

STAFF REPORT



TO Corporate Administration, Finance & Enterprise Committee

SERVICE AREA Finance and Enterprise Services

DATE June 10, 2013

SUBJECT Annual Community and Corporate Energy Activity Report

REPORT NUMBER **FIN-CE-13-01**

EXECUTIVE SUMMARY

SUMMARY OF REPORT

Community Energy is pleased to submit for information its 2012 Report. The report establishes a baseline for activity reporting on the progress of Community Energy Initiative as well as an interim update to the Corporate Energy Management Program approved by Council in December 2012.

KEY FINDINGS

The Community Energy Initiative has significant activities and progress underway in all of its activity categories. Challenges still remain in scaling these activities toward the Initiatives 2031 goals. The Corporate Energy Management Program, now 6 months into its mandate, has established momentum in key activity categories and has developed staff resources to substantially achieve its 2013 objectives.

FINANCIAL IMPLICATIONS

None

ACTION REQUIRED

Corporate Administration, Finance and Enterprise Committee to receive for information.

RECOMMEDATION

1. That FIN-CE-13-01 Annual Community and Corporate Energy Activity Report be received for information.




BACKGROUND

The Annual Community and Corporate Energy Activity Report will provide a summary of the highlights of the Community Energy Division of the City of Guelph's Enterprise Department. The report will briefly discuss the vision, mission and goals









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of both the Community Energy Initiative (CEI) and the Corporate Energy Management Program (CEMP). A matrix of activities for both the CEI and the CEMP will be provided indicating current status of those activities.

The 2012 Community Energy Initiative and Corporate Energy Management Program Interim Report are both being presented for the first time to establish a reporting framework for future reporting. As such, the dashboard and interim report will report on pace of progress and activity (in the context of a 25-year plan in the case of the CEI) in any given category, as follows:

	Progressing well or achieved ("-","/" or "+" indicate scope within category)
	Progressing well but slowly or stalled ("-","/" or "+" indicate scope within category)
	Not progressing well, action required ("-","/" or "+" indicate scope within category)

The CEI has eight key activity categories that include a number of key supporting activities that are detailed in the body of this report. Each category is given a dashboard colour code.

<ul style="list-style-type: none"> Per Capita Energy and Greenhouse Gas Emissions 		<ul style="list-style-type: none"> Governance and Oversight 	
<ul style="list-style-type: none"> Local Energy Generation 		<ul style="list-style-type: none"> Municipality-based Policy and/or Programs 	
<ul style="list-style-type: none"> Local Energy Distribution 		<ul style="list-style-type: none"> Advocacy/Networking 	
<ul style="list-style-type: none"> Local Energy Conservation and Efficiency 		<ul style="list-style-type: none"> Major Studies/Reports 	

Overall activity fostering the CEI forward is progressing well. Challenges exist in the following areas:

- Approvals for Combined Heat and Power and solar photo-voltaic projects remain stalled at the Ontario Power Authority with no clear indication of status.
- Thermal Energy Strategic Plan is progressing rapidly but requires significant resources in defining business case, attracting appropriate partners and developing proper governance and oversight.

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- Utility driven conservation and efficiency incentives drive significant community activity but not at the level required by the goals of the CEI
- Advocacy work is showing results but long term results difficult in the face of provincial political and policy uncertainty.

The Corporate Energy Management Program was approved by Council in December 2012 and subsequently supported through the 2013 budget process. At the time of submitting this report the Program is roughly half way through its first year. The Program has been designed around a matrix of continual improvement that defines the activities that support best practice in corporate energy management. The main body of the report will show the dashboard that has been established to show the Program activities. Current activities will be described in the four main categories of:

1. Energy Management
2. Financial Management
3. Awareness & Information
4. Technical

Overall, the Corporate Energy Management Program is progressing well. Key activities are underway as follows:

- Recruiting for Program Manager, Energy to oversee implementation of the Program.
- Filling the functions of Project Manager of building retrofits from internal resources.
- Seeking 3rd party support services to build internal capacity with existing building maintenance staff for building optimization – with a focus on existing building automation systems.
- Establishing systems for monitoring, reporting and budgeting for energy consumption corporate wide

CORPORATE STRATEGIC PLAN

✓ **1.0 Organizational Excellence**

- 1.2 Develop collaborative work teams and apply whole systems thinking to deliver creative solutions
- 1.3 Build robust systems, structures and frameworks aligned to strategy.

✓ **2.0 Innovation in Local Government**

- 2.2 Deliver public service better

✓ **3.0 City Building**

- Be economically viable, resilient, diverse and attractive for business.

DEPARTMENTAL CONSULTATION

N/A

COMMUNICATIONS

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N/A

ATTACHMENTS

Community Energy – 2012 Report



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COMMUNITY ENERGY - 2012 REPORT



A Reliable and Sustainable Energy Future

This report focuses on how the City of Guelph's Community Energy Division of the Enterprise Department plays a key role in establishing a reliable and sustainable energy future for the City of Guelph. It will briefly establish Community Energy's role as part of the Enterprise Departments mission and provide an overview of Community Energy's accomplishments and activities in the period leading up to end 2012.

EXECUTIVE SUMMARY

The Annual Community and Corporate Energy Activity Report will provide a summary of the highlights of the Community Energy Division of the City of Guelph’s Enterprise Department. The report will briefly discuss the vision, mission and goals of both the Community Energy Initiative (CEI) and the Corporate Energy Management Program (CEMP). A matrix of activities for both the CEI and the CEMP will be provided indicating current status of those activities.

The **2012 Community Energy Initiative and Corporate Energy Management Program Interim Report** are both being presented for the first time to establish a reporting framework for future reporting. As such, the dashboard will report on pace of progress and activity (in the context of a 25-year plan and anticipated timelines) in any given category, as follows:



Progressing well or achieved (“-”, “/” or “+” indicate scope within category)



Progressing well but slowly or stalled (“-”, “/” or “+” indicate scope within category)



Not progressing well, action required (“-”, “/” or “+” indicate scope within category)

Community Energy Initiative Dashboard

The CEI has eight key activity categories that include a number of key supporting activities that are detailed in the body of this report. Each category is given a dashboard color code.

Per Capita Energy and Greenhouse Gas Emissions



Governance and Oversight



Local Energy Generation



Municipality-based Policy and/or Programs



Local Energy Distribution



Advocacy/Networking



Local Energy Conservation and Efficiency



Major Studies/Reports



Overall activity fostering the CEI forward is progressing well. Challenges exist in the following areas:

- Approvals for Combined Heat and Power and solar photo-voltaic projects remain stalled at the Ontario Power Authority with no clear indication of status.
- Thermal Energy Strategic Plan is progressing rapidly but requires significant resources in defining business case, attracting appropriate partners and developing proper governance and oversight.
- Utility driven conservation and efficiency incentives drive significant community activity but not a the level required by the goals of the CEI.
- Advocacy work is showing results but long term results difficult in the face of provincial political and policy uncertainty.

Corporate Energy Management Program Interim Report

The Corporate Energy Management Program was approved by Council in December 2012 and subsequently supported through the 2013 budget process. At the time of submitting this report the Program is roughly half way through its first year. The Program has been designed around a matrix of continual improvement that defines the activities that support best practice in corporate energy management. The main body of the report will show the dashboard that has been established to show the Program activities. Current activities will be described in the four main categories of:

1. Energy Management
2. Financial Management
3. Awareness & Information
4. Technical

Overall, the Corporate Energy Management Program is progressing well. Key activities are underway as follows:

- Recruiting for Program Manager, Energy to oversee implementation of the Program.
- Filling the functions of Project Manager of building retrofits from internal resources.
- Seeking 3rd party support services to build internal capacity with existing building maintenance staff for building optimization – with a focus on existing building automation systems.
- Establishing systems for monitoring, reporting and budgeting for energy consumption corporate wide

ORGANIZATIONAL CONTEXT

Community Energy, along with Downtown Renewal and Economic Development, is part of the Enterprise Department which is a member of the Finance and Enterprise Service Area.

Community Energy oversees the implementation of the Community Energy Plan (now referred to as the Community Energy Initiative - CEI) as well the implementation of the Corporate Energy Management Program as presented to, and approved by, Council in December, 2012.

In early 2012, Enterprise Services was established for the purpose of better integrating the City's financial management and planning functions with those of enterprise focused programs – including Community Energy. The intended results were to establish alternate and innovative approaches to municipal financial planning, management, project implementation, budgeting and revenue generating practices and processes.

Enterprise Services, which consists of Economic Development, Downtown Renewal and Community Energy, has been tasked to grow and sustain Guelph's economic base through entrepreneurial activities as described in the following statement.

Enterprise Services' Mission Statement

To grow the City's economic base through innovative approaches in developing and delivering municipal initiatives and services. Such approaches will consider alternate delivery models, partnerships, as well as performance measurements. The main operating principle of Enterprise Services is to grow Guelph's economic base through the effect positioning of municipal assets and services.

Community Energy's contribution to this statement is focused on the activities that are articulated in the Community Energy Plan and being implemented under the Community Energy Initiative.

The Corporate Energy Management Program is linked to the CEI goal of establishing the Corporation as an energy leader in the community as well the principle that good energy management is directly linked to good financial management and more effective operations and the delivery of services to the community.

Community Energy and the Community Energy Initiative

High-Level Goals

The Community Energy Initiative has two fundamental high-level goals for the target year 2031 by which time it is expected that the City will have grown by 50,000 persons to a total population of 175,000:

- 1. 50% less energy use per capita**
- 2. 60% less greenhouse gas emissions per capita**

Vision

“Guelph will create a healthy, reliable and sustainable energy future by continually increasing the effectiveness of how we use and manage our energy and water resources.”

Mission

1. Guelph will be the place to invest, supported by its commitment to a sustainable energy future.
2. Guelph will have a variety of reliable, competitive energy, water, and transport services available to all.
3. Guelph energy use per capita and resulting greenhouse gas emissions will be less than the current global average.
4. Guelph will use less energy and water per capita than comparable Canadian cities.
5. All publicly funded investments will visibly contribute to meeting the other four CEP goals.

Key Implementation Strategies

1. Use efficiency to create at minimum all the energy needed to support the growth of the residential sector.
2. Use efficiency to create all the energy needed to support the growth of the commercial and institutional sectors.
3. Adopt an energy performance labeling scheme for buildings as a voluntary initiative for the city, teamed with Natural Resources Canada and a local mortgage bank, to act as a pilot for the whole of Canada to gain about 5% incremental delivered efficiency.
4. Add to Guelph’s attractiveness for quality industrial investment by offering world class tailored energy services and achieve annual investment growth rates higher than the underlying population growth, with no overall increase of the primary energy needed to serve the first fifteen years of growth.
5. Meet Guelph’s growing transport requirements while reducing the transportation energy use by 25%, using sensitive urban design, effective alternative transport options, and encouraging vehicle efficiencies.
6. Incrementally create energy distribution architecture in Guelph that will allow the majority of the city to be served with fuel choices that optimize cost, availability, and environmental impact long into the future.
7. Within fifteen years, at least a quarter of Guelph’s total energy requirement will be competitively sourced from locally created renewable resources.

8. Target – At least 30% of Guelph’s anticipated electricity requirements will be associated with Combined Heat and Power (cogeneration) by 2031.
9. Guelph will reduce the magnitude of the summer grid electrical peak by at least 40% by 2031 to avoid the need for investment in new electrical infrastructure to serve the growth of the city.
10. Guelph will systematically create an integrated energy metering, billing and management network across the entire city to allow cost-effective management of all energy forms.
11. Guelph will implement large area high-efficiency Scale Projects that accelerate progress towards a successful implementation of the CEP by creating early success and developing a deep pool of community expertise.

Corporate Energy – The Corporate Energy Management Program

High Level Mission and Goals

The Corporate Energy Program aims to operationalize the steps to becoming a best practice energy managing organization in order to avoid future costs and risks associated with exponentially increasing energy prices. Through this, the City also demonstrates leadership in implementing the Community Energy Plan under the banner of the Community Energy Initiative.

The Program has 7 key goals:

1. Realize immediate bottom-line energy reductions and future avoided costs from rapidly escalating energy prices (Risk Mitigation)
2. Build internal capacity to pursue deeper operational (non-capital) energy reductions
3. Enable best practice service-based energy accounting
4. Assist Departments to achieve their departmental CEI goals.
5. Support broader corporate asset renewal through retrofit activity
6. Leverage corporate assets for revenue – leasing rooftops for solar photovoltaic generation, tying facility boilers to district energy systems.
7. Establish the City’s corporate leadership role in the Community Energy Initiative.

STRATEGIC CONTEXT

Community Energy Initiative

Prosperity 20/20 is a Council-endorsed priority under the Corporate Strategic Planning Framework.

The Community Energy Initiative relationship with the economic development of Guelph and its role in the Enterprise Department of the Finance and Enterprise Service area is directly linked to Prosperity 20/20's goals.

In addition to the City's Strategic Plan, Local Growth Management Strategy and the provincial Places to Grow Growth Plan, the Community Energy Plan [Initiative] was identified as a key contextual input to the development of Prosperity 20/20.

Prosperity 20/20 acknowledges that The City's commitment to the Community Energy Plan [Initiative] will have implications for the utilities infrastructure capacity and create business opportunities. Energy efficiencies created through building design, conservation, redistributed energy in industrial processes and district heating networks will help support residential and industrial/commercial growth in a sustainable manner.

Prosperity 20/20 identifies the competitive advantage provided to Guelph through municipal commitment to supporting innovation and sustainability in managing water and energy resources and distribution.

Prosperity 20/20 also cites the successful implementation of the Community Energy Plan [Initiative] as having a direct effect on stimulating local innovation;

Corporate Energy Management Program

The Corporate Energy Management Program is a project identified within the Corporate Strategic Planning Framework and is fundamentally aimed at minimizing risk of escalating energy costs to city operations.

The Corporate Energy Management program has direct links to the Community Energy Initiative in two key ways:

1. Establish the Corporation of the City of Guelph as leader in establishing best practice in corporate energy management.
2. Leverage existing City assets toward the goals of the Community Energy Initiative

COMMUNITY ENERGY ACTIVITY STATUS SUMMARY

The Community Energy Initiative is based on a 25 year plan, established in 2007, with a 2031 target horizon. Implementation of the plan began in earnest with the hiring of the position that is currently titled Corporate Manager, community Energy in 2009 and the alignment of the corporate energy management functions under the Community Energy division in 2010.

The activities defined in Appendix A are a culmination of activities that are ongoing, very integrative and highly dynamic. The reporting framework presented below is designed to establish a structure for reporting on current activities and provide a baseline and reference point for future progress reporting.

The goals of the Community Energy Initiative are highly interactive. While some of the activities within the Community Energy Division are directly related to the CEI goals (as stated above), some are not. Some activities are related to cooperative efforts with partners and stakeholders. Some are “enabling” activities that have the municipality playing a role in encouraging, stimulating or similar activities that foster activities in the community that address the goals of the CEI.

The Critical Role of Envida Community Energy

Envida Community Energy is the affiliate company, along with Guelph Hydro Electrical Systems Inc., to Guelph Hydro Inc. (GHI). The City of Guelph is the sole shareholder of GHI, through Guelph Municipal Holdings Inc.. In 2010 Council approved, through a Memorandum of Intention, a mandate to GHI and Envida to develop projects that support the Community Energy Initiative.

Lastly, advocacy is a critical activity factor in implementing the CEI. The Province holds oversight of energy policy in Ontario. Despite the many opportunities provided by the 2009 Green Energy and Economy Act, there are many existing legislative and regulatory barriers to overcome for the successful long term implementation of the CEI.

Appendix A provides a reporting framework that is recommended for reporting on the activities and progress related to the implementation of the CEI. There are 8 key categories. Each described activity category has a color code as defined in the Executive Summary.

Corporate Energy Management Program

In 2011, Corporate Energy implemented a strategic framework to define best practice energy management, to benchmark where the Corporation is at using both quantitative and qualitative metrics, and also establish targets for achievement in 2013 and beyond.

This criteria is based in large measure on techniques and tools developed in the UK under the Best Practice Program of the Department of Environment. The framework includes clearly defined success criteria for the Corporate Energy Program as a whole to be able to measure the success and progress against the plan goals in four focus areas:

1. Energy Management
2. Financial Management
3. Awareness & Information
4. Technical

The Corporate Energy program strategy is in response to a desire to improve the program across all performance metric categories. For each of these categories, a baseline score was derived for past years (2010 & 2011) and targets established for achievement in 2013. Performance of the

program against these metrics will be assessed at key junctures to see if anticipated outcomes are in fact being realized or if additional effort is required.

<u>Energy management</u>	2012	2013	<u>Awareness and information</u>	2012	2013
Energy policy	2.0	4.0	Energy management	2.0	3.0
Organizing	2.0	3.0	Energy efficiency awareness	2.0	3.0
Motivation	2.0	2.0	Reporting procedures	2.0	2.0
Information systems	2.0	2.0	Review of energy performance	2.0	3.0
Marketing	2.0	3.0	Ongoing training	1.0	2.0
Investment	3.0	3.0	Market awareness	2.0	2.0
Average score	2.2	2.8	Average score	1.8	2.5

<u>Financial management</u>	2012	2013	<u>Technical</u>	2012	2013
Identifying opportunities	3.0	3.0	Existing plant and equipment	1.0	2.0
Exploiting opportunities	3.0	3.0	Plant and equipment	1.0	2.0
Management information	3.0	4.0	Maintenance procedures	1.0	2.0
Appraisal methods	3.0	4.0	Operational knowledge	1.0	2.0
Human resources	3.0	4.0	Documentation and records	2.0	2.0
Project funding	2.0	4.0	Operational methods	2.0	2.0
Average score	2.8	3.7	Average score	1.3	2.0

The following summary outlines the current interim activities underway in each of the categories as defined in the table above.

Energy Management

- Ongoing development of both formal and informal channels of communication regularly exploited by energy manager and energy staff at all levels.
- Established energy accounting functions and related reporting and communication strategies. This strategy centers on subscription to ManagingEnergy.com energy data management software that includes monitoring, tracking and reporting (M,T&R) capabilities to enable.
- RFP developed for “Facility Optimization “ resource function to work with existing building maintenance and facility managers in the monitoring, optimization, and trouble shooting of existing and planned building automation systems.

Financial Management

- Formal energy audits in 2012 have identified \$3.3M of energy conservation measures at thirteen City buildings. 2013 projects coordinated with existing capital projects coordinated through Corporate Facilities Maintenance.

- 2012 energy audit recommended measures are a number of “operational” or “low hanging fruit” measures with quick paybacks and low capital. Measures being implemented under normal building management procedures.
- Project Manager identified from existing City project management resources for implementation of 2013 capital projects identified in the 2012 energy auditing process.
- ManagingEnergy.com energy data management system being setup for reporting, monitoring and budgeting.
- Applications underway for utility and government incentives in support of building retrofit projects.

Awareness and Information

- The City is now required to develop and report on its Energy Conservation Plan, as required under new regulation OReg 397/11, Section 6, part of the Green Energy Act (2009). Compliance submission prepared.
- Participating in informal energy manager networks with other Ontario municipalities.

Technical

- The “Facility Optimization” function responsible for optimizing facility utility consumption on a day-to-day basis has been established and expected to be operational by July 2013.
- Established a basic methodology for establishing annual energy budgets, setting energy reduction targets.

SUMMARY

Both the Community Energy Initiative and the Corporate Energy Management Program are progressing well. The key challenges to the Community Energy Initiative are:

- Approvals for Combined Heat and Power and solar photo-voltaic projects remain stalled at the Ontario Power Authority with no clear indication of status. However, no key projects across the community have been rejected and staff continue to advocate to the Provincial government to approve these projects.
- Thermal Energy Strategic Plan is progressing rapidly but requires significant resources in defining business case, attracting appropriate partners and developing proper governance and oversight. It is expected that the Plan will be fully developed by mid-2013 and will be presented to all stakeholders for review.
- Utility driven conservation and efficiency incentives drive significant community activity but not at the level required by the goals of the CEI. Several activities are underway to scale up the level of efficiency and conservation activity in the community.

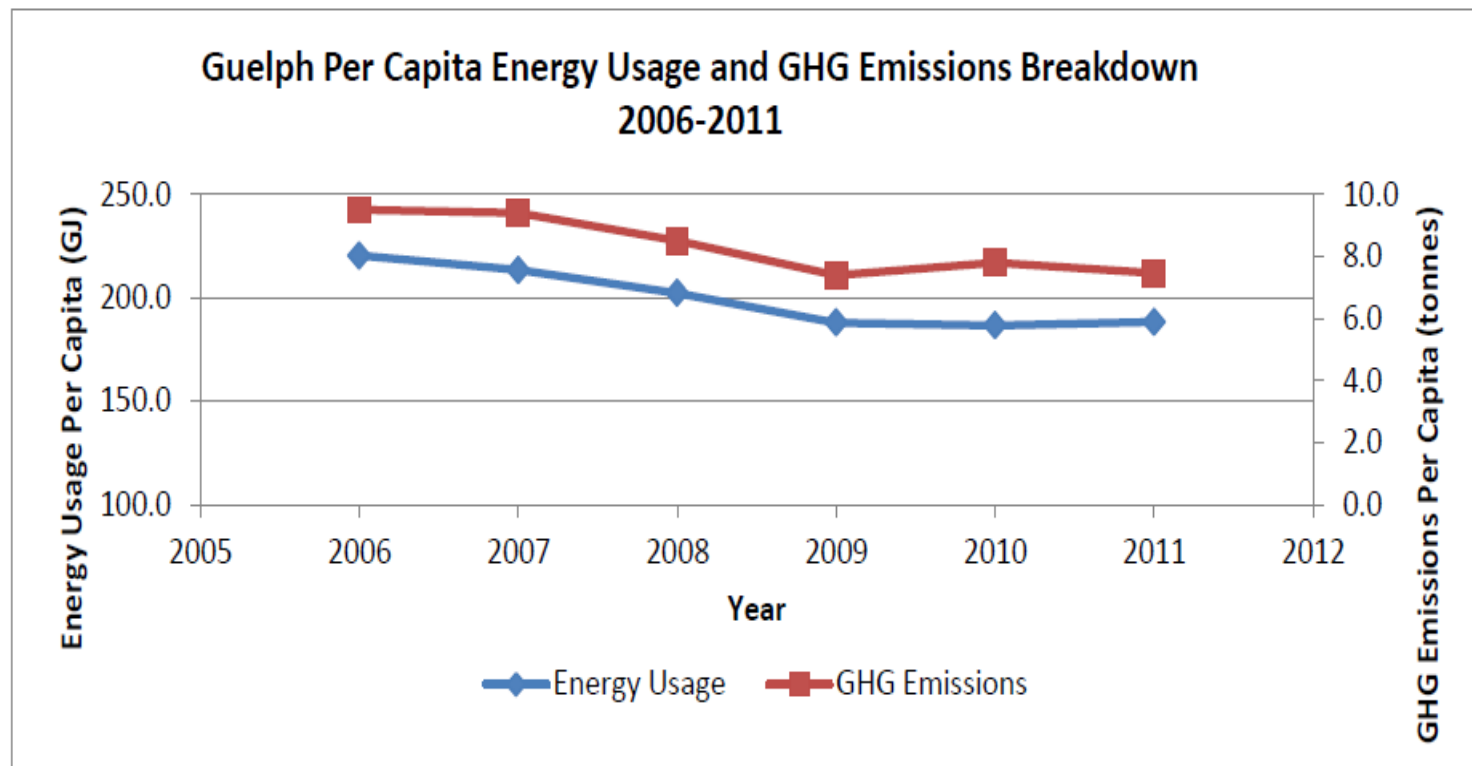
- Advocacy work is showing results but long term results difficult in the face of provincial political and policy uncertainty.

Some key aspects of the Corporate Energy Management Program are not yet initiated at the half way point of the first year of the Program. The main focus has been establishing the capacity and resources to address the “objectives” and “activities” as defined in the Program document presented to Council in December 2012.

APPENDIX A




1. Per Capita Energy and Greenhouse Gas Emissions






The fundamental goals of the CEI call for a 50% reduction per capita energy use and a 60% reduction in greenhouse gas emissions by 2013. The reporting on these goals follows the municipal protocols of ICLEI – Local Governments for Sustainability as supported by the Federation of Canadian Municipalities. The current report is for 2011 which follows the initial report of 2010. A report for 2012 is currently being prepared in partnership with Envida Community Energy – an affiliate to Guelph Hydro Inc.



2. Local Energy Generation



The Green Energy and Economy Act of 2009 and the subsequent Feed-In-Tariff program and the Combined Heat and Power Standard Offer Program provided accelerated opportunity to develop local renewable and clean energy generation. The community at large, including the City in its corporate role responded very well. It is estimated that up to 60 MW of local generation was pre-developed and applications were put before the Ontario Power Authority (OPA). This represents about 25% of the city’s overall average demand. Only a few of these projects have been approved however. Many of them continue to seek approval from the OPA.



Activity	Description	Initiated	CEP Goals	Status	Code
Corporate Buildings Solar PV Rooftops	Originally 15 corporate facilities (community centres, libraries, arenas etc.) designed to host solar photovoltaic (PV) facilities - estimated total 1 MW). Envida, acting on behalf of the City submitted applications to the Ontario Power Authority (OPA) Feed-In-Tariff (FIT) Program.	August, 2012	7, 9	OPA FIT Program rules revised. Original 15 facilities reduced to 7 due to increased	
Solar Farm - Eastview Closed Landfill	Eastview is Guelph's Landfill, closed in 2005. Approximately 100 acres is available to a develop a PV solar farm. Preliminary design and OPA FIT application completed.	August, 2012	7,9	Application is before the OPA awaiting approval. Response expected 2013.	
Eastview Methane Capture and Electrical Generation	9 MW generation facility installed on closed Eastview landfill site. Contracted sale of electricity to Ont. Power Authority under the Clean Energy Standard offer program	2008	7,9	Ongoing. City received carbon credits for destruction of methane.	

Combined Heat and Power	Three major Combined Heat and Power projects submitted to the Ontario Power Authority. Total 28 MW. Projects designed to anchor three major nodes in the initial stages of a district energy system.	August, 2012	7, 9	Applications are before the OPA awaiting approval. Response expected 2013.	
Residential Micro-FIT	Approximately 250 homes within the City of Guelph have installed solar PV systems on their rooftops under the OPA's Micro-FIT program (under 10 kW). Guelph Hydro Electrical System oversees the hook-up to the grid of all of these systems.	Ongoing since 2010.	7,9	Ongoing. The original vision of the plan was for "1,000 rooftops".	
West End Community Centre (WECC) - Cogeneration	Approximately 400 kW cogeneration plant installed at the WECC to provide onsite electrical and thermal.	2008	7,9	Currently Envida is considering the purchase of the cogeneration system to become the owner/operator. Unit could potentially anchor a district energy node in the area.	
Waste Water Treatment Plant - Onsite generation	Averaging 4,000 kWh per day, the onsite cogeneration plant operates on methane captured from the wastewater process and redirects electricity and heat back to the operating demand.	2009	7,9		
Local Renewable Energy Cooperatives	Establishment of several local renewable energy cooperatives - Hall's Pond, Guelph Solar Cooperative and the Cooperative established to oversee the Eastview closed landfill project (see above)	2011/12	7,9	Currently awaiting OPA approval	

3. Local Energy Distribution




Distribution of energy falls into three categories – electricity, natural gas and thermal heat.

Activity	Description	Initiated	CEP Goals	Status	Code
Smart Meters and Smart meter program pilots	Smart-meters installed by Guelph Hydro Electrical Systems Inc. (GHESI) in 40,000 Guelph homes and small businesses	2012	1,6,10	Installation complete. GHESI pursuing Ontario Energy Board approval for various programs linked to smart meters.	
District Energy System - MacDonnell and Woolwich	Development of a district energy system (heating and cooling) in the area of McDonnell and Woolwich streets	2012	4,6,8	Currently developing a business case for the district energy node to establish funding and potential partnerships. Work is being done in coordination with city-wide thermal master plan	

<p>Hanlon Creek District Energy System</p>	<p>Development of a district energy system (heating and possible cooling) in the greenfield employment area commonly referred to as the Hanlon Creek Business Park</p>	<p>2012</p>	<p>4,6,8</p>	<p>Currently developing a business case for the district energy node to establish funding and potential partnerships. Work is being done in coordination with city-wide thermal strategic plan (see below)</p>	
<p>Electric Car charging station pilot</p>	<p>A pilot program for up to three charging stations for electric vehicles</p>	<p>2012</p>	<p>5</p>	<p>Stone Road Mall site established. Further stations under consideration.</p>	


4. Local Energy Conservation and Efficiency


Energy conservation/efficiency incentive and information programs have a well established history of activity toward the goals of the Community Energy Initiative. These programs are not only critical for driving performance toward CEI goals but are a very important channel through which to engage the community. The scale at which conservation/efficiency is currently taking place is understood to be at a scale that falls below the aspirations of the CEI.

Activity	Description	Initiated	CEP Goals	Status	Code
GHESI Conservation and Demand Management Incentives	GHESI continues to promote and deliver Conservation and Demand Management incentives for homes and businesses under the OPA and Ministry of Energy's SaveONEnergy programs	Ongoing	1,2,9	Ongoing.	
Union Gas Demand Side Management programs	Union Gas continues to promote and deliver Demand-Side Management incentives for homes and businesses as approved by the Ontario Energy Board	Ongoing	1,2,9	Ongoing.	
The Community "Hub"	The CEI is aiming, in cooperation with local community groups to develop a community-based "hub" that provides grass-roots support for individuals, households and small business activities that support various goals of the CEI - particularly increased efficiency in the residential sector and increased uptake of small solar PV	2010	1,2	In 2010 a proposal was submitted by the City to the Ontario Power Authority for funding of the "Hub" but it was declined.	

5. Governance and Oversight



The development of the Community Energy Plan was a highly consultative one. Hundreds of individuals of dozens of organizations, businesses and institutions participated in consultations that ultimately resulted in a highly supported Plan as approved by Council in April 2007. These highly engaged stakeholders are critical to the ongoing success of the Community Energy Initiative.



Activity	Description	Initiated	CEP Goals	Status	Code
Mayor's Task Force on Community Energy	The Task Force has established a two year mandate to act as an oversight body to the collective efforts of the Community toward the goals of the CEI. Also consists of four sub-committees; Governance and Finance, Communications and Stakeholder Engagement, Inter-governmental and City Implementation Team	2010	10	First two year mandate of the Task Force complete end of year 2012. Governance and Finance committee has forwarded recommendations for next mandate to the Task Force in December 2012 to be implemented by end Q2 2013	


<p>Guelph Municipal Holdings Inc.</p>	<p>Under the Municipal Act, municipalities can create companies that operate under the Ontario Business Corporations Act, to conduct business that serves community benefit. Guelph Hydro Inc. and its two subsidiaries, Envida and Guelph Hydro Energy Services Inc. were moved into the holding company</p>	<p>2012</p>	<p>10</p>	<p>The City and Guelph Hydro continue to align their strategic direction toward the goals of the CEI. Several generation projects (as described in the "Local Generation" section above) are expected to include GMHI in "investing" city assets into Envida projects</p>	
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6. Municipality-based Policy and/or Programs

Founded in Place to Grow legislation, the future growth of the city and the CEI are inextricably linked. A great focus of CEI work in 2011 and 2012 was focused on integrating the objectives of the CEI into extensive planning city processes as well as mobilizing other tools under municipal control that can further the goals of the CEI.




Activity	Description	Initiated	CEP Goals	Status	Code
Official Plan Amendment 48	Incorporating the goals of the CEI into City planning processes has resulted in the Official Plan Amendment 48. The updated Plan incorporates several key aspects of the CEI and defines the overall role of energy in the future growth of the city with the objective of supporting higher-density growth and more efficient transportation infrastructure.	2012	2,3,6	The Official Plan Amendment 48 is currently with MMAH awaiting approval	
Downtown and Guelph Innovation District Secondary Plans	Secondary Plans have been developed for two key areas of the City - Downtown and the Guelph Innovation District. The Plans provide specifics about intended building efficiencies, residential and employment densities and energy services from renewable and district energy.	2012	2,3,6	Downtown Secondary Plan is before MMAH for Approval. The Guelph Innovation District Secondary Plan is in final draft stages and is expected to be submitted by Q2 2013.	


<p>Blanket Municipal Support Resolution - OPA FIT Program</p>	<p>Council provided a blanket resolution in support of all applications for projects located within the City of Guelph to the Ontario Power Authority's Feed In Tariff Program</p>	<p>2012</p>	<p>7,9</p>	<p>Approximately 20 blanket resolutions were issued to OPA applicants planning to develop solar photo voltaic projects within the City of Guelph</p>	
<p>Local Improvement Charges Legislation</p>	<p>Under the Municipal Act, local governments can make special investments in local infrastructure and recoup the investment by special levies to the beneficiaries through the tax collection system. A coalition of interested parties lobbied the government to support the expansion of eligible investments to include energy efficiency and renewable energy on private property</p>	<p>2011</p>	<p>1,2,7</p>	<p>Legislation has passed the legislature. Guelph is now participating in the Collaboration on Home Energy Efficiency Retrofits in Ontario (CHEERIO) initiative - led by the Toronto Atmospheric Fund and a coalition of cities.</p>	

2012 Building Code	The Ontario government updated the building code to include energy performance standards. The City of Guelph's building inspectors have been trained and are fully enabled to inspect for 2012 building code standards.	2011	1,2	Ongoing.	
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7. Advocacy/Networking



Advocating to other orders of government is a critical part of Community Energy’s activities. Barriers to the implementation to the CEI still exist in the areas of policy, regulation as well as direct support resources through incentives, grants, etc. Strategic networking not only provides valuable learning opportunities but broadens the reach of advocacy.



Activity	Description	Initiated	CEP Goals	Status	Code
Quality Urban Energy Systems of Tomorrow QUEST	QUEST – Quality Urban Energy Systems of Tomorrow – is a national non-profit organization actively working to make Canada a leader in the design, development and implementation of Integrated Community Energy Solutions. The City is a founding member.	2010	All	QUEST is entering its 6 th year. Support for advocacy at the provincial and federal level. Implementation support ongoing.	
Transatlantic Urban Climate Dialogue	A two year learning exchange among two regions in North America: North Virginia and Guelph (Ontario) and two regions in Germany: North-Rhine Westfalia and Baden Witttemberg with a focus on community energy implementation. Stakeholder include cities, academics and public sector interests	2010	All	Three of four workshops complete. Fourth workshop to be held in Guelph, May 15-17, 2013	
Provincial Policy Statement (PPS)Input	A coalition of partners providing recommendations on how the PPS can better support the uptake of District Energy in municipalities across the province, as a necessary and sustainable infrastructure strategy, and a foundational backbone of Integrated Community Energy Systems (ICES).	2012	6	Recommendations not reflected in recent drafts of PPS. Advocacy continues.	


<p>Feed In Tariff Land Use Working Group</p>	<p>A working group to review the rules of the Feed in Tariff Program specific to large solar photovoltaic (over 500 kW) located in areas on or near residential land.</p>	<p>2012</p>	<p>7</p>	<p>Rule changes recommended to allow for solar PV adjacent to residential provided there are adequate setback, buffers and other remedies. Recommendations currently before the Minister of Energy</p>	
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8. Major Studies/Reports


As Community Energy Initiative moves into the implementation phase of the Community Energy Plan, many aspects require further study to support incremental business cases and tactics.

Activity	Description	Initiated	CEP Goals	Status	Code
Building Labeling Scan	A study reviewing Building Energy Labeling protocols and programs in other jurisdictions	2012	3	In 2008, the City was part of a pilot program developing building labels for City facilities. In 2013, Natural Resources Canada is expected to further implement a standard building label program across Canada.	
Energy Density Mapping Study	An extensive analysis of total energy use in the City and a mapping of where the energy is used spatially. The study also included future scenarios on increased persona and job density as well as improved building and transportation efficiency	2009	1,2,5	Project complete 2011. CUI's work is now the basis to provide mapping input to the Thermal Master Plan (see below)	

<p>Mapping Implementation Study</p>	<p>A companion Study to the Energy Density Mapping project, the Mapping Implementation study explored, through stakeholder engagement sessions, the utilization of mapping tools with three stakeholder groups - real estate industry, legal interests and city planning staff.</p>	<p>2011</p>	<p>1,2,5</p>	<p>Project complete 2011. CUI's work is now the basis to provide mapping input to the Thermal Strategic Plan (see below)</p>	
<p>Strategic Plan and Critical Path: Short-Term Implementation Recommendations</p>	<p>Commonly referred to as the "Think Tank", this extensive study worked with the same stakeholder group that supported the CEP itself. Its purpose was to determine the critical path toward implementing the "Scale-Projects" identified in the Plan.</p>	<p>2010</p>	<p>11</p>	<p>Project completed successfully. Major outcomes focused on scale project AND the addition of the urgency to create CEP governance and oversight and the specific recommendation to create the Mayor's Task Force on Community Energy</p>	

<p>CEP Inc.</p>	<p>An investigation and specific recommendations into the creation of a "business" entity to oversee the implementation of the Community Energy Plan</p>	<p>2008</p>	<p>0</p>	<p>Follow up on the study has remained on hold until the first mandate of the Mayor's Task Force is complete (end of 2012). Study will inform recommendations made by the Governance of Finance Committee as to the next evolution of CEI governance and oversight</p>	
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<p>Sector-based Building Performance Specifications</p>	<p>A series of guidance documents developed to establish high energy efficiency building specifications in various sectors - commercial, institutional, industrial.</p>	<p>2009/2010</p>	<p>1,2</p>	<p>Current legislative authority does not allow municipalities to require compliance for building energy performance beyond the 2012 building code. Specifications are used for encouraging development applicants to higher performance standards in support of the CEI</p>	
<p>Local Economy Study - Link between CEP and local economy</p>	<p>An economic study to determine the local economic stimulation as a result of the CEI in the form of cost savings, infrastructure investments and job creation.</p>	<p>2012</p>	<p>4</p>	<p>Currently developing scope of work to begin negotiations with potential consultants</p>	

Thermal Strategic Plan	A large scale study to determine the feasibility, economics, design, implementation and business development strategy for a thermal energy distribution network for the City of Guelph	2012	6	Projects kick-off Feb. 1, 2013. Full delivery expected mid-2013.	
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invest in Guelph



Guelph
Community
Energy
Initiative

2012 Annual Report

Origins

Community Energy Plan

- **25 year Plan**
- **Approved by Council, April 2007**
- **Priority confirmed by Council in 2008**
- **2012 Corporate Strategic Plan**

Two Fundamental, High Level Targets

- **50% less energy use per capita**
- **60% less GHG emissions per capita**



Population expected to grow by 50% by 2031 to 175,000 persons
Decouple energy consumption from population growth

Goals

1. Recognized as a location of choice for investment
2. Variety of reliable, competitive energy, water, and transport services will be available to all
3. Energy use per capita and resulting greenhouse gas emissions will be less than the current global average
4. Energy and water use per capita will be less than comparable Canadian cities
5. All publicly funded investments will visibly contribute to meeting CEP goals



Current Focused Drivers

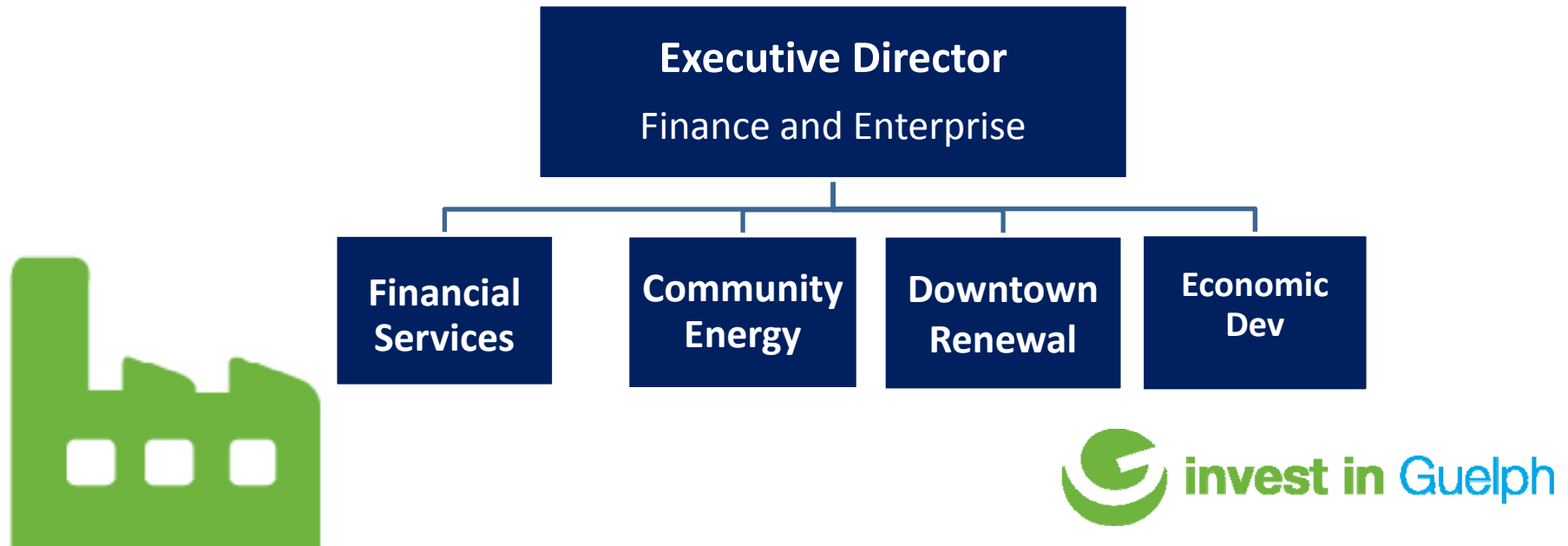
The CEI is Economic Development

Founded on original goals:

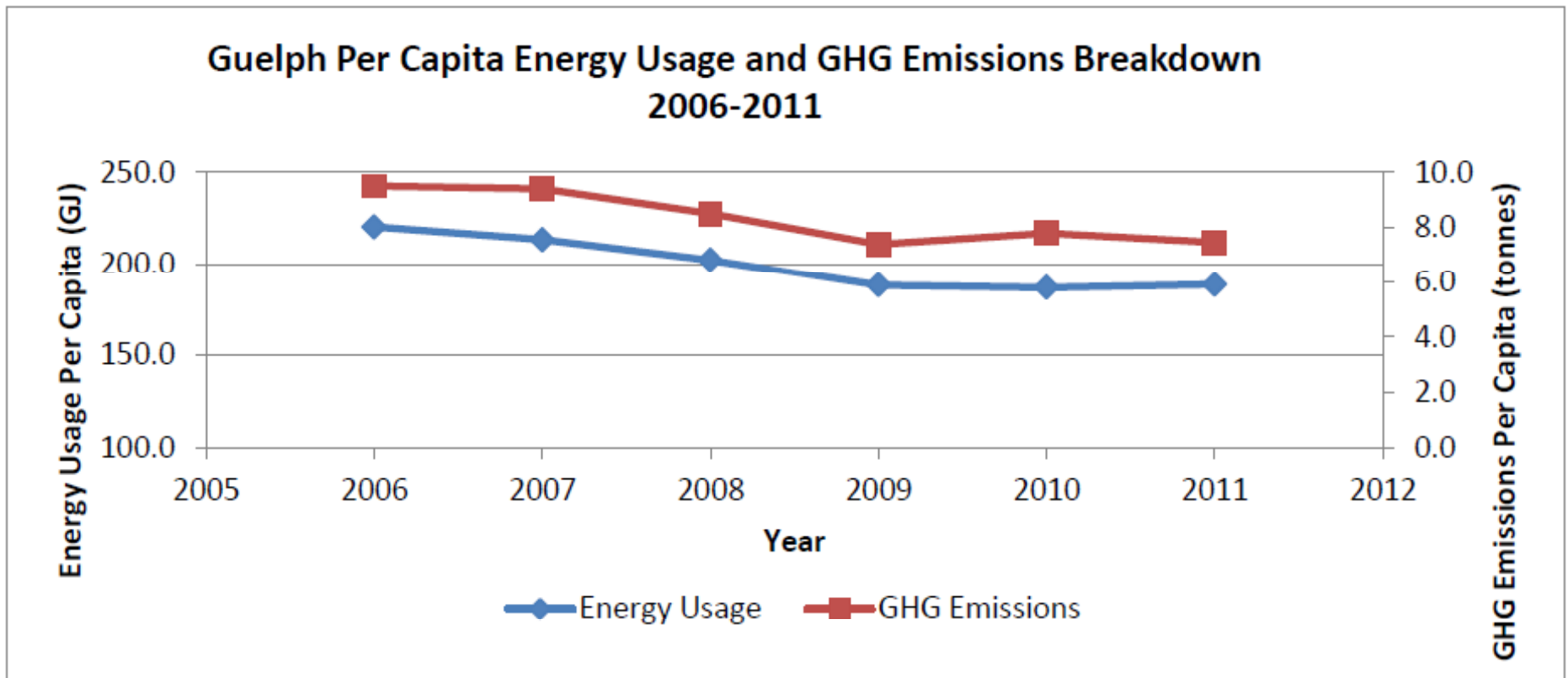
Goal #1 - Recognized as a location of choice for investment

Goal #5 - All publicly funded investments will visibly contribute to meeting CEP goals

- Resilient local economy
- Environmental performance follows



Reporting



CEI 2012

Dashboard

**Per Capita Energy and
Greenhouse Gas Emissions**



Local Energy Generation



Local Energy Distribution



**Local Energy Conservation and
Efficiency**



Governance and Oversight



**Municipality-based Policy
and/or Programs**



Advocacy/Networking



Major Studies/Reports



CEI 2012

Challenges

- Approvals for Combined Heat and Power and solar photo-voltaic projects remain stalled at the Ontario Power Authority.
- Thermal Energy Strategic Plan is progressing rapidly requiring significant resources.
- Utility conservation and efficiency incentives fall below level required by the goals of the CEI.
- Provincial energy policy uncertainty.



Corporate Energy Management 2012

Dashboard

<u>Energy management</u>	2012	2013	<u>Awareness and information</u>	2012	2013
Energy policy	2.0	4.0	Energy management	2.0	3.0
Organizing	2.0	3.0	Energy efficiency awareness	2.0	3.0
Motivation	2.0	2.0	Reporting procedures	2.0	2.0
Information systems	2.0	2.0	Review of energy performance	2.0	3.0
Marketing	2.0	3.0	Ongoing training	1.0	2.0
Investment	3.0	3.0	Market awareness	2.0	2.0
Average score	2.2	2.8	Average score	1.8	2.5

<u>Financial management</u>	2012	2013	<u>Technical</u>	2012	2013
Identifying opportunities	3.0	3.0	Existing plant and equipment	1.0	2.0
Exploiting opportunities	3.0	3.0	Plant and equipment	1.0	2.0
Management information	3.0	4.0	Maintenance procedures	1.0	2.0
Appraisal methods	3.0	4.0	Operational knowledge	1.0	2.0
Human resources	3.0	4.0	Documentation and records	2.0	2.0
Project funding	2.0	4.0	Operational methods	2.0	2.0
Average score	2.8	3.7	Average score	1.3	2.0



Corporate Energy Management 2012

Key Activities

- Recruiting for Program Manager, Energy
- Filling the functions of Project Manager of building retrofits from internal resources.
- Support services to build internal capacity with existing building maintenance staff for building optimization – with a focus on existing building automation systems.
- Establishing systems for monitoring, reporting and budgeting for energy consumption corporate wide



Community Energy

