Pathways to Energy Efficiency at Greater Scale in Multifamily Housing

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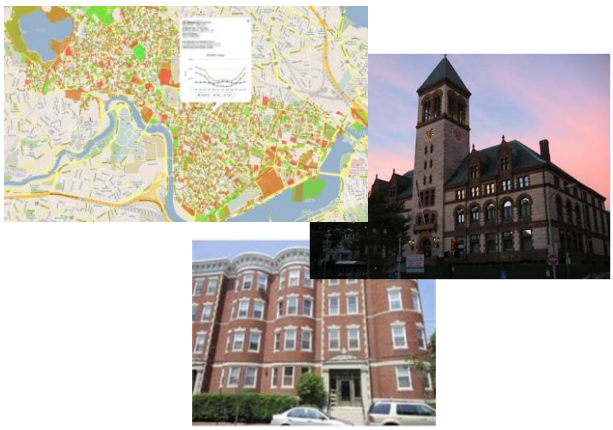


Abstract

Improving the energy efficiency of buildings has the potential to create substantial societal, economic, and climate benefits. As part of a multiyear initiative, MIT students and faculty have collectively explored, through research and theses, several innovative pathways to scale the adoption of energy efficiency: some of these are now represented in successful efficiency business and program models.[1]

Multifamily rental housing is considered among the hardest to reach segments for achieving energy efficiency, yet a market with a very large and cost-effective potential. An efficiency-upgraded multifamily housing stock would improve energy sustainability; add to the economic well-being of landlords, tenants, and cities; and reduce atmospheric carbon and climate change.

During the 2012-2013 academic year, a student/faculty team explored strategies to encourage multifamily building owners to more frequently pursue efficiency upgrades, especially in the smaller 2-20 unit multifamily rental buildings typical of many older communities.

With evidence gleaned from related programs, expert interviews, and fact-based analyses of literature and evaluations, the team developed new approaches for efficiency program designs administered by states and utilities that are likely to prove more effective than current practices.

This paper introduces some of the strategies put forward, which included innovations in marketing approach, program models, energy data services, and advanced building technologies. These proposed innovations, described briefly in this paper and in greater detail in referenced project research documents, are worthy of further consideration by policymakers, program administrators, and service providers interested in scaling the adoption of efficiency measures in multifamily buildings.

[1] This research was carried out as part of the Energy Efficiency Strategy Project (EESP), based at the MIT Department of Urban Studies and Planning and led by Harvey Michaels (hgm@mit.edu). We are grateful for the support for this work provided by NSTAR Electric and Gas, the U.S. Department of Energy and its National Renewable Energy Lab, and Edison Foundation Institute for Electric Efficiency.

Background:

How do we Scale a Good Idea? When homes and buildings are fully upgraded to save energy, the electricity and gas needed to provide comfort, light and other end uses is often cut by half.[2] With innovations in policy, business models, media tools, and technologies, the total energy use *in all buildings* could be dramatically reduced: as a result in January 2013, the Presidential State of the Union Address offered a US goal to achieve a 20% reduction in all electric and gas use by 2030 through a 50% reduction in building energy waste. This goal makes economic sense, as the cost to upgrade homes and buildings to save energy is much less than the cost of energy no longer needed as a result.

Further, research evidence continues to grow that greenhouse gas emissions *must be reduced* to sustain a livable Earth. An aggressive plan, like those put forward in Copenhagen, requires the developed world to reduce carbon emissions by 5% per year. Efficiency opportunities which pay for themselves with energy savings can easily address over half of what we need to do between now and 2050, and it is impossible to accomplish the carbon reduction goal without energy efficiency. However, achieving deep efficiency gains across all homes, buildings, and communities *has proven to be a challenging objective.*

The MIT Energy Efficiency Strategy Project **(EESP)** : Established in 2009, this project's mission is to critically examine energy efficiency's potential to create societal, economic, and carbon benefits, and to propose program and market strategies to achieve these benefits. Participating MIT students and faculty have over five years collectively explored several innovative approaches to increasing energy efficiency, with some now becoming established in the marketplace. Overall project goals include:

- Discovery of opportunities to improve the impact of energy efficiency programs.
- Analysis of gaps and barriers limiting their performance.
- Identification of key stakeholder needs and current gaps in meeting these needs
- Proposal and test of methods to enhance innovation in delivery of efficiency services.

Targeting Multifamily Housing: Multifamily rental housing is considered among the hardest to reach segments for achieving energy efficiency, yet a market with a very large and cost-effective potential.

During the 2012-2013 academic year, EESP's participating faculty, staff and student research assistants considered strategies to overcome market barriers to efficiency upgrades in multifamily rental housing. Examples of such barriers include: split-incentives between landlords and tenants, the complexity and trust concerns of landlords in engaging in energy upgrades, the uncertainties of energy savings and lack of access to capital, and a lack of transparency around energy costs for prospective renters and buyers. The project's goal was to put forward a program to increase multifamily building efficiency improvements, especially in the smaller 2-20 unit buildings typical of many older communities.

Cambridge Multifamily Pilot Design Practicum: The research was supported by the students of the MIT Dept of Urban Studies and Planning's *Community Efficiency Practicum* in the Spring 2013, led by Professors Harvey Michaels and Lawrence Susskind, and assisted by staff member Brendan McEwen.

[2] Case studies including those provided by Mark Dyan, Conservation Services Group to the Practicum in 2009

The project benefited greatly from the cooperation of Cambridge, Massachusetts city government, which offered advice and support throughout the year, as well as offering interest in serving as a potential pilot location. The project also benefited greatly from cooperation, advice, and financial support from local energy utility NStar Electric and Gas and its multifamily efficiency program leadership.[3]

The Practicum members organized a meeting to discuss their proposals – the MIT *Energy Innovations Symposium* - at MIT on April 26, 2013. At the meeting, the students presented to an audience of efficiency leaders, with invited experts serving as respondents. This was followed by a roundtable session where each of the design topics were discussed. The conference feedback was then applied to several research and thesis papers, as well as to a proposed Cambridge pilot design. Several attending organizations had provided consulting support throughout the year including:

- US Department of Energy, MA Department of Energy Resources and Clean Energy Center, MIT Fraunhofer Center
- Efficiency service providers: Conservation Services Group, Next Step Living, New Ecology
- Northeast Energy Efficiency Partnerships (NEEP), Cambridge Home Energy Efficiency Team (HEET) and the American Council for an Energy Efficient Economy (ACEEE).

Summary of Proposed Innovations

With evidence gleaned from related programs, expert interviews, and fact-based analyses of literature and evaluations, the team developed new approaches for efficiency program designs administered by states and utilities that are likely to prove more effective than current practices. Particular focus was placed on the potential marketing connections of building efficiency and climate policy, advanced technologies including *intelligent buildings* and behavior-based efficiency, energy bill disclosure and city/community efficiency program initiatives and feedback systems, as well as new program models.

This paper introduces some of the strategies put forward and references the Practicum report and more detailed research papers and theses conducted over the past year. Further, the Practicum findings included recommendations for a pilot program that the NStar and the City of Cambridge could implement in the coming year.

Major design topics included 1) marketing approach, 2) program design, 3) energy data transparency and disclosure, and 4) comfort improvement technologies.

[3] NStar Electric and Gas is a subsidiary of Northeast Utilities.

1. Marketing approach – We studied the recent impressive success of city-centric solar programs including the nationwide *Solarize* program model, which in each instance brings together a city, designated contractors, and solar funding agencies[4] to conduct a focused neighborhood-centric campaign of limited duration. We therefore chose to examine how partnerships of cities with efficiency program administrators could form a similar multifamily efficiency program model.

Single Source - The proposed Cambridge pilot focuses on streamlining the retrofit and financing - a *one-stop shop* to enable customers to access multifamily efficiency services in a streamlined fashion. Similar to Solarize, the team put forward a proposed program design composed of a single audit contractor (with customer choice of installers), a single bank finance partner, and a limited program period. Administered jointly by the utility and city sponsors, the utility would manage the contractor while each city would choose the bank from a participating list. Together, these design features create economies of scale that decrease both marketing and building retrofit costs, while ensuring that the cost reductions pass to the landlords and tenants.

Community-based Social Marketing (CBSM) - The team developed a multifaceted community-based social marketing campaign strategy, to be managed by the city, to leverage the power of community relationships. Such a campaign is posited to better communicate the value of energy efficiency to both landlords and tenants, in a manner that increases landlord and tenant trust in utility programs and energy contractors. A toolkit was proposed for development to support the city-run campaign to engage organizations such as schools, religious organizations, landlord, tenant, neighborhood and sustainability groups. [5] Further, the plan provides social affirmation and possible financial rewards to the various community groups supporting the campaign.

2. Program design – The existing program framework for multifamily utility-run efficiency programs in Massachusetts is currently comprised of: free audits, supervised efficiency implementation services with subsidies of up to $2000 per unit, and partial financing offered by partner banks at 0% interest. [6]

Despite this generous program offer, we found that multifamily buildings have relatively low program participation as compared with single family homes, which the team concluded was the result of the multifamily-specific market barriers mentioned above, especially the split incentives of cases where tenants pay for their energy, while landlords need to pay for any building improvements.

Further, it was discovered that the current multifamily audit, incentive, and financing program models are mostly adaptations of the programs designed for single family homes, and do not fully address the

[4] Massachusetts' state-run Clean Energy Center organized this framework as the *Commonwealth Solar Program.*
[5] The Cambridge Home Energy Efficiency Team (HEET) is an example of an effective local sustainability group – providing social marketing to encourage landlord improvements in apartment building efficiency.
[6] The Mass-Save Multifamily and HEAT loan programs are offered by utility ratepayer-funded efficiency programs in Massachusetts.

specific needs of the multifamily market. As a result, the project put forward a program design unique to multifamily that could potentially be more effective at achieving market penetration including:

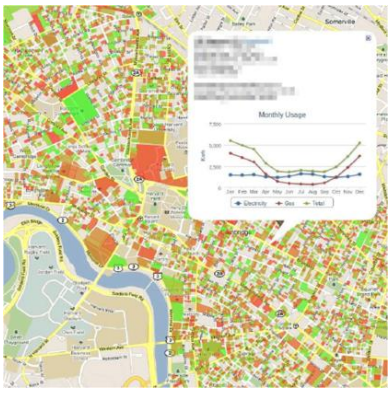
Streamlined Audits - A set of innovative specialized software tools were proposed with preliminary specification to support a lower cost, more targeted audit process that included typology-driven "no-touch" energy auditing as a first step. Further, a limited measure set was proposed to simplify and speed to process of quoting projects (see item 4 below).

No Money Down/Green Lease – It was determined that 100% financing of efficiency improvements is needed for the multifamily market, with all interest paid (and loan risk absorbed) by the utility program. These program costs can potentially be offset by reducing the current $2000 per unit subsidies paid by the utility efficiency programs. Key elements include:

- Streamlining the loan process by building targeted partnerships between utilities and a pre-qualified bank to provide customers instant approval with the energy assessment.
- Two carefully tailored payment schedules, parsed between improvements that reduce landlord energy bills and those that reduce tenant bills – with payments on each less than the associated energy savings. This is accomplished by setting the term on each schedule such that monthly payments on average are less than the reduction in energy costs from the improvements.
- While both payment schedules are to be paid by the landlord, payments on improvements that benefit the tenant are deferred until the next lease, up to 18 months at 0% interest. This will enable both parties to make adjustments to the rent if necessary as lease terms expire and are renewed.
- As well, the landlord receives a city and utility-branded document to support an increase in rent in the next lease - showing the landlord's monthly costs for the improvements (to be included in rent) and their associated higher reduction in tenant utility bills.

This elegant approach adds a workable innovative element to the *Green Lease* concept developed in earlier year project work. This approach not only directly addresses landlord-tenant financial barriers, but has the potential of lower subsidy costs per unit retrofitted, when compared to currently.

<u>3. Energy Data Transparency and Disclosure</u>– Earlier project research showed that greater energy data transparency is needed to drive an energy efficiency campaign. Landlords, tenants, and prospective tenants need to easily view the current energy performance of their buildings, as well as understand the potential savings of appropriate building efficiency improvements.



After examining emerging methods of energy data disclosure and mapping, the team put forward a proposal for community scale presentation of such data on maps and disclosure systems. These *energy maps* support the proposed community-based marketing and program design.

These systems provide:

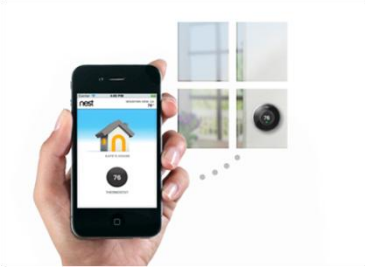
- *Disclosure:* illuminating opportunities for efficiency to support effective targeting of marketing efforts, as well as engage community residents and landlords with comparative social norms.
- *Energy savings measurement*: reporting to landlords, tenants, and the community on campaign successes including identification of efficient buildings and energy saved.

Notably, the team determined that translation of energy savings to its *associated carbon footprint reductions* could also be very helpful as a means to engage both communities and tenants.

Prototypes were prepared in several student exercises, as were design guidelines that could be readily implemented by a number of Boston-area energy software providers.

4. Comfort Improvement Technologies– As mentioned, multifamily programs funded by utilities as described above are often variants of single family program designs, and often exclude technologies that address apartment-specific energy issues. This recognized flaw results from the regulatory process requirement to conduct measure-specific studies of cost-effectiveness for each technology before its inclusion. For multifamily measures, these have yet to be done. As an example, these programs don't offer any technologies for unit-specific temperature control, or other means of addressing multifamily comfort concerns. Around Cambridge, we observed many open windows in winter, which tenants utilize to address unit overheating, while other units sometimes in the same building might be cold. Clearly, there is a missed opportunity for energy savings, as well as a failure to address tenant comfort concerns with the audit and retrofit process.

As a result the team proposed that multifamily programs need to focus on offering comfort improvement technologies and services, both to increase the depth of savings achieved, as well *as to leverage the market for comfort as a means of selling efficiency.*



Methods to control steam radiators, internet-enabled thermostats, and other proposed comfort-centric measures were therefore proposed for a pilot test. A likely outcome of such a test is that these measures would be found to not only create energy savings but also improve the market's interest. In addition, the controls could communicate savings information, serving as technology for program performance measurement.

Collective Result

Together these proposed innovations, described in greater detail in referenced project research documents, provide pathways to potentially dramatic increases in the scale of efficiency upgrades in multifamily buildings, while simultaneously reducing program costs for utility efficiency programs, when compared to the level of energy savings achieved.

Community-based marketing supported by energy maps, innovations in technology and delivery, 100% embedded financing with deferred payments until a new lease, savings documentation and participant

social recognition, and a focus on comfort all add up to a powerful value proposition that should awaken the market.

Facility improvement costs for landlords should be reduced by the economies of scale that this pathway puts forward, with its more localized and time-limited marketing approach and streamlined fulfillment. Further, with the attractive financing up front, as well as better leverage of future energy savings, direct project subsidies should become less necessary, allowing program costs in time to be reduced per unit of energy saved.

Most importantly, an efficiency-upgraded multifamily housing stock will improve the economic well-being of landlords, tenants, and cities, while supporting an important strategy for reducing carbon and mitigating climate change.

Project and Practicum Participants

Faculty and staff:

- Harvey Michaels – Project Director and Practicum Instructor
- Professor Lawrence Susskind – Practicum Instructor
- Professors Joseph Ferreira and Christoph Reinhart - contributing
- Brendan McEwen – Research Associate and Teaching Fellow

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- Dara Yaskil

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- Mayor Henrietta Davis, Julia Greene, Suzanne Rasmussen, Meghan Shaw – City of Cambridge
- William Stack, Charles Olsson, Tilak Subrahmanian, Frank Gundal – NStar Electric and Gas
- Ren Anderson – National Renewable Energy Laboratory
- David Lee and Roland Risser – US Department of Energy
- Lisa Wood – Edison Foundation Institute for Electric Efficiency

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- Elizabeth Youngblood – Massachusetts Clean Energy Center
- William Footer and Mark Dyan – Conservation Services Group
- Travis Estes – Next Step Living
- Eduardo Berlin – Mapdwell
- Meghan Shaw – Cambridge Energy Alliance
- Audrey Schulman – Cambridge Home Energy Efficiency Team

MIT Energy Innovations Symposium - April 26, 2013 - Multifamily Roundtable Contributors:

- Helen Aki, MAPC
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- Jan Carbone, Homeowners Rehab
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- Travis Estes, Next Step Living
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Project Reports:

All documents are available at: http://web.mit.edu/energy-efficiency/pubs.html

Summer 2013 MIT Energy Efficiency Strategy Project Papers:

1. Cook, Ryan et. al., **Empowering Communities to Overcome Barriers to Multifamily Energy Efficiency**, July 2013

MIT's Energy Efficiency Strategy Project conducted research over the last year on efficiency market barriers in tenant-occupied rental housing. This paper reports on a proposal to overcome some of the social and structural barriers that make this segment a difficult one to penetrate. Our research particularly considered how city partnerships with efficiency programs provided by energy utilities could be designed to help form a solution, with Cambridge, Massachusetts partnering with NStar Electric and Gas as a potential pilot site.

Traditional residential efficiency programs rely primarily on financial incentives, and have market-based participant recruitment and retention strategies. In this paper we propose a new model where a community-based program implementer offers individually-tailored retrofit terms, uses social pressure as well as financial incentives to motivate participation, and takes an active role in moving residents and property owners through the program participation pipeline.

2. Howland, Alexis et. al**., The Residential Energy Map: Catalyzing Energy Efficiency Through Remote Energy Assessments and Improved Data Access**, July 2013

Renters and homebuyers are increasingly using online interactive maps to inform their housing choices. By publicly disclosing energy consumption and an energy performance rating in an online energy map, energy efficiency will be positively impacted through improved decision making and establishing new social norms. Privacy is the most significant barrier to displaying building-level energy consumption and performance information.

This paper explores how an energy map could catalyze energy efficiency upgrades, specifically in the residential market. This research examines existing energy maps, existing energy assessment platforms and what data they use, and evaluates the state of energy data access in the United States. It seeks to answer what data is necessary to map building level energy performance, what policies are necessary to access that data, and how should energy information be displayed in a map for the most meaningful impact. The paper concludes with recommendations for states and the federal government to improve access to energy consumption data. Recommendations are also made for an effective energy map.

3. Nochur, Aditya et. al., **Breaking Down Barriers: Exploring Program Models to Unlock Multifamily Energy Efficiency,** July 2013

In coordination with the City of Cambridge, Massachusetts and the local utility NStar, a group of graduate students in the Department of Urban Studies and Planning at MIT have designed a multifamily efficiency pilot program to incorporate lessons learned from the Solarize Massachusetts and MPower Oregon programs which use a community-based social marketing and a tiered pricing scheme to increase the uptake and drive down the costs of home energy assessments.

The proposed Cambridge pilot focuses on streamlining the retrofit and financing - a *one-stop shop* to enable customers to access multifamily efficiency services in a streamlined fashion at no upfront cost. Key features were:

- Selecting a single Program Implementer to guide customers through all stages of the process, including outreach and marketing, scheduling and conducting energy assessments, assembling a financing package, installing retrofit measures, and tracking post-retrofit performance.
- Simplifying and streamlining the loan process by building targeted partnerships between utilities and pre-qualified banks and contractors to offer loan products and provide customers instant approval upon completion of an energy assessment.
- A retrofit certification program to provide the basis for rent negotiations between landlords and tenants. This will enable both parties to make adjustments to the rent if necessary as lease terms expire and are renewed.

May 2013 Practicum Cambridge Pilot Proposal:

CAMBRIDGE COMMUNITY ENERGY INNOVATIONS: A NEW APPROACH TO MULTIFAMILY EFFICIENCY,
Report of the MIT Department of Urban Studies and Planning Spring 2013 Practicum Class 11.3948

The semester's objective was to propose a set of multifamily energy efficiency experiments that can be implemented by NSTAR and the City of Cambridge to unlock all available energy savings in the Cambridge multi-family residential sector. In developing this proposal, we examined the state of energy efficiency programs available in Massachusetts; assessed the unique barriers to multifamily efficiency; assessed the concerns of stakeholders likely to be involved in implementing the pilot; and sought to imagine how local community organizations and "big data" can be leveraged to design the next decade of energy efficiency programs.

The City of Cambridge also has a strong interest in the success of a multifamily energy efficiency program: in addition to the economic benefits that improvements in energy efficiency bring to Cambridge's multifamily residents and building owners, a successful multifamily efficiency program could help to realize the city's greenhouse gas emission reduction goal – to 20% below 1990 emission levels.

The Practicum's proposed plan for a multifamily energy efficiency pilot program for the City of Cambridge, Massachusetts investigates two propositions:

- A streamlined, community-level energy efficiency program can increase resident participation beyond the level that impersonal marketing and a complex assessment and financing system can yield.
- More data-driven methods of energy efficiency program implementation can produce measurable increases in the level of resident and owner participation.

The plan is composed of six design ideas:

1. *Process improvement*, built around a program implementer who guides landlords through the entire retrofit process;
2. *Community empowerment*, which leverages local institutions and community organizations to conduct outreach and education on the value of energy efficiency in their communities;
3. *Financing*, which includes streamlining the Mass Save HEAT loan program;
4. *Technology*, which tests new control technologies in selected buildings to improve efficiency while enhancing occupant comfort;
5. *A typology-driven approach* to home energy assessments involving an online tool; and
6. *Energy data transparency*, which tests the benefits of disclosing building energy ratings.

These design ideas are proposed within two distinct program components:

- *The Base Citywide Component* implements *process improvements*, *community-based outreach and organizing efforts*, *new approaches to project finance*, and *innovations in building technology*.
- *The Data Central Component* tests concepts related to *building typology assessments* and *data transparency.*

This table summarizes the various proposal components and the market barriers that they confront:.

<table>
<tr><th rowspan="2">Theoretical Perfect Market</th><th rowspan="2">Actual MF EE Market Conditions</th><th colspan="2">Program Elements</th></tr>
<tr><th>(Short-term pilot)</th><th>(Longer-term policy)</th></tr>
<tr><td>No transaction costs</td><td>Process is complicated, time-consuming & disruptive</td><td colspan="2">Process Improvements
• Single “turnkey” program provider
“Cohort” approach to program delivery</td></tr>
<tr><td rowspan="2">Perfect information &
Rational behavior</td><td>• Renters/buyers don’t know energy costs
• Limited knowledge of EE potential</td><td colspan="2">Data Transparency
• Energy map
• Pilot full data disclosure in 1 neighborhood
• Typology-based Remote/low-touch energy assessment tool
• Option – Mandate energy & building rating disclosure
• Option – Voluntary disclosure framework.</td></tr>
<tr><td>• Limited knowledge programs exist
• Behavioral inertia – people need to be inspired & trust the program</td><td colspan="2">Community Based Social Marketing
• Recruit community leaders
• Incentive system for community organization recruitment
• Develop success stories
• Tenant Tool-Kit</td></tr>
<tr><td>Access to capital & no agency problems</td><td>• Approval for HEAT Loan time-consuming
• Split-incentive – owners & tenants
• Difficulty lending to condo associations</td><td colspan="2">Adequate Financing
• Expedite HEAT Loan approval
• Promote green lease terms & and “energy saving calculator” tool
• Implement on-bill tariff based repayment of energy financing in multi-metered MF
• Document loan performance</td></tr>
<tr><td>Appropriate technologies readily available</td><td>Innovative technologies not offered as part of standard upgrade package</td><td colspan="2">Appropriate Technologies
Pilot & test innovative control systems
Integrate control systems into basic eligible technologies.</td></tr>
<tr><td>Seamless coordination of market</td><td>• Complicated institutions
• Need for collaboration, mutually supportive policy</td><td colspan="2">Collaborative Management
Establish a multi-stakeholder steering committee (owners, tenants, contractors) with influence on MF program delivery.</td></tr>
</table>

Prior Works:

1. McEwen, Brendan et. al., **Community-based Energy Efficiency Innovation: Multifamily Program Design Foundations and Terms of Reference,** MIT Energy Efficiency Strategy Project, February 2013

This document summarizes the fall 2012 foundational study addressing persistent market barriers to energy efficiency improvements in rented housing and neighborhood commercial facilities. This study provides foundation and terms of reference regarding current programs, community and housing data, and reflects on three focal points for this research:

- Program Design: utility incentives and financing
- Recruitment: community---based marketing
- Transparency: disclosure, benchmarking and GIS mapping

2. Nadkarni, Nikhil, et. al. **, A New Model for Disclosing the Energy Performance of Residential Buildings;** MIT Energy Efficiency Strategy Project, July 2012

Housing markets in the U.S. lack consistent access to information on the energy performance of homes available for sale or lease, and, as a result, buyers and sellers are unable to value energy efficiency in residential markets. In the past two years, a small number of U.S. states and cities have implemented programs requiring rating building energy use and the disclosure of these ratings. The European Union has also implemented labeling requirements for its member states. Such rating and disclosure programs can introduce transparency into the market and help break down several common barriers to pursuing efficiency. Yet existing approaches to disclosure are fraught with numerous issues, including a lack of connection to the retrofit process, poor visibility of ratings, and a lack of balance between transparency for stakeholders and homeowner privacy. These problems limit the benefits of labeling for the delivery of energy efficiency. Current research in the field advocates for increased transparency and improved rating processes, but few papers examine the problems with the disclosure process itself.

Focusing on the disclosure of building energy ratings, this paper examines the needs that residential labeling should address and proposes a new model of disclosing residential energy performance for states to adopt. The model, centered around web-enabled data analysis, aggregation, and access, has the potential to provide clear, consistent, and visible ratings to key market actors and, in turn, provide more complete information to residential markets on building efficiency.

3. Michaels, Harvey et. al., **Community Engagement: A Potential Transformative Path to Greater Energy Efficiency**, MIT Energy Efficiency Strategy Project, July 2011

Widespread enthusiasm for energy efficiency exists in many cities and towns, but is often overwhelmed by process difficulties. Finding ways to make municipal efficiency efforts more manageable; with appropriate tools, funding, and support; may prove to be important ways for utilities achieve more cost-effective energy efficiency.

Offering a program covering several elements, and perhaps with multi-year terms, may elevate and sustain the nascent community participation in efficiency. This in turn may help utilities to leverage their funds and marketing efforts. In this paper, we highlight some of the potential elements of a comprehensive municipal program which were examined:

- Support to energy codes, benchmarking, and in some cases, stretch and retrofit code options,
- Programs to ramp up public building efficiency,
- Programs that engage communities in marketing of utility residential and commercial programs.

Bringing innovative approaches together as a package to cities and towns could potentially increase local interest and long-term commitment, and strengthen the support for each element of a program offer, creating positive impacts such as:

- stronger commitments by towns to enforcing energy codes,
- greater likelihood of choosing as well as enforcing optional stretch codes,
- providing utilities with a source for substantial facility efficiency at reasonable cost,
- creating a utility efficiency backlog of several years of town facility projects,
- leveraging community networks to achieve higher participation in utility residential and commercial programs, and
- generally, providing utilities with more visible support in the communities they serve.