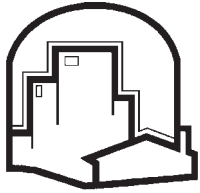


**2000 ACEEE SUMMER STUDY ON ENERGY EFFICIENCY IN BUILDINGS**



**Efficiency  
& Sustainability**

**PROCEEDINGS**

# 6 Market Transformation

*Panel Leaders:*

Ken Keating, Bonneville Power Administration

Margaret Suozzo, American Council for an Energy-Efficient Economy

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# Foreword

Responding to the theme of this Millennium Summer Study—“Efficiency and Sustainability”—professionals from around the world discussed the technological basis for and practical methods of implementing efficient and (hopefully) sustainable energy use in buildings. Issues, trends, challenges, and accomplishments were discussed. Each volume in this proceedings focuses on specific issues that encompass global visions for the future and discussion of future trends.

The 2000 Summer Study continued to emphasize new trends in buildings, equipment, markets, and social issues. Topics ranged broadly from the ENERGY STAR® program for new construction to building envelope and system engineering issues. The papers presented reviewed the latest information on utility restructuring and impacts on utility-sponsored programs, as well as global market issues, information technologies, and non-energy benefits. Sustainable development strategies; community-scale initiatives; factors influencing energy consumption and purchase of energy-efficient technologies; and how to design, implement, and evaluate energy programs were just a few of the cutting edge discussions that warm the mind and stir our quest for enlightenment.

The subjects of the ten volumes in this proceedings are:

1. Residential Buildings: Technologies, Design, and Performance Analysis
2. Residential Buildings: Program Design, Implementation, and Evaluation
3. Commercial Buildings: Technologies, Design, and Performance Analysis
4. Commercial Buildings: Program Design, Implementation, and Evaluation
5. Deregulation of the Utility Industry and Role of Energy Service Companies (ESCOs)
6. Market Transformation
7. Information and Electronic Technologies
8. Consumer Behavior and Non-Energy Effects
9. Energy and Environmental Policy
10. Building Industry Trends

We, the co-chairs, would like to thank the 23 panel leaders who sorted more than 658 abstracts, selecting and nurturing 309 papers through the rigid review and publishing process, and selecting more than 60 talks for the poster sessions. We would also like to thank the many peer reviewers who worked with the panel leaders. Finally, a well-deserved thank you to the staff of ACEEE, in particular Glee Murray and Rebecca Lunetta (who received key assistance from Renee Nida and Julia Harvell) for their support and guidance throughout this process and for making the week a very successful “energy camp.”

*James McMahon, Lawrence Berkeley National Laboratory*  
*Pat Love, Oak Ridge National Laboratory*

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# Acknowledgments

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## PANEL 6: INTRODUCTION

# Market Transformation

**M**arket transformation (MT) was introduced as a fundamental concept for demand-side management (DSM) program design in the 1992 ACEEE Summer Study in a “Futures” presentation written by Tom Eckman, Nancy Benner, and Fred Gordon—“It’s 2002: Do You Know Where Your Demand Side Management Policies and Programs Are?” It is now 2000, and MT has become the dominant DSM paradigm in the United States.

It was no accident. Certainly many colleagues worked to make it happen. Some people liked the concept because of its highly leveraged nature and low transaction costs. Others liked it because the concept of an “exit strategy” suggested that utility and government support need not be forever—and DSM seemed to be on its way to becoming permanent. For others, it was a way of paring down DSM budgets in a time of industry uncertainty, while keeping core efforts alive. Finally, the fact that MT was market-based appealed to many who long argued that “subsidy programs” ignored the marketplace.

Part of the appeal of MT was that it could mean different things to different people. With time the concept has been formed more tightly through experience and discussions. The ACEEE MT Workshops (1997, 1998, 1999, and 2000), the National Energy Program Evaluation Conference (1995, 1997, and 1999) and the ACEEE Summer Studies have contributed to the dialog and the resulting clarity. The papers in this volume reflect some of that evolving clarity as well as some of the intermediate steps needed to get there. Already we are seeing theoretical questioning of the dominant paradigm with calls for more fundamental MT, and references to “traditional” MT, even though the field is just in mid-evolution.

The development of MT as a strategic approach to increased energy efficiency has been supported nationally by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy (DOE), especially through the ENERGY STAR® programs, but also through seed money to other MT organizations. The Consortium for Energy Efficiency (CEE), the Midwest Energy Efficiency Alliance (MEAA), and the Northeast Energy Efficiency Partnership (NEEP) all had some help from these agencies. Together with the Northwest Energy Efficiency Alliance (NEEA), the New York State Energy Research and Development Authority (NYSERDA), the Wisconsin Energy Bureau (WEB), the Energy Center of Wisconsin (ECW), and the eventual policy consensus in California, these organizations have contributed to a dramatic blossoming of MT.

In 1992, only one Summer Study paper mentioned MT. For the 1998 Summer Study, the MT panel received 130 abstracts for review. This year the panel leaders had to select 36 papers for presentation out of 180 abstracts submitted. In addition, we accepted six others for presentation in other panels, and three papers for “publication and display only” due to the shortage of presentation slots. In fact, if any of the sessions on MT disappoint the attendees, the responsibility lies with the judgment of the panel leaders and reviewers. We certainly had sufficient material to carry two whole panels on

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the topic. The papers are so numerous because all aspects of MT are covered, including theory, planning, implementing, evaluating, and rewarding MT. The papers cover multiple sectors and technologies. In addition, they come from programs in all parts of the world. MT is now well-established.

Nevertheless, the DSM field is becoming ever more aware of not only what we have gained, but also what we have lost. The social and economic goals of energy efficiency were well-served by the resource acquisition programs of the last 15 years. They provided (and continue to provide) large, verified, and persistent energy savings in many jurisdictions. The pollution prevented by reduced generation and the capital expenditures reduced by deferred capacity due to these programs can only be tallied in meta-studies. Yet, many critics viewed the acquisition strategy as very expensive in times of utility restructuring, and it was all but ignored by legislatures and regulators in their enthusiasm for the benefits of MT. Recently, regulators have been drawing back to a more balanced approach to energy efficiency—one that recognizes appropriate roles for multiple strategies to get to the same goals.

In the Pacific Northwest, the Comprehensive Regional Review, sponsored by the governors of the four states, recommended in 1996 that about 15 percent of the public benefits money should be spent on MT, while more than 60 percent should go to local utility acquisition-style programs (with low income and renewables to get the difference). This guidance continues to be reflected in the working rules of the committees working on managing the public benefits money from re-structuring in Montana and Oregon. The Bonneville Power Administration (BPA) has spent the last five years ramping down the remnants of its last acquisition programs and funding only MT and low-income programs. Now it is gearing up for a major acquisition program to begin in the fall of 2001 in order to meet a fraction of the projected shortfall in electric supply.

In Massachusetts, the DTE 98-100 ruling on cost-effectiveness of DSM programs showed a clear preference for a larger reliance on acquisition programs than was reflected in earlier legislation and policies. In Connecticut, the DSM oversight committee has put forth a balanced portfolio of low-income, renewable energy, acquisition, and MT programs. In Texas, the legislation requires standard offer programs, MT programs, and renewable energy goals.

Although all DSM programs in California were initially envisioned as MT programs, the actual operation of the programs has been a mix of program strategies (while always keeping the eventual goal of MT), and the CPUC policy guidelines (D 99-021) reflected this reality. Recent CPUC decisions on the 2000 and 2001 public goods charge (PGC)-funded programs moved even further away from pure MT theory, requiring many program and reporting changes that emphasized equity programs over marketing programs. It also showed strong support for several programs with the least hope of transforming markets. Also in California, the Office of Ratepayer Advocates has espoused a return to acquisition programs to help deal with system reliability issues, to which pure MT can contribute relatively little in a short timeframe.

The byword developing in the DSM industry in the last six months is “mixed portfolio.” As more of the country recognizes the value of research and development, infrastructure, acquisition, and MT as tools or strategies to accomplish energy efficiency, we may find that a balanced approach will be the norm. Our question is: “Are MT proponents ready for the crossroads ahead?”

MT was like adding new lanes to a well-worn highway that was already delivering the goods. The highway is about to diverge into separate beltways (not only D.C. has beltways) all leading to

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the same general place, just taking different routes to get there. To say that DSM has or will soon return to balanced sets of strategies does not imply that MT has peaked. In fact, many of the target markets amenable to a MT strategy are still being characterized. The momentum is very strong behind ongoing MT initiatives. Our biggest successes are still in front of us.

Yet, as Bob Dylan says, “what is present will soon be past, because the times they are a changin’.” We should be accustomed to neck-snapping changes in the restructuring energy industry. Our hope by raising the issue as a foreword to this impressive set of MT papers is to sensitize readers to potential changes in strategies. We will all be better prepared to integrate multiple strategies into our planning and thinking if we discuss them with foresight, rather than hindsight.

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