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Recommendations to the City of South Portland, Related to Phase 2 of the Energy Action Plan

Karen Purinton
University of Southern Maine, Muskie School of Public Service

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Created for the City Manager, City Council, Energy & Recycling Committee, and Residents

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Prepared by Karen Purinton

Adviser: Dr. Charles Colgan

Muskie School of Public Service, University of Southern Maine

Introduction

South Portland's Energy Action Plan (EAP) has not been updated since the completion and approval of the most recent South Portland Comprehensive Plan in October 2012. The current EAP has three phases, of which the first has been partially implemented, calling for energy and other resource conservation practices to be put in place in all City departments. Phase 2 is concerned with how the municipality can engage and incentivize businesses within the City to address energy use and efficiency, and is discussed in three sections below. Phase 3, yet to be drafted, will address residential opportunities for decreased energy use and consumption.

PHASE 2 – INCENTIVIZING BUSINESSES

A number of possibilities exist for the City Department to encourage businesses to be involved in Energy Action Planning. With at least one workshop hosted by the City each month surrounding various topics including energy planning, using that flexible, well attended tool to engage business owners and residents could provide important feedback and promote the Green Business Initiative recommended for the City. Below are descriptions of a few easily organized workshop possibilities that would likely assist the City in completing Phase 2 of the EAP. The following three sections discuss recommendations on how the City can incentivize businesses to voluntarily participate in carbon footprint reduction efforts. The first list of recommendations for the City addresses short term possibilities to advance discussions of zoning alternatives, green building practices, and community buy in for capacity building among local businesses. The second section provides near term suggestions that could be implemented over the next 1-3 years. Finally, recommendations addressing long term (3+ years) projects will finish the Phase II Recommendation portion of this paper.

Workshop Possibilities for the City

The bi-weekly workshops held at the South Portland Community Center are a great way to use a currently successful system to engage residents. Usually well attended, these workshops often focus on very current issues; in March of 2013 the Natural Resources Council of Maine and Portland Pipeline Company were available to discuss South Portland's geographic importance in the use of Tar Sands. Suggestions for future workshop topics designed for both business and residential audiences are below:

Commercial, Residential Awareness of Renewable Energy Incentives & Kil-A-Watt Monitoring

A short workshop aimed to inform businesses, residents, and homeowners about the renewable energy, efficiency upgrade, and appliance replacement rebate programs in place by Efficiency Maine, the Federal Government, and others. With free Kil-A-Watt monitors available at state libraries, a quick tutorial on residential use of these devices could prove empowering for cost-concerned citizens.

Small Commercial and Residential Use of Smart Meter Technology

Smart-Meters have been installed on most residential and small commercial accounts in the state, with all installations in South Portland completed by early 2013. These meters replace traditional electro-mechanical meters, and use electronic technology to measure hourly electricity use for customers. Each day, energy data is sent to CMP through the meter with a low power radio signal, so any residential or small commercial customer can view their house or business' energy use on a close to real-time basis. This tracking software is accessed after an online account linked to your CMP account is created through CMP's online services. For the business community, this information could be the incentive needed to more closely manage their energy needs and patterns. The City could invite interested business owners for a step-by-step tutorial on how to enroll in CMP online services, the options available within the tracking software and the ways to maximize their potential use, and how to use the software to compare their energy use to similar accounts and set energy goals for their business.

The Energy Manager software can also assist residents and businesses to determine energy efficiency goals for their buildings, creating to-do checklists to improve energy efficiency, and comparing home energy use across similar users. If the City plans to offer a workshop for businesses, it would be smart to include residential customers who are interested in this process. A step-by-step guide on to how to personalize energy data information is available here, and assistance is available through CMP's toll free residential support number.

Energy Savings for Business

Offered as a free 1.5 hour class by Southern Maine Community College in the spring of 2013, "An Introduction to Energy Savings for Businesses" workshop hosted by the city could be one way to encourage communication between the city and local commercial entities. SMCC staff noted high participation in the Winter 2012 workshop, and said the instructor would likely be interested in replicating this class session for the City in workshop format to share the energy saving measures businesses can implement, the incentives for renewable energy, and efficiency upgrades to businesses. SMCC only offered this class once, so while participation was high there are likely interested parties who were unable to attend. Working with SMCC faculty to create a workshop with similar or even identical course material could engage businesses within the community in a way that provides them with useful take-aways.

Maine Electric Aggregation Program

This program, offered by Unified Energy Services, allows small businesses to "lock-in" the purchase of electricity at lower rates by purchasing as a group rather than as individual customers. Unified Energy Advisors Mike Bouchard and Scott Thibeau have been active over the past year educating municipalities, schools, and businesses on their energy purchasing options. Willing to work with any business of any size, they mostly focus on providing services to small and medium sized businesses (less than 25 employees) that purchase 1 million kilowatt

hours or less annually. The extremely complicated field of energy contracts and procurement is made easier through this service, which is offered at no cost and begins with sharing CMP billing statements. Mike and Scott indicated they would be interested in facilitating a workshop at no cost, for which invitations could be offered to the many small businesses in the City. This will educate business owners about the options within the program and their opportunity to lock their rates in as much as 2¢ per kilowatt hour less than the standard offer rate. Information about this program is available by contacting the Unified Advisors at 1-866-620-8425.

Natural Gas in South Portland

While natural gas accessibility is discussed in the long term recommendation section, there is significant value in gauging the community's interest and commitment to securing access to existing pipelines in South Portland. Though most properties in South Portland have access to natural gas due to an extensive pipeline network, connections can be costly and price depends on the expected use of the resource as well as distance from the current infrastructure. In addition, with Unitil unwilling to share maps of distribution networks with the public, some residents could be unaware of their proximity to existing natural gas. The hydraulic fracturing processes used to recover natural gas have been an ongoing public and environmental health concern, and the discussion surrounding continued fossil fuel use is one the City should begin. A workshop designed to engage parties in a discussion of the residential and commercial/industrial future energy sources in South Portland would be valuable for long-term planning efforts. Infrastructure upgrades are costly and can be funded in a variety of ways, so learning both the wants and needs of current citizens will inform the City what funding obstacles are likely to become an issue for discussion and what options could already appear to have community support.

Recommendations: Immediate, Short term (1 Year)

Short term recommendations are to be addressed over the coming year, and each of the examples provided below could likely be implemented with minimal or limited political controversy.

Educate One Official on LEED Design, Offer Free Consultations

With the passage of the Maine Uniform Building and Efficiency Code (MUBEC) in 2010, all municipalities with over 4,000 residents are required to adopt a set of energy efficiency codes that are uniform across the entire state. Individual municipalities are unable to alter the code, even to make more stringent requirements in terms of building efficiency and green design. To encourage LEED certification and additional green development, however, the option of voluntary programs have been investigated and, in some cases, adopted in other areas of Maine.

In order to build communication between local businesses and the City, there has to be some valuable service provided to businesses that shows the benefit of participating in City-wide initiatives. With Maine's adoption of the Maine Uniform Building and Energy Code,

municipalities are unable to alter the code, even to make more stringent requirements in their location. Without the ability to require green building principles or LEED Achievements be considered for new developments in the City, having an official who understands how developers can incorporate these requirements is an important step in encouraging this type of development without taking regulatory action. There are any number of creative approaches to funding that don't require the city alone to find the resources to support a new position. Other municipalities in the Greater Portland area are facing and likely discussing similar energy issues, and if approached could agree to fund a county-wide LEED official or other energy efficiency-focused position. The regional planning organizations in Southern Maine could be a partner in financially supporting this person, or perhaps the City is already aware of someone who might be interested in performing such work as a consultant. Options are not limited to adding additional responsibilities to current employees – the City should be creative in thinking about possible funding opportunities for an energy efficiency position.

One way to start making immediate progress towards encouraging voluntary LEED compliance is to have a member of the municipality attend one of the many energy efficiency and LEED certificate courses available at Southern Maine Community College in South Portland (see section on Local Resources for Green Energy Action). This "green building' official should attend SMCC's anticipated 16-hr fall 2013 LEED Green Associate Course. There are more intensive subjects offered also, with a 10 hour Green Construction course and a 12 hour Basics of Green Design course, but to have a municipal official certified as a LEED Green Associate provides credibility and assures developers of the value in collaborating with the City. With varied state codes across the country, many projects have inspired an innovative approach to achieving LEED standards when prevented from requiring their implementation. Since the City is unable to require that LEED Achievements must be met by new projects, having at least one official There are likely many projects that are working under requirements currently prevented by our current state building code model, but could potentially be adapted locally with voluntary compliance by developers. Information about SMCC's course offerings is located at the end of this section.

In addition, a meeting with code enforcement officials in South Portland revealed that the new building code requirements are not universally understood by all professionals in the industry. SMCC also offers a 5-hour course in Understanding Insulation and Air Sealing Code Requirements, amounting to 8 continuing credits for CEOs. While City officials are up-to-date on what changes were brought with the adoption of MUBEC, encouraging those in the industry still unfamiliar with the new regulations to attend this class could likely streamline MUBEC implementations overall. Offered at $70 in the fall of 2012, perhaps providing a $25 rebate to interested parties in the fall of 2013 could encourage more participation.

There are a number of free resources related to building efficiencies in the commercial sector with which City staff could become familiar, either to provide direct services or to inform businesses about their availability. One good example is EPA's Office Carbon Footprint Tool,

available on-line here. Office-based organizations can use this tool to assist them in making decisions on how to reduce the greenhouse gas (GHG) emissions associated with their activities. This tool allows users to develop an estimate of their GHG emissions from a variety of sources, such as organization-owned vehicle transportation; purchased electricity; waste disposal; and leased assets, franchises, and outsourced activities. The software itself provides examples of changes businesses can make based on their energy use characteristics. Passing the ability to monitor carbon emissions to business owners will help make more informed purchasing and use decisions, and hopefully put them in control of lowering their own energy and operating costs.

Cash in Lieu of Parking –

The City may choose to exempt non-residential projects from some or all parking requirements required in the zoning ordinance, arranging for the developer to pay a fee instead. Payments collected in lieu of parking could be placed into a fund used to maintain municipal parking facilities, or designated for some other public purpose as agreed upon by the City Council. As discussed below, Toronto, Canada has been using such an agreement since 2004.

Toronto, Canada:

Payments that are collected from the parking policy in Toronto are placed in a Parking Reserve Fund, for the acquisition, development and improvement of municipal parking facilities. Acceptance of such payments is considered by the City Council only for non-residential developments or non-residential components of mixed use developments. The fees generate a mixture of flat rate and varying payments, and the City council reviews the fee structure every four years in order to reflect up-to-date costs for the provision of parking. Of the varying fee schedules that exist in Toronto and surrounding communities, an area called Scarborough has the simplest, with the payment varying only with land value; whereas downtown Toronto has a complex formula resulting in payments varying by land value, type of parking structure, and class of development. The City says they field around 20 requests each year, earning around $140,000. Recently, the city proposed a flat-rate fee for the most common applicants, small and medium sized developments, with a varying fee for larger (> 400 sq. m) developments. The City Council Order can be found here, along with detailed fee structure information and sample calculations.

Recommendations: Short Term (1-3 Years)

The following recommendations are to be implemented over the next one to three years. Listed in order of increasing difficulty, these suggestions will likely require more political will than those discussed in the previous section.

Implement Green Business Initiative

A city-wide “Green Business Initiative” is a great way to improve communication between municipal officials and small businesses in order to create and market new approaches to business sustainability. Whether or not the City chooses one employee to become the go-to for businesses’ green design needs as discussed previously, small to medium businesses in the City likely are not aware of all resources available to help with greening their facilities and day-to-day processes.

One example of a way to initiate this communication process would be to invite small to medium business owners to a City workshop held by Unified Energy on the Maine Electric Aggregation Program. The energy advisors beginning the new Maine Electric Aggregation Program are eager to educate business owners on their options for purchasing power, and the group power purchasing dynamics are a great metaphor for the inclusive nature of community discussions surrounding energy.

With many local non-profit organizations in South Portland and southern Maine focused on energy efficiency, composting of food waste, certifying LEED Associates, and more, there exists a valuable opportunity for the City to partner and promote programs already underway. Tapping into local capacity for energy is discussed in the final section, Local Resources for Green Energy Action, but the development of a Green Business Initiative could be addressed simply with a quarterly recognition of one business in or serving South Portland focused (directly or indirectly) on addressing climate change issues. This “Green Business Spotlight” could focus on organizations dedicated to increasing access to renewable energy or production, organics and waste recycling groups, weatherization and energy efficiency specialists, restaurants committed to buying and selling locally, or innovative businesses and their local projects.

Municipal Participation in Direct Energy Business Program

Municipalities and schools are able to join the Maine School Electric Cooperative (Me-SEC), a subsidiary of Unified Energy Services. Much like the Maine Electric Aggregation Program for businesses, Me-SEC is a number of school districts and municipal entities who group together to buy bulk purchase power. Participants are only required to provide previous energy billing statements and sign a Letter-of-Authorization. MESEC advisors will then generate a competitive cost analysis, presented to each school or town group, who is then able to decide if their participation will continue. While the City is currently engaged in energy contracts, over the next three years those will begin to expire and the opportunity to enroll in Me-SEC will be available.

If the City participates in this program when current contractual obligations expire, publicizing the benefits of partaking in a block energy purchasing program should encourage other businesses in the area to reconsider their energy contracts as well. With a workshop surrounding the aggregation program by Unified Energy, businesses who are shopping around

for lower energy prices at that time will be the only ones able to take advantage of cheaper electricity. On-going support for the project will be politically tricky, but if the City leads by example, their public image as a credible energy information source could encourage other businesses in the area to begin participating as well.

Building, Construction, and Efficiency

Green development is more expensive to builders than the most minimum requirements – the U.S. Green Building Council estimates a 2% to 10% increase in construction costs, depending on the commitment to green development features. The need for up-front financial rewards through whatever means possible must be discussed and addressed by the local government to encourage the recognition of the dividends paid over the long term to participants. There are a variety of options available to encourage LEED Certification among both new and retrofit construction projects. The City is required to follow the voluntary route for encouraging LEED Design compliance from developers and businesses, but has considerable freedom in approaching such voluntary compliance as well as mandating LEED design for municipal projects. One example that South Portland might consider following comes from Nassau County in New York where, in 2007, legislators unanimously approved a policy to incorporate LEED in the design, construction and renovation of all County buildings. The County's Ordinance also promotes the use of green building strategies in private sector development by offering free technical assistance, green building guidelines and public promotion for qualified projects.

Sustaining political will for green development strategies can be a challenge, especially when involuntary programs put additional financial burdens on developers. The drafting of such a policy for South Portland would not necessarily require LEED Certification for new projects or renovations, but would require the consideration of principles and guidance from the U.S. Green Building Council. If one city official is knowledgeable about LEED Design as recommended previously, their ability to work with developers will likely facilitate incorporating green development within the town.

The U.S. Green Building Council's LEED Certified Sustainability Checklist is a popular guide to energy efficiency in buildings, but it is not the only guide that could be adopted. Municipalities in many places have developed their own guidelines for energy efficient buildings. An example is that created by the Regional District of NaNaimo (RDN) in Vancouver, British Columbia, designed as a voluntary tool for applicants seeking a development permit and adopted in 2010.

The RDN approach included a Green Building Recognition Program, which awarded a rating of one, two or three stars based on the checklist score. The list encourages voluntary compliance by developers to commit to actions going beyond minimum building requirements. As an incentive to encourage developers to adhere to the city's desired sustainability criteria, applicants that fill out the checklist are offered a fast tracked application. According to the RDN

website, the reduction in time and associated costs provides the City with a low-cost financial incentive they feels is attracting green development.

The process involved in the RDN checklist is fairly simple:

- Developers complete the Sustainability Checklist as part of their pre-application discussion with staff, or submit it with their development application.
- Staff and the applicant discuss the proposed development's score on the Sustainability Checklist, and identify how the proposal could be more sustainable.
- The Council/Board/Staff receives the Sustainability Checklist for review when considering development approval.

In South Portland, the creation of such a checklist should be combined with the opportunity to meet with someone from the Planning Department to go over the checklist, ideally before the submission of permitting applications. The possibility of a small rebate ($25) for turning in a checklist with an application has been attempted by many municipalities hoping to voluntarily encourage collaboration among planning staff and developers. The strength of a voluntary checklist lies in the ability to address a range of areas that LEED Certification does not, including development issues specific to South Portland. Some examples include:

- Sites that **take advantage of existing infrastructure** and transit lines; consider sustainable site locations, and encouraging structures that conserve energy, water and building materials and produce less waste,
- **Protecting trees and topsoil during site work:** Protecting trees from damage during construction by fencing off the "drip line" around them and avoiding major changes to surface grade,
- **Minimizing job-site waste:** Addressed by centralizing cutting operations to reduce waste and simplify sorting, setting up clearly marked bins for different types of usable waste, and educating your crew about recycling procedures. RDN has encouraged the donation of salvaged materials to low-income housing projects and theater groups.
- **Buying locally produced building materials:** Transportation is costly in both energy use and pollution generation. Encourage developers to look for locally produced or available materials to use in construction.

Creating such a list would not require excessive creativity, research, or resources, since there are a number of widely-customizable checklist examples available for replication, especially the RDN checklist found below.

Sustainability & Green Development Checklist Resources:
EPA's Green Building Toolkit for Municipalities
EPA's Green Infrastructure Municipal Handbook

RDN Sustainable Development Checklist

It is also possible to combine the LEED approach with a locally specified checklist. A number of areas in Maine addressed LEED levels of green building certification prior to the passing of MUBEC in 2010, and have ordinances that still remain on the books. Three community examples are provided below, listed in order of increasing difficulty:

Bar Harbor, ME:

On June 13, 2006, Bar Harbor amended their municipal codes to award a density bonus of an additional market-rate dwelling unit for construction projects in which all dwelling units meet LEED standards. This bonus applies to projects within a Planned Unit Development and compliance is determined by either application or by affidavit for adherence during construction.

Portland, ME:

On April 6, 2009, the Portland City Council adopted Resolution 14-08/09, requiring all new construction and renovation municipal projects over 5,000 square feet and costing more than $250,000 and all new construction and renovation projects funded by the City over 10,000 square feet and costing more than $250,000 to achieve LEED Silver certification.

Similar Project: *York, ME*

York, Maine: On May 17, 2008, the Town amended the Town Zoning Ordinance to include Article Nine, requiring all municipal buildings and buildings funded by the Town at 75% or more of the total construction cost and exceeding 5,000 square feet to achieve at minimum LEED Silver certification.

Baltimore County, MD:

On April 22, 2008 the Baltimore County Council adopted Bill #28-08 providing tax credits for new residential construction that earn a minimum of LEED Silver certification. Projects earning LEED Silver will earn a 40% property tax credit, 60% for LEED Gold, and 100% for LEED Platinum. The tax credits were in effect for 3 years, and dished out $1 million in total incentives.

Longer Term (3+ Years)

Sliding fee reduction scale for permitting projects

There is a range of opportunities for the City to provide incentives to local developers to consider green building design and standards when looking to complete a project. One option would be to create a Green Building Incentive Program for the City, which could act as a demonstration of the City's commitment to energy efficiency, and be a strong motivating force

for greener development. The financial resources available for issuing rebates and providing assistance will likely dictate the intensity of the City's commitment. Examples from Massachusetts and Ohio demonstrate some of the options available:

Devens, Massachusetts:

In Devens, businesses are offered up to 15 per cent rebate on development permits up to $10,000 for projects that obtain LEED certification. In addition, permit fees that are otherwise required are waived for installation of renewable energy equipment (wind turbines, solar photovoltaic, solar hot water).

New Albany, Ohio:

In 2008, the New Albany Village Council adopted an ordinance creating a green building incentive program for new commercial buildings.

- Projects (whether new buildings, minor or major renovations) that achieve the minimum New Albany Village green building standard will receive a 20% reduction in commercial building permit application fees.
- Buildings that achieve a level of LEED certification will receive an additional fee reduction incentive on a sliding scale: 1% for LEED Certified, 2% for LEED Silver certification, 3% for LEED Gold certification, and 5% for LEED Platinum Certification.
- Buildings that achieve LEED certification are eligible for expedited plan review, expedited permitting, and recognition by the City on the City's website and various media outlets.
- In addition to the above incentives, financial incentives will be awarded on a sliding scale to projects based on the level of LEED certification that they achieve.

Conversion to Natural Gas

In March 2013, Maine Natural Gas and Summit Natural Gas of Maine both submitted multi-million dollar proposals to the town of Cumberland's manager, to expand service to 6,000-9,000 new customers, reflecting a growing demand for natural gas in the Southern Maine area. Spokespersons for Summit stated that the company's intent within five to six years is to be the biggest natural gas utility in the state, and both companies aim to increase territory in southern Maine, specifically South Portland and Scarborough. Natural gas service through Unitil currently exists across South Portland, with a map showing pipeline availability at any location in southern Maine here. While residents perceive access differently, the current interest in converting to natural gas by residents and businesses indicates South Portland officials will have a role to play in overseeing infrastructure maintenance and improvements that might obstruct public areas.

It is clear there is some disconnect between Unitil's perceptions of residential access and that of residents. Communication with Unitil his spring indicated the company believes all residents, businesses, and municipal buildings in South Portland have access to natural gas infrastructure. However at the April 2013 Energy and Recycling Committee meeting, numerous locations were discussed by attendees where access is obstructed including Sawyer, Somerset, and Westbrook Streets. While Unitil offers a free service line installation if your home is located less than 100 feet from a natural gas main, and if you intend on using natural gas to heat your home, it is possible many interested in conversion do not meet both of those requirements and are therefore responsible for the cost of extending service to their location.

The cost to connect to existing infrastructure for businesses depends on the business size, location relative to pipelines, and primary use for natural gas. While businesses might have more bartering power than residents with the utility due to their larger consumption, the City has declared in their Comprehensive Plan a commitment to decreasing carbon emissions and a locally popular way to do that is to switch from home heating oil to natural gas. With such interest, increased use of the distribution network could result in necessary infrastructure upgrades, which can disrupt traffic and take years to complete.

One current infrastructure project, the System Upgrade for Reliable Energy (SURE), was approved by the Maine Public Utilities Commission (PUC) and began construction in Portland and Westbrook in April, 2011. The $60 million pipeline replacement project will modernize Unitil's existing infrastructure by replacing 68.5 miles and improving existing low pressure pipe in 36 miles of pipeline. The 14-year project has important implications for South Portland, since infrastructure in both of the targeted municipalities connects to existing pipelines in South Portland. Unitil will have the capacity to take on new customers once the work is finished. While Unitil is undertaking the financial burden and will likely pass the costs on to customers, other projects in Maine have discussed and organized TIF financing to support pipeline and other infrastructure improvements.

A different attempt to expand natural gas in Maine has been in the Kennebec Valley Area, where Kennebec Valley Gas Company (KVGC) proposed a project that includes running more than 52 miles of new pipeline from Richmond to Madison, Maine, costing over $85 million. Additionally, the town of Madison proposed a similar project, seeking $72 million in bond funding to take on the burden of expanding the pipeline infrastructure in the town. While the KVGC proposal received the go-ahead to seek financing by the Maine Public Utilities Commission, the responses of the municipalities involved and the range of incentives offered to encourage the project may be important to consider for South Portland.

As suggested in the Workshops section, assessing community acceptance of all funding options will likely reduce political controversy over energy sources that will be seen across the country over the coming decades. Whether South Portland is willing to take on expansion responsibilities similar to the town of Madison, fund an expansion using TIF financing as seen

with KVGC, or rather opt to wait for Unitil to initiate their own pipeline upgrades like with SURE, the City must evaluate their position on natural gas accessibility to residents.

Local Resources & Training for Energy Action

One consistent theme of these recommendations relates to supporting energy efficient construction and building principles. A great resource for facilitating community discussions and advancing local and residential involvement in green building already exists within South Portland at Southern Maine Community College, where the Sustainability and Energy Alternatives (SEA) Center offers a variety of courses related to Green Design, Renewable Energy Savings, and Energy Audits. Shown in the table on the following page are the most recent course offerings by the school:

SMCC Continuing Education Courses

Title	Most Recent Offering	# of Hours	Cost	Certification?
For City Officials				
1. Energy Auditor	Spring 2013	80	$1,600	BPI Building Analyst
2. Green Construction Management, Operations, Maintenance	Spring 2013	10-12	$7-750	Green Certifications
3. Basics of Green Design	Spring 2013	12	$135	
4. LEED Green Associate Prep Course, Online	Fall 2012	16	$300	LEED Green Associate
For Business/CEO				
1. Understanding Insulation/Air Sealing Code Requirements	Fall 2012	5	$70	8 Credits for CEO's
2. Renewable Energy & Efficiency Fair	Sat. May 4, 2013	6	**FREE**	
3. Introduction to Energy Savings for Businesses	Spring 2013	1.5	**FREE**	
For Homeowners				
1. Advanced Energy Efficiency for Homeowners	Fall 2012	5	$75	
2. Winter Workshops: Homeowner Savings, Renewable Energy	Winter 2012	2	**FREE**	

With an impressive array of course subjects and proximate location, SMCC could potentially fill educational gaps that exist within the community for an affordable price. One possibility is inviting SMCC instructors to participate or organize workshops in their topic area for the City. Concerning Phase 2 of the Energy Action Plan, the most relevant meetings would likely be the Introduction to Energy Savings for Businesses and the free Renewable Energy & Efficiency Fair on May 4, 2013. While all exams and certifications are in addition to the course cost, Phase 3 EAP recommendations could likely encourage residents to participate in free winter and springtime workshops (to be held again during the next school year, according to SMCC).

A non-profit group, Garbage to Garden (G2G), specializes in composting food and organic waste. Their unique door-to-door approach is available for small to medium businesses in their territory, which includes all of South Portland. Current prices for weekly pickup of organic waste are $11 a month, and compost can be delivered with a clean receptacle each week. Participation in the program earns businesses a “Community Partner” window cling, which could

be publicized by the City. Another local organization, Resurgam Food Waste, located in Portland, provides similar composting services for larger businesses in the Southern Maine area, with customers including Mercy Hospital, Whole Foods, the Portland public school system, and a Portland Hannaford's corporate cafeteria. In the absence of a specific, formal Green Business Initiative designed by the City, encouraging local businesses' use of existing organizations and services is one way to strengthen ties across the community. A brochure or pamphlet simply outlining the services available to the business community by groups like Unified Energy, SMCC, Resurgam, Efficiency Maine, and G2G could be shared as part of the biweekly newsletter produced by the City.

Urban Energy Policy

The City has clearly made a commitment to energy action. South Portland is an ICLEI Community, signed on to the U.S. Mayor's Climate Protection Agreement in 2007, is a Maine Partner for Cool Communities, recently underwent the solar installation project on the Planning Department, and is considering what needs to be done to complete the Energy Action Plan. Without a doubt, the City is making progress towards reducing their carbon emissions 17% reduction in carbon emissions by 2017. However, communities nationwide are approaching urban energy policy in different ways, and many strategies in use in other places could benefit South Portland's Climate Action efforts.

Most cities widely acclaimed for their urban energy policies aim to provide goals for the community, not just the municipality. While South Portland has created the admirable municipal goal of a "17% reduction in by '17," many cities have set goals aiming for a community-wide increase in renewable power generation capacity or overall reduction in carbon emissions. For example, in 2008, Boston Mayor Thomas Menino announced a goal of 25 megawatts of solar energy installed in Boston by 2015. While Solar Boston is a part of the Solar America Initiative launched and partially funded by the U.S. Department of Energy, there is still value in adopting a community wide emissions reduction target.

More aggressive than the plan in South Portland, the City of Keene, NH's Climate Change Action Plan calls for a 20% reduction in municipal carbon emissions, and a 10% reduction for the overall community. Keene has been a leader in exploring municipal climate resiliency, with a city-wide Environmentally Preferable Purchasing Program, sponsored middle school solar car race, converting intersection to three new roundabouts, and installing a geothermal system at the Department of Public Works. Since significant differences between the towns exist, especially the established oil port, Maine Mall, and proximity to Portland, the best ways to mimic Keene's success is likely to imitate some of their strategies for energy policy:

Clear on mission: Keene has chosen to focus their climate planning on mitigation strategies before exploring adaptation opportunities, meaning their goal is to reduce emissions of greenhouse gases before attempting to manage the impacts of climate change. Those are two significantly different approaches to climate change action, and the city must consider then

decide which should take priority in planning decisions. Regardless of which way or hybrid of ways the City chooses to pursue the overall priority of concerns must be clearly stated.

Partner with anyone you can: The partnerships likely to have the largest effect on carbon reduction efforts in the community are the larger industries in the City. Fairchild Semiconductor has an in-house Energy and Environmental Design team, while Texas Instruments recently announced their perfluorocarbon (PFC) emissions were down 56% from 1999 levels. There is tremendous potential for developing industry-municipal agreements to agree on a future with reduced carbon emissions in the City, and maybe more importantly, advertising those relationships. It's likely that the symbolic relationship also indicated by a city-industry agreement to reduce emissions is just as important to demonstrate for these large companies receiving global attention for their environmental practices. Also, if the City sets forth a community-wide emissions reduction target, due to their magnitude reducing industrial emissions is probably the quickest way to achieve such a goal.

Without a centralized purchaser committed to exploring alternative purchase options, and especially with each department handling their own needs, it is likely that there will be no changes in purchasing considerations unless the entire range of municipal departments adopt an EP3 program. The City needs to adopt a top-down, management-supported initiative in every department if such a program is to be successful.

Since the City has set relatively aggressive goals for reduction of carbon emissions and seems focused on being a leader in climate resiliency in Maine, the hiring of an energy and efficiency coordinator is the best way to track progress and consistently evaluate carbon goals, stay aware of innovative programs undertaken by other communities, and identify potential cost savings for the City and its residents.

Conclusion

The City of South Portland has positioned itself to become a leader in climate change planning in Maine. In addition to the many local organizations and non-profit groups focused on community resiliency in the area, the proximate location of Southern Maine Community College means the City and residents have direct access to environmental and sustainability knowledge, the latest research, and community capacity building resources. Many recommendations included for Phase 2 of the Energy Action Plan relate to building and construction efficiencies, a main way to lower heating and cooling costs and increase energy retention. While the Maine Uniform Building and Energy Code doesn't allow for more stringent building codes to be adopted in Maine municipalities, the City still has considerable ability to encourage green building principles and design in new development and the retrofitting of existing properties. With a few additions, namely community-wide reduction goals, a customizable green building checklist, publicized industry-city partnerships, and the hiring of an energy and efficiency coordinator, the City is poised to be a climate resiliency leader in Maine and New England.

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