

EXHIBIT 8

Southern California Gas Company

SoCalGas Pilot Project Proposal for Ducor (Revised)

Submitted by Kendra Talley, Southern California Gas Company



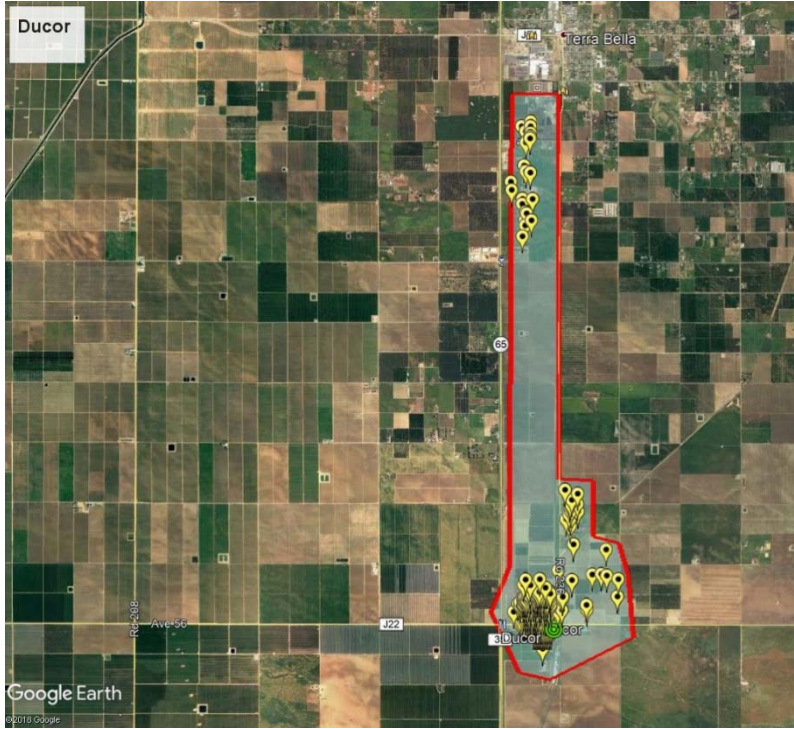
Table of Contents

1. Proposal Summary <u>Overview</u> : Bringing Natural Gas Service to Ducor.....	4
Expected Household Savings from Natural Gas..... <u>Figure 1. Map of community and location of natural gas service extensions.....</u>	4 4
Home Conversion, Services, and Benefits.....	5 5
Community Construction.....	5 5
Funding for the Natural Gas Extension and Conversions.....	5 5
2. SoCalGas Pilot Project Proposal Rationale and Expected Outcome	65 65
a. Objectives and Goals.....	65 65
b. Quantitative and Qualitative Analysis.....	65 65
Pre-Pilot Average Annual and Monthly Bills.....	87 87
<u>Table 1: Estimated pre-pilot propane usage and cost per household.....</u>	<u>7</u>
Post-Pilot Average Annual and Monthly Bills	<u>7</u>
<u>Table 2: Estimated post-pilot natural gas usage and cost per household.....</u>	<u>8</u>
<u>Anticipated Non-Energy Benefits</u>	<u>8</u>
Household Costs	98 98
Total Cost of SoCalGas Pilot Project Proposal <u>9</u>	
<u>Table 3: Total cost estimates for Ducor.....</u>	<u>9</u>
Rate Impact of SoCalGas Pilot Project Proposal	<u>9</u>
<u>Table 4: Estimated residential rate impact.....</u>	<u>10</u>
c. Specific Outcomes to be Achieved.....	11 10
<u>Table 5: Estimated annual emissions reductions per household.....</u>	<u>10</u>
3. SoCalGas Pilot Project Proposal Implementation Plan	12 11
a. Summary of Scope and Approach.....	12 11
b. Community Engagement/Outreach Plan.....	14 13
c. <u>Landlord/Tenant concerns.....</u>	<u>16</u>
<u>d. Tariffs and Existing Ratepayer Program Utilization Plan.....</u>	15 16
<u>e. Non-ratepayer Funding Sources and Other Program Utilization Plan</u>	<u>18</u>
<u>f. Siting and Safety Plan</u>	18 19
<u>g. Potential Infrastructure Coordination Opportunities.....</u>	<u>20</u>
<u>h. Management Plan.....</u>	19 20
<u>Table 6: Roles of project team members</u>	<u>20</u>

gi.	Data Gathering and Evaluation Plan	20 <u>22</u>
hj.	Replication Plan	23
ik.	<u>Conversion</u> Risk Management Plan	24 <u>23</u>
4.	SoCalGas Pilot Project Proposal Timeline and Reporting	26 <u>25</u>
a.	<u>Pilot</u> Timeline	26 <u>25</u>
	<u>Table 7: Estimated Pilot Timeline</u>	<u>25</u>
b.	<u>Construction</u> Reporting	28 <u>27</u>
5.	SoCalGas Pilot Project Proposal Budget Summary.....	28
	<u>Table 8: Budget summary</u>	<u>28</u>
	<u>Bulk purchasing of appliances</u>	<u>29</u>
Appendix A –	Energy Usage and Conversion Calculations	30
	Unit Conversion Rates	30
	<u>Calculations for</u> Table 1- Calculations	30
	<u>Calculations for</u> Table 2- Calculations	31
Appendix B –	GHG Calculations	32 <u>33</u>
	Emission Factors	32 <u>33</u>
	Table 5 -Calculations- 32 <u>for Table 5</u>	<u>33</u>
Appendix C –	Construction Cost Estimates.....	32 <u>34</u>
	“To the meter” Construction Cost Estimates	32 <u>34</u>
	Location Map ... 34 <u>Figure 2. Diagram showing “to the meter” and “behind the meter” at household</u>	<u>34</u>
	“Beyond the meter” Cost Estimates and Contingencies	34 <u>35</u>
	Sample Appliance Packages.....	35 <u>36</u>
Appendix D -	Data Elements in Data Gathering Plan	39
	<u>Table 9: Target data to capture</u>	<u>39</u>
Appendix E -	Risks and Issues.....	42
	<u>Table 10: Risk/issues and mitigation plans</u>	<u>42</u>

1. Proposal ~~Summary~~Overview: Bringing Natural Gas Service to Ducor

Southern California Gas Company (SoCalGas) is honored to prepare this proposal to provide safe, affordable and reliable natural gas to the residents of ~~Ducor~~California City to help to meet the goals of Assembly Bill (AB) 2672, and lower household energy costs- in the community.



POSSIBLE NEW NATURAL GAS HOUSEHOLDS IN DUCOR

SoCalGas has served ~~Central~~ California as a responsible energy provider, employer and neighbor for over 150 years. SoCalGas is proposing to provide natural gas service to Ducor by ~~extending existing pipelines~~, installing gas service to each household and replacing existing propane appliances with new, energy efficient natural gas appliances - all, for no cost to households. Based on surveys by ~~our~~SoCalGas planners, ~~we~~SoCalGas estimate that there are approximately 201 households in Ducor that may be able to convert from propane to natural gas- for the pilot in this

proceeding for a total cost of approximately \$12M and an average cost per household of approximately \$59,700.

Expected Household Savings from Natural Gas

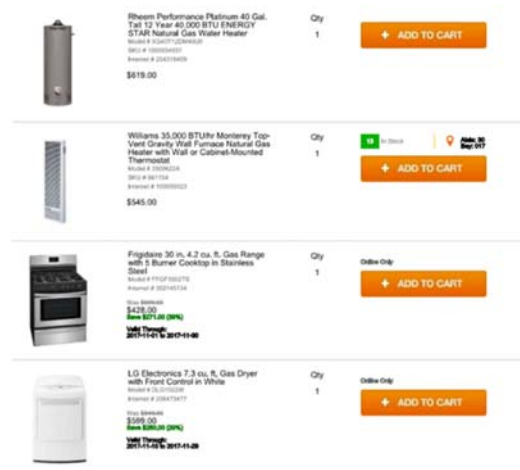
~~Working together, SoCalGas, Pacific Gas & Electric Company (PG&E) and Southern California Edison Company (SCE) have estimated the average energy costs in Ducor. Using a propane cost of \$2.57 a gallon, SoCalGas estimates that most households spend around \$2,304 annually for propane and electricity. SoCalGas estimates that by converting the homes in Ducor to natural gas, the annual savings per home could be around \$780 per year, or \$65 per month (assuming the household qualifies for the California Alternative Rates for Energy (CARE) rate discount).~~

Estimated Current Monthly Costs		Estimated Future Average Monthly Costs (CARE)		Estimated Future Average Monthly Costs	
Propane	\$ 92.00	Natural Gas	\$ 27.00	Natural Gas	\$ 34.00
Electricity	\$ 100.00	Electricity	\$ 100.00	Electricity	\$ 100.00
Monthly Total	\$ 192.00		\$ 127.00		\$ 134.00

Annual Total	\$ 2,304.00		\$ 1,524.00		\$ 1,608.00
Annual Savings			\$ 780.00		\$ 696.00

Home Conversion, Services, and Benefits

SoCalGas plans to begin by inspecting each of the approximate 201 households to estimate the amount of work needed before installing pipelines in the ground. Once pipelines are installed, SoCalGas will install a new gas meter, new pipes in the yard, new lines in the house (if needed) and install new appliances. SoCalGas will replace the furnace, water heater, cooking stove and clothes dryer if they currently use propane. An example of appliances to be provided are shown here. Actual appliances installed may differ in brand, size, performance, cost, and color.



EXAMPLES OF NATURAL GAS APPLIANCES

Eligible homes will be weatherized by the Energy Savings Assistance Program that can make homes warmer in the Winter and cooler in the Summer. The Energy Savings Assistance Program may install items such as attic insulation, water heater blankets, weather stripping, and perform minor repairs to exterior doors or windows at no cost.

Each home will have a new Advanced Meter so Ducor customers can access their account online or use SoCalGas' mobile app to view their current account information, check balances, pay bills, and request inspection and adjustments of appliances at no cost service. To help with managing household costs, SoCalGas offers a level pay plan where customers pay the same amount each month throughout the year. Also, if a member of a household has a serious health condition, the Medical Baseline Allowance provides an additional discount on natural gas bills.

Community Construction

Construction in Ducor will require new pipelines to be installed next to existing streets and is estimated to take approximately 5 months to complete. All work, including household conversions is estimated to take approximately 30 months to complete. SoCalGas will work to minimize any disruption to the community including wildlife and any cultural artifacts. SoCalGas' Environmental Services Department has dedicated subject matter experts in handling natural resources (like burrowing owls), cultural resources, water quality, air quality and hazardous materials.

Funding for the Natural Gas Extension and Conversions

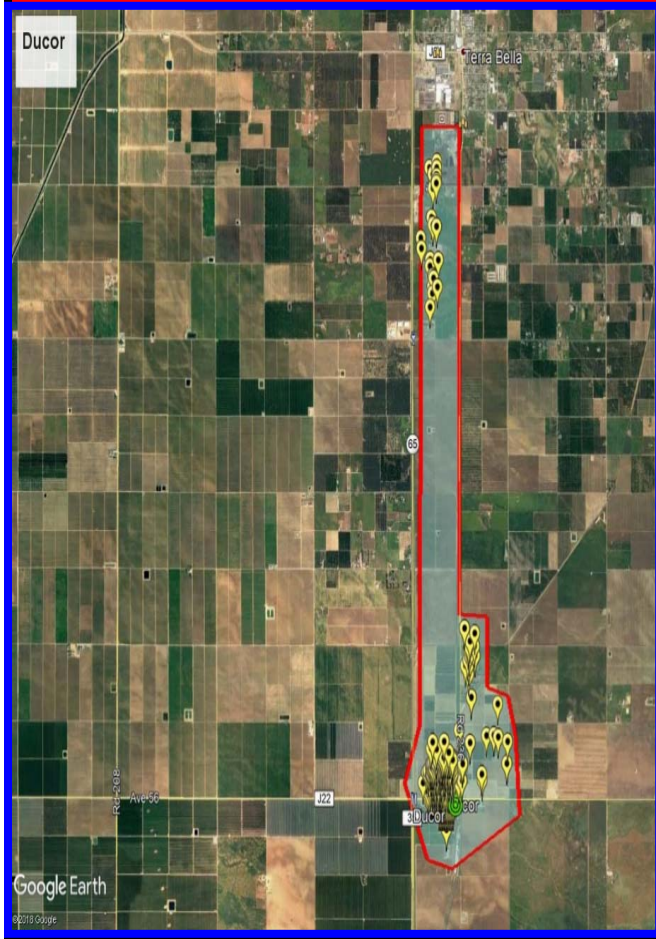


FIGURE 1. MAP OF COMMUNITY AND LOCATION OF NATURAL GAS SERVICE EXTENSIONS

The \$12.5 million cost to bring natural gas to Ducor would be paid for by adding a few cents per month to the bills of all SoCalGas customers. The cost customers in Ducor will pay for natural gas will be the same as other residential customers. Customers who qualify as a low-income household for the CARE discount will receive a 20% reduction on their gas bills. SoCalGas' bills already include payment for the on-going maintenance of the gas system, meters, and our no-cost appliance services. There are no other charges for Ducor residents.

2. SoCalGas Pilot Project Proposal Rationale and Expected Outcome

a. Objectives and Goals

The objectives of the SoCalGas Pilot Project Proposal include bringing safe, affordable, and reliable energy to Ducor in a cost-effective manner that will improve the health, comfort, and safety of the residents by replacing household propane and wood use with natural gas. Currently, some residents without natural gas service use alternative fuel sources such as propane or wood to heat their homes, food, and water. These alternative sources are expensive, creating a significant energy burden on the residents, are less environmentally friendly, and expose residents to health and safety issues. The goals of the SoCalGas Pilot Project Proposal are to:

- Reduce the energy burden and insecurity in the community by replacing household propane and wood use with natural gas.
- Provide a baseline reduction in energy burden by replacing household propane and wood use with natural gas to assess cost-effectiveness of natural gas in remaining communities. The baseline reduction will assist the California Public Utilities Commission (CPUC or Commission) to analyze economically feasible and replicable options to increase access to affordable energy in disadvantaged communities.
- ~~Provide quantitative measurement of~~ Along with the reduction in energy burden ~~reduction using~~ use actual post-pilot energy bills and use qualitative surveys to assess energy security, health, comfort, and safety. This information can be used to determine replicability for the remaining SJV DACs.
- ~~Identify effective approaches to energy usage education and energy management engagement in the community. Assess the impact of customized energy education and usage alerts to help residents with access to natural gas minimize their energy burden and insecurity.~~ Assess the effectiveness of education materials, behavioral messaging about energy conservation (such as usage alerts), and customer engagement levels with mobile apps, online tools, and smart thermostats. Energy efficiency is one of the lowest cost methods to reduce energy demand and with over 70% of California homes currently using natural gas for space and water heating, SoCalGas believes that strategies driven by behavioral messaging combined with innovative energy efficiency measures can have a positive effect on reducing GHG emissions from residential natural gas use – estimated in 2016 to be the source of under 6% of all GHG emissions in the state¹. Successful measures can be replicated for the remaining SJV DACs.
- Assess energy efficiency measures from household weatherization efforts during the project to identify those measures having the greatest potential benefit towards reducing energy usage. During weatherization, identify common “barrier” issues preventing implementation of measures and document mitigation approaches along with “best practices.” Successful measures can be replicated for the remaining SJV DACs.

¹ California Air Resources Board (2018). GHG Emission Inventory (GHG EI) 2000-2016. Data and documentation is available on-line at: <https://www.arb.ca.gov/cc/inventory/data/data.htm>.

b. Quantitative and Qualitative Analysis

Communities selected for a SoCalGas Pilot Project Proposal were identified in the Scoping Memo for Phase II of R.15-03-010. The ruling directed SoCalGas to file pilot project proposals for the identified communities located in SoCalGas' service territory. In addition, SoCalGas used the following criteria ~~for selection of~~ to assess the appropriateness of each community as a natural gas pilot ~~communities~~community:

- Affordability and costs (both short- and long-term) to reduce the energy burden and insecurity of residents;
- Community support of natural gas service extension;
- Community benefits, including improvements to health, comfort, safety and the environment (e.g., improvements to air quality and reduction in greenhouse gas (GHG) emissions); and
- Direct and indirect economic benefits to the community and the increase in community development made possible by leveraging a natural gas infrastructure. Once natural gas pipelines are in place to the community, extension of natural gas service to commercial or public facilities would be more feasible.

SoCalGas developed this natural gas pilot proposal for Ducor with the following considerations:

~~Using the criteria above, Ducor was selected for natural gas extension for the following reasons:~~

- ~~Ducor would see a significant reduction in energy burden from a less expensive energy source along with reduced costs to maintain end use appliances over time. Natural gas is more affordable than propane and it does not require tanks that need to be monitored constantly and refilled regularly to prevent unexpected loss of space and water heating. Since SoCalGas customers can request to have their natural gas appliances inspected and adjusted for no cost, there are lower long term maintenance costs for residents. Significant non-energy benefits (as listed below in "Anticipated Non-Energy Benefits") would be recognized by conversion of households from propane to natural gas.~~
- The cost of extending natural gas to Ducor was determined by the number of households, their proximity to each other, and their proximity to an existing natural gas pipeline. The community of Ducor has approximately 201 households currently using propane for space and water heating. The households are not located near an existing natural gas pipeline. A pipeline extension will need to be extended from our existing pipeline system located within the community of Terra Bella. The identified households are within the limits of Ducor CDP and are relatively close to one another. Households located along the path of the main extension to Ducor will require services only and are included in the scope of this proposal.
- Ducor has demonstrated a long-term interest in natural gas service, recently working with the Tulare County Board of Supervisors to explore options to bring natural gas service to the community.

- Using natural gas for space and water heating produces less GHG than propane and wood and does not produce PM2.5⁺² from wood combustion, improving local air quality.
- Ducor is home to Ducor Union Elementary School. It has energy needs currently met by propane and electricity.
- Once natural gas pipelines are in place to the community, extension of natural gas service to the school and other economic development opportunities would be more affordable.

Pre-Pilot Average Annual and Monthly Bills

To calculate pre-pilot average annual and monthly propane usage for Ducor, SoCalGas analyzed 2016 and 2017 ~~existing~~actual natural gas usage in Ducor ZIP code 93218,²³ and then calculated the equivalent amount of estimated annual propane usage per household.³⁴ Using ~~\$2,573.50~~ as the average cost per gallon of propane,⁴⁵ SoCalGas calculated the equivalent estimated monthly and annual propane bill for the average household⁵⁶ in Ducor. ~~Pre-pilot electric usage and charges were provided by Southern California Edison (SCE).~~ Detailed assumptions and calculations for modeled pre-pilot usage and bills can be found in Appendix A.

Table 1: Estimated pre-pilot ~~average energy~~propane usage and ~~charges~~cost per household

Estimated Pre-Pilot		Estimated Usage
Propane	\$ 92	35.6 gallons
Electricity	\$ 100	682.6 kWh
Monthly Total	\$ 192	
Annual Total	\$ 2,304	

Estimated Pre-Pilot Propane		Estimated Usage
Monthly Cost	\$ 125	35.6 gallons
Annual Cost	\$ 1,500	

⁺² PM2.5 is particulate matter 2.5 micrometers or less in diameter with the potential of causing serious health problems.

²³ Ducor currently does not have access to natural gas so actual pre-pilot natural gas usage and bills are not available for this specific community. Residential usage available in January 2018 from the Energy Data Request Program (EDRP) was used instead.

~~³ To convert natural gas therms to propane gallons, the BTU of natural gas used was converted to gallons of propane using the BTU value for propane.~~

~~⁴ To convert natural gas therms to propane gallons, the BTU of natural gas used was converted to gallons of propane using the BTU value for propane.~~

~~⁴⁵ In conjunction with SCE, PG&E, and the Pilot Team, the average cost of propane was calculated based on propane price per gallon plus supplier delivery fees for the counties of Fresno, Madera, San Joaquin, and Tulare as found on <http://www.checkpropaneprices.com> in December 2017. estimated based on feedback received from community residents during the May and June SJV Community Workshops.~~

⁵⁶ Details by household type (single-family, multifamily and mobile home) are not available at this time and will be available once in-home data surveys are completed.

The Pilot Team⁶⁷ and the participating Investor Owned Utilities (IOUs)⁷⁸ do not have reliable data on the average annual cost of wood or the average annual amount of wood used by residents in Ducor at this time. As such, SoCalGas did not include a pre-pilot average annual cost for wood space or water heating. More details will be available once in-home data surveys are completed.

Post-Pilot Average Annual and Monthly Bills

As shown below, natural gas using the (CARE) rate is a more affordable energy source than propane and provides a significant reduction in energy burden and energy insecurity, potentially lowering the average household energy heating bill in Ducor by up to 3484% compared to using propane. ~~The SoCalGas Pilot Project Proposal incorporates CARE and Energy Savings Assistance Program but does not require subsidies from any other sources nor does it require out-of-pocket costs for participating households.~~

Absent in-home data surveys that would determine household conditions and detailed statistics for energy sources, SoCalGas is modeling conversion of 100% of the 201 households in Ducor from propane to natural gas. SoCalGas ~~assumed changes to removed~~ pre-pilot electric usage ~~to be negligible~~ in the revised proposal due to a lack of agreement by the electric IOU's on how to calculate pre and post pilot electric usage. Detailed assumptions and calculations for modeled post-pilot usage and charges can be found in Appendix A.

Table 2: Estimated modeled post-pilot average energy natural gas usage and charges cost per household

Estimated Pre-Pilot		Estimated Post-Pilot (CARE)		Estimated Post-Pilot	
Propane	\$ 92.00	Natural Gas	\$ 27.00	Natural Gas	\$ 34.00
Electricity	\$ 100.00	Electricity	\$ 100.00	Electricity	\$ 100.00
Monthly Total	\$ 192.00		\$ 127.00		\$ 134.00
Annual Total	\$ 2,304.00		\$ 1,524.00		\$ 1,608.00
Annual Savings			\$ 780.00		\$ 696.00

Estimated Pre-Pilot Propane		Estimated Post-Pilot (CARE)		Estimated Post-Pilot	
Propane	\$ 125.00	Natural Gas	\$ 27.00	Natural Gas	\$ 34.00
Annual Total	\$ 1,500.00		\$ 324.00		\$ 408.00
Estimated Annual Savings			\$ 1,176.00		\$ 1,092.00

⁶⁷ The Pilot Team refers to Self-Help Enterprises, Center for Race, Poverty, and the Environment, and the Leadership Counsel for Justice and Accountability.

⁷⁸ IOUs are defined in this proceeding as PG&E, SCE, and SoCalGas.

Anticipated Non-Energy Benefits

The non-energy benefits listed below are anticipated to be seen by the community after conversion to natural gas from propane or wood for heating:

- Increased access to a resilient energy resource that provides heat and hot water for homes increases household health and comfort. Many natural gas appliances will operate during a power outages and households with wall heaters can still stay warm, have hot water and prepare warm meals.
- Increased options for economic development and expansion to the community. Natural gas infrastructure in the community provides an attractive low-cost energy option for potential commercial or agricultural business when considering locations, as-well-as developers of multi-family or public facilities. Unlike other energy solutions that only produce energy limited for each household, natural gas can be readily scaled for more residential, agricultural and commercial demand.
- Increased household comfort as a result of the reliability of natural gas supply compared to propane which serves the household by a tank that needs **to be monitored constantly and refilled regularly to prevent unexpected loss of space** heating and water heating. This will reduce the stress and impact of scheduling and negotiating with propane suppliers and the added diesel truck emissions in the community from propane delivery.
- Reduced emissions, improved appliance performance and safety from appliance maintenance provided by SoCalGas at no-cost to households
- Improved household financial management from enrollment in SoCalGas' Level Pay Plan or Automatic Monthly Payments and/or ability to request payment extensions online or by phone, reducing the potential need for unsecured lending institutions.

Household Costs

The SoCalGas Pilot Project Proposal incorporates CARE and Energy Savings Assistance Program but does not require subsidies from any other sources nor does it require out-of-pocket costs for participating households. Additionally, SoCalGas **will**proposes (with Commission approval) to waive the service establishment charges for all residents and, similar the Mobile Home Park Pilot program (MHP) (D.14-03-021), SoCalGas **will**proposes (with Commission approval) to waive deposit fees for low-income customers.

SoCalGas is proposing a financial cost-recovery approach similar to the MHP, such that all construction, household conversion and appliances costs would be covered under utility rates via a two-way balancing account. See “3.ed Tariffs and Existing Ratepayer Program Utilization Plan,” below.

Total Cost of SoCalGas Pilot Project Proposal

SoCalGas field planners ~~have recently~~ conducted drive-by surveys in Ducor to estimate the number of households⁸⁹ without natural gas and to better understand the terrain. SoCalGas is ~~using the drive-by survey counts (201 households) rather than those in the Phase I decision (D.17-05-014) (206 households⁹) to provide more accurate cost estimates. Initial in~~ proposing to convert 201 households counted in the drive-by surveys from propane to natural gas. In-home data surveys will be performed before the planning phase for the SoCalGas Pilot Project Proposal and the actual counts may change.

The estimated SoCalGas Pilot Project Proposal costs include:

- The natural gas infrastructure “to the meter,” which includes all infrastructure and substructures necessary to complete the distribution and service line extensions up to and including the individual meter, and will be owned and operated by SoCalGas; and
- “Beyond the meter” costs, which ~~include~~ includes house line, yard line, household conversion, contingency for household conversion issues, appliance purchase and installation costs.

The estimated SoCalGas Pilot Project Proposal cost for Ducor is approximately ~~\$12.5~~ 12M.¹⁰

Table 3: Total cost estimates for Ducor

“To the meter” Construction	\$ 8,989,000
“Beyond the meter” Conversion	\$ 2,136,000
Project Management and Outreach	\$ 498,800
Other¹¹	\$ 884,000
Total Pilot Project Cost Estimate	12,507,800

<u>“To the meter” Construction</u>	<u>\$ 8,288,500</u>
<u>“Beyond the meter” Conversion</u>	<u>\$ 2,156,200</u>
<u>Project Management and Outreach</u>	<u>\$ 511,000</u>
<u>Other¹¹</u>	<u>\$ 1,021,600</u>
<u>Total Pilot Project Cost Estimate</u>	<u>\$11,977,300</u>

⁸⁹ In determining which households to include within a community, SoCalGas considered the boundaries established by the U.S Census. If a property containing a habited structure was situated within approximately 100 feet of our proposed main extension but located outside of the community boundary, it was included within the community estimate. However, a property located more than approximately 100 feet from the main extension was not included as it could significantly increase the project costs.

⁹ ~~Original high level cost estimates developed and filed by SoCalGas used the household counts identified in Phase I.~~

¹⁰ Further details on scope and approach used to calculate total project cost estimate can be found later in this document and in Appendix C.

¹¹ ~~Includes escalation, Construction Work in Progress (CWIP), property tax, and Allowance for Funds Used During Construction (AFUDC).~~

¹¹ Includes escalation, Construction Work in Progress (CWIP), property tax, and Allowance for Funds Used During Construction (AFUDC).

Rate Impact of SoCalGas Pilot Project Proposal

~~At~~The proceeding has not provided guidance on pilot funding, therefore all SoCalGas Pilot Project Proposal costs including (but not limited to) the “to the meter” costs, the “beyond the meter” costs, project administration, and costs for project supplies ~~will~~have been calculated to be allocated across all ratepayers. Allocation of the SoCalGas Pilot Project Proposal costs across all ratepayers is an affordable and fair solution for these disadvantaged communities ~~with~~due to the minimal rate impact. Rate impact of the SoCalGas Pilot Project Proposal for Ducor on the average residential customer is estimated to be a range from \$0.00004/therm to a high of ~~\$0.00053~~0.00051/therm for years 2019 through 2021. Projections of the residential bill impact in the years 2019 through 2021 show minimal monthly increase range of ~~\$0.001~~0.00 to ~~\$0.018~~0.02 per month. Bill impact analysis detailed below shows that the SoCalGas Pilot Project Proposal can be undertaken at a very small cost to ratepayers.

Table 4: Estimated residential rate impact

		2019	2020	2021
Estimated Residential Bill	\$/month	\$38.70	\$38.71	\$38.71
Increase vs. 2018	\$/month	\$0.001	\$0.013	\$0.018
		0.00%	0.03%	0.05%
Year over Year Increase	\$/month	\$0.00	\$0.01	\$0.00
		0.00%	0.03%	0.01%

		<u>2019</u>	<u>2020</u>	<u>2021</u>
Estimated Residential Bill	\$/month	\$38.70	\$38.71	\$38.71
Increase vs. 2018	\$/month	<u>\$0.000</u>	<u>\$0.01</u>	<u>\$0.02</u>
		<u>0.00%</u>	<u>0.03%</u>	<u>0.04%</u>
Year over Year Increase	\$/month	<u>\$0.00</u>	<u>\$0.01</u>	<u>\$0.00</u>
		<u>0.00%</u>	<u>0.03%</u>	<u>0.01%</u>

Rate impact of the proposed SoCalGas Pilot Project Proposal on the average core¹² commercial and industrial customer is estimated to be a range from \$0.00002/therm to a high of ~~\$0.00020~~0.00019/therm for the years 2019 through 2021 and bill impact in the years 2019 through 2021 show minimal monthly increase range of \$0.01 to \$0.12 per month for customers using 300 therms/month.

c. Specific Outcomes to be Achieved

Reduction in Energy burden - Implementation of the SoCalGas Pilot Project Proposal will bring benefits to the residents of Ducor in several important ways. The affordability of natural gas should reduce the energy burden of the residents as they switch from propane and, in limited instances, wood, for home heating and cooking. Estimated annual savings range from ~~\$696~~1,092 to ~~\$780~~1,176 for participating households from replacing propane with natural gas (see Table 2

¹² Non-core rate increase is virtually non-detectible at \$0.00001/therm.

above). ~~SoCalGas is modeling 100% conversion from propane to natural gas in all 201 households identified by SoCalGas drive-by surveys.~~

Reduction in GHG Emissions - Natural gas appliances produce less CO₂ and NO_x than propane appliances. Using the same usage assumptions and estimates as in Table 1 and Table 2, SoCalGas estimated the annual household reduction in CO₂ in Ducor from replacing household propane use with natural gas. ~~Detailed assumptions and emission calculations can be found in Appendix B.~~

Table 5: Estimated annual emissions reductions per household

	Pre-Pilot Propane	Post-Pilot Natural Gas
Annual Household CO₂ lbs. Produced	5,293	4,182
Reduction in Annual Household CO₂ lbs.		1,111
Reduction in Annual Community CO₂ lbs.		223,348
2020 – 2030 Reduction in Community CO₂ lbs.		2,456,830

	<u>Pre-Pilot Propane</u>	<u>Post-Pilot Natural Gas</u>
<u>Annual Household CO₂ lbs. Produced</u>	<u>5,293</u>	<u>4,182</u>
<u>Reduction in Annual Household CO₂ lbs.</u>		<u>1,111</u>
<u>Reduction in Annual Community CO₂ lbs.</u>		<u>223,348</u>
<u>2020 – 2030 Reduction in Community CO₂ lbs.</u>		<u>2,456,830</u>

The estimated annual reductions in GHG for the 201 households in the community of Ducor is the equivalent to burning approximately 130,248 pounds of coal.¹³

~~As households are converted to natural gas, the new SoCalGas customers will have their households enrolled in and weatherized by the Energy Savings Assistance Program during the “beyond the meter” construction, which can make their households more energy efficient. Qualified customers will be enrolled in other bill assistance programs (e.g., CARE, Medical Baseline, usage alerts via text or email) to help them reduce and manage their monthly energy bills. They are also able to reduce their cost to maintain appliances by requesting no-charge service calls for appliance inspection and adjustment.~~

~~Additionally, the conversion of propane and wood to natural gas will reduce combustion and fire related safety threats, will reduce extreme temperature variations in the home, and will improve air quality.~~

~~The availability of natural gas service should increase the potential for economic development in Ducor. In the short-term, jobs will be created with local contractors doing “beyond the meter” work. In the long-term, natural gas service supports community development. Other indirect~~

¹³ According to the United States Environmental Protection Agency emissions gas equivalency calculator (<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>).

~~benefits of natural gas can include improvements to health and overall welfare (e.g., fewer sick days for workers and improved student attendance at schools).~~

Learnings from a Unique Test Group - With information from the pre-construction survey, data from installing new energy-efficient end use appliances, and data from weatherization measures in older households, SoCalGas will have a test population of pilot homes newly connected to the gas system to perform randomized control trials and compare data points such as:

- Energy usage to other customers and pilots in the San Joaquin Valley in the same climate zone;
- Energy usage to other customers with similar vintage households in other pilots;
- The effect of regular online viewing of usage and billing data, surveys, or Bill Tracker Alerts emails and SMS text;
- Interaction with Smart Thermostats;
- The efficiency and effectiveness of controlled conservation marketing on bill reduction, or targeted marketing based on customer segments; and
- Latency in bill payment and the effectiveness of targeted behavioral messaging, or the effectiveness of varying bill reminder cadence to reduce late payments and shutoffs.

This data points in combination with the appliance information will improve the ability to measure the actual reductions in energy burden from replacing household propane and wood use with natural gas, provide real-world measurements of the performance of new appliances in older weatherized households and will help to assess cost effectiveness in the remaining SJV DACs unserved and/or partially-served communities.

3. SoCalGas Pilot Project Proposal Implementation Plan

a. Summary of Scope and Approach

The ~~Dueor~~ SoCalGas Pilot Project Proposal for Ducor includes both the infrastructure for “to the meter” construction and the “beyond the meter” household conversion, appliance purchase, and the appliance installation effort required to convert each household to natural gas. In addition, this proposal includes several customer on-boarding initiatives.

Scope of the “to the meter” work includes (but is not limited to):

- Assessments to identify potential environmental and cultural issues related to “to the meter” construction;¹⁴

¹⁴ If environmental or cultural issues are found, costs and timeline may be impacted depending on reviews or permits triggered (e.g., California Environmental Quality Act (CEQA) review, National Environmental Policy Act (NEPA) review, Federal Habitat Conservation Plan, California Department of Fish and Wildlife (CDFW) Incidental Take Permit, Jurisdictional Delineation, Land Use Permits, Air Permits, Water Permits, Hazardous Materials and Waste, etc.).

- Installation of new gas systems (e.g., distribution mains, service lines, gas meters, advanced meter transmission units (MTUs), and regulator stations) along with the associated trenching, excavation, and substructure work;
- Site restoration work (e.g., paving, hardscape, and landscape); and
- Costs associated with construction management (e.g., planning of distribution mains and service lines, gas handling, administration of construction bid process, and completion sketches).

Scope of the “beyond the meter” work includes (but is not limited to):

- House and yard line trenching and installation;
- Gas piping to the point of service connection;
- Purchase and installation of energy efficient natural gas appliances;¹⁵
- Minor repairs required to complete installation of appliances to meet inspection requirements;
- Permitting and inspection;
- Energizing the house line and appliances; and
- Gas turn-on services.¹⁶

Each household in Ducor will vary in the level of effort required to convert to natural gas and pass inspection. Some households may require significant structural repair and improvement to bring them “up to code” prior to the conversion and installation of appliances. See “[3.k. Risk Management Plan](#)” [for a discussion on household conversion risk management](#) and “[Appendix E – Risks and Issues](#)” for a list of currently identified risks with “beyond the meter” construction.

SoCalGas would acquire neither ownership of, nor responsibility to maintain, the new distribution infrastructure on the customer-side of the meter. The gas meter would continue to be the demarcation point separating utility and customer. The gas meter will be installed at a location determined by SoCalGas, such that SoCalGas will have unfettered access to the meter. All households will have an Advanced Meter (AM) installed and online access to their account.¹⁷ In order to [increase](#)[maximize](#) energy conservation, [bill](#) management and [customer](#) engagement, SoCalGas proposes all participating households will be required to have an AM.

New SoCalGas customers would be:

- Offered no-cost energy savings household weatherization via Energy Savings Assistance Program measures, if qualified;
- Enrolled in low-income or cost-saving programs, such as CARE, if qualified;
- [Trained on appliance safety and the use of new technologies such as Smart Thermostats](#);
- Automatically enrolled in My Account to provide them online access to hourly usage;

¹⁵ Gas appliances may include gas range, dryer, water heater, and furnace. For further detail, refer to sample appliance packages included in Appendix C. Other propane end-uses and/or electric appliances will not be converted to natural gas.

¹⁶ Turn-on services will be performed by SoCalGas employees, who will put appliances into service at that time.

¹⁷ Two additional Data Collector Units (DCUs) are needed to provide appropriate network coverage in Ducor.

- Offered enrollment in ~~automated~~automatic bill payment ~~or~~plans;
- Offered enrollment in level-payment plans; and
- Enrolled in other electric rate or bill-reduction program to which they qualify.

Below is a preliminary listing of each phase for the “to the meter” and the “beyond the meter” construction effort in the SoCalGas Pilot Project Proposal for Ducor.

- The Pre-Planning Phase includes initial customer contact, community meetings, in-home data surveys, and initial household inspections.
- The Planning Phase includes planning of service lines and mains, ordering materials, sketching, construction bid process, and contractor selection.
- The Construction Phase constitutes a majority of the “to the meter” costs and efforts. It includes trenching, excavation, substructure work, the construction of service lines and mains up to and including the riser, setting the new meter, and site restoration work.
- The Post-Construction Phase refers to the necessary closure activities for the “to the meter” work. This phase includes reconciliations, completion sketches, and updates to our Geographical Information System (GIS).
- House line & Appliance Conversion Phase is “beyond the meter” work where each household will be prepared for natural gas. Work in this phase includes the installation of a yard line extension and extension to the new gas riser, conversion or possible replacement of the existing house line, installation of new appliances, and energizing the house line and new appliances.
- Pilot Analysis Stage is when actual reductions in energy burden and GHG are measured. Tests on behavioral messaging will occur to help improve EE messaging and content. Household surveys on appliance performance and changes to health, comfort and safety.

Coordination between meter sets, “beyond the meter” work, and new customer enrollment, including outreach, will be timed appropriately to minimize disruptions to community residents. For example, no “beyond the meter” work ~~will be performed~~is planned during winter months to ~~minimize impact to families~~prevent households from not having heating during cold weather.

b. Community Engagement/Outreach Plan

SoCalGas will have an Outreach team that will create and follow a Community Outreach Plan. The Community Outreach Plan defines the communication and outreach activities among external and internal stakeholders to provide two-way communication of construction timing and pilot objectives throughout the SoCalGas Pilot Project Proposal. The Community Outreach Plan will also describe opportunities for stakeholders to provide input both before and during construction. SoCalGas will consider input from members of the community, the Pilot Team and other stakeholders in the design, review and implementation of the Community Outreach Plan.

Because of the size and nature of this SoCalGas Pilot Project Proposal, community support will be crucial for a successful outcome, and outreach activities will be key to maintaining community support, thereby minimizing any impact to residents. Ducor is a ~~small~~ community of

approximately 741 residents living in 199 households.¹⁸ More than half of the residents own their homes (59.3%), with a 47.1% poverty rate, the median household income is just over \$30,000. Most Ducor residents self-identify as Hispanic, with around 79.9% native Spanish speakers.¹⁹

The Outreach team is responsible for community surveys and education activities, coordination with Community Based Organizations (CBOs) and other stakeholders involved in outreach, including customer assessment surveys. Once planning begins for project implementation, a stakeholder map will be defined for the community and will include local government agencies, CBOs and any economic development agencies. [MarketingCommunication](#) and outreach plans for the community will then be written based on [qualitative](#) information gathered by in-home [pre-pilot](#) data surveys done in the community.

[The pre-pilot survey will measure baseline quantitative and qualitative factors such as energy usage, energy sources, energy burden, attitudes and expectations, among others.](#) During construction, customer assessment surveys will collect data on household expectations, readiness, and energy management education challenges. Customer assessment survey results will be used to update the Outreach plan, identify unique household needs for energy and energy management, and identify [any barriers or](#) other issues.

[Community surveys will be performed at the end of construction and end of the pilot term for comparison to the pre-pilot survey and provide a measurement of change in energy burden, reduction in propane and wood used for heating, participant satisfaction, etc. All surveys and data collection will be coordinated with and combined with databases used by the proposed Pilot Project Working Group, and the Data Gathering Working Group.](#)

The [pre-pilot](#) community surveys will be followed by community resident forums [before and during construction](#) that will discuss the following:

- [Open forum on concerns of the residents;](#)
- Benefits of the project;
- Anticipated project schedule;
- What to expect during construction (e.g., construction impacts, traffic impacts, site debris, noise, equipment laydown yards);
- Household conversion process and how residents will become a customer of the utility;
- Benefits from being a customer of the utility (e.g., customer service benefits);
- Opportunity to sign up for customer assistance programs (CARE, Energy Savings Assistance Program, etc.) ; [and](#)

¹⁸ 2012-2016 American Community Survey 5-Year Estimates, <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>, retrieved 1/19/2018
SoCalGas drive-by surveys only identified 201 households in Ducor and is using that number for all estimates in the SoCalGas Pilot Project Proposal. Actual count will need to be determined by in-home data surveys before the planning phase.

¹⁹ 2012-2016 American Community Survey 5-Year Estimates, <https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF>, retrieved 1/19/2018

~~—Potential leveraging with other utility and non-utility programs; and~~

- Natural gas safety, technology, and Energy Management System (EMS) tools (e.g., mobile application).

The Outreach team will work collaboratively with city, county, and other governmental officials to inform them about the SoCalGas Pilot Project Proposal, project schedule, including estimated beginning and ending dates, and gather feedback. The Outreach team will coordinate with local city or county entities that have inspection authority over households and provide construction notifications to impacted residents, schools, and businesses within a reasonable distance of the construction. Additionally, the team will adhere to any permit conditions requiring public outreach.

Communication channels to be utilized for external education and communication may include:

- Community meetings;
- City/County briefings;
- Tailored email communications;
- Outbound automatic dialer-enabled calls;
- Door hangers;
- Fact Sheets and Frequently Asked Questions;
- Community flyers;
- Ads, newsletters;
- Displays; and
- Videos/Photos posted on websites or social media.

~~Each~~In order to support households during conversion to natural gas, each community will be assigned a bilingual ~~Outreach~~outreach advisor who will be a single point of contact to address any issues ~~and/or concerns~~, answer questions/~~concerns~~ and assist with program enrollment. The advisor will coordinate the onboarding of new customers, ~~including all program enrollment~~confirm customers are comfortable and trained on appliance safety, trained on use of new technologies such as Smart Thermostats and enrolled in all eligible assistance programs for which the customer is eligible and qualified. This would include other utility rate discount programs like CARE or Family Electric Rate Assistance (FERA), Non-utility state and federal programs for home improvements loans or grants, such as Residential Energy Efficiency Loan (REEL), United States Department of Agriculture (USDA) or Low-Income Home Energy Assistance Program (LIHEAP), as well as non-utility state and federal assistance programs like CalFresh, Medicaid, and Social Security.

c. Landlord/Tenant concerns

SoCalGas has concerns about how the landlord/tenant relationship will be impacted by the conversion of a household from propane to natural gas. The pilot projects will provide an opportunity for all parties to see (and measure) the scope of changes that may occur in that relationship after household conversion to natural gas. Questions in Community surveys will ask

open-ended questions about any changes occurring between the landlord and the tenant due to the pilot.

Because of the scope of the household conversion effort and the low percentage of homeownership, engaging landlords will be as important as tenant outreach, and all of the techniques listed above will include landlords. Landlords will be invited to all meetings to discuss the project and ask questions about their participation prior to construction planning, and will also perform two surveys during conversion.

Once pilot projects and communities are selected, pilot teams can provide recommendations for strategies or policies to obtain assurances from property owners during the pilots. A workshop should be organized for review and sharing of the recommended strategies. The workshop on strategies and policies should be held well before pilot implementation begins. Selected practices can be utilized by the pilot projects. After pilot projects are complete, Pilot Project Working Group should report out after the pilot projects are completed on successes and lessons learned. The workshop on strategies and policies should be held well before pilot implementation begins.

d. Tariffs and Existing Ratepayer Program Utilization Plan

While the SoCalGas Pilot Project Proposals are not dependent on the completion of any proceedings that are currently underway, the SoCalGas Pilot Project Proposal, as proposed, may require modifications to existing programs prior to implementation in the specific communities as described below. SoCalGas will work with the CPUC to modify or expand existing ratepayer programs within pilot communities, as appropriate.

- Current existing low-income tariffs or ratepayer programs such as CARE and Medical Baseline should be extended to new customers in Ducor if they meet qualification requirements.
- During household conversion, the Energy Savings Assistance Program may be utilized to fund weatherization measures in each eligible household.
- The California Solar Initiative – Thermal (Solar Thermal) program may be utilized to further reduce the energy burden and GHG emissions of participating households.
- Participation in Energy Savings Assistance Program and the Solar Thermal programs is currently limited to utility customers, so the Outreach team will pre-qualify residents of Ducor as utility customers eligible for the Energy Savings Assistance Program and Solar Thermal programs.

New or revised tariffs or ratepayer programs that the CPUC would need to adopt for the SoCalGas Pilot Project Proposal include:

- SoCalGas requires the establishment of a two-way balancing account to recover the cost of the SoCalGas Pilot Project Proposal. This balancing account would be established by a Tier 2 advice letter filed with the CPUC upon its approval of the SoCalGas Pilot Project Proposal, with the same effective date as the approval of the SoCalGas Pilot Project Proposal (see discussion below for more details).

- Energy Savings Assistance ([ESA](#)) Program: Measures should be approved for replacement of propane space heating, water heating, cooking and clothes drying equipment with natural gas equipment ~~in for the pilot communities projects only~~, at no cost to the customer.
- Energy Efficiency (EE) programs: ~~Measures~~ [Some measures may be helpful in funding pilot efforts and SoCalGas will determine once pilot planning has begun if any EE measures](#) should be approved for non-income qualified customers [in order](#) to provide incentives to convert from propane appliances to energy-efficient natural gas appliances.
- Solar Thermal program: Should be modified to fund 100% of the installation costs for qualified low-income residential customers.

In addition, a new [ESA](#) program, or measures, should be ~~adopted~~ [considered](#) to implement recommendations from the California Energy Commission Low-Income Barriers Study²⁰ that will address funding for household conversions and upgrades that will cost more than the “beyond the meter” household cap. Specifically, recommendation 1.c *“Ensure that energy retrofit programs facilitate access to available funds from programs that address non-energy work, such as asbestos, lead, and mold removal and structural maintenance so that work can be conducted in conjunction with energy upgrade projects. Explore the potential for energy upgrade programs to coordinate with local housing rehabilitation efforts in low-income and disadvantaged communities.”* This program will be key to successful implementation of the proceeding to the remaining communities in the San Joaquin Valley.

SoCalGas proposes that the remaining costs of the SoCalGas Pilot Project be allocated across all ratepayers. Allocating costs across all ratepayers is an affordable solution to provide safe and reliable energy to disadvantaged communities, meets the spirit and the letter of AB 2672, and reduces the energy burden households experience in the community. Costs for construction “to the meter” would be placed in SoCalGas’ rate base. Costs for household conversion “beyond the meter” ([e.g., installation of yard lines](#)) would be placed in rates and amortized over ten (10) years. SoCalGas does not anticipate the need for any new tariffs to pay for the maintenance of distribution services for this pilot; ~~these will be covered through existing funding mechanisms.~~

SoCalGas proposes a financial cost-recovery approach like its current MHP program, whereby “to the meter” service and main, line extension costs and “beyond the meter” household conversion costs are covered under utility rates via a two-way balancing account. Under this mechanism, the revenue requirements (depreciation/amortization, operations, and maintenance, return and taxes) associated with actual, prudently incurred program costs would be recorded in a two-way balancing account for recovery beginning in the first year following cut over of service. No work would begin until such a mechanism exists. The revenue requirements recorded to the balancing account reflect:

²⁰ California Energy Commission DRAFT STAFF REPORT Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities, December 2016.

- The revenue requirements associated with actual “to the meter” project expenditures capitalized at the utility’s then-current authorized return on rate base, and
- The revenue requirements associated with actual “beyond the meter” project expenditures capitalized consistent with their status as a regulatory asset and amortized over ten years at a rate equivalent to the utility’s then-current authorized return on rate base.
- [The O&M costs for the installation of appliances and other applicable O&M costs incurred in order to provide direct utility service to customer.](#)

SoCalGas proposes that cost recovery be requested in connection with its annual regulatory account balance update filing based on the revenue requirements recorded in the balancing account at the time of the filing as well as the ongoing, actual revenue requirements that will continue to be recorded in the balancing account through the end of the current year and into the following year where rates will be established. Both these revenue requirements, as recorded in the balancing account at the time of filing and the ongoing revenue requirements that will be recorded to the balancing account, are based on “actual” project expenditures, and therefore exclude any forecasted revenue requirement requested for cost recovery under this proposed process.

Recovery of the revenue requirements for the SoCalGas Pilot Project Proposal would be subject to reasonableness review as follows:

- Review for reasonableness of “to the meter” costs would occur in the general rate case where those costs are put into rate base.
- Review for reasonableness of “beyond the meter” costs would occur in the first general rate case after service begins.

de. Non-ratepayer Funding Sources and Other Program Utilization Plan

The San Joaquin Valley Air Pollution Control District (SJVAPCD) offers various incentives for the replacement of wood or pellet devices through the Burn Cleaner program.²¹ Priority is given to low-income applicants,²² specifically those purchasing natural gas devices and those that reside in areas currently without piped natural gas service. SoCalGas may be able to coordinate with SJVAPCD during the planning phase of construction to access these incentives. An incentive of up to \$3,000 per household may be available to assist with appliance purchases and offset “beyond the meter” household conversion costs.

The United States Department of Agriculture (USDA) Rural Development provides loans and grants to help expand economic opportunities and create jobs in rural areas. USDA Rural Development has several grant programs, including the Single-Family Housing Repair Loans & Grants program that grants up to \$7,500 to elderly very-low-income homeowners in order to remove health and safety hazards in their households. SoCalGas may be able to coordinate with USDA Rural Development during the planning phase of construction to access this program (and

²¹ <http://valleyair.org/grants/burncleaner.htm>

²² As defined by the Burn Cleaner application.

possibly other USDA grant programs) to assist with appliance purchases and offset “beyond the meter” household conversion costs.

[Residential Energy Efficiency Loan \(REEL\) program are funded by banks, while the IOUs provide credit enhancements that keep interest rates low for homeowners. Challenges of using the REEL program that may reduce participation in the pilot include, but are not limited to, the requirement of participant financial contribution and the requirement of a minimum FICO score to qualify for the loan.](#)

ef. Siting and Safety Plan

Working safely is a SoCalGas priority. Safety is embedded into all phases of the SoCalGas Pilot Project Proposal by having its employees and vendors follow company safety guidelines while performing their work. SoCalGas regularly performs new pipeline construction projects, pipeline integrity testing and pipeline replacement projects, providing a safe work environment for everyone: employees, contractors, customers, and the public.

SoCalGas has the resources and experience to meet the environmental requirements triggered by this proposal, including, but not limited to, California Environmental Quality Act (CEQA) compliance. SoCalGas’ Environmental Services Department has dedicated resources for environmental compliance, including subject matter experts in CEQA, Natural Resources, Cultural Resources, Water Quality, Air Quality and Hazardous Materials. Some of the issues and/or compliance reviews may include:

- Natural Resources: Surveys and impact reviews for potential endangered/threatened species (e.g., Tipton kangaroo rat, burrowing owls, vegetation) may trigger permits that could take up to 18 months or longer.
- Land Use, Air, Water Permits: Permits may be triggered based on survey findings and could take up to two (2) months to prepare and submit.
- Cultural Resources: Review of any areas where disturbance occurs is required. If any listed sites or potential cultural resources are identified, a plan to avoid them will be required.
- Hazardous Materials and Hazardous Waste: If any waste is generated that has the potential to be hazardous waste, it must be characterized properly prior to off-site disposal. This includes spent materials that may contain asbestos (pipe wrap), oil, gasoline, or paint related materials. If these materials are encountered, sampling may be required, as well as an EPA identification number. An EPA identification number can take one month to obtain. If contaminated soil is encountered, soil sampling, analysis and disposal costs associated with it could be substantial.

g. Potential Infrastructure Coordination Opportunities

[The Pilot Team has provided a matrix of community infrastructure needs at the July 23-24 workshop, that could potentially be incorporated in pilot proposal construction efforts to reduce costs and improve the quality of life in the pilot communities. Because of the uncertainty of when pilot proposals will be approved, and which pilot proposals will receive natural gas, SoCalGas has not scheduled construction efforts. Once natural gas pilots are approved,](#)

SoCalGas will work with the Pilot Team during the planning phase to review what infrastructure coordination opportunities exist at that time in order to leverage the natural gas pilot for other community benefits.

fh. Management Plan

To manage the SoCalGas Pilot Project Proposal, a Project Management Office (PMO) will be established to provide overall governance and timely, cost-effective conversion of households in each community. The PMO will provide project governance by defining policies and procedures for all management functions, manage project risks and issue resolution, and establish financial controls by providing overall budgeting and accounting functions.

The PMO will be responsible for overall program management, including:

- Managing the overall schedule;
- Managing the integration of “to the meter” and “beyond the meter” deliverables;
- Managing risks, issues, and changes;
- Managing overall budgets, budget reporting;
- Ensuring regulatory compliance and regulatory reporting (both annual and ad-hoc); and
- Managing outreach activities including implementation of the Community Outreach Plan.

SoCalGas has extensive project management experience and expertise with construction projects across a broad range of locations and conditions, utilizing modern construction management techniques and approaches. Once established, the PMO will work to identify potential partnerships with other stakeholders such as public utilities or municipal utilities, water agencies, CBOs, appliance dealers and plumbing contractors.

Table 6 below defines the roles and activities for possible project team members, the final team composition will be determined after the planning phase.

Table 6: Roles of project team members

Role	Activities
Program Manager	Overall project management, budget, schedule, and reporting. Environmental and Community issue mitigation. Manages schedule between “to the meter” construction, “beyond the meter” contractors, and customer service technicians. Oversees tracking, controlling and reporting project costs.
Compliance and Regulatory Advisor	Provides legal and regulatory advice in accordance with mandated reporting.
“Beyond the Meter” Project Manager	Provides coordination with “beyond the meter” contractors performing household conversions and appliance installations.
Outreach Project Advisor	Coordinates and collaborates with external stakeholders. Implements outreach plan, coordinates with households and construction managers. Creates outreach communication and education materials. Enrolls new customers in all qualified programs.

<u>Role</u>	<u>Activities</u>
<u>Program Manager</u>	<u>Overall project management, budget, schedule, and reporting. Environmental and Community issue mitigation. Manages schedule between “to the meter” construction, “beyond the meter” contractors, and customer service technicians. Oversees tracking, controlling, and reporting project costs.</u>
<u>Compliance and Regulatory Advisor</u>	<u>Provides legal and regulatory advice in accordance with mandated reporting.</u>
<u>“Beyond the Meter” Project Manager</u>	<u>Provides coordination with “beyond the meter” contractors performing household conversions and appliance installations.</u>
<u>Outreach Project Advisor</u>	<u>Coordinates and collaborates with external stakeholders. Implements outreach plan, coordinates with households and construction managers. Creates outreach communication and education materials. Enrolls new customers in all qualified programs.</u>

All “beyond the meter” work will be performed by a third-party vendor(s) principal contractor who would be subject to the permitting and inspection requirements of the agencies that hold such authority. SoCalGas will select a principal contractor that employs qualified, licensed contractors to perform all necessary “beyond the meter” construction, plumbing, and/or electrical work. SoCalGas will establish guidelines for principal contractor selection so that “beyond the meter” work will meet required safety standards for connection to its distribution system. SoCalGas will select the principal contractor based on selection criteria that includes scoring to consider local employment and capabilities. SoCalGas may utilize input from CBOs and other stakeholders in the third-party vendor selection criteria to maximize the potential economic benefits to the community, including employment opportunities for local residents.

SoCalGas’ ESA contractors will be eligible to bid on the “beyond the meter” work. Those ESA contractors requiring training will be able to attend the training curriculum currently provided as part of SoCalGas’ ESA Program:

- ESA Program Outreach Specialist training
 - Enrolling customers in the ESA Program (obtaining and validating income information and documentation)
 - Assessing the home for feasible measures including measuring available combustion ventilation air
 - Providing energy education to customers including energy efficiency practices for gas, electricity, and water
 - Enrolling customers in My Account
 - Soft skills related to customer service and sales

- Weatherization training (initial and refresher)
 - ESA program policies and procedures relative to installation of weatherization measures including duct testing and installation and attic insulation
 - Natural Gas Appliance Testing

- [HVAC Training \(initial and refresher\)](#)
 - [ESA program policies and procedures relative to the installation of furnaces \(FAU, wall and floor\) and water heaters](#)
 - [Natural Gas Appliance Testing \(NGAT\)](#)
- [Inspection training](#)
 - [ESA program policies and procedures relative to inspection of weatherization measures and furnace/water heater repair/replacement](#)
- [Back office training](#)
 - [Training related to documentation of completed ESA program work and invoicing](#)

gi. Data Gathering and Evaluation Plan

Initial in-home data surveys in English and Spanish about the households in Ducor will be performed before the planning phase for the pilot and be used to update planning estimates, update the post-pilot cost savings estimates and create the Community Outreach Plan. The in-home data surveys will be performed by a third-party vendor visiting each household in the community, and will gather the data shown below about the actual household structure and existing appliances, demographic data about the residents, and self-reported data about energy usage. The cost to perform the initial in-home data surveys for each household is included in the outreach costs.

The initial in-home data surveys will be augmented during the planning phase by the addition of energy information, utility bill history information, externally available demographic information, and geographic information supplied by the utilities.

Table 7 below in [Appendix D - Data Elements in Data Gathering Plan](#), provides [a draft listing of the target data SoCalGas will attempt to capture as part of the in-home data surveys:survey.](#)

Table 7: Target data to capture

Household Data	Source
Address	In-Home Data Survey
Own/Rent	In-Home Data Survey
If Rented, Provide Landlord Contact Info	In-Home Data Survey
House Type	In-Home Data Survey
Construction Type	In-Home Data Survey
Build Date	In-Home Data Survey
Square Footage	In-Home Data Survey
Bedrooms	In-Home Data Survey
Bathrooms	In-Home Data Survey
Number of Occupants	In-Home Data Survey
Energy Savings Assistance Program Remediated Date	In-Home Data Survey

Energy Savings Assistance Program Measures Installed	In-Home Data Survey
Energy Savings Assistance Program Measures Not Installed	In-Home Data Survey
Thermostat Type	In-Home Data Survey
Has Attic Insulation	In-Home Data Survey
Space Heating Energy	In-Home Data Survey
Space Heater Type	In-Home Data Survey
Water Heating Energy	In-Home Data Survey
Cooler Type	In-Home Data Survey
Cooling Energy	In-Home Data Survey
Cooking Energy	In-Home Data Survey
Clothes Drying Energy	In-Home Data Survey
Propane Pipe Condition	In-Home Data Survey
Propane Line Underground	In-Home Data Survey
Electric Panel Size/Condition	In-Home Data Survey
Electric Wiring Type	In-Home Data Survey
Electric Wiring Condition	In-Home Data Survey
Electric Code Issues	In-Home Data Survey
Roof Type/Condition	In-Home Data Survey
Demographic Data	
On All-Electric Rate	In-Home Data Survey
On CARE Rate	In-Home Data Survey
On FERA Rate	In-Home Data Survey
On MBL Rate	In-Home Data Survey
MBL Qualified	In-Home Data Survey
Disability	In-Home Data Survey
Household Income by Range	In-Home Data Survey
# of Occupants	In-Home Data Survey
# of Occupants aged 65 and older	In-Home Data Survey
Email Address	In-Home Data Survey
Internet Access @ Home	In-Home Data Survey
Internet Access on Mobile	In-Home Data Survey
Uses Facebook	In-Home Data Survey
Uses Twitter	In-Home Data Survey
Uses Nextdoor	In-Home Data Survey
Energy Costs per Household	
Annual Propane Cost/Gallon	External. Agreed upon by IOUs

Estimated Annual Propane Usage	Provided by natural gas utility, may be estimated from a nearby community with the similar climate zone and latitude. Agreed upon by IOUs
Annual Wood Cost	External. Agreed upon by IOUs
Estimated Annual Wood Usage	External. Agreed upon by IOUs
Average Monthly Electricity Bill (CARE)	Provided by electric utility
Average Monthly Electricity Usage kWh	Provided by electric utility
Average Annual Electric Bill (CARE)	Provided by electric utility
Estimated Annual Natural Gas Usage Post-Pilot	Provided by natural gas utility, may be estimated from a nearby community with the similar climate zone and latitude
Estimated Annual Natural Gas Bill (CARE) Post-Pilot	Provided by natural gas utility
Estimated Annual Electricity Usage kWh Post-Pilot	Provided by electric utility
Estimated Annual Electricity Grid Usage kWh Post-Pilot	Provided by electric utility
Estimated Annual Electricity Bill Post-Pilot	Provided by electric utility
Amount of GHG produced at source for 1kWh household use	External. Agreed upon by IOUs
Amount of NOx produced at source for 1kWh household use	External. Agreed upon by IOUs
Amount of GHG produced by 1 therm of natural gas household use	External. Agreed upon by IOUs
Amount of NOx produced by 1 therm of natural gas household use	External. Agreed upon by IOUs
BTU Conversion Ratio Propane to Natural Gas	External. Agreed upon by IOUs
BTU Conversion Ratio Propane to Electricity	External. Agreed upon by IOUs
Community-Level Data	
Monthly Average HDD	Provided by natural gas utility
Monthly Average CDD	Provided by electric utility
Latitude	External. Agreed upon by IOUs
Altitude	External. Agreed upon by IOUs
Climate Zone	External. Agreed upon by IOUs

Estimated annual cost savings for Ducor will be calculated by the following formula:

$$\text{Estimated annual cost savings} = \text{Estimated annual propane costs} - \text{Estimated annual natural gas costs.}^{23}$$

²³ Assumes changes in electricity usage are negligible.

Where,

Estimated annual propane costs =	Estimated price of propane * Estimated annual propane usage
Estimated annual natural gas costs =	Using utility billing information, calculate the average annual bill amount for natural gas in for a household in a nearby community with the similar climate zone and latitude.
Estimated price of propane =	\$ 2.57 <u>3.50 (or market price)</u>
Estimated annual propane usage =	Convert the estimated annual amount of natural gas usage to British Thermal Units (BTU), and using the BTU value of propane, calculate the estimated annual propane usage in gallons.

~~Energy usage reports comparing actual to estimated usage and bill amounts for natural gas and electricity should be performed six (6) months and 12~~Reports will be provided every 6 months after completion of household conversions. The reports will document changes to energy usage and energy burden, changes to health, comfort and safety appliance performance, household performance, weatherization barriers, and energy efficiency messaging and outreach trial results. Final report design will occur in the Planning Phase. Success will be defined by reduced energy burden and insecurity through lower monthly bills, conversion percentage of eligible households, number of households weatherized, solar thermal installations, and a reduction in GHG as estimated above.

h.j. Replication Plan

To share information on best practices and lessons learned, workshops should be held where each ~~participating IOU~~pilot project proposer would present information on overall status, completion and successes to-date, past and upcoming challenges, lessons learned and possible best practices. Workshops should be held: (1) before most SoCalGas Pilot Project Proposals have completed planning but have not begun construction, (2) after most SoCalGas Pilot Project Proposals have completed construction; and (3) after most SoCalGas Pilot Project Proposals are completed.

The SoCalGas Pilot Project Proposals will provide useful information that will benefit future project implementation and allow for replication across the remaining disadvantaged communities identified in Phase I (D.17-05-014). Successful replication of SoCalGas Pilot Project Proposal outcomes to other communities will be determined by the level of similarity between the SoCalGas Pilot Project Proposal community and the remaining communities. Characteristics that should be similar for remaining communities to achieve comparable results would be:

- Amount of propane and wood used for space heating, water heating, cooking and clothes drying;

- Household construction type, age, and condition;
- Number of households with similar proximity to each other;
- Proximity to an existing natural gas pipeline; and
- Environmental considerations and soil characteristics or type.

While some of these factors may be derived from public information, it will be difficult to identify where a pilot community would be replicable until in-home data surveys of the remaining communities is completed.

ik. Conversion Risk Management Plan

The PMO will be responsible for a formal risk management practice including the initial assessment of all aspects of the project, the identification of issues, risks and their owners, estimation of the probability of the risk becoming an issue, the potential impact, and the approval of each mitigation plan.

Each household in Ducor will vary in the level of effort required to convert to natural gas and pass inspection. Some households may require significant structural repair to bring them “up to code”²⁴; before and after installation of appliances. To mitigate risk and control costs, the “beyond the meter” costs for each household will be ~~eap~~²⁴ estimated and compared to a “common case”²⁴ cost of at \$10,600,²⁴²⁵ which is the estimated cost of \$8,500 plus 25% contingency. “Beyond the meter” funds for each community will be pooled to create a single “community fund” for each such that savings from households that require less than the ~~eap~~²⁴ “common case” amount would then be made available for households where the conversion effort is estimated to exceed the ~~eap~~²⁴ “common case”. Management of the fund and selection of households that utilize the community fund would be handled by the PMO. It is possible that some households will incur unplanned costs²⁵²⁶ once conversion begins and therefore the “community fund” will maintain a buffer amount.

SoCalGas will perform in-home surveys before the planning phase to count the houses available for natural gas, assess household conditions, and generate a preliminary cost estimate for conversion. Households will be classified into 3 levels of effort:

- Level 1 would consist of households where the conversion effort is estimated to be below or close to the ~~eap~~²⁴ “common case” amount. Planning for those households would proceed.
- Level 2 would consist of the households where the conversion effort is estimated to be greater than the ~~eap~~²⁴ “common case” amount. Level 2 households would be sorted by estimated cost and prioritized so that lowest cost households would have higher priority. Using the prioritized list, the PMO will proceed with construction for the remaining households up to the overall “community fund” amount.

²⁴ See Appendix C, Construction Cost Estimates.

²⁴²⁵ Household conversion funds would not be used for cosmetic upgrades or un-needed improvements to the household.

²⁵²⁶ Unplanned costs come from discovery of construction, health or safety issues that are not eligible for program funding. Unplanned costs include but are not limited to: remediation of roof; remediation of foundation; remediation of interior walls or exterior walls from dry rot, pests, termites or code violations; asbestos, mold or lead removal; ventilation improvements requiring external venting, movement or addition of drainage; brick, tile or concrete destruction and/or reconstruction; and moving electrical wiring or water pipes.

- Level 3 would represent the households where the conversion effort would be prevented by either unsafe working conditions or significant pre-existing issues. Level 3 households will be estimated and ~~reordered~~ at the bottom of the Level ~~3~~ 2 list for possible conversion, but the level of effort and costs would be presumed to be too large for inclusion in the SoCalGas Pilot Project Proposal and requires CPUC approval before conversion.

If the “community fund” is exhausted before all ~~Level 2~~ households are converted, more funding would only occur with Commission approval via Tier 2 Advice Letter.

Key risks/ and issues ~~and mitigation approaches~~ identified with the SoCalGas Pilot Project Proposal ~~to date include, but~~ and mitigation approaches to date are shown Table 10 in Appendix E - Risks and Issues. They are not limited to; those listed ~~below.~~ Additional in Table 10 and additional unforeseen risks and issues may be identified in the future.

~~Table 8: Risk/issues and mitigation plans~~

#	Risk/Issue	Mitigation Plan
1	Environmental issues or cultural resources are identified during pipeline construction causing permitting and/or remediation costs.	Perform both a “desktop” environmental & cultural review and an on-site assessment survey prior to pipeline construction. Have review/approval stage with community, Pilot Team and CPUC prior to construction to review issues and costs. Update construction estimates and get CPUC approval before beginning construction.
2	Land right-of-way, Air and Water Permits are required.	Start permitting process early, assign permit tracking to Program Advisor, schedule regular review of progress with PMO.
3	Easements over private property may be required	Assess for any required easements early and assign to tracking to Program Advisor, schedule regular review of progress with PMO.
4	Renter or homeowner does not want household converted to natural gas or homeowner cannot be reached	Perform community meetings and distribute material that explains benefits of natural gas versus propane and describes the requirements for participation. Perform in-home data survey to identify potential households that do not wish to participate in the program. Community Outreach Plan should also include residents that rent as well as the owner of the property. Have review/approval stage prior to construction to review issues and costs to discuss with community, Pilot Team, and CPUC. Regional Public Affairs (RPA) would contact county representatives for owner information. Track homeowner information and consent for conversion. Get written approval from homeowner prior to any pipeline construction.
5	Renter or homeowner decides to have household converted after	Perform community meetings and distribute material that explains benefits of natural gas versus propane and describes the requirements for participation. Perform in-home data

#	Risk/Issue	Mitigation Plan
	planning has completed or decides not to complete conversion after construction has begun.	survey to identify potential households that do not wish to participate in the program. Community Outreach Plan should also include residents that rent as well as the owner of the property. Have review/approval stage prior to construction to review issues and costs to discuss with community, Pilot Team, and CPUC. Regional Public Affairs (RPA) would contact county representatives for owner information.
6	Coordination of “to the meter” and “beyond the meter” contractor leaves customers without heat.	Assign dedicated PMO resources to consult and coordinate with third party vendors, schedule regular progress reviews with third party vendors and SoCalGas (e.g., check that “to the meter” facilities are gassed up and meter set is scheduled once “beyond the meter” facilities pass inspection)
7	Conditions in households require significant upgrading to reach code for new appliance installations, or have hazardous waste disposal needs during conversion.	Perform in-home data survey to identify potential households with issues and depth of issues prior to pipeline construction. Have review/approval stage prior to construction to review issues and costs to discuss with community, Pilot Team and CPUC. Classify each household into 3 Levels of effort and fund Level 1 & 2 households from the community fund within approved funding levels to handle household issues. Level 3 households would need CPUC approval to convert.
8	Inspection and approval of final system conversion is delayed by jurisdictional authorities.	Have Outreach Team and RPA Managers contact jurisdictional authorities during planning process to communicate project timing, work with other stakeholders to enable visibility of planning calendar.

4. SoCalGas Pilot Project Proposal Timeline and Reporting

a. Pilot Timeline

Table 7 below shows anticipated major tasks, milestones, and deliverables for the SoCalGas Pilot Project Proposal. Outreach activities will occur before, during and after the timeline. Start date and final timeline will be determined by the number and location of approved SoCalGas Pilot Project Proposals. Pre-Planning will begin upon CPUC approval of the SoCalGas Pilot Project Proposal and the two-way balancing account.

Table 97: Estimated Pilot Timeline

Stage	Estimated Time (months)	Tasks	Deliverable/Milestone
Pre-Planning	2	Survey	In-Home Data Surveys
Major Decision Point (Pilot Team, Community, CPUC)			
Planning	3	Engineering	Verify adequate system capacity

		Gas Handling & Sketching	Preparation of safe gas handling procedure, Preparation of construction sketches
	6	Land Engagement	Secure land rights in private property (as needed)
		Survey	Construction survey, property boundaries (as-needed)
		Environmental Review	Process Environmental Release, develop implementation plan (as-needed)
		Encroachment Permits	Secure encroachment permits from governing agency
		Ordering Material	Order required construction material, not including gas meters
	1	Construction Bid Process	Determine the Gas Construction Contractors that will install mains and services and perform “beyond the meter” throughout the community
Construction	5	Construction	Installation of mains and services up to and including gas risers
		Environmental Implementation	Implement and monitor environmental review recommendations (as-needed)
		Paving	Repair any asphalt cuts performed during construction (as-needed)
Post-Construction	3.5	Reconciliation	Clerical reconciliation of construction main and service work performed
		Completion Sketching	Creation of completion sketch documenting installation of new main
	1.5	Posting New Main and Services into GIS Database	Uploading new main and service data into SoCalGas GIS database
House Line & Appliance Conversion	8	Install Yard Line Extension	Extend converted/replaced house line to location of new gas riser
		Convert Existing House Line	Verify existing house line is adequate for conversion to natural gas, if not, replace
		Set Meters	Customer service to set meter, customer house line energized
		Convert/Replace Appliances	Convert/Replace appliances of existing residence

Total Time Estimated	30 months		
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<u>Stage</u>	<u>Estimated Time (months)</u>	<u>Tasks</u>	<u>Deliverable/Milestone</u>
<u>Pre-Planning</u>	<u>2</u>	<u>Survey</u>	<u>In-Home Data Surveys</u>
	<u>1</u>	<u>Community Outreach</u>	<u>Community resident forum</u> <u>Development of cross-IOU pilot data database</u> <u>Data security policies and procedures documented (use existing cross-IOU)</u>
<u>Major Decision Point (Pilot Team, Community, CPUC)</u>			
<u>Planning</u>	<u>3</u>	<u>Engineering</u>	<u>Verify adequate system capacity</u> <u>Identify any potential construction coordination opportunities</u>
		<u>Gas Handling & Sketching</u>	<u>Preparation of safe gas handling procedure,</u> <u>Preparation of construction sketches</u>
	<u>6</u>	<u>Land Engagement</u>	<u>Secure land rights in private property (as needed)</u>
		<u>Survey</u>	<u>Construction survey, property boundaries (as needed)</u> <u>Schedule any potential construction coordination opportunities</u>
		<u>Environmental Review</u>	<u>Process Environmental Release, develop implementation plan (as needed)</u>
		<u>Encroachment Permits</u>	<u>Secure encroachment permits from governing agency</u>
		<u>Ordering Material</u>	<u>Order required construction material, not including gas meters</u> <u>Order household appliances</u>
<u>1</u>	<u>Construction Bid Process</u>	<u>Determine the Gas Construction Contractors that will install mains and services and perform “beyond the meter” throughout the community</u>	
<u>Construction</u>	<u>5</u>	<u>Construction</u>	<u>Installation of mains and services up to and including gas risers</u> <u>Community resident forum</u>
		<u>Environmental Implementation</u>	<u>Implement and monitor environmental review recommendations (as needed)</u>
		<u>Paving</u>	<u>Repair any asphalt cuts performed during construction (as needed)</u>

			Customer Assessment Survey
Post-Construction	3.5	Reconciliation	Clerical reconciliation of construction main and service work performed
		Completion Sketching	Creation of completion sketch documenting installation of new main
	1.5	Posting New Main and Services into GIS Database	Uploading new main and service data into SoCalGas GIS database
House Line & Appliance Conversion	8	Install Yard Line Extension	Extend converted/replaced house line to location of new gas riser
		Convert Existing House Line	Verify existing house line is adequate for conversion to natural gas, if not, replace
		Set Meters	Customer service to set meter, customer house line energized
		Convert/Replace Appliances	Convert/Replace appliances of existing residence Customer Assessment Survey
Total Time Estimated	30 months		
Post Pilot Reporting	+ 6 months		First bi-annual pilot report Final construction report
Post Pilot Reporting	+24 months		Final pilot report

b. Construction Reporting

SoCalGas will provide a written quarterly progress report [on construction progress](#) to the Commission. SoCalGas will work with the Commission to determine what information will be included in the quarterly report in addition to the following:

- Number of households connected and new customers;
- The status of each construction phase (including deliverables and milestones);
- Actual costs compared to estimates both for construction and conversion work;
- Actual milestone completion dates against proposed timelines;
- Leveraging of utility or external programs;
- Community outreach, marketing and education efforts and effectiveness; and
- Barriers or issues encountered and their status.

Quarterly calls may be scheduled with Commission staff, parties, and pilot communities to discuss status and share learnings from the quarterly report.

A final report with all elements agreed upon above will be submitted to Commission staff approximately six (6) months after completion of household conversion for the community. In addition to the above information, SoCalGas will work with the Commission to determine what additional information will be included in the final report.

5. SoCalGas Pilot Project Proposal Budget Summary

Table 108: Budget summary

SoCalGas	Year 1	Year 2	Total	% of Project
“To the meter” Construction				
Contract Labor and Materials	\$ 3,042,100	\$ 4,563,200	\$ 7,605,300	60.8 %
Construction Management	\$ 604,400	\$ 642,600	\$ 1,247,000	10.0 %
Meter Set ²⁶		\$ 70,600	\$ 70,600	0.6 %
Meters	\$ 44,700	\$ 21,400	\$ 66,100	0.5 %
“Beyond the meter” Construction				
Contract Labor and Materials		\$ 2,136,000	\$ 2,136,000	17.1 %
Program Management Office (PMO)				
PMO—Labor	\$ 51,700	\$ 51,700	\$ 103,400	0.8 %
PMO—Materials and Other	\$ 29,400	\$ 29,400	\$ 58,800	0.5 %
Outreach	\$ 168,300	\$ 168,300	\$ 336,600	2.7 %
Other Project Costs²⁷	\$ 317,800	\$ 566,200	\$ 884,000	7.1 %
Total Estimated Cost	\$ 4,258,400	\$ 8,249,400	\$ 12,507,800	100 %

<u>SoCalGas</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Total</u>	<u>% of Project</u>
<u>“To the meter” Construction</u>				
<u>Contract Labor and Materials</u>	<u>\$ 2,771,100</u>	<u>\$ 4,156,700</u>	<u>\$ 6,927,800</u>	<u>57.8 %</u>
<u>Construction Management</u>	<u>\$ 596,900</u>	<u>\$ 623,200</u>	<u>\$ 1,133,400</u>	<u>10.2 %</u>
<u>Meter Set²⁷</u>		<u>\$ 72,200</u>	<u>\$ 72,200</u>	<u>0.6 %</u>
<u>Meters</u>	<u>\$ 45,200</u>	<u>\$ 23,200</u>	<u>\$ 68,400</u>	<u>0.6 %</u>
<u>“Beyond the meter” Construction</u>				
<u>Contract Labor and Materials</u>		<u>\$ 2,156,200</u>	<u>\$ 2,156,200</u>	<u>18.0 %</u>
<u>Program Management Office (PMO)</u>				
<u>PMO – Labor</u>	<u>\$ 52,300</u>	<u>\$ 52,300</u>	<u>\$ 104,600</u>	<u>0.9 %</u>
<u>PMO – Materials and Other</u>	<u>\$ 33,000</u>	<u>\$ 33,000</u>	<u>\$ 66,000</u>	<u>0.6 %</u>
<u>Outreach</u>	<u>\$ 170,200</u>	<u>\$ 170,200</u>	<u>\$ 340,400</u>	<u>2.8 %</u>

²⁶ Includes meter installation and turn-on, legacy system purging and installation. Turn-on services will be performed by SoCalGas employees, who will put appliances into service at that time.

²⁷ Includes escalation, CWIP property tax, and AFUDC.

²⁷ Includes meter installation and turn-on, legacy system purging and installation. Turn-on services will be performed by SoCalGas employees, who will put appliances into service at that time.

<u>Other Project Costs</u> ²⁸	<u>\$ 364,100</u>	<u>\$ 657,500</u>	<u>\$ 1,021,600</u>	<u>8.5 %</u>
<u>Total Estimated Cost</u>	<u>\$ 4,032,800</u>	<u>\$ 7,944,500</u>	<u>\$ 11,977,300</u>	<u>100 %</u>

Details on cost estimates can be found in Appendix C. Above costs do not include contingencies for potential environmental issues and associated costs (e.g., permits, remediation, and “stop-the-job” conditions).^{28,29}

There exists an opportunity to reduce costs for this pilot and for other pilots, by recognizing the economies of scale available from having more than one pilot project in SoCalGas’ service territory at one time. Having more households increases the opportunities to receive bulk pricing, while fixed costs in all aspects of the pilot project (e.g., management, outreach and construction), that remain the same for one pilot, can be spread across multiple projects; making them a smaller percentage of the total cost, reducing the overall cost per household, and reducing the impact to ratepayers. In addition, with each community and with each household, the pilot implementation team will progress further along the learning curve and become more efficient and more cost-effective with their efforts.

²⁸ Includes escalation, CWIP property tax, and AFUDC.

^{28,29} If environmental or cultural issues are found, costs and timeline may be impacted depending on reviews or permits triggered (e.g., California Environmental Quality Act (CEQA) review, National Environmental Policy Act (NEPA) review, Federal Habitat Conservation Plan, California Department of Fish and Wildlife (CDFW) Incidental Take Permit, Jurisdictional Delineation, Land Use Permits, Air Permits, Water Permits, Hazardous Materials and Waste, etc.).

Bulk purchasing of appliances

SoCalGas will use best practices to select the contractors and suppliers to the pilot proposal, including bulk purchasing and request for proposals (RFP) when appropriate such that it will reduce costs and will not create a significant impact to pilot construction timelines. SoCalGas will also include vendor selection criteria to maximize the potential economic benefits to the community, including employment opportunities for local residents.

Appendix A – Energy Usage and Conversion Calculations

Unit Conversion Rates

These multipliers are standard conversion factors, independent of fuel-specific heat content, according to <http://convert-to.com/conversion/energy/convert-kwh-to-thm.html> (December 2017).

	Multiplier
1 kWh to therm	.0341296
1 therm to kWh	29.30011

	<u>Multiplier</u>
<u>1 kWh to therm</u>	<u>.0341296</u>
<u>1 therm to kWh</u>	<u>29.30011</u>

For propane conversions, the following multiplier was used, according to https://www.eia.gov/energyexplained/index.cfm/index.cfm?page=about_energy_units (December 2017). In conjunction with SCE, PG&E, and the Pilot Team, the average cost of propane was ~~calculated based on propane price per gallon plus supplier delivery fees for the counties of Fresno, Madera, San Joaquin, and Tulare as found on~~ <http://www.checkpropaneprices.com> ~~in December 2017.~~ estimated based on feedback received from residents during Community Workshops.

Price of propane / gallon	\$2.57
Btu / gallon	91,333
Price / MMBtu	\$28.18
Price / therm	\$2.82

<u>Price of propane / gallon</u>	<u>\$3.50</u>
<u>Btu / gallon</u>	<u>91,333</u>
<u>Price / MMBtu</u>	<u>\$38.32</u>
<u>Price / therm</u>	<u>\$3.83</u>

Table 1 – Calculations for Table 1

To calculate pre-pilot average annual and monthly propane usage for Ducor, SoCalGas analyzed 2016 and 2017 existing natural gas usage in ZIP code 93218,²⁹³⁰ and then calculated the

²⁹³⁰ Ducor currently does not have access to natural gas so actual pre-pilot natural gas usage and bills are not available.

equivalent amount of annual propane usage per household.³⁰³¹ Using \$2.573.50 as the average cost per gallon of propane,³⁴³² SoCalGas calculated the equivalent monthly and annual propane bill for the average household³²³³ in Ducor.

Average therms consumed	32.5
Propane price / therm	\$2.82
Propane cost / month / household	\$91.65

<u>Average therms consumed</u>	<u>32.5</u>
<u>Propane price / therm</u>	<u>\$3.83</u>
<u>Propane cost / month / household</u>	<u>\$125</u>

Table 2 Calculations for Table 2

SoCalGas calculated modeled post-pilot natural gas monthly usage based on the Energy Planning Analysis Tool (<http://epat.gastechnology.org/BuildCityHouse>) estimated natural gas consumption for energy efficient appliances in single family detached households in Bakersfield.

	Efficiency Level	Yearly Therm Usage
Space Heating	Natural Gas, AFUE 92%	149
Water Heating	Natural Gas EF 0.82 – Modulating Condensing Storage	126
Cooking Range	Gas Standard	31
Clothes Dryer	Natural Gas EF 2.75	35
	Annual Therm Usage	341
	Average Monthly Therm Usage	28.4

	<u>Efficiency Level</u>	<u>Yearly Therm Usage</u>
Space Heating	<u>Natural Gas, AFUE 92%</u>	<u>149</u>
Water Heating	<u>Natural Gas EF 0.82 - Modulating Condensing Storage</u>	<u>126</u>
Cooking Range	<u>Gas Standard</u>	<u>31</u>
Clothes Dryer	<u>Natural Gas EF 2.75</u>	<u>35</u>
	<u>Annual Therm Usage</u>	<u>341</u>
	<u>Average Monthly Therm Usage</u>	<u>28.4</u>

³⁰ ~~To convert natural gas therms to propane gallons, the BTU of natural gas used was converted to gallons of propane using the BTU value for propane.~~

³¹ To convert natural gas therms to propane gallons, the BTU of natural gas used was converted to gallons of propane using the BTU value for propane.

~~³⁴³² In conjunction with SCE, PG&E, and the Pilot Team, the average cost of propane was calculated based on propane price per gallon plus supplier delivery fees for the counties of Fresno, Madera, San Joaquin, and Tulare as found on <http://www.checkpropaneprices.com> in December 2017. estimated based on feedback received from residents during Community Workshops.~~

~~³²³³ Details by household type (single-family, multifamily and mobile home) are not available at this time and will be available once in-home data surveys are completed.~~

For purposes of the SoCal Gas Pilot Proposal and the modeling of post-pilot natural gas estimated usage, SoCalGas averaged 2016 and 2017 residential natural gas consumption based on EDRP data for ZIP Codes of 93219, 93201, 93501, 93504, 93505, 93218, 93656, 93292, and 93291.

ZIP Code	Average Therm Usage
93219	32.55
93201	29.56
93501, 93504, 93505	29.38
93218	32.55
93656	29.93
93292	31.90
93291	32.24
Average Monthly Therm Usage	31.16

<u>ZIP Code</u>	<u>Average Therm Usage</u>
<u>93219</u>	<u>32.55</u>
<u>93201</u>	<u>29.56</u>
<u>93501, 93504, 93505</u>	<u>29.38</u>
<u>93218</u>	<u>32.55</u>
<u>93656</u>	<u>29.93</u>
<u>93292</u>	<u>31.90</u>
<u>93291</u>	<u>32.24</u>
<u>Average Monthly Therm Usage</u>	<u>31.16</u>

For Ducor, the difference between the average and the actual usage for ZIP code 93218 was added to the estimated average monthly therm usage used to model post-pilot bills.

Average Usage	31.16
Average Usage in 93218	32.55
Difference	1.39
EPAT Average Monthly therm usage	28.4
Ducor estimated post-pilot average natural gas monthly usage	29.81

<u>Average Usage</u>	<u>31.16</u>
<u>Average Usage in 93218</u>	<u>32.55</u>
<u>Difference</u>	<u>1.39</u>
<u>EPAT Average Monthly therm usage</u>	<u>28.4</u>
<u>Ducor estimated post-pilot average natural gas monthly usage</u>	<u>29.81</u>

Estimated natural gas charges were calculated based on 2019 forecasted rates.

	<u>Estimated CARE Rates</u>	<u>Estimated Rates</u>
<u>Customer charge per month</u>	<u>\$ 4.00</u>	<u>\$ 5.00</u>
<u>Average monthly usage</u>	<u>29.8 therms</u>	<u>29.8 therms</u>
<u>CARE Baseline charge</u>	<u>\$ 11.33</u>	<u>\$ 14.17</u>
<u>CARE Non-Baseline charge</u>	<u>\$ 2.27</u>	<u>\$ 2.83</u>
<u>Commodity charge</u>	<u>\$ 7.49</u>	<u>\$ 9.37</u>
<u>PPPS charge per month</u>	<u>\$ 2.08</u>	<u>\$ 2.80</u>
<u>G-PUC regulatory fee</u>	<u>\$ 0.05</u>	<u>\$ 0.05</u>
<u>Total Charge</u>	<u>\$ 27.22</u>	<u>\$ 34.22</u>

	Estimated CARE Rates	Estimated Rates
Customer charge per month	\$ 4.00	\$ 5.00
Average monthly usage	29.8 therms	29.8 therms
CARE Baseline charge	\$ 11.33	\$ 14.17
CARE Non-Baseline charge	\$ 2.27	\$ 2.83
Commodity charge	\$ 7.49	\$ 9.37
PPPS charge per month	\$ 2.08	\$ 2.80
G-PUC regulatory fee	\$ 0.05	\$ 0.05
Total Charge	\$ 27.22	\$ 34.22

Appendix B – GHG Calculations

Emission Factors

In conjunction with SCE, PG&E, and the Pilot Team, SoCalGas is using the California Air Resources Board (CARB) GHG emission factors (EF) for natural gas and propane to calculate estimated CO₂ reductions.

- Propane CO₂ EF = 135.5 lb./MMBTU
- Natural Gas CO₂ EF = 116.9 lb./MMBTU

Table 5 Calculations for Table 5

Estimated GHG reductions are calculated based on the EF above and pre-pilot propane usage, as calculated in Table 1, and estimated post-pilot natural gas usage, as calculated in Table 2.

<u>Natural Gas Annual Usage in Therms</u>	<u>357.7</u>
<u>Natural Gas EF (lb./MMBTU)</u>	<u>116.9</u>
<u>Natural Gas Annual CO₂ Emissions</u>	<u>4,182</u>
<u>Propane Annual Usage in Therms</u>	<u>390.6</u>
<u>Propane EF (lb./MMBTU)</u>	<u>135.5</u>
<u>Propane Annual CO₂ Emissions</u>	<u>5,293</u>

Natural Gas Annual Usage in Therms	357.7
Natural Gas EF (lb./MMBTU)	116.9
Natural Gas Annual CO ₂ Emissions	4,182
Propane Annual Usage in Therms	390.6
Propane EF (lb./MMBTU)	135.5
Propane Annual CO ₂ Emissions	5,293

Appendix C – Construction Cost Estimates

“To the meter” Construction Cost Estimates

The Ducor SoCalGas Pilot Project Proposal includes both the infrastructure “to the meter” construction and the “beyond the meter” household conversion, appliance purchase, and appliance installation effort required to convert each household to natural gas. In addition, this proposal includes several customer on-boarding initiatives.

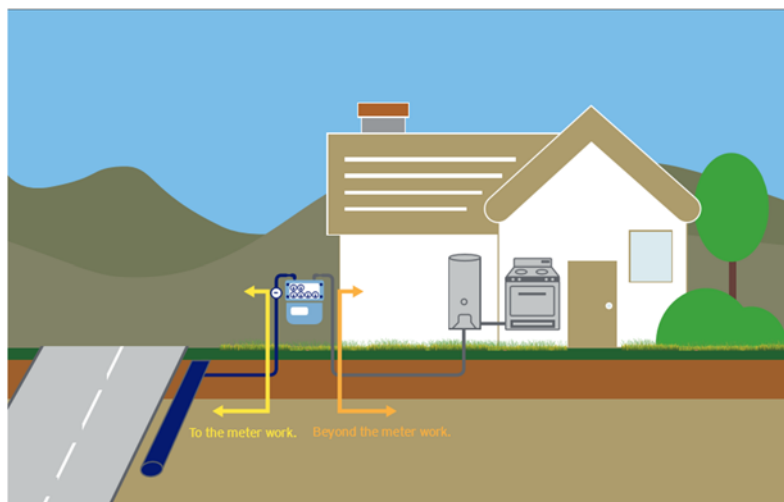


FIGURE 2. DIAGRAM SHOWING “TO THE METER” AND “BEHIND THE METER” AT HOUSEHOLD

Scope of the “to the meter” work includes, but is not limited to:

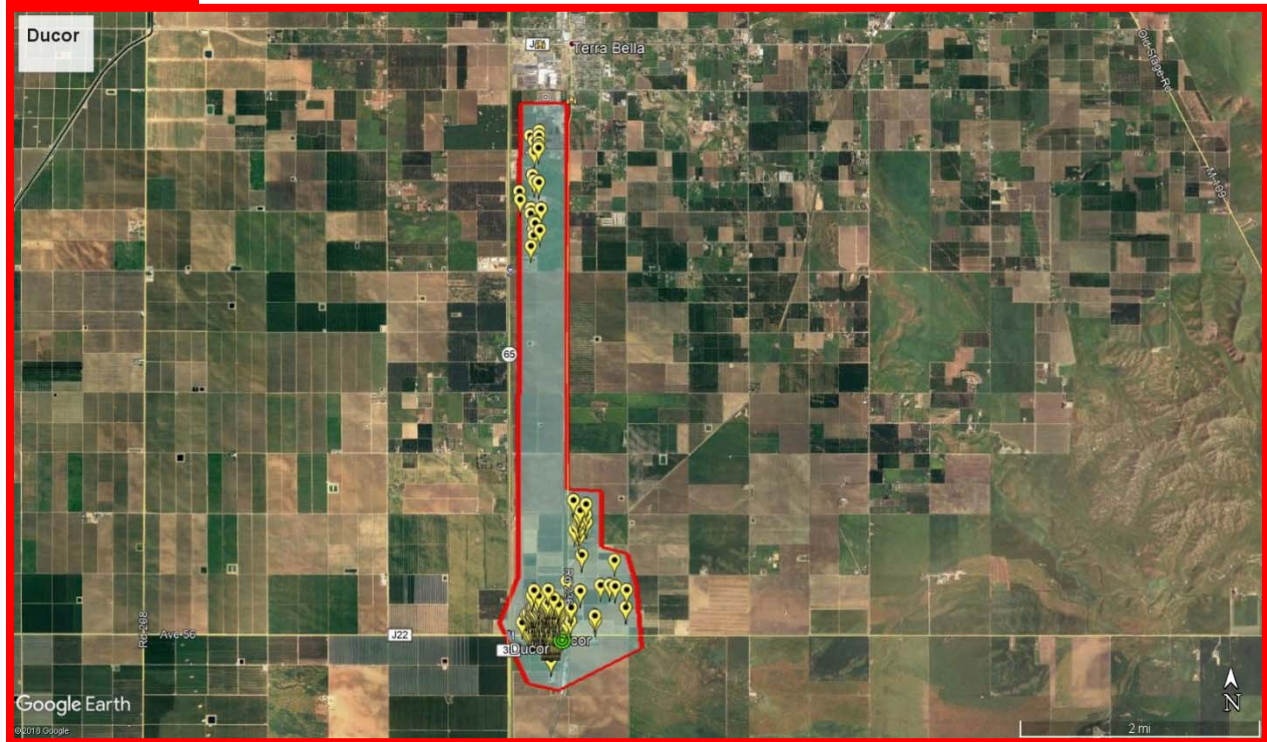
- Assessments to identify potential environmental and cultural issues related to “to the meter” construction,³³³⁴
- Installation of new gas systems (e.g., distribution mains, service lines, gas meters, advanced meter transmission units (MTUs), and regulator stations) along with the associated trenching, excavation, and substructure work;
- Site restoration work (e.g., paving, hardscape, and landscape); and

³³³⁴ If environmental or cultural issues are found, costs and timeline may be impacted depending on reviews or permits triggered (e.g., California Environmental Quality Act (CEQA) review, National Environmental Policy Act (NEPA) review, Federal Habitat Conservation Plan, California Department of Fish and Wildlife (CDFW) Incidental Take Permit, Jurisdictional Delineation, Land Use Permits, Air Permits, Water Permits, Hazardous Materials and Waste, etc.).

- Costs associated with construction management (e.g., planning of distribution mains and service lines, gas handling, administration of construction bid process, and completion sketches).

Description	Cost Estimate	Quantity
Distribution Mains	\$ 7,052,100	47,270 feet
Service Lines	\$ 553,200	201 Services
Gas Meters and Modules	\$ 21,400	201 Meters
Meter Installations	\$ 70,600	-
Data Collector Units	\$ 44,700	2 DCUs
Environmental Services	\$ 86,300	-
Construction Management	\$ 1,160,600	-
Total Estimated Costs	\$ 8,988,900	-

Location Map



<u>Description</u>	<u>Cost Estimate</u>	<u>Quantity</u>
<u>Distribution Mains</u>	<u>\$ 6,424,600</u>	<u>47,270 feet</u>
<u>Service Lines</u>	<u>\$ 503,300</u>	<u>201 Services</u>
<u>Gas Meters and Modules</u>	<u>\$ 23,200</u>	<u>201 Meters</u>
<u>Meter Installations</u>	<u>\$ 72,200</u>	<u>=</u>
<u>Data Collector Units</u>	<u>\$ 45,200</u>	<u>2 DCUs</u>
<u>Environmental Services</u>	<u>\$ 88,800</u>	<u>=</u>

<u>Construction Management</u>	<u>\$ 1,131,300</u>	<u>=</u>
<u>Total Estimated Costs</u>	<u>\$ 8,288,600</u>	<u>=</u>

“Beyond the meter” Cost Estimates and Contingencies

Scope of the “beyond the meter” work includes, but is not limited to:

- House and yard line trenching and installation;
- Gas piping to the point of service connection;
- Purchase and installation of natural gas appliances³⁴³⁵ including repairs required to complete installation of appliances in accordance with inspection requirements;
- Permitting and inspection;
- Energizing the house line and appliances; and
- Gas turn-on services.³⁵³⁶

“Beyond the meter” construction is required for the entire new distribution system to function and prevents the abandonment of partially constructed infrastructure, since without both halves of a new system in place, no household conversion is possible.

To estimate “beyond the meter” costs, SoCalGas has created a “common case” for the household conversion and appliance replacement costs. These assumptions were derived from the average age and condition of households in Ducor as observed by the SoCalGas field planners’ drive-by surveys. To estimate appliance and installation costs, SoCalGas issued a request for information (RFI) to licensed contractors in the San Joaquin Valley in October of 2017. Some of the contractors that responded have previously performed “beyond the meter” work for SoCalGas’ Energy Savings Assistance Program, and have experience working in disadvantaged communities. SoCalGas reviewed results from five (5) RFI responses along with estimates from Home Advisor, Home Depot, and the Energy Savings Assistance Program, to come up with average appliance and installation costs.³⁶³⁷ Both affordability and energy efficiency standards were considered when selecting appliances to include in the “common case” packages. A contingency of 25 percent was added to the “beyond the meter” estimates to cover price variations in appliances and installations, sales taxes, and additional fittings needed for conversion.

	Percent of Households	Cost Estimate³⁷
Yard and House Line	100 %	\$ 1,600
Water Heater (40-gallon)	50 %	\$ 1,400
Tankless Water Heater	50 %	\$ 2,800

³⁴³⁵ Gas appliances may include gas range, dryer, water heater, and furnace. Other propane end-uses and electric appliances will not be converted to natural gas.

³⁵³⁶ Turn-on services will be performed by SoCalGas employees, who will put appliances into service at that time.

³⁶³⁷ “Common case” estimates include disposal of propane appliances and installation of approximately 70 feet of house and yard line combined.

~~³⁷ Includes estimated installation costs.~~

Forced Air Furnace	100 %	\$ 3,300
Clothes Dryer	100 %	\$ 800
Gas Range	100 %	\$ 700
“Beyond the meter” Estimate		\$ 8,500
25% Contingency		\$ 2,100
Total “beyond the meter” Estimate		\$ 10,600
Households		201
Total “beyond the meter” Costs Estimate		\$ 2,136,000

	<u>Percent of Households</u>	<u>Cost Estimate³⁸</u>
<u>Yard and House Line</u>	<u>100 %</u>	<u>\$ 1,600</u>
<u>Water Heater (40 gallon)</u>	<u>50 %</u>	<u>\$ 1,400</u>
<u>Tankless Water Heater</u>	<u>50 %</u>	<u>\$ 2,800</u>
<u>Forced Air Furnace</u>	<u>100 %</u>	<u>\$ 3,300</u>
<u>Clothes Dryer</u>	<u>100 %</u>	<u>\$ 800</u>
<u>Gas Range</u>	<u>100 %</u>	<u>\$ 700</u>
<u>“Beyond the meter” Estimate</u>		<u>\$ 8,500</u>
<u>25% Contingency</u>		<u>\$ 2,100</u>
<u>Total “beyond the meter” Estimate</u>		<u>\$ 10,600</u>
<u>Households</u>		<u>201</u>
<u>Sub-Total “beyond the meter” Costs Estimate</u>		<u>\$ 2,136,000</u>
<u>Loader Cost Estimate</u>		<u>\$20,200</u>
<u>Total “beyond the meter” Costs Estimate</u>		<u>\$2,156,200</u>

Sample Appliance Packages

An example of natural gas appliances to be provided are shown below. Actual appliances installed may differ in brand, size, performance, cost and color.

³⁸ Includes estimated installation costs.



Century GUH Series 92% 66000 BTU Input and 62000 BTU Output Natural Gas Hot Air Furnace
Model # GUH92A070B3M
Internet # 303645509

\$1,361.03

Qty
1

Online Only

+ ADD TO CART



Rheem 9.0 GPM Natural Gas High Efficiency Outdoor Tankless Water Heater with Water Savings Setting and 12 Year Warranty
Model # ECOH180XLN-1
Internet # 300254247

\$1,099.00

Qty
1

Online Only

+ ADD TO CART



Frigidaire 30 in. 4.2 cu. ft. Gas Range with 5 Burner Cooktop in Stainless Steel
Model # FFGF3052TS
Internet # 302145124

Was ~~\$699.99~~
\$428.00
Save \$271.00 (39%)

Valid Through:
2017-11-01 to 2017-11-30

Qty
1

Online Only

+ ADD TO CART



LG Electronics 7.3 cu. ft. Gas Dryer with Front Control in White
Model # DLG1502W
Internet # 206473477

Was ~~\$849.99~~
\$599.00
Save \$250.00 (29%)

Valid Through:
2017-11-10 to 2017-11-29

Qty
1

Online Only

+ ADD TO CART

List Subtotal: **\$3,487.03** List Items: **4**



Rheem Performance Platinum 40 Gal.
Tall 12 Year 40,000 BTU ENERGY
STAR Natural Gas Water Heater
Model # XG40T12DM40UD
SKU # 1000034937
Internet # 204318409

\$619.00

Qty
1

+ ADD TO CART



Williams 35,000 BTU/hr Monterey Top-
Vent Gravity Wall Furnace Natural Gas
Heater with Wall or Cabinet-Mounted
Thermostat
Model # 3509622A
SKU # 861154
Internet # 100059323

\$545.00

Qty
1

13 In Stock | **Alert: 30**
Buy: 017

+ ADD TO CART



Frigidaire 30 in. 4.2 cu. ft. Gas Range
with 5 Burner Cooktop in Stainless
Steel
Model # FFGF3052TS
Internet # 302145124

Was ~~\$699.00~~
\$428.00
Save \$271.00 (39%)

Valid Through:
2017-11-01 to 2017-11-30

Qty
1

Online Only

+ ADD TO CART



LG Electronics 7.3 cu. ft. Gas Dryer
with Front Control in White
Model # DLG1502W
Internet # 205473477

Was ~~\$849.00~~
\$599.00
Save \$250.00 (29%)

Valid Through:
2017-11-10 to 2017-11-29

Qty
1

Online Only

+ ADD TO CART

List Subtotal: **\$2,191.00** List Items: **4**

Appendix D - Data Elements in Data Gathering Plan

Data would include (but is not limited to):

Table 9: Target data to capture

<u>Household Data</u>	<u>Source</u>
<u>Address</u>	<u>In-Home Data Survey</u>
<u>Own/Rent</u>	<u>In-Home Data Survey</u>
<u>If Rented, Provide Landlord Contact Info</u>	<u>In-Home Data Survey</u>
<u>House Type</u>	<u>In-Home Data Survey</u>
<u>Construction Type</u>	<u>In-Home Data Survey</u>
<u>Build Date</u>	<u>In-Home Data Survey</u>
<u>Square Footage</u>	<u>In-Home Data Survey</u>
<u>Bedrooms</u>	<u>In-Home Data Survey</u>
<u>Bathrooms</u>	<u>In-Home Data Survey</u>
<u>Number of Occupants</u>	<u>In-Home Data Survey</u>
<u>Energy Savings Assistance Program Remediated Date</u>	<u>In-Home Data Survey</u>
<u>Energy Savings Assistance Program Measures Installed</u>	<u>In-Home Data Survey</u>
<u>Energy Savings Assistance Program Measures Not-Installed</u>	<u>In-Home Data Survey</u>
<u>Thermostat Type</u>	<u>In-Home Data Survey</u>
<u>Has Attic Insulation</u>	<u>In-Home Data Survey</u>
<u>Space Heating Energy</u>	<u>In-Home Data Survey</u>
<u>Space Heater Type</u>	<u>In-Home Data Survey</u>
<u>Water Heating Energy</u>	<u>In-Home Data Survey</u>
<u>Cooler Type</u>	<u>In-Home Data Survey</u>
<u>Cooling Energy</u>	<u>In-Home Data Survey</u>
<u>Cooking Energy</u>	<u>In-Home Data Survey</u>
<u>Clothes Drying Energy</u>	<u>In-Home Data Survey</u>
<u>Propane Pipe Condition</u>	<u>In-Home Data Survey</u>
<u>Propane Line Underground</u>	<u>In-Home Data Survey</u>
<u>Electric Panel Size/Condition</u>	<u>In-Home Data Survey</u>
<u>Electric Wiring Type</u>	<u>In-Home Data Survey</u>
<u>Electric Wiring Condition</u>	<u>In-Home Data Survey</u>
<u>Electric Code Issues</u>	<u>In-Home Data Survey</u>
<u>Roof Type/Condition</u>	<u>In-Home Data Survey</u>
<u>Customer Expectations For Construction</u>	<u>In-Home Data Survey</u>
<u>Customer Expectations For Energy Costs</u>	<u>In-Home Data Survey</u>
<u>Customer Experience With Construction</u>	<u>In-Home Data Survey</u>
<u>Customer Experience With Energy Costs</u>	<u>In-Home Data Survey</u>

<u>Customer Expectations With Appliances</u>	<u>In-Home Data Survey</u>
<u>Customer Experience With Appliances</u>	<u>In-Home Data Survey</u>
<u>Customer Identified Household Conditions</u>	<u>In-Home Data Survey</u>
<u>Tenant/Landlord Expectations</u>	<u>In-Home Data Survey</u>
<u>Tenant/Landlord Experience</u>	<u>In-Home Data Survey</u>
<u>Other Customer Concerns</u>	<u>In-Home Data Survey</u>
<u>Demographic Data</u>	
<u>On All-Electric Rate</u>	<u>In-Home Data Survey</u>
<u>On CARE Rate</u>	<u>In-Home Data Survey</u>
<u>On FERA Rate</u>	<u>In-Home Data Survey</u>
<u>On MBL Rate</u>	<u>In-Home Data Survey</u>
<u>MBL Qualified</u>	<u>In-Home Data Survey</u>
<u>Disability</u>	<u>In-Home Data Survey</u>
<u>Household Income by Range</u>	<u>In-Home Data Survey</u>
<u># of Occupants</u>	<u>In-Home Data Survey</u>
<u># of Occupants aged 65 and older</u>	<u>In-Home Data Survey</u>
<u>Email Address</u>	<u>In-Home Data Survey</u>
<u>Internet Access @ Home</u>	<u>In-Home Data Survey</u>
<u>Internet Access on Mobile</u>	<u>In-Home Data Survey</u>
<u>Uses Facebook</u>	<u>In-Home Data Survey</u>
<u>Uses Twitter</u>	<u>In-Home Data Survey</u>
<u>Uses Nextdoor</u>	<u>In-Home Data Survey</u>
<u>Energy Costs per Household</u>	
<u>Annual Propane Cost/Gallon</u>	<u>External. Agreed upon by IOUs</u>
<u>Estimated Annual Propane Usage</u>	<u>Provided by natural gas utility, may be estimated from a nearby community with the similar climate zone and latitude. Agreed upon by IOUs</u>
<u>Annual Wood Cost</u>	<u>External. Agreed upon by IOUs</u>
<u>Estimated Annual Wood Usage</u>	<u>External. Agreed upon by IOUs</u>
<u>Average Monthly Electricity Bill (CARE)</u>	<u>Provided by electric utility</u>
<u>Average Monthly Electricity Usage kWh</u>	<u>Provided by electric utility</u>
<u>Average Annual Electric Bill (CARE)</u>	<u>Provided by electric utility</u>
<u>Estimated Annual Natural Gas Usage Post-Pilot</u>	<u>Provided by natural gas utility, may be estimated from a nearby community with the similar climate zone and latitude</u>
<u>Estimated Annual Natural Gas Bill (CARE) Post-Pilot</u>	<u>Provided by natural gas utility</u>

<u>Estimated Annual Electricity Usage kWh Post-Pilot</u>	<u>Provided by electric utility</u>
<u>Estimated Annual Electricity Grid Usage kWh Post-Pilot</u>	<u>Provided by electric utility</u>
<u>Estimated Annual Electricity Bill Post-Pilot</u>	<u>Provided by electric utility</u>
<u>Amount of GHG produced at source for 1kWh household use</u>	<u>External. Agreed upon by IOUs</u>
<u>Amount of NOx produced at source for 1kWh household use</u>	<u>External. Agreed upon by IOUs</u>
<u>Amount of GHG produced by 1 therm of natural gas household use</u>	<u>External. Agreed upon by IOUs</u>
<u>Amount of NOx produced by 1 therm of natural gas household use</u>	<u>External. Agreed upon by IOUs</u>
<u>BTU Conversion Ratio Propane to Natural Gas</u>	<u>External. Agreed upon by IOUs</u>
<u>BTU Conversion Ratio Propane to Electricity</u>	<u>External. Agreed upon by IOUs</u>
<u>Community-Level Data</u>	
<u>Monthly Average HDD</u>	<u>Provided by natural gas utility</u>
<u>Monthly Average CDD</u>	<u>Provided by electric utility</u>
<u>Latitude</u>	<u>External. Agreed upon by IOUs</u>
<u>Altitude</u>	<u>External. Agreed upon by IOUs</u>
<u>Climate Zone</u>	<u>External. Agreed upon by IOUs</u>

Appendix E - Risks and Issues

Table 10: Risk/issues and mitigation plans

<u>#</u>	<u>Risk/Issue</u>	<u>Mitigation Plan</u>
<u>1</u>	<u>Environmental issues or cultural resources are identified during pipeline construction causing permitting and/or remediation costs.</u>	<u>Perform both a “desktop” environmental & cultural review and an on-site assessment survey prior to pipeline construction. Have review/approval stage with community, Pilot Team and CPUC prior to construction to review issues and costs. Update construction estimates.</u>
<u>2</u>	<u>Land right-of-way, Air and Water Permits are required.</u>	<u>Start permitting process early, assign permit tracking to Program Advisor, schedule regular review of progress with PMO.</u>
<u>3</u>	<u>Easements over private property may be required</u>	<u>Assess for any required easements early and assign to tracking to Program Advisor, schedule regular review of progress with PMO.</u>
<u>4</u>	<u>Renter or homeowner does not want household converted to natural gas or homeowner cannot be reached</u>	<u>Perform community meetings and distribute material that explains benefits of natural gas versus propane and describes the requirements for participation. Perform in-home data survey to identify potential households that do not wish to participate in the program. Community Outreach Plan should also include residents that rent as well as the owner of the property. Have review/approval stage prior to construction to review issues and costs to discuss with community, Pilot Team, and CPUC. Regional Public Affairs (RPA) would contact county representatives for owner information. Track homeowner information and consent for conversion. Get written approval from homeowner prior to any pipeline construction.</u>
<u>5</u>	<u>Renter or homeowner decides to have household converted after planning has completed or decides not to complete conversion after construction has begun.</u>	<u>Perform community meetings and distribute material that explains benefits of natural gas versus propane and describes the requirements for participation. Perform in-home data survey to identify potential households that do not wish to participate in the program. Community Outreach Plan should also include residents that rent as well as the owner of the property. Have review/approval stage prior to construction to review issues and costs to discuss with community, Pilot Team, and CPUC. Regional Public Affairs (RPA) would contact county representatives for owner information.</u>
<u>6</u>	<u>Coordination of “to the meter” and “beyond the meter” contractor leaves customers without heat.</u>	<u>Assign dedicated PMO resources to consult and coordinate with third-party vendors, schedule regular progress reviews with third-party vendors and SoCalGas (e.g., check that “to the meter” facilities are gassed up and meter set is scheduled once “beyond the meter” facilities pass inspection).</u>
<u>7</u>	<u>Conditions in households require significant</u>	<u>Perform in-home data survey to identify potential households with issues and depth of issues prior to pipeline construction.</u>

#	<u>Risk/Issue</u>	<u>Mitigation Plan</u>
	<u>upgrading to reach code for new appliance installations or have hazardous waste disposal needs during conversion.</u>	<u>Have review stage prior to construction to review issues and costs to discuss with community, Pilot Team and CPUC. Classify each household into 3 Levels of effort and fund Level 1 & 2 households from the community fund within approved funding levels to handle household issues. Level 3 households would need CPUC approval to convert.</u>
8	<u>Inspection and approval of final system conversion is delayed by jurisdictional authorities.</u>	<u>Have Outreach team and RPA Managers contact jurisdictional authorities during planning process to communicate project timing, work with other stakeholders to enable visibility of planning calendar.</u>

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