

Docket No.: A.09-12-020
Exhibit No.: _____
Date: _____
Witness: Ian Goodman

PREPARED DIRECT TESTIMONY
OF IAN GOODMAN

CALIFORNIA PUBLIC UTILITIES COMMISSION
APPLICATION NO. 09-12-020
PACIFIC GAS & ELECTRIC COMPANY
GENERAL RATE CASE 2011

Prepared by

The Goodman Group, Ltd.

On Behalf of

THE GREENLINING INSTITUTE

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1 **1. Statement of Qualifications of Ian Goodman**

2

3 My name is Ian Goodman. My business address is 2515 Piedmont Avenue, Suite 11,
4 Berkeley, California 94704-3142.

5 My professional and educational qualifications are described in my résumé (Attachment
6 A) and summarized below. In 1977, I graduated from the Massachusetts Institute of
7 Technology with a Bachelor's in Civil Engineering/Transportation Systems. I have over
8 30 years of experience in research and consulting regarding various aspects of utility
9 regulation and economics. Since 1989, I have been president of The Goodman Group,
10 Ltd. (TGG), an energy and economic consulting firm in Berkeley, California (formerly
11 Boston, Massachusetts).

12 I have submitted expert testimony in over 45 regulatory, environmental assessment,
13 and legal proceedings in various North American jurisdictions including California, New
14 York, Massachusetts, Vermont, Maine, Florida, Manitoba, Ontario, Quebec, as well as
15 the Federal Energy Regulatory Commission (FERC) in the US and the National Energy
16 Board (NEB) in Canada. I am also author or co-author of over 50 publications relating to
17 the energy industry, economics, and environmental issues.

18 A major focus of my work over the last two decades has been the relationship between
19 energy and economic development/regional economics. I have testified before the
20 California Public Utilities Commission in A.97-12-048 and A.96-03-031/96-04-030 on
21 behalf of The Utility Reform Network (TURN). My evidence included: a review of claims
22 by Southern California Gas Company and other parties that economic development
23 would be promoted by allocating transition costs away from large industrial and other
24 noncore gas customers; evaluation of how economic development will be impacted by
25 the period selected for amortization of these transition costs; and provision of
26 recommendations regarding consideration of economic development issues by the
27 Commission.

28 My firm's Regional Economics practice is primarily focused on the employment and
29 environmental impacts of energy options on a state and provincial level. Since 1991,
30 TGG has conducted over 15 national, regional, and state/provincial studies on the
31 economic development impacts (notably jobs) and environmental impacts of various
32 energy options in the US and Canada. TGG has performed such studies for the US,
33 New York, Massachusetts, Vermont, Rhode Island, New Hampshire, California, Florida,
34 the Southern States region, and Quebec.

35 The Goodman Group's Regional Economics practice and research is supported by an
36 extensive database containing information on a wide range of energy efficiency
37 measures and supply options. This database has been compiled from contractor

1 records, utility and other efficiency program data, and detailed engineering studies. In
2 conjunction with TGG's extensive database, TGG developed E3AS (Energy, Economic,
3 and Environmental Analysis System) software on behalf of the US EPA in 1996. TGG
4 has made E³AS available to assist government agencies in evaluating the economic
5 and environmental impacts of energy supply and efficiency programs, and in
6 considering both the benefits and costs of energy alternatives. E³AS model analysis is
7 state-specific and has been incorporated into all TGG economic development studies
8 since 1996.

9 In addition to my focus on regional economics and economic development, my practice
10 has addressed a broad range of issues, including special rates and other promotion of
11 customer/load retention/growth. I have also testified in proceedings in Maine, Ontario,
12 and Québec regarding special discount rates. Some of these rates were targeted to
13 commercial and residential customers, but they were principally intended to promote
14 industrial sector load retention and load growth.

15 My practice has also addressed the consideration of equity issues in regulation and
16 policy making, notably in my work for clients such as regulators, government, customer
17 and environmental groups, and North American Native/First Nations organizations. In
18 particular, equity considerations have arisen in my previous testimony before the
19 Commission in A.97-12-048 and A.96-03-031/96-04-030, and in reviews of DSM and
20 Energy Efficiency programs in numerous jurisdictions throughout North America.

21

22 **2. Economic Impacts of Proposed Capital Expenditures**

23

24 This section analyzes the economic impacts of PG&E's proposed capital expenditures,
25 as set out in PG&E's filing. Specifically, this section will analyze PG&E's claims (in Ex.
26 PG&E-1) that these capital investments will provide a positive economic stimulus,
27 creating additional employment and other economic activity:

28

29 **Our Request: Catalyzing and Sustaining Economic Recovery**

30 PG&E needs to be ready to provide dependable electric and gas service to support
31 our customers when the economy improves. Our request in fact can assist in that
32 recovery, as our planned capital expenditures will provide a positive economic
33 stimulus, creating, directly or indirectly, thousands of jobs and generating significant
34 additional state and local tax revenues over the 3-year GRC cycle.¹

35

¹ Ex. PG&E-1, p. 1-18.

1 Specifically, PG&E's request will fund investments and the purchase of services that
2 will create approximately 16,000 jobs, primarily within California. [Footnote in
3 original: Based on a study performed by HIS (sic) Global Insight dated July 17, 2009.
4 The study is included in the appendix to this chapter.]²
5

6 As noted by PG&E, the basis for these claims is provided in the IHS Global Insight
7 study (Ex. PG&E-1, Appendix 2A):
8

9 Economic Impacts of Proposed Capital Expenditures by the Pacific Gas
10 and Electric Company in Northern and Central California, prepared by IHS
11 Global Insight.
12

13 **2.1 Context for Consideration of Economic Impacts** 14

15 Prior to delving into the details of PG&E's claims regarding economic stimulus and job
16 creation, it is useful to step back and consider how such claims should be considered in
17 the context of a GRC. This is after all a process whose main focus is setting utility rates.
18

19 The GRC process results in significant economic impacts. PG&E is spending billions of
20 dollars and recovering these costs from ratepayers. The results of the GRC process
21 thus have important ramifications for the overall service area economy. This is very
22 much a process of economic regulation.
23

24 Nonetheless, a GRC is not an exercise in broad macroeconomic policy making. PG&E
25 and the Commission are not the Federal Reserve, or other governmental entities whose
26 normal focus includes issues such as economic stimulus and job creation. Nor is the
27 GRC process taking place in the areas of government that are tasked with policies to
28 collect and spend tax revenues so as to further the public good (including as it relates to
29 economic stimulus and job creation).
30

31 Given that this is a GRC involving PG&E (an investor-owned utility), any claims
32 regarding economic stimulus should be evaluated in a manner that is appropriate for
33 this context. Therefore, we must first consider a threshold question as to the relevance
34 of the consideration of macroeconomic impacts³ (economic stimulus and job creation)
35 within a GRC.

² Ex. PG&E-1, p. 2-2.

³ In this testimony, macroeconomic impacts of utility activities refer to impacts upon the overall performance of the service area economy. As a short-hand, and in line with terminology adopted by PG&E, macroeconomic impacts will sometimes be made reference to by the terms "economic stimulus", (footnote continued on next page)

1
2 In response to an Information Request, PG&E stated its position as to the relevance
3 and proper consideration of issues such as economic stimulus and job creation:
4

5 **QUESTION 1**

6 At page 2 2:17 you say, "PG&E's request will fund investments and the
7 purchase of services that will create approximately 16,000 jobs, primarily
8 within California.
9

10 a. Where in the Code do you find authority to use ratepayer money to
11 create jobs?

12 [...]
13

14 **ANSWER 1**

15 a. PG&E is not seeking Commission authority to use ratepayer money to
16 create jobs, as the data request suggests. Rather, PG&E is seeking
17 Commission authority to fund much-needed capital investments in
18 PG&E's gas and electric infrastructure, among other things. While
19 intervenors may argue that such investments are inappropriate given
20 the current economic climate, PG&E believes that such investments
21 will benefit California's economy, as supported by the IHS Global
22 Insight report referenced in and appended to the testimony. It is
23 PG&E's position that, pursuant to Sections 454 and 701 of the Public
24 Utilities Code, the Commission has discretion to consider a broad
25 range of factors in determining a utility's "just and reasonable" rates,
26 including whether the costs of the utility's planned capital expenditures
27 are justified by the benefits to safety, reliability, and the economy.⁴

28 According to PG&E's response, macroeconomic impacts (such as stimulus and jobs)
29 fall within a broad range of factors that the Commission has discretion to consider within
30 its authority as a regulator.

"job creation", and jobs. In general, there is strong corelationship between jobs (employment) and other commonly used macroeconomic indicators (earnings, labor income, value added, gross regional product, and output).

By comparison, in this testimony, economic impacts of utility activities refer to the short- and long-term benefits and costs of these activities on ratepayers and communities in the service area. Economic impacts include the benefits and costs traditionally considered in rate-making. As will be discussed in this section, economic impacts can also include consideration of a broader range of factors including impacts on customers and communities, equity considerations, and macroeconomic impacts, as warranted.

⁴ Response to CFC 002-01.

1 And put in those terms, it could be relevant and appropriate for the Commission to
2 consider a broad range of factors that are (and could be) affected by the activities
3 regulated by the Commission. Electric and gas utilities have a very large footprint in
4 terms of economy, environment, and in many other regards. So within reasonable limits,
5 the Commission has an important role to play in terms of oversight and seeking to
6 improve outcomes.

7 But we do need to think about where consideration of this broad range of factors is
8 leading us. PG&E is attempting to justify capital expenditures (and the associated
9 increase in revenue requirements) on the basis of claims about macroeconomic
10 impacts:

11 **QUESTION 33**

12 In Exhibit (PG&E 1), Appendix 2A, PG&E presents a study, “Economic
13 Impacts of Proposed Capital Expenditures by the Pacific Gas and Electric
14 Company in Northern and Central California.” [. . .] Why did PG&E
15 decide to include the report in its showing in this proceeding?

16 **ANSWER 33**

17 PG&E included the study report in its application as support for a finding
18 that capital spending of the type and magnitude that PG&E proposes in
19 this GRC application will have a positive economic impact on the Service
20 Area during the GRC period above and beyond the benefits associated
21 with increased safety and reliability in the provision of gas and electric
22 services.⁵

23 In response to another interrogatory request, PG&E again justifies its proposed capital
24 expenditures on the basis of claims about economic stimulus:

25 While intervenors may argue that such investments are inappropriate
26 given the current economic climate, PG&E believes that such investments
27 will benefit California's economy⁶

28 Moreover, as part of its Economic Development Program, PG&E engages in activities
29 relating to Load Attraction and Retention (Ex. PG&E-4, Chapter 9). As will be further
30 discussed in Section 4.2 below, PG&E is also claiming that ratepayers should fund a
31 dramatic expansion in these activities, in response to claims about competition from

⁵ Response to Aglet-001-33.

⁶ Response to CFC 002-01.

1 other states.⁷ This expanded funding is intended to support trade missions and other
2 broadly-defined business promotion activities.⁸

3 So in thinking about what broad range of factors should be considered, we also need to
4 consider what broad range of activities they might foster. And while there might not
5 always be a well-defined line as to the outer limits of what utilities and the Commission
6 should do, there are clearly some very real constraints as to the role of utilities and the
7 Commission.

8 So for a proposed action to be justified, it is not sufficient that it appears to have the
9 potential for good outcomes according to a broad range of factors relating to societal
10 well-being. Rather, any proposed action also needs to fall within the appropriate role of
11 the utilities and Commission.

12 There are many potentially good ideas to make the world a better place, but only some
13 are appropriate for implementation by utilities and funding by ratepayers. Some actions
14 (if done at all) are best accomplished through direct governmental involvement, as
15 opposed to utilities attempting to take on a quasi-governmental role.⁹ Likewise, some
16 actions do not require governmental involvement, nor do they require involvement by
17 utilities and funding by ratepayers. Especially given the huge complexity and challenges
18 entailed with fulfilling even their core responsibilities, the utilities and Commission need
19 to remain focused on their unique and very important roles relating to the provision of
20 energy services.

21 In the context of this testimony (and the current proceeding), it is not feasible (or
22 necessary) to engage in a far-ranging debate over what broad range of actions utilities
23 might undertake and what broad range of factors might be used to evaluate those
24 actions. Rather, the primary focus needs to be on what PG&E is proposing to do, and
25 how that should be evaluated.

26 That said, PG&E's filing in this GRC is based (in part) on claims related to the
27 consideration of a broad range of factors. Such factors may be of some relevance in
28 evaluating how PG&E spends its money (and otherwise does business). However, to
29 the extent that it is appropriate to consider a broad range of factors, choices must be
30 made as to what factors are relevant and how much weight to give them.

⁷ Ex. PG&E-4, p. 9-1, 9-7.

⁸ Ex. PG&E-4, p. 9-9 to 9-10.

⁹ As will be further discussed in Section 4.2 below, some of PG&E's planned activities regarding economic development have substantial overlap with governmental activities and raise issues concerning the appropriateness of PG&E's role and ratepayer funding.

1 PG&E advocates that consideration be given to macroeconomic impacts (such as
2 stimulus and job creation). There can be merits to considering macroeconomic impacts
3 as a measure of how various actions and alternatives could affect the overall functioning
4 of the economy.

5 However, as will be explored below (in Sections 2.2, 2.3, and 2.4), great caution must
6 be exercised in estimating and interpreting macroeconomic impacts. A selective and
7 simplistic analysis may provide little useful information for ratemaking, and could even
8 be misleading.

9 As noted above, a GRC is not an exercise in broad macroeconomic policy making. So
10 factors such as macroeconomic impacts should only be considered in a GRC to the
11 extent that there is some clearly useful information regarding these impacts. Otherwise,
12 this is a situation where we are probably better off giving little weight to (or even wholly
13 ignoring) what we can not readily understand and rely upon.

14 That is not to say that macroeconomic impacts should always be ignored in terms of
15 utility planning and ratemaking. The Commission can give guidance as to what type of
16 information would be useful and suggest that an issue be further considered in the
17 future when and if more useful information becomes available. High quality analyses of
18 macroeconomic impacts can help to identify actions that are beneficial for the overall
19 functioning of the economy. For example, such analyses have helped to demonstrate
20 that cost-effective energy efficiency has significant benefits in terms of job creation and
21 other macroeconomic impacts. Thus, these analyses have provided useful guidance to
22 utilities, regulators, and others engaged in energy policy making.

23 But macroeconomic impacts are not the only, or even the primary, candidate for
24 inclusion within the broad range of factors for consideration by the Commission within a
25 GRC (and elsewhere). Given that utilities have such a large footprint and range of
26 impacts, it is also very much appropriate to take into consideration other factors such as
27 how PG&E's actions are affecting the customers and communities that it serves.

28 Each year, PG&E is spending billions of dollars, with funds flowing to suppliers,
29 employees, shareholders, and government. Likewise, PG&E is collecting billions of
30 dollars from its ratepayers. This large scale of operations inevitably creates large
31 economic impacts. The benefits and costs are both quite sizable. So there are
32 significant equity considerations relating to how these benefits and costs are distributed.

33 These equity considerations have many aspects, including geography and
34 demographics. Utilities have large networks and operations that are spread across
35 (almost) all communities and (almost) all Californians are utility customers. Still, that
36 does not mean that everywhere or everyone is affected the same way in terms of either
37 benefits or costs. Moreover, utilities are operating in a context where there are already

1 very large disparities in terms of income, education, medical care, health outcomes,
2 longevity, and other factors.¹⁰

3 Equity considerations do already receive some attention in “traditional” ratemaking and
4 are a key factor in terms of both cost allocation and rate design.

5 But there are certainly many equity considerations that have traditionally received only
6 limited attention by utilities and the Commission. So to the extent that we are
7 considering a broad range of factors, impacts on customers and communities have
8 strong merit as primary factors; and they are a potentially very useful guide. Section 3
9 will provide further discussion of how equity considerations can be taken into account so
10 as to optimize and diversify the economic impacts associated with utility capital
11 expenditures and other activities. So to return to the threshold question concerning the
12 relevance of economic stimulus and job creation within a GRC, we can conclude that
13 such macroeconomic indicators are just one type of broader measure to evaluate a rate
14 application. Impacts on customers and communities are of equal and potentially greater
15 relevance in terms of broader measures. A focus on such impacts would also facilitate
16 considering and addressing equity issues. And as will be discussed in Section 3, a
17 focus on such impacts would also encourage initiatives such as energy efficiency for
18 low-income customers, workforce inclusion, and supplier diversity.

19

20 **2.2 The Relevant Question Concerning the Economic Impacts for the** 21 **Commission**

22

23 The previous section addressed the threshold question regarding the relevance of
24 macroeconomic impacts (i.e. economic stimulus and job creation) within a GRC. Now,
25 the relevant question for us to consider with respect to the specific economic impacts of
26 the proposed capital expenditures is the following:

27

28 **What are the short- and long-term economic benefits and costs over the life of the**
29 **capital expenditures (the period over which costs are recovered from**
30 **ratepayers)?**

31

32 In giving full consideration to the benefits and costs of the capital expenditures over the
33 lifetime of the investments, the Commission can make an informed valuation of:

¹⁰ See e.g., <www.barhii.org>. Longevity is one indicator of these huge disparities. Life expectancies in affluent Bay Area communities (“the hills”) are on average ten years greater than in areas with lower incomes (“the flats”); there are also large disparities related to income and ethnicity <www.barhii.org/press/download/barhii_report08.pdf>.

- 1
- 2 • the trade-offs involved in setting the level of capital expenditures in any GRC;
 - 3 • the trade-offs involved in a higher level of capital spending in this GRC;
 - 4 • equity considerations regarding the distribution of the short- and long-term
 - 5 benefits and costs.
- 6

7 The trade-offs involved in setting the level of capital expenditures in any GRC

8 Customers pay for capital expenditures through rates, and this rate impact persists
9 long-term over the period while the capital expenditures are in rate base. Capital
10 spending does add some jobs in the short-term (while the money is being spent). But
11 there are offsetting job losses as customers pay for these expenditures through rates
12 (while the money is being paid back). Moreover, each dollar of capital expenditures
13 results in substantially more than a dollar of lifetime cost recovery. Cost recovery
14 includes return on rate base (financing costs), as well as associated taxes. Put more
15 simply, the money is paid back with interest (as well as dividends and taxes).

16 So with respect to macroeconomic impacts in any GRC, capital expenditures result in
17 long-term losses, which exceed the short-term gains. Thus, there are increased jobs in
18 the short-term in exchange for higher rates and fewer jobs in the long-term.

19 For simplicity, the above discussion of trade-offs is limited to consideration of the
20 economic impacts associated with capital spending and cost recovery. It does not take
21 into account the benefits that utility capital spending may also provide in terms of energy
22 supply.¹¹

23 So conceptually, the above discussion could be characterized as an analysis of the
24 macroeconomic impacts associated with “gold-plating” (a situation where the utility is
25 making incremental capital expenditures that provide no marginal benefits in terms of
26 energy supply).¹²

27 This is not to say that the capital expenditures forecast by PG&E in GRC 2011 are all
28 gold-plating or otherwise unwarranted.¹³ Rather, the above discussion is provided to
29 demonstrate that utility capital spending is not a macroeconomic free lunch. Rather it is
30 a lunch paid for by customers, with a substantial adder for financing costs and taxes.

¹¹ PG&E’s analysis of macroeconomic impacts was similarly limited; it did not take into account the benefits in terms of energy supply provided by capital spending (Ex. PG&E-1, Appendix 2A, p. 8).

¹² There has been extensive consideration of issues relating to gold-plating by utilities, specifically in regard to the Averch-Johnson effect.

¹³ Some portion of the capital expenditures forecast by PG&E in GRC 2011 may in fact be unwarranted, as will be discussed in Section 2.4. DRA has submitted extensive testimony which (among other aspects) forecasts a substantially lower level of capital expenditures (see e.g., Ex. DRA-6 and Ex. DRA-8).

1 The above discussion has clear policy implications. PG&E should make the capital
2 investments required to provide needed energy supply. But it should not spend more
3 than is required. Spending more in a poorly targeted attempt to provide economic
4 stimulus and job creation is spending that is unwarranted.

5 Even capital spending that is necessary will have some adverse macroeconomic
6 impacts owing to long-term impact on rates. But any such adverse impacts will be offset
7 by the benefits provided by needed energy supply.

8 But utility capital spending that is unnecessary will result in a long-term drag on the
9 service area economy. There will a short-term economic boost when the money is being
10 spent, but this will be more than offset as costs are recovered. Customers will be
11 paying, but not getting any benefit in terms of needed supply. In terms of economic
12 stimulus and job creation, unnecessary utility capital spending is very expensive,
13 inequitable, and (especially over the long-term) quite counterproductive.

14 The trade-offs involved in setting the level of capital expenditures in GRC 2011

15 In the current GRC, the general trade-offs described above for any GRC are still
16 applicable. But given economic conditions, there may be somewhat different than usual
17 trade-offs between short-term and long-term impacts. Put more simply, we may be more
18 willing than usual to accept long-term costs in exchange for short-term benefits.

19 The current economic crisis is very deep and persistent in its impacts. Economic
20 conditions are now beginning to improve, but unemployment and other aspects of
21 economic difficulty will remain high during most (and likely all) of the GRC period (2011-
22 2013). Capital spending in this GRC thus could have some benefits as a countercyclical
23 initiative.

24 An economic or financial policy is defined as countercyclical if it works against the
25 cyclical tendencies in the economy. That is, countercyclical policies are ones that
26 stimulate the economy when it is in a downturn, and cool down the economy when it is
27 in an upswing.

28 In a weak economy, there is substantial slack capacity; a countercyclical intervention
29 (such as a government program to encourage business investment) can significantly
30 improve outcomes by helping to increase the utilization of resources that would not
31 otherwise be employed. Still any intervention must be well designed and implemented;
32 otherwise the intervention may actually harm the economy, moving it even further away
33 from efficient use of resources.

34 In a strong economy, a cyclical intervention (which stimulates the economy) is less likely
35 to significantly improve outcomes. With the economy operating at (or near) full

1 capacity, an intervention may produce only small shifts between activities, with no
2 overall net gain. Moreover, with the economy already at or near equilibrium, an
3 intervention may actually harm the economy by moving it away from what is already an
4 efficient use of resources.

5 As stated above, the impacts of the current economic crisis will persist through most
6 (and likely all) of the GRC period. These weak economic conditions are characterized
7 by a high level of unemployment and other slack capacity. Thus, an argument can be
8 made that it is advantageous to undertake countercyclical initiatives to increase jobs in
9 the short term, even at the cost of higher rates and job losses in the long term.
10 Moreover, a utility like PG&E can borrow money relatively easily, and short-term
11 borrowing costs are relatively low. So there could be an economic rationale for
12 undertaking countercyclical initiatives during the upcoming GRC in order to provide
13 short-term economic stimulus and job creation.

14
15 Given current economic conditions, there is a better-than-usual trade-off for a job gain in
16 the short term against a net job loss in the long term. Still, the Commission must decide
17 whether such a trade-off is warranted. In order to make an informed decision as to
18 whether countercyclical spending is advantageous in the current GRC, the Commission
19 should be provided with complete information regarding the short- and long-term
20 economic benefits and costs over the life of the capital expenditures. As will be
21 discussed in Section 2.3, PG&E's evidence has not provided an accurate and complete
22 description of these benefits and costs.

23
24 Moreover, the Commission will also require sufficient information to accurately assess
25 the distribution of these economic benefits and costs (i.e. who are the winners and who
26 are the losers). On a policy level, the Commission should also determine to what
27 degree it wants to utilize rate-making as a counter-cyclical economic initiative.¹⁴

28
29 If the Commission approves a higher level of capital spending, justified in part as a
30 countercyclical initiative, it is important that it consider the adverse impacts resulting
31 from higher rates over the entire cost recovery period, as well as the uneven distribution
32 of the benefits and costs of capital spending throughout the economy. In particular,
33 customers will be thus paying more during the GRC period, when many are already
34 struggling with unemployment and other economic difficulties. So, as will be further
35 discussed in Section 3, to the extent that there is a rationale for higher capital spending

¹⁴ As discussed in Section 2.1, the Commission's focus is not broad economic policy making; put more simply, it is not the Federal Reserve. The ratemaking process is sufficiently complex and constrained, such that it may be poor tool for undertaking countercyclical initiatives and other macroeconomic fine-tuning.

1 in this GRC, there is a particular need to address equity considerations through
2 mechanisms that optimize and diversify economic impacts.

3
4 Equity considerations regarding the distribution of short- and long-term benefits and
5 costs

6 As will be discussed in more detail in Section 3, utility capital investment gives rise to
7 equity considerations because the short- and long-term benefits and costs of the capital
8 spending are not spread evenly throughout the economy. Typically, the winners from
9 capital investment will be PG&E employees, contractors, and suppliers of materials and
10 services related to the capital spending; some of these winners (notably suppliers of
11 materials) will be located outside the service area and California.

12 Meanwhile, the ratepayers will bear the costs of the investments for years to come.

13 And with the high level of capital investment proposed in this GRC, concurrent with the
14 ongoing economic crisis, the winners may do especially well, and the losers may do
15 especially poorly. Therefore, in its evaluation of PG&E's capital investment proposal, the
16 Commission should also consider the resulting distribution of the short- and long-term
17 benefits through the economy and consider ways to mitigate the equity considerations
18 that arise from the unevenness of this distribution.

19

20 **2.3 PG&E's Selective and Simplistic Analysis of the Macroeconomic Impacts**

21
22 Section 2.1 addresses the relevance of macroeconomic impacts (i.e. economic stimulus
23 and job creation) within a GRC, and Section 2.2 identifies the relevant issues for the
24 Commission to consider regarding the economic impacts of the proposed capital
25 expenditures. Section 2.3 will now comment on and critique PG&E's analysis of the
26 macroeconomic impacts.

27
28 PG&E's claims about macroeconomic impacts are based on an analysis which is
29 selective and simplistic. PG&E's analysis regarding these impacts provides little
30 information that is useful for ratemaking, and could even be misleading.

31
32 Especially in the GRC context, great caution must be exercised in estimating and
33 interpreting macroeconomic impacts. As discussed in Section 2.1, a GRC is not an
34 exercise in broad macroeconomic policymaking. So factors such as macroeconomic
35 impacts should only be considered in a GRC to the extent that there is some clearly
36 useful information regarding these impacts. PG&E's analysis provides little useful

1 information and it should not be relied upon as a basis for an appropriate analysis of
2 macroeconomic impacts.

3
4 PG&E's analysis of macroeconomic impacts is based on the IHS Global Insight study
5 (Ex. PG&E-1, Appendix 2A).¹⁵ As described in the study's Introduction and Conclusion:
6

7 Under the PG&E proposal, annual capital spending will range between
8 \$2,500 million and \$2,800 million during the three-year period. PG&E's
9 proposed expenditure has sizeable economic impacts on employment,
10 output, value added and wages. On average, more than 16,000 jobs are
11 created¹⁶ per year.¹⁷

12 [...]

13 The study results suggest that every one million dollars of capital spending
14 by PG&E creates more than 6 jobs in the Northern and Central California
15 economy. These jobs are highly desirable, earning a real income of
16 \$80,000 per year and a real value added of \$132,000 per year measured
17 at 2011 prices.¹⁸

18
19 Taken at face value, the IHS Global Insight study would seem to indicate that PG&E's
20 proposed capital investments are an overall plus for service area macroeconomic
21 activity. PG&E will spend about \$8 billion on capital projects, and high paying jobs will
22 be created.

23
24 These conclusions are frankly surprising. As explained in Section 2.2, utility capital
25 expenditures can result in some job gains over the short-term, but any such gains are
26 rapidly eroded as the costs of these expenditures are recovered from ratepayers.
27 Moreover, each dollar of capital expenditures results in substantially more than a dollar
28 of lifetime cost recovery.¹⁹ So with respect to macroeconomic impacts, capital

¹⁵ This study is only 8 pages long, and only limited documentation is provided therein. Moreover, no additional documentation or workpapers from IHS Global Insight have been made available in this proceeding (Response to DRA 098-04, Response to CFC-002-01c).

¹⁶ [Footnote in original omitted]

¹⁷ Ex. PGE-1, p. Appendix 2A, p. 2.

¹⁸ Ex. PGE-1, p. Appendix 2A, p. 8.

¹⁹ Cost recovery includes return on rate base (financing costs), as well as associated taxes. Financing costs and taxes will have a larger impact upon lifetime cost recovery as the following factors increase: useful/ratebase life, interest rates, required equity returns, and effective tax rates. The capital spending proposed by PG&E in GRC 2011 includes a large amount of distribution system and other investments with long useful lives. So PG&E's proposal will entail very sizeable lifetime financing and tax costs. By comparison, a dollar of capital spending in the rate base for a short period would give rise to only slightly more than a dollar of lifetime cost recovery. And a dollar of utility spending that was expensed would entail only a dollar of cost recovery.

1 expenditures result in long-term losses, which exceed the short-term gains. Put another
2 way, the net impacts are negative over the long-term.

3
4 There are situations where utility spending can result in positive net macroeconomic
5 impacts. First, in some cases, the utility is not recovering the costs from customers
6 within the economy where the spending is taking place. A common real world example
7 would be a generation project built to supply power to customers in another state. So
8 the economy of the state where the power plant is located will have the short-term
9 gains, but not the long-term losses associated with cost recovery.

10
11 Second, utility spending can have positive impacts in regard to energy provision such
12 that there are ratepayer benefits that offset ratepayer costs. A common real world
13 example would be cost-effective energy efficiency. As many jobs studies have shown,
14 utility spending that helps to reduce energy consumption and customer bills can have
15 quite beneficial macroeconomic impacts.

16
17 So for there to be a finding of positive net macroeconomic impacts from utility capital
18 spending, a jobs study would have to assume that (a) costs will not be recovered from
19 customers in the economy being modeled, or (b) there were some offsetting benefits to
20 ratepayers.²⁰

21
22 But the conclusions of the IHS Global Insight study clearly state that neither of the
23 above assumptions were made in this study:

24
25 The positive economic impacts shown here are net of any offsetting
26 impacts of increases in the cost of electric service to final consumers. The
27 impacts reported in this study are conservative both because they are net
28 of possible impacts on electricity price but, perhaps more importantly,
29 because they do not include possible positive impacts on the local
30 economy due to the provision of enhanced energy delivery services that
31 result from the proposed capital spending.²¹

32
33 A simple reading of the IHS Global Insight study results is that there will be more jobs
34 and other economic activity in the PG&E service area owing to the utility spending \$8

²⁰ There are situations where it might be appropriate for a jobs study to assume some combination of (a) and (b). And as noted in footnote 19, the impact of financing costs and taxes will vary depending on the useful/ratebase life of the capital spending and other factors; but for the type of capital spending proposed by PG&E in GRC 2011, the net macroeconomic impacts would be negative absent some combination of assumptions (a) and/or (b) and/or some other special circumstances.

²¹ Ex. PGE-1, p. Appendix 2A, p. 8, emphasis added.

1 billion in capital expenditures; according to the study, these are the results even after
2 costs are recovered from ratepayers.

3
4 Given the nature of utility ratemaking and the PG&E service area economy, this is a
5 very surprising and unlikely result. Typically, once the impacts of cost recovery are
6 factored in, the net macroeconomic impacts would be negative (or at best zero), rather
7 than substantially positive.

8
9 But in fact, the positive macroeconomic impacts shown by IHS Global Insight are not
10 net of any offsetting impacts of increases in the cost of electric service to final
11 consumers. The study actually takes into account only a very small portion of the cost
12 recovery from customers. And by assuming away most of the costs, net impacts are
13 made to appear positive when they will actually be negative.

14
15 The IHS Global Insight study analyzes proposed capital investments to be made in the
16 three-year GRC rate cycle (2011-2013). For each of the three years of capital
17 investments, IHS Global Insight assumes an 18% adjustment for cost recovery.²²

18
19 This 18% adjustment factor is based on a single year of cost recovery:

20
21 The 18% adjustment factor represents the annual capital related revenue
22 requirement. This estimate is based on discussions with PG&E's analysts
23 who are familiar with the revenue requirements model. The 18% capital
24 related annual revenue requirement is primarily composed of return on
25 invested capital, depreciation on invested capital and taxes related to
26 capital investments. In other words an increase in annual capital spending
27 of \$1 billion will result in an increase in the annual revenue requirement of
28 approximately \$180 million. Only the net of those two numbers, \$820
29 million, is being considered in IHS Global Insights impact analysis.²³

30
31 The basis for the 18% estimate is that each \$1.00 in capital investment will
32 produce a revenue requirement increase of approximately \$0.18. The
33 primary components of this \$0.18 in capital related revenue requirement
34 are the cost of capital (\$.13), depreciation on capital invested (\$.04), and
35 property taxes (\$.01).²⁴

36

²² Ex. PGE-1, p. Appendix 2A, p. 6; Responses to DRA-098-09, DRA-098-09, DRA-147-03 and DRA-165-04; Response to South San Joaquin-002-15d; Response to CFBF-002-03.

²³ Response to DRA-098-08.

²⁴ Response to CFBF-002-03.

1 In effect, the IHS Global Insight study captures only the first year of cost recovery, for
2 each of the three years of investments. So there is cost recovery in 2011 for the 2011
3 investments, cost recovery in 2012 for the 2012 investments, and cost recovery in 2013
4 for the 2013 investments. But there is no cost recovery in 2012 for the 2011
5 investments, and no cost recovery in 2013 for the 2011 and 2012 investments.

6
7 Thus, the IHS Global study Insight includes the capital investments made over the
8 entire three-year rate cycle period, but fails to include the full cost recovery over the
9 same three years. So the study incorporates the benefits of a full three years of
10 spending (yielding all the spending benefits in terms of macroeconomic impacts), but
11 fails to even include a full three years of cost recovery.

12
13 Meanwhile, long-term impacts are completely ignored. There is absolutely no
14 consideration of any cost recovery after 2013. So the vast majority of lifetime cost
15 recovery has been excluded from the analysis. As a result, the net macroeconomic
16 impacts are claimed to be positive, when they will actually be strongly negative over the
17 long-term life of the capital investments (i.e. the period over which the costs are
18 recovered from ratepayers).

19
20 Put another way, the IHS Global Insight study is in effect assuming that these capital
21 investments will be in rate base for just one year. And on that wholly unrealistic basis
22 (which takes into account only a fraction of the cost recovery), the study then claims that
23 there are positive net macroeconomic impacts. But in this GRC, PG&E is certainly not
24 proposing that these capital investments be treated this way for the purposes of
25 ratemaking. Instead, the utility proposes to undertake these capital investments, which
26 will be in the rate base for decades, with associated cost recovery from ratepayers. The
27 real result will be adverse macroeconomic impacts on both ratepayers and the service
28 area economy far into the future.

29
30 In Section 2.2, the point was made that utility capital spending is not a macroeconomic
31 free lunch. Rather it is a lunch paid for by customers, with a substantial adder for
32 financing costs and taxes. The IHS Global Insight study does not quite assume that
33 utility capital spending is a free lunch, but close. It assumes only one year of cost
34 recovery, equal to 18% of the capital spending.

35
36 On this basis, it might appear that IHS Global Insight is assuming that capital spending
37 is a lunch that is discounted by 82%.²⁵ But actually, the discount assumed by IHS
38 Global Insight is much greater. As previously noted, customers pay a substantial adder

²⁵ 100%-18%.

1 for financing costs and taxes. So each dollar of capital spending results in more than a
2 dollar of cost recovery.

3
4 Thus, the cost recovery included in the IHS Global Insight study is actually less than
5 10% of what would be reflected in a more appropriate analysis of macroeconomic
6 impacts over the full cost recovery period.²⁶ In effect, IHS Global Insight is assuming
7 that capital spending is a lunch that is discounted by over 90%. Given the level of
8 approximation inherent in estimating jobs and related macroeconomic impacts, a
9 discount of over 90% is basically a free lunch.

10
11 To the extent that the results of the IHS Global Insight study provide any useful
12 information for this GRC, they do help to demonstrate the scale of the positive
13 macroeconomic impacts associated with the proposed capital spending (while ignoring
14 the adverse impacts associated with cost recovery). Put more simply, spending \$8
15 billion will (by itself and prior to consideration of cost recovery) result in some jobs
16 creation and other economic stimulus. So there will certainly be some winners
17 associated with spending all this money.

18
19 The scale of the proposed capital spending, and the associated macroeconomic
20 impacts, serve once again to demonstrate the importance of enhanced consideration of
21 impacts on customers and communities. As noted above, there will be some benefits
22 and some winners associated with all this spending. Based on an input-output analysis,
23 the IHS Global Insight study claims that the proposed capital expenditures will result in
24 significant macroeconomic impacts within the service territory. But this input-output
25 macroeconomic analysis is mute on the geographic and demographic distribution of
26 such impacts.

27
28 Given the potential magnitude of these impacts (both positive and negative) and their
29 uneven distribution, it is certainly worth considering the development of tools to support
30 a more granular determination of how these capital expenditures will impact customers
31 and communities throughout the service territory. As Section 2.1 concludes, a focus on
32 such impacts would facilitate the consideration of equity issues and encourage
33 initiatives such as energy efficiency for low-income customers, workforce inclusion, and
34 supplier diversity. These initiatives will be further discussed in Section 3.

35

²⁶ As further discussed in footnote 28, there is some judgment involved as to how long-term cost recovery is modeled for the purposes of estimating macroeconomic impacts. Substantial effort would be required to undertake a detailed estimation regarding the lifetime rate recovery for the proposed capital expenditures. So the estimates provided herein regarding how much the discount exceeds 82% are approximate.

1 Once again, the benefits of this spending must be considered with the costs, notably the
2 costs that will be recovered from ratepayers. An appropriate analysis of macroeconomic
3 impacts would indicate that the long-term job losses far exceed any short-term gains.
4 That said, as discussed in Sections 2.1 and 2.2, there are trade-offs between the long-
5 term losses and short-term gains. Moreover, in the context of the ongoing economic
6 crisis, there is a better than usual trade-off for a job gain in the short-term against a net
7 job loss in the long term. Capital spending in this GRC thus could have some benefits
8 as a countercyclical initiative. Still, the Commission must decide whether such a trade-
9 off is warranted.

10
11 In order to make an informed decision as to whether countercyclical spending is
12 advantageous in the current GRC, the Commission should be provided with complete
13 information regarding the short- and long-term economic benefits and costs over the life
14 of the capital expenditures. The IHS Global Insight study is completely deficient in that
15 regard. It provides no information about impacts after 2013. And even the analysis that
16 is provided regarding impacts during the 2011-2013 period is too flawed to be relied
17 upon.

18
19 In the context of this proceeding, I have not been able to undertake an independent jobs
20 study to provide more reliable guidance for the Commission. However, I am able to
21 provide some approximations. These rough estimates are based on my extensive
22 experience regarding jobs studies, as well some adjustments that I have applied to
23 correct the most serious flaws in the IHS Global insight study.²⁷

24
25 The starting point is a more appropriate modeling of cost recovery. Based on the IHS
26 Global Insight assumption that first year rate recovery is 18%, we can get a quick sense
27 of trade-offs regarding the short-term job gains and long-term job losses.²⁸ The

²⁷ As noted in Section 1, a major focus of my work over the last two decades has been the relationship between energy and economic development/regional economics. In that period, I have conducted over 15 national, regional, and state/provincial studies on the macroeconomic impacts (notably jobs) of various energy options in California and elsewhere in the US and Canada. And I have reviewed (and in some cases critiqued) over 100 jobs studies performed by others.

Thus, the subject matter of the IHS Global Insight study is very familiar territory for me. Moreover, this study used the IMPLAN input/output model (Ex. PGE-1, p. Appendix 2A, p. 3). I have utilized IMPLAN as the basis for most of my own jobs studies. And many of the studies I have reviewed were produced using IMPLAN.

²⁸ There is some judgment involved as to how long-term cost recovery is modeled for the purposes of estimating macroeconomic impacts. Substantial effort would be required to undertake a detailed estimation regarding the lifetime rate recovery for the proposed capital expenditures. Notably, these investments include many components, with different useful lives and other aspects affecting rate recovery. So the estimates provided herein are approximate.

Assuming that 18% represents a first year nominal carrying charge rate, some components could be adjusted or netted out. The amount of annual cost recovery should decline as the amount in ratebase (footnote continued on next page)

1 cumulative cost recovery over the first three years will equal about half of the
2 investment spending. After six or seven years, cost recovery will equal the full amount
3 of the investment spending. And there will then be decades more of cost recovery and
4 job losses.²⁹

5
6 So the trade-off between short-term job gains and long-term losses is more a trade-off
7 between very short-term, and mid-term and long-term.

8
9 To be more specific, for 2011 capital expenditures, half of the investment spending will
10 have been offset by cost recovery within the GRC rate cycle (2011-2013).³⁰ And by
11 2016 or 2017, all of the investment will have been offset. And there will then be decades
12 more of cost recovery and job losses.

13
14 So from a countercyclical standpoint, there is only a weak case (at best) to be made for
15 capital spending in 2011. There is some economic stimulus (net positive impacts) in
16 2011, but these benefits are rapidly eroded by ongoing cost recovery. If it was expected
17 that the economy would rapidly recover and return to full employment after 2011, there
18 might be some merit to such a trade-off. But it seems more likely that the recovery will
19 be more gradual, and there will be an extended period when unemployment remains
20 high. So in conclusion, it does not seem warranted for the Commission to now approve
21 these types of countercyclical initiatives and other macroeconomic fine-tuning.³¹

22

is depreciated. Inflation should be adjusted for (either by performing the analysis in real dollars, or by deflating the future year cost recoveries). Finally as noted by PG&E (Response to DRA-098-08), property taxes could be netted out; a similar adjustment for at least a portion of state taxes could be appropriate.. PG&E (Response to DRA-098-08) also raises the issue of netting out returns paid to shareholders and bondholders who reside in the service area. Such an adjustment does not seem warranted, since this is a capital market issue; if local investors do not need to fund PG&E capital investments, they can earn returns from other investments, including from those not based in the service territory.

²⁹ Some PG&E capital investments are assumed to have negative net salvage value, sometimes exceeding 100%. A comprehensive long-term macroeconomic analysis would include the jobs and other impacts associated with removal and end-of-life activities. But given that such activities occur far into the future, and are uncertain as to their actual costs and impacts, they may not be essential to consider in a macroeconomic analysis.

³⁰ If it is assumed that investment is not added to ratebase until later in the year, then the first three years of recovery will stretch into 2014. But this level of precision is beyond the scope of this approximate analysis.

³¹ A similar analysis could be undertaken for capital spending in 2012 and 2013. Spending in those later years would also provide some economic stimulus. But any such boost will be of somewhat less value than for 2011 capital spending, since economic conditions will likely be improving as time goes on. On the other hand, the cost recovery associated with investments in later years may actually be somewhat better matched to economic cycles. Notably this cost recovery may start to cool the economy at a time when that could be a beneficial result in terms countercyclical fine-tuning. But as with capital investments in 2011, it does not seem warranted for the Commission to embark upon this kind of macroeconomic policymaking.

2.4 Broad Adverse Implications of Setting the Revenue Requirement Too High

In evaluating PG&E's proposed capital expenditures, there is another key issue related to service area macroeconomic impacts and utility ratemaking that we should not lose sight of. The claims made by PG&E as to how its spending may benefit the service area economy are contingent upon PG&E actually using the money it receives from ratepayers to provide required energy supply in a manner that benefits ratepayers. As discussed by DRA, and also considered in Section 4.2 (regarding the Economic Development program), there have been cases in the past where PG&E's forecasted spending has substantially exceeded actual.³² In other words, there have been instances where PG&E has collected for activities that it did not actually undertake.

And to the extent that PG&E's revenue requirements are set based on an overestimate of future costs, the customers are paying for expenditures not actually being made.

Thus, the customers are paying, without receiving offsetting benefits. Instead, the shareholders are benefitting. And such an outcome is problematic both in terms of service territory economic activity and equity considerations.

All else equal, greater cost recovery from utility ratepayers is an impediment to service area economic activity.³³ When PG&E customers pay more to the utility, and do not receive offsetting benefits, they have less funds available for all other activities. They are losers, as is the service area economy as a whole.

The winners are the shareholders. As PG&E notes, some of these shareholders will be located within the service area "and spend at least some portion of those investment returns on goods and services in the local economy."³⁴ On the other hand, all PG&E customers are (by definition) located within the service area. So it is reasonable to assume that spending by ratepayers is more oriented to the service area than is spending by shareholders. Thus, transferring income from ratepayers to shareholders will typically be a net loss for the service area economy.

³² See e.g., Ex. DRA-6, pp. 8-13, 25-38; Ex. DRA-8, pp. 4-5.

³³ In general, all else being equal, lower costs are better than higher costs. However, in the real world, all else is frequently not equal. When comparing alternative scenarios for the energy system, it is important to factor in other considerations (e.g., productivity) that are affected by these costs.

Energy costs are oftentimes related to other factors that can have significant economic effects. There may be tradeoffs between energy costs and other considerations such as reliability and environmental impacts. For example, the regional economy may perform better with somewhat higher costs for a highly reliable energy system with good power quality and relatively low environmental impacts than it would with somewhat lower costs for a less reliable system with lesser power quality and higher environmental impacts.

³⁴ Response to DRA-098-08.

1 And when income is unnecessarily transferred from ratepayers to shareholders, it is
2 certainly a net loss in terms of equity considerations. Not all shareholders are located in
3 the service territory. And even the shareholders located within the service territory are
4 unlikely to be a representative sample of ratepayers.³⁵

5 The preceding discussion is not intended as a rationale for ratepayers to generally pay
6 less to the utility, so as to achieve a general transfer of income from shareholders to
7 ratepayers. Rather, it is intended to point out that there are broader implications when
8 revenue requirements are set higher than they need to be in order to recover the costs
9 of providing utility service. Ratepayers, the service area economy, and equity are all
10 losers. Only the shareholders are winners.

11 Thus in determining the appropriate level of capital expenditures, consideration should
12 be given to the broad adverse implications of unduly high rates, as well as the extent to
13 which PG&E has been recovering costs for activities that were not undertaken.

14

15 **2.5 Conclusions and Recommendations on Consideration of Economic Impacts** 16 **in the Current GRC**

17

18 Section 2.1 concludes that macroeconomic impacts (which have been used by PG&E to
19 justify its capital expenditure proposal) are just one type of broader measure to consider
20 in the evaluation of utility expenditures. In terms of broader measures, impacts on
21 customers and communities are of equal or greater relevance, and have the further
22 advantage of addressing equity considerations.

23 Section 2.2 then examines how utility capital expenditures can result in some job gains
24 over the short-term, but that any such gains are rapidly eroded as the costs of these
25 expenditures are recovered from ratepayers. Moreover, these short-term job gains are
26 unevenly distributed among the service area's customers and communities.

27 Section 2.3 reviews PG&E's analysis of the macroeconomic impacts from the proposed
28 capital spending, as presented in the IHS Global Insight study. PG&E's claims about
29 macroeconomic impacts are based on an analysis that is selective and simplistic. The

³⁵ See e.g., www.census.gov/prod/2008pubs/p70-115.pdf. For US households, there is a strong relationship between equity ownership and attributes such as income, age, and ethnicity. Equity ownership increases with income and age and is also higher for whites and Asians than for blacks and Hispanics.

Income transfers from ratepayers to shareholders would raise equity considerations even in the highly unlikely case where shareholders were all located within the service area and were a representative sample of ratepayers. In such a case, the many would still be paying to benefit the few.

1 IHS Global Insight study provides little information that is useful for ratemaking, and
2 could even be misleading. This study ignores virtually all of cost recovery and assumes
3 that utility capital spending is a macroeconomic free lunch. Given the study's failure to
4 provide an appropriate analysis of macroeconomic impacts, PG&E's claims about these
5 impacts are unsupported.

6 Section 2.4 discusses the broad adverse implications of setting the revenue
7 requirement too high.

8 But while the Global Insight study provides no sound basis for PG&E's claims, it does
9 help to demonstrate the scale of impacts associated with the proposed high level of
10 capital expenditure during the GRC. \$8 billion of capital spending will lead to significant
11 economic impacts within the service territory, both positive and negative, including
12 significant macroeconomic impacts, both positive and negative. As discussed in Section
13 2.3, input-output macroeconomic analysis (used in the IHS Global Insight study) is mute
14 on the geographic and demographic distribution of macroeconomic impacts. But in the
15 real economy, the significant economic impacts (both positive and negative) resulting
16 from a high level of utility spending will be distributed unevenly across the service
17 territory. There will be very substantial impacts upon customers and communities.

18 Therefore, given the potential magnitude of these impacts and their uneven distribution,
19 I recommend that impacts on customers and communities be considered as primary
20 factors in terms of the broader factors for the evaluation of the capital spending. As
21 such, PG&E should develop tools to support a more granular determination of how
22 capital expenditures will impact customers and communities throughout the service
23 territory. Using impacts on customers and communities as a guide, and with a more
24 granular understanding of these impacts, PG&E should then implement activities that
25 offset the adverse impacts on customers and communities of the proposed capital
26 spending and while addressing equity concerns. Section 3 provides an overview of such
27 activities, which serve to optimize and diversify the economic impacts of utility capital
28 spending.

29

30 **3. Optimizing and Diversifying the Economic Impacts**

31

32 The Commission is currently faced with an application for a high level of capital
33 investment and other utility spending. This section delves further into the issue of how
34 the short- and long-term benefits and costs of this spending are distributed (i.e. who are
35 the winners and who are the losers?), as well as how to mitigate the adverse impacts on
36 ratepayers during the cost recovery period. As discussed in Section 2.1, impacts on
37 customers and communities are primary factors to be considered in terms of broader

1 factors for the evaluation of utility capital expenditures. This section examines the
2 activities that are encouraged by prioritization of these impacts, including Low-Income
3 Energy Efficiency (LIEE), low-income solar initiatives, low-income training and
4 workforce inclusion, and supplier diversity. In the particular context of this GRC, a
5 strong economic rationale is provided for supplier diversity.

6 As such, this section relates to the macroeconomic impacts of PG&E's proposed capital
7 expenditures as set out in PG&E's filing (Ex. PG&E-1, and particularly in Appendix 2A).
8 This section is also relevant in relation to PG&E's Supplier Diversity and Workplace
9 Diversity initiatives (Ex. PG&E-6, pp. 15-14 to 15-24) and specifically to PG&E's
10 \$2,904,927 cost request related its Diversity and Inclusion Department (Ex. PG&E-6, p.
11 15-25).

12 **3.1 The Particular Importance of Supplier Diversity Initiatives in this GRC**

13
14 As discussed in Section 2, even if higher capital spending is somehow justified as a
15 short-term economic stimulus in this GRC, there will still be adverse impacts owing to
16 higher rates over the entire cost recovery period. As a result, with higher spending, the
17 winners will do even better, and the losers will do even worse. In particular, PG&E
18 customers will be paying more during the GRC period, when many will already be
19 struggling in a very deep and persistent economic crises. So to the extent that there is
20 a rationale for higher capital spending in this GRC, there is a particular need to consider
21 the impacts on customers and communities, and to address related equity
22 considerations.

23
24 Supplier diversity initiatives are of particular importance in this GRC given the significant
25 amount of benefits and costs involved in the proposed capital expenditures (and other
26 expenditures), as well as the uneven distribution of these benefits and costs.³⁶ Even if a
27 portion of the proposed capital expenditures are approved, the amount will be
28 substantial. And such a substantial level of capital investment will result in a sizable
29 amount of economic activity, as well as sizable costs, as discussed in Section 2.

30
31 These benefits and costs will not be evenly distributed throughout the economy. Indeed,
32 the winners will be those who benefit from three years of capital expenditures of
33 approximately \$8 billion (PG&E employees, contractors, providers of materials and
34 services related to the capital investments, etc.) and the costs (rate recovery
35 substantially in excess of \$1 billion per year) will be borne by the ratepayers for many

³⁶ Supplier diversity efforts are those undertaken by a business (or other economic actor) to broaden its pool of contractors in the procurement of goods and services. Typically these efforts are focused on businesses in underutilized or "minority" sectors of the population, such as those owned by women, racial minorities, or disabled veterans.

1 years to come. Put another way, there are major equity issues associated with the high
2 level of proposed capital expenditures, particularly during the current economic
3 downturn.

4 One way of optimizing the \$8 billion investment and of better aligning the costs and
5 benefits for the ratepayers (who are bearing the costs) is to ensure that PG&E
6 implements strong supplier diversity initiatives. Supplier diversity initiatives are an
7 effective mechanism to mitigate the adverse impacts of cost recovery on ratepayers and
8 to address related equity issues.

9 Put simply, targeting diverse suppliers can mitigate some of the burden of high capital
10 investment spending on ratepayers. Supplier diversity can help to spread out the
11 winnings in local communities and create some greater overlap/offset between winners
12 and losers. If PG&E has strong supplier diversity initiatives in place, local and diverse
13 businesses and suppliers can become the recipients of the PG&E capital expenditure.
14 Some of the economic burden of the capital expenditure can be offset, and there will be
15 more winners and fewer losers as a result.

16 In the context of the high level of proposed capital expenditures, supplier diversity is
17 both relevant and important (i.e., of material concern in this GRC). The remaining
18 subsections (3.2 to 3.8) further develop the economic rationale for strong supplier
19 diversity initiatives, particularly in the context of the current GRC.

20

21 **3.2 Utility Regulation’s Inherent Focus on the Distribution of Benefits and Costs**

22

23 The provision of electricity and gas involves activities that are inextricably linked to the
24 public interest. Energy supply is a foundation of economic activity, has a very large
25 environmental footprint, and utilities are (to a sizable extent) monopoly suppliers.

26 Thus, within PG&E’s service area, (almost) all residents and businesses are customers
27 of the utility. So (almost) all businesses and residents pay rates, and (almost) all are
28 affected by rate increases. In that sense, all are “winners” in the terms of having energy
29 supply, but all are also “losers” in terms of paying for it (via both rates and through other
30 channels like environmental degradation). But while all entities are affected in both
31 positive and negative ways, all are not all equally affected. The distribution of benefits
32 and costs is sensitive to how energy is supplied and how the costs are recovered. A
33 key reason why many intervenors are active at the Commission is to influence the
34 distribution of these sizable benefits and costs.

35

1 **3.3 The Role of Utilities and the CPUC in the Distribution of Benefits and Costs**
2

3 In the current context (notably the GRC), the key question to be considered here is what
4 (if anything) should be done by the Commission in regard to equity issues. Clearly, the
5 Commission has to consider equity issues in terms of cost allocation and rate design.
6 In effect, the Commission is deciding who pays, and issues of equity/fairness are thus
7 quite central.

8 Beyond core areas of cost allocation and rate design, there are various actions (by the
9 utility and Commission) that affect distribution of costs and benefits. Utilities (and the
10 overall energy system) have a very large environmental and economic footprint, which
11 have important impacts on the distribution of benefits and costs. There are major
12 environmental justice issues in regard to the energy system. And to the extent that
13 there are such issues, there is a rationale for policies both to reduce the overall
14 environmental burden of the energy system, and to mitigate this burden by policies
15 favorable to those otherwise adversely affected.

16 Given utilities' large economic footprint, utilities and regulators should also take into
17 account the broader economic impacts of utility investments, as well as associated
18 equity issues.

19 In justifying its large proposed capital expenditures in the current GRC, PG&E attempts
20 to make the case that these expenditures will stimulate the economy. Section 2
21 questions the claim that such capital expenditures will result in significant economic
22 stimulus. In using an economic stimulus rationale to support its capital investment
23 proposal, PG&E characterizes the existing policy framework for the consideration of
24 economic development issues by the Commission in utility rate cases:

25 It is PG&E's position that, pursuant to Sections 454 and 701 of the Public
26 Utilities Code, the Commission has discretion to consider a broad range of
27 factors in determining a utility's "just and reasonable" rates, including
28 whether the costs of the utility's planned capital expenditures are justified
29 by the benefits to safety, reliability, and the economy.³⁷

30 So as discussed in Section 2.1, PG&E is asking the Commission to apply a
31 broad perspective by taking into account the macroeconomic impacts of PG&E's
32 investments, and is making reference to the policy framework for potential
33 consideration of such issues. Section 2.1 concludes that in terms of broader
34 factors, impacts on customers and communities are of equal and potentially

³⁷ Response to CFC 002-01a.

1 greater relevance than macroeconomic impacts, and have the further advantage
2 of addressing equity considerations. Sections 3.4 to 3.8 further explore equity
3 considerations related to utility expenditures.

4

5 **3.4 Equity Considerations for Utility Capital Investments**

6

7 Consistent with Commission's existing policy framework, which includes some
8 consideration of wider economic impacts in determining rates, there is typically
9 some attention paid to equity considerations for utility capital investments in most
10 North American jurisdictions.

11 Notably, utilities and regulatory bodies generally make some effort to apply a
12 user-pay principle. Some distribution system activities (such as new
13 connections) are subject to contributions in aid of construction. And part of the
14 goal for cost allocation and rate design is to provide a linkage between cost
15 causation and cost recovery.

16 That said, the utility system inevitably involves a substantial degree of cost
17 averaging/cost shifting. This means there are many winners and many losers,
18 certainly in the short-term, but even in the long-term. With new technologies
19 (such as improved metering), it may be possible to more closely relate cost
20 causation and cost recovery; however, this is a complex topic that extends far
21 beyond the scope of this testimony and the current proceeding. Suffice it to say
22 here that there has never been, and will never be, a precise (and universally
23 accepted) linkage between costs and what each customer pays. There are a
24 variety of constraints and considerations, such that there will inevitably be some
25 winners and losers.

26 In this context, effective mechanisms are highly recommended in order to
27 address the uneven distribution of benefits and costs across customers and
28 communities. As evidenced by the current proceeding, we may be entering a
29 period of increased capital expenditures as utilities replace and upgrade their
30 infrastructure, notably in regard to distribution systems. And in this context,
31 supplier diversity could be an important initiative to improve outcomes, by
32 mitigating negative impacts on customers and communities. Supplier diversity
33 can help to address equity considerations, notably in regard to: (a) customer
34 choice; and (b) geographic and demographic concentration.

35 Regarding the issue of customer choice, utility customers do not have direct say
36 in who gets hired to do work for the utility (either as suppliers or employees).

1 Unlike the case of a home improvement project, utility customers do not get to
2 pick the contractor or utility; instead, they are paying rates to the utility and the
3 utility is picking the contractors. So this alone is a rationale for initiatives that will
4 help to increase supplier diversity, and make it more representative of (and
5 supportive for) a utility's diverse service area and customer base.

6 Second, there is also the issue of geography and the related issue of
7 demographics. Generally, utility capital investments, especially for distribution
8 system activities, may go disproportionately to more newly developed and more
9 rapidly growing portions of the service area. Certainly, spending for new
10 connections and major capacity additions and other upgrading will be
11 concentrated where customers are being added and usage is growing fastest.³⁸
12 As such, supplier diversity initiatives will again help to address equity issues by
13 spreading out the winners and losers throughout the geography and different
14 demographics of the service area. As will be discussed in Section 3.7, these
15 equity problems are highly relevant, and (if anything) even more pronounced, in
16 PG&E's service territory in the current GRC.

17 **3.5 Equity Considerations for Utility Energy Efficiency and Distributed Solar** 18 **Programs: an Analogy** 19

20 Equity considerations related to utility capital investments (such as distribution system
21 upgrading) have some analogies to other major utility initiatives such as energy
22 efficiency and customer-side distributed solar. And experience with energy efficiency
23 (EE) and distributed solar demonstrates that it is important to give strong consideration
24 to equity issues.³⁹

³⁸ Some capital investments relate to serving existing usage, and specifically to replacing and upgrading existing facilities that have reached the end of their useful lives or are otherwise no longer adequate to serve existing usage. Such investments may be more widely distributed across the service territory. On the other hand, even these types of investments may be geographically concentrated in various ways, especially in the short-term. Many types of utility equipment have long lifetimes, and thus give rise to occasional large investments. For the system as whole, investments will be less lumpy and concentrated. Still, it is likely that investments will prove to be somewhat uneven as to where and when they occur. Moreover, even if some investments are more widely distributed across the service territory, this does not imply that the related suppliers will be evenly distributed in terms of geography or demographics.

³⁹ EE and customer-side distributed solar are behind-the-meter and typically involve some direct participation by customers. By comparison, capital investments (such as distribution system upgrading) are utility-side and part of the utility's overall infrastructure. Therefore the point of examining these analogies is not to make a case that all utility initiatives entail the same equity considerations. Rather, in evaluating utility capital investments, it is useful to review the experience of equity considerations in regard to other utility initiatives.

Moreover, even if capital investments are utility-side, some are quite proximate (both physically and conceptually) to customer-side EE and distributed solar. Notably, the distribution system closest to (footnote continued on next page)

1 Since the last GRC (GRC 2007), there have been major new developments in EE and
2 solar initiatives, and especially in Low-Income Energy Efficiency (LIEE) and low-income
3 solar initiatives. And there have many other deep changes in the California policy and
4 economic environment, including: the economic crisis, the focus on green jobs, the
5 increasing awareness of climate change and the environmental crisis, and the
6 implementation of AB 32.⁴⁰ So there is significantly more focus on how utility spending
7 can be done in ways that are efficient and beneficial to a wider number of low-income
8 customers. The discussion of California’s experience with LIEE and low-income solar
9 initiatives provides lessons for addressing equity considerations and increasing LI
10 customer and community benefits from other capital expenditures.

11 Analogy With Equity Considerations Relating to Energy Efficiency Programs

12 There are a variety of equity considerations relating to EE programs. In particular,
13 absent a particular targeting of low-income residential customers, such customers may
14 not be well-positioned to participate in (and benefit from) EE programs. To provide a
15 local example, what works to reach affluent residential customers in Walnut Creek may
16 not work to reach low-income customers in East Oakland.

17 Moreover, especially traditionally, much of the low-hanging fruit (the largest and most
18 cost-effective EE) was in the commercial sector. So absent particular targeting of
19 residential (and perhaps industrial) customers, EE programs could be very much
20 focused on the commercial sector. And even within the commercial sector, there can
21 be equity issues similar to those in the residential sector. The low-hanging fruit in the
22 commercial sector may be concentrated with large (and relatively well-off) customers
23 versus smaller (and less well-off) customers. What works to reach large commercial
24 complexes in Walnut Creek may not work to reach corner stores in East Oakland.

25 So for various reasons, it is desirable for EE programs to target a broad array of
26 customers and sectors. This helps to maximize overall energy savings (and
27 environmental and economic development benefits). Moreover, it helps to build and
28 maintain broad support for EE programs.

each customer meter is serving only a single or small number of customers. So if a sizable investment is required to connect a new customer to the distribution system, there can be equity considerations similar to those that arise when the utility pays for EE and/or distributed solar for that same customer. And there can be important interrelationships between these various undertakings. Notably, EE and distributed solar can be targeted to reduce distribution system investments.

For all these initiatives, there are issues (and equity considerations) concerning user-pay, customer contributions, and rate-making. And these equity considerations can be further intensified by customer demographics. In situations where connection costs and potential for EE and/or distributed solar are especially high, customer incomes may also be especially high.

⁴⁰ AB 32 (the Global Warming Solutions Act of 2006) was signed into law in September 2006 (during GRC 2007); AB 32 implementation mainly postdates GRC 2007.

1 Notably, a sizable portion of the cost of EE programs is typically recovered from non-
2 participants. So if EE programs are narrowly targeted, this can undercut support for
3 these programs. If many customers are paying for EE, but are not participating (and are
4 unlikely to ever participate), these customers will tend not to support EE (even if they
5 are getting some environmental benefits).

6 Moreover, narrowly targeted EE programs can be regressive. In effect, less affluent
7 residential and commercial customers may be largely non-participants, and may be
8 helping to pay for the EE implanted by those more affluent.

9 So to mitigate these equity considerations, comprehensive EE programs typically
10 include a strong focus to target low-income residential and small/less well-off
11 commercial. And aside from the usual benefits of EE, programs targeted to those less
12 well-off can help to reduce payment problems/uncollectibles, improve customer quality
13 of life/comfort/health/safety, and address equity considerations.

14 In California, the history of LIEE programs dates back to the early 1980s, when the
15 Commission instituted energy efficiency programs in response to the energy crisis of the
16 1970s. Perhaps needless to say, equity considerations have been important throughout
17 the history of California's LIEE programs.⁴¹ In fact, until recently:

18 the Commission has identified LIEE programs as equity programs
19 designed primarily to reduce the burden of energy bills of participating
20 customers and promote their comfort and safety.⁴²

21 Equity considerations have also been a factor in LIEE program design. As with other EE
22 programs, there are issues as to how to achieve broad participation in LIEE programs.⁴³
23 If only a small portion of customers are participants, they are winners. And non-
24 participants are losers (at least relatively). So to mitigate equity considerations
25 regarding non-participants, it is not enough to just have programs targeted to low-
26 income customers. It is also important that these programs achieve broad participation
27 by low-income customers. In other words, even equity programs need to be
28 implemented so that the distribution of benefits (and costs) is reasonably equitable, both
29 within the targeted population and relative to the broader population.

30 As noted above, until recently, LIEE was seen more as an equity program, than as a
31 resource to achieve significant energy savings. LIEE budgets were highly constrained.
32 So participation was very limited, both in terms of breadth (participation levels) and

⁴¹ See e.g., D.07-12-051, pp. 6, 15, 18, 20-26, 54-56, 67.

⁴² [Footnote in original: See, for example, D.05-12-026, D.05-10-044, D.86-12-095, D.87-12-057, D.95-05-045 and D.99-03-056.] D.07-12-051, p. 15.

⁴³ See e.g., D.07-12-051, p. 55.

1 depth (the amount and effectiveness of the measures implemented).⁴⁴ Thus, LIEE
2 programs were far from adequate to tap the full potential for increased energy efficiency
3 among low-income consumers.

4 In recent years, there have been very major changes regarding California EE and
5 especially LIEE programs. And these changes have had important ramifications in
6 terms of equity considerations.

7 While California has long been a national leader regarding EE, numerous events have
8 converged such that a major expansion of EE and especially LIEE programs is now
9 underway:

10 In October 2007, the California Public Utilities Commission (CPUC)
11 created a framework to make energy efficiency a way of life in California
12 by refocusing ratepayer-funded energy efficiency programs on achieving
13 long-term savings through structural changes in the way Californians use
14 energy.⁴⁵

15 The Commission recognized that California's very ambitious energy
16 efficiency and greenhouse gas reduction goals require long-term strategic
17 planning to eliminate persistent market barriers and effect lasting
18 transformation in the market for energy efficiency across the economy.
19 Accordingly, the Commission committed to prepare and adopt a long-term
20 strategic plan for California energy efficiency through 2020 and beyond.⁴⁶

21 Simply put:

22 California's highest energy priority is to pursue cost-effective energy
23 efficiency measures over both the short- and long-term.⁴⁷

⁴⁴ Annual participation was limited to about 3% of qualified customers (D.07-12-051, pp. 5, 23, 85). To spread these limited resources and mitigate equity considerations, PG&E and other utilities restricted repeat participation, even when such participation was otherwise warranted. Under the Ten Year Rule, a residence could receive LIEE programs no more than once every 10 years (D.07-12-051, p. 55).

Part of the justification for this rule was to promote equity (e.g., continuing expansion of dwellings previously not provided LIEE measures), considering the utilities' constrained budgets.

⁴⁵ [Footnote in original: California Public Utilities Commission Decision 07-10-032. (D.07-10-023) Available at: http://docs.cpuc.ca.gov/word_pdf/FINAL_DECISION/74107.pdf]

⁴⁶ California Long Term Energy Efficiency Strategic Plan, CPUC, September 2008, p. 1.

<www.californiaenergyefficiency.com/docs/EEStrategicPlan.pdf>.

⁴⁷ D.07-10-032, p. 2.

1 To achieve California’s goals and priorities, a major expansion and redirection of LIEE
2 programs was essential. This was necessary not just to address equity considerations,
3 but also to meet California’s energy savings goals:

4
5 Today we clarify that the complementary objectives of LIEE programs are
6 to provide an energy resource for California, consistent with our “loading
7 order” that establishes energy efficiency as our first priority, while reducing
8 low-income customers’ bills and improving their quality of life. We commit
9 to expand LIEE programs by making them available to more customers,
10 improving their cost-effectiveness and designing them in ways to make
11 them a reliable energy resource. To achieve these objectives, we adopt a
12 programmatic LIEE initiative to provide all eligible LIEE customers the
13 opportunity to participate in LIEE programs and to offer those who wish to
14 participate all cost-effective energy efficiency measures in their residences
15 by 2020.⁴⁸

16 Under this new policy direction, LIEE would longer be mainly an equity program. It
17 would now become an important resource program that would move rapidly to achieve
18 all cost-effective EE.⁴⁹ And it would also enhance equity by reducing low-income
19 customers’ bills and improving their quality of life.

20 To achieve these complementary objectives, a major increase in LIEE activity levels
21 was required. A large portion of all customers are low-income. But even by 2009, after
22 decades of LIEE program implementation; most low-income customers were still waiting
23 to participate in LIEE.⁵⁰

24 At PG&E (and also at other IOUs),⁵¹ over 30% of all residential households are low-
25 income and eligible for LIEE.⁵² As shown in Table 1, there are almost 2 million LIEE-
26 eligible households at PG&E, and almost 6 million at all IOUs.

⁴⁸ D.07-12-051, p. 2.

⁴⁹ According to D.08-11-031, p. 7:

Resource programs are designed to save energy, limit the need for new power plants,
and curb greenhouse gas emissions.

⁵⁰ Low-income customers are experiencing substantial energy-related hardships, including high energy usage, high energy bills, energy burden, and energy insecurity; LIEE can help to ameliorate these energy-related hardships. See D. 08-11-031, pp. 3-4; D.07-12-051, pp. 21, 23, 36-37.

⁵¹ California Investor-owned utilities (IOUs) are subject to regulation by the Commission.

⁵² Final Report on Phase 2 Low Income Needs Assessment, KEMA, Inc., prepared for CPUC, September 7, 2007, p. 4-4. <<http://docs.cpuc.ca.gov/published/GRAPHICS/73106.PDF>>. This report is extensively cited in D.08-11-031, notably as a basis for the Commission’s findings (pp. 99-114) regarding LIEE Eligible Population.

1 **Table 1 : LIEE Eligible Households: Program Year (PY) 2009**^{53 54}

Utility	Total LIEE Eligible	Unwilling to Participate in LIEE	Treated by LIEE PY 2002 - PY 2008	Treated by LIHEAP PY 2002 - PY 2007	Remaining to be Treated
PG&E	1,906,157	95,308	407,172	76,537	1,327,140
All IOUs	5,751,076	287,554	1,138,349	224,387	4,100,786
% of Total LIEE Eligible					
PG&E	100%	5%	21%	4%	70%
All IOUs	100%	5%	20%	4%	71%

2
 3 Prior to 2009, only about 20% of these eligible households had been “treated by LIEE”
 4 (i.e., received services); another 4% had been treated by other programs
 5 (LIHEAP/DOE).

6 So three-quarters of these low-income households were still waiting to receive
 7 services.⁵⁵ These millions of low-income households left in the LIEE queue comprise
 8 over 20% of all residential households at PG&E (and other IOUs).⁵⁶

9 The Commission established the following clear vision for this very large segment of the
 10 residential sector:

11
 12 By 2020, 100 percent of eligible and willing customers will have received
 13 all cost-effective Low Income Energy Efficiency measures.⁵⁷

14 To carry out this vision, spending on LIEE programs has to be much higher than in
 15 previous years. And commencing with the 2009-2011 program period, LIEE budgets are

⁵³ D.08-11-031, p. 113 (source of table summarized herein as Table 1); pp. 99-114 (documentation of table).

⁵⁴ Source: D.08-11-031, p. 113 (data), pp. 99-114 (derivation of data).

Notes:

- (1) PY = Program year.
- (2) “All IOUs” = PG&E + SCE + SDG&E + SCG (SoCalGas);
- (3) 5% of eligible households were assumed unwilling to participate and thus excluded from the population remaining to be treated (receive LIEE services) (D.08-11-031, p. 110);
- (4) The Ten Year rule (footnote 44) was assumed, so that only customers that had received efficiency services (from LIEE, LIHEAP, and DOE) from 2003 onward are restricted from subsequent LIEE participation (D.08-11-031, pp. 94-95,-111-112).

⁵⁵ In D.08-11-031, p. 110, the Commission assumed that 5% of households could be unwilling to participate in LIEE. On this basis, 70% of the eligible low-income population, who are willing and waiting to participate, remain to be treated.

⁵⁶ % Remaining to be Treated * % Low Income/LIEE Eligible = ~70% * ~ 30% = >20%. Sources :Table 1, Footnote 52.

⁵⁷ D. 08-11-031, p. 7.

1 rising to meet the challenge: over \$400 million at PG&E, and almost \$1 billion at all
2 IOUs.⁵⁸

3 With ratepayer funding at these levels, the low income programs can no
4 longer operate with a business-as-usual approach. As we state in our
5 recently adopted California Long-Term Energy Efficiency Strategic Plan
6 (Plan),⁵⁹ the LIEE program must evolve into a resource program that
7 garners significant energy savings in our state while providing an
8 improved quality of life for California's low income population.⁶⁰

9 More specifically, now that LIEE will involve spending sizable amounts of money,
10 it becomes all the more important that this money be spent in a way that provides
11 sizable benefits to low-income customers (and their communities), in addition to
12 increased energy savings. So it is not just a matter of how much money is spent,
13 but also how well it is spent.

14 There are two aspects that relate to the matter of “how well” the LIEE money is
15 spent. Neither is unique to LIEE. First, as with any EE, LIEE should be conducted
16 efficiently and effectively so as to produce results in terms of saving energy and
17 lowering customer bills. In the parlance of economics, increased efficiency in the
18 delivery of LIEE programs can also result in increased equity. A well-run LIEE
19 program will deliver more results per dollar spent, and this will maximize benefits
20 to low-income customers (and their communities) in terms of lower bills and
21 improved quality of life. In effect, those with low incomes are receiving services
22 that provide benefits to those with low incomes. Services provided more
23 efficiently deliver more benefits to more recipients than do services provided less
24 efficiently.

25 The second aspect of “how well” relates to the participation of low-income
26 customers (and communities) in EE program delivery. As a major utility initiative
27 involving substantial expenditures, LIEE should be conducted so that low-income
28 customers (and their communities) benefit through participation as workers and
29 suppliers for these utility activities.⁶¹ In effect, those with low incomes are no
30 longer just recipients of services, they are now involved in the provision of those

⁵⁸ D.08-11-031, pp. 1-2.

⁵⁹ [Footnote in original: See <www.californiaenergyefficiency.com>.]

⁶⁰ D.08-11-031, p. 2.

⁶¹ The issue of customer and community participation is relevant for all EE programs, but it is more important in a low-income context. Put simply, initiatives that provide jobs are especially important to those who most need them.

1 services. This synergy can greatly increase the overall benefits to those with low
2 incomes.⁶²

3 Moreover, low-income participation in EE program delivery is not just an issue for
4 LIEE programs. LIEE is just one component of a much larger set of EE
5 programs. Other EE programs that are not specifically targeted to low-income
6 customers (as service recipients) can also be conducted so that low-income
7 customers (and their communities) benefit through participation as workers and
8 suppliers for the EE initiatives.

9 Fortunately, the Commission has provided direction that LIEE and other EE
10 programs should be implemented so that low-income customers (and their
11 communities) can actually participate as workers:

12 Goal 2: Ensure that minority, low income and disadvantaged communities
13 fully participate in training and education programs at all levels of the DSM
14 and the energy efficiency industry.

15 Coordination of LIEE workforce training with other energy efficiency
16 training programs is essential. This includes coordination with The Green
17 Jobs Act of 2007 as well as with existing programs associated with State
18 agencies such as the Employment Development Department (EDD) and
19 the Department of Social Services (DSS). The Green Jobs Act of 2007,
20 approved as part of the recent Federal Energy Bill, authorizes funding up
21 to \$125 million annually for job training in the energy efficiency and
22 renewable energy industries and facilitates economic development within
23 minority, low income, and economically disadvantaged communities. The
24 IOUs will work to coordinate both the federally-supported training to be
25 offered under this Act, as well as other State employment training
26 resources, with the LIEE workforce training. Recruiting for trainees may be
27 accomplished within the targeted communities served by LIEE
28 contractors. This coordination should expand employment options for
29 those in disadvantaged communities beyond the LIEE program itself.
30 Finally, as new legislation is adopted and AB 32 begins implementation,
31 additional funding and programs from those activities need to be
32 leveraged to the advantage of the energy efficiency WE&T effort.⁶³

⁶² As a result, some with low incomes may even do well enough so that they are no longer low-income. This is a very positive outcome not just for those who have moved up the income scale; it also means that resources can be redirected to benefit others who are still low-income.

⁶³ California Long Term Energy Efficiency Strategic Plan, CPUC, September 2008, p. 79.
<www.californiaenergyefficiency.com/docs/EEStrategicPlan.pdf>.

1 The next section briefly examines equity considerations related to distributed
2 customer-side solar initiatives. This will be followed by an overview of lessons
3 learned from LIEE and low-income solar initiatives for addressing equity
4 considerations and increasing LI customer and community benefits from other
5 capital expenditures.

6 Analogy With Equity Considerations Relating to Distributed Customer-Side Solar

7 To focus on another utility initiative with potential equity considerations, California (along
8 with other states and countries) is actively promoting the implementation of distributed
9 solar (both PV and solar thermal). Distributed customer-side systems are mainly
10 intended to offset retail electric and gas usage, in contrast with larger installations that
11 are mainly supplying the grid (as opposed to displacing retail load).

12 For various reasons, customers who can and will implement solar may tend to be more
13 affluent. So absent some efforts to address equity considerations, efforts to promote
14 solar may be regressive. Or to expand on the previous example, those less well-off in
15 East Oakland may be helping to pay for solar implemented by those more affluent in
16 Walnut Creek.

17 To address these equity considerations, California has established a variety of low-
18 income solar initiatives.⁶⁴ These initiatives incorporate job training programs intended to
19 promote green-collar jobs in low-income communities and to develop a trained
20 workforce, who will help foster a sustainable solar industry in California. Participation in
21 low-income programs for solar is also tied to participation in LIEE programs.

22 Lessons Learned from LIEE and Low-Income Solar Initiatives for Addressing Equity 23 Considerations

24 These analogies demonstrate the importance of equity considerations and mitigatory
25 strategies related to the adverse impacts to customers and communities of various
26 utility initiatives. The experience until recently with LIEE is that a narrowly-focused
27 equity program may be highly constrained in what it can accomplish to improve equity.
28 Budgets were low, and benefits were limited for lower-income customers and everyone
29 else. Traditionally, LIEE was not a strong resource program, and resulted in limited
30 energy savings and thus limited benefits for other ratepayers and the environment.

31 The lesson of the new LIEE programs (recently expanded and redirected) and recent
32 low-income solar initiatives is that low-income targeting continues to be more important
33 and necessary than ever; but money can be better spent on large well-run LI programs

⁶⁴ Extensive information regarding the California Solar Initiative, and its low-income components, is available on the Commission's website: <www.cpuc.ca.gov/PUC/energy/Solar/>.

1 that maximize benefits all around. Moreover, these new more broadly focused LIEE
2 programs provide a natural bridge, so that the low-income workforce and contractors
3 can also work in the bigger/broader non-low-income EE and solar initiatives.

4 In the context, it is also a natural progression to enhance diversity/inclusion initiatives
5 (such as supplier diversity) relating to utility capital expenditures. There is no reason
6 that the distribution system on the utility side of the meter should be treated differently
7 from EE and solar on the customer side.⁶⁵

8 As such, over this GRC cycle (2011-2013), PG&E should determine how it can apply
9 the lessons learned from LIEE and low-income solar initiatives. Specifically, PG&E
10 should evaluate how to increase low-income customer and community benefits from
11 other utility capital expenditures, and particularly those related to the distribution system
12 (which is highly dispersed throughout the communities of the service area).

13

14 **3.6 Specific Supplier Diversity Issues in California**

15 An important reason why active steps must be taken to ensure the implementation of
16 utility supplier diversity initiatives is the tendency towards a high degree of
17 continuity/inertia in supplier choice, perhaps especially in entities like utilities and
18 government.⁶⁶ Absent strong opposing forces, there is a major tendency to keep doing
19 whatever has been done in the past.

20 In a highly diverse and rapidly changing place like California, maintaining the status quo
21 can have the effect (whether intentional or not) of restricting participation by newcomers
22 and those not previously involved. And especially in a place like California, the

⁶⁵ To the extent that a compelling rationale exists for differentiation based on type of utility activity, there should be some flexibility to tailor initiatives so they are effective given the attributes of each type of utility activity.

⁶⁶ Utilities and government share many attributes in terms of being typically large, complex, bureaucratic, risk-adverse, legacy entities with a very strong orientation towards continuity, reliability, security, and stability. Their processes and procedures tend to be highly formalized and rule/law-based. Moreover, long-term employment and other on-going professional relationships are common and highly valued, as are ownership/control/reliance upon major long-lived physical assets.

The preceding characterizations are in no way intended to be critical. Rather, these attributes have been identified as seeming commonalities for entities (such as utilities and government), which (a) provide essential services on a continuous basis; (b) have major responsibilities for emergency response; and (c) have (at least to some extent) an obligation-to-serve, as well franchises/service areas/monopolies/restrictions upon alternative suppliers.

Another indication of the commonalities between utilities and government is that many utilities are in fact governmental entities. While investor-ownership is the norm for US gas utilities, and predominant for US electric utilities, many US electric utilities are governmental (especially in areas such as the Pacific Northwest where there has been extensive hydroelectric development). And in Canada, and many other countries, governmental provision of electric services is predominant or the norm. Moreover, governmental provision of water utility services is predominant in the US.

1 newcomers and those not previously involved tend to vary (in a number of regards) in
2 comparison to the traditional insiders.

3 California has a large older, mainly white population, as well as a large (and growing)
4 younger, mainly non-white population. The older more white population tends to be
5 middle class or wealthier.

6 By contrast, the younger and more ethnically diverse population includes a large
7 number of people with lower incomes, as well as some which are quite affluent (notably
8 those with high levels of formal education employed in high paying sectors like high-
9 tech).

10 So given these demographics, and the bureaucratic tendency towards the status quo,
11 there is a strong case for supplier diversity initiatives in California. And given the
12 specifics of PG&E's current GRC with its high level of capital spending, this case is
13 particularly strong.

14 Based on the Company's filing, PG&E is claiming that it is doing a good job in
15 regard to diversity (both in terms of suppliers and employees). However,
16 according to The Greenlining Institute 2009 Supplier Diversity Report Card,
17 PG&E has lagged behind other utilities in terms of supplier diversity.⁶⁷ In fact,
18 Greenlining assigned PG&E a grade of C- for Total Minority-Owned Business
19 Enterprise Spending, putting the utility well behind Verizon, San Diego Gas &
20 Electric, Southern California Gas and AT&T and only slightly ahead of Southern
21 California Edison (which did not even meet the CPUC's 15% procurement goals
22 for minority-owned businesses).

23 With just 15.71% as a percentage of contractor dollars going to Minority-Owned
24 Businesses, PG&E barely met the CPUC's 15% procurement goal. While
25 PG&E's Total Minority Spending has increased considerably since 2004 when it
26 was just over 10%, it is by no means an industry leader in supplier diversity and
27 there is significant room for improvement. Given the particular importance of
28 supplier diversity initiatives at this time, the Commission should direct PG&E to
29 improve its current performance and should ensure that all possible efficient
30 supplier diversity is being carried out in this GRC.

31 **3.7 Specific Equity Issues Surrounding Upgrading of Distribution Infrastructure** 32 **in the Current GRC**

33 As discussed in Section 3.4, supplier diversity is an effective mechanism to mitigate
34 equity problems related to geographic and demographic concentration. This is

⁶⁷ 2009 Supplier Diversity Report Card, The Greenlining Institute, June 2009, p 5.
<www.greenlining.org/resources/pdfs/2009GreenliningSupplierDiversityReportCard.pdf>.

1 particularly true in PG&E's service territory in the context of the proposed upgrades of
2 the distribution infrastructure in the current GRC.

3 As outlined above, utility capital investments, especially for distribution system
4 activities, may go disproportionately to more newly developed and more rapidly
5 growing portions of the service area. Spending for new connections and major
6 capacity additions will be concentrated where usage is growing fastest. So at
7 least during recent years (notably the housing boom/bubble), if not currently,
8 PG&E likely invested considerably in the expansion of the distribution system in
9 outer suburbs where there was a boom of new construction. Such areas vary in
10 terms of income and demographics, but they are not typically low income.⁶⁸

11 On the other hand, PG&E claims it will now be investing heavily to replace and
12 upgrade existing distribution equipment that is old and wearing out. So this type
13 of investment may subsequently be somewhat more oriented towards areas that
14 are older, perhaps in some cases lower income, and possibly more ethnically
15 diverse.

16 Of course, even if the utility capital investment is being done in an area like East
17 Oakland, this does not imply that the work will be done by people living in East
18 Oakland and firms located there. It does imply that people and businesses in
19 East Oakland will at least probably be getting some benefit in terms of improved
20 facilities and service, at least once the work is done and if it is done well. And it
21 could imply that people and firms in East Oakland could get hired if there are
22 mechanisms to encourage supplier diversity.

23 Moreover, replacing these older facilities will entail substantial growth in rate
24 base, since new equipment/installations costs much more than did the old. So
25 as a result of all this new investment, PG&E's customers will be paying high
26 levels of cost recovery through their rates over many years.

27 And a substantial portion of these costs will be borne by residential and small
28 commercial customers. Such customers are small and highly dispersed
29 geographically, so require relatively higher levels of distribution infrastructure and
30 hence will be allocated more of the distribution costs.

⁶⁸ This statement is a generalization. Indeed, some newer and fast growing areas in California are fairly diverse in terms of incomes and demographics. Such areas have often been perceived to provide housing that is more affordable (and in some cases more desirable) compared with locations that are closer to the coast and jobs centers. Thus, some outer suburbs attracted people of color and lower-income consumers, who found that closer in locations were less desirable in terms of costs and quality of life (e.g., schools, crime, and social problems).

1 So in that sense, while all PG&E customers will be losers in terms of having to
2 pay for all this, residential and small commercial will likely bear more of the costs.
3 Moreover, the winners will be those directly involved in supplying labor and
4 materials for all of this work. Customers who will be getting improved and more
5 reliable service will also be winners, although costs will probably be spread more
6 widely than any such benefits.

7 As such supplier diversity can help to spread the out the winnings throughout the
8 geography and different demographics of the service area, and create some
9 greater overlap/offset between winners and losers. Strong supplier diversity
10 initiatives will ensure that at least some of the economic burden of the capital
11 expenditure can be offset, and economic opportunity will be created and broadly
12 distributed.

13

14 **3.8 Conclusion and Recommendations: Supplier Diversity as a Mechanism to** 15 **Address Equity Considerations and Mitigate Adverse Impacts on Ratepayers** 16 **of Large Capital Expenditures**

17 Section 3 builds on the conclusion of Section 2.1 in terms of broader factors for the
18 evaluation of the rate application. Section 2.1 concludes that impacts on customers and
19 communities are primary factors to be considered. Section 3 then examines equity
20 considerations in utility initiatives. In this examination, the section reviews activities that
21 are encouraged by a focus on customer and community impacts, including LIEE, low-
22 income solar initiatives, low-income training and workforce inclusion, and supplier
23 diversity.

24 As demonstrated in Section 3, there is a strong economic rationale for supplier diversity
25 initiatives. Such initiatives provide a mechanism to both address equity considerations
26 and to mitigate adverse impacts of large capital expenditures on ratepayers (i.e.
27 mitigating both customer and community impacts). While there is a strong case in
28 general for supplier diversity, the current GRC is particularly appropriate for
29 consideration of such initiatives. The review of LIEE and low-income solar initiatives has
30 provided a number of lessons as to how PG&E should increase low-income customer
31 and community benefits from other capital expenditures. One of the key means by
32 which customer and community benefits could be increased to enhance
33 diversity/inclusion initiatives (such as supplier diversity) relating to utility capital
34 expenditures.

35 Given the lessons learned from the review of LIEE and low-income solar, as well as the
36 strong economic case developed for supplier diversity, I support the PG&E proposal to
37 increase and improve diversity and inclusion. The approximately \$3 million proposal is a

1 modest sum, considering the potential for supplier diversity to mitigate adverse impacts
2 to customers and communities and address equity considerations arising from the
3 utility's proposed capital expenditures. If anything, PG&E needs to do and spend more
4 on supplier diversity.⁶⁹

5

6 **4. Customer Retention and Economic Development**

7 This section analyzes PG&E's Customer Retention and Economic Development (Load
8 Attraction and Retention) activities, as described in Ex. PG&E-4, Chapter 9. This
9 section refers to some of the concepts that have been developed in Section 2. Section
10 2.1. Notably, this section examines the relevance of using factors broader than the
11 traditional economic impacts as a basis for ratemaking. PG&E has justified its proposal
12 for Customer Retention and Economic Development in terms of such broader
13 measures.

14 Section 2.4 discusses the broad adverse implications of setting the revenue
15 requirement too high. As will be examined in this section, PG&E's proposal for
16 Customer Retention and Economic Development may result in setting the revenue
17 requirement too high.

18 **4.1 Customer Retention**

19 PG&E's Customer Retention activities involve efforts to retain customers, assets and/or
20 service areas that would otherwise be taken over by publicly owned utilities (POU). For
21 a variety of reasons discussed below, ratepayers should not provide funding in support
22 of Customer Retention.

23 First, Customer Retention relates to choice of suppliers for provision of utility services to
24 California customers, but it has little (if any) effect on the overall California economy.
25 Put more simply, the customer retention issue relates to whether PG&E's customers will
26 move to other suppliers, not whether they will move from California to other locations.
27 So regardless of how these California customers receive utility service, they will still be
28 at the same physical locations and remain part of the California economy.

29

30 Second, the supplier choice/customer retention issue is clearly of great concern to
31 PG&E. The shareholders of this utility have demonstrated that they are willing to
32 expend substantial resources in an effort to influence supplier choice/customer
33 retention. Ratepayer funding of Customer Retention activities has been disallowed in

⁶⁹ PG&E is requesting costs of \$2,904,927 related to its Diversity and Inclusion Department (Ex. PG&E-6, p. 15-25). DRA has recommended downward adjustment of \$97,896 in the revenue requirement for the Diversity and Inclusion Department (Ex. DRA-13, pp. 9-10). Given the small amount of this suggested adjustment, I have not investigated this issue and take no position on it.

1 previous GRCs, but PG&E has continued to request ratepayer funding for expenditures
2 on these activities. So it is unclear what impact (if any) would result from ratepayer
3 funding, other than to increase costs to ratepayers, and decrease costs to shareholders.
4

5 Third, PG&E claims that its customers will benefit somewhat from Customer Retention.
6 However, these benefits are highly uncertain and sensitive to a variety of assumptions
7 (notably regarding free-ridership).⁷⁰
8

9 Fourth, absent some compelling rationale to the contrary, it is typically preferable for
10 regulatory bodies to maintain a high level of impartiality and avoid unnecessary
11 involvement in regards to commercial disputes between alternative suppliers within the
12 same jurisdiction. There is no compelling rationale in this case such that the
13 Commission should authorize ratepayer funding in support of customer retention
14 activities.
15

16 Fifth, especially in the midst of an ongoing economic crisis and the associated
17 difficulties being experienced by many ratepayers, there is no reason why PG&E
18 customers should pay higher rates to fund activities whose cost is more appropriately
19 borne by PG&E shareholders.
20

21 **4.2 Economic Development (Load Attraction and Retention)**

22 Together with Customer Retention, Major Work Category (MWC) FK includes the
23 Economic Development Program, associated with load attraction and retention. This
24 program involves efforts in conjunction with economic development organizations to
25 attract, retain or facilitate business customer expansions where those customers have
26 location options outside PG&E's electric service territory.⁷¹

27 PG&E is requesting \$3.0 million for the Economic Development Program, which is an
28 increase of \$2.3 million or 328% above 2008 recorded expenses.⁷² The amount
29 requested is a very large increase relative to any recent year. From 2004 to 2010,
30 annual expenses ranged from \$0.6 million to \$1.1 million, averaging \$0.9 million

⁷⁰ It is difficult to briefly characterize the complex context associated with Customer Retention. But it is unambiguous that Customer Retention has been a source of substantial ongoing controversy. Especially in this context, a very sizable effort would be required to fully and meaningfully evaluate the benefits and costs associated with Customer Retention activities. Within the context of the current proceeding, I have not attempted this type of large-scale analysis.

⁷¹ Ex. PG&E-4, p. 9-1.

⁷² Ex. PG&E-4, p. WP 9-4.

1 (nominal dollars).⁷³ Thus, a forecast of \$1.0 million in 2011 expenses would be
2 consistent with historical spending for the Economic Development Program.⁷⁴

3 Given that PG&E is now forecasting such dramatic growth in Economic Development
4 expenses, I reviewed the level of Economic Development expenses in PG&E's prior
5 rate cases. In GRC 2007, \$1.65 million was allowed by the Commission, the full
6 amount requested by PG&E.⁷⁵ In GRC 2003, none of the Economic Development
7 expenses requested by the PG&E were allowed.⁷⁶

8 So in recent years, there seems to have been little (if any) relationship between the
9 amount of Economic Development expenses allowed and the amount actually spent by
10 PG&E. \$1.65 million was allowed in GRC 2007, but actual spending has been
11 substantially less (\$1.1 million in 2007, and even lower subsequently).

12 Given just the analysis above, forecasts in the range of \$0 to \$1.0 million in 2011
13 expenses could be justified for the Economic Development Program. The higher end of
14 this range is consistent with actual spending in recent years. But there seems to be no
15 clear relationship between expenses allowed and actually expended, so a lower
16 forecast could be warranted. And a zero allowance for these expenses would be
17 consistent with the results in GRC 1999 and GRC 2003.

⁷³ Ex. PG&E-4, WP 9-4, nominal dollars.

⁷⁴ From 2004 to 2010, annual expenses averaged \$1.0 million (Ex. PG&E-4, WP 9-4, Base Year (2008) dollars, converted to 2011 forecast dollars).

⁷⁵ D.07-03-044, pp. 38-46.

⁷⁶ D.04-05-055, pp. 17, 46-47, Attachment 1, pp. 8 & 14. Likewise, in GRC 1999, none of the Economic Development expenses requested by the PG&E were allowed (D.00-02.046, pp. 335, 342-346).

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Application of Pacific Gas and Electric Company for Authority, Among Other Things, to Increase Rates and Charges for Electric and Gas Service Effective on January 1, 2011.

(U 39 M)

Application 09-12-020

(Filed December 21, 2009)

CERTIFICATE OF SERVICE

I, Stephanie Chen, am 18 years of age or older and a non-party to the within proceeding. I hereby certify that I have this day served a copy of

**TESTIMONY OF IAN GOODMAN ON BEHALF OF THE GREENLINING INSTITUTE
IN A.09-12-020**

on all known parties to A.09-12-020 by transmitting an e-mail message with the document attached to each party named in the official service list and by faxing or mailing a properly addressed copy by first-class mail with postage prepaid to those whose e-mail address is not available.

I certify that the foregoing is true and correct.

Executed in Berkeley, California on May 19, 2010.

/s/ Stephanie Chen

Stephanie Chen

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