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**DIRECT TESTIMONY OF AMY ROSCHELLE,  
SYNAPSE ENERGY ECONOMICS, INC.  
ON BEHALF OF  
The Utility Reform Network**

**A.04-06-024**

**Application of Pacific Gas and Electric Company to Establish a Demonstration  
Climate Protection Program and Tariff Option**

**May 5, 2006**

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**I. INTRODUCTION AND SUMMARY**

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**Q. Please state your name, business address, and occupation.**

A. My name is Amy Roschelle. I am employed by Synapse Energy Economics, Inc., 22 Pearl Street, Cambridge, Massachusetts, 02139. Synapse Energy Economics is a research and consulting firm specializing in electricity industry regulation, planning, and analysis. Synapse works for a variety of clients, with an emphasis on consumer advocates, regulatory commissions, and environmental advocates.

**Q. On whose behalf are you testifying in this proceeding?**

A. I am testifying on behalf of The Utility Reform Network (TURN).

**Q. What is the purpose of your testimony?**

A. My testimony addresses several financial concerns related to the Application of Pacific Gas and Electric Company's (PG&E or the Company) proposed Climate Protection Tariff (CPT.)

**Q. Please summarize the results of your review.**

A. While there are various ways to structure the recovery of administrative and marketing costs of the CPT, PG&E has proposed only one structure, wherein all ratepayers bear the full cost burden. However, there are other proven cost allocation structures for programs that are analogous to the CPT, and given the facts in this case, a different structure would be more appropriate for the CPT than the one that the Company has proposed. Evidence indicates that PG&E shareholders stand to benefit significantly from the CPT. Benefits will flow in the form of enhanced corporate image and increased national prestige for the utility as an advocate for innovative climate programs. This will result in the increased ability for PG&E to market itself as an environmentally responsible company and acquire

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1 customer goodwill. This could assist PG&E in achieving other unrelated regulatory and  
2 legislative objectives. Ratepayers should not bear the costs of PG&E's marketing and  
3 brand management. This should be a shareholder expense. Furthermore, surveys show  
4 that there will be greater customer participation in the CPT if shareholders participate in  
5 the funding for the program. For these reasons, I recommend that the Commission  
6 approve the CPT only if shareholders and possibly CPT participants bear the marketing  
7 and administration costs of the proposed program. In no circumstance should non-  
8 participants be required to pay any portion of these costs.

9 In addition, I recommend that PG&E pursue the option of making the monthly voluntary  
10 customer contributions tax deductible. Again, this is a proven option, which should result  
11 in greater customer participation in and greater success of the CPT.

12 **Q. Please describe how your testimony is organized.**

13 A. My testimony is organized into 3 major topics. Section I, an introduction and summary,  
14 is found above. Section II describes my qualifications. Section III discusses the issues  
15 and my recommendations in more detail.

16 **II. WITNESS QUALIFICATIONS**

17 **Q. Please summarize your educational background and professional experience.**

18 A. I hold an MBA from the MIT Sloan School of Management, a Master of Science in  
19 Materials Science and Engineering from UCLA, and a Bachelor of Science in Materials  
20 Science and Engineering from the Massachusetts Institute of Technology.

21 From 1997-2000, I worked for the Gillette Company for three years as a Process and  
22 Product Engineer. I then went to business school full-time for two years. Thereafter, I  
23 worked briefly for a startup company called GreenFuel in an operations role. I then

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1 joined the technology transfer arm of the Massachusetts General Hospital, where I  
2 focused on technology strategy, grant writing, and product development initiatives. In  
3 May 2003, I joined Synapse Energy Economics. Since that date, I have worked on issues  
4 relating to economic analysis and environmental impact of technologies and polices,  
5 power plant valuation, utility resource planning and portfolio management, financial  
6 analysis and cost of equity calculations, evaluation of water use and air emissions of  
7 electricity generation, and other topics including marketing/business development,  
8 project management, consumer advocacy, and technology strategy within the energy  
9 industry.

10 **Q. Have you previously testified before a Public Utility Commission?**

11 A. Yes. I have testified on economic and financial issues before the California Public  
12 Utilities Commission, the Vermont Public Service Board, the Texas Public Utilities  
13 Commission, and the West Virginia Public Utilities Commission. My complete resume  
14 is provided at the end of this testimony.

15 **III. Concerns regarding PG&E's Application**

16 **a. Payment of Marketing and Administration Costs**

17 **Q. Please describe the CPT, in brief.**

18 A. The Climate Protection Tariff is an innovative program, which would offer PG&E  
19 customers the opportunity to make additional voluntarily payments, on a monthly basis.  
20 Monies would then be used to procure offsets to the carbon emissions associated with the  
21 customer's electric and gas use. Initially, the collected monies would be used to acquire  
22 offsets related to tree planting projects within California.

23 **Q. Please describe the CPT costs.**

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1 A. Over the one-year start up and three-year demonstration period (2007-2009), PG&E  
2 projects that the CPT will require marketing and administration costs totalling \$16.4  
3 million.

4 **Q. In the application, who does PG&E propose would pay these costs?**

5 A. PG&E proposes that all PG&E customers, whether they participate in the CPT or not,  
6 bear the costs of the CPT. PG&E does not propose to contribute any shareholder monies  
7 towards the CPT's marketing or administration costs.

8 **Q. Will PG&E shareholders secure any benefits from the implementation of this**  
9 **program?**

10 B. Certainly. The CPT greatly benefits PG&E's corporate image. It allows the company to  
11 be more competitive with other potentially more "green" providers (including potential  
12 Community Choice Aggregators and new or expanded municipal utilities), increases  
13 goodwill and customer loyalty, increases PG&E's national prestige in being an advocate  
14 for innovative climate programs, and could assist the Company in achieving other  
15 unrelated regulatory and legislative objectives.

16 **Q. Do you have any evidence that, from the perspective of customers, PG&E's**  
17 **corporate image is less than ideal?**

18 A. Yes. As a result of recent issues, such as the California energy crisis, PG&E's declaration  
19 of bankruptcy in 2001, and bad publicity from the Erin Brockovich Lawsuit, for example,  
20 PG&E has had some serious image programs from the perspective of customers.  
21 Evidence of this is found in the J.D. Power and Associates survey (2005), which  
22 measures residential customers' satisfaction. The study finds that, "Pacific Gas &  
23 Electric Co. scored 91 points in the latest survey, ranking 11th out of 12 large utilities

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1 participating in the western region, where the average score was 97 points.<sup>1</sup> The  
2 customer satisfaction ratings were based on five factors, one of which was corporate  
3 image.

4 **Q. Do you have any evidence that PG&E is planning to use the CPT to better its**  
5 **corporate image?**

6 A. Yes. On pages 1 and 2 of the letter from the Chairman of the Board printed in the latest  
7 (2005) annual report, PG&E states:

8 Companies in competitive industries live and die by the maxim that if they don't take care of  
9 their customers, someone else will. In an industry where the barriers to consolidation are  
10 coming down, smart utilities will adopt the same view. We also have to come to terms with  
11 the fact that competitive companies in other businesses are setting extraordinary standards for  
12 service.

13  
14 As the gap between their service and ours widens, customers will demand that utility  
15 companies elevate their performance to the same standards. If we are going to succeed, we  
16 have to learn how to adapt our business processes and shape our culture to deliver the  
17 same customer experience. We have to take the same disciplined approach to understanding  
18 our customers and their needs. And we have to make this a fundamental, ongoing part of the  
19 way we do business. This is what Transformation is all about.<sup>2</sup>

20  
21 Two pages after this letter from the Chairman, which emphasizes how PG&E has to  
22 transform its service and product offerings in order to survive in the ever more  
23 competitive industry, PG&E states that, "Californians rank the protection of the  
24 environment as one of their top 10 concerns for the future." The annual report goes on to  
25 emphasize PG&E's environmental leadership. The report specifically highlights the CPT  
26 as one of the newest, key programs that would allow customers to join in with PG&E to  
27 help cut greenhouse gas emissions.<sup>3</sup>

28 In other words, PG&E will use this program to highlight its ability to provide customers  
29 with "green" options; it is clear that PG&E intends to use the CPT as an innovative

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<sup>1</sup> [http://www.smud.org/annexation/pdfs/e\\_newsletters/05Jul21.pdf](http://www.smud.org/annexation/pdfs/e_newsletters/05Jul21.pdf)

<sup>2</sup> PG&E 2005 Annual Report, pages 1&2.

<sup>3</sup> PG&E 2005 Annual Report, pages 8 &9.

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1 customer service offering in an effort to maintain relationships with customers and keep  
2 them from migrating away from PG&E to other retail service providers (including  
3 Electric Service Providers, Community Choice Aggregators, and New or Expanded  
4 Municipal utilities). Having emphasized the program prominently in the annual report, it  
5 is clear that requesting approval for the CPT is an excellent strategy for PG&E to adopt  
6 as part of a larger campaign to improve its corporate image.

7 **Q. Aside from the annual report, do you have any other evidence that PG&E will**  
8 **utilize the CPT program to emphasize its concern for customer interests, including**  
9 **environmental stewardship?**

10 A. Yes. In the Company's testimony, page 3-6, PG&E states it plans to send participating  
11 CPT customers, "specific newsletters that provide customers with information about the  
12 program's progress and other environmental news." The Company also intends to be in a  
13 position where it will be "publishing and promoting the names of C&I customers that  
14 enroll; [giving out] window stickers or lawn signs that demonstrate participation for all  
15 customers who enroll; [participating in] co-branding efforts with C&I customers,"<sup>4</sup> etc.  
16 Presumably, all of the mentioned literature, lawn signs, and promotions will be branded  
17 with PG&E's name and logo – clear signs that the CPT is a company sponsored program,  
18 and one that PG&E is proud to promote.

19 In addition, on page 3-9 of PG&E's testimony, the Company states that it believes that,  
20 "adoption of PG&E's proposed CPT will be newsworthy since it is the first program of  
21 its kind in the country and its topic (global climate change) is very much in the news."<sup>5</sup>

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<sup>4</sup> PG&E testimony, page 3-6, lines 15-19.

<sup>5</sup> PG&E testimony, page 3-9, lines 23-24.

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1 **Q. Have any surveys been conducted regarding expected customer reaction to the**  
2 **CPT?**

3 A. Yes. In 2005, a survey was conducted by by Hiner and Partners to assess how different  
4 factors might affect a customer's participation in the CPT and to assess how the CPT  
5 might affect PG&E's corporate image.

6 **Q. What does the Hiner Survey indicate with regards to how a customer's perception**  
7 **of PG&E's image may change in light of the CPT?**

8 A. As indicated by the survey, "More customers say their overall opinion of PG&E would  
9 improve compared to those who say their opinion would go down if PG&E offers this  
10 new tariff."<sup>6</sup>

11 **Q. Do you have any other evidence that CPT type programs could be used to enhance**  
12 **the Company's corporate image?**

13 A. Yes. A 2004 NREL report that describes green power pricing programs and customer  
14 response states that one utility "received more positive publicity and recognition within  
15 the community from promoting its green pricing program than from any previous  
16 marketing activities."<sup>7</sup> Despite the differences in green power pricing program features  
17 and the CPT, as PG&E agrees<sup>8</sup>, in many ways the two types of programs are similar to  
18 one another in that customers can opt in to pay a bit extra, on a monthly basis, to benefit  
19 the environment.

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<sup>6</sup> "PG&E 2005 Climate Protection Tariff Survey," Hiner and Partners, PowerPoint slides, September, 2005, p.15

<sup>7</sup> Lori Bird, Blair Swezey, and Jørn Aabakken, "NREL 2004. Utility Green Pricing Programs: Design, Implementation, and Consumer Response," National Renewable Energy Laboratory, 2004, found at [http://www.eere.energy.gov/greenpower/resources/pdfs/nrel\\_35618.pdf](http://www.eere.energy.gov/greenpower/resources/pdfs/nrel_35618.pdf)

<sup>8</sup> PG&E testimony, page 3-1, lines 27-28.



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1 **Q. So, given the benefits that the CPT will provide to shareholders, does it make sense**  
2 **that customers should bear the costs of the CPT program?**

3 A. Absolutely not. Shareholders are receiving a large part of both the short and long-term  
4 value associated with the proposed program, and therefore shareholders should bear the  
5 majority of marketing and administration costs associated with the CPT.

6 **Q. Do you have any evidence from the Hiner survey that demonstrates how customers**  
7 **feel about shareholder participation in the CPT?**

8 A. Yes. As described by PG&E in its testimony, “Hiner described a series of 11 potential  
9 program features to the survey respondents one at a time and then asked them whether  
10 that increased or decreased their interest in the CPT. Having PG&E shareholders commit  
11 some funding had the second highest positive impact of [all] of the features described.”<sup>9</sup>

12 **Q. Can you be more specific with regard to how customers feel about shareholder CPT**  
13 **cost participation?**

14 A. Yes. The Hiner survey shows that 61% of residential customers and 60% of business  
15 customers would be more likely to participate in the CPT if shareholders contribute some  
16 Company profits to the fund.<sup>10</sup>

17 **Q. Did the Hiner survey come to any conclusions regarding shareholder funding of the**  
18 **CPT?**

19 A. Yes. The survey states that the following is one of three specific features deemed most  
20 appealing to customers: PG&E would contribute some of its own shareholders’ profits to

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<sup>9</sup> PG&E testimony, page 3-7, lines 11-15.

<sup>10</sup> “PG&E 2005 Climate Protection Tariff Survey,” Hiner and Partners, Powerpoint slides, September, 2005, p.23.

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1 the fund. Based on this information, the survey recommends that, “PG&E should include  
2 these features as part of the tariff and in any promotions to customers about the tariff.”<sup>11</sup>

3 **Q. If the Commission should decide that ratepayers bear some portion of the CPT**  
4 **administrative and marketing costs, do you believe that both CPT participants and**  
5 **non-participants should equally bear the costs of the program, as the Company has**  
6 **proposed?**

7 A. No. If shareholders are not going to pay the full marketing and administration costs of  
8 the CPT, then these costs should be divided in some fashion between shareholders and  
9 CPT participants only. There is no reason why non-participants should bear any of the  
10 program costs, as they receive none of its benefits.

11 **Q. Do you have examples of analogous programs where non-participants do not have**  
12 **to pay any such costs?**

13 A. Yes, there are many examples, including green power pricing programs at Alabama  
14 Power Company, Xcel Energy (Colorado), Connecticut Light and Power, Minnesota  
15 Power, Puget Sound Energy, and PacifiCorp (Oregon), to name a few.

16 **Q. What is the general rationale for participants and/or shareholders (as opposed to**  
17 **ratepayers) contributing to marketing and administration costs?**

18 A. The rationale is that when customers make voluntary contributions to a program, they  
19 generally understand that funds are needed to ensure the overall operation and success of  
20 a program. Taxpayers in this country regularly make voluntary contributions to non-  
21 profit organizations. It is well accepted that some portion of the contribution is used for  
22 marketing and administration.

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<sup>11</sup> “PG&E 2005 Climate Protection Tariff Survey,” Hiner and Partners, Powerpoint slides, September, 2005, p.16.

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1 **Q. What about allocation of such costs into rates? What is the process that the**  
2 **Company proposes?**

3 A. As proposed by the Company, costs would be allocated to various customer classes,  
4 consistent with the methods currently approved by the Commission for the allocation of  
5 PG&E's electric distribution rates.

6 **Q. What's wrong with this sort of allocation with regards to the CPT?**

7 A. To the extent that ratepayers are funding broad-based environmental programs, it makes  
8 sense to allocate costs equally across all customer usage. The Commission has  
9 previously agreed with this principle, most notably in a decision approving PG&E's  
10 proposal to allocate the gas portion of the Self-Generation Incentive Program (SGIP)  
11 revenue requirement on an equal cents per therm basis. In that decision, the Commission  
12 agreed with TURN, ORA and other parties in stating that

13 "the Commission has consistently allocated the costs of environmental programs,  
14 such as the SGIP, on an equal cents per therm basis. Consistent with our view that all  
15 customers should pay for program that provide environmental benefits, we include  
16 wholesale customers in the allocation of SGIP costs as well as EG customers, and  
17 adopt PG&E's proposal to allocate the costs on an equal cents per therm basis."  
18 (D.05-06-029, page 17)  
19

20 By contrast, the typical allocation of distribution costs (which is based on marginal cost  
21 analyses of distribution infrastructure) bears no rational relationship to the Commission's  
22 stated view and would unfairly place a higher burden on residential customers. Instead,  
23 any recovery of costs from non-participant ratepayers should be allocated based on sales  
24 using an equal cents per kilowatt-hour approach.

25 **Q. Given the above, what is your recommendation?**

26 A. Given the fact that PG&E customers are 60% more likely to participate in the CPT if  
27 shareholders commit some funds to the program, and given the fact that, over the long-

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1 term, PG&E stands to benefit significantly from its improved corporate image as a result  
2 of the CPT, I recommend to the Commission that PG&E should pay the marketing and  
3 administration costs associated with this program. However, should the Commission  
4 decide that some portion of the marketing and administration costs be allocated to  
5 ratepayers, only those ratepayers that participate in the CPT should bear those costs. In  
6 no circumstance would it be rational for non-participants to be required to pay for any  
7 costs related to this program.

8 In addition, I recommend that any marketing and administration costs that are not borne  
9 by shareholders be allocated based on participant-only sales using an equal cents per  
10 kilowatt-hour approach.

11 **b. Tax-deductible contributions**

12 **Q. As proposed, are voluntary monthly payments for participation in the CPT by**  
13 **PG&E customers tax-deductible?**

14 A. No, they are not.

15 **Q. Are there examples of analogous programs across the country that allow customers**  
16 **to make voluntary contributions that are considered tax-deductible?**

17 A. Yes, there are at least four utilities in two states that offer such programs. Each of the  
18 four is a voluntary green power pricing program, which is more or less analogous to  
19 PG&E's proposed CPT.

20 **Q. Please describe these programs in more detail.**

21 A. The two states that offer tax-deductible green power pricing programs are North Carolina  
22 and Massachusetts. In North Carolina, Advanced Energy, a non-profit 501(c)3  
23 organization, manages the state-wide clean energy program, named NC GreenPower. All

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1 three of the North Carolina investor-owned utilities participate. Voluntary payments  
2 from ratepayers into the program are transferred to NC GreenPower in the form of a tax-  
3 deductible donation.<sup>12 13</sup>

4 In Massachusetts, customers of National Grid can make payments to the state's green  
5 pricing program, New England GreenStart – a 501 (c) 3 organization. A portion of such  
6 payments can be deducted from each customer's federal tax bill. The percentage of a  
7 ratepayer's contribution that is tax deductible is a function of the percentage of "new"  
8 clean power purchased with that contribution.<sup>14 15 16</sup>

9 **Q. Why are there not more voluntary green pricing programs that offer the tax-**  
10 **deduction option?**

11 A. One of the explanations why many utilities do not offer tax-deductions associated with  
12 their green pricing programs may be that the purchase of green power is regarded as  
13 purchasing power. Power costs cannot typically be deducted from one's tax payments.

14 **Q. How does the CPT differ from a green pricing program?**

15 A. With the CPT, the customer is not purchasing power. Instead, the customer is directly  
16 donating money to plant trees in California. Such a donation is more clearly the type to  
17 be considered tax-deductible.

18 **Q. Do you have any evidence to suggest that PG&E customers might view the CPT as a**  
19 **charitable donation?**

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<sup>12</sup> Conversation with Carl Watkins, Business Development Manager, NC GreenPower (919-857-9008), dated April 28, 2006.

<sup>13</sup> <http://www.eere.energy.gov/greenpower/markets/pricing.shtml?page=2&companyid=98>

<sup>14</sup> Conversation with Chad Laurent, Program Manager, Green Energy Programs, MassEnergy (617-524-3950), dated April 28, 2006.

<sup>15</sup> Conversation with Janna Cohen-Rosenthal, Marketing and Communications Coordinator, MassEnergy (617-524-3950), dated April 27, 2006.

<sup>16</sup> <http://www.massenergy.com/green.gs.html>

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1 A. Yes. One of the conclusions from the Hiner Study states, “It might be that PG&E’s  
2 customers think about this tariff as a charitable donation.”<sup>17</sup>

3 **Q. What is your recommendation?**

4 A. PG&E should structure the CPT such that monthly voluntary customer payments toward  
5 the CPT are tax deductible. While PG&E could still advertise the program, the Company  
6 may have to set up a separate 501c3, non-profit organization to handle the monies  
7 coming into and going towards program operations. Having a payment be tax-deductible  
8 is an incentive for greater customer participation in the CPT.

9 **Q. Does this conclude your testimony?**

10 A. Yes, it does.

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<sup>17</sup> “PG&E 2005 Climate Protection Tariff Survey,” Hiner and Partners, Powerpoint Slides, September, 2005, page 10.

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# Amy Beth Roschelle

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## 10 PROFESSIONAL EXPERIENCE

11 **Synapse Energy Economics, Inc.**, Cambridge, MA. Business Consultant. May 2003 - Present.  
12 Consulting on economic analysis and environmental impact of technologies and polices, resource  
13 planning and portfolio management, financial analysis, evaluation of water use and air emissions  
14 of electricity generation, and other topics including marketing/business development, project  
15 management, and technology strategy within the energy industry.

### 16 **Project Topics:**

- |    |   |    |  |
|----|---|----|--|
| 17 | • Financial incentives directed towards | 42 | • Renewable costs and environmental    |
| 18 | specific generation technologies        | 43 | externalities                          |
| 19 | • Resource planning                     | 44 | • Natural gas supply and LNG           |
| 20 | • IGCC plants and carbon                | 45 | terminals                              |
| 21 | sequestration                           | 46 | • End-user electricity options         |
| 22 | • Mergers and acquisitions              | 47 | • Underground transmission lines       |
| 23 | • Control premiums                      | 48 | • Health effects of diesel generators  |
| 24 | • Capital structures                    | 49 | • Health effects of particulate matter |
| 25 | • Regulated return on equity            | 50 | • EPA Modeling assumptions with        |
| 26 | • Weighted average cost of capital      | 51 | respect to the Clean Air Act.          |
| 27 | • Best practices in procurement of      | 52 | • Payment in lieu of taxes agreements  |
| 28 | default electric service                | 53 |  |
| 29 | • Portfolio management practices        | 54 |  |
| 30 | • Laddering theory and practice         |    |  |
| 31 | • Auctions and auction strategies       |    |  |
| 32 | • Generating options                    |    |  |
| 33 | • Financial hedging                     |    |  |
| 34 | • Wind financing                        |    |  |
| 35 | • Relationship between contract         |    |  |
| 36 | durations and contract prices           |    |  |
| 37 | • Electricity rate trends               |    |  |
| 38 | • Advanced metering technologies        |    |  |
| 39 | • Renewables and advanced energy        |    |  |
| 40 | efficiency technologies                 |    |  |
| 41 | • Renewable Portfolio Standards         |    |  |

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1 **Papers:**

- 2 • “Portfolio Management and the Use of Generation Options and Financial Instruments,”  
3 NRRI Journal of Applied Regulation, November 2004.
- 4 • “Best Practices in Procurement of Default Electric Service,” Electricity Journal, October  
5 2004.
- 6 • “Long-term Power Contracts: The Art of the Deal,” Public Utilities Fortnightly, August  
7 2004.
- 8 • “Energy Efficiency: Still a Cost-Effective Resource Option,” prepared for the  
9 USAEE/IAEE Conference, Washington, DC July 2004.
- 10 • “Strategies for Procuring Residential and Small Commercial Standard Offer Supply in  
11 Maine,” April 2004
- 12 • “The 2003 Blackout: Solutions That Won't Cost a Fortune,” Electricity Journal,  
13 November 2003.
- 14 • “FERC's Transmission Pricing Policy: New England Cost Impacts,” October 2003
- 15 • “Portfolio Management: How to Procure Electricity Resources to Provide Reliable, Low-  
16 Cost, and Efficient Electricity Services to All Retail Customers,” September, 2003
- 17 • Panelist on Renewable Technologies, Costs, and Environmental Externalities: Economic  
18 Impact Analysis of NJ's Proposed 20% Renewable Portfolio Standard, Rutgers  
19 University's Center for Energy, Economic & Environmental Policy, February 2005.

20  
21 **Testimony:**

- 22 • Testified on the behalf of Barbara Born et. al. regarding GenPower's proposed Longview  
23 coal plant and the associated payment in lieu of taxes agreement, April 2006.
- 24 • Assisted in preparation of direct and rebuttal testimony regarding ComEd's Post-2006  
25 Proposal to Implement a Competitive Procurement Process, Filing June 2005.
- 26 • Assisted in preparation of direct and rebuttal testimony regarding Ameren's Post-2006  
27 Proposal to Implement a Competitive Procurement Process, Filing June 2005.
- 28 • Testified on the behalf of the Gulf Coast Coalition of Cities regarding Centerpoint's ROE  
29 and its relation to a competition transition charge, April 2005.
- 30 • Testified on the behalf of AARP regarding Central Vermont Public Service's allowed  
31 return on equity, November 2004.
- 32 • Testified on the behalf of the Union of Concerned Scientists regarding California's Long-  
33 term Resource Plans, September 2004.
- 34 • Assisted in preparation of direct testimony regarding Texas Centerpoint Stranded Cost  
35 True-up Filing, May 2004.
- 36 • Assisted in preparation of direct testimony regarding Ohio Market Based Standard  
37 Service Offer, April 2004.
- 38 • Assisted in preparation of comments on the California Natural Gas Utilities' Phase 1  
39 Proposals regarding natural gas supply, March 2004.
- 40 • Assisted in preparation of direct testimony regarding return on equity in regard to Central  
41 Vermont Public Service Memorandum of Understanding, November 2003.
- 42



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1 **Clients:** Union of Concerned Scientists, AARP, Massachusetts Audubon Society, Arkansas  
2 Public Service Commission, Natural Resource Defense Counsel, CHOKE, Illinois Citizens  
3 Utility Board, US Public Interest Research Group, Gulf Coast Coalition of Cities, Ohio Office of  
4 Consumer Counsel, Ratepayers for Affordable Clean Energy, US Environmental Protection  
5 Agency, Industrial Economics, Reliant Energy, Pennsylvania Office of Consumer Advocate,  
6 enXco, Town of Rockingham, New Jersey's Division of Ratepayer Advocate, Massachusetts  
7 Office of Attorney General, Connecticut Office of Consumer Counsel, Maine Office of the  
8 Public Advocate, New Hampshire Office of Consumer Advocate, Regulatory Assistance Project,  
9 Connecticut Towns, Nova Scotia Utility Review Board, PJM Independent System  
10 Operator, Tellus Institute, National Association of Regulatory Utility Commissioners, Delaware  
11 Public Service Commission, Low Income Energy Affordability Network of Massachusetts,  
12 Utah Committee of Consumer Services, Southern California Edison, CPS Energy, City of  
13 Austin, Lower Colorado River Authority.

14  
15 **Center for Integration of Medicine and Innovative Technologies**, Cambridge, MA. Project  
16 Specialist. February – May 2003. Experience with technology strategy, grant writing, and  
17 product development. Led effort to raise \$2.5M to fund the tissue engineering initiative at MIT,  
18 Draper, and MGH. Evaluated proposals for new medical technologies in terms of potential for  
19 long-term patient impact. Coordinated technology implementation plans and progress of  
20 currently funded research initiatives.

21 **Greenfuel Corporation**, Cambridge, MA. Director of Operations. Summer 2002  
22 Experience raising capital and preparing/implementing business plans. Developed and  
23 implemented strategies for venture capital funding and market share growth. Led \$3 million  
24 project proposal initiative to fund initial product development. Negotiated all legal and employee  
25 issues including incorporation and stock plan incentives. Managed investor/board relationships  
26 and coordinated corporate decision-making process.

27 **National Park Service**, Washington, DC. Business Plan Initiative Consultant. Summer 2001  
28 Financial analysis, marketing, operations experience. Produced a 40-page business plan detailing  
29 funding needs and shortfalls for the most visited park in the National Park Service. Prepared  
30 park-wide operational standards to be used as performance management tools. Analyzed \$25  
31 million budget and recommended strategies for efficient resource allocation and alternative  
32 funding-source identification. Developed and re-branded park literature for distribution to  
33 congressional representatives, outside agencies, the National Park Foundation, and the 20 million  
34 annual visitors to the National Mall.

35 **The Gillette Company**, Boston, MA  
36 Process Engineer. 1997-2000  
37 Project management and consumer product experience. Managed overall operations of the  
38 corporate measurement laboratory to ensure worldwide product standardization. Streamlined  
39 product flow by implementing information management system to automatically prioritize,  
40 monitor, and analyze test results. Reduced overtime substantially by creating metrics to  
41 understand personnel efficiency and machine utilization. Led multidisciplinary Safety, Health,  
42 and Environment Team to international standards (ISO) approval.

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1 Product Engineer. Cross-functional team and new product experience. Organized product for  
2 distribution to critical marketing consumer-use tests. Insured that product specifications  
3 conformed to overall product definition. Partnered with operations team to schedule prototype  
4 builds and analyses. Linked Mach3 blade and cartridge engineering teams by attaining hands-on  
5 technical expertise in each area.

6 **Siemens AG, KWU**, Erlangen, Germany. Researcher, MIT Coop Program. Summer 1992.  
7 Nuclear Power Generation Division. Worked in multidisciplinary team to design, test and  
8 enhance performance of novel high temperature superconducting materials.

9 **Mobil Solar Energy Corporation**, Billerica, MA. Researcher, MIT Coop Program. Summer  
10 1991. Evaluated the process of manufacturing solar cells in an effort to boost process yields.  
11 Performed edge strain/strength tests on laser cut cells to determine fracture pattern and process  
12 handling sensitivities.

### 13 EDUCATION

14 **MIT Sloan School of Management**, MBA, Management Sciences, Cambridge, MA, 2002.  
15 **University of California, Los Angeles**, MS, Materials Science and Engineering, Los Angeles,  
16 CA, 1995  
17 **Massachusetts Institute of Technology**, BS, Materials Science and Engineering, Cambridge,  
18 MA, 1993

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31 Resume dated April 2006.  
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