the **RFO materials shall govern.**
- PG&E encourages participants to carefully review:
 - CPUC Resolution E-4770 directing bioenergy procurement using RAM
 - CPUC Disposition Letter dated June 14, 2016 approving PG&E Advice Letter 4822-E
 - BioRAM RFO Protocol dated June 3, 2016
 - Form of Power Purchase Agreement and Bioenergy Procurement Rider that are posted on PG&E's BioRAM website as Appendix B to the Protocol
 - Monitor the Q&A link on PG&E's BioRAM RFO website
- **Given that the Power Purchase Agreement is non-negotiable, PG&E urges bidders to submit clarifying questions regarding the PPA and Rider prior to submittal of an offer under this RFO.**

Public Disclosure of Information

- By participating in this solicitation, each Participant acknowledges and expressly authorizes PG&E to publicly disclose the following information as required by the CPUC's RAM Decision:
 - Names of the companies that submitted Offers into PG&E's RFO
 - Number of Offers received from each company
 - Number of Offers received and selected by PG&E
 - Project size
 - Participating technologies
 - Location of bids by county; and
 - Progression of each executed contract's project development milestones
- PG&E will provide periodic updates to the CPUC on each BioRAM project's progress toward the achievement of project development milestones

Solicitation Overview

Overview of the Solicitation: BioRAM

How did BioRAM become a solicitation?

- On October 30, 2015, California Governor, Edmund G. Brown Jr. issued a Proclamation of a State of Emergency on drought and tree mortality. The Proclamation specifically required use of a targeted RAM process for procurement of eligible renewable resources using forest biofuels from high hazard zones.
- The BioRAM Decision, Resolution E-4470 was approved on March 17, 2016 and directed PG&E to propose an updated RAM Protocol for use in the BioRAM Solicitation, including a BioRAM Rider containing all contractual updates to the non-modifiable standard form RAM PPA.
- Advice Letters 4822-E, 4822-E-A, and 4822-E-B modified the RAM for use in the BioRAM Solicitation and were approved on June 14, 2016.

Basics

- PG&E's allocation for BioRAM is a minimum of 20 MW, with a 50 MW combined target for all three investor-owned utilities (IOUs).
- Only facilities utilizing woody biomass and the contractually required High Hazard Fuel are eligible to participate in this solicitation.

BioRAM RFO Schedule

Date/Time	Event
July 7, 2016 at 1:00 P.M. PPT	Bidders' Webinar
July 28, 2016 by 12:00 P.M. PPT	Deadline for Participants to submit Offers through Power Advocate
October 4, 2016	PG&E notifies selected BioRAM Participants and any waitlisted BioRAM Participants
October 25, 2016	Target timeframe to execute PPA(s)
November 15, 2016	Target Advice Letter filing date for CPUC approval

Independent Evaluator (IE)

- Primary role of the IE is to:
 - Monitor RFO processes to ensure fair and equal treatment of all potential counterparties.
 - Monitor evaluation processes to ensure PG&E has implemented the methodology as described and that Offers are treated consistently.
 - Report on RFO process and proposed transactions to CPUC when filed for CPUC approval.
- The IE may review all proposal data and communications with Participants
- BioRAM IE is Arroyo Seco Consulting. Contact is:
 - Lewis Hashimoto (arroyosecoconsulting@gmail.com)

Updates from RAM 6

Major Updates

- Least Cost Best Fit (LCBF) evaluation methodology - new
- PPA Rider (amendment to RAM 6 PPA) and Quarterly Fuel Usage Log - new
- Annual High Hazard Fuel Minimum Percentages - new
- Fuel Switching Option - new
- Delivery Term – added 5-year option and 5-year option with extensions
- Termination Option w/Damage Payment – for facilities with existing Standard Offer PPAs
- Facility Size – no cap
- TOD factors – updated per 2015 RPS Plan
- Product Type – Baseload only

Eligibility Requirements

BioRAM Eligibility Requirements

Fuel Requirements - High Hazard Fuel	Only RPS-eligible woody biomass. Must meet minimum levels of high hazard fuel determined by specified year of operation in the contract. Sellers may offer higher percentages.
Product Category	Baseload: At least 80% capacity factor with respect to seller-designated Contract Capacity
Project Size	Greater than 3 MW No cap on eligible project size
Existing/new facilities accepted	For existing, any current contract must expire within 24 months or have been subject to a current or expired fixed pricing amendment – and terminate prior to delivering under BioRAM.
Interconnection System	Distribution/Transmission level
Location	Located within California and directly connected to or dynamically scheduled into the CAISO
Interconnection Study	Executed Interconnection Agreement (including SFA), Phase II Study or equivalent (e.g. Facilities Study), passed WDT/CAISO Fast Track screens at the time of Offer submittal

BioRAM Eligibility Requirements, con't.

Term of contract	New Facilities: 10, 15, or 20 years Existing Facilities: 5 years, 5 years with one-year extensions, 10, 15, or 20 years
Transaction	Full buy/sale or excess sale
Deliverability	Full Capacity Deliverability, Partial Capacity Deliverability, or Energy Only
Commercial Online Date (COD)	New Facilities: 36 months from PPA Effective Date Existing Facilities: 12 months from PPA Effective Date
Site Control	Full site control for the entire delivery term of the project
Commercialized Technology	Project must employ technology currently in use at a minimum of two operating facilities of similar capacity worldwide.
Developer experience	A member of the development team must have completed/begun construction on a similar project

Eligibility Requirements – Deliverability

- Projects can bid as Energy Only, Partially Deliverable (PCDS), or Fully Deliverable (FCDS). PG&E is not requiring, nor has it stated a preference for, deliverable projects.
- Projects bid in as Partially or Fully Deliverable must achieve the corresponding deliverability status by their selected Deliverability Date or face penalties and/or default.
 - Participants are encouraged to submit an Energy Only bid (instead of or in addition to their deliverability bid) if there is any chance the deliverability bid may be declared ineligible.
 - PG&E will review the timing of when the Offer is likely to achieve the offered deliverability status for eligibility.

New Projects Only:

- Projects bidding as Fully or Partially Deliverable must provide documentation that the Project has received FCDS/PCDS or is in the Phase II process of the deliverability study.
- An application for deliverability through any CAISO annual process is not sufficient unless there is a finding of deliverability at the time of Offer submittal.

Power Purchase Agreement (PPA) Overview

PPA: BioRAM Rider Modifications

- **Terms and conditions are non-negotiable.**
- **Minimum Percentage for High Hazard Fuel**
 - Minimum levels of Fuel Use (Minimum Percentage) must come from High Hazard Zones in the specified year of operation of the contract:

Calendar Year	Minimum Percentage	Seller's Higher Percentage
2016	40%	As applicable
2017	50%	As applicable
2018	60%	As applicable
Each subsequent year	80%	As applicable

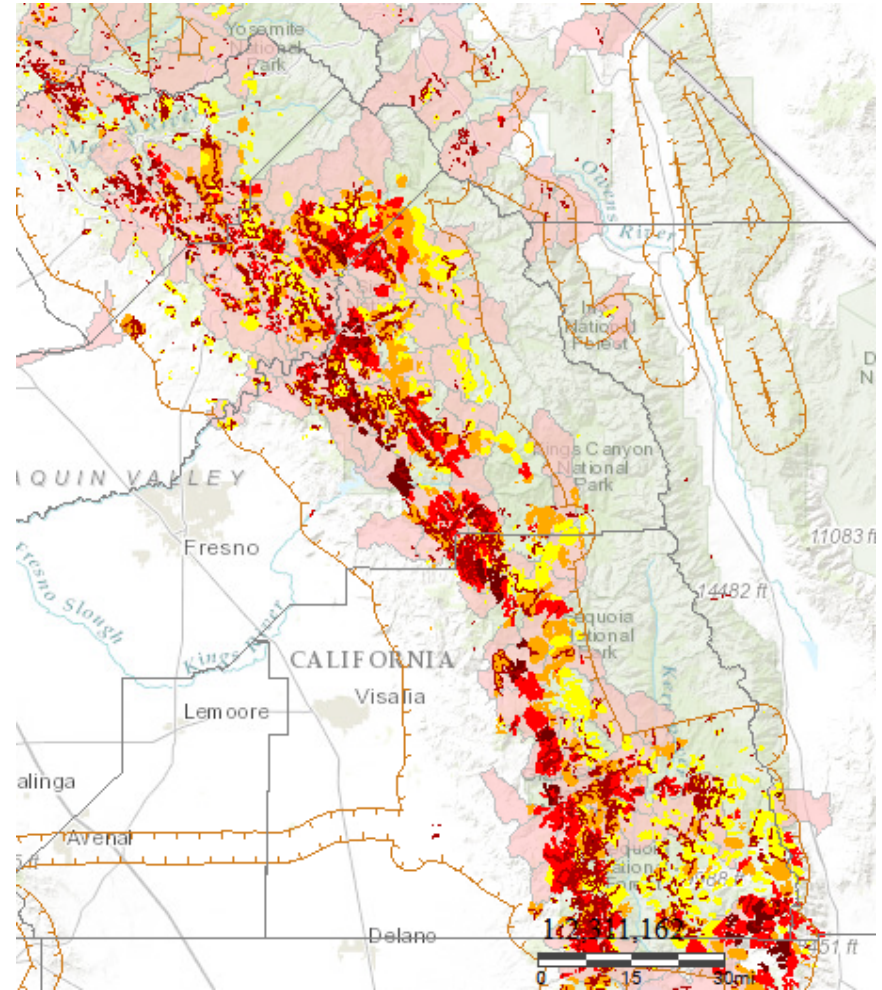
- **Fuel Switching**
 - One-time option for Seller to either terminate contract or to operate at the Amended Price of \$89.23/MWh for the remaining Delivery Term of the contract once the facility can no longer meet the minimum High Hazard Fuel requirement.
 - If Governor declares the State of Emergency over, the Contract Price switches to the Amended Price of \$89.23 for the remaining Delivery Term.

PPA: BioRAM Rider Modifications, cont'd.

“**Fuel Use**” means the woody biomass fuel used to generate electricity or thermal output to serve on-site load or for the generation of electricity to deliver Product to Buyer (in bone dry tons).

“**High Hazard Zones**” means areas designated as Tier 1 or Tier 2 high hazard zones for wildfire and falling trees by the California Department of Forestry and Fire Protection (“CAL FIRE”), the California Natural Resources Agency, the California Department of Transportation, the California Energy Commission, or other designated agency.

At right: Screen shot of CAL FIRE’s GIS Tree Mortality Viewer with Tier 1 and Tier 2 High Hazard Zones available at www.treetaskforce.org.



PPA: BioRAM Rider Modifications, cont'd.

- **Fuel Verification Requirements**

- Seller must submit quarterly fuel attestations to Buyer from a registered professional forester or other mutually acceptable alternative provider.
- Attestation must specify the percentage of Fuel Use from designated High Hazard Zones and include a log of all fuel deliveries attributed to Facility's Fuel Use, which includes volumes in bone dry tons, delivery dates, delivery vendor info and High Hazard Zone locations.
- PG&E has the right to audit Seller's records and conduct on-site visits.

- **Failure to Meet Minimum Fuel Requirements**

- If Seller fails to meet the Minimum Percentage (or Seller's Higher Percentage), as calculated on an annual basis, payments for the applicable year will be adjusted down to \$89.23/MWh by offsetting from subsequent invoices or withdrawing from Delivery Term Security and thereafter be paid the Amended Price for the remainder of the Delivery Term.
- Five-year contracts (without extensions) have a one-time option to resume operations at the Contract Price upon demonstration that the Facility has met the Minimum Percentage.

PPA: BioRAM Rider Modifications, cont'd.

- **Delivery Term Options**

- For existing facilities only, Sellers may choose a 5-year Delivery Term **or** a 5-year Delivery Term with an option to extend for consecutive one-year terms, up to a cumulative total of 10 years.

- **Online Date Requirements**

- New projects must achieve Commercial Operation within 36 months of the Effective Date of the PPA.
- Existing projects must achieve Commercial Operation within 12 months of the Effective Date of the PPA. **Note: Facilities must be a CAISO participating generator in order to begin deliveries.**

- **Termination Payment/Damages for IEDD**

- Existing Projects currently under contract may commence deliveries under the BioRAM PPA (i.e. set its Initial Energy Delivery Date (IEDD)) provided Seller has terminated its existing contract, paid any applicable termination payment or damages, and met all other IEDD conditions.

PPA: BioRAM Rider Modifications, cont'd.

Time of Delivery (TOD) Factors

Period	Peak	Mid-Day	Night
A. Jul – Sep	1.479	0.604	1.087
B. Oct – Feb	1.399	0.718	1.122
C. Mar – Jun	1.270	0.280	1.040

Peak = hours ending 17-22 (Pacific Prevailing Time (PPT)) for all days in the applicable Monthly Period.

Mid-Day = hours ending 10-16 PPT for all days in the applicable Monthly Period

Night = hours ending 23-09 PPT for all days in the applicable Monthly Period

- For each hour of energy generated, Seller is paid contract price multiplied by the applicable TOD factor.
- $\text{Payment} = \text{Contract Price} * \text{TOD Factor} * \text{MWh}$

The TOD Factors shown above are consistent with those shown in PG&E's 2015 RPS Decision D.15-12-025

PPA: Standard Terms Overview

Product

- Seller must sell and deliver all Product to PG&E. “Product” means:
 - All electric energy produced by or associated with the Generating Facility net of Station Use (and Site Host Load as applicable); and
 - All renewable attributes, Renewable Energy Credits, Capacity Attributes and Green Attributes produced by or associated with the generating facility.
 - Note: Energy Only projects do not have to pursue any deliverability studies.

Commercial Operation Deadline

- Failure to meet the Guaranteed Commercial Operation Date after any excused delay is an Event of Default, which would allow PG&E to terminate the PPA and retain the Project Development Security as damages for the Seller’s default.

PPA: Standard Terms Overview, cont.

Energy Deliveries

- Energy Deliveries: PG&E pays the Contract Price for up to 100% of Contract Capacity (MW) and 115% of Contract Quantity (MWh) in a given Contract Year.
- Delivery Point: All output from the Project must be delivered through a single CAISO revenue meter located on the high-voltage side of the Project's final step-up transformer (which must be dedicated solely to the Project) nearest to the Interconnection Point. **Existing QFs must convert to a CAISO participating generator.**
- Delivery Shortfalls: Sellers must agree to deliver a minimum quantity of Energy (Guaranteed Energy Production or GEP):
 - 90% of the Contract Quantity over one year
 - Contract Quantity is the estimated amount of MWhs of Energy that the Project will generate on an annual basis. If Seller fails to meet GEP, then Seller may be required to pay PG&E liquidated damages. If Seller repeatedly fails to meet GEP, then PG&E may default the Seller and terminate the PPA.

PPA: Standard Terms Overview, cont.

Curtailement

- Seller must curtail energy deliveries in response to curtailment requests from the CAISO, PTO or Buyer. **Review the PPA carefully** to better understand under what circumstances Seller will or will not be reimbursed for curtailed energy deliveries.
- PG&E has the right to require the seller to curtail energy deliveries during the Buyer Curtailment Period for unlimited hours per year and PG&E will pay for such curtailed energy at the Contract Price.
- Seller is required to respond to electronic signals from PG&E or the CAISO to curtail.

PPA: Standard Terms Overview, cont.

Performance Assurance

- “Project Development Security” is due to PG&E within five (5) business days following CPUC approval of the PPA and must be in the form of a letter of credit or cash and in the following amount:
 - \$90 per kW of Contract Capacity
- “Delivery Term Security” is due to PG&E before the Initial Energy Delivery Date and will be held by PG&E throughout the Delivery Term.
 - Security will be in the amount of the higher of either (i) 5% of expected total Project revenues as provided in the Offer form, or (ii) Annual Contract Quantity X (Contract Price – Amended Price)

Evaluation Methodology

Evaluation Methodology

- PG&E will screen Offers on a “pass-fail” basis against the eligibility criteria discussed in the Eligibility Requirements section of this presentation.
- Eligible Offers will be selected based on Least Cost Best Fit (LCBF) criteria, which include quantitative and qualitative criteria
- **Quantitative criteria**
 - **Net Market Value**
 - Costs will be levelized using PG&E’s CPUC-authorized after tax weighted average cost of capital of 7.0 percent.
 - **Portfolio Adjusted Value**
- **Qualitative criteria**
 - Proximity to high hazard fuel zones
 - Commitment to exceeding the minimum fuel requirements
 - Preference for shorter delivery term

See Attachment K of the 2014 RPS Solicitation Protocol for details of the evaluation criteria

Market Valuation

$$\text{(Adjusted) Net Market Value} = E + C + S - (P + T + G + I)$$

- **E - G = Energy benefit – Congestion Cost**
 - Based on market prices and Locational Marginal Pricing (LMPs) multipliers applied to reflect congestion and losses
 - Includes energy value from Buyer Curtailments for avoiding (presumably negative) wholesale market price for the Offer's energy delivery
- **C = Capacity benefit** is based on
 - PG&E's internal estimate of avoided cost of capacity, and
 - Offer's contribution to meeting PG&E's future Resource Adequacy requirements
- **S = Ancillary Service benefit** based on Offer's Ancillary Service capability. Assumed to be zero for non-dispatchable offers.
- **P = Post TOD Adjusted PPA Price** based on Offer's contract price and TOD factors and includes debt equivalence
- **T = Transmission Network Upgrade Cost** based on study results or interconnection agreement
- **I = Integration Cost** calculated pursuant to D. 14-11-042. Not applicable to baseload resources

Market Valuation (Capacity and Transmission)

- Transmission Network Upgrade Costs (\$/MWh): will be taken from applicable study.
 - Energy Only projects: Only the reimbursable portion of the costs associated with reliability network upgrades required for will be used.
 - Fully Capacity Deliverability Status and Partial Capacity Deliverability Status projects: Will use the reimbursable portion of the reliability network upgrade cost and the deliverability network upgrades net of the Project's resource adequacy value.
- PG&E assumes that all projects will achieve Full Capacity Deliverability Status or Partial Capacity Deliverability Status by the date provided in the Offer Form.
 - Resource Adequacy (RA) benefit will be included from the date indicated through the remaining delivery term of the PPA.
- RA benefits will be evaluated by applying the Net Qualifying Capacity (NQC) to the avoided capacity costs forecast.
 - PG&E currently discounts the capacity value of SP15 resources due to a RA capacity constraint (this constraint may change in the future).

Portfolio Adjusted Value (“PAV”)

- PAV modifies the NMV to account for elements that impact a particular Offer’s value in the context of PG&E’s electric portfolio
- PAV is intended to represent the value of an Offer in the context of PG&E’s portfolio by making explicit and systematic adjustments for PG&E’s preferences on each component
- PG&E has a preference for resources located in NP15
- PAV adjusts the value of energy and capacity for offers from resources in SP15
 - Energy Benefit Adjustment
 - PAV Energy Benefit for projects in SP15 or outside of CAISO is no greater than the Energy Benefit calculated using NP15 energy prices
 - Capacity Benefit Adjustment
 - SP capacity prices are no higher than the short-run avoided cost of capacity, and less than the NP capacity prices
 - The adjustment reflects the fact that PG&E may be more likely to be long in capacity from SP15 in counting toward PG&E’s RA requirements

Offer Submittal Process and Offer Form

Offer Price Assumptions

The price that Participant submits in the Offer must assume the following:

- Grid Interconnection Costs
 - Direct Assignment Costs: Sellers bears the Direct Assignment Costs because there is no reimbursement of these costs to Seller.
 - Network Upgrades: Seller bears the cost of financing the Reliability Network Upgrades¹ for Energy Only projects. If a Seller submits its project as fully deliverable, the Seller must also fund any upgrades required to achieve Full Capacity Deliverability Status¹.
- Credits/Benefits: Investment Tax Credits and all other benefits, credits or grants that Seller reasonably expects to apply. If the project or Seller do not ultimately benefit from any expected benefit, tax credit or other award; Seller will not be permitted to terminate the PPA or seek a price adjustment.
- Offer Price: Will be adjusted by the Time of Delivery (“TOD”) factor for each period.

¹ Developer may be entitled to repayment with interest over a 5-year period following initial operation for a portion of these upgrades.

Offer Price Assumptions

- Generation Profile
 - Participant must provide hourly generation forecast
- Collateral Requirements
 - Factor in costs, if any, to provide Project Development Security and Delivery Term Security
 - PG&E's Revenue Calculator is provided as informational only and is only an estimate
 - Calculates revenue from the energy generation profile
 - Takes into account the applicable TOD factors
- High Hazard Fuel
 - Seller's Higher Percentage (i.e. commitment to procure higher percentages of High Hazard Fuel Use than the Minimum Percentage) will be given preference only in relation to facilities that have a similar LCBF.
 - Price should account for fuel acquisition costs in alignment with the High Hazard Fuel targets set via Minimum Percentage or Seller's Higher Percentage.

Offer Submittal

- Offers must be submitted via the online platform at Power Advocate. Only accepted registrants are permitted to submit offers.
 - Register through Power Advocate at <https://www.poweradvocate.com/pR.do?okey=58234&pubEvent=true>.
 - PG&E strongly encourages you to register well in advance of Offer due date of **July 28th at 12:00 PM (PPT)**.
- PG&E will only consider Offers that, as of the submittal deadline, are complete and conforming Offers.
 - PG&E will notify Participants of errors (e.g. incomplete or incorrect documents) and will allow two (2) Business days to correct.
- By submitting an Offer into this RFO, each Participant is required to abide by the confidentiality obligations specified in Section IX of the BioRAM Protocol.

Keys to a Successful Proposal

- Sellers may choose the option to bid a single project with four (4) variations. Variations include:
 - Size
 - Delivery Term¹
 - Fixed Price vs. Escalating Price
 - Full (or Partial) Capacity Deliverability Status vs. Energy Only²
- Submit a competitively priced Offer – price refreshes are not allowed.
- Submit a complete Offer including:
 - Most recent Interconnection Study or Interconnection Agreement, where applicable
 - Supplier Diversity questionnaire

¹ PG&E has a preference for shorter Delivery Terms.

²Participants are encouraged to submit an Energy Only bid (instead of or in addition to their deliverability bid) if there is any chance the deliverability bid may be declared ineligible.

Required Offer Submission Forms

- Offer package must be in the format as specified in the BioRAM Protocol.
- Fully Completed Offer Form; includes Developer Experience and Supplier Diversity Questionnaire (Appendix A). Format: MS Excel.
- Completed PPA Cover Sheet and Appendix XIII (Appendix B). Format: MS Word.
- Site Control Questionnaire and Attestation (Appendix C). Format: PDF and applicable GIS data file format.
- Acknowledgement and Commitment of Site Owner (Appendix D). Format: PDF.
- Interconnection Studies. Format: PDF or MS Word.
- Single Line Diagram. Format: PDF

Note: PG&E will review and ensure that the PPA cover sheet and required Appendix XIII are complete and meet the terms of the PPA during the bid evaluation process. Incomplete documentation will require additional communication to resolve any issues.

Communications and Website

- RFO website (www.pge.com/rfo/bioram) provides everything you need to submit an offer, including (but not limited to) the following:
 - RFO Documents for the solicitation
 - Detailed instructions for submitting Offers(s) using Power Advocate
 - Announcements, updates and Q&A
- All solicitation communications should be directed to: RAMRFO@pge.com with a copy to the Independent Evaluator at arroyosecoconsulting@gmail.com

Offer Form Structure

- Instructions
- Validation Worksheet
- Appendix A1: Participant Information and Developer Experience
- Appendix A2: Project Description and Contract Information
- Appendix A3: Energy Pricing Sheet
- Appendix A4: Estimated Energy Production Profile
- Appendix A5: Supplier Diversity
- Help

Instructions

Validation

Developer Experience

Product Description

Energy Pricing

Gen Profile

Supplier Diversity

Help

Offer Form – Instructions

- Be sure to enable macros when opening the Offer Form.
- Instruction tab provides clear directions on completing the offer form.
- Please make sure you save and submit the form in Microsoft Excel “.xlsb” format. **No other formats will be accepted.**
- Each cell with a yellow background must be filled out. Once completed the yellow background will disappear.
- Grayed out cells are auto-calculated cells.
- Help information is available for each field where data can be entered. Select a field and then click the “Help” button at the top of the tab.
- If the word “Complete” does not appear at the top of the page the form will be deemed invalid and returned to you.

Offer Form – Developer Experience

Counterparty Information					
Counterparty/Legal Entity Name	ABC Renewables				
Street Address	123 Main Street				
City	Renewables	State	CA	Zip Code	12345
Country	USA				
Website					

Legal entity is the legal name that will be signing the PPA

Developer Information					
Developer Name:	ABC Renewables				
Street Address	123 Main Street				
City	Renewables	State	CA	Zip Code	12345
Authorized Contact #1			Authorized Contact #2		
First Name		First Name			
Last Name		Last Name			
Title		Title			
Phone 1		Phone 1			
Phone 2		Phone 2			
Email		Email			

The participant must provide evidence that one member of the development team has completed at least one project of similar technology and capacity or have begun construction of a least one similar project.

Key Team Members	Project Developer	Project Title/Role	Project Name	Technology Type	Size (MW)	COD
Jane Doe	Jane Doe	Principal Developer	Forest Biomass Project 1	Biomass	10.00	1/1/2012
Jane Doe	Jane Doe	Project Manager	Forest Biomass Project 2	Biomass	50.00	5/1/1995

Offer Form – Developer Experience

Please be sure to read each attestation and affirmation on the Developer Experience tab. A number of these items are specific to and/or new to this RFO.

Acknowledgement of Protocol	
By selecting "Yes" participant hereby agrees to the terms of the Solicitation Protocol. Participant acknowledges that any costs incurred to become eligible or remain eligible for the solicitation, and any costs incurred to prepare an offer for this RFO are solely the responsibility of Participant.	<Choose>
Section IX: Participant will abide by the confidentiality terms and conditions.	
Section XIV: Participant knowingly and voluntarily waives all remedies or damages at law or equity concerning or related in any way to the Solicitation.	
Electronic Signature _____	Select "Yes" to certify that the typed name acts as your electronic signature
Title _____	<Choose>
Participant Authorization	
By selecting "Yes", participant hereby confirms that they are "a duly authorized representative of Participant."	<Choose>
Electronic Signature _____	Select "Yes" to certify that the typed name acts as your electronic signature
Title _____	<Choose>
Attestation	
By providing the electronic signature, below, Participant hereby attests that all information provided in this Offer Form and in response to this RAM RFO is true and correct to the best of Participant's knowledge as of the date such information is provided.	<Choose>
Electronic Signature _____	Select "Yes" to certify that the typed name acts as your electronic signature
Title _____	<Choose>
Affirmation of ability to perform all obligations under the PPA	
I have read and understand the PPA and attest that we are able to perform all obligations under the PPA and Protocol.	<Choose>
Electronic Signature _____	Select "Yes" to certify that the typed name acts as your electronic signature
Title _____	<Choose>
Affirmation of project capacity capability to comply with Section 3.9(q)	
This Project has the capability to comply with Section 3.1(q) (Seller Equipment Required for Curtailment Instruction Communications) of the PPA.	<Choose>
Electronic Signature _____	Select "Yes" to certify that the typed name acts as your electronic signature
Title _____	<Choose>

Offer Form – Product Description



Appendix A2: Participant Proposal Project Description and Contract Information
 There are 52 missing inputs. Please fill in all yellow highlighted cells in Appendix A2.

Help

List Missing Inputs

General Offer Information			
Total Offers		Offer Source	RAM
Offer #		Solicitation #	6
Variant	<Choose>	Bid ID	_Biomass_0_of_0_BIORAM2016_1
		Has this project previously been offered to PG&E?	<Choose>
		Is this project currently under contract?	<Choose>

Project Information			
Project Name			
Street Address			
Project Location			
City		State	CA
County		Zip Code	
Latitude		degrees	Longitude
CREZ (Click here for CREZ map)	<Choose One>	degrees	CREZ Location
Select Facility Status	<Choose One>		
Is the Project a Qualifying Facility?			
Is the project site subject to restrictions under the Williamson Act?		<Choose>	
Project Description			

Offer Information	
Product Type	<Choose One>
Transaction Type	<Choose One>
Capacity Type	<Choose One>
Project Size (MW)	
Contract Start Date	
Delivery Term (months)	<Choose One>
Avg Pre-TOD Price (\$/MWh)	-

CASIO Conversion Process	
Describe where you are in the CAISO Conversion Process	

Technology	
ERR Type	Biomass
CHP	<Choose>

Annual High Hazard Fuel %		
Calendar Year	Resolution	Seller
2016	40%	
2017	50%	
2018	60%	
2019 & beyond	80%	

HHZ Fuel % Burn

Technology Operating Experience		
	Site #1	Site #2
Project Name		
Location (City, St)		
Capacity (MW)		
Website		

Site Control	
Type of Site Control	<Choose One>
Enter Site Control Date:	
Site Owner Name (current):	
Ownership Type over Term:	<Choose One>
Site Owner Address:	
Site Owner City:	
Site Owner State:	<Choose One>
Site Owner ZipCode:	
Site Owner Phone #:	

Electrical Interconnection Information	
Interconnection App. Status	<Choose One>
Interconnection Utility:	<Choose One>
Point of Interconnection:	



Offer Form Sequencing

Incorrect Offer sequencing is one of the main causes for delays in Offer processing. Below is an example of incorrect and correct sequencing. Please ensure your Offers meeting this criteria to ensure timely Offer processing with minimal back-and-forth communication between PG&E and the developers.

**Incorrectly Sequenced Offers:
1 Offer with 3 Variants**

Total Offers	1
Offer #	2
Variant	a (base)

Total Offers	1
Offer #	2
Variant	b

Total Offers	1
Offer #	3
Variant	c

**Correctly Sequenced Offers:
2 Offers with 3 Variants**

Total Offers	2
Offer #	1
Variant	a (base)

Total Offers	2
Offer #	2
Variant	a (base)

Total Offers	2
Offer #	1
Variant	b

Total Offers	2
Offer #	2
Variant	b

Total Offers	2
Offer #	1
Variant	c

Total Offers	2
Offer #	2
Variant	c

Offer Form – Product Description

Interconnection Information

Offer Information	
Product Type	Baseload
Transaction Type	Excess Energy
Capacity Type	Full Capacity Deliverability
Project Size (MW)	20.00
Contract Start Date	1/1/2018
Deliverability Date	1/1/2019
Delivery Term (months)	20.00 240.00
Avg Pre-TOD Price (\$/MWh)	-

If Partial or Full Capacity Deliverability are selected, be sure to fill in the Deliverability Date based on your interconnection documentation.

An estimate of average pre-TOD price will be automatically populated after the revenue calculator is run.

Interconnection details are required in the Electrical Interconnection Information section.

Electrical Interconnection Information				
Interconnection App. Status	Phase II study or equivalent complete			
Interconnecting Utility	PG&E	Point of Interconnection	Interconnection Point	
Interconnection Queue	PG&E WDT	Closest Substation	Substation X	
Queue Number	WD-xxxx	Status of Interconnection Point	Existing	
Interconnection Net Capacity	20	MW		
Full Capacity Deliverability/Energy Only?	Full Capacity Deliverability			
Interconnection part of Cluster 5 or Later Studies?	No	Direct Assigned Cost (\$)		
Interconnection Deliverability Option		Area Delivery Network Upgrade Costs (\$)	\$0.00	
		Local Delivery Network Upgrade Costs (\$)	\$50,000.00	
Interconnection Voltage	220	kV	Reliability Network Upgrade Costs (\$)	\$0.00
Interconnection Level	Transmission		Total Network Upgrade Costs (\$)	\$50,000.00
Delivery Market	NP15		Network Upgrade Construction Time (months)	
Other Characteristics		Deliverability % (for partial deliverability, list % of full deliverability)	100.00%	

Offer Form – Energy Pricing

TOD Factors for Each TOD Period			
Period	1. Peak	2. Mid-Day	3. Night
A. July - September	1.479	0.604	1.087
B. October - February	1.399	0.718	1.122
C. March - June	1.270	0.280	1.040

Pricing Type **Escalating** ← Step 1
 Escalation Rate **1.00%** ← Step 1a

Select either fixed or escalating Pricing Type. Fixed pricing requires inputting only first year price whereas Escalated pricing requires first year price and annual escalation rate.

Contract Year Number	Contract Year Start Date (mm/dd/yyyy)	Contract Year Stop Date (mm/dd/yyyy)
1	01/01/18	12/31/18
2	01/01/19	12/31/19
3	01/01/20	12/31/20
4	01/01/21	12/31/21
5	01/01/22	12/31/22
6	01/01/23	12/31/23
7	01/01/24	12/31/24
8	01/01/25	12/31/25
9	01/01/26	12/31/26
10	01/01/27	12/31/27
11	01/01/28	12/31/28
12	01/01/29	12/31/29
13	01/01/30	12/31/30
14	01/01/31	12/31/31
15	01/01/32	12/31/32
16	01/01/33	12/31/33
17	01/01/34	12/31/34
18	01/01/35	12/31/35
19	01/01/36	12/31/36
20	01/01/37	12/31/37

Contract Capacity (MW)	Expected Annual Capacity Factor (%)	Contract Quantity: Expected Annual Net Energy (MWh)	Contract Price (\$/MWh)
20.00	100.00%	175,200	\$89.23
20.00	100.00%	175,200	\$90.12
20.00	100.27%	175,680	\$91.02
20.00	100.00%	175,200	\$91.93
20.00	100.00%	175,200	\$92.85
20.00	100.00%	175,200	\$93.78
20.00	100.27%	175,680	\$94.72
20.00	100.00%	175,200	\$95.67
20.00	100.00%	175,200	\$96.62
20.00	100.00%	175,200	\$97.59
20.00	100.27%	175,680	\$98.57
20.00	100.00%	175,200	\$99.55
20.00	100.00%	175,200	\$100.55
20.00	100.00%	175,200	\$101.55
20.00	100.27%	175,680	\$102.57
20.00	100.00%	175,200	\$103.59
20.00	100.00%	175,200	\$104.63
20.00	100.00%	175,200	\$105.68
20.00	100.27%	175,680	\$106.73
20.00	100.00%	175,200	\$107.80
	100.07%	175,320	\$98.24

Offer Form – Generation Profile

IMPORTANT:

- 1) Please provide a generation profile forecast of the project's average-day net output energy production, stated in MW by hour, by month and by year. Generation entered here should exclude onsite use and should be entered in calendar year format.
- 2) The template is designed and defaulted such that the generation profile should reflect the project's average-day net output at full capacity before degradation. The template defaults that the only changes to the generation profile through the term of the contract will be caused by annual degradation.
- 3) Please run the "Calculate Expected Revenue" macro using the button in Cell AE3 after the generation profile has been completed. **Disclaimer: The revenue calculator embedded in the Offer Form provides illustrative examples only. It is not intended to be relied on for the purposes of making a decision in relation to your offer. PG&E encourages you to calculate your project's expected revenues using your own models.**

Annual Degradation (%)	0.00%
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You must calculate (or recalculate) using the green button above before submitting this offer

Month	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400
Jan	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Feb	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Mar	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Apr	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
May	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Jun	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Jul	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Aug	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Sep	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Oct	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Nov	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Dec	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0

Calculate Expected Revenue

Instruction:

To calculate the "Expected Revenue", please ensure the following information is completed:

- 1) Full generation profile pertaining to all the contract years.
- 2) Pricing.

Expected Revenue	Total MWh	Avg Capacity Factor	Avg Post TOD-Price	Avg annual Contract Quantity(MWh)
268,237,179	2,980,440	85.00%	90.00	149,022

The revenue calculator embedded in the Offer Form, provides illustrative examples only. It is not intended to be relied upon for the purpose of making a decision in relation to your offer.

Interconnection Information

Qualifying Facilities (QF)

- CAISO Market Participant – New Resource Implementation (NRI) Process complete
- QFs without changes to total capability and electrical characteristics
 - Negotiate Interconnection Agreement (IA) with Electric Generation Interconnection (EGI)
 - 90 Calendar Days (CD)
 - Replaces QF's Special Facilities Agreement (SFA)
- Repowering QFs
 - CAISO Repowering Facilities Study
 - \$10K deposit, at least 120 Business Days
 - Negotiate IA
- QFs with any change to total capability and electrical characteristics
 - Must submit a new Interconnection Request

Typical Study Timelines

Application to Executed Interconnection Agreement

For projects requiring new interconnection studies:

Grid Controller	Fast Track	Independent Study	Cluster
CAISO*	5 months	10 months	2.5 years
PG&E	7 months	10 months	2 years

Note*: Subject to CAISO Tariff.

Intermission

Q & A