days. The expected load is compared to the actual load to estimate the effects of control. Contact: Ms. Teri Boertman, Director of Research, Consumers Energy, 212 West Michigan Ave., MI 49201. (517) 788-2067.

Design and Development of a Comprehensive Key-Account Customer Tracking Database

Mr. Hall led the development of a comprehensive multi-utility key-account customer-tracking database. This Access database is one of the largest, most comprehensive databases designed for managing customer interactions and relationships. The database includes an exceptionally wide range of customer data, including customer decision-making systems and priorities, product and service demand, trade ally relationships, corporate ownership and board member identification, business trends and primary lines of business, sources of energy information, impacts of energy on business, service value criteria and judgment methods, participation in energy programs, opportunities for business expansion, need for new capacity, and a complete inventory of their energy consuming equipment and an assessment of its operational condition. The database also tracks all representative contacts with the customer so that any staff member can see who is talking with the customer and what is being done. This database is what the president, the vice presidents and the directors of the firm look at before they talk with a customer. Contact: Nick Hall, TecMarket Works, 165 West Netherwood Road, Oregon WI 53575. (608) 835-8855.

Detroit Edison Evaluation Collaborative

Mr. Hall of TecMarket Works was the lead evaluation contractor for the Detroit Edison Evaluation Collaborative during 1996 and 1997, reporting to a multi-organizational oversight committee formed to evaluate the Detroit Edison programs implemented through the DECo collaborative. Mr. Hall worked with the committee to design, develop, conduct, and supervise the work of other impact evaluation contractors and was responsible for conducting and reporting the management and market assessment evaluations. Mr. Hall produced what Detroit Edison described as "the most comprehensive market assessment of the low-income residential sector that we have ever seen." Contact: Mr. Jim Malinowski, Manager, Market Research, Detroit Edison Company, 26801 Northwestern Hwy, Southfield, MI 48034. (810) 223-2455.

Development of California Low-Income Public Purpose Test

TecMarket Works developed a non-energy benefits test for the State of California and four investor owned utilities. The Low-Income Public Purpose Test (LIPPT) cost-effectiveness model allows utilities to include non-energy benefits in the cost-effectiveness tests for low-income programs. The model also allows for the assessment of cost-effectiveness by measure for both energy and non-energy benefits and costs. Contact: Mary O'Drain, Project Manager, Pacific Gas and Electric Company. (415) 973-2317.

Duke Energy's Evaluation Contractor

In 2006, TecMarket Works was selected to direct, manage and lead the evaluation efforts for Duke Energy's energy efficiency programs. This effort involves planning, staffing, managing and conducting the evaluations of several residential and non-residential programs offered in the states of Ohio, Indiana and Kentucky. TecMarket Works was selected to plan the studies and obtain the needed evaluation resources to implement the studies. For the 2006-2007 period this effort involves 12 different evaluation projects ranging from process and impact evaluation studies of commercial and residential programs, to providing program management and evaluation support services for Duke managers. For 2006 ,TecMarket Works is leading and conducting the evaluation efforts for four programs and supporting Duke's evaluation management efforts. The studies for 2006 include evaluations for Duke's Smart Saver Heat Pump Program, the Super Saver Central Air Conditioning Program, the Energy Star New Construction Program and the Small Commercial Incentive Program. Contact: Tom Osterhus, Duke Energy. (513) 287-2110.

Evaluation of Wisconsin's Focus on Energy Customer Educational Services

The project focused on evaluating the effects and effectiveness of Wisconsin's energy efficiency and energy services educational programs. The evaluation included a process evaluation of a wide assortment of residential and commercial/industrial training efforts and the development of recommendations to improve both cost effectiveness, customer satisfaction and the usefulness of the educational and training effort employed. Contact: Dr. Jim Mapp, Manager, Wisconsin Energy Bureau, 101 E. Wilson 6th Floor, Madison, WI 53707. (608) 266-8020.

Federal Energy Management Program (FEMP) Evaluation

TecMarket Works conducted several market transformation evaluations of a total of 32 different programs and service areas provided by FEMP. The evaluations used a diffusion of innovations approach to examine the transformative effects of program services and the FEMP's ability to cause changes in the way federal energy management decisions are made at US government facilities around the world. The evaluations identify how and when participants' decision methods are changed by the programs and the impacts of those changes on technology adoptions, energy management, and environmental improvements. The evaluation also examines the use and usefulness of program services and recommends changes to program products and services to improve market transformation impacts. Parts of the evaluations have been included in testimony provided to Congress in support of the program. Contact: Dr. Gretchen Jordan, Sandia National Laboratory, 950 L'Enfant Plaza, SW Suite 110, Washington, DC, 20024. (202) 314-3040.

Hawaiian Electric Company Implementing Partner Process Evaluation

TecMarket Works assisted the Hawaiian Electric Company in reviewing the use of trade ally partners for promoting their suite of energy efficiency programs. This internal review included interviews with manufacturers and suppliers of energy efficiency services and equipment and provided feedback to the program staff as to how they could better engage these organizations to the benefit of their programs. The assessment also

included a review of other program's approaches to working with trade allies to give the client a comparative perspective of their practices. Contact: Ralph Earle, Hawaiian Electric Company, 220 South King Street, Suite 1010, Honolulu, HI 96813. (808) 543-4733.

Hydro Québec – Evaluation of the Empower Program for Industrial Systems

As a subcontractor to the Canadian research firm SOM, TecMarket Works, RLW, and Genivar were hired to do an impact, process, and market effects evaluation of the Empower Program for Industrial Systems offered by Hydro Québec. TecMarket Works was responsible for the development of the process and market effects evaluation. TecMarket Works provided methodology development, instrument and data collection management efforts and project oversight. TecMarket Works also assisted with the in-depth interviews, surveys and focus group efforts. Final analysis of the data was a collaborative effort of SOM and TecMarket works. The impact evaluation of this program was handled by RLW and Genivar. Contact: Jean Banyard, SOM, 1180, rue Drummond, bureau 620, Montréal (Québec), H3G 2S1. (514) 878-9825.

Low-Income Whole-House Collaborative

TecMarket Works initiated a process and impact evaluation of the Collaborative Low-Income Weatherization Program, offered by Consumers Power, Detroit Edison, and six Community Action Agencies in the state of Michigan in 1995. The program offered weatherization, efficient refrigerators, heating and water heating system repair and replacement, waterbed mattress inserts, and client education. The process evaluation involved over 25 interviews with all parties including the Department of Social Services, auditors and managers from the six CAP agencies, managers from three utilities, the education coordinators, and weatherization, refrigerator and mechanical contractors. The evaluation also involved a review of data in the central tracking system used by all six agencies and an assessment of the NEAT audit tool. The process evaluation focused on recommendations for a full-scale program covering the entire state of Michigan. In doing so, the evaluation addressed the concerns of the myriad of parties involved and examined the way in which the program was delivered in each CAP region and which methods seemed most effective and efficient. The impact analysis included a pre-program and post-program billing analysis linked to engineering estimates of measure and behavior change savings from an educational component. Contact: Ms. Teri Boertman, Director of Research, Consumers Energy, 212 West Michigan Ave., MI 49201. (517) 788-2067.

Management Audit of the Oregon Energy Trust

TecMarket Works conducted a management operations audit of the Oregon Energy Trust. This study employed over thirty in-depth interviews and an extensive document review to examine the start up and current working operations of the Oregon Energy Trust. The study examined most of the organizational structures and made recommendations for operational improvements to enhance efficiency of the organization. In this effort, TecMarket Works identified over thirty recommended changes to the operations or structure of the Energy Trust. Contact: Mark Roller, Oregon Energy Trust, 851 SW Sixth Avenue, Suite 1200, Portland OR 97204. (503) 445-7618.

Management and Operations Review of Wisconsin's Environmental Research Program
TecMarket Works conducted a management and operational assessment of the newly formed Wisconsin Environmental Research Program. This study examined the start up and operation systems and methods of the program, and assessed the ability of the program to accomplish its goals. The study examined a wide range of organizational and management and operational systems and made recommendations for improving program operations. Contact: Cheryl Rezabek, Wisconsin Department of Administration, Division of Energy, 101 East Wilson Street, Madison, WI 53702. (608) 261-7754, Cheryl.Rezabek@doa.state.wi.us.

Market Assessment and Process Evaluation of NSP's Saver Switch Program

In partnership with RLW Analytics, TecMarket Works led the work of an extremely well received evaluation of NSP's residential load management program. This was a comprehensive process and market evaluation. The study involved 1,450 surveys of participants, dropouts, and nonparticipants, as well as nearly 50 interviews with program personnel, trade allies, and others. The study examined why customers dropped out of the program during the summer of 1999. In addition, the study examined reasons for participation in the program and created a market segmentation scheme to support the development of the program's customer base. TecMarket Works conducted most of the process interviews, designed the survey instruments, led the market assessment aspects of the project and completed a major portion of the analysis and the report. The NSP manager for this effort was advised by senior NSP executives that the research was "the best ever delivered to NSP". Contact: Mark Middagh, Research Analyst, Northern States Power, PO Box 8, Eau Claire, WI 54707. (715) 836-1105.

Market Assessment of the Daylighting Design Tools for PG&E

TecMarket Works completed an assessment of the market potential for daylighting design tools being developed by PG&E. The tools include three software packages, one for evaluating skylighting potential, another for assessing the potential for lighting controls, and a third to evaluate light and shadow effects in internal spaces. The report includes an innovative definition of daylighting that makes it possible to determine the degree to which building professionals are adopting daylighting practices. The report also presents a series of decision trees showing who the decision-makers are for different types of lighting and building decisions. The report establishes a baseline for daylighting practice in Northern California. This evaluation was completed in June of 1999.
Contact: Mr. Jim Chace, Director of the Pacific Energy Center, 851 Howard Street, San Francisco, CA 94103. (415) 973-8576.

Market Assessment of Homebuilder Practices and Cinergy's Home Builders Award Program

TecMarket Works provided Cinergy with a rapid response market condition report. This market assessment of building practices and Cinergy's SAVEE awards program for energy efficient building design was conducted by performing telephone interviews of homebuilders and renovators (both program participants and non-participants). Even

though this group is among the most difficult commercial customers to contact, TecMarket Works achieved a 94 percent survey completion rate. Contact: Kathy Ruthen, Cinergy Corp., 139 East Fourth Street, Cincinnati, OH 45201. (513) 287-2350.

Market Assessment of PG&E's Lighting Exchange Program for PG&E

This study examined the market potential for PG&E's Lighting Exchange. The Lighting Exchange is a set of Internet tools that provide information, analytic capabilities, and a dialog for professionals in the building sector. The analysis was based on thirty in-depth interviews and 201 telephone surveys with building professionals. This analysis was completed as a companion piece to the Daylighting Design Tools project. The report describes the market, the target audiences, and the potential for the tools to penetrate the market. Findings from the study indicate that the Internet is an emerging tool for building professionals. Respondents indicated that they believe that the tools will provide benefits. The product search tool has a particularly great potential to become an important resource for building professionals. This evaluation was completed in June of 1999. Contact: Mr. Jim Chace, Director of the Pacific Energy Center, 851 Howard Street, San Francisco, CA 94103. (415) 973-8576.

Market Effects of the Appliance Turn-In Program

TecMarket Works has conducted an evaluation of the market effects of Wisconsin's Focus On Energy Appliance Turn-In Program. This evaluation examined the effects of the program on the operations of the used appliance market. One of the objectives of the program is to keep inefficient used appliances off the secondary market by capturing used appliances from the residential and the multi-family markets before they enter the used market stream. This evaluation included interviews with residential program participants, trade allies, apartment building owners and managers, and owners and managers of used appliance stores, among others. Contact: Nick Hall, TecMarket Works, 165 West Netherwood Road, Oregon, WI 53575. (608) 835-8855.

Market Effects Research for Vermont's Energy Efficiency Utility

In this effort TecMarket Works led the design of the research approach to document the effects of Vermont's residential, non-residential and new construction programs. This effort included identifying research metrics to document program accomplishments, identifying research approaches and developing documents to guide the research efforts. Contact: Carole Welch, Energy Policy & Program Analyst, Vermont Department of Public Service, 112 State St. Montpelier, VT 05620. (802) 828-4017.

Market Effects Study of PG&E's Energy Training Center — Stockton (ETC)

TecMarket Works completed a market effects study of PG&E's Energy Training Center at Stockton. The ETC-Stockton provides training and consulting services to the contractor / builder community to create opportunities to influence decision-makers (homeowners, commercial property owners, and others) with regard to using energy efficient products and services. The study examined how the ETC-Stockton is influencing

the markets it is trying to serve. Specifically, the study established a baseline for about 50 residential technologies and installation practices. Using recall techniques and comparing the results with the baseline, the study shows how the information services supplied by the ETC-Stockton are increasing the adoption of efficient technologies and practices. This study was primarily focused on vendors of residential HVAC, ductwork, windows, and insulation services. The evaluation was completed in October 2000 and demonstrated significant market effects from the ETC's programs. Contact: Patricia Lawrence, Senior Project Manager, Pacific Gas and Electric Company, 123 Mission Street, MS28L, San Francisco CA 94105. (415) 973-0178, pal3@pge.com.

Massachusetts Technology Collaborative Process Evaluation

TecMarket Works conducted a formative process evaluation of the MTC's Renewable Energy Trust's efforts and activities. This effort involved reviews of program logic models and associated program theories, reviews of program records and interviews with a wide range of the Trust's partners and stakeholders. The primary focus of the study was to determine if the Trust's activities are effective and valued by the various stakeholders and to gain information to help the Trust determine how it should operate and in which issues the Trust should place its efforts. Contact: Fran Cummings, Policy Unit Director, MTC, 75 North Drive, Westborough, MA 01581. (508) 870-0312.

Massachusetts Technology Collaborative Program Logic Model Support

TecMarket Works was selected to prepare Program Logic Models and their associated program theories for the Renewable Energy Trust. The logic models and program theories provided the Trust with a visual and narrative overview of the Trust's operations, including the Trust's Policy Unit, the Distributive Generation Collaborative and the Long-Term Renewable Energy Financing efforts. These efforts were used to guide evaluation planning for the Trust and to provide a summary picture of the Trust's activities and program initiatives vital to program management and operational assessments. Contact: Fran Cummings, Policy Unit Director, MTC, 75 North Drive, Westborough, MA 01581. (508) 870-0312.

Massachusetts Utility's Custom Non-Electric Benefits Meausrement

TecMarket Works assessed the existing methods for collecting data on non-electric benefits for custom commercial projects. The goal of this assessment was to first determine the viability of standardizing NEB calculations for custom commercial projects and developing an estimation approach that could eventually be used for predictive measurement of non-electric benefits for the custom commercial energy efficiency program. In the final assessment, TecMarket Works determined it to be feasible to accomplish the measurement and predictive goals at the program level, but not at the technology level. TecMarket Works recommended a data collection methodology for standardizing the measurement so that over time the data collected could be used as a predictive tool. Project Completed: April 2006. Contact: David Weber, NSTAR, 55 Bearfoot Road, Northborough, MA 01532. (781) 441-8763.

Michigan's Evaluation Working Group Collaborative

As a result of his performance as an advisor to the Consumers Power Collaborative, Nick Hall was awarded a $1.2 million dollar personal services purchase order to direct, manage, administer, and conduct selected evaluation efforts for the Evaluation Working Group collaborative. In this capacity, Mr. Hall was responsible for designing, planning, bidding, awarding, and managing a $3 million evaluation program budget for the collaborative, and evaluating over $30 million in program implementation efforts. Mr. Hall reported directly to the collaborative committee made up of the same members as the Consumers Power Collaborative. Contact: Dr. Marty Kushler, ACEEE, 2617 Donna Drive, Williamston, MI 48895. (517) 655-7037.

Milwaukee Business School Occupancy Sensor Experiment

Nick Hall, with assistance from Measuring and Monitoring, Inc, designed a monitoring system that allow the tracking of the occupancy of offices, the use of overhead lights, and the use of wall switches. The monitoring system tracked the operation of the occupancy sensor and the operation of the relays controlling the lighting. The results of the experiments showed that offices with occupancy sensors tended to have slightly higher energy use than offices that did not have such sensors. We attribute this to the occupants letting the sensor extinguish the lights rather than using the switches in offices with occupancy sensors. The occupancy sensor had a ten minute delay before extinguishing the lights after someone left the room. In offices without occupancy sensors, occupants switched the lights when they left the room. These data imply that occupancy sensors may not yield large savings if building occupants are in the habit of switching their lights when the leave a room. Contact: Dr. Jim Mapp, Manager, Wisconsin Energy Bureau, 101 E. Wilson 6th Floor, Madison, WI 53707. (608) 266-8020.

Missouri Gas Energy Low-Income Weatherization Program Evaluation

TecMarket Works conducted a multi-year evaluation of MGE's Low-Income Weatherization Program. The effort included both process and impact analyses, on-site interviews with MGE, Kansas City Weatherization Program, and contractor staff, a survey of program participants, and an impact evaluation using PRISM™ software to examine both a participant and a comparison group. The study also includes a cost-benefit analysis and an analysis of arrearage patterns. The study has been positively cited in the Missouri PUC report. Contact: Charles Hernandez, Director, Pricing and Regulatory Affairs, Missouri Gas Energy, 3420 Broadway Kansas City, MO 64111. (816) 360-5605.

Multi-Family Common Area Study for SCE

TecMarket Works completed the market analysis portion of a statewide study of multi-family common areas. One goal of this study is to understand how equipment decisions are made in multi-family buildings and especially for multi-family common areas. TecMarket Works conducted in-depth interviews with decision-makers for multi-family housing owners and homeowner associations and designed the survey instruments used with decision-makers. The report describes in detail the decision-making structures in

the multi-family housing market and relates patterns and values of decision making to size of firm, type of operation, and other characteristics of firms. TecMarket Works has analyzed the survey data and has written the portion of the report dealing with market conditions and decision-making. Contact: Shahana Samiullah, Measurement and Evaluation Group, Southern California Edison Company, 2131 Walnut Grove Avenue, Third Floor, B7, Rosemead, CA 91770. (626) 302-8923.

Nonresidential Remodeling and Renovation Study for the California Energy Commission

TecMarket Works completed a study that characterized the nonresidential remodeling and renovation market activity in California. The goal of this research was to understand how remodeling and renovation activities may vary from new construction, if at all, and to characterize actors, market structures, and decision-making. Phase one of this study involved conducting five focus groups with building professionals, developers, and commercial building owners. The study found that building professionals and owners see few differences between remodeling and renovation activities and new construction. However, there are some fairly distinctive segments among owners and developers. A report of the study can be found at the California Energy Commission website. Phase two of the study involves a survey of decision-makers who have recently been involved in completing renovations to a building. The data and analysis produced through this study was used in evaluating efforts aimed at influencing the remodeling and renovation markets in the State of California. Contact: Sylvia Bender, Energy Information & Analysis Division, California Energy Commission, 1516 Ninth Street, MS 22, Sacramento, CA 95814. (916) 653-6841, sbender@energy.state.ca.us.

NSP Custom Solutions Program Process Evaluation

In partnership with RLW Analytics, TecMarket Works conducted the process evaluation of the Custom Solutions program. Custom Solutions is an energy efficiency rebate program that provides monetary incentives to commercial and industrial customers who implement energy conservation and efficiency improvements through the application of new technologies to their business activities. These rebates are normally applied to unique or multiple technologies that cannot be fully covered by NSP's single application, prescriptive programs such as lighting, chillers, etc. The primary focus of the process evaluation was to assess the effectiveness of the design and implementation of the program for use in future program implementation and design. Contact: Mark Middagh, Research Analyst, Northern States Power, P. O. Box 8, Eau Claire, WI 54707. (715) 836-1105.

NSP Residential Low Income Benchmark, Market, Impact, and Process Evaluation

In partnership with RLW Analytics, TecMarket Works conducted a multi-faceted evaluation focused on a number of issues ranging from developing a better characterization of the low-income markets in Wisconsin to assessing the impacts of the current program offerings. A benchmark study was conducted to better understand where current state, federal, and utility dollars are going within the State of Wisconsin. In

addition, this study included a "best practices" component to highlight national low-income program activities. The market assessment investigated the demographics, energy-related product use, attitudes and behaviors of the NSP's low-income population to develop a more comprehensive picture of the low-income customer in the Wisconsin service territory. The impact evaluation determined the energy and demand impacts associated with the various components of the current low-income program offerings and examined the relationship between a customer's arrearage pattern and program participation. The process evaluation component assessed how effective the current programs are in securing program participation and included a determination of customer satisfaction and the effectiveness of the current program offerings to meet the customer's expectations. Contact: Mark Middagh, Research Analyst, Northern States Power, P. O. Box 8, Eau Claire, WI 54707. (715) 836-1105.

Performance Measurement and Management Systems for Energy Technology Programs

TecMarket Works has worked with USDOE and Sandia National Laboratory to construct a performance management and measurement system for USDOE's Office of Energy Efficiency and Renewable Energy. This project incorporated program theory and logic modeling to track program progress, impacts, and transformation effects. The project involved establishing a conceptual framework for performance management, program tracking, and developing a guidance manual with practical examples to demonstrate how to make performance management work. The approaches were tested in real decision-making situations. The manual includes forms and instruments for implementing a performance plan, developing measures and making measurements. Contact: Dr. Gretchen Jordan, Sandia National Laboratory, 950 L'Enfant Plaza, SW Suite 110, Washington, DC 20024. (202) 314-3040.

PG&E's Pacific Energy Center

TecMarket Works conducted a market transformation evaluation of PG&E's Pacific Energy Center. The Center provides workshops, classes, demonstrations, tours, case studies, one-on-one consultations, and other services to professionals in an effort to increase the energy efficiency of commercial buildings. The evaluation examined the Center's ability to move the market toward the use of more efficient energy designs and building systems. The evaluation was completed in late 1998 and demonstrated significant market transformation impacts from the Center's programs. Contact: Jim Chace, Director, Pacific Energy Center, 851 Howard Street, San Francisco, CA 94103. (415) 973-8576.

Process Evaluation of Cinergy's Maintenance Service Test Program (MSTP)

TecMarket Works conducted a process evaluation of Cinergy's MSTP, which was a pilot program delivering energy maintenance services to elderly and disabled low-income customers. Interviews of program designers, managers, and implementers were conducted along with interviews of agency managers, auditors, and support staff. A telephone survey of 103 participants focused on implementation activities, how maintenance was performed in the past, and the need and value of the service. Surveys

were uniquely tailored to each respondent by identifying the appliance mix in each home from the agency tracking records. Contact: George Sundrup, Cinergy Corp., 139 East Fourth Street, Cincinnati, OH 45201. (513) 287-3316.

Process Evaluation of Cinergy's PIPP Orientation Program

TecMarket Works conducted a process evaluation of a pilot low-income program called PIPP Orientation and Education Service (PIPP-OR). This program educated low-income participants in the operations and understanding of utility bill Percent of Income Payment Plans (PIPP) and helped them to learn ways to reduce utility bills. For this evaluation, TecMarket Works conducted interviews with Cinergy program designers, managers, and implementers, as well as contractor managers and service delivery staff. Three separate survey instruments were developed for program participants, non-participants, and program refusers. Differences and similarities among these three groups were examined. Contact: Kathy Ruthen, Cinergy Corp., 139 East Fourth Street, Cincinnati, OH 45201. (513) 287-2350.

Process Evaluation of Cinergy's Problem Diagnostic Service (PDS) Program

TecMarket Works conducted a process evaluation of Cinergy's Problem Diagnostic Service (PDS) Program. The PDS Program is an expanded, highly technical, on-site residential energy audit service that uses a wide range of diagnostic tools to help identify opportunities for saving energy and reducing utility bills. TecMarket Works conducted interviews of program designers, managers, and implementers as well as the implementation contractor. A telephone survey of participants was also conducted. The survey focused on customer opinions of the program and implementation activities associated with the program as well as implemented measures. Contact: Kathy Schroder, Cinergy Corp., 139 East Fourth Street, Cincinnati, OH 45201. (513) 217-2350.

Process Evaluation of the Wisconsin Environmental Research Program

This study assessed the operations of the Wisconsin Environmental Research Program and examined the period from program start up through two years of research efforts leading to a better understanding of the environmental affects of a wide range of pollutants. The study recommended changes in the structure and operations of the program and on the focus of research being conducted. The study also recommended changes to the way research information was being used and the communication systems employed to distribute information to support policy decisions. Contact: Cheryl Rezabek, Wisconsin Department of Administration, Division of Energy, 101 East Wilson Street, Madison, WI 53702. (608) 261-7754, Cheryl.Rezabek@doa.state.wi.us.

Process and Impact Evaluation of Cinergy's PIPP Educational Pilot Program

Cinergy initiated a new and innovative program designed to educate their low-income customers on a special bill payment plan, the Percentage of Income Payment Plan (PIPP). Process and impact evaluations were completed by TecMarket Works utilizing a control group of similar PIPP customers. The control group was selected randomly from qualifying customers prior to program initiation. This proved critical in determining the savings of the participant group. A unique aspect of this study was the focus on

behavioral changes rather than technology savings. This allowed the evaluation to isolate the impact of the program's four educational sessions from the impact of newly installed technologies. A PRISM™ analysis was used after the six-month program to document energy savings of this educational program, even after the homes had been weatherized. Contact: Kathy Ruthen, Cinergy Corp., 139 East Fourth Street, Cincinnati, OH 45201. (513) 287-2350.

State of Vermont Weatherization Program Impact Evaluation

TecMarket Works conducted two impact evaluations of the Vermont Weatherization Program that was implemented through Vermont CAP agencies. TecMarket Works extracted the billing data from the State of Vermont's Access based tracking system and then utilized PRISM™ to analyze savings based on billing data for participants and non-participants. A cost-benefit analysis of the program also was completed using cost figures supplied by the State of Vermont. In addition, TecMarket Works completed an analysis of data sources and methods and quantified non-energy benefits, such as reductions in environmental pollutants, improved comfort, health and safety, and economic viability. The non-energy benefits were found to be between one and a half and two times greater in magnitude than the energy benefits. The findings from this study have been presented to the State Legislature and the State Auditor. Contact: Jules Junker, Program Manager, Vermont Department of Economic Opportunity, 103 Waterbury, VT 05671. (802) 241-2450.

State of Wisconsin Administration Daylighting Experiment

Nick Hall, with assistance from Measuring and Monitoring, Inc., designed a monitoring system to assess the impact of daylighting controls. The monitoring system was unique in that it measured changes in the voltage of the control circuits directly rather than measuring changes in kW or kWh. This allowed for the measurement of the direct effects of daylight on sensors controlling specific groups of fixtures without having to rewire the electrical circuits to correspond to the control areas. It also made it possible to track the effects of daylighting on each side of the building and to assess the performance of daylighting controls at different distances from the windows. The monitoring system also monitored the levels of outdoor illumination. Personnel from Lawrence Berkeley Laboratory have identified this as one of the best pieces of work on daylighting that has been done to date. They have used it to inform the design of new experiments in daylighting. The material is also cited in E-Source documents. Contact: Dr. Jim Mapp, Manager, Wisconsin Energy Bureau, 101 E. Wilson 6th Floor, Madison, WI 53707. (608) 266-8020.

Wisconsin Demand-Side Demonstrations (WDSD)

Dr. John Reed and Mr. Nick Hall of TecMarket Works served as Evaluation Director and Contract Manager, respectively, for the $4.5 million of evaluation research completed as part of a four-year multi-organizational, multi-project collaborative. In all, fifteen multi-focused evaluations were completed including seven community-based program studies and several studies of other industrial and commercial programs. TecMarket Works' staff

also led one of the most comprehensive evaluations of a market transformation effort (the motors market) that has been conducted to date. Led by TecMarket Works' staff, the evaluation team completed a series of fourteen reports across six subject areas. These studies were conducted using several innovative methodologies. One was the development of a neighborhood interaction scale, which made it possible to analyze the effects of integration into the community on program participation, and innovative metering designs that made it possible to study the effects of daylighting controls and occupancy sensors. The daylighting and occupancy studies are some of the best field studies that have been done in those disciplines. Several of these studies have been the basis for subsequent studies and research efforts. Contact: Dr. Jim Mapp, Manager, Wisconsin Energy Bureau, 101 E. Wilson 6th Floor, Madison, WI 53707. (608) 266-8020.

Wisconsin Low-Income Shared Savings Weatherization Program

TecMarket Works designed and helped to oversee the implementation of Wisconsin's Shared Savings Weatherization Program that is being implemented in eleven Wisconsin counties. In this program, customers are being aggregated into service delivery groups and provided with whole house efficiency services, in-home multiple round educational programs, monthly reviews of energy savings, monthly billing of electric and gas service and monthly payments of customer consumption to the Class 1 utilities. Contact: Dr. Jim Mapp, Manager, Wisconsin Energy Bureau, 101 E. Wilson 6th Floor, Madison, WI 53707. (608) 266-8020.

Market Research, Market Assessments, and Transformation Projects

A summary of market research, assessment, and transformation projects is presented below. Many of these projects also incorporated process evaluations.

Assessment of the Operations of the Secondary Appliance Market; An Evaluation to Support the Design of the Wisconsin Appliance Turn-in Program

This study examined the operations of the secondary market for refrigerators and freezers and charted how units come into the market, how they are marketed and sold, and the decisions that are associated with the movement of used appliances. The study was important in the consideration of how refrigerator and freezer programs should be structured to obtain maximum market effects. Contact: Dr. Jim Mapp, Manager, Wisconsin Energy Bureau, 101 E. Wilson 6th Floor, Madison, WI 53707. (608) 266-8020.

Assessment of the Potential for Energy Centers in California, Phase I and Phase II

The goal of this work was to assess the need and potential for energy centers in the residential, commercial and industrial sectors in California. In-depth interviews were conducted with a broad range of actors in each of the market sectors to identify the potential target markets. A key part of the study was to identify sector needs and to identify partner institutions. The study also examined a variety of different models for managing energy centers in a deregulated California utility environment. Contact: Mr.

Jim Chace, Director of the Pacific Energy Center, 851 Howard Street, San Francisco, CA 94103. (415) 973-8576.

Assessment of the Wisconsin Apartment and Condominium Energy Services Program

This evaluation examined the influence of the Apartment and Condominium Energy Services Program on the operations of the multi-family market. The study examined the implementation of the program as well as the effects of the program on the participant market and market actors. Contact: Dr. David Sumi, PA Government Services Inc., 2711 Allen Boulevard, Suite 200, Middleton, WI 53562. (608) 827-7820.

California Energy Impact Potentials Assessment

TecMarket Works was selected to lead the market research and customer barriers analysis portions of a statewide assessment of the energy savings available to the State of California if the State were to take more aggressive legislatively mandated initiatives based on increasing the achievements from standard DSM and energy conservation programs. TecMarket Works served as a sub-contractor to Architectural Energy Corporation (AEC) who primed the project for the California Energy Commission. TecMarket Works was the lead contractor to identify program gaps and market/customer barriers that need to be addressed through new market interventions in order to increase the energy savings across the state. TecMarket works also served as the primary supporting firm to AEC in developing estimates of the amount of energy savings that could be achieved if the recommended program/market initiatives identified in the study were implemented. This project was completed in 2005. Contact: Pete Jacobs, Senior Engineer, Architectural Energy Corporation. (303) 444-4149.

California Statewide Residential Contractor Program Assessment

TecMarket Works and ADM Associates completed a study of the California Residential Contractor Program for Pacific Gas and Electric, San Diego Gas and Electric, Southern California Edison, and Southern California Gas. TecMarket Works was responsible for constructing a survey and analyzing data to determine if the Residential Contractor Program is causing changes in the equipment that is recommended and installed in the residential HVAC, window, and insulation markets. Contact: Shahana Samiullah, Analyst, Southern California Edison, 2131 Walnut Ave. 3rd B7, Rosemead, CA 91770. (626) 302-8293.

California Statewide Residential Customer Needs Assessment Study

TecMarket Works conducted an assessment of hard-to-reach populations for Pacific Gas and Electric, San Diego Gas and Electric, Southern California Edison, and Southern California Gas. The goal of this study was to identify and describe hard-to-reach populations. Hard-to-reach customers are customers who have a primary language other than English, who have a moderate-income level, and who live in multi-family housing or mobile homes. As part of the assessment, TecMarket Works located and summarized large quantities of secondary data to describe residential customer segments, particularly

those customers that are hard-to-reach: tenants in small multi-family housing units, tenants who pay their own energy costs, customers with limited English speaking ability, moderate income customers, rural customers, and others. The study made use of commercial market segmentation data, PRISM™, census data, research on cultural and social practices, and community studies. This information was used to suggest outreach strategies and program designs that will potentially foster greater participation among hard-to-reach groups in residential energy efficiency programs. Contact: Shahana Samiullah, Analyst, Southern California Edison, 2131 Walnut Ave. 3rd B7, Rosemead, CA 91770. (626) 302-8293.

Competitive Commercial and Industrial Customer Market Analysis Database

TecMarket Works was selected to design, build and populate a competitive analysis and customer service database for Hawaiian Electric Company. The database uses an expanded Access framework to track individual customers, including corporate structures, key decision-makers, drivers of corporate decisions, service issues, competitive contacts from other suppliers, receptiveness to competitive contacts, service expectations, service and technology satisfaction scores and drivers of satisfaction, key equipment inventory and condition of equipment, receptiveness to expanded energy and energy product services, and many other competitive aspects. The database is used by company reps to service customers and by key executives to understand customer issues and needs. Contact: George Willoughby, Hawaiian Electric Company, 220 South King Street, Honolulu, HI 96813. (808) 543-4741.

Federal Energy Management Program (FEMP) Evaluation

TecMarket Works conducted several market transformation evaluations of a total of 32 different programs and service areas provided by FEMP. The evaluations used a diffusion of innovations approach to examine the transformative effects of program services and the FEMP's ability to cause changes in the way federal energy management decisions are made at US government facilities around the world. The evaluations identify how and when participants' decision methods are changed by the programs and the impacts of those changes on technology adoptions, energy management, and environmental improvements. The evaluation also examines the use and usefulness of program services and recommends changes to program products and services to improve market transformation impacts. Parts of the evaluations have been included in testimony provided to Congress in support of the program. Contact: Dr. Gretchen Jordan, Sandia National Laboratory, 950 L'Enfant Plaza, SW Suite 110, Washington, DC, 20024. (202) 314-3040.

Green Power Marketing Study for Fort Collins Utilities

TecMarket Works and Q^4 Associates teamed with the Ft. Collins Electric Utility to evaluate the Ft. Collins Wind Energy Program. The Ft. Collins Utility conducted a pilot marketing program through which it recruited 700 customers who pay a 2¢ per kWh premium so that the electricity equivalent of their usage is generated from two wind turbines purchased by the utility. The study involved three surveys of 936 customers: a subscriber survey, a survey of interested nonsubscribers, and a survey of other customers.

TecMarket Works developed two different segmentation schemes. In one scheme, we found two types of customers, *egalitarian greens* and *cost-conscious individualists*. When we segmented the market by interest in utility services, we found three groups, *full service greens*, *traditionalists*, and *no-frill greens*. Contact: Lori Clements-Grote, Marketing Analyst, Fort Collins electric utility, P.O. Box 580, Fort Collins, CO 80522-0580. (970) 221-6396.

Market Assessment and Process Evaluation of NSP's Saver Switch Program

In partnership with RLW Analytics, TecMarket Works led the work of an extremely well received evaluation of NSP's residential load management program. This was a comprehensive process and market evaluation. The study involved 1,450 surveys of participants, dropouts, and nonparticipants, as well as nearly 50 interviews with program personnel, trade allies, and others. The study examined why customers dropped out of the program during the summer of 1999. In addition, the study examined reasons for participation in the program and created a market segmentation scheme to support the development of the program's customer base. TecMarket Works conducted most of the process interviews, designed the survey instruments, led the market assessment aspects of the project and completed a major portion of the analysis and the report. The NSP manager for this effort was advised by senior NSP executives that the research was "the best ever delivered to NSP". Contact: Mark Middagh, Research Analyst, Northern States Power, PO Box 8, Eau Claire, WI 54707. (715) 836-1105.

Market Assessment of the Daylighting Design Tools for PG&E

TecMarket Works completed an assessment of the market potential for daylighting design tools being developed by PG&E. The tools include three software packages, one for evaluating skylighting potential, another for assessing the potential for lighting controls, and a third to evaluate light and shadow effects in internal spaces. The report includes an innovative definition of daylighting that makes it possible to determine the degree to which building professionals are adopting daylighting practices. The report also presents a series of decision trees showing who the decision-makers are for different types of lighting and building decisions. The report establishes a baseline for daylighting practice in Northern California. This evaluation was completed in June of 1999. Contact: Mr. Jim Chace, Director of the Pacific Energy Center, 851 Howard Street, San Francisco, CA 94103. (415) 973-8576.

Market Assessment of PG&E's Lighting Exchange Program for PG&E

This study examined the market potential for PG&E's Lighting Exchange. The Lighting Exchange is a set of Internet tools that provide information, analytic capabilities, and a dialog for professionals in the building sector. The analysis was based on thirty in-depth interviews and 201 telephone surveys with building professionals. This analysis was completed as a companion piece to the Daylighting Design Tools project. The report describes the market, the target audiences, and the potential for the tools to penetrate the market. Findings from the study indicate that the Internet is an emerging tool for building professionals. Respondents indicated that they believe that the tools will provide benefits. The product search tool has a particularly great potential to become an

important resource for building professionals. This evaluation was completed in June of 1999. Contact: Mr. Jim Chace, Director of the Pacific Energy Center, 851 Howard Street, San Francisco, CA 94103. (415) 973-8576.

Market Effects of the Appliance Turn-In Program

TecMarket Works has conducted an evaluation of the market effects of Wisconsin's Focus On Energy Appliance Turn-In Program. This evaluation examined the effects of the program on the operations of the used appliance market. One of the objectives of the program is to keep inefficient used appliances off the secondary market by capturing used appliances from the residential and the multi-family markets before they enter the used market stream. This evaluation included interviews with residential program participants, trade allies, apartment building owners and managers, and owners and managers of used appliance stores, among others. Contact: Nick Hall, TecMarket Works, 165 West Netherwood Road, Oregon, WI 53575. (608) 835-8855.

Market Effects Study of PG&E's Energy Training Center — Stockton (ETC)

TecMarket Works has completed a market effects study of PG&E's Energy Training Center at Stockton. The ETC-Stockton provides training and consulting services to the contractor / builder community to create opportunities to influence decision-makers (homeowners, commercial property owners, and others) with regard to using energy efficient products and services. The study examined how the ETC-Stockton is influencing the markets it is trying to serve. Specifically, the study established a baseline for about 50 residential technologies and installation practices. Using recall techniques and comparing the results with the baseline, the study shows how the information services supplied by the ETC-Stockton are increasing the adoption of efficient technologies and practices. This study was primarily focused on vendors of residential HVAC, ductwork, windows, and insulation services. The evaluation was completed in October 2000 and demonstrated significant market effects from the ETC's programs. Contact: Patricia Lawrence, Senior Project Manager, Pacific Gas and Electric Company, 123 Mission Street, MS28L, San Francisco CA 94105, (415) 973-0178, pal3@pge.com.

Multi-Family Common Area Study for SCE

TecMarket Works completed the market analysis portion of a statewide study of multi-family common areas. One goal of this study was to understand how equipment decisions are made in multi-family buildings and especially for multi-family common areas. TecMarket Works conducted in-depth interviews with decision-makers for multi-family housing owners and homeowner associations and designed the survey instruments used with decision-makers. The report describes in detail the decision-making structures in the multi-family housing market and relates patterns and values of decision making to size of firm, type of operation, and other characteristics of firms. TecMarket Works has analyzed the survey data and has written the portion of the report dealing with market conditions and decision-making. Contact: Shahana Samiullah, Measurement and Evaluation Group, Southern California Edison Company, 2131 Walnut Grove Avenue, Third Floor, B7, Rosemead, CA 91770. (626) 302-8923.

New Jersey Residential ENERGY STAR® Products Working Group Appliance & Windows Baseline Studies

TecMarket Works worked with RLW Analytics to conduct baseline studies to support the New Jersey Residential ENERGY STAR® Products Working Group. TecMarket Works conducted 58 interviews with key manufacturers of clothes washers, refrigerators, dishwashers, room air conditioners, and windows to gather information on the marketing of their ENERGY STAR® products. The data was used to support program design and marketing efforts to promote ENERGY STAR® products. Contact: John Veprek, Project Manager - Public Service Electric and Gas. (732) 635-3654.

Nonresidential Remodeling and Renovation Study for the California Energy Commission

TecMarket Works has completed a study that characterized the nonresidential remodeling and renovation market activity in California. The goal of this research was to understand how remodeling and renovation activities may vary from new construction, if at all, and to characterize actors, market structures, and decision-making. Phase one of this study involved conducting five focus groups with building professionals, developers, and commercial building owners. The study found that building professionals and owners see few differences between remodeling and renovation activities and new construction. However, there are some fairly distinctive segments among owners and developers. A report of the study can be found at the California Energy Commission website. Phase two of the study involves a survey of decision-makers who have recently been involved in completing renovations to a building. The data and analysis produced through this study was used in evaluating efforts aimed at influencing the remodeling and renovation markets in the State of California. Contact: Sylvia Bender, Energy Information & Analysis Division, California Energy Commission, 1516 Ninth Street, MS 22, Sacramento, CA 95814. (916) 653-6841, sbender@energy.state.ca.us.

Northwest Energy Efficiency Alliance — Lighting Design Lab (LDL)

TecMarket Works conducted a market effects study of the Lighting Design Laboratory in Seattle, Washington, for the Northwest Energy Efficiency Alliance. The goal of the project was to understand how the several programs of the LDL are influencing the specification of efficient lighting products and lighting design practices in and around Seattle and throughout the Northwest. The project involved the reconstruction and analysis of participation data, non-user and user surveys, in-depth interviews, and other techniques. The evaluation produced a description of the relevant markets, estimates of penetration by the LDL into those markets, changes in penetration over the life of the program, and the relationship between changes in the market and program interventions. Contact: Ben Bronfman, NW Energy Efficiency Alliance, 522 SW 5th Ave, suite 410, Portland, OR 97201. (503) 827-8416 Ext. 410.

Northwest Energy Efficiency Alliance — Northwest On-Line

TecMarket Works conducted an assessment of the market transforming effects of the Northwest On-Line website. This website is intended to be a vehicle for encouraging lighting specifiers and designers to increase the efficiency of their designs and the products that they specify. The website supplies a variety of different types of information. One goal is to have the site become the gateway to other lighting related sites such as the Design Forum and Inter.Light for lighting specifiers in the Northwest. Another is to create sufficient traffic so that the site becomes self-supporting. Changes in website statistics were tracked over a period of six months. TecMarket Works used an innovative method of projecting usage if the conditions remained unchanged. In addition, survey data about the site was collected and analyzed. The data indicated that the site has developed modest usage. This is an example of the new generation of market transformation studies using innovative methodologies. Contact: Ben Bronfman, NW Energy Efficiency Alliance, 522 SW 5th Ave, suite 410, Portland, OR 97201. (503) 827-8416 Ext. 410.

Northwest Energy Efficiency Alliance — Silicon Grower Project

The Northwest has sometimes been called the "silicon forest" because much of the United States production of silicon used for single-crystal solar cells and computer chips is done in the region. The Northwest Energy Efficiency Alliance has joined with Siemens Solar, which produces silicon for solar cells in an effort to improve the energy efficiency of crystal growing machines. If successful, the project would significantly reduce the amount of energy, argon, and other materials used in the production of silicon boules. If the technical advances are successful, the technology is to be transferred to chip manufacturers who do not compete with the solar cell manufacturer. TecMarket Works assessed the current technology base being used by manufacturers in the market and the potential for transferring the revised technology. The Siemens Solar staff characterized the TecMarket Works report as "truly capturing what is happening" in the market. Contact: Ben Bronfman, Northwest Energy Efficiency Alliance, 522 SW 5th Ave, Suite 410, Portland, OR 97201. (503) 827-8416 Ext. 410.

Northwest Energy Efficiency Alliance — Building Operations Program

TecMarket Works was recently selected to join a team of three evaluation contractors to assess an innovative implementation strategy by the Northwest Energy Efficiency Alliance. TecMarket Works is responsible for evaluating the market effects of the program from the perspective of the Building Operations program. Development and review of program theory, logic models, baseline impacts, and process evaluations are among the responsibilities of this contract. Contact: David Cohan, Northwest Energy Efficiency Alliance, 529 SW Third Ave., Suite 600, Portland, Oregon 97204. (503) 827-8416.

PG&E's Pacific Energy Center

TecMarket Works has conducted a market transformation evaluation of PG&E's Pacific Energy Center. The Center provides workshops, classes, demonstrations, tours, case studies, one-on-one consultations, and other services to professionals in an effort to

increase the energy efficiency of commercial buildings. The evaluation examined the Center's ability to move the market toward the use of more efficient energy designs and building systems. The evaluation was completed in late 1998 and demonstrated significant market transformation impacts from the Center's programs. Contact: Jim Chace, Director, Pacific Energy Center, 851 Howard Street, San Francisco, CA 94103. (415) 973-8576.

Rural Economic Impact Assessment

Carmen Best designed and implemented a rural economic impact evaluation of Wisconsin's Focus on Energy program in three rural counties. Her evaluation contributed to the ongoing discussion of the economic effects of Focus on Energy in the state. The study examined the actual and potential impacts of improved energy efficiency on jobs, earnings and total area income. The study employed the use of a static county-level input-output model. The implications of policy decisions that focus on rural economic development were explored in a comparison to these effects in urban settings. This study also examined and assessed equity issues associated with the different effects from delivering energy efficiency services in rural or urban counties. Portions of this study were presented at the North American Conference of the International Association of Energy Economists. Contact: Dr. David Sumi, PA Government Services Inc., 2711 Allen Boulevard, Suite 200, Middleton, WI 53562. (608) 827-7820.

Tool Needs for the Federal Energy Management Program (FEMP)

TecMarket Works conducted a focus group for FEMP under contract to Pacific Northwest Laboratories. The daylong focus group involved building professionals from the public and private sector. The purpose of the research was to identify tools that are needed to facilitate improvements in energy efficiency in commercial and industrial buildings in the public sector. The study identified a priority need for tools, particularly monitoring tools and tools to establish baselines that can be used to analyze the energy performance of existing buildings. The study also identified the need for easy to use, comprehensive tools that can be used in new construction and existing buildings. Contact: Craig Conner, Pacific Northwest National Laboratory, Battelle, Pacific Northwest National Lab P.O. Box 999 / MS K5-16 Richland, WA 99352. (509) 375-2538.

Low-Income Energy Projects

Here we present brief summaries of about thirty selected low-income projects. At the end of each project description is the client contact for that project. (Note: Most low-income evaluations conducted by TecMarket Works include cost benefit evaluation methodologies and assessments as part of our standard evaluation service.)

California Statewide Residential Customer Needs Assessment Study

TecMarket Works conducted an assessment of hard-to-reach populations for Pacific Gas and Electric, San Diego Gas and Electric, Southern California Edison, and Southern California Gas. The goal of this study was to identify and describe hard-to-reach populations. Hard-to-reach customers are customers who have a primary language other than English, who have a moderate-income level, and who live in multi-family housing or mobile homes. As part of the assessment, TecMarket Works located and summarized large quantities of secondary data to describe residential customer segments, particularly those customers that are hard-to-reach: tenants in small multi-family housing units, tenants who pay their own energy costs, customers with limited English speaking ability, moderate income customers, rural customers, and others. The study made use of commercial market segmentation data, PRISM™, census data, research on cultural and social practices, and community studies. This information was used to suggest outreach strategies and program designs that will potentially foster greater participation among hard-to-reach groups in residential energy efficiency programs. Contact: Shahana Samiullah, Analyst, Southern California Edison, 2131 Walnut Ave. 3rd B7, Rosemead, CA 91770. (626) 302-8293.

Cinergy Low-Income Weatherization Process and Impact Evaluation

TecMarket Works completed a comprehensive process and impact assessment of Cinergy's Low-Income Weatherization Program. In addition to staff and contractor interviews, 400 telephone surveys were conducted with participants to measure customer satisfaction and interaction with the program. The survey examined weatherization measures installed for energy efficiency and safety and their impact on utility bills, household comfort, and other issues. Pre and post-program utility bill data was analyzed for program energy impacts and cost-effectiveness. Contact: Kathy Schroder, Cinergy Corp., 139 East Fourth Street, Cincinnati, OH 45201. (513) 217-2350.

Cinergy's Non-Profit Energy Management Program (NEMP) Process Evaluation

The NEMP program was a test program targeting non-profit organizations that serve Cinergy's low-income customers. The program provided building energy auditing services to help organizations control their energy costs so that more of their financial resources can be allocated to low-income services rather than to pay their energy bills. The overall goals of the evaluation were to investigate and verify how well various aspects of the program are working, to identify steps that can be taken to improve program design, delivery and effectiveness in the future, and to identify current and projected program impacts on participants. Contact: George Sundrup, Cinergy Corp., 139 East Fourth Street, Cincinnati, OH 45201. (513) 287-3316.

Cinergy's Pilot Arrearage Reduction Program Process and Impact Evaluation

TecMarket Works conducted the evaluation of Cinergy's 2002 Arrearage Reduction Pilot Program in which participants were provided incentives and educational training in energy management and household budgeting. This study also included a process evaluation of the design and operations of the program. The program identified arrearage payment impacts relative to a control group and provided recommendations for program redesign. Contact: Kathy Schroder, Cinergy Corp., 139 East Fourth Street, Cincinnati, OH 45201. (513) 217-2350.

Cinergy Weatherization Impact Evaluation

TecMarket Works conducted an energy savings impact evaluation of two residential weatherization programs utilizing PRISM software which provides for weather normalized estimates of energy use changes post-weatherization. We conducted two studies: the first program was offered in Kentucky, the second in Ohio. The impact study focused on identifying the energy impacts associated with the receipt of weatherization services provided via Cinergy's two weatherization programs. Contact: Kathy Schroder, Cinergy Corp., 139 East Fourth Street, Cincinnati, OH 45201. (513) 217-2350.

Consumers Power Collaborative

Nick Hall served as the senior evaluation advisor to Consumers Power Company, providing representation and advice to the utility regarding evaluation goals, designs, methodologies, and costs. In this position, Mr. Hall worked with all members of the evaluation collaborative, including the Michigan Public Service Commission, Environmental Decade, the Attorney General office, representatives from several public group advisors, and representatives from ABATE, a business organization established to assure low cost utility rates in Michigan. Mr. Hall worked cooperatively with all groups and provided valuable advice and direction for the group pertaining to the collaborative's evaluation efforts. Mr. Hall advised this $4 million evaluation effort. Contact: Ms. Teri Boertman, Director of Research, Consumers Energy, 212 West Michigan Ave., MI 49201. (517) 788-2067.

Consumers Power Company

Nick Hall of TecMarket Works led a multi-project consulting team in conducting impact and process evaluations of Consumers' residential and low-income programs from 1995-1996. The impact evaluation techniques included on-site visits, logger metering, and billing analysis. Participant and non-participant telephone surveys, trade ally surveys, and focus groups provided the basis for comprehensive process evaluations results. Contact: Ms. Teri Boertman, Director of Research, Consumers Energy, 212 West Michigan Ave., MI 49201. (517) 788-2067.

Detroit Edison Evaluation Collaborative

Mr. Hall of TecMarket Works was the lead evaluation contractor for the Detroit Edison Evaluation Collaborative during 1996 and 1997, reporting to a multi-organizational oversight committee formed to evaluate the Detroit Edison programs implemented through the DECo collaborative. Mr. Hall worked with the committee to design, develop, conduct, and supervise the work of other impact evaluation contractors and was responsible for conducting and reporting the management and market assessment evaluations. Mr. Hall produced what Detroit Edison described as "the most comprehensive market assessment of the low-income residential sector that we have ever seen." Contact: Mr. Jim Malinowski, Manager, Market Research, Detroit Edison Company, 26801 Northwestern Hwy, Southfield, MI 48034. (810) 223-2455.

Development of California Low-Income Public Purpose Test

TecMarket Works developed a non-energy benefits test for the State of California and four investor owned utilities. The Low-Income Public Purpose Test (LIPPT) cost-effectiveness model allows utilities to include non-energy benefits in the cost-effectiveness tests for low-income programs. The model also allows for the assessment of cost-effectiveness by measure for both energy and non-energy benefits and costs. Contact: Mary O'Drain, Project Manager, Pacific Gas and Electric Company. (415) 973-2317.

Duke Energy's Pilot Arrearage Reduction Program Process and Impact Evaluation

TecMarket Works conducted the evaluation of Duke Energy's 2002-2005 Arrearage Reduction Pilot Program in which participants are provided incentives and educational training in energy management and household budgeting. This study included a process evaluation of the design and operations of the program, a brief customer satisfaction survey, and an impact analysis of the program efforts on customers short and long-term arrearages and energy consumption patterns. Contact: Kathy Schroder, Duke Energy, 139 East Fourth Street, Cincinnati, OH 45201. (513) 217-2350.

Effects of the Wisconsin Weatherization and Fuel Assistance Program on Customers Arrearage and Payment Patterns

This study documented the effects of participation in Wisconsin's low-income fuel assistance and weatherization programs and the effects of participation on arrearage levels and payment patterns. The study assessed these effects across more than 7,900 customers and employed a matched control group to document effects. This study was the largest and most rigorous study of its type in the energy field. Contact: Dr. Jim Mapp, Manager, Wisconsin Energy Bureau, 101 E. Wilson 6th Floor, Madison, WI 53707. (608) 266-8020.

Evaluation of Cinergy Corp's Payment Plus Pilot Program – Results of a Process, Customer Satisfaction, and Arrearage Effects Evaluation

This study was a multi-phase, multi-year, in-depth examination of a pilot program being tested by Cinergy Corp to offer low-income customers with weatherization and education

training to help control utility costs and improve bill payment efforts. The study also focused on the processes used to implement the program across multiple service providers. The study documents customer interaction and satisfaction, marketing and outreach, effects of the program on participants, and operational structures and management decisions. Contact: Kathy Schroder, Cinergy Corp., 139 East Fourth Street, Cincinnati, OH 45201. (513) 217-2350.

Low-Income Project Consultant to USDOE and the 50 States

Mr. Hall was identified as a Technical Exchange Professional by the USDOE and was made available to all 50 states to provide low-income program evaluation and program planning assistance to support USDOE's low-income program. In this effort Mr. Hall traveled to eight states recommending program design, delivery and evaluation strategies. In addition, Mr. Hall has completed a wide range of evaluations of state low-income programs in the past 26 years, including process, market, impact and cost/benefit evaluations. Contact: Faith Lambert, Weatherization and Intergovernmental Program Office, USDOE. (202) 586-2319.

Low-Income Whole-House Collaborative

TecMarket Works initiated a process and impact evaluation of the Collaborative Low-Income Weatherization Program, offered by Consumers Power, Detroit Edison, and six Community Action Agencies in the state of Michigan in 1995. The program offered weatherization, efficient refrigerators, heating and water heating system repair and replacement, waterbed mattress inserts, and client education. The process evaluation involved over 25 interviews with all parties including the Department of Social Services, auditors and managers from the six CAP agencies, managers from three utilities, the education coordinators, and weatherization, refrigerator and mechanical contractors. The evaluation also involved a review of data in the central tracking system used by all six agencies and an assessment of the NEAT audit tool. The process evaluation focused on recommendations for a full-scale program covering the entire state of Michigan. In doing so, the evaluation addressed the concerns of the myriad of parties involved and examined the way in which the program was delivered in each CAP region and which methods seemed most effective and efficient. The impact analysis included a pre-program and post-program billing analysis linked to engineering estimates of measure and behavior change savings from an educational component. Contact: Ms. Teri Boertman, Director of Research, Consumers Energy, 212 West Michigan Ave., Jackson, MI 49201. (517) 788-2067.

Michigan's Evaluation Working Group Collaborative

As a result of his performance as an advisor to the Consumers Power Collaborative, Nick Hall was awarded a $1.2 million personal services purchase order to direct, manage, administer, and conduct selected evaluation efforts for the Evaluation Working Group collaborative. In this capacity, Mr. Hall was responsible for designing, planning, bidding, awarding, and managing a $3 million evaluation program budget for the collaborative, and evaluating over $30 million in program implementation efforts. Mr. Hall reported directly to the collaborative committee made up of the same members as the Consumers

Power Collaborative. Contact: Dr. Marty Kushler, ACEEE, 2617 Donna Drive, Williamston, MI 48895. (517) 655-7037.

Missouri Gas Energy Low-Income Weatherization Program Evaluation

TecMarket Works conducted a multi-year evaluation of MGE's Low-Income Weatherization Program. The effort included both process and impact analyses, on-site interviews with MGE, Kansas City Weatherization Program, and contractor staff, a survey of program participants, and an impact evaluation using PRISM™ software to examine both a participant and a comparison group. The study also includes a cost-benefit analysis and an analysis of arrearage patterns. The study has been positively cited in the Missouri PUC report. Contact: Charles Hernandez, Director, Pricing and Regulatory Affairs, Missouri Gas Energy, 3420 Broadway Kansas City, MO 64111. (816) 360-5605.

Non-Energy Benefits Associated with Participation in Wisconsin's Low-Income and Residential Programs

This study examined the non-energy benefits and the value of those benefits to participants, utilities, and society across all of the low-income and residential public benefits programs offered in Wisconsin. This study employed participant surveys, in-depth interviews, literature reviews, and utility data examinations to both identify the type of non-energy benefits produced and the value of those benefits to each of these three groups. The study documents the high-value of non-energy benefits across all program types. Contact: Dr. David Sumi, PA Government Services Inc., 2711 Allen Boulevard, Suite 200, Middleton, WI 53562. (608) 827-7820.

Non-Energy Benefits Evaluation of Vermont's Low-Income Programs

TecMarket Works conducted an assessment of the non-energy benefits of Vermont's Weatherization program to identify and quantify benefits associated with the delivery of weatherization services in Vermont. The program documented over $6,000 in non-energy benefits per Weatherization program participant in 1998-99. Contact: Jules Junker, Program Manager, Vermont Department of Economic Opportunity, 103 Waterbury, VT 05671. (802) 241-2450.

Non-Energy Benefits from Cinergy's Weatherization Program

TecMarket Works conducted an assessment of the non-energy benefits of Cinergy's Weatherization program to identify and quantify the non-energy benefits associated with the delivery of weatherization services in Vermont. The program documented approximately $5,000 in non-energy benefits per Weatherization program participant in 1999. Contact: Kathy Ruthen, Cinergy Corp., 139 East Fourth Street, Cincinnati, OH 45201. (513) 287-2350.

NSP's Low-Income Program Evaluation, Market Assessment and Service Baseline

TecMarket Works teamed with RLW Analytics to provide a comprehensive review of NSP's low-income programs, consisting of an examination of NSP's programs to

document program accomplishments, but more importantly, to establish a baseline of low-income services going to NSP's low-income customers. As a part of this effort, TecMarket works and RLW are quantifying the low-income population in Wisconsin and mapping their distribution across the state. This research will serve as the program delivery standard for judging the effectiveness the State's Public Benefits Programs to deliver quality low-income services to NSP's customers. Contact: Mark Middagh, Research Analyst, Northern States Power, P. O. Box 8, Eau Claire, WI 54707. (715) 836-1105.

NSP Residential Low-Income Benchmark, Market, Impact, and Process Evaluation

In partnership with RLW Analytics, TecMarket Works conducted a multi-faceted evaluation focused on a number of issues ranging from developing a better characterization of the low-income markets in Wisconsin to assessing the impacts of the current program offerings. A benchmark study was conducted to better understand where current state, federal, and utility dollars are going within the State of Wisconsin. In addition, this study included a "best practices" component to highlight national low-income program activities. The market assessment investigated the demographics, energy-related product use, attitudes and behaviors of the NSP's low-income population to develop a more comprehensive picture of the low-income customer in the Wisconsin service territory. The impact evaluation determined the energy and demand impacts associated with the various components of the current low-income program offerings and examined the relationship between a customer's arrearage pattern and program participation. The process evaluation component assessed how effective the current programs are in securing program participation and included a determination of customer satisfaction and the effectiveness of the current program offerings to meet the customer's expectations. Contact: Mark Middagh, Research Analyst, Northern States Power, P. O. Box 8, Eau Claire, WI 54707. (715) 836-1105.

Process Evaluation of Cinergy's Maintenance Service Test Program (MSTP)

TecMarket Works conducted a process evaluation of Cinergy's MSTP, which was a pilot program delivering energy maintenance services to elderly and disabled low-income customers. Interviews of program designers, managers, and implementers were conducted along with interviews of agency managers, auditors, and support staff. A telephone survey of 103 participants focused on implementation activities, how maintenance was performed in the past, and the need and value of the service. Surveys were uniquely tailored to each respondent by identifying the appliance mix in each home from the agency tracking records. Contact: George Sundrup, Cinergy Corp., 139 East Fourth Street, Cincinnati, OH 45201. (513) 287-3316.

Process Evaluation of Cinergy's PIPP Orientation Program

TecMarket Works conducted a process evaluation of a pilot low-income program called PIPP Orientation and Education Service (PIPP-OR). This program educated low-income participants in the operations and understanding of utility bill Percent of Income Payment Plans (PIPP) and helped them to learn ways to reduce utility bills. For this evaluation,

TecMarket Works conducted interviews with Cinergy program designers, managers, and implementers, as well as contractor managers and service delivery staff. Three separate survey instruments were developed for program participants, non-participants, and program refusers. Differences and similarities among these three groups were examined. Contact: Kathy Ruthen, Cinergy Corp., 139 East Fourth Street, Cincinnati, OH 45201. (513) 287-2350.

Process Evaluation of Cinergy's Problem Diagnostic Service (PDS) Program

TecMarket Works conducted a process evaluation of Cinergy's Problem Diagnostic Service (PDS) Program. The PDS Program is an expanded, highly technical, on-site residential energy audit service that uses a wide range of diagnostic tools to help identify opportunities for saving energy and reducing utility bills. TecMarket Works conducted interviews of program designers, managers, and implementers, as well as the implementation contractor. A telephone survey of participants was also conducted. The survey focused on customer opinions of the program and implementation activities associated with the program as well as implemented measures. Contact: Kathy Schroder, Cinergy Corp., 139 East Fourth Street, Cincinnati, OH 45201. (513) 217-2350.

Process and Impact Evaluation of Cinergy's PIPP Educational Pilot Program

Cinergy initiated a new and innovative program designed to educate their low-income customers on a special bill payment plan, the Percentage of Income Payment Plan (PIPP). Process and impact evaluations were completed by TecMarket Works utilizing a control group of similar PIPP customers. The control group was selected randomly from qualifying customers prior to program initiation. This proved critical in determining the savings of the participant group. A unique aspect of this study was the focus on behavioral changes rather than technology savings. This allowed the evaluation to isolate the impact of the program's four educational sessions from the impact of newly installed technologies. A PRISM™ analysis was used after the six-month program to document energy savings of this educational program, even after the homes had been weatherized. Contact: Kathy Ruthen, Cinergy Corp., 139 East Fourth Street, Cincinnati, OH 45201. (513) 287-2350.

State of Vermont Weatherization Program Impact Evaluation

TecMarket Works conducted two impact evaluations of the Vermont Weatherization Program that was implemented through Vermont CAP agencies. TecMarket Works extracted the billing data from the State of Vermont's Access based tracking system and then utilized PRISM™ to analyze savings based on billing data for participants and non-participants. A cost-benefit analysis of the program also was completed using cost figures supplied by the State of Vermont. In addition, TecMarket Works completed an analysis of data sources and methods and quantified non-energy benefits, such as reductions in environmental pollutants, improved comfort, health and safety, and economic viability. The non-energy benefits were found to be between one and a half and two times greater in magnitude than the energy benefits. The findings from this study have been presented to the State Legislature and the State Auditor. Contact: Jules

Junker, Program Manager, Vermont Department of Economic Opportunity, 103 Waterbury, VT 05671. (802) 241-2450.

TecMarket Works' Energy Savings Tracking and Accounting Software, *EnerTrac*

In 1999 TecMarket Works created PC-based software for Cinergy Corp to track the energy savings of their low-income program participants. The software, known under the name *EnerTrac,* automatically accesses utility consumption records for all participants, automatically accesses a weather service web site and downloads period-specific weather data for the program area, automatically weather normalizes each participant's pre- and post-program energy consumption, and graphically profiles each participant's energy savings in a separate report for each customer. This software calculates the actual real-time program savings for each customer. The program also compares the pre- and post-period consumption for all participants, allowing the program manager to see the real-time energy savings progress of their programs. Contact: Nick Hall, TecMarket Works, 165 West Netherwood Road, Oregon, WI 53575. (608) 835-8855.

TecMarket Works' Non-Energy Benefits Database

TecMarket Works conducted an extensive review of the research literature through 1999 and has identified almost 100 publications that have quantified non-energy benefits from low-income energy programs. This information is incorporated into an Access database identifying the author, report title, report date, evaluation or research methodology used, and the type and amount of the non-energy benefit(s). In addition, where appropriate, the economic value of the benefit is detailed for each listed benefit. The database provides a single source for accessing all known low-income research data through 1999, quantifying non-energy benefits from low-income programs. Contact: Nick Hall, TecMarket Works, 165 West Netherwood Road, Oregon, WI 53575. (608) 835-8855.

Wisconsin Demand-Side Demonstrations (WDSD)

Dr. John Reed and Mr. Nick Hall of TecMarket Works served as Evaluation Director and Contract Manager, respectively, for the $4.5 million of evaluation research completed as part of a four-year multi-organizational, multi-project collaborative. In all, fifteen multi-focused evaluations were completed including seven community-based program studies and several studies of other industrial and commercial programs. TecMarket Works' staff also led one of the most comprehensive evaluations of a market transformation effort (the motors market) that has been conducted to date. Led by TecMarket Works' staff, the evaluation team completed a series of fourteen reports across six subject areas. These studies were conducted using several innovative methodologies. One was the development of a neighborhood interaction scale, which made it possible to analyze the effects of integration into the community on program participation, and innovative metering designs that made it possible to study the effects of daylighting controls and occupancy sensors. The daylighting and occupancy studies are some of the best field studies that have been done in those disciplines. Several of these studies have been the basis for subsequent studies and research efforts. Contact: Dr. Jim Mapp, Manager,

Wisconsin Energy Bureau, 101 E. Wilson 6th Floor, Madison, WI 53707. (608) 266-8020.

Wisconsin Low-Income Shared Savings Weatherization Program

TecMarket Works designed and helped to oversee the implementation of Wisconsin's Shared Savings Weatherization Program that is being implemented in eleven Wisconsin counties. In this program, customers are being aggregated into service delivery groups and provided with whole house efficiency services, in-home multiple round educational programs, monthly reviews of energy savings, monthly billing of electric and gas service and monthly payments of customer consumption to the Class 1 utilities. Contact: Dr. Jim Mapp, Manager, Wisconsin Energy Bureau, 101 E. Wilson 6th Floor, Madison, WI 53707. (608) 266-8020.

Wisconsin's Public Benefits Program Evaluation Lead

TecMarket Works was a key member of the Project Management Team and was one of the lead evaluation contractors for Wisconsin's Public Benefits Programs. Under subcontract to PA Consulting, TecMarket Works was responsible for process, market and impact evaluations across a number of programs and crosscutting evaluation initiatives. TecMarket Works was responsible for leading the evaluation efforts for all public benefits program's non-energy benefits including the non-energy benefits associated with all low-income and income qualified programs. In addition, TecMarket Works led the evaluations for the multi-family program, the appliance turn-in program, the environmental research program, the commercial and industrial education and training program, and selected residential programs. Contact: Oscar Bloch, Evaluation Manager, State of Wisconsin, Department of Administration. (608) 264-8267.

Wisconsin Statewide Non-Energy Benefits Research and Valuation Approach Design Lead

TecMarket Works was the lead evaluation firm to identify and quantify the non-energy benefits associated with Wisconsin's Weatherization Program and Energy Assistance Program. In this effort TecMarket Works identified a wide range of non-energy benefits associated with program participation and the monetary values associated with these benefits. This research included non-energy benefits associated with participation in residential, commercial, industrial, and low-income programs. These values were used to feed cost-effectiveness calculations for all programs. Contact: Oscar Bloch, WI Department of Administration, Division of Energy. (608) 264-8267.

References

Name	Organization	Title	Phone Number	Email Address
Peter Lai	California Public Utilities Commission	Manager	(213) 576 7087	"Lai, Peter" <PPL@cpuc.ca.gov>
Brown, Marian	Southern California Edison	Supervisor, Evaluation Research	(626) 302-8281	Marian.Brown@sce.com
Brueggeman, David	AmerenUE	Research and Public Affairs Manager	(314) 554-4622	DBrueggeman@ameren.com
Jackson, Bob	City of Kansas City	Program Director	(816) 274-1408	Robert_T_Jackson@kcmo.org
Jordan, Gretchen	Sandia National Laboratory	Senior Scientist	(202) 314-3040	GBJorda@sandia.gov
Junker, Jules	State of Vermont	Program Coordinator	(802) 241-2450	JulesJ@ wpgate1.ahs.state.vt.us
Herz, Raphael	Massachusetts Technology Collaborative	Program Review Officer	(508) 870-0312	Herz@MassTech.org
Kind, Ryan	Missouri Public Service Commission	Regulatory Economist	(573) 751-5563	Ryan.Kind@ded.mo.gov
Kushler, Marty	American Council for an Energy Efficient Economy	Director (former Michigan Public Service Regulator)	(517) 655-7037	MGKushler@aol.com
Mapp, Jim	State of Wisconsin - Energy Bureau	Program Manager	(608) 266-8020	Jim.Mapp@doa.state.wi.us
Morgan, Rick	Morgan Marketing Partners	President	(608) 277-9518	Morgan@morganmp.com
Needham, Van	Cinergy Corp.	Director, Market Planning	(513) 287-2609	Van.Needham@cinergy.com
Roller, Mark	Energy Trust of Oregon	Management Evaluation Project Manager	(503) 445-7618	mark@energytrust.org
Schroder, Kathy	Duke Energy	Program Manager	(513) 287-3778	Kathy.Schroder@duke-energy.com
Sundin, Debra	Excel Energy/ Northern States Power	Research Manager	(612) 330-6022	Deb.Sundin@nspco.com

Résumés

Mr. Hall's resume is provided below.

Nicholas P. Hall

Education

Springfield College
AA, Biological Science

University of Illinois-Springfield
BA, Biological Science
MA, Environmental Science

Professional Development Courses
Analytical methods, evaluation research design, computer operations, analytical statistics, program planning and management and a wide range of course work in energy program evaluation research.

Work Experience

TecMarket Works (Oregon, WI) 1995-present

~ Design high quality evaluation plans consistent with the program's researchable issues, implement evaluations, and provide detailed, professional reports
~ Collaborate with other professionals in the industry to provide quality evaluation services that fully meet our clients' needs
~ Supervise employees to ensure that quality of evaluations is never compromised
~ Provide top quality evaluation reports that are frequently referenced in the field of energy program evaluation
~ Responsible for all phases of business operations for the firm, including business development, client relations, outreach and marketing

Hagler – Bailly Consulting 1992-1994

~ Designed, budgeted, directed, and managed a $4.3 million energy program market research and energy impact effort for programs in the residential, commercial and industrial sectors.
~ Served as the primary evaluation consultant for Consumers Power Company's evaluation collaborative in Michigan

Illinois Department of Energy and Natural Resources 1978-1992

~ Designed and directed research for the UDDOE Energy Programs
~ Prepared technical and financial reports of product energy efficiencies
~ Recommended to the President and Congress by the USDOE as the most innovative energy efficient procurement program in the United States
~ Managed the development and implementation of the Alcohol Fuels Program
~ Analyzed and implemented state and federal policies and programs pertaining to the development of alcohol fuels

Illinois Department of Transportation 1976-1978

~ Conducted and reported results of complex chemical and physical laboratory analysis of petroleum products

Professional Affiliations and Awards for Nick Hall

Organization	Affiliations and Awards
AESP	2007 Outstanding Achievement Award in the field of Energy Program Evaluation and Market Research from the Association of Energy Service Professionals.
IEPEC	Lifetime Achievement Award from the International Energy Program Evaluation Conference. One of only eight such awards made in the last 25 years.
Governor Arnold Schwarzenegger	Certificate of recognition from Governor Schwarzenegger for helping California become the most energy efficient state in the United States.
Governor's Task Force on Climate Change - Wisconsin	Letter of appreciation for serving on Wisconsin's Energy Efficiency Sub Committee for recommending strategies and budgets for accomplishing Wisconsin's green house gas reduction objectives.
AESP Evaluation Committee	Past Chairman of the Evaluation and Market Research Committee of the Association of Energy Service Professionals.
AESP Ethics and Standards Committee	Served on the subcommittee for the identification and establishment of evaluation ethics and research standards pertaining to conducting energy program evaluation research. Authored several reports on evaluation ethics and research standards and contributed to ADSMP white papers. Co-authored the report *Professional Standards and Ethics for Demand-Side Management Evaluation.*
Newsletter Editorial Board	Served as a member of the Editorial Board for the *Evaluation Exchange* Newsletter. This bimonthly publication presented state-of-the-art information on energy programs and issues pertaining to evaluation research.
International Energy Program Evaluation Conference	Founder of the International Energy Program Evaluation Conference, a certified not-for-profit US corporation established to provide educational support for the development of the energy program evaluation field through a biannual conference, publications and other activities. Currently serving as Corporate Agent and a Planning Committee member. Served as past Chairperson, Board Member, Fund-raiser, and Treasurer.
USDOE DSM Program	Instructor for the USDOE DSM program planning and evaluation training team. This group provided training to the 50 states and US territories in the field of energy program impact, process and market evaluation. Provided energy program design, marketing and evaluation training to over 300 government, utility, not-for-profit and private representatives from 1984 to the present in several national and regional classes and workshops. Served as visiting professor to the Energy and Environmental Studies program at Sangamon State University.
EPRI segmentation support	Sat on EPRI's Customer Segmentation and Market Development Advisory Committee to develop new energy market planning and management tools for energy program market segmentation.
USDOE	Selected to restructure the USDOE energy program evaluation approaches for all 50 states and territories. Served as a USDOE technical exchange fellow for energy program management and evaluation. Consulted with other states regarding their energy programs and evaluation activities.

National Association of State Purchasing Officials	First place teaching award from the National Association of State Purchasing Officials for providing training to 23 states in energy efficient procurement. NASPO members voted our workshops as "The best training received."
Springfield Energy Project	Chairperson of a university research project with more than 200 volunteers studying the Springfield energy economy and recommending cost-effective changes to city energy management practices.
Presidential and Congressional Referral	Mr. Hall was referred to the President of the United States and Congress by the USDOE as having designed the most innovative energy efficiency procurement program in the United States.