

RECEIVED

2006 DEC 18 PH 3:46

IDAHO PUBLIC
UTILITIES COMMISSION

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE INVESTIGATION)
OF FINANCIAL DISINCENTIVES TO)
INVESTMENT IN ENERGY EFFICIENCY BY) CASE NO. IPC-E-04-15
IDAHO POWER COMPANY.)
_____)

IDAHO POWER COMPANY

SUPPLEMENTAL DIRECT TESTIMONY

OF

JOHN R. (RIC) GALE

1 Q. Please state your name and business address.

2 A. My name is John R. (Ric) Gale and my business
3 address is 1221 West Idaho Street, Boise, Idaho.

4 Q. By whom are you employed and in what capacity?

5 A. I am employed by Idaho Power Company (Idaho
6 Power or the Company) as the Vice President of Regulatory
7 Affairs.

8 Q. Have you previously submitted testimony before
9 the Idaho Public Utilities Commission (IPUC or the Commission)
10 in this proceeding?

11 A. Yes. On January 27, 2006, I filed testimony
12 regarding the introduction of a true-up rate mechanism for
13 Idaho Power Company entitled Fixed Cost Adjustment (FCA).
14 Company witnesses Ralph Cavanagh and Michael Youngblood also
15 filed testimony in support of an FCA at that time.

16 Q. What is the purpose of your testimony at this
17 time?

18 A. I am supporting the settlement stipulation (the
19 Stipulation) that was a result of that earlier FCA filing. I
20 have included the Stipulation as Exhibit 10 to my testimony.
21 This Stipulation has been signed by three of the four parties
22 represented in this proceeding and the fourth party is not
23 opposing its implementation.

24 Q. Please describe the events since Idaho Power's
25 request was filed.

26 A. On March 3, 2006, the Commission issued a
27 Notice of Application and acknowledged the intention of the
28 Company and the Staff, together with the other parties of

1 record, to initiate and engage in settlement discussions.
2 These settlement discussions ultimately led to the signing of
3 the compromise agreement by the parties on December 1, 2006.

4 Q. Please describe the FCA Stipulation.

5 A. The Stipulation addresses the actual mechanics
6 of the FCA, as well as Idaho Power's commitment to energy
7 efficiency advancement in its service area. Regarding the
8 mechanics of the FCA, the Stipulation calls for the
9 reconciliation of any differences between Schedule 1 and 7
10 class revenue requirements and the corresponding fixed cost
11 per customer approved by the Commission in Idaho Power's last
12 general rate case, Case IPC-E-05-28, with the fixed cost per
13 customer and fixed cost per energy used in the FCA. The
14 Company will determine the actual number of customers on a
15 monthly basis using the same customer count methodology and
16 the same weather normalization methodology it used in the last
17 general rate case.

18 The Stipulation also calls for the FCA to be
19 implemented on a pilot basis for a three-year period from
20 January 1, 2007 through December 31, 2009. The first rate
21 adjustment would occur on June 1, 2008 coincident with the
22 annual Power Cost Adjustment (PCA) change. For reporting
23 purposes, the calculation of the FCA deferral will be shown as
24 a separate line item in the monthly PCA report to the
25 Commission and, for bill presentation purposes, any approved
26 FCA will be combined with the Conservation Program Funding
27 Charge.

28 The Stipulation proposes that Idaho Power file

1 its FCA request on March 15th of each year. This date was
2 selected to provide Idaho Power adequate time to prepare the
3 filing after year end and to provide Staff adequate time to
4 audit the FCA proposal before the Company's PCA filing one
5 month later.

6 Additionally, the Stipulation provides both the
7 Commission Staff and the Company the ability to request a
8 discontinuance of the FCA during the three-year period.

9 Q. Please elaborate on the Company's energy
10 efficiency commitment.

11 A. In agreeing to the Stipulation, Idaho Power
12 commits to provide with its annual March 15th Demand-Side
13 Management (DSM) filing a detailed summary of DSM activities
14 that demonstrate an enhanced commitment to DSM resulting from
15 the implementation of the FCA and the corresponding reduction
16 of the financial disincentive to DSM.

17 Q. In his previously-filed testimony, Company
18 witness Cavanagh advocated for a pilot energy efficiency
19 program that might contain incentive elements. Do you agree
20 with his recommendation?

21 A. Yes. An energy efficiency incentive pilot is
22 consistent with the recommendations that came from the
23 workshop group assembled as part of this proceeding. Mr.
24 Cavanagh's recommendation also provides an opportunity to test
25 the impact of incentives in a pilot environment. In a
26 separate filing, but related to this proceeding in its
27 genesis, the Company is proposing to implement a performance-
28 based incentive (and penalty) pilot for the energy efficiency

1 program targeted to new residential construction.

2 Q. What is the underlying problem that a true-up
3 mechanism like the FCA is trying to address?

4 A. If a utility recovers a material portion of its
5 fixed costs through variable rates, it is not rational for a
6 utility to embark on any programs or initiatives that reduce
7 the amount of energy sold. However, as in the case of Idaho
8 Power, where a commitment exists to energy efficiency
9 advancement, a middle ground between sound business practice
10 and energy efficiency can be struck through a mechanism like
11 the FCA.

12 Q. How does a true-up mechanism like the FCA help
13 this situation?

14 A. A true-up mechanism disconnects (or decouples)
15 the fixed cost recovery from the energy rates and recouples
16 the cost recovery to some other variable such as the number of
17 customers served by the utility. The utility becomes
18 indifferent to increases or decreases in energy sales, which
19 eliminates the disincentive to promote programs and services
20 that reduce energy consumption.

21 Q. Are there potential concerns that might be
22 raised when a new mechanism is implemented?

23 A. Yes. A chief concern with the introduction of
24 a new rate application is the potential for unintended
25 consequences - something unforeseen in the development of the
26 mechanism that causes the mechanism to not work as designed or
27 intended. There are other possible negative effects that may
28 arise with the introduction of a true-up mechanism, such as

1 (1) a true-up mechanism may take the pressure off efforts to
2 better align prices and costs through rate design, (2) a true-
3 up mechanism may be countercyclical to a region's economic
4 cycle, and (3) a true-up mechanism may introduce potentially
5 large rate swings.

6 Q. Given the potential positives and negatives,
7 what is the Company proposing?

8 A. The Company proposes a measured implementation
9 of a true-up mechanism to two customer classes - Schedule 1,
10 Residential Service, and Schedule 7, Small General Service -
11 that would start for accounting purposes on January 1, 2007.
12 Rates would adjust annually on June 1 at the same time as the
13 PCA and seasonal rates change. These two customer classes
14 would recouple fixed costs to customer counts and the energy
15 usage would be weather-normalized in the same manner employed
16 by the Company for its rate proceedings. Idaho Power proposes
17 a monthly deferral that would operate, in terms of reporting
18 and the application of a carrying charge, similar to the PCA.
19 Finally, the Company proposes a cap on any upward rate change
20 of three percent that could be implemented at the option of
21 the Commission - again similar to the seven percent provision
22 provided for in the PCA.

23 Q. Why limit the mechanism to Schedule 1 and
24 Schedule 7?

25 A. Idaho Power wants to take an incremental
26 approach to the introduction of a true-up mechanism in order
27 to gain experience and to avoid exposure to potential
28 unintended consequences. Schedule 1 and Schedule 7 are

1 logical places to start in that these two customer classes
2 present the most fixed cost exposure (in percentage terms)
3 and, because fixed cost revenue is recoupled to customer
4 counts under the FCA, these customer classes avoid the
5 recoupling complications associated with larger-sized customer
6 groups. Additionally, because neither rate schedule has a
7 demand charge, the calculations are simpler.

8 Q. What is the importance of starting the
9 accounting on January 1, 2007?

10 A. There are two advantages in using a calendar
11 year for tracking an FCA deferral. One is that the numbers
12 can tie directly to the numbers reported in the Company's
13 general rate filings, which is particularly important for
14 consistency in reporting the number of Schedule 1 and Schedule
15 7 customers. The second advantage is that weather can be
16 normalized on a calendar year basis as opposed to split year
17 reporting.

18 Q. If this is the case, why is the Company
19 proposing to wait until June 1, 2008 to change rates?

20 A. The five-month intervening time period between
21 the end of the FCA accounting period and the start of the rate
22 period allows ample time for the books to close, and for the
23 FCA rate application to be filed, reviewed, and authorized.
24 The June 1 date is especially desirable because it allows the
25 Company to change customer rates once for the PCA, the FCA,
26 and the summer season.

27 Q. When will rates first change under the
28 Company's proposal?

1 A. The rates will first change on June 1, 2008
2 based on data for calendar year 2007.

3 Q. Why recouple to customer count?

4 A. Historically, energy usage correlates well to
5 customer counts for the Schedule 1 and Schedule 7 customer
6 classes, so there should be no material change in the
7 Company's opportunity to recover its authorized fixed cost
8 revenue requirement, compared with the current practice.
9 Customer counts are straightforward and easy to determine.

10 Q. Why does the Company propose to weather-
11 normalize the energy consumptions for Schedule 1 and Schedule
12 7?

13 A. The Company historically has assumed risks
14 associated with weather-related changes in sales; we seek no
15 change in that risk allocation, which obviously does not
16 affect the Company's incentives to promote and invest in
17 energy efficiency.

18 Q. Why is the Company proposing a cap to potential
19 rate increases and how will it be implemented?

20 A. The cap is proposed to mitigate some the
21 potential negatives - such as an economic downturn - that
22 might occur with the introduction of a new rate mechanism.
23 The proposed cap is intended to work exactly like the cap
24 provided in the PCA. Accordingly, the Commission at its
25 discretion and judgment can impose the cap or let the rate
26 change as calculated. Historically, under the PCA mechanism,
27 the Commission has been reluctant to impose the cap for
28 various reasons, including the dilution of the price signal

1 and the fear of another high-cost year. Nevertheless, the cap
2 is there as a tool for the Commission's potential use.

3 Q. Why is the deferral being set up similarly to
4 the PCA deferral?

5 A. The PCA has been in place since 1993. One of
6 the outstanding characteristics of the PCA has been its
7 symmetrical approach to benefits and costs. The mechanism has
8 been tested in a variety of water/cost scenarios and has
9 proven to work well for all concerned. Accordingly, Idaho
10 Power believes in applying the same tried and true method to
11 the FCA.

12 Q. Is it your opinion that the implementation of a
13 FCA as proposed by the Parties in the Settlement Stipulation
14 is in the public interest?

15 A. Yes. The FCA proposal provides an opportunity
16 to conservatively test the concept of a true-up mechanism and
17 the removal of a financial disincentive to energy efficiency
18 activities. The FCA will make Idaho Power properly
19 indifferent to choices between demand and supply side
20 resources creating an environment where load reduction
21 activities can be pursued in balance with Idaho Power's
22 financial goals. The proposal incrementally addresses the
23 customer classes that are the simplest to administer and that
24 have the largest relative exposure to problems with fixed cost
25 recovery. In addition, safeguards have been added to protect
26 against the unintended. Finally, the deferred aspect of the
27 FCA is mirrored after another mechanism that has been
28 successfully in effect since 1993.

1 Furthermore, The FCA is consistent with the
2 National Action Plan for Energy Efficiency introduced last
3 summer and endorsed by many entities including the National
4 Association of Regulatory Utility Commissions and the Edison
5 Electric Institute. A copy of the executive summary is
6 included as Exhibit No. 11.

7 Additionally, I believe the criteria developed
8 by the participants in the Commission's workshops have been
9 met by this Stipulation. These criteria were:

- 10 1. Stakeholders are better off than they would be
11 without the mechanism,
- 12 2. Cross-subsidies are minimized across customer
13 classes,
- 14 3. Financial disincentives are removed,
- 15 4. The acquisition of all cost-effective DSM are
16 optimized,
- 17 5. Rate stability is promoted,
- 18 6. The mechanism is simple,
- 19 7. Administrative costs and impacts of the
20 mechanism are known, manageable, and not
21 subject to unexpected fluctuation,
- 22 8. Short and long term effects to customers and
23 Company are monitored,
- 24 9. Perverse incentives are avoided, and
- 25 10. A close link between mechanism and desired DSM
26 outcomes is established.

27 Q. Does this conclude your testimony?

28 A. Yes.

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on this ___ day of December, 2006, I served a true and correct copy of the within and foregoing upon the following named parties by the method indicated below, and addressed to the following:

Scott Woodbury
Deputy Attorney General
Idaho Public Utilities Commission
472 West Washington Street
Post Office Box 83720
Boise, Idaho 83720-0074

- U.S. Mail, Postage Prepaid
- Hand Delivered
- Overnight Mail
- Facsimile
- Email Scott.woodbury@puc.idaho.gov

Peter J. Richardson
Richardson & O'Leary PLLC
515 N. 27th Street
Boise, Idaho 83702

- U.S. Mail, Postage Prepaid
- Hand Delivered
- Overnight Mail
- Facsimile (208) 938-7904
- Email peter@richardsonandoleary.com

William M. Eddie
Advocates for the West
610 SW Alder St., Suite 910
Portland, OR 97205

- U.S. Mail, Postage Prepaid
- Hand Delivered
- Overnight Mail
- Facsimile
- Email beddie@advocateswest.org
billeddie@rmci.net

Don Reading
Ben Johnson Associates
6070 Hill Road
Boise, Idaho 83702

- U.S. Mail, Postage Prepaid
- Hand Delivered
- Overnight Mail
- Facsimile
- Email dreading@mindspring.com


Barton L. Kline

BEFORE THE
IDAHO PUBLIC UTILITIES COMMISSION

CASE NO. IPC-E-04-15

IDAHO POWER COMPANY

EXHIBIT NO. 10

JOHN (RIC) GALE

SUPPLEMENTAL DIRECT TESTIMONY

BARTON L. KLINE ISB #1526
MONICA B. MOEN ISB # 5734
Idaho Power Company
P.O. Box 70
Boise, Idaho 83707
Phone: (208) 388-2682
FAX: (208) 388-6936
bkline@idahopower.com
mmoen@idahopower.com

Attorneys for Idaho Power Company

Express Mail Address

1221 West Idaho Street
Boise, Idaho 83702

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE INVESTIGATION) CASE NO. IPC-E-04-15
OF FINANCIAL INCENTIVES TO)
INVESTMENT IN ENERGY EFFICIENCY BY) STIPULATION
IDAHO POWER COMPANY)
)
)
)
)
)

This Stipulation ("Stipulation") is entered into by and among Idaho Power Company ("Idaho Power" or the "Company"), the Staff of the Idaho Public Utilities Commission ("Staff") and the NW Energy Coalition ("Coalition"). These entities may individually be referred to as a "Party" and collectively referred to as the "Parties".

I. INTRODUCTION

1. The terms and conditions of this Stipulation are set forth herein. The Parties agree that this Stipulation represents a fair, just and reasonable compromise of the issues raised in this proceeding and that this Stipulation is in the public interest. The Parties maintain that the Stipulation and its acceptance by the Idaho Public Utilities Commission ("IPUC" or the "Commission") represents a reasonable resolution of multiple issues identified in this matter. The Parties, therefore, recommend that the Commission, in accordance with RP 274, approve this Stipulation and all of its terms and conditions without material change or condition.

II. BACKGROUND

2. On August 10, 2004, the IPUC in Order No. 29558 established Case No. IPC-E-04-15 to investigate financial disincentives to investment in energy efficiency by Idaho Power. In its Order, the Commission directed the parties to participate in a series of workshops and to provide a written report to the Commission no later than December 15, 2004 to update the Commission on the status of the workshop.

3. On December 15, 2004, the workshop participants filed a status report with the Commission. The final report on the workshop proceedings was filed on February 14, 2005. The final report called for two action items: (1) the development of a true-up simulation to track what might have occurred if a decoupling or true-up mechanism had been implemented for Idaho Power at the time of the last general rate case; and (2) advocacy for filing of a pilot energy efficiency program that would incorporate both performance incentives and fixed cost recovery adjustments. A final order was not issued and the case remained open.

4. On January 27, 2006, Idaho Power filed an Application in this case requesting authority to implement a rate adjustment mechanism that would adjust the Company's rates upward or downward to recover the Company's fixed costs, independent of the volume of Company energy sales ("FCA Mechanism"). With its Application the Company filed the direct testimony of witnesses Ric Gale, Mike Youngblood and Ralph Cavanagh. In its Application the Company also indicated its belief that consideration of the proposed FCA mechanism would be facilitated by resuming the workshop process that was conducted earlier in the case. Idaho Power requested that the Commission issue its order reinitiating the workshop process and ultimately authorizing the Company to implement the FCA Mechanism for residential and small general service customers with an initial rate change to occur on June 1, 2007.

5. On March 3, 2006, the Commission issued a Notice of Application and acknowledged the intention of the Company and the Staff, together with other parties of record, to initiate and engage in settlement discussions.

6. Based on the settlement discussions among the parties, as a compromise of the Parties' respective positions in this case and for other consideration as set forth below, the Parties agree to the following terms:

III. TERMS OF THE STIPULATION

7. The Parties agree that it would be in the public interest for the Company to implement, as a pilot program, the FCA mechanism proposed by the Company in its Application with the following conditions and provisions.

- a. Any differences between Schedule 1 and 7 class revenue requirements and the corresponding fixed cost per customer approved by the Commission in

Case No. IPC-E-05-28 (2005 general rate case) must be reconciled with the fixed cost per customer and fixed cost per energy utilized in the approved FCA mechanism.

- b. To determine the actual number of customers determined by class on a monthly basis, the Company will utilize the same customer count methodology used in the Company's 2005 rate case filing.
- c. The methodology used to weather-normalize actual monthly energy used in the FCA will be the same weather normalization methodology used in the Company's filing in the 2005 rate case.
- d. The FCA mechanism will be implemented on a pilot basis for a three-year period beginning January 1, 2007 and running through December 31, 2009 plus any carryover. The first rate adjustment will occur June 1, 2008, coincident with the 2008-2009 PCA and subsequent rate adjustment will occur on June 1 of each year during the term of the pilot.
- e. Calculation of the monthly FCA deferral will be recorded as a separate line item in the monthly PCA report provided to the Commission. The Commission approved FCA adjustment will be combined with the Conservation Program Funding Charge for purposes of customer bill presentation. There will be no separate line item for the FCA on customers' billing statements.
- f. The Company will file its FCA adjustment request on March 15th of each year. Staff's audit of the FCA adjustment request will include review of deferral balances, comparison of actual energy savings to DSM energy

savings estimates as normally provided in the DSM Annual Report and load growth forecasts and verification of the resulting FCA adjustment.

- g. Either Staff or the Company can request the Commission to authorize discontinuance of the pilot program during the three-year period. Requests to discontinue the pilot program, with supporting justification must be filed with the Commission during the March 15 to June 1 review period.

8. The Company will provide with its annual March 15th filing a detailed summary of DSM activities that demonstrate an enhanced commitment to DSM resulting from implementation of the FCA mechanism and removal of the financial disincentive to DSM. Evidence of enhanced commitment will include, but not be limited to, a broad availability of efficiency and load management programs, building code improvement activity, pursuit of appliance code standards, expansion of DSM programs, pursuit of energy savings programs beyond peak shaving/load shifting programs and third party verification. As part of this commitment, the 2008 Integrated Resource Plan will include an evaluation of the costs and potential for energy savings that would occur if the appliance and equipment efficiency standards adopted by the State of Oregon were applicable in the State of Idaho. In addition, the Company will make the following specific commitments in regard to building code improvements, and enforcement of such standards:

- a. The Company will promote the adoption of energy codes to achieve improved levels of efficiency in new commercial and residential construction and appliance standards in Idaho consistent with the Model Conservation Standards released by the Northwest Power and

Conservation Council or that exceed the 2003 IECC and ASHRAE 90.1 codes.

- b. As part of its enhanced commitment to DSM described above, the Company will promote and support appropriate energy code training programs and advocate the enforcement of energy codes. Idaho Power will identify ways to support energy code implementation and enforcement in all jurisdictions in Idaho Power's service territory.

9. The Parties agree that this Stipulation represents a compromise of the positions of the parties in this case. As provided in RP 272, other than any testimony filed in support of the approval of this Stipulation, and except to the extent necessary for a Party to explain before the Commission its own statements and positions with respect to the Stipulation, all statements made and positions taken in negotiations relating to this Stipulation shall be confidential and will not be admissible in evidence in this or any other proceeding.

10. The Parties will submit this Stipulation to the Commission and recommend approval in its entirety pursuant to RP 274. Parties shall support this Stipulation before the Commission, and no Party shall appeal a Commission Order approving the Stipulation or an issue resolved by the Stipulation. If this Stipulation is challenged by any person not a party to the Stipulation, the Parties to this Stipulation reserve the right to file testimony, cross-examine witnesses and put on such case as they deem appropriate to respond fully to the issues presented, including the right to raise issues that are incorporated in the settlements embodied in this Stipulation. Notwithstanding this reservation of rights, the Parties to this Stipulation agree that they will continue to

support the Commission's adoption of the terms of this Stipulation.

11. If the Commission rejects any part or all of this Stipulation, or imposes any additional material conditions on approval of this Stipulation, each Party reserves the right, upon written notice to the Commission and the other Parties to this proceeding, within 14 days of the date of such action by the Commission, to withdraw from this Stipulation.

12. The Parties agree that this Stipulation is in the public interest and that all of its terms and conditions are fair, just and reasonable.

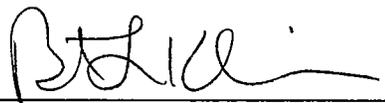
13. The obligations of the Parties under this Stipulation are subject to the Commission's approval of this Stipulation in accordance with its terms and conditions and upon such approval being upheld on appeal by a court of competent jurisdiction.

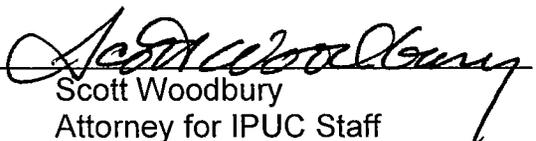
14. This Stipulation may be executed in counterparts and each signed counterpart shall constitute an original document.

Dated this 1st day of December, 2006.

Idaho Power Company

Idaho Public Utilities Commission Staff

By 
Barton L. Kline
Attorney for Idaho Power Company

By 
Scott Woodbury
Attorney for IPUC Staff

Northwest Energy Coalition

By _____
William M. Eddie
Attorney for NW Energy Coalition

support the Commission's adoption of the terms of this Stipulation.

11. If the Commission rejects any part or all of this Stipulation, or imposes any additional material conditions on approval of this Stipulation, each Party reserves the right, upon written notice to the Commission and the other Parties to this proceeding, within 14 days of the date of such action by the Commission, to withdraw from this Stipulation.

12. The Parties agree that this Stipulation is in the public interest and that all of its terms and conditions are fair, just and reasonable.

13. The obligations of the Parties under this Stipulation are subject to the Commission's approval of this Stipulation in accordance with its terms and conditions and upon such approval being upheld on appeal by a court of competent jurisdiction.

14. This Stipulation may be executed in counterparts and each signed counterpart shall constitute an original document.

Dated this 1st day of December, 2006.

Idaho Power Company

Idaho Public Utilities Commission Staff

By _____
Barton L. Kline
Attorney for Idaho Power Company

By _____
Scott Woodbury
Attorney for IPUC Staff

Northwest Energy Coalition

By 
William M. Eddie
Attorney for NW Energy Coalition

BEFORE THE
IDAHO PUBLIC UTILITIES COMMISSION

CASE NO. IPC-E-04-15

IDAHO POWER COMPANY

EXHIBIT NO. 11

JOHN (RIC) GALE

SUPPLEMENTAL DIRECT TESTIMONY



National Action Plan for Energy Efficiency

A PLAN DEVELOPED BY MORE THAN 50 LEADING
ORGANIZATIONS IN PURSUIT OF ENERGY SAVINGS
AND ENVIRONMENTAL BENEFITS THROUGH
ELECTRIC AND NATURAL GAS ENERGY EFFICIENCY

JULY 2006

The goal is to create a sustainable, aggressive national commitment to energy efficiency through gas and electric utilities, utility regulators, and partner organizations.

Improving energy efficiency in our homes, businesses, schools, governments, and industries—which consume more than 70 percent of the natural gas and electricity used in the country—is one of the most constructive, cost-effective ways to address the challenges of high energy prices, energy security and independence, air pollution, and global climate change.

The U.S. Department of Energy and U.S. Environmental Protection Agency facilitate the work of the Leadership Group and the National Action Plan for Energy Efficiency.



Executive Summary



This National Action Plan for Energy Efficiency (Action Plan) presents policy recommendations for creating a sustainable, aggressive national commitment to energy efficiency through gas and electric utilities, utility regulators, and partner organizations. Such a commitment could save Americans many billions of dollars on energy bills over the next 10 to 15 years, contribute to energy security, and improve our environment. The Action Plan was developed by more than 50 leading organizations representing key stakeholder perspectives. These organizations pledge to take specific actions to make the Action Plan a reality.

A National Action Plan for Energy Efficiency

We currently face a set of serious challenges with regard to the U.S. energy system. Energy demand continues to grow despite historically high energy prices and mounting concerns over energy security and independence as well as air pollution and global climate change. The decisions we make now regarding our energy supply and demand can either help us deal with these challenges more effectively or complicate our ability to secure a more stable, economical energy future.

Improving the energy efficiency¹ of our homes, businesses, schools, governments, and industries—which consume more than 70 percent of the natural gas and electricity used in the country—is one of the most constructive, cost-effective ways to address these challenges.² Increased investment in energy efficiency in our homes, buildings, and industries can lower energy bills, reduce demand for fossil fuels, help stabilize energy prices, enhance electric and natural gas system reliability, and help reduce air pollutants and greenhouse gases.

Despite these benefits and the success of energy efficiency programs in some regions of the country, energy efficiency remains critically underutilized in the nation's energy portfolio.³ Now we simultaneously face the challenges of high prices, the need for large investments in new energy infrastructure, environmental concerns, and

security issues. It is time to take advantage of more than two decades of experience with successful energy efficiency programs, broaden and expand these efforts, and capture the savings that energy efficiency offers. Much more can be achieved in concert with ongoing efforts to advance building codes and appliance standards, provide tax incentives for efficient products and buildings, and promote savings opportunities through programs such as ENERGY STAR®. Efficiency of new buildings and those already in place are both important. Many homeowners, businesses, and others in buildings and facilities already standing today—which will represent the vast majority of the nation's buildings and facilities for years to come—can realize significant savings from proven energy efficiency programs.

Bringing more energy efficiency into the nation's energy mix to slow demand growth in a wise, cost-effective manner—one that balances energy efficiency with new generation and supply options—will take concerted efforts by all energy market participants: customers, utilities, regulators, states, consumer advocates, energy service companies (ESCOs), and others. It will require education on the opportunities, review of existing policies, identification of barriers and their solutions, assessment of new technologies, and modification and adoption of policies, as appropriate. Utilities,⁴ regulators, and partner organizations need to improve customer access to energy efficiency programs to help them control their own energy costs, provide the funding necessary to

deliver these programs, and examine policies governing energy companies to ensure that these policies facilitate—not impede—cost-effective programs for energy efficiency. Historically, the regulatory structure has rewarded utilities for building infrastructure (e.g., power plants, transmission lines, pipelines) and selling energy, while discouraging energy efficiency, even when the energy-saving measures cost less than constructing new infrastructure.⁵ And, it has been difficult to establish the funding necessary to capture the potential benefits that cost-effective energy efficiency offers.

This National Action Plan for Energy Efficiency is a call to action to bring diverse stakeholders together at the national, regional, state, or utility level, as appropriate, and foster the discussions, decision-making, and commitments necessary to take investment in energy efficiency to a new level. The overall goal is to create a sustainable, aggressive national commitment to energy efficiency through gas and electric utilities, utility regulators, and partner organizations.

The Action Plan was developed by a Leadership Group composed of more than 50 leading organizations representing diverse stakeholder perspectives. Based upon the policies, practices, and efforts of many organizations across the country, the Leadership Group offers five

recommendations as ways to overcome many of the barriers that have limited greater investment in programs to deliver energy efficiency to customers of electric and gas utilities (Figure ES-1). These recommendations may be pursued through a number of different options, depending upon state and utility circumstances.

As part of the Action Plan, leading organizations are committing to aggressively pursue energy efficiency opportunities in their organizations and assist others who want to increase the use of energy efficiency in their regions. Because greater investment in energy efficiency cannot happen based on the work of one individual or organization alone, the Action Plan is a commitment to bring the appropriate stakeholders together—including utilities, state policy-makers, consumers, consumer advocates, businesses, ESCOs, and others—to be part of a collaborative effort to take energy efficiency to a new level. As energy experts, utilities may be in a unique position to play a leading role.

The reasons behind the National Action Plan for Energy Efficiency, the process for developing the Action Plan, and the final recommendations are summarized in greater detail as follows.

Figure ES-1. National Action Plan for Energy Efficiency Recommendations

- **Recognize energy efficiency as a high-priority energy resource.**
- **Make a strong, long-term commitment to implement cost-effective energy efficiency as a resource.**
- **Broadly communicate the benefits of and opportunities for energy efficiency.**
- **Promote sufficient, timely, and stable program funding to deliver energy efficiency where cost-effective.**
- **Modify policies to align utility incentives with the delivery of cost-effective energy efficiency and modify ratemaking practices to promote energy efficiency investments.**

The United States Faces Large and Complex Energy Challenges

Our expanding economy, growing population, and rising standard of living all depend on energy services. Current projections anticipate U.S. energy demands to increase by more than one-third by 2030, with electricity demand alone rising by more than 40 percent (EIA, 2006). At work and at home, we continue to rely on more and more energy-consuming devices. At the same time, the country has entered a period of higher energy costs and limited supplies of natural gas, heating oil, and other fuels. These issues present many challenges:

Growing energy demand stresses current systems, drives up energy costs, and requires new investments.

Events such as the Northeast electricity blackout of August 2003 and Hurricanes Katrina and Rita in 2005 increased focus on energy reliability and its economic and human impacts. Transmission and pipeline systems are becoming overburdened in places. Overburdened systems limit the availability of low-cost electricity and fossil fuels, raise energy prices in or near congested areas, and potentially compromise energy system reliability. High fuel prices also contribute to higher electricity prices. In addition, our demand for natural gas to heat our homes, for industrial and business use, and for power generation is straining the available gas supply in North America and putting upward pressure on natural gas prices. Addressing these issues will require billions of dollars in investments in energy efficiency, new power plants, gas rigs, transmission lines, pipelines, and other infrastructure, notwithstanding the difficulty of building new energy infrastructure in dense urban and suburban areas. In the absence of investments in new or expanded capacity, existing facilities are being stretched to the point where system reliability is steadily eroding, and the ability to import lower cost energy into high-growth load areas is inhibited, potentially limiting economic expansion.

High fuel prices increase financial burdens on households and businesses and slow our economy. Many household budgets are being strained by higher energy

costs, leaving less money available for other household purchases and needs. This burden is particularly harmful for low-income households. Higher energy bills for industry can reduce the nation's economic competitiveness and place U.S. jobs at risk.

Growing energy demand challenges attainment of clean air and other public health and environmental goals. Energy demand continues to grow at the same time that national and state regulations are being implemented to limit the emission of air pollutants, such as sulfur dioxide (SO₂), nitrogen oxides (NO_x), and mercury, to protect public health and the environment. In addition, emissions of greenhouse gases continue to increase.

Uncertainties in future prices and regulations raise questions about new investments. New infrastructure is being planned in the face of uncertainties about future energy prices. For example, high natural gas prices and uncertainty about greenhouse gas and other environmental regulations, impede investment decisions on new energy supply options.

Our energy system is vulnerable to disruptions in energy supply and delivery. Natural disasters such as the hurricanes of 2005 exposed the vulnerability of the U.S. energy system to major disruptions, which have significant impacts on energy prices and service reliability. In response, national security concerns suggest that we should use fossil fuel energy more efficiently, increase supply diversity, and decrease the vulnerability of domestic infrastructure to natural disasters.

Energy Efficiency Can Be a Beneficial Resource in Our Energy Systems

Greater investment in energy efficiency can help us tackle these challenges. Energy efficiency is already a key component in the nation's energy resource mix in many parts of the country. Utilities, states, and others across the United States have decades of experience in delivering energy efficiency to their customers. These programs can provide valuable models, upon which more states,

Benefits of Energy Efficiency

Lower energy bills, greater customer control, and greater customer satisfaction. Well-designed energy efficiency programs can provide opportunities for customers of all types to adopt energy savings measures that can improve their comfort and level of service, while reducing their energy bills.⁶ These programs can help customers make sound energy use decisions, increase control over their energy bills, and empower them to manage their energy usage. Customers are experiencing savings of 5, 10, 20, or 30 percent, depending upon the customer, program, and average bill. Offering these programs can also lead to greater customer satisfaction with the service provider.

Lower cost than supplying new generation only from new power plants. In some states, well-designed energy efficiency programs are saving energy at an average cost of about one-half of the typical cost of new power sources and about one-third of the cost of natural gas supply (EIA, 2006).⁷ When integrated into a long-term energy resource plan, energy efficiency programs could help defer investments in new plants and lower the total cost of delivering electricity.

Modular and quick to deploy. Energy efficiency programs can be ramped up over a period of one to three years to deliver sizable savings. These programs can also be targeted to congested areas with high prices to bring relief where it might be difficult to deliver new supply in the near term.

Significant energy savings. Well-designed energy efficiency programs are delivering annual energy savings on the order of 1 percent of electricity and natural gas sales.⁸ These programs are helping to offset 20 to 50 percent of expected growth in energy demand in some areas without compromising the end users' activities and economic well-being (Nadel et al., 2004; EIA, 2006).

Environmental benefits. While reducing customers' energy bills, cost-effective energy efficiency offers environmental benefits related to reduced demand such as lower air pollution, reduced greenhouse gas emissions, lower water use, and less environmental damage from fossil fuel extraction. Energy efficiency can be an attractive option for utilities in advance of requirements to reduce greenhouse gas emissions.

Economic development. Greater investment in energy efficiency helps build jobs and improve state economies. Energy efficiency users often redirect their bill savings toward other activities that increase local and national employment, with a higher employment impact than if the money had been spent to purchase energy (Kushler et al., 2005; NYSERDA, 2004). Many energy efficiency programs create construction and installation jobs, with multiplier impacts on employment and local economies. Local investments in energy efficiency can offset imports from out-of-state, improving the state balance of trade. Lastly, energy efficiency investments usually create long-lasting infrastructure changes to building, equipment and appliance stocks, creating long-term property improvements that deliver long-term economic value (Innovest, 2002).

Energy security. Energy efficiency reduces the level of U.S. per capita energy consumption, thus decreasing the vulnerability of the economy and individual consumers to energy price disruptions from natural disasters and attacks on domestic and international energy supplies and infrastructure. In addition, energy efficiency can be used to reduce the overall system peak demand or the peak demand in targeted load areas with limited generating or transport capability. Reducing peak demand improves system reliability and reduces the potential for unplanned brown-outs or black-outs, which can have large adverse economic consequences.

utilities, and other organizations can build. Experience shows that energy efficiency programs can lower customer energy bills; cost less than, and help defer, new energy infrastructure; provide energy savings to consumers; improve the environment; and spur local economic development (see box on Benefits of Energy Efficiency). Significant opportunities for energy efficiency are likely to continue to be available at low costs in the future. State and regional studies have found that adoption of economically attractive, but as yet untapped, energy efficiency could yield more than 20 percent savings in total electricity demand nationwide by 2025. Depending on the underlying load growth, these savings could help cut load growth by half or more compared to current forecasts (Nadel et al., 2004; SWEEP, 2002; NEEP, 2005; NWPC, 2005; WGA, 2006). Similarly, savings from direct use of natural gas could provide a 50 percent or greater reduction in natural gas demand growth (Nadel et al., 2004).

Capturing this energy efficiency resource would offer substantial economic and environmental benefits across the country. Widespread application of energy efficiency programs that already exist in some regions could deliver a large part of these potential savings.⁹ Extrapolating the results from existing programs to the entire country would yield annual energy bill savings of nearly \$20 billion, with net societal benefits of more than \$250 billion over the next 10 to 15 years. This scenario could defer the need for 20,000 megawatts (MW), or 40 new 500-MW power plants, as well as reduce U.S. emissions from energy production and use by more than 200 million tons of carbon dioxide (CO₂), 50,000 tons of SO₂, and 40,000 tons of NO_x annually.¹⁰ These significant economic and environmental benefits can be achieved relatively quickly because energy efficiency programs can be developed and implemented within several years.

Additional policies and programs are required to help capture these potential benefits and address our substantial underinvestment in energy efficiency as a nation. An important indicator of this underinvestment is that the level of funding across the country for organized effi-

ciency programs is currently less than \$2 billion per year while it would require about 4 times today's funding levels to achieve the economic and environment benefits presented above.^{11, 12}

The current underinvestment in energy efficiency is due to a number of well-recognized barriers, including some of the regulatory policies that govern electric and natural gas utilities. These barriers include:

- *Market barriers*, such as the well-known "split-incentive" barrier, which limits home builders' and commercial developers' motivation to invest in energy efficiency for new buildings because they do not pay the energy bill; and the transaction cost barrier, which chronically affects individual consumer and small business decision-making.
- *Customer barriers*, such as lack of information on energy saving opportunities, lack of awareness of how energy efficiency programs make investments easier, and lack of funding to invest in energy efficiency.
- *Public policy barriers*, which can present prohibitive disincentives for utility support and investment in energy efficiency in many cases.
- *Utility, state, and regional planning barriers*, which do not allow energy efficiency to compete with supply-side resources in energy planning.
- *Energy efficiency program barriers*, which limit investment due to lack of knowledge about the most effective and cost-effective energy efficiency program portfolios, programs for overcoming common marketplace barriers to energy efficiency, or available technologies.

While a number of energy efficiency policies and programs contribute to addressing these barriers, such as building codes, appliance standards, and state government leadership programs, organized energy efficiency programs

provide an important opportunity to deliver greater energy efficiency in the homes, buildings, and facilities that already exist today and that will consume the majority of the energy used in these sectors for years to come.

The Leadership Group and National Action Plan for Energy Efficiency

Recognizing that energy efficiency remains a critically underutilized resource in the nation's energy portfolio, more than 50 leading electric and gas utilities, state utility commissioners, state air and energy agencies, energy service providers, energy consumers, and energy efficiency and consumer advocates have formed a Leadership Group, together with the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA), to address the issue. The goal of this group is to create a sustainable, aggressive national commitment to energy efficiency through gas and electric utilities, utility regulators, and partner organizations. The Leadership Group recognizes that utilities and regulators play critical roles in bringing energy efficiency programs to their communities and that success requires the joint efforts of customers, utilities, regulators, states, and other partner organizations.

Under co-chairs Diane Munns (Member of the Iowa Utilities Board and President of the National Association of Regulatory Utility Commissioners) and Jim Rogers (President and Chief Executive Officer of Duke Energy), the Leadership Group members (see Table ES-1) have developed the National Action Plan for Energy Efficiency Report, which:

- Identifies key barriers limiting greater investment in energy efficiency.
- Reviews sound business practices for removing these barriers and improving the acceptance and use of energy efficiency relative to energy supply options.
- Outlines recommendations and options for overcoming these barriers.

The members of the Leadership Group have agreed to pursue these recommendations and consider these options through their own actions, where appropriate, and to support energy efficiency initiatives by other industry members and stakeholders.

Recommendations

The National Action Plan for Energy Efficiency is a call to action to utilities, state utility regulators, consumer advocates, consumers, businesses, other state officials, and other stakeholders to create an aggressive, sustainable national commitment to energy efficiency.¹ The Action Plan offers the following recommendations as ways to overcome barriers that have limited greater investment in energy efficiency for customers of electric and gas utilities in many parts of the country. The following recommendations are based on the policies, practices, and efforts of leading organizations across the country. For each recommendation, a number of options are available to be pursued based on regional, state, and utility circumstances (see also Figure ES-2).

Recognize energy efficiency as a high-priority energy resource. Energy efficiency has not been consistently viewed as a meaningful or dependable resource compared to new supply options, regardless of its demonstrated contributions to meeting load growth.¹³ Recognizing energy efficiency as a high-priority energy resource is an important step in efforts to capture the benefits it offers and lower the overall cost of energy services to customers. Based on jurisdictional objectives, energy efficiency can be incorporated into resource plans to account for the long-term benefits from energy savings, capacity savings, potential reductions of air pollutants and greenhouse gases, as well as other benefits. The explicit integration of energy efficiency resources into the formalized resource planning processes that exist at regional, state, and utility levels can help establish the rationale for energy efficiency funding levels and for properly valuing and balancing the benefits. In some jurisdictions, these existing planning processes might need to be adapted or even created to meaningfully

incorporate energy efficiency resources into resource planning. Some states have recognized energy efficiency as the resource of first priority due to its broad benefits.

Make a strong, long-term commitment to implement cost-effective energy efficiency as a resource. Energy efficiency programs are most successful and provide the greatest benefits to stakeholders when appropriate policies are established and maintained over the long-term. Confidence in long-term stability of the program will help maintain energy efficiency as a dependable resource compared to supply-side resources, deferring or even avoiding the need for other infrastructure investments, and maintain customer awareness and support. Some steps might include assessing the long-term potential for cost-effective energy efficiency within a region (i.e., the energy efficiency that can be delivered cost-effectively through proven programs for each customer class within a planning horizon); examining the role for cutting-edge initiatives and technologies; establishing the cost of supply-side options versus energy efficiency; establishing robust measurement and verification (M&V) procedures; and providing for routine updates to information on energy efficiency potential and key costs.

Broadly communicate the benefits of and opportunities for energy efficiency. Experience shows that energy efficiency programs help customers save money and contribute to lower cost energy systems. But these benefits are not fully documented nor recognized by customers, utilities, regulators, or policy-makers. More effort is needed to establish the business case for energy efficiency for all decision-makers and to show how a well-designed approach to energy efficiency can benefit customers, utilities, and society by (1) reducing customers' bills over time, (2) fostering financially healthy utilities (e.g., return on equity, earnings per share, and debt coverage ratios unaffected), and (3) contributing to positive societal net benefits overall. Effort is also necessary to educate key stakeholders that although energy efficiency can be an important low-cost resource to integrate into the energy mix, it does require funding just as a new power plant requires funding. Further, education

is necessary on the impact that energy efficiency programs can have in concert with other energy efficiency policies such as building codes, appliance standards, and tax incentives.

Promote sufficient, timely, and stable program funding to deliver energy efficiency where cost-effective.

Energy efficiency programs require consistent and long-term funding to effectively compete with energy supply options. Efforts are necessary to establish this consistent long-term funding. A variety of mechanisms have been, and can be, used based on state, utility, and other stakeholder interests. It is important to ensure that the efficiency programs' providers have sufficient long-term funding to recover program costs and implement the energy efficiency measures that have been demonstrated to be available and cost effective. A number of states are now linking program funding to the achievement of energy savings.

Modify policies to align utility incentives with the delivery of cost-effective energy efficiency and modify ratemaking practices to promote energy efficiency investments. Successful energy efficiency programs would be promoted by aligning utility incentives in a manner that encourages the delivery of energy efficiency as part of a balanced portfolio of supply, demand, and transmission investments. Historically, regulatory policies governing utilities have more commonly compensated utilities for building infrastructure (e.g., power plants, transmission lines, pipelines) and selling energy, while discouraging energy efficiency, even when the energy-saving measures might cost less. Within the existing regulatory processes, utilities, regulators, and stakeholders have a number of opportunities to create the incentives for energy efficiency investments by utilities and customers. A variety of mechanisms have already been used. For example, parties can decide to provide incentives for energy efficiency similar to utility incentives for new infrastructure investments, provide rewards for prudent management of energy efficiency programs, and incorporate energy efficiency as an important area of consideration within rate design. Rate design offers

Figure ES-2. National Action Plan for Energy Efficiency Recommendations & Options

Recognize energy efficiency as a high priority energy resource.

Options to consider:

- Establishing policies to establish energy efficiency as a priority resource.
- Integrating energy efficiency into utility, state, and regional resource planning activities.
- Quantifying and establishing the value of energy efficiency, considering energy savings, capacity savings, and environmental benefits, as appropriate.

Make a strong, long-term commitment to implement cost-effective energy efficiency as a resource.

Options to consider:

- Establishing appropriate cost-effectiveness tests for a portfolio of programs to reflect the long-term benefits of energy efficiency.
- Establishing the potential for long-term, cost-effective energy efficiency savings by customer class through proven programs, innovative initiatives, and cutting-edge technologies.
- Establishing funding requirements for delivering long-term, cost-effective energy efficiency.
- Developing long-term energy saving goals as part of energy planning processes.
- Developing robust measurement and verification (M&V) procedures.
- Designating which organization(s) is responsible for administering the energy efficiency programs.
- Providing for frequent updates to energy resource plans to accommodate new information and technology.

Broadly communicate the benefits of and opportunities for energy efficiency.

Options to consider:

- Establishing and educating stakeholders on the business case for energy efficiency at the state, utility, and other appropriate level addressing relevant customer, utility, and societal perspectives.
- Communicating the role of energy efficiency in

lowering customer energy bills and system costs and risks over time.

- Communicating the role of building codes, appliance standards, and tax and other incentives.

Provide sufficient, timely, and stable program funding to deliver energy efficiency where cost-effective.

Options to consider:

- Deciding on and committing to a consistent way for program administrators to recover energy efficiency costs in a timely manner.
- Establishing funding mechanisms for energy efficiency from among the available options such as revenue requirement or resource procurement funding, system benefits charges, rate-basing, shared-savings, incentive mechanisms, etc.
- Establishing funding for multi-year periods.

Modify policies to align utility incentives with the delivery of cost-effective energy efficiency and modify ratemaking practices to promote energy efficiency investments.

Options to consider:

- Addressing the typical utility throughput incentive and removing other regulatory and management disincentives to energy efficiency.
- Providing utility incentives for the successful management of energy efficiency programs.
- Including the impact on adoption of energy efficiency as one of the goals of retail rate design, recognizing that it must be balanced with other objectives.
- Eliminating rate designs that discourage energy efficiency by not increasing costs as customers consume more electricity or natural gas.
- Adopting rate designs that encourage energy efficiency by considering the unique characteristics of each customer class and including partnering tariffs with other mechanisms that encourage energy efficiency, such as benefit sharing programs and on-bill financing.

opportunities to encourage customers to invest in efficiency where they find it to be cost effective and participate in new programs that provide innovative technologies (e.g., smart meters) to help customers control their energy costs.

National Action Plan for Energy Efficiency: Next Steps

In summer 2006, members of the Leadership Group of the National Action Plan on Energy Efficiency are announcing a number of specific activities and initiatives to formalize and reinforce their commitments to energy efficiency as a resource. To assist the Leadership Group and others in making and fulfilling their commitments, a number of tools and resources have been developed:

National Action Plan for Energy Efficiency Report.

This report details the key barriers to energy efficiency in resource planning, utility incentive mechanisms, rate design, and the design and implementation of energy efficiency programs. It also reviews and presents a variety of policy and program solutions that have been used to overcome these barriers as well as the pros and cons for many of these approaches.

Energy Efficiency Benefits Calculator. This calculator can be used to help educate stakeholders on the broad benefits of energy efficiency. It provides a simplified framework to demonstrate the business case for energy efficiency from the perspective of the consumer, the utility, and society. It has been used to explore the benefits of energy efficiency program investments under a range of utility structures, policy mechanisms, and energy growth scenarios. The calculator can be adapted and applied to other scenarios.

Experts and Resource Materials on Energy Efficiency.

A number of educational presentations on the potential for energy efficiency and various policies available for pursuing the recommendations of the Action Plan will be developed. In addition, lists of policy and program experts in energy efficiency and the various policies available for pursuing the recommendations of the Action

Plan will be developed. These lists will be drawn from utilities, state utility regulators, state energy offices, third-party energy efficiency program administrators, consumer advocacy organizations, ESCOs, and others. These resources will be available in fall 2006.

DOE and EPA are continuing to facilitate the work of the Leadership Group and the National Action Plan for Energy Efficiency. During winter 2006–2007, the Leadership Group plans to report on its progress and identify next steps for the Action Plan.

Table ES-1. Members of the National Action Plan for Energy Efficiency

Co-Chairs

Diane Munns	Member President	Iowa Utilities Board National Association of Regulatory Utility Commissioners
Jim Rogers	President and Chief Executive Officer	Duke Energy

Leadership Group

Barry Abramson	Senior Vice President	Servidyne Systems, LLC
Angela S. Beehler	Director of Energy Regulation	Wal-Mart Stores, Inc.
Bruce Braine	Vice President, Strategic Policy Analysis	American Electric Power
Jeff Burks	Director of Environmental Sustainability	PNM Resources
Kateri Callahan	President	Alliance to Save Energy
Glenn Cannon	General Manager	Waverly Light and Power
Jorge Carrasco	Superintendent	Seattle City Light
Lonnie Carter	President and Chief Executive Officer	Santee Cooper
Mark Case	Vice President for Business Performance	Baltimore Gas and Electric
Gary Connett	Manager of Resource Planning and Member Services	Great River Energy
Larry Downes	Chairman and Chief Executive Officer	New Jersey Natural Gas (New Jersey Resources Corporation)
Roger Duncan	Deputy General Manager, Distributed Energy Services	Austin Energy
Angelo Esposito	Senior Vice President, Energy Services and Technology	New York Power Authority
William Flynn	Chairman	New York State Public Service Commission
Jeanne Fox	President	New Jersey Board of Public Utilities
Anne George	Commissioner	Connecticut Department of Public Utility Control
Dian Grueneich	Commissioner	California Public Utilities Commission
Blair Hamilton	Policy Director	Vermont Energy Investment Corporation
Leonard Haynes	Executive Vice President, Supply Technologies, Renewables, and Demand Side Planning	Southern Company
Mary Healey	Consumer Counsel for the State of Connecticut	Connecticut Consumer Counsel
Helen Howes	Vice President, Environment, Health and Safety	Exelon
Chris James	Air Director	Connecticut Department of Environmental Protection
Ruth Kinzey	Director of Corporate Communications	Food Lion
Peter Lendrum	Vice President, Sales and Marketing	Entergy Corporation
Rick Leuthauser	Manager of Energy Efficiency	MidAmerican Energy Company
Mark McGahey	Manager	Tristate Generation and Transmission Association, Inc.
Janine Migden-Ostrander	Consumers' Counsel	Office of the Ohio Consumers' Counsel
Richard Morgan	Commissioner	District of Columbia Public Service Commission
Brock Nicholson	Deputy Director, Division of Air Quality	North Carolina Air Office
Pat Oshie	Commissioner	Washington Utilities and Transportation Commission
Douglas Pettitt	Vice President, Government Affairs	Vectren Corporation

Bill Prindle	Deputy Director	American Council for an Energy-Efficient Economy
Phyllis Reha	Commissioner	Minnesota Public Utilities Commission
Roland Risser	Director, Customer Energy Efficiency	Pacific Gas and Electric
Gene Rodrigues	Director, Energy Efficiency	Southern California Edison
Art Rosenfeld	Commissioner	California Energy Commission
Jan Schori	General Manager	Sacramento Municipal Utility District
Larry Shirley	Division Director	North Carolina Energy Office
Michael Shore	Senior Air Policy Analyst	Environmental Defense
Gordon Slack	Energy Business Director	The Dow Chemical Company
Deb Sundin	Director, Business Product Marketing	Xcel Energy
Dub Taylor	Director	Texas State Energy Conservation Office
Paul von Paumgarten	Director, Energy and Environmental Affairs	Johnson Controls
Brenna Walraven	Executive Director, National Property Management	USAA Realty Company
Devra Wang	Director, California Energy Program	Natural Resources Defense Council
Steve Ward	Public Advocate	State of Maine
Mike Weedall	Vice President, Energy Efficiency	Bonneville Power Administration
Tom Welch	Vice President, External Affairs	PJM Interconnection
Jim West	Manager of <i>energy right</i> & Green Power Switch	Tennessee Valley Authority
Henry Yoshimura	Manager, Demand Response	ISO New England Inc.

Observers

James W. (Jay) Brew	Counsel	Steel Manufacturers Association
Roger Cooper	Executive Vice President, Policy and Planning	American Gas Association
Dan Delurey	Executive Director	Demand Response Coordinating Committee
Roger Fragua	Deputy Director	Council of Energy Resource Tribes
Jeff Genzer	General Counsel	National Association of State Energy Officials
Donald Gilligan	President	National Association of Energy Service Companies
Chuck Gray	Executive Director	National Association of Regulatory Utility Commissioners
John Holt	Senior Manager of Generation and Fuel	National Rural Electric Cooperative Association
Joseph Mattingly	Vice President, Secretary and General Counsel	Gas Appliance Manufacturers Association
Kenneth Mentzer	President and Chief Executive Officer	North American Insulation Manufacturers Association
Christina Mudd	Executive Director	National Council on Electricity Policy
Ellen Petrill	Director, Public/Private Partnerships	Electric Power Research Institute
Alan Richardson	President and Chief Executive Officer	American Public Power Association
Steve Rosenstock	Manager, Energy Solutions	Edison Electric Institute
Diane Shea	Executive Director	National Association of State Energy Officials
Rick Tempchin	Director, Retail Distribution Policy	Edison Electric Institute
Mark Wolfe	Executive Director	Energy Programs Consortium

Notes

- 1 Energy efficiency refers to using less energy to provide the same or improved level of service to the energy consumer in an economically efficient way. The term energy efficiency as used here includes using less energy at any time, including at times of peak demand through demand response and peak shaving efforts.
- 2 Addressing transportation-related energy use is also an important challenge as energy demand in this sector continues to increase and oil prices hit historical highs. However, transportation issues are outside the scope of this effort, which is focused only on electricity and natural gas systems.
- 3 This effort is focused on energy efficiency for regulated energy forms. Energy efficiency for unregulated energy forms, such as fuel oil for example, is closely related in terms of actions in buildings, but is quite different in terms of how policy can promote investments.
- 4 A utility is broadly defined as an organization that delivers electric and gas utility services to end users, including, but not limited to, investor-owned, publicly-owned, cooperatively-owned, and third-party energy efficiency utilities.
- 5 Many energy efficiency programs have an average life cycle cost of \$0.03/kilowatt-hour (kWh) saved, which is 50 to 75 percent of the typical cost of new power sources (ACEEE, 2004; EIA, 2006). The cost of energy efficiency programs varies by program and can include higher cost programs and options with lower costs to a utility such as modifying rate designs.
- 6 See Chapter 6: Energy Efficiency Program Best Practices for more information on leading programs.
- 7 Data refer to EIA 2006 new power costs and gas prices in 2015 compared to electric and gas program costs based on leading energy efficiency programs, many of which are discussed in Chapter 6: Energy Efficiency Program Best Practices.
- 8 Based on leading energy efficiency programs, many of which are discussed in Chapter 6: Energy Efficiency Program Best Practices.
- 9 These estimates are based on assumptions of average program spending levels by utilities or other program administrators, with conservatively high numbers for the cost of energy efficiency programs.
- 10 These economic and environmental savings estimates are extrapolations of the results from regional program to a national scope. Actual savings at the regional level vary based on a number of factors. For these estimates, avoided capacity value is based on peak load reductions de-rated for reductions that do not result in savings of capital investments. Emissions savings are based on a marginal on-peak generation fuel of natural gas and marginal off-peak fuel of coal; with the on-peak period capacity requirement double that of the annual average. These assumptions vary by region based upon situation-specific variables. Reductions in capped emissions might reduce the cost of compliance.
- 11 This estimate of the funding required assumes 2 percent of revenues across electric utilities and 0.5 percent across gas utilities. The estimate also assumes that energy efficiency is delivered at a total cost (utility and participant) of \$0.04 per kWh and \$3 per million British thermal units (MMBtu), which are higher than the costs of many of today's programs.
- 12 This estimate is provided as an indicator of underinvestment and is not intended to establish a national funding target. Appropriate funding levels for programs should be established at the regional, state, or utility level. In addition, energy efficiency investments by customers, businesses, industry, and government also contribute to the larger economic and environment benefits of energy efficiency.
- 13 One example of energy efficiency's ability to meet load growth is the Northwest Power Planning Council's Fifth Power Plan which uses energy conservation and efficiency to meet a targeted 700 MW of forecasted capacity between 2005 and 2009 (NWPCC, 2005).

References

- American Council for an Energy-Efficient Economy [ACEEE] (2004). *A Federal System Benefits Fund: Assisting States to Establish Energy Efficiency and Other System Benefit Programs*. Washington, DC.
- Innovest Strategic Value Advisors [Innovest] (2002, October). *Energy Management & Investor Returns: The Real Estate Sector*.
- Kushler, M., Ph.D., York, D., Ph.D., and Witte, P., M.A. (2005, January). *Examining the Potential for Energy Efficiency to Help Address the Natural Gas Crisis in the Midwest*. Washington, DC: American Council for an Energy-Efficient Economy [ACEEE].
- Nadel, S., Shipley, A., and Elliott, R.N. (2004). *The Technical, Economic and Achievable Potential for Energy Efficiency in the U.S.—A Meta-Analysis of Recent Studies*. Washington, DC: American Council for an Energy-Efficient Economy [ACEEE].
- New York State Energy Research and Development Authority [NYSERDA] (2004, May). *New York Energy \$martSM Program Evaluation and Status Report, Report to the System Benefits Charge Advisory Group, Final Report*. Albany.
- Northeast Energy Efficiency Partnerships [NEEP] (2005, May). *Economically Achievable Energy Efficiency Potential in New England*. Optimal Energy.
- Northwest Power and Conservation Council [NWPCC] (2005, May). *The 5th Northwest Electric Power and Conservation Plan*. <<http://www.nwcouncil.org/energy/powerplan/default.htm>>
- Southwest Energy Efficiency Project [SWEET] (2002, November). *The New Mother Lode: The Potential for More Efficient Electricity Use in the Southwest*. Report for the Hewlett Foundation Energy Series.
- U.S. Energy Information Administration [EIA] (2006). *Annual Energy Outlook 2006*. Washington, DC.
- Western Governors' Association [WGA] (2006, June). *Clean Energy, a Strong Economy and a Healthy Environment*. A Report of the Clean and Diversified Energy Advisory Committee.

For More Information

Stacy Angel

U.S. Environmental Protection Agency
Office of Air and Radiation
Climate Protection Partnerships Division
Tel: (202) 343-9606
E-mail: angel.stacy@epa.gov

Larry Mansueti

U.S. Department of Energy
Office of Electricity Delivery and Energy Reliability
Tel: (202) 586-2588
E-mail: lawrence.mansueti@hq.doe.gov

Or visit www.epa.gov/cleanenergy/eeactionplan

Funding and printing for this report was provided by the U.S. Department of Energy and U.S. Environmental Protection Agency in their capacity as co-sponsors for the National Action Plan for Energy Efficiency.

 Recycled/Recyclable—Printed with Vegetable Oil Based Inks on 100% (Minimum 50% postconsumer) Recycled Paper