

Best Practices in Community Energy Efficiency Programs Local Energy Alliance Organizational Structure

Prepared by Clean Energy Solution, Inc.

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Defining the Mission

A key early decision for the Governance Body of each LEA is how to define its “mission,” and to what degree the organization should be Mission-driven. One of the lessons learned in Cambridge and other municipalities is that the staffing, the management, the markets penetrated, and the capitalization of the organization all depend on that decision. If the decision is postponed or ambiguous, any of those four limbs may fail.

At least five popular Mission Statements have been advanced by community-based energy-efficiency and renewable-energy (ee/re) organizations. At first glance they appear mutually consistent and inter-supportive:

1. Reducing “greenhouse-gas” (GHG) emissions
2. Engaging and motivating neighborhood residents and grass-roots organizations around environmental stewardship and related issues
3. Creating jobs
4. Maximizing investment in energy-efficiency and renewable-energy improvements that save consumers money, improve their facilities, and contribute to energy reliability and security
5. Developing a sustainable organization that can continue its operations, employment, and community benefits beyond initial grant support

As it turns out, these are not necessarily compatible. Some examples:

- A staff who view their Mission as reducing GHG emissions through grass-roots organizing (missions 1 and 2) may have little interest or experience in selling their time on a fee-for-service basis to large energy consumers. This will likely result in missed opportunities to develop sustainable revenue sources, create subcontractor jobs, and deploy private capital in large facility improvements (Missions 3-5). Another issue is that the big energy users have the largest potential of energy GHG savings, so focusing on the small building sector is not likely to achieve the greatest reductions.

- On the other hand, a staff who view their mission as bringing capital to bear on ee/re investments (Mission 4) that maximize savings (Mission 1) by engaging local contractors (mission 3) may have little aptitude or patience with community organizing (Mission 2). That can undermine long-term political support and marketing success.
- An investment-oriented management may decide to incur debt for working capital, in expectation of a return on investments in consumer facilities. This can quickly become a crippling burden on the organization if Missions 4 and 5 (investment and sustainability) are not internalized by the Governance Body, staff, and consultants.
- Non-recourse 100% project financing, including fees, can be raised at a moderate cost with a rigorous monetization of future savings. Simultaneously, a monetization of the severable and tradable “attributes” of ee/re installations (peak-hour electric capacity, carbon and renewable-energy credits, etc.) can finance some working capital. These depend on (sometimes single-minded) devotion to Missions 4 and 5 in selecting markets and allocating efforts, and can dilute efforts in pursuit of Missions 1-3.
- Serving Mission 3 (job creation) may run in to regulatory (prevailing wage), political (patronage), or union (jurisdictional) disputes. How these are resolved depends in part on how the organization is driven by the other four Missions.
- Often the Governance Body of the organization is distant from its staff and daily operations, in time devoted, background, age/culture, and expectations. Without clarity and “ownership” of the Mission from the start, the Governance Body and its staff will likely drift apart in their commitments. That is likely to undermine marketing and financing, and inevitably any of the Missions listed.

Thus the five missions are not necessarily compatible. Yet a simultaneous dedication to all of them, although rare, is entirely possible and could be most symbiotic. That requires three organizational achievements, also rare in combination but within reach:

- (1) a *diversity of staff aptitudes* and commitments matched to the different missions adopted;
- (2) a *management team* that can organize multiple efforts and efficiently deploy resources to them;
and
- (3) a *governance body* clear about a balanced mission and committed to its success.

Defining the Organizational Vehicle

Many forms of organization are possible, but only a few have shown any sustained success in community-based ee/re programs. Some organizing agency must be responsible for setting up and running the program, including some or all of the following functions:

- community education and outreach,
- marketing and publicity,
- qualifying and engaging contractors,
- project financing and development,
- quality control and engineering support,
- measurement and verification (M&V) of savings and other results,
- raising working capital,
- aggregation of tradable attributes,
- customer account management, and
- documentation and reporting.

The designation of an organizing/managing entity needs to be established early into the program design, with commitments made that will lead to designations and appointments that can manage the complexities of starting an LEA or community-based organization. But that raises the question of where indeed might such a responsibility be placed? In general, we find that the organizing agency has to combine public-private governance with entrepreneurial management. That is, the Governance Body must have the initial and on-going sponsorship and support of the political establishment; but the day-to-day operations need the aptitudes of private management, the kind associated with small businesses in which all key participants have a proprietary sense of mission. The management must be able (within reason) to hire and fire, procure services and materials, and make reasonable operational commitments free of political interference and stultifying regulation. Yet they must also benefit from the support and endorsement of the key elements of the ruling establishment, in order to have access and credibility in marketing and arranging real work on the ground. This defines what Jason Jay, Doctoral Candidate, Organization Studies Group, MIT Sloan School of Management has called the “Hybrid” model

The candidates for such an organizing agency include:

- 1) Municipal organizations
 - a. Mayor’s office (e.g., Sustainability, Energy)
 - b. Existing department (e.g., Public Works, Water, Environment, Community Development, Economic Development)
 - c. New special-purpose agency
- 2) County or State organizations
 - a. Energy, Environmental, and related Departments
 - b. Governor’s Office (Sustainability, Energy, etc.)
 - c. County Administrator’s Office (same)
 - d. New State or County agency
- 3) Statutory Authorities
 - a. Existing Energy, Environmental, or Sustainability Authorities
 - b. Other authorities with credibility, compatible charters, and bonding capability (e.g., a port authority, a development agency, a health & education finance authority, a tourism/promotional

authority)

c. New Authority created for this purpose

4) Nonprofit Organizations

a. Existing NPO with compatible Purposes

b. New NPO organized for this purpose

5) Commercial Organizations

a. A business with compatible reputation, markets, management, and investment capital

b. A new commercial entity organized for this purpose

The selection of the most effective organizing and managing vehicle is necessarily a local decision based on many criteria. No “best choice” can be prescribed for all communities; however, most of the criteria can be listed, based on lessons learned in analogous programs. These decision criteria would include an organizing agency that could provide the following:

- Focus; avoidance of a crowded agenda
- Independence in procurement
- Long-term loyalty and support of the local power structure
- Public stakeholders access and support
- Private stakeholders access and support
- Consumer trust in all market sectors
- Management agility; contracting and legal flexibility
- Marketing creativity
- Ability to sell the Value Proposition
- Acceptance in key market sectors; reputation, trust, etc.
- Creativity regarding offers and financing
- Ability to access and broker financing
- Capacity to maximize public funds
- Capacity to leverage public funds with private capital
- Regulatory and legislative influence, utility relationships, etc

A rational selection of the best agency would be based on a matrix constructed of these criteria vs. the candidate agencies listed above, assign a weight to each criterion, enter a score in each cell, and multiply scores times weights to identify the best choice.

Organizing Community Stakeholders with Appropriate Roles

The successful organizer of local “energy alliances” (LEAs) will be part catalyst and part initial supervisor. In Cleveland, a Cleveland Energy Alliance is coalescing from the efforts of local organizations—over a dozen in all—who have been working effectively on varying missions for some years. The catalytic role has been to identify them, understand their contributions and aptitudes, work within relationships that

have already been established while strengthening others, bring in some additional funding, invite stakeholders to meetings where they can share ideas, and after integrating input from these various stakeholders compose a proposal for funding and developing the LEA. In Cambridge three years earlier, a pre-conceived plan, had been presented to the power structure but not to community organizations, and encountered local skepticism until the marketing model was changed and focus shifted to on grass-roots collaboration and mobilizing community volunteers.

The following lessons are derived from this experience and from organizing other community-based ee/re programs nationally:

1. Most entrepreneurs enter their fields of interest with a rush of enthusiasm and an assumption that they have discovered a new mission, and fail to look around for those who are already engaged. In fact all the communities with which we have worked have many individuals and organizations advancing similar missions—not necessarily effective, cooperative, or even compatible, but having staked their claims on the same ground. Ineffective engagement misses opportunities and risks opposition.
2. All have their own agendas. This applies to volunteers as well as to professionals. Uncovering those agendas early makes a great difference in how well the collaboration will proceed. Early training, agreement on the mission, and discussion of contributions is essential.
3. The organizer's view of who is important to the enterprise always changes between the fund-raising stage and the operational phase. Early commitments must be made with careful thought to later roles.
4. Each stakeholder will be motivated by self-interest in participating with the LEA. One cannot assume it is just for the good of the cause, or that everyone's cause is the same. Stakeholder interests are often monetary but may have to do with recognition, professional advancement, personal motivations, learning, social or business networking, adventure or security. The organizer must seek to understand these motivations and must offer something of interest to potential stakeholders.

Staffing, Management and Governance

The important decisions of how to staff, manage, and govern LEAs cannot be made before the Missions, Organizational Vehicle, and local context of affinity groups are decided and known (See the preceding sections). From experience on the ground of community-based ee/re organizations, however, some generally-applicable principles and descriptions can be derived.

- (a) *Staffing and outsourcing.* Several early and common mistakes can be avoided, saving a great deal of money and trouble.
 - a. Job descriptions—as much as possible for the whole eventual staff—should be agreed to before recruiting begins. A corollary to this principle is to agree with all stakeholders that the jobs are to be open to all without either discrimination or favoritism, and then filled based on the candidate's fit to the job. Although this seems obvious once stated,

LEAs may be subject to many countervailing forces in filling positions, including time pressures, personal recommendations from stakeholders, availability of attractive candidates before job descriptions are completed, comfort with familiar candidate pools, personal commitments or needs, etc. **Appendix A** presents some job descriptions that have been found to describe effectively the responsibilities and candidate requirements for this type of organization.

- b. Job(s) should not be filled before having the funding committed—meaning secured and accessible cash. Jobs cannot be continued beyond the availability of funding, and costs should always be controlled within revenues (This is another obvious principle that is often disregarded).
 - c. To help observe the above two rules, early outsourcing to expert consultants may be warranted. Consultants, however, are more expensive than staff, and should be engaged always with the understanding that their responsibility is to work themselves out of a job (or at least this job).
 - d. Some functions, however, may best be permanently outsourced. Examples include financial auditing (but not internal accounting), legal expertise (but not internal contract administration), governance (but not management), engineering, and some specialized expertise in financing and marketing.
- (b) *Management*. The lessons of effective management have been articulated widely and need no repetition here. There are, however, some errors common to many LEAs. They can be reported in hope of avoiding their repetition:
- a. Although the LEA may be a nonprofit or governmental organization, it must be managed to earn a “profit”; i.e., to spend no more than its funding and revenues, and to build a reserve. Often the management loses sight of this principle in its devotion to Mission or its expectation of future support.
 - b. Running a successful LEA is no easier, and often harder, than running a commercial enterprise. If the management team does not wake up each morning with a sense of being mission driven, and is not willing to sacrifice some personal rewards, it will not compete effectively with all the other organizations crowding its space.
 - c. The multiple missions of the LEA must be balanced wisely and effectively by management, as discussed in Section A.1
 - d. The LEA necessarily has a public purpose, as do its sponsors (government, utilities, funders). This imposes on management a variety of political pressures and sometimes interventions. Time must be allotted to public expression of the organization’s intent, its loyalty to public purposes, its achievements, lessons learned, and future objectives. Smart cultivation of local media is a necessity as well as serving as a marketing tool.
 - e. Management must compete to recruit and retain key staff, but will lack many of the incentives and compensation elements that others can offer. Presumably the sense of Mission overcomes this for most staff, but they still must be nurtured and appreciated

and listened to and given a real role in management decisions. They must also see a well-run organization around them, making rational decisions and striving for success.

- (c) *Governance.* The “hybrid” of public sponsorship with private management was discussed in section A.2. It should be a powerful structure that requires early assurance of long-term commitments on the public side and entrepreneurial management on the private side. As found by Jason Jay, Doctoral Candidate, Organization Studies Group, MIT Sloan School of Management, public support can be fleeting or ambivalent. In the Cambridge case, special legislation (a Home Rule Petition) was ultimately required to encourage the City to contract with its own LEA. (A summary of the Home Rule legislation is given in **Appendix B.**)
- a. One strong expression of public sponsorship is having a representative of local government on the LEA’s Board. That should be carefully weighed, however, against the possibility that apparent conflicts will restrict public support more than contribute to it.
 - b. The Board and the Management must be a team. As discussed in Section A.1, they often differ in important ways. These differences must be acknowledged by all parties and dealt with early, for the good of the Mission and the sustainability of the organization.

Working Capital Budget and Sources

A hierarchy of agencies may lie between federal or state grants and the LEA activities in the community. Even where the intervening government employees have actually approved the work and will benefit from investments, regulations and processes require time to execute. In addition, local skepticism about the suitability of certain cost categories, political differences, procurement rules, legal challenges, jurisdictional disputes, or contract negotiations may further delay processing. Even when those barriers are removed, the LEA faces the same working-capital needs of any business: payroll and taxes cannot be put off but collections can lag. When setting up new organizations, this is further complicated by the costs of incorporating, setting up offices, obtaining equipment, recruiting staff, negotiating allowable overhead rates, winning IRS 501(c)(3) exemption (necessary to qualify for many grants), raising funds, and other organizational expenses—all of which are unallowable costs under federal and most local regulations.

Thus substantial working capital is needed by the LEA. Accounts Receivable are not billable until the grants and contracts are in place. At that point, the LEA can theoretically bill against a legal contract, and the receivables become conventionally “bankable”—banking, however, is no longer conventional, and a new organization may still need help accessing cash to meet its payroll and other obligations. Moreover, although some of the initial capital may be repaid once operational funds begin to flow, much of it has to be seen as permanent paid-in capital.

Many organizations, probably underestimating delays or complications, do not survive this crisis. Those that do survive have found substantial (usually painful) sources of working capital. Examples include:

- Personal funds from the founder or board

- Foundation grants
- For commercial organizations, equity capital
- For public agencies, an appropriate public budget
- A parent organization
- Sharing the pain—delaying salaries and creditor payables until the cash is in hand

There is another way to access working capital, but its use should be discouraged except in cases of very high confidence regarding repayment: borrowing funds. Debt service is usually not an allowable cost under either government or foundation grants, so the organization must be in a position to generate near-term revenues from fees, memberships, or sale of commodities or services to repay the borrowing and its interest charges. Meanwhile, the cost of debt service can be crippling. And if the borrowing causes a balance sheet with negative equity, most supporters will recognize insolvency and be unable to continue support.

Budget. A budget for working capital is highly dependent on local conditions and the sources of support. For the long term, the LEA should expect to need at least 60 days' worth of total costs on hand permanently. At the beginning, this can be 3 to 6 months' worth, plus the one-time costs of setting up the organization and its operations. Thus only organizations prepared to carry significant start-up costs and ongoing receivables should attempt to set up an LEA.

Long-term Revenues and Sustainability

If the working capital barrier can be surmounted, there is plenty of funding available in 2010 for operating and financing LEAs. Federal agencies are rushing to get their vastly-expanded funds put to work. Many foundations have re-discovered the missions of reducing emissions and creating jobs in ee/re, and have greatly expanded their grant-making to programs that appear to have innovative agendas in this area. Utilities are under renewed pressure to fund ee/re programs for their customers, and are receiving increased ratepayer allocations and public funds for that purpose. Community agencies, local governments, and nonprofits see large opportunities and new ways to advance their agendas through ee/re involvement.

This will change. Political support for this movement could falter, audits of expenditures and results will sharpen, public criticism of expenditures may grow, federal funding will likely subside, and cynicism could potentially set in. LEAs must organize now for long-term sustainability in the absence of large grant support. This affects their definition of mission, their staffing and management, their collaborations, and their marketing. LEAs must shift from a grant-supported mentality to a market-based mentality.

Non-Government Revenue Sources

Fortunately, the economics of ee/re do support sustainable revenues. The future savings stream from ee/re improvements to facilities can be measured and verified without ambiguity, and therefore monetized to finance the improvements—including reasonable fees for the installing agency. Fees can

be collected by the LEA from two sources: a modest mark-up on financed costs of the installation, or a charge to installing contractors.

The sale of “attributes” of these improvements (carbon and renewable-energy credits, peak electric load reductions, etc.) can also be monetized and used for working capital. A definition of Attributes and research in their markets is given in **Appendix C**.

These two monetization loops are described in **Appendix D**.

Other benefits flow to the customers of LEAs as a result of ee/re improvements. Improved comfort, increased reliability of energy and water consuming equipment, enhanced facility value, marketing benefits, improved productivity and indoor health, public relations and other benefits—all are additive to the savings of energy and maintenance costs. These benefits support the direct sale of services to customers by LEA staff.

In addition to contract fees and attribute sales, LEAs can generate long-term revenues from memberships, marketing contracts with utilities, and consulting. In all these opportunities, the LEA should already be planning its value propositions and collateral materials, to sustain its capacity to serve its missions beyond the short-lived surge of grant funding.

APPENDIX A: Sample Job Descriptions

Executive Director

Education: Bachelors Degree required, advanced degree preferred.

Work Experience: 5-10 years progressive professional experience, including senior management responsibilities; Reports to the LEA Board of Directors

Primary Skills:

- Demonstrated leadership experience professionally and in community/volunteer organizations;
- Ability to create a vision, manage a complex organization, and drive its growth;
- Strong command of debt financing and ability to develop innovative financing solutions;
- Intermediate to advanced understanding of energy policy issues, environmental stewardship and options, and energy technologies including renewable sources and energy efficiency;
- Drive, determination, and entrepreneurial spirit to work in a start-up environment; and
- Non-profit and/or government experience preferred.

Job Responsibilities:

- Report to the LEA Board of Directors (B/D). Keep them informed. Manage the organization within budgets, policies, and plans approved by the B/D.
- Prepare annual Marketing and Operating Plans in collaboration with the Board, affinity groups, and other informed advisors; obtain B/D approval; modify as necessary based on experience.

- Generally oversee project management, engineering and energy service contracts, customer and community relations, accounting and marketing.
- Approve final contracts, manage LEA's direct subcontracts.
- Recruit, train and manage LEA personnel, including a Non-Profit Program Manager, Outreach Manager and others as staff grows over time.
- Maintain strong focus on workforce development, collaborating with local stakeholders to measure job creation/retention, and fill gaps in training and education where they may exist.
- Develop and manage budget for the organization, oversee financial transactions, ensure records and audit trails are in order, and take full responsibility for the financial health of the organization, within guidance set by the B/D.
- Responsible for strategizing and managing all grant-writing and written applications for foundation, utility, state, City, County and federal contracts, with special attention to ARRA funding opportunities.
- Maintain mutually-supportive relationships with local city/county/state staff and elected officials, utility companies, regulators, and other public entities important to the organization.
- Serve as the main public representative of the organization, which includes interacting with the media, giving presentations, attending critical community events, and participating in appropriate professional activities in order to inform the public concerning LEA's mission, program's and resources.
- On a continuing basis engage new, various sector clients in the program.

Operations Director

Education: Bachelors Degree required, advanced degree preferred. Technical training and expertise in building science and multi-sector audits and retrofits required.

Work Experience: 10 years experience in energy efficiency program management, staffing and implementation, with thorough knowledge of residential and commercial auditing, installation of energy efficiency measures, contractor management, measurement and verification, and quality assurance. Reports to the LEA Executive Director.

Primary Skills:

- Demonstrated successful planning, implementation and management of residential and commercial energy efficiency programs;
- Demonstrated ability to work effectively with staff and contractors to achieve production and energy savings goals on time and within budget;
- Direct experience conducting quality assurance of installed work in residential and commercial settings;
- Knowledge of the technical aspects of energy auditing, including use of measuring instruments (blower door, infrared scanner, etc.) and building audit standards (BPI, RESNET, ASHRAE, LEED, etc.);
- Demonstrated success to work effectively with energy auditors and a full range of installation contractors;
- Knowledge of various financing mechanisms (PACE, Power Purchase Agreements, Revolving Loan Funds, etc.) energy performance contracting, and utility incentives (portfolio standards, demand response) available to offset/reduce costs of energy efficiency installations;
- Knowledge and understanding of local, state and federal energy policy issues; and,
- Demonstrated ability to effectively convey program-related information to public officials, the residential and commercial business community, and through community meetings.

Job Responsibilities:

- Collaborate effectively with the Executive Director and directly supervise program managers in the implementation and goals attainment of all currently existing energy efficiency programs in the LEA service territory;
- Oversee contractor management and related workforce development efforts, which includes Davis-Bacon compliance and partnership with local community colleges and other job training organizations;
- Work collaboratively with Executive Director and staff in the design, development and implementation of expanded energy efficiency programs, including larger commercial facilities via energy performance contracting, throughout the LEA service territory;

- Effectively utilize IT and database systems necessary for effective program management, auditor and contractor deployment, cost controls, customer tracking, and program budgeting and reporting;
- Work cohesively with the Community Outreach personnel to ensure that residential and commercial customers are made aware of LEA programs and appropriately incentivized to meet program goals in a timely and professional manner;
- Design and conduct systematic quality assurance activities to measure and document the relative effectiveness of each of LEA's programs;
- Develop and manage relationships with program partners, contractors and participating homeowners in order to troubleshoot any problems, measure relative satisfaction of all customers, and ensure program success;
- Expand on existing, and develop new revenue streams and business opportunities to ensure long-term sustainability of the organization; and
- Other duties as may be assigned from time to time by the ED.

Non-profit Program Manager

Education: Bachelor's degree required, advanced degree and/or industry-specific certification preferred.

Work Experience: At least ten years work experience in energy engineering or related technical field. Reports to the Executive Director.

Primary Skills:

- Advanced understanding of energy policy issues, environmental stewardship and options, and energy technologies including renewable sources and energy efficiency;
- Significant project management experience;
- Understanding of non-profit organizations, including their culture and overall rationale
- Prior work experience at a management level in non-profit, government, and/or utility company; and,
- Effective communicator, program marketing skill, and creative problem-solver.

Job Responsibilities:

- In collaboration with Executive Director develop marketing plan to non-profit organization (NPO) sector
- Collaborate with Outreach Coordinator in reaching NPOs that could potentially benefit from LEA's services.
- Through meetings, presentations and networking, create interest among NPOs in participating in the LEA program.
- Work through NPO management and facility managers to conduct systematic examination of key building systems and identification of energy efficiency opportunities.

- Effectively communicate verbally and in writing to NPO clients the status of their building's energy systems and the advantages of engaging in proposed energy efficiency retrofits, utilizing LEA and other resources, including utility company incentives.
- Directly oversee NPO program management, engineering and energy service contracts.
- Select engineering firms, prequalify installation contractors.
- In collaboration with Executive Director, establish budget for the project, maximizing economic impact of LEA investment through matching like-kind donations and other sources of financial leverage.
- Organize close ties with other local, county, and state officials and important NPO agency stakeholders; and
- Oversee all aspects of the NPO program, including marketing, engineering services, contractor installations, quality control, and tenant education for all buildings served under program.

Other duties as may be assigned by the Executive Director

Marketing and Community Outreach Director

Education: Bachelors Degree required. Training and expertise in community-based marketing, social marketing and community organizing techniques required.

Work Experience: At least 7-10 years experience in marketing, community organizing, social media, or comparable job, with knowledge of energy efficiency and the environment preferred.

Primary Skills:

- Significant knowledge of techniques necessary for effective community outreach and organizing around important social, political and economic issues;
- Demonstrated ability to engage individuals, groups and neighborhoods in concerted public activity in order to meet specific program goals;
- Strong understanding of new media forms to maximize marketing and outreach efforts;
- A creative mind, energetic spirit, engaging personality, and strong work ethic;
- Recruitment and management of volunteers to expand the capacity of the organization;
- Knowledge and understanding of local, state and federal energy policy issues;
- Well-organized with demonstrated ability to multi-task;
- Articulate public speaker; and
- Database management skills.

Job Responsibilities:

- Work with the management to design and implement a comprehensive marketing and outreach strategy for residential and commercial building owners;
- Design and implement outreach to trade associations, neighborhood groups, business organizations, municipal and county governments and nonprofit organizations to facilitate adoption of LEA energy efficiency and renewables programs;

- Develop and manage the brand assets for the organization including logos, value statements, press releases, flyers, etc.;
- Facilitate a web-based viral marketing effort to reach the residential, non-profit, and small commercial sectors, utilizing tools that include social media, blogs, etc.;
- Manage the LEA Web site, including maintaining updated content, links to partner organizations, oversight of customer/partner online database, and volunteer opportunities within LEA;
- Oversee the work of LEA outreach staff and volunteers for neighborhood-based activities;
- Create strategy for utilization of volunteers in the following capacities:
 - neighborhood canvassing
 - demographic and marketing research
 - telemarketing
 - customer inquiry telephone line
 - data entry
- Implement volunteer recruitment efforts by drafting job descriptions, setting clear and achievable goals and milestones, and design and implementation of volunteer training; and,
- Track and report progress of volunteers in meeting goals and milestones.

Other duties as may be assigned by the Executive Director in order to carry out the program's goals.

APPENDIX B: Cambridge Energy Alliance Home Rule Petition

See: <http://www.mass.gov/legis/laws/seslaw09/sl090170.htm>

APPENDIX C: Environmental Attributes: Definition, Markets, and Revenue Potential

Definition and Examples

For this purpose, "attributes" of energy and water services include any "by-product" of conducting energy and water efficiency work that meets four tests:

1. severability—the attribute has to have a definable value in addition to the primary purposes of the efficiency project
2. measurability—the attribute must be subject to unambiguous quantification and verification
3. registration—some recognized system must be capable of tracking the attribute's origin and sale
4. validity—the attribute must be truly additive to what would have been available absent its sale

The best-known examples of such attributes are Renewable Energy Credits (RECs), for which an organized market exists in most of the country; carbon-offset pricing, under regional or national cap-and-trade regulations; and locational or regional Installed-Capacity markets for electric generation capacity (which have recently been expanded in some regions to include the "demand-side resource" of

verifiable peak-hour load reductions). These are robust markets, at least in some regions, but there are other markets more thinly traded, such as those for sulfur and nitrogen oxide emission reductions and “white tags” (energy-use reductions sold to utilities or exchanges, especially where an e.e. portfolio standard is adopted).

Further Attribute candidates

One should also search for less-obvious attributes that have value once they are identified and measured, and can be sold through negotiation with those who value them. Examples include:

- the value of load profiling to electricity, gas, and water suppliers (reducing peak demand by storage, fuel-switching, local generation, load shifting, or re-scheduling)
- the avoidance of future costs including environmental penalties
- reduction in use or peak-hour demand for water
- guaranteed job creation

Local sales vs. Organized Exchanges

Attributes can be sold into either local markets that value their community origin and nearby measurability, or trading markets that are organized to set clearing prices and support liquidity. An example of a local market would be colleges and other institutions in the community that may have set a carbon-footprint reduction goal but want to support community energy-efficiency efforts rather than distant investment promises (e.g., planting trees in Central America). The local market has to be built up locally but has the benefits of visible expression, hands-on measurement, political and community approval. The trading markets are less visible but have the advantages of liquidity (always a buyer at some price) and official sanction. Our recommendation is to participate in both.

Public Policy Support

Several public-policy enablers are important to the value of attributes:

- portfolio standards—requirement of regulated utilities or other supplier to meet some percentage of their supply obligations with the attribute in question, or pay some penalty per unit unfulfilled. That penalty sets a floor price for the attribute in commodity markets.
- a generally-accepted Measurement & Verification protocol
- electric, gas, and water rate structures and tariffs that reward either conservation or peak-hour load control
- organization of exchanges that provide trading opportunities, auctions, tracking, and other functions necessary to an organized market
- recognition of demand-side resources on a par with supply

Local Energy Alliance Selling Advantages

Like any successful product, attributes have to be creatively produced, cost-controlled, and persistently sold. They won't just happen. There are more examples of missed opportunities in the attributes markets than in the more familiar efficiency and renewable programs. But a Local Energy Alliance has some special advantages:

- Aggregation—the ability to collect, qualify, and package small contributions from small markets into marketable quanta
- Municipal sponsorship—assignment of rights by the local jurisdiction to the Energy Alliance for public facilities and processes
- Hassle reduction capacity—the ability to register, document, and arrange the collection and sale of attributes whose value to potential competitors is less than their learning and transaction costs

Research in U.S. Markets

Emily Martin published a white paper describing contemporary markets in February 2010. It is attached as Appendix C1. (TO BE ADDED)

APPENDIX D Achieving Scale in Energy Efficiency: Two Monetization Loops

