COMMITTEE AGENDA

TO **Corporate Administration, Finance and Enterprise Committee**

DATE Tuesday October 9, 2012

LOCATION Council Chambers
TIME 5 p.m.

DISCLOSURE OF PECUNIARY INTEREST AND GENERAL NATURE THEREOF

CONFIRMATION OF MINUTES – September 10, 2012 meeting minutes

PRESENTATIONS (Items with no accompanying report)

None

CONSENT AGENDA

The following resolutions have been prepared to facilitate the Committee's consideration of the various matters and are suggested for consideration. If the Committee wishes to address a specific report in isolation of the Consent Agenda, please identify the item. The item will be extracted and dealt with separately. The balance of the Corporate Administration, Finance & Enterprise Committee Consent Agenda will be approved in one resolution.

ITEM		CITY PRESENTATION	DELEGATIONS	TO BE EXTRACTED
CAFE-38	Corporate Energy Program Strategic Business Plan	• Rob Kerr, Corporate Manager Community Energy		√
CAFE-39	City Land Sale Approval Process and Guidelines for the Sale of City-Owned Land – Hanlon Creek Business Park	• Peter Cartwright, General Manager of Economic Development		√
CAFE-40	Prices for the Sale of City-Owned Land – Hanlon Creek Business Park	• Peter Cartwright, General Manager of Economic Development		√
CAFE-41	2012 Mid-Year			

	Investment Performance Report			
CAFE-42	Amending Agreement to a Development Charge Early Payment Agreement – Wurth Canada Limited, Hanlon Creek Business Park			
CAFE-43	August 2012 Operating Variance Report			

Resolution to adopt the balance of the Corporate Administration, Finance & Enterprise Committee Consent Agenda.

ITEMS EXTRACTED FROM CONSENT AGENDA

Once extracted items are identified, they will be dealt with in the following order:

1) delegations (may include presentations)
2) staff presentations only
3) all others.

CLOSED MEETING

THAT the Corporate Administration, Finance & Enterprise Committee now hold a meeting that is closed to the public with respect to:

1. **Sale of City Land**
   S. 239 (2) (c) of the *Municipal Act* – proposed or pending acquisition or disposition of land

NEXT MEETING – November 12, 2012

The Corporation of the City of Guelph
Corporate Administration, Finance, and Enterprise Committee
Monday September 10, 2012, 5:00 p.m.

A meeting of the Corporate Administration, Finance and Enterprise Committee was held on September 10, 2012 in the Council Chambers at 5:00 p.m.

Present: Councillors Hofland, Kovach, Laidlaw, Wettstein and Mayor Farbridge

Absent: Councillor Laidlaw

Also Present: Councillors Bell, Dennis, Furfaro, Guthrie and Van Hellemond

Staff Present: Ms. A. Pappert, Chief Administrative Officer; Mr. M. Amorosi, Executive Director, Corporate & Human Resources; Mr. A. Horsman, Executive Director, Finance & Enterprise; Mr. D. McCaughan, Executive Director, Operations, Transit & Emergency Services; Ms. T. Agnello, Deputy Clerk; and Ms. J. Sweeney, Council Committee Co-ordinator

Disclosure of Pecuniary Interest and General Nature Thereof

There were no disclosures.

1. Moved by Mayor Farbridge
Seconded by Councillor Kovach

THAT the minutes of the Corporate Administration, Finance and Enterprise Committee meetings held on June 11 and July 9, 2012 be confirmed as recorded and without being read.

VOTING IN FAVOUR: Councillors Hofland, Kovach, Wettstein and Mayor Farbridge (4)

VOTING AGAINST: (0)

Carried

Consent Agenda

The following item was extracted from the Corporate Administration, Finance & Enterprise Committee September 10, 2012 Consent Agenda:

CAFES-2012 A.35 Corporate Technology Strategic Plan

2. Moved by Mayor Farbridge
Seconded by Councillor Wettstein

THAT the balance of the Corporate Administration, Finance & Enterprise Committee September 10, 2012 Consent Agenda, as identified below, be adopted:

a) **June 2012 Operating Variance and Revenue Report**

Mr. A. Horsman

THAT the Finance report dated September 10, 2012 entitled "June 2012 Operating Variance and Revenue Report" be received for information purposes.

b) **Capital Budget Monitoring Q2 2012**

Mr. A. Horsman

THAT the Finance Report dated September 10, 2012 entitled "Capital Budget Monitoring, Q2 2012" be approved.

VOTING IN FAVOUR: Councillors Hofland, Kovach, Wettstein and Mayor Farbridge (4)

VOTING AGAINST: (0)

Carried

Presentation

Ms. Gail Nisbet, Manager of Taxation & Revenue introduced John Hebden, the City's municipal representative at the Municipal Property Assessment Corporation who will provide information on the reassessment taking place in Ontario.

Mr. John Hebden of the Municipal Property Assessment Corporation, outlined the roles and responsibilities of MPAC. He provided information on the assessment cycle, the phase-in of property assessment values, the process for request for reconsideration and the City's average assessed value by selected residential properties. He introduced MPAC's new AboutMyProperty website.

In response to questions, Ms. Nisbet provided clarification of the property reassessment effect to the property owner's City taxation.

Corporate Technology Strategic Plan

Mr. Mark Amorosi, Executive Director, Corporate & Human Resources introduced the Corporate Technology Strategic Plan, contained as part of the meeting agenda.

Mr. Gilles Dupuis, General Manager, Information Technology outlined how the corporate technology strategic plan aligns with the City's strategic plan.

Ms. Norah Prior, of Prior and Prior, advised that the proposed plan would lead to the creation of a digitized platform to support flexible and better services. She outlined the current state of the city's technology and the implications of not moving forward. She highlighted the proposed 2013, 2014 and 2015 deliverables and the benefits of implanting these changes.

The Committee had considerable discussion on how to reflect the impact of the proposed changes to the dashboard, movement toward open government, business cases for the various projects and the projected cost savings.

3. Moved by Councillor Kovach
Seconded by Mayor Farbridge

REPORT THAT Council approve the Corporate Technology Strategic Plan;

AND THAT the implementation plan included in the Corporate Technology Strategic Plan is approved;

AND THAT the Capital and Operating Budget resources required to implement the plan be referred to the 2013 budget process.

VOTING IN FAVOUR: Councillors Hofland, Kovach, Wettstein and Mayor Farbridge (4)

VOTING AGAINST: (0)

Carried

4. Moved by Mayor Farbridge
Seconded by Councillor Kovach

That the meeting of the Corporate Administration, Finance & Enterprise Committee of September 10, 2012 be adjourned.

Carried

The meeting adjourned at 6:45 p.m.

……..
Chairperson

CORPORATE ADMINISTRATION, FINANCE & ENTERPRISE COMMITTEE
CONSENT AGENDA

October 9, 2012

Members of the Corporate Administration, Finance & Enterprise Committee.

SUMMARY OF REPORTS:

The following resolutions have been prepared to facilitate the Committee's consideration of the various matters and are suggested for consideration. If the Committee wishes to address a specific report in isolation of the Consent Agenda, please identify the item. The item will be extracted and dealt with immediately. The balance of the Corporate Administration, Finance & Enterprise Committee Consent Agenda will be approved in one resolution.

A Reports from Administrative Staff

REPORT	DIRECTION
CAFE-2012 A.38) CORPORATE ENERGY PROGRAM STRATEGIC BUSINESS PLAN THAT the report dated October 9, 2012 entitled 'Corporate Energy Program Business Plan' be received; AND THAT the business case within the Corporate Energy Program Strategic Business Plan dated September 2012 be received as supporting material for Corporate Energy's 2013 Capital and Operating budget requests; AND THAT the Capital and Operating budget resources required to implement the Corporate Energy Program Strategic Business Plan be referred to the 2013 budget process for consideration.	Approve
CAFE-2012 A.39) CITY LAND SALE APPROVAL PROCESS AND GUIDELINES FOR THE SALE OF CITY-OWNED LAND – HANLON CREEK BUSINESS PARK THAT a process for the sale of city-owned land within the Hanlon Creek Business Park, as attached to the October 9, 2012 report entitled 'City Land Sale Approval Process and Guidelines – Hanlon Creek Business Park' be approved; AND THAT the approval to approve, amend and/or terminate Offers to Purchase/Agreement of Purchase and Sale for the sale of city-owned lands within the Hanlon Creek Business Park be delegated to the General Manager of Economic Development;	Approve

AND THAT the City Solicitor be authorized to complete all transactions relating to the Hanlon Creek Business Park and execute, on behalf of the City, all documents relating thereto;

AND THAT the guidelines for the sale of city-owned land within the Hanlon Creek Business Park, as attached to the October 9, 2012 report entitled 'City Land Sale Approval Process and Guidelines – Hanlon Creek Business Park' be approved.

CAFE-2012 A.40) PRICES FOR THE SALE OF CITY-OWNED LAND – HANLON CREEK BUSINESS PARK PHASE 1 — Approve

THAT the prices for the sale of city-owned land within the Hanlon Creek Business Park Phase 1, as attached to the October 9, 2012 report entitled 'Prices for the Sale of City-Owned Land – Hanlon Creek Business Park Phase 1', be approved;

AND THAT the General Manager of Economic Development report back to Committee/Council on an annual basis to review and establish prices for the sale of city-owned land within the Hanlon Creek Business Park Phase 1 for each subsequent year;

AND THAT the city pay real estate commissions to brokers/realtors who have introduced and registered their client with the Economic Development Office, in the total amount of 5% of the total purchase price plus HST on the commission, from the proceeds of the sale on closing.

CAFE-2012 A.41) 2012 MID-YEAR INVESTMENT PERFORMANCE REPORT — Receive

THAT report FIN-12-39 dated October 9, 2012, with respect to the 2012 Mid-Year investment portfolio performance and holdings be received for information.

CAFE-2012 A.42) AMENDING AGREEMENT TO A DEVELOPMENT CHARGE EARLY PAYMENT AGREEMENT – WURTH CANADA LIMITED, HANLON CREEK BUSINESS PARK — Approve

THAT the Mayor and Clerk be authorized to execute an Amending Agreement to a Development Charge Early Payment Agreement between the Corporation of the City of Guelph and Wurth Canada Limited, for the lands described as all of Block 9, Registered Plan 61M-169 in the Hanlon Creek Business Park, as outlined in the report of the General Manager of Economic Development dated October 9, 2012.

CAFE-2012 A.43) AUGUST 2012 OPERATING VARIANCE REPORT

Receive

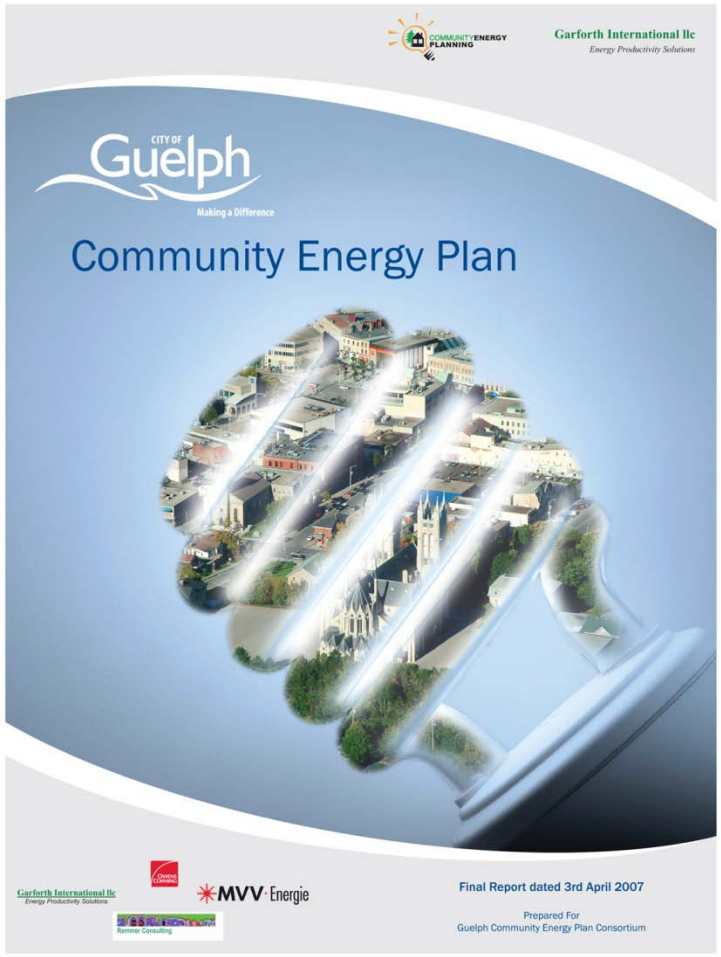
THAT the Finance report FIN-12-42 dated October 9, 2012 entitled 'August Operating Variance and Revenue Report' be received for information purposes.

attach.

Corporate Energy Program

Strategic Business Plan

Presentation to CAFE Oct 9, 2012



Context

Energy costs are…

- Exponentially increasing
- City's largest aggregated non-labour expense
- Expense with largest inflationary pressure and therefore one of the largest risks to the Corporation

Key Discussion Elements

1. Inform on corporate risk posed by exponentially escalating energy costs
2. Outline Corporate Energy's strategic approach to energy management
3. Describe strategic framework and key performance indicators to assess program success
4. Outline the business case for an energy management implementation strategy containing both capital and operational cost implications.

Corporate Energy Management Program

Background

"All publicly funded investments will visibly contribute to meeting the other four CEP goals:"

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

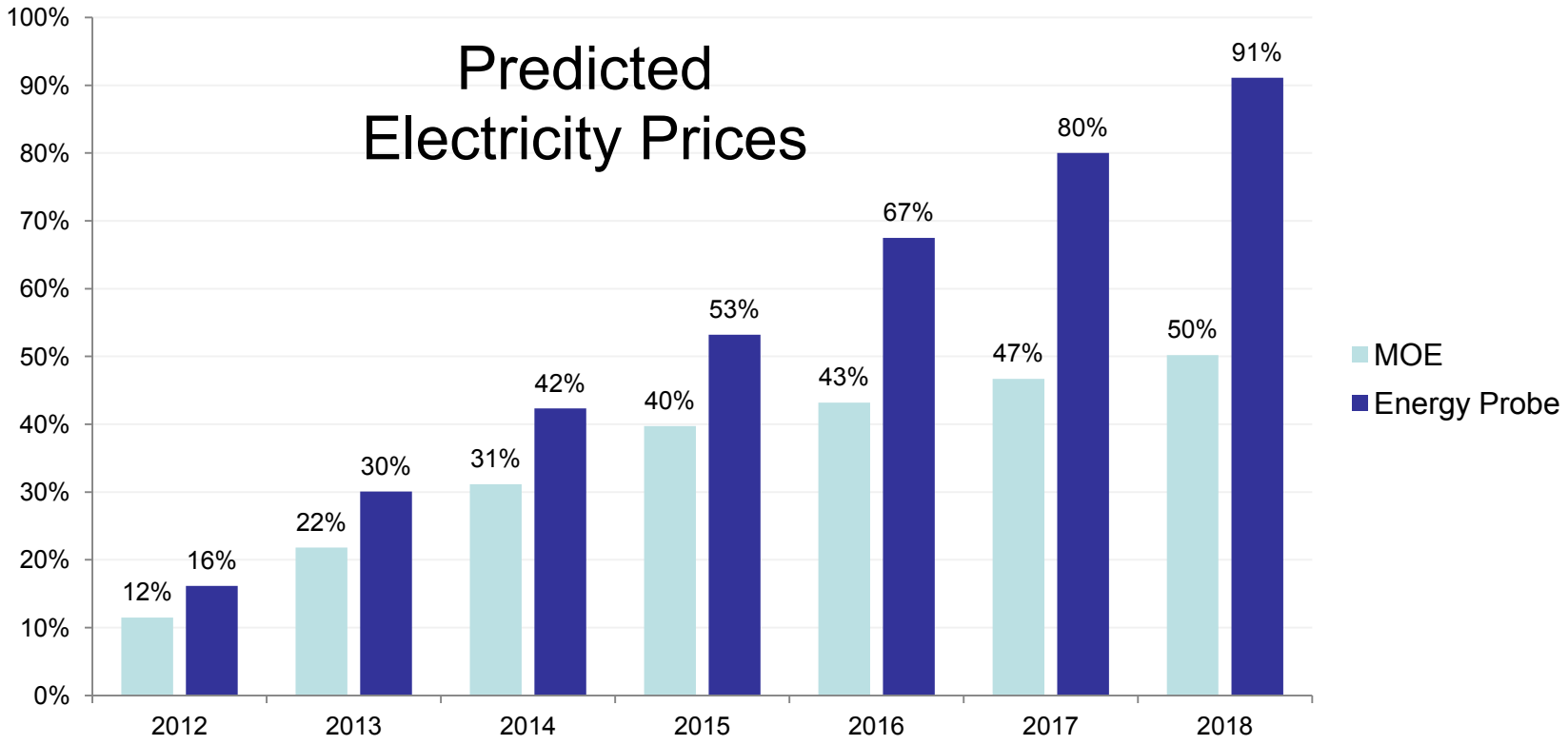
Corporate Energy activities in last 14 months

- Auditing major 13 facilities (identifying both capital and operational opportunities)
- Assessing and identifying solutions to financial and energy accounting
- Draft Business Plan for Corporate Energy Management Program – July 2012
  - Supporting CSP priority project
  - Supporting capital and operational budget process
- Implementing and supporting projects that have energy performance aspects.

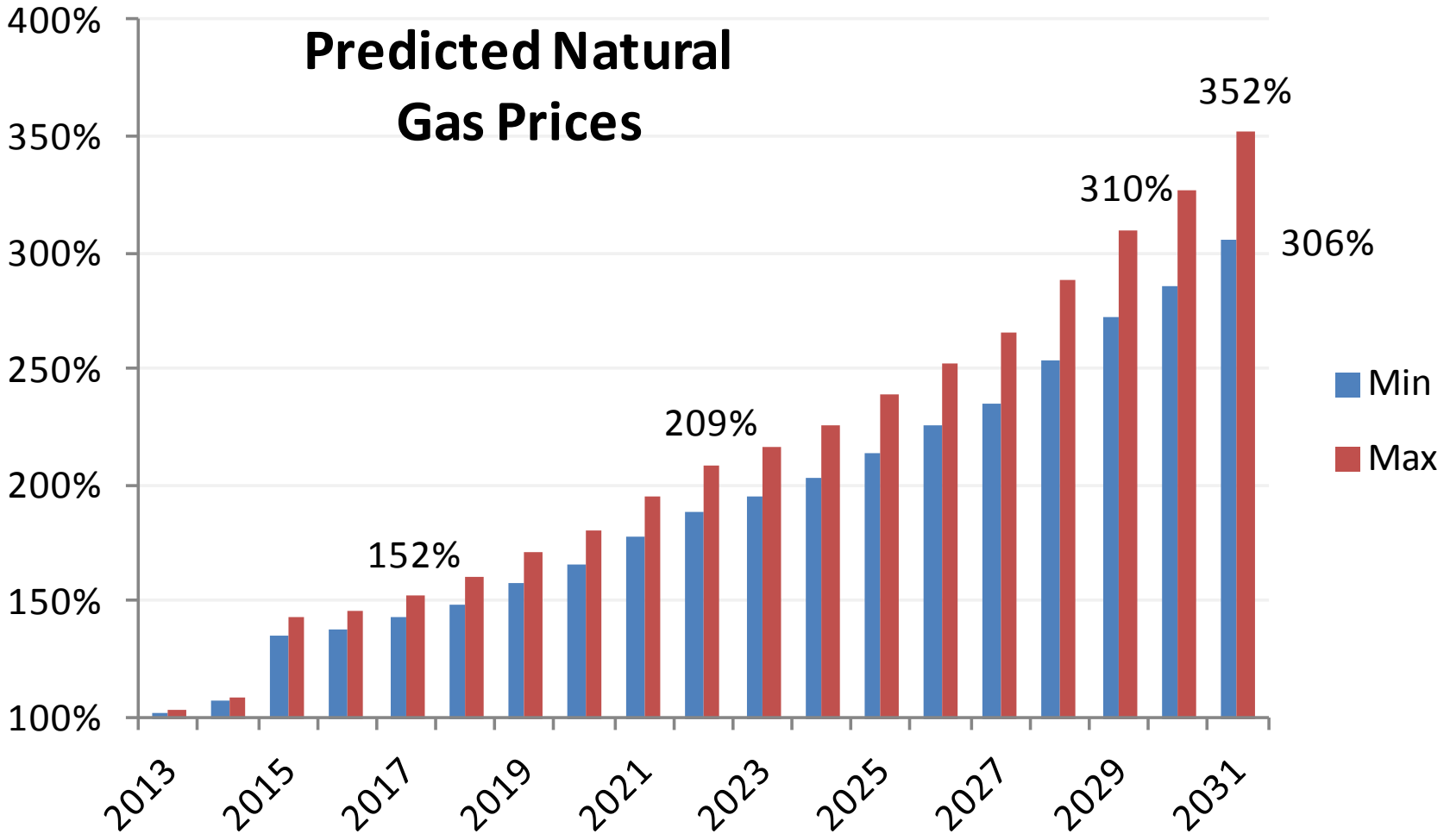
Corporate Energy Strategic Business Plan

1. Inform on corporate risk posed by exponentially escalating energy costs - Plan is essentially a cost avoidance and risk mitigation strategy
2. Outline Corporate Energy's strategic approach to energy management -
3. Describe strategic framework and key performance indicators to assess program success
4. Outline the business case for 2013-2015 energy conservation projects, together with capital and operational cost implications as well as estimated savings
5. Strategy for long-term goal of 25% across the board energy end use reductions in all operations

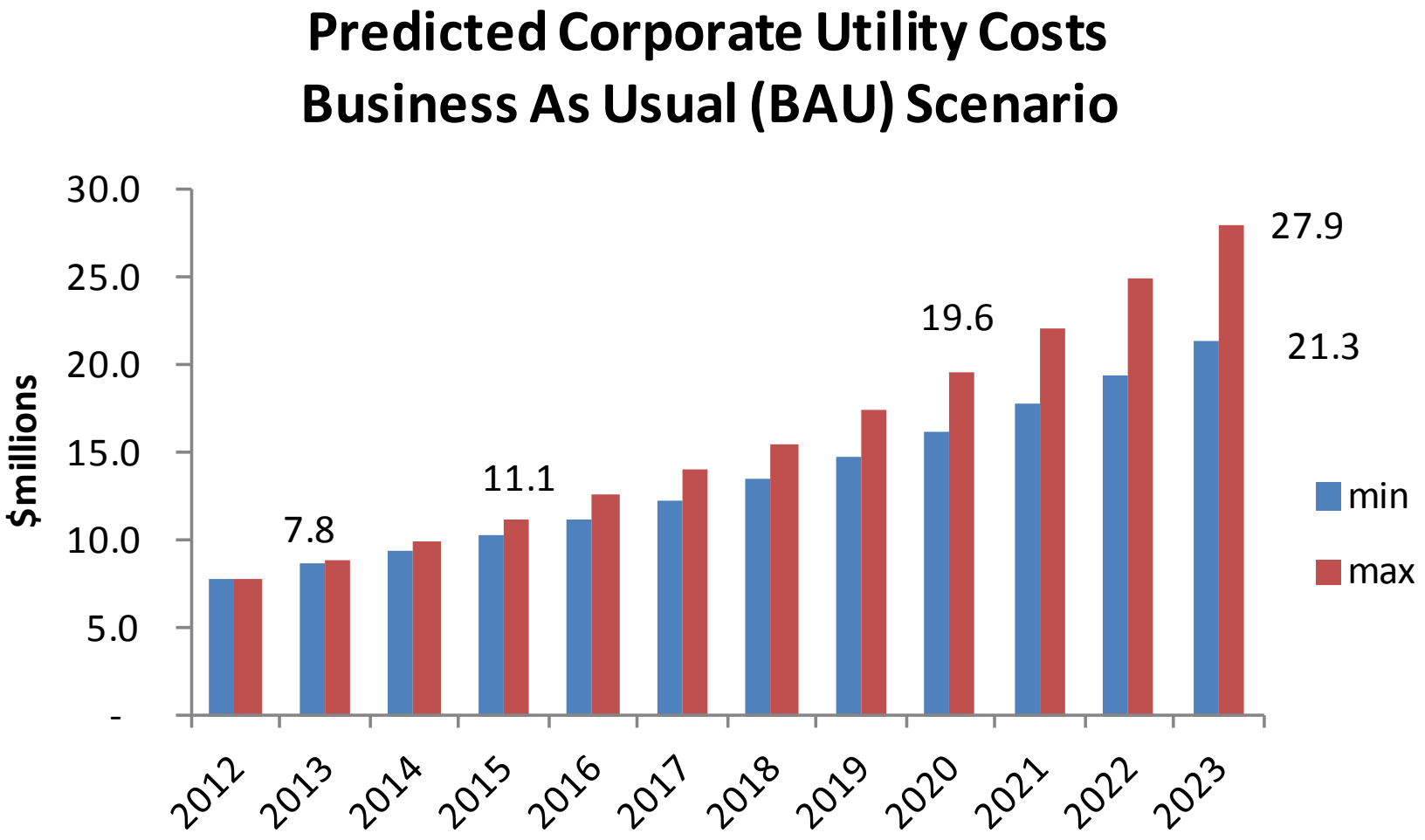
Context


Predicted
Electricity Prices
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
12%
16%
22%
30%
31%
42%
40%
53%
43%
67%
47%
80%
50%
91%
2012
2013
2014
2015
2016
2017
2018
MOE
Energy Probe

Context


Predicted Natural Gas Prices
400%
350%
300%
250%
200%
150%
100%
152%
209%
310%
352%
306%
Min
Max
2013
2015
2017
2019
2021
2023
2025
2027
2029
2031

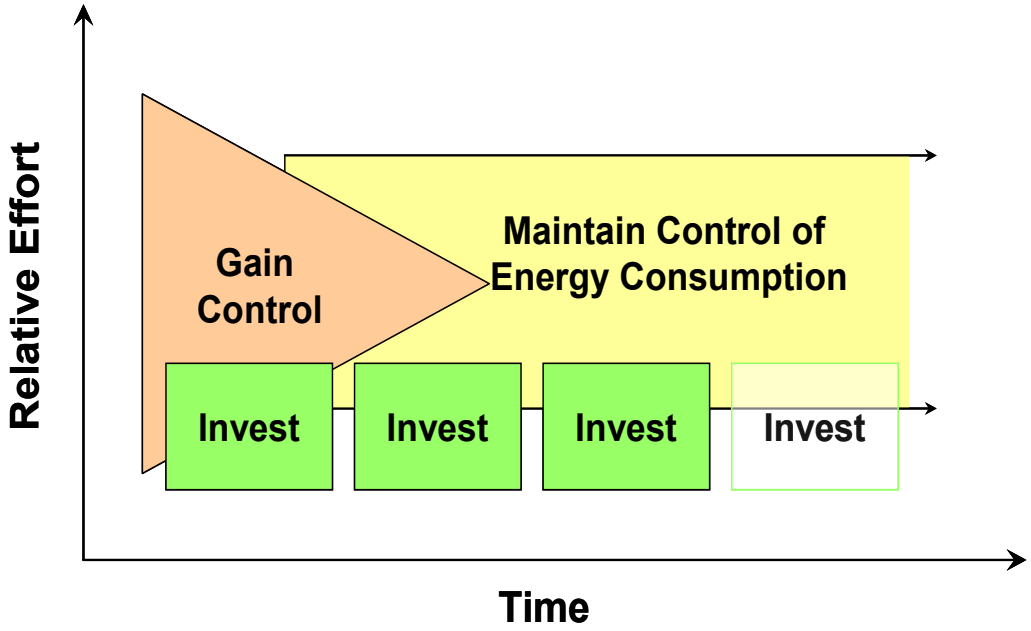
Context


Predicted Corporate Utility Costs
Business As Usual (BAU) Scenario
$millions
30.0
25.0
20.0
15.0
10.0
5.0
-
7.8
11.1
19.6
27.9
21.3
min
max
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023

Corporate Energy Management Program

Best Practice in Corporate Energy Management

- **Gaining control and predicting energy use**
- **Maintaining control as a continuous business process**
- **Investing in measures to improve energy performance**



Corporate Energy Business Plan

Utility Management - *”more than just conservation…”*

- Energy accounting systems and processes to support analysis, monitoring and reporting
- Cost-saving energy procurement strategies
- Staff communications, technical training and awareness among all staff
- Building energy efficiency opportunities
- Revenue from renewable energy systems
- Third party funding (incentives) and partnerships

Corporate Energy Management Program

Best Practice in Corporate Energy Management

Energy Management	Awareness and Information
✓Energy policy ✓Organising ✓Motivation ✓Information systems ✓Marketing ✓Investment	✓Energy management responsibilities ✓Energy efficiency awareness ✓Reporting procedures ✓Review of energy performance ✓Ongoing training ✓Market awareness
Financial Management	**Technical**
✓Identifying opportunities ✓Exploiting opportunities ✓Management information ✓Appraisal methods ✓Human resources ✓Project funding	✓Existing plant and equipment ✓Plant and equipment replacement ✓Maintenance procedures ✓Operational knowledge ✓Documentation and records ✓Operational methods

Corporate Energy Program Dashboard (greener the better, Max score is 4)

Energy management	2012	2013
Energy policy	2.0	4.0
Organising	2.0	3.0
Motivation	2.0	2.0
Information systems	2.0	2.0
Marketing	2.0	3.0
Investment	3.0	3.0
Average score	2.2	2.8

Awareness and information	2012	2013
Energy management	2.0	3.0
Energy efficiency awareness	2.0	3.0
Reporting procedures	2.0	2.0
Review of energy performance	2.0	3.0
Ongoing training	1.0	2.0
Market awareness	2.0	2.0
Average score	1.8	2.5

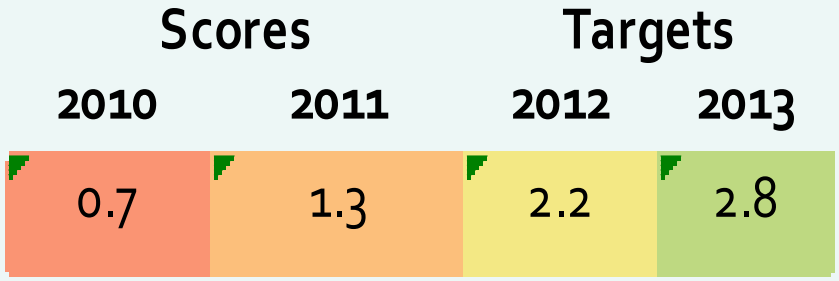
Financial management	2012	2013
Identifying opportunities	3.0	3.0
Exploiting opportunities	3.0	3.0
Management information	3.0	4.0
Appraisal methods	3.0	4.0
Human resources	3.0	4.0
Project funding	2.0	4.0
Average score	2.8	3.7

Technical	2012	2013
Existing plant and equipment	1.0	2.0
Plant and equipment	1.0	2.0
Maintenance procedures	1.0	2.0
Operational knowledge	1.0	2.0
Documentation and records	2.0	2.0
Operational methods	2.0	2.0
Average score	1.3	2.0

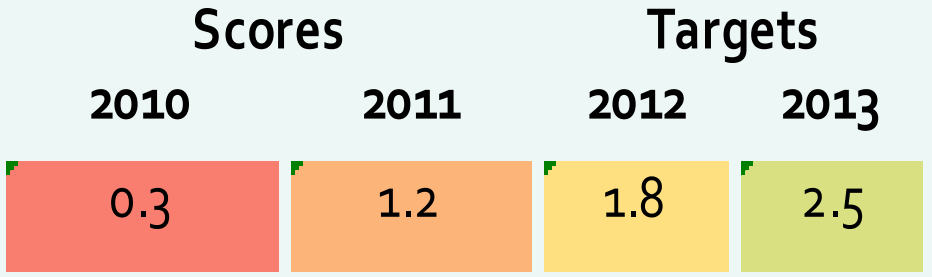
Corporate Energy Program Dashboard

(greener the better, Max score is 4)

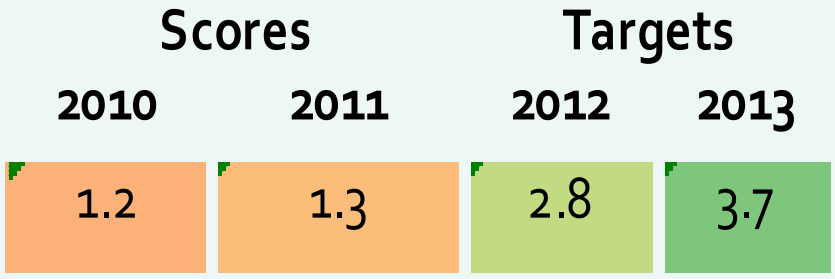
Energy management



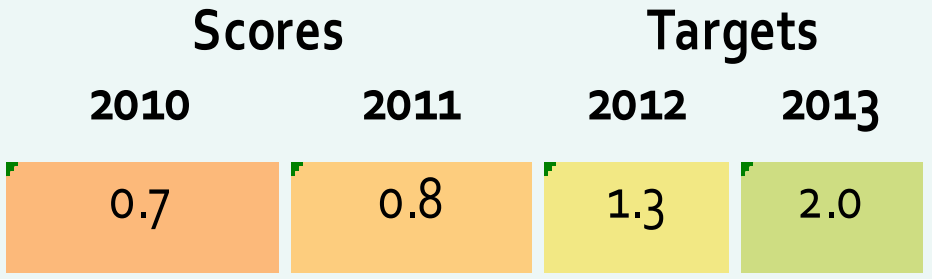
Awareness and information



Financial management



Technical



2013 Implementation Plan and Operational Requirements

Focus Area	Resource	Est. cost
Energy/GHG Accounting and Reporting	1. Facility Optimization Function 2. Data Management Software 3. Data Management Function	$80K $35K $40K
Energy Projects	1. Project Management 2. Continued auditing 3. Continuous commissioning	*($80K – in capital)* $75K $50K
Capacity Building	1. Energy Management Training	$8K
TOTAL		$288 in 2013

2012 Energy Audits

13 facilities, representing 70% of tax-based energy spend (90% without streetlights)

1. Centennial Arena
2. Centennial Pool
3. City Hall
4. Evergreen Seniors Centre
5. Exhibition Arena
6. Main Library
7. River Run
8. Sleeman Centre
9. Transit Garage
10. Victoria Road
11. West End Rec Centre
12. 45 Municipal
13. 50 Municipal

2012 Energy audits at thirteen largest tax-based facilities

Total 100 measures indentified

- *70% of projects are lighting and incremental control upgrades*
- *30 projects over $30K*
- *37 funded by existing capital or approved Lifecycle*
- *50 operational measures (no cost/low cost)*

Capital Resource Requirements

$3.5M over 3 years

- **2013 – $1.25M ***
- **2014 - $1.0M ***
- **2015 - $1.15M ***
- **2016 to 2022 - ~$1.0M/yr (Co-ordinate with Lifecycle)**

*** Excluding anticipated 30% subsidy**

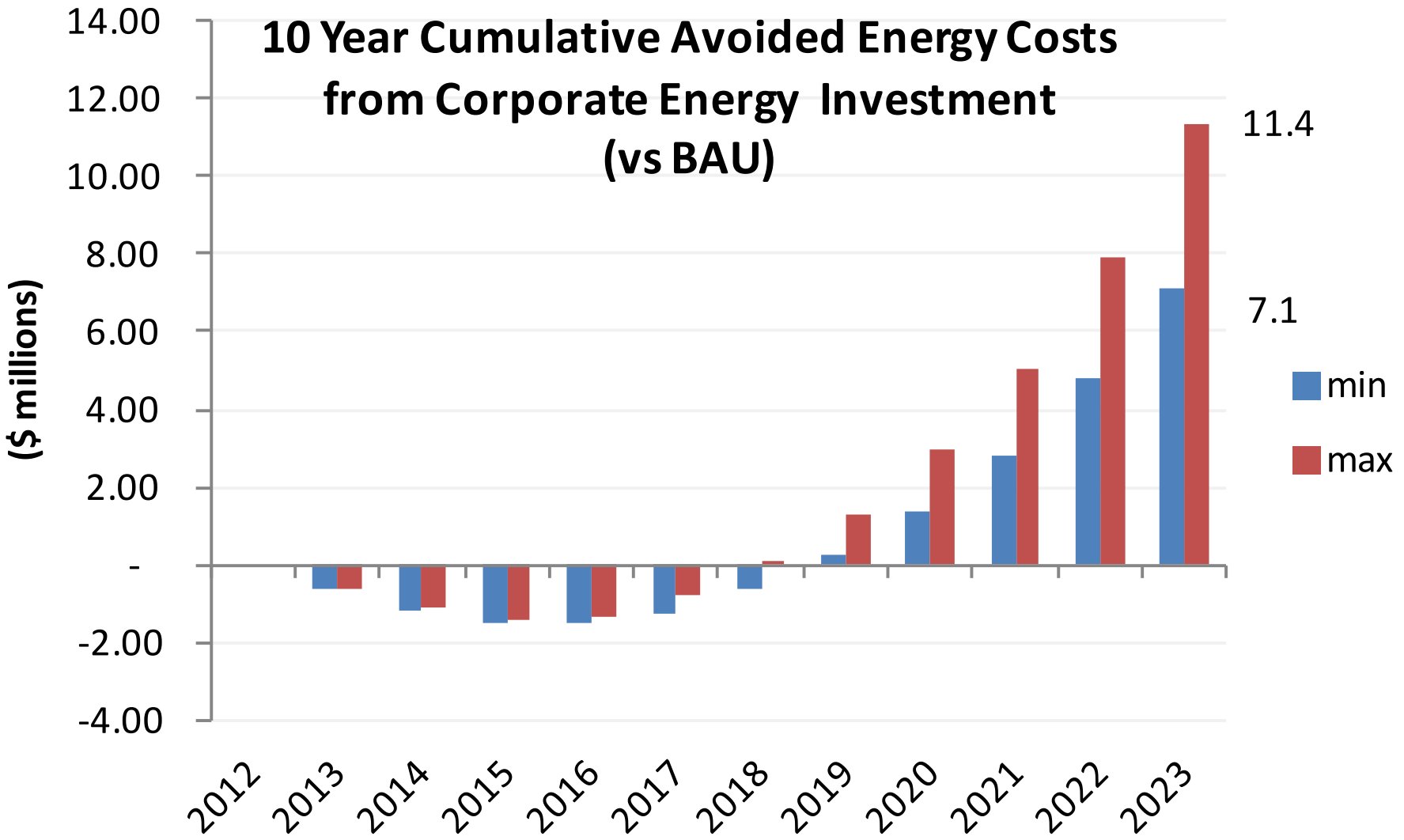
3 Year Business Case

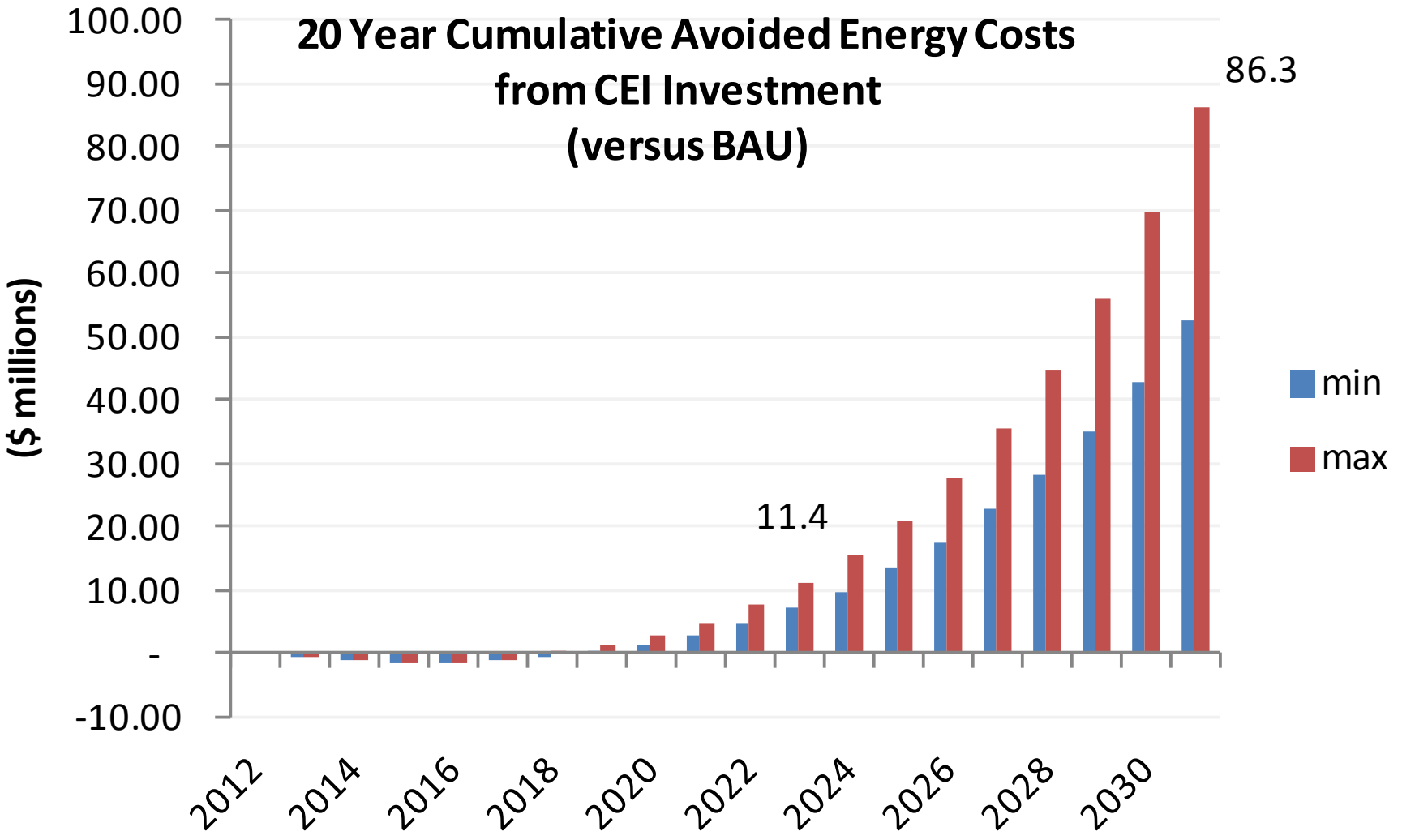
- ***8.3% energy reduction across all tax-based energy accounts***
- ***5.9% energy reduction across ALL energy accounts***
- ***Overall 6 year simple payback with subsidy at today's prices***
- ***~$400k energy savings from projects by 2015***

Long Term Business Case

Avoided costs of:

- ***$2.3 – 3.5/yr in 2023***
- ***$7.1-11M in NET cumulative avoided costs over 10 yrs***
- ***$86M over 20 years***


10 Year Cumulative Avoided Energy Costs from Corporate Energy Investment (vs BAU)
($ millions)
14.00
12.00
10.00
8.00
6.00
4.00
2.00
-
-2.00
-4.00
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
11.4
7.1
min
max


20 Year Cumulative Avoided Energy Costs from CEI Investment (versus BAU)
($ millions)
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
-
-10.00
2012
2014
2016
2018
2020
2022
2024
2026
2028
2030
11.4
86.3
min
max

Thank You

COMMITTEE REPORT

TO	**Corporate Administration, Finance and Enterprise Committee**
SERVICE AREA	Corporate Administration, Finance and Enterprise
DATE	October 9, 2012
SUBJECT	**Corporate Energy Program Strategic Business Plan**
REPORT NUMBER	FIN-CE-12-02

SUMMARY

Purpose of Report:
Presentation of the Corporate Energy Program Strategic Business Plan. The purpose of the Plan is to:

- Inform on corporate risk posed by exponentially escalating energy costs
- Outline Corporate Energy's strategic approach to energy management
- Describe strategic framework and key performance indicators to assess program success
- Outline the business case for an energy management implementation strategy containing both capital and operational cost implications.

Committee Action:
Committee receipt of the Corporate Energy Program Strategic Business Plan, containing business plan in support of 2013 capital and operational budget requests.

RECOMMENDATION

- **THAT** the report dated October 9, 2012 entitled 'Corporate Energy Program Business Plan' be received and;
- **THAT** the business case within the Corporate Energy Program Strategic Business Plan dated Sept 2012 be received as supporting material for Community Energy's 2013 Capital and Operating budget requests and;
- **THAT** the Capital and Operating budget resources required to implement the Corporate Energy Program Strategic Business Plan be referred to the 2013 budget process for consideration.

BACKGROUND

Corporate Energy Program Backgrounder

The Corporate energy management function has existed since 2008. In early 2011, the work was re-structured to be more strategically and organizationally linked with

the broader Community Energy program. In April of 2011, the position of Program Manager, Energy was filled after being vacant for nearly a year. Previously, the responsibility of corporate energy management was overseen by the Energy Conservation Project Manager within the Corporate Services department and focussed primarily on energy reduction projects, including electricity and gas procurement. While these are still a core priority, in addition to energy reduction projects, the new Corporate Energy Program Manager is now also responsible for operationalizing the steps to becoming a best practice energy managing organization, a longer-term and ultimately a more sustainable and effective model.

Since 2011, the Community Energy Division has been seeking opportunities in regard to energy conservation within City facilities as well as deliver savings that help mitigate ever-increasing Department energy budget. Examples include various energy efficiency upgrades such as energy efficient lighting systems, solar domestic hot water systems, new HVAC units and high efficiency boilers. These measures have been financed from Departmental capital and operating budgets, Infrastructure Stimulus Fund (ISF) grants, and 3rd party grants from sources such as the Ontario Power Authority, Guelph Hydro and Union Gas. A summary of energy-related initiatives since 2011 are included in the Business Plan. Since 2011, the City has secured over $1.9M worth of incentives for energy-related initiatives from various levels of government agencies. This is in addition to what the City will realize in energy and avoided energy costs.

Beyond corporate boundaries, Corporate Energy is responsible for legislative reporting including development of annual energy reporting and 5 year Energy Conservation Plan, as required under new regulation OReg 397/11, Section 6, part of the Green Energy Act (2009).

At the national level, Corporate Energy will spearhead the City of Guelph's participation in ICLEI's Partners for Climate Protection (PCP) program, including annual reporting and participation in meetings.

REPORT

Corporate Energy Business Plan Summary

Faced with exponentially-increasing energy prices, Corporate Energy has developed a transformative strategic business plan, positioning the Corporation to:

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

Corporate Energy Business Plan Structure

The purpose of the Corporate Energy Program Strategic Business Plan is to:

- Inform on corporate risk posed by exponentially escalating energy costs
- Outline Corporate Energy's strategic approach to energy management
- Describe strategic framework and key performance indicators to assess program success
- Outline the business case for an energy management implementation strategy containing both capital and operational cost implications.

The strategic business plan outlines a series of goals, objectives, and initiatives designed to support the strategic directions of the City. The plan is used to guide decision making, resource allocation, and prioritization. The business plan includes a preliminary implementation plan with timelines, costs, resources, requirements, impacts, and risks.

This business plan covers both operational/program and capital/project aspects to demonstrate that energy management is more than just implementing energy conservation retrofits, that energy management is multi-dimensional, encompassing the technical aspects of facility and process operation, organizational management, and human behaviour.

The Corporate Energy Program is still in start-up mode. The rapid expansion envisioned in this business plan is considered necessary to gain a basic level of control over the Corporation's energy consumption over the next few years and also to get a jump start on energy reductions that will result in avoided costs as energy prices increase.

Investment in corporate energy management pays dividends through improved service-based accounting, energy cost avoidance, and risk mitigation; all the while demonstrating leadership in implementing the Community Energy Plan under the banner of the Community Energy Initiative.

This Business Plan includes the business case for $3.3M investment in energy efficiency projects over the next three years, representing 5.9% of the Corporation's overall energy budget. These savings will not decrease overall utility budgets, which will continue to rise under the pressure of double-digit utility rate escalation. However, investing in energy efficiency will help mitigate the exponential increase, paying dividends in future avoided costs. The concept of avoided costs, rather than absolute savings, is core to the business case presented here. Double-digit utility rate escalation for the foreseeable future, and increasing Corporate energy budgets, are the new reality but, by investing in energy management, the City achieves a level of risk management. That, together with the need to show leadership on energy matters in support of the Community Energy Initiative, both dictate that the Corporation needs to take immediate and significant action to manage its energy consumption.

Avoided costs present an opportunity to leverage innovative, alternative financing and are one of the reasons that the Corporate Energy Program has now been repositioned under the new Finance and Enterprise Division. The Corporate Energy Program is also closely aligned with a number of City strategic initiatives including Guelph's 2012-2016 Corporate Strategic Plan. The program also directly supports the objectives of the Community Energy Initiative (CEI), a key strategic initiative for the Corporation.

The Imperative of Energy Rate Escalation

Municipalities are currently faced with energy price increases in excess of four times the current cost of living index. This challenge is exacerbated by the pressure to increase services while maintaining or reducing tax-based operating and capital budgets. These pressures, together with a desire to demonstrate a leadership role under the Community Energy Initiative, require that the Corporation aggressively pursue energy management and energy efficiency.

Next to salaries, the largest year-on-year impact to the City's operational budget is double-digit electricity rate increases. The Ministry of Energy Long Term Energy Plan (LTEP) predicts 46% increase by 2015, or between 9 and 12% per year. In 2011, the City's hydro bill was over $6M which, according to the above predictions, could double in the next 7-8 years with continued exponential growth thereafter. For the average ratepayer, an annual electricity bill will escalate from $1,700 per year to $4,000/yr in 2018.

Natural gas prices, while currently stable, are also expected to significantly rise as natural gas reserves decline over the next decade.

Exponentially increasing utility costs amplify the corporate risk posed by energy. Under a Business-As-Usual scenario, the City utility cost is expected to reach $21-28M by 2023.

The business case analysis presented in this business plan demonstrates that investment in corporate energy management will not only be recovered, but significant savings will be realized in avoided costs. This is in addition to the co-benefits that will be realized, including reducing the Corporation's carbon footprint and demonstrating the City as a sustainable-minded organization and a corporate leadership role in the Community Energy Initiative.

Best Practice Energy Management Framework

Energy management is more than just energy reduction – holistically encompassing technical, organizational, and human behavioural aspects.

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. The framework includes clearly defined success criteria 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 four performance metric categories. The business plan includes a "Dashboard" summary showing corporate scoring across each category for past years (2010 & 2011) and targets established for achievement in 2013 and 2014. Performance of the program against these targets will be assessed at key junctures to see if anticipated outcomes are in fact being realized or if additional effort is required.

Implementation Plan - Turning Direction into Action

Using the above framework and areas of focus, the business plan further fleshes out the objectives, proposed actions, and new resource requirements that are considered necessary for achieving these actions. Requests for resourcing at both the program (operational) and project (capital) level are described, both of which are integrated and integral to an effective Corporate Energy Program.

A number of program measures are included in a $288,000 Corporate Energy operational budget request for 2013. Measures range from subscription to an Energy Management / Information System to further energy auditing and commissioning at a number of facilities. Additional resources are also being sought to manage day-to-day facility optimization (in conjunction with Corporate Maintenance) and energy data entry (in conjunction with Accounts Payable).

In addition to program measures, the business plan also includes a plan for implementing significant capital energy reduction measures, with a long-term goal of 28% reduction in absolute energy use (gas & electricity) across the City's portfolio by 2031. Formal energy audits in 2012 have identified $3.3 million of energy conservation measures at thirteen of the City's buildings on the tax-base side. These energy reduction retrofits have been split into $1.25M capital request for energy reduction projects in 2013, $985k in 2014 and $1.09M in 2015. This is followed by continued future annual investment as the list of projects and facilities is expanded following future energy audits. The addition of a project manager to oversee the energy retrofits will be part of capital recovery under the capital budget request.

While application for the $288k 2013 operational budget request is separate from the $3.3M 2013-2015 capital budget request for energy conservation measures, operational and capital aspects are very much intertwined. For this reason, supporting both program (operational) and project (capital) components of the business plan in an integrated way is crucial to an effective Corporate Energy Program.

Financial Benefits to the Corporation

The business case for building a robust Corporate Energy Program is not simply a financial one. It should be assessed based on integrated benefits of ongoing energy management, both fiscal and institutional which, together, will reduce the Corporation's exposure to increases due to growth and energy rate escalation. However, assessing the business case based on quantifiable avoided costs is significant enough by itself to justify the program expansion and continued funding.

The energy reduction projects alone are expected to produce 8.3% energy reduction across all tax-based energy accounts. Additional cost avoidance is expected from finding errors on utility bills and cost saving utility procurement strategies. An expected energy savings of $156k in 2013 has been incorporated into the 2013 budget, which helps offset the increases expected from utility rate escalation. This increases to $376k/yr in 2014 and $423k/yr in 2015, equating to 5.9% of energy budget. Achieving these energy reductions is dependent on approval of the 2013, 2014 and 2015 capital budget requests.

But annual savings from energy efficiency investments are only part of the story, the real benefits are realized when we look at future avoided costs. The magnitude of the Corporation's risk exposure to energy price escalation can be significantly mitigated by investment in energy conservation today, resulting in net avoided costs of $1.2M/yr by 2018 and $2.3-3.5M/yr in 2023. This represents $11.4 M in net cumulative savings over 10 years and $86M over 20 years.

Without significant energy investment, the Corporation is fully exposed to exponentially increasing energy costs. The business case presented in this plan demonstrates that invested capital will not only be recovered, but significant avoided costs will be realized, not just via energy reduction projects but also through best practice energy management based on a robust internationally-accepted framework.

CORPORATE STRATEGIC PLAN

The Corporate Energy Program is closely aligned with City strategic initiatives:

- Closely supports the objectives of Guelph's 2012-2016 Corporate Strategic Plan
- Showcases innovative approaches and alternative financing as part of the new Finance & Enterprise Division
- Leadership role in support of the Community Energy Plan
- Aligned with Guelph Municipal Holding Company governance directive
- Chosen as a pilot for development of the Corporate Business Planning Framework.

FINANCIAL IMPLICATIONS

Corporate Energy's business case predicts net avoided utility costs of $1.2M/yr by 2018 and $2.3-3.5M/yr in 2023, representing over $11.4 M in net cumulative

savings over 10 years and $86M over 20 years. These avoided costs are contingent on approval of the following operational and capital budget requests:

- $1.25M capital request for energy reduction projects in 2013, $985k in 2014 and $1.09M in 2015, followed by continued future annual investment as the list of projects and facilities is expanded following future energy audits.
- $288k 2013 operational budget request for program expansion to deliver best practice energy management.

DEPARTMENTAL CONSULTATION

Corporate Social Services
Corporate & Human Resources
Operations & Transit
Corporate Administration
Finance and Enterprise
Planning, Building, Engineering & Environment

COMMUNICATIONS

At this time there are no communications issues arising from this matter.

ATTACHMENTS

Attachment # 1 - Corporate Energy Business Plan

"original signed by Al Horsman"

Recommended By:
Al Horsman
Executive Director/
Chief Financial Officer
519-822-1260 x 5606
al.horsman@guelph.ca

Recommended By:
Rob Kerr
Corporate Manager, Community Energy
519-822-1260 x 2079
rob.kerr@guelph.ca

Prepared By:
Rob Blakeney
Program Manager, Energy

519-822-1260 x 2343
rob.blakeney@guelph.ca

Corporate Energy Business Plan – 2013 to 2018

Faced with exponentially-increasing energy prices, Corporate Energy has developed a transformative strategic business plan, positioning the Corporation to:

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

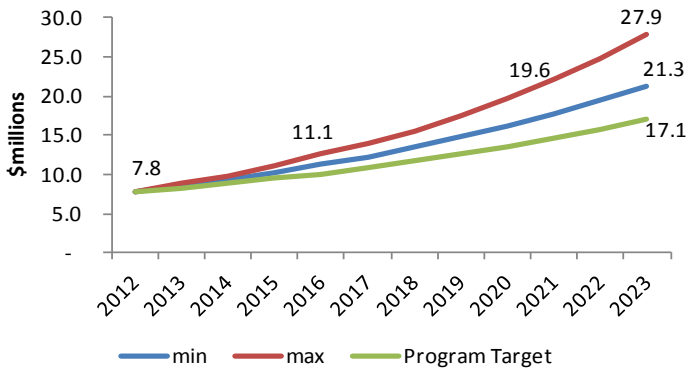
Energy Price Increases

Municipalities are currently faced with energy price increases in excess of four times the current cost of living index.

Next to salaries, the largest year-on-year impact to the City's operational budget is double-digit electricity rate increases.

In 2011, the City's hydro bill was over $7.7M which, according to predictions, could double in the next 7-8 years with continued exponential growth thereafter.

Predicted Corporate Utility Costs
Business As Usual (BAU) Scenario



The Corporate Energy Program is closely aligned with City strategic initiatives

- Closely supports the objectives of Guelph's 2012-2016 Corporate Strategic Plan
- Showcases innovative approaches and alternative financing as part of the new Finance & Enterprise Division
- Leadership role in support of the Community Energy Plan
- Aligned with Guelph Municipal Holding Company governance directive
- Chosen as a pilot for development of the Corporate Business Planning Framework.

Corporate Energy Division Scorecard and Strategic Framework

Used to define and benchmark the Corporation with regards to best practice energy management and establish targets for achievement in 2012/2013.

Four Focus Areas of Best Practice:
1. Energy Management
2. Financial Management
3. Awareness & Information
4. Technical

Corporate Energy Program Scorecard

Energy management

Scores		Targets	
2010	2011	2012	2013
0.7	1.3	2.2	2.8

Awareness and information

Scores		Targets	
2010	2011	2012	2013
0.3	1.2	1.8	2.5

Financial management

Scores		Targets	
2010	2011	2012	2013
1.2	1.3	2.8	3.7

Technical

Scores		Targets	
2010	2011	2012	2013
0.7	0.8	1.3	2.0

Program Scorecard colour-coded greener the better (up to 4 points max)

Financial

The plan covers both operational (program) and capital (project) aspects to demonstrate that energy management is more than just energy conservation, encompassing the technical aspects of facility and process operation, organizational management, and human behaviour. The Plan is essentially a risk mitigation strategy.

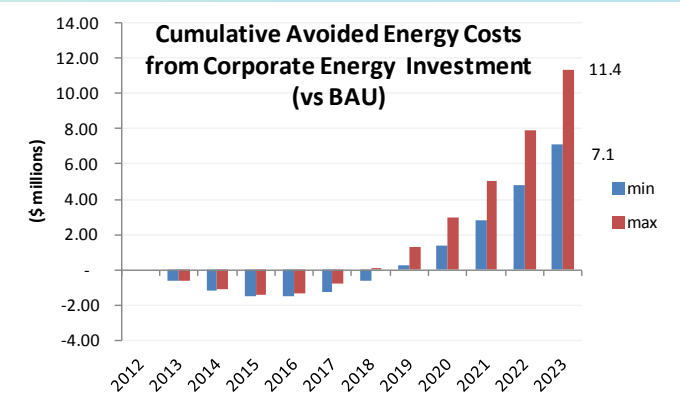
Capital (Project)

Capital (Project) Budget Request
for energy reduction projects:

2013	$1.25M	*Payback: meets*
2014	$985kM	*institutional-grade*
2015	$1.09M/yr	*payback of 9-10 yrs*
2016 -2022	~$1M/yr	

Avoided future costs

Avoided costs estimated at **$2.3 to 3.5M**/yr in 2023, representing **$7.1-11.4M** in net cumulative avoided costs over 10 years and **$86M** over 20 years



Operational (Program)

Energy/GHG Accounting and Reporting

Facility optimization function	$80k
Subscription to Managing Energy data management software	$35k
energy data management functional role	$40k

Energy Projects

Project Manager (included as part of energy retrofit projects)	Within Capital Budget
Additional energy auditing using an outside consultant	$75K
Continuous facility commissioning using a hired commissioning team	$50K

Capacity Building

Energy Management training	$5k
Total	**$288k**

Alternative Funding Opportunities

The positioning of Corporate Energy within the new Enterprise Division, together with the program's alignment with the "Doing Business Differently" committee, provides an opportunity to identify and better assess alternate delivery and funding models.

Some alternatives being investigated include mobilizing City-owned assets into community-based energy activity, ie revenue generation from facility roof space leased to Envida for solar panels. We are also investigating third party bridge financing - including funding through Guelph Hydro via its unregulated arm, Envida. We will also be pursuing grants including FCM and Utility subsidies.

Corporate Energy Excellence – Demonstrating Innovation and Best Practice

The goal of Corporate Energy program is 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.

Corporate Energy

Strategic Business Plan

Community Energy Division

Finance and Enterprise

City of Guelph

September 21, 2012

City Hall
1 Carden St
Guelph, ON
Canada
N1H 3A1

T 519-822-1260
TTY 519-826-9771

guelph.ca

Table of Contents

Table of Contents

Introduction

Outside of labour costs, energy is the largest aggregated expense to the Corporation of the City of Guelph. It is also arguably the Corporate expense with the largest inflationary pressure. In 2012, the City's utility bills are predicted to top $7.7M and this expenditure, if left unchecked, is expected to double in the next 7 years. On the positive side, energy is one of the more manageable expenses for the Corporation.

This Business Plan includes the business case for $3.3M investment in energy efficiency projects over the next three years, resulting in 5.9% savings below Business-As-Usual utility expenditure. These savings will not decrease overall utility budgets, which will continue to rise under the pressure of double-digit utility rate escalation. However, investing in energy efficiency will help mitigate the exponential increase, paying dividends in future avoided costs. The concept of avoided costs, rather than absolute savings, is core to the business case presented here. Double-digit utility rate escalation for the foreseeable future, and increasing Corporate energy budgets, are the new reality but, by investing in energy management, the City achieves a level of risk management. That, together with the need to show leadership on energy matters in support of the Community Energy Initiative, both dictate that the Corporation needs to take immediate and significant action to manage its energy consumption.

The impact and timeline of the energy challenge is not a new issue – it is the reason the previous Council ratified the ambitious Community Energy Plan in 2007. The Community Energy Division is looking to minimize the Corporation's exposure to year-on-year exponential rate increases through best practice energy management programs, including seeking portfolio-wide energy conservation opportunities.

The Corporate Energy strategy is the overall strategy covering all matters related to energy and utility use within City operations. While spearheaded through the Community Energy Department, strategy success relies on an expanded, cooperative effort across all Departments, leveraging capital and operational Department budgets for investments into energy saving initiatives, as well allocation of Department staff resources during planning and implementation of these initiatives.

The Business Plan described here includes recommendations that are transformative rather than incremental in nature, positioning the Corporation to increase resilience, mitigate future risks and meet goals dictated by the Community Energy Plan and Corporate Strategic Plan. Benefits will accrue to all Departments through bottom-line energy avoided costs, internal capacity building and adoption of best practice service-based accounting.

Business Plan Purpose and scope

This business plan was developed in support of the following items:

- Inform on corporate risk posed by exponentially escalating energy costs;
- Outline Corporate Energy's strategic approach to energy management;

- Describe strategic framework and key performance indicators to assess program success;
- Present business case for 2013 Capital Budget request for energy conservation projects to be conducted by the Corporate Energy Program in 2013 and beyond;
- Present business case for Operational Budget request for the Corporate Energy Program for 2013 and beyond; and,
- As part of Corporate Energy's involvement in the Business Development Framework Pilot.

The plan covers both operational/program and capital/project aspects to demonstrate that energy management is more than just implementing energy conservation retrofits. Energy management is instead multi-dimensional, encompassing the technical aspects of facility and process operation, organizational management, and human behaviour. The Corporate Energy Plan presented below addresses these three dimensions in a strategic approach to energy planning.

While Corporate Energy is not a new program for the City, there has not been an over-arching Corporate Energy strategic business plan, to date, nor has the program been funded to a large degree, both in terms of capital and operating budget. Because of this, and because Corporate Energy is an initiative that closely supports the objectives of Guelph's 2012-2016 Corporate Strategic Plan, it was chosen as a pilot for development of the Corporate Business Planning Framework.

This business plan outlines a forward-looking strategy for the Corporate Energy program together with an aggressive implementation plan that will turn direction into action. The Plan outlines a series of goals, objectives, and initiatives designed to support the strategic directions of the City. The plan is used to guide decision making, resource allocation, and prioritization. The Plan includes a preliminary implementation plan with timelines, costs, resources, requirements, impacts, and risks.

The Corporate Program Manager, Energy is responsible for delivering the Corporate Energy Program and for developing this business plan. Programmatic oversight is provided by the Corporate Manager, Corporate Energy.

Corporate Energy Program Backgrounder

The Corporate energy management function has existed since 2008. In early 2011, the work was re-structured to be more strategically and organizationally linked with the broader Community Energy program. In April of 2011, the position of Program Manager, Energy was filled after being vacant for nearly a year. Previously, the responsibility of corporate energy management was overseen by the Energy Conservation Project Manager within the Corporate Services department and focussed primarily on energy reduction projects, including electricity and gas procurement. While these are still a core priority, in addition to energy reduction projects, the new Corporate Energy Program Manager is now also responsible for operationalizing the steps to becoming a best practice energy managing organization, a longer-term and ultimately a more sustainable and effective model.

Since 2011, the Community Energy Division has been seeking opportunities in regard to energy conservation within City facilities as well as energy reductions that help mitigate ever-escalating Department energy budgets. Examples include various energy efficiency upgrades such as energy efficient lighting systems, solar domestic hot water systems, new HVAC units and high efficiency boilers. These measures have been financed from Departmental capital and operating budgets, Infrastructure Stimulus Fund (ISF) grants, and 3rd party grants from sources such as the Ontario Power Authority, Guelph Hydro and Union Gas.

Following are a few examples of energy-related initiatives since 2011:

Leveraging a grant of over $118k from the Continuous Improvement Fund (CIF) through Waste Diversion Ontario (WDO), the Materials Recovery Facility implemented six energy reduction projects including energy efficient lighting and controls, power factor correction, and HVAC upgrades, all controlled by a new state-of-the-art building management system. Avoided Costs are estimated at approximately $100k/year, or 25% of total annual energy costs, with a payback of less than 1.5 years on the City-funded portion of the total project costs.

At Exhibition Rink, induction lights replaced the old metal halide lighting and will result in over 60% energy reduction and $5,400 in avoided costs annually, equating to $100k avoided over 10 years. The lighting retrofit qualified for $6,336 in incentives from the Ontario Power Authority (OPA) saveONenergy Retrofit Program, or 25% of fixture cost. Smaller scale lighting retrofits were conducted at an additional 10 facilities, replacing inefficient bulbs and fixtures with lower wattage T8 fluorescent units and resulting in $13k avoided costs per year in electricity and a 1.3 year payback.

An ISF grant was used to initiate several energy initiatives at the River Run Centre, including solar panels and a “tankless” or “on-demand” high efficiency boiler for domestic hot water, new heating boilers, and lighting controls integration. ISF money also helped sponsor conversion of HVAC units at Evergreen Seniors Community Centre to more efficient units. Guelph Transit also added solar panels as part of refurbishment work in 2011, with additional plans to retrofit garage lighting in 2012.

Avoided operational costs will be realised from the new cogeneration plant at West End Community Centre, which was commissioned in summer 2012, and awaiting Ministry approval for continuous operation.

Finally, not to be overlooked, are avoided energy costs as a result of water savings achieved by the Water Department’s conservation demand management (CDM) group. These include retrofit of low-flow showerheads, rainwater harvesting (Lyon’s Pool), and recovery/reuse of bus wash water at the Watson Road Transit Facility to be commissioned in 2012. The link between water and energy reductions provide doubled savings while meeting multiple corporate goals.

Since 2011, the City has secured over $1.9M worth of incentives for energy-related initiatives from various levels of government agencies. This is in addition to what the City will realize in energy reductions and avoided energy costs.

This business plan envisions an expansion of the program in 2013, with the Corporate Energy Program Manager extending into a managerial role with the addition of a direct report (Project Manager - PM). This PM will oversee implementation of energy reduction projects, additional energy audits and other projects such as rooftop solar installations etc. The Corporate Energy Program Manager would also guide the work of a new resource that would be responsible for optimizing facility utility consumption on a day-to-day basis. Oversight for this function would remain with Corporate Building Maintenance.

Investment in corporate energy management pays dividends through improved service-based accounting, energy cost avoidance, and risk mitigation; all the while demonstrating leadership in implementing the Community Energy Plan under the banner of the Community Energy Initiative.

Avoided costs present an opportunity to leverage innovative, alternative financing and are one of the reasons that the Corporate Energy program has now been repositioned under the new Finance & Enterprise (F&E) Division. The Corporate Energy Program is also closely aligned with a number of City strategic initiatives including Guelph's 2012-2016 Corporate Strategic Plan. The program also directly supports the objectives of the Community Energy Initiative (CEI), a key strategic initiative for the Corporation.

Beyond corporate boundaries, Corporate Energy is responsible for legislative reporting including development of annual energy reports as well as a 5 year Energy Conservation Plan, as required under new regulation OReg 397/11, Section 6, part of the Green Energy Act (2009).

At the national level, Corporate Energy will spearhead the City of Guelph's participation in ICLEI's Partners for Climate Protection (PCP) program, including annual reporting and participation in meetings.

Over the coming year, Community Energy will be exploring and assessing alternatives to the current management and administrative oversight of Corporate Energy, including the use of available tools at our disposal such as the Guelph Municipal Holding Company (GMHI).

The Imperative of Energy Rate Escalation

Municipalities are currently faced with energy price increases in excess of four times the current cost of living index, as measured by the Consumer Price Index (CPI) and Municipal Price Index (MPI). This challenge is exacerbated by the pressure to increase services while maintaining or reducing tax-based operating and capital budgets. These pressures, together with a desire to demonstrate a leadership role under the Community Energy Initiative, require that the Corporation aggressively pursue energy management and energy efficiency.

There is a Corporate "Insurance and Risk Management Policy" which states that "It is the responsibility of each department to identify the potential perils, factors and types of risk to which their assets, program activities and interests are exposed." Next to salaries, the largest year-on-year impact to the

City's operational budget is double-digit electricity rate increases. Natural gas prices, while currently stable, are also expected to significantly rise as natural gas reserves decline over the next decade.

Electricity Price Predictions

Electricity price increases in excess of cost of living are a result of upward pressure from:

- Increasing cost of developing new fossil fuel reserves
- Carbon pricing/taxation
- Cost recovery following electricity market deregulation as well as the need to pay for new energy infrastructure (Province's planned investments of over $87 Billion in energy infrastructure to replace coal by 2015).

There are two sources for electricity cost predictions in Ontario. The Ministry of Energy Long Term Energy Plan (LTEP) predicts 46% increase by 2015, or between 9 and 12% per year. Energy Probe, a respected industry think tank, went further by taking into account infrastructure renewal costs and new energy sources (nuclear and renewable energy) that will be required to replace coal generation plants and is considered a more reliable prediction of true energy prices. Predictions by Energy Probe are 16.2% electricity increase in 2012, 53.2% by 2015 and 91% by 2018. This represents an annual exponential increase of 13% per year. These cost increase predictions are depicted in Figure 1 below.

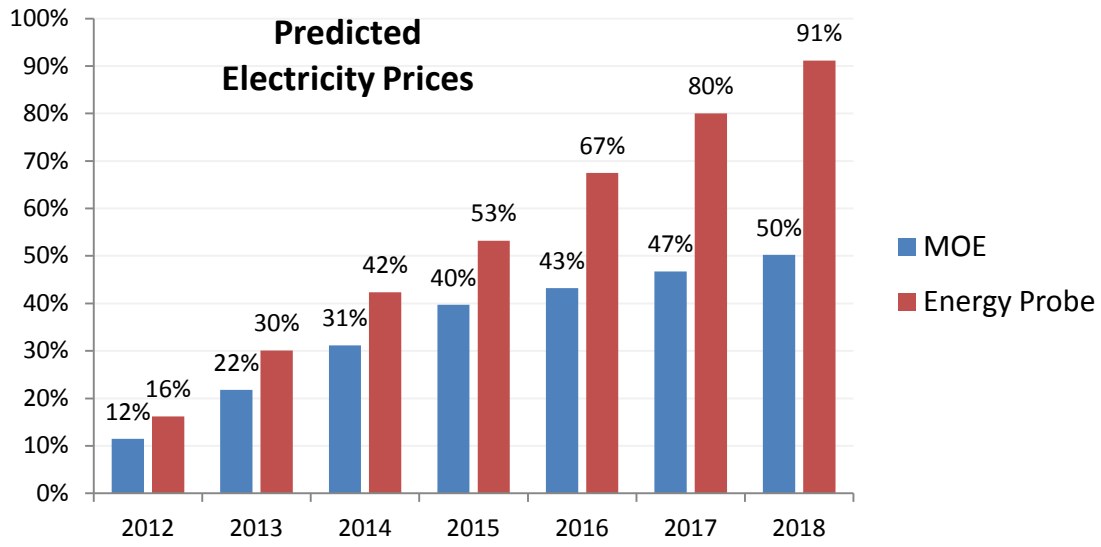


Figure 1 – Predicted Electricity Rate Increases

In 2011, the City's hydro bill was over $6M which, according to the above predictions, could double in the next 7-8 years with continued exponential growth thereafter. Based on the predictions, for the average ratepayer, an annual electricity bill would escalate from $1,700 per year to over $4,000/yr in 2018.

Natural Gas Price Predictions

For the last four years, natural gas prices have continued to trend downwards for the following reasons:

1. Reduced industrial demand the recession beginning in mid-2008
2. record high seasonally adjusted storage levels due to an unusually warm winter weather season across North America
3. record production levels due to discovery of large formations of shale oil and gas

Current low price levels are not expected to last beyond the next 3-5 years:

- Recent shale gas finds are coming under more and more environmental scrutiny.
- Exporting of liquid natural gas will decrease local supply and expose N.America to global gas prices.
- Conversion of coal facilities to natural gas will also increase demand.

While debate will continue as to when fossil fuel production will peak, what we do know is that the timing is imminent (within a decade). Also debatable is the price impact, but municipalities such as Guelph can reasonably expect exponential price increases together with price volatility as the supply-demand balance shifts.

Despite the uncertainty, Figure 2 shows price increases that can reasonably be expected for natural gas prices to 2023 (Source: Envida). The prediction indicates a 50% increase by 2017, doubling of gas price by 2022 and a three-fold increase by 2030.

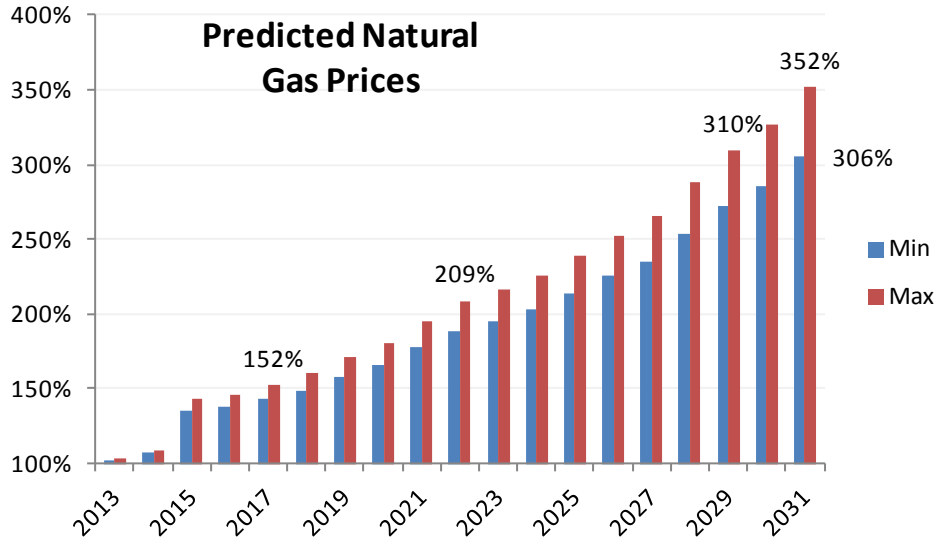


Figure 2 Predicted Natural Gas Rate Increases

Overall Corporate Utility Increases

Exponentially increasing utility costs amplify the corporate risk posed by energy. In 2012, the City's utility bill is predicted to top $7.7M. Under a Business-As-Usual scenario, assuming 1% growth in corporate energy usage and year-on-year rate escalations shown in Figures 1 & 2, the City utility cost is expected to reach $21-28M by 2023 (Figure 3). Left unmanaged, this would represent an approximate increase of 13%-18% over the current net tax levy (2012).

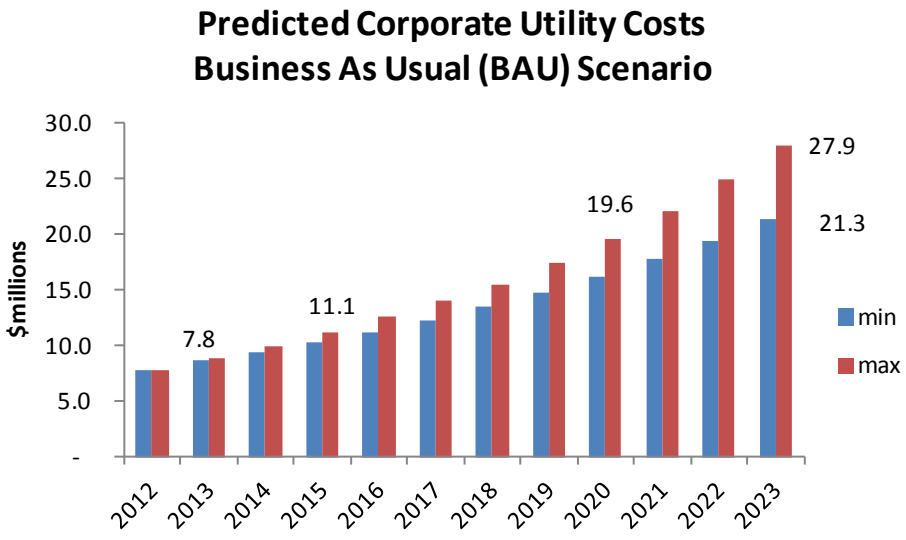


Figure 3 Predicted utility costs for the Corporation under Business-As-Usual Scenario

Benefits of Corporate Energy Management

Managing the Corporation's energy consumption will reduce the Corporation's exposure to increases due to growth and energy rate escalation. The business case analysis presented in this Plan demonstrates that investment in corporate energy management can not only be recovered, but will realize significant avoided energy costs. However, the business case for building a robust Corporate Energy program is not simply a financial one, and can only be assessed based on integrated benefits of ongoing energy management, both fiscal and institutional. Beyond identifiable energy reductions and future cost avoidance, energy reduction has the following non quantifiable benefits:

- Mitigate the longer term risk of rapidly escalating energy prices
- Lowers CO2 Emissions (carbon footprint)
- Reduces Global Warming
- Build capacity to pursue deeper energy reduction
- Support broader corporate asset renewal through retrofit activity
- Demonstrates the City as a sustainable-minded organization and a corporate leadership role in the Community Energy Initiative

The Corporate Energy Program delivers value to the corporation by facilitating outcomes that various city departments want to achieve, specifically energy operating budget control and department responsibilities with respect to achieving their CEI goals.

Best Practice Energy Management Framework

Energy management is more than just energy reduction – holistically encompassing technical, organizational, and human behavioural aspects. Energy management can be seen as a three-phase process:

1. gaining control of energy use
2. maintaining control as a continuous business process
3. investing in measures to improve energy performance

Effort and resources expended on these phases vary over time (see Figure 4 below).

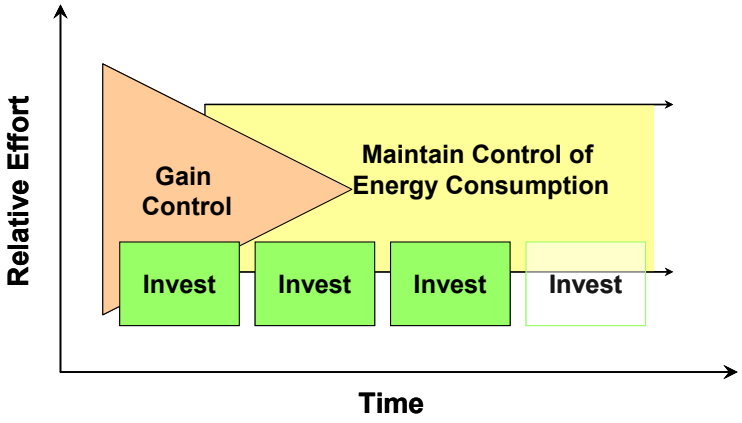


Figure 4 Strategic Phases of Energy Management

The Corporate Energy program is still in start-up mode and, while it will be an ongoing program, the rapid expansion envisioned in this business plan over the next few years is considered necessary to gain a basic level of control over the Organization's energy consumption.

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

Each of the above four focus areas (Level 1 Matrix) contains several sub-categories (Level 2 Matrix). The four focus areas and Level 2 Matrix sub-categories are further described in Appendix 1.

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 score was derived for past years (2010 & 2011) and targets established for achievement in 2013 and 2014. 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.

Scoring for the City's Corporate Energy Program

The "Dashboard" summary in Figure 5 shows corporate scoring goals established for 2012 and 2013, colour-coded to indicate how ell we're doing (the greener the better with 4 being the maximum score). The focus areas requiring more effort correspond to the areas of focus for this business plan.

The "Investment" category refers to investments in both the energy management program as well as energy reduction projects. This category is shown as "on track" with the assumption that 2013 capital and operating budget requests are approved by Council.

Corporate Energy Program Dashboard **2012/2013 Target Scoring**

Energy management	2012	2013	Awareness and information	2012	2013
Energy policy	2.0	4.0	Energy management	2.0	3.0
Organising	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

Financial management	2012	2013	Technical	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

Figure 5 Corporate Energy Program Dashboard showing goals for 2012 and 2013

Figure 6 shows Corporate Energy Program scores for 2010/2011 together with goals for 2012 and 2013 (the greener the better with 4 being the maximum score). The graph shows the general progression towards best practice, while also highlighting areas that require more effort. The objectives for each focus area, together with specific actions and resource requirements, are outlined in the section following entitled "Discussion of Program Focus Areas for 2012/2013."\

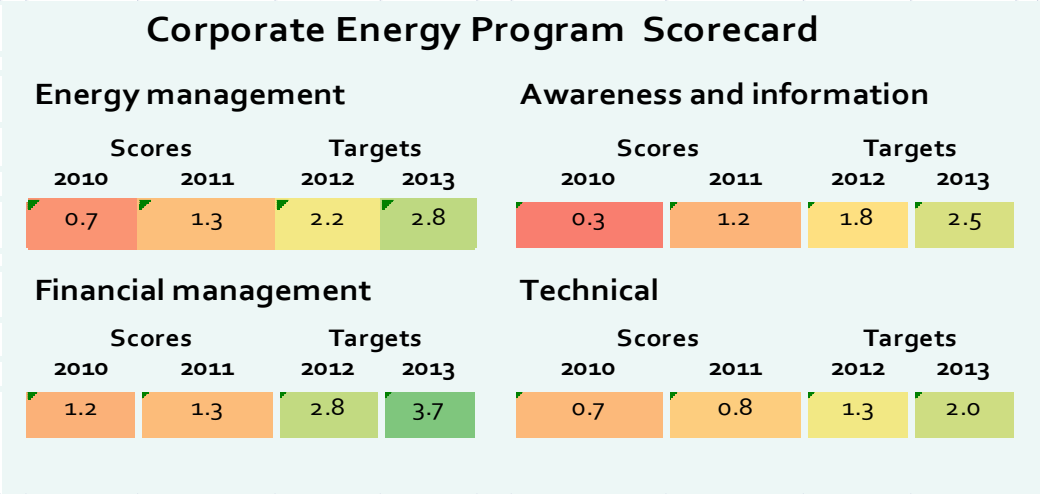


Figure 6 Corporate Energy Program scores for 2010/2011 & goals for 2012/2013.

Implementation Plan - Turning Direction into Action

A key objective of the Corporate Energy Program is to define best practice energy management and operationalize within corporate management structure so that it is "Business as Usual". Below is further discussion on the Corporate Energy strategy in the four key areas of focus:

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

Each section describes where the Corporate Energy Program is currently plus future objectives, proposed actions, and new resource requirements that are considered necessary for achieving these actions.

Energy management

a) Energy policy

Current situation: No explicit corporate energy-related policies

Objective(s):

- Generate energy-related policies covering operations, capital replacement and procurement.

- Energy policy, action plan and regular review have commitment of top management as part of an environmental strategy.

Action:

- Program Manager to assist Procurement, including:
    - Specifying lower energy products through Procurement (non-capital replacement)
    - Utility procurement strategy for gas and electricity to reduce costs &/or risks

Resource needs:

No additional resource needs. The existing Program Manager will be responsible for generating energy-related policies.

Objective 2: Support Planning Division initiatives

Action:

- Program Manager to assist Procurement, including:
    - Integration of CEI goals into City Planning Activities (Official and Secondary Plans)
    - Analyzing and developing planning incentive tools such as Community Improvement Plans (CIPS) and Local Improvement Charges (LICs).

Resource needs:

No additional resource needs. The existing Program Manager will be responsible for providing assistance as needed.

b) Organising

Current situation:

- Energy manager reports infrequently to the Corporate Implementation Sub-Committee of the Mayor's Task Force on Community Energy. This sub-committee has not been utilized to maximum effect.
- There is a disconnect between energy budgets, which are a departmental responsibility, and responsibility for corporate energy efficiency, which is the responsibility of the Energy Program Manager.

Objective(s):

- Corporate Implementation Sub-Committee to be placed as a Sub-Committee of the Direct Report Leadership Team (DRLT). Membership of this sub-committee changed to represent energy budget holders and other key department stakeholders, including Finance.
- Energy Manager to report quarterly to this sub-committee.

- Improve & formalize communication between Energy Manager and departmental energy budget holders (i.e. regarding variance, budgets etc).

Action:

- Energy Program Manager to work with Corporate Manager to establish DRLT sub-committee.
- Energy Manager to develop formal Departmental communication/reporting plan.

Resource needs: No additional resource needs, covered by the existing Program Manager and Corporate Manager.

c) Motivation

Current situation: channels of communication regarding energy efficiency rely on Informal contact between Energy Program Manager and engineer/technical staff and users. Energy management is only just starting to be seen as important, mainly as one of only a few areas available to business units for controlling operational budgets.

Objective(s): Both formal and informal channels of communication regularly exploited by energy manager and energy staff at all levels.

Action:

Per 1b) "Organizing" above:

- Energy Program Manager to work with Corporate Manager to establish DRLT sub-committee.
- Energy Manager to develop formal Departmental communication/reporting plan.

Resource needs: No additional resource needs, covered by the existing Program Manager.

d) Information systems

Current situation: we are only just beginning to monitor and report on energy consumption ($) based on utility invoicing. Energy unit has ad hoc involvement in budget setting.

Objective(s): Improve corporate energy accounting functions and related reporting and communication strategies. This strategy centres on subscription to ManagingEnergy energy data management software that includes monitoring, tracking and reporting (M,T&R) capabilities to enable:

- Improved data flow from gas and electric utilities
- Centralized automatic collection of facility energy data
- Analysis of facility consumption to discover operational anomalies and to identify the worst performing facilities
- Analysis of utility invoices to uncover billing errors
- Streamlined reporting to front-line energy budget holders and financial analysts responsible for energy budget tracking.
- Streamline procedures for public energy and greenhouse gas reporting, customized to audience (targeted stakeholders / public).

Action:

- Implement ManagingEnergy energy web-based data management software
- Add a "*Facility Optimization Coordinator*"function to work with the Energy Program Manager, maintenance staff and facility managers in the monitoring, optimization, and trouble shooting of existing and planned building automation systems.
- Add an "Energy Data Management" resource to provide liaison between Finance and the energy accounting functional role of the "Facility Optimization Coordinator ".
- Train energy budget holders and accounting staff on software

Resource needs:

- Subscription to Managing Energy energy data management software $32,328 total:
    - $12,648 for Utility Bill Entry (82 electrical and 42 natural gas meters).
    - $19,680 for ManagingEnergy Subscription (Energy Accounting Module: $20.00/facility/month x 82 facilities).
- The *Facility Optimization Coordinator* function is a critical support role involved in following tasks:
    - Optimize facility utility consumption (gas, hydro, water) through monitoring of ManagingEnergy utility data management software, existing Building Management Systems (BMS) and collected facility data.
    - Identify utility use anomalies and liaise with Corporate Building Maintenance to trouble-shoot and rectify
    - lead with respect to maintenance, installation, and set up of building automation systems
    - Oversee commissioning of mechanical and electrical systems in our new facilities and supporting retro-commissioning of existing buildings.
- For the "*Energy Data Management*" resource, it is envisioned that this part-time (50%) role could either be staffed using existing Finance resources or, alternatively, could be a contract position. Utility accounting will be streamlined through implementation of the ManagingEnergy energy management software, so current Accounts Payable staff may be able to be dedicated to this role without need for additional resourcing. In case this is not possible, $40k has been allocated in Corporate Energy's operational budget request to cover this function.
- Energy Program Manager to implement ManagingEnergy software and train energy budget holders
- Budget holders already have responsibility for tracking their utility expenditures.

e) Marketing

Current situation: Informal contacts used to promote energy efficiency.

Objective(s): improve internal communication and training around energy efficiency

Action:

- 2013 – Introduce ad hoc staff awareness training.

- 2014 – Implement program of staff awareness and regular publicity campaigns.

Resource needs:

No additional resource needs, covered by the existing Program Manager with assistance from Communications Dept.

f) Investment

Current situation: no tacit consideration of energy efficiency when deciding on investments (lifecycle replacement and procurement). Where energy is considered, analysis is based on short-term payback criteria only.

Objective(s): Utilize same payback criteria employed as for all other lifecycle-related investments/purchases.

Action: Energy Program Manager to work with CSS and Procurement to incorporate lifecycle costing into decision-making around investments/purchases. This includes Net Present Value (NPV) and other long-term cost/benefit tools.

Resource needs: No additional resource needs, covered by the existing Program Manager.

Financial management

a) Identifying opportunities

Current situation: in 2012, Corporate Energy conducted the first of a series of energy audits by outside consultants for thirteen buildings likely to yield largest savings.

Objective(s): to continue energy audits for other facilities, tax-based and enterprise.

Action:

- Additional energy auditing beyond the 13 facility energy audits conducted in 2012. This work will be conducted using an outside consultant in conjunction with a hired commissioning team. Estimated fee for this work is $75k. Scope includes:
    - Conduct facility energy audits
    - Identify energy reduction opportunities, complete with cost/benefit analysis.

Resource needs:

- Energy audits will be managed on behalf of the Corporation PM by an Energy Project Manager function funded as part of the capital budget request for energy reduction projects. In addition to overseeing the energy audits, this Energy Project Manager will be responsible for project management of Energy reduction projects identified in the 2012 energy audits (see item b , below).
- Contract for additional energy auditing using an outside consultant in conjunction with a hired commissioning team ($75k)

b) Exploiting opportunities

Current situation:

- Formal energy audits in 2012 have identified $3.3M of energy conservation measures at thirteen buildings likely to yield largest future avoided costs. These projects will be accomplished over the next three years (based on funding approval). Details of this capital request are included later in this report. The business case for the recommended measures, including full breakout by facility, is included in Appendix 2.
- Included in the energy audit recommended measures are a number of "operational" or "low hanging fruit" measures with quick paybacks and low capital. The Energy Program Manager is exploring implementation options with Corporate Properties Maintenance and Building Operations staff, with the hope of completing these in 2012/early 2013. The Energy Program Manager uses informal contacts to identify additional projects to reduce energy consumption.
- The Energy Program Manager is also invited to comment on most large-scale new-build, refurbishment and plant replacement projects.

Objective(s):

- Fund and Implement cost-effective energy reduction measures identified in energy audits.
- Move towards "continuous commissioning" of facilities in partnership with Corporate Buildings.
- Require that energy staff be invited to comment on all new-build, refurbishment and plant replacement projects.

Action:

- Implement energy reduction measures identified in audits conducted in 2012 at 13 tax-based facilities.
- Oversee continuous commissioning of facilities in partnership with Corporate Buildings. This work will be conducted using a hired commissioning team. Estimated fee for this work is $50k.
- Internal consulting to maximize energy performance of capital replacement & life cycle projects having an energy component
- Promotion and project Management of renewable energy generation projects on city property in conjunction with Envida (Guelph Hydro), i.e. solar photovoltaic on city rooftops.

Resource needs:

- Energy Project Manager to manage following projects on behalf of the City:
    - $3.3M in energy reduction opportunities identified in 2012 facility energy audits. Includes managing incentive applications.
    - Renewable energy generation projects on city property in conjunction with Envida (Guelph Hydro), i.e. solar photovoltaic on city rooftops.
    - Additional energy auditing using an outside consultant in conjunction with a hired commissioning team ($75k)
    - Continuous facility commissioning using a hired commissioning team ($50k).

Notes on Energy Project Manager function:

- since this position is a resource need associated with the $3.3M capital project request for 2013-2015, costs are included within the 2013-2015 Capital funding request although the plan envisions the possibility of continuing this function as an operationally funded FTE in future years as a resource for ongoing energy-related projects.
- Oversight of Energy Project Manager provided by the existing Corporate Energy Program Manager.

- Design and construction contracts to implement energy conservation measures at thirteen buildings

c) Management information

Current situation: *ManagingEnergy* energy data management system was implemented in July 2012 that will allow tracking of utility expenditures for all significant utility accounts. The system will also enable verification of utility bills and variance analysis. Without discreet sub-metering at facilities , however, it is still difficult to demonstrate the effectiveness of investment in energy efficiency except on a macro facility-wide basis.

Objective(s):

Full management information system enabling identification of past savings and further opportunities for investment meeting organisation's financial parameters.

Action:

- fully populate and test *ManagingEnergy* energy data management system
- provide training to budget holders, operations staff and Finance on *ManagingEnergy* energy data management system

Resource needs:

No additional resource needs, covered by the existing energy audit contract, with oversight by the Energy Program Manager.

d) Appraisal methods

Current situation: Traditionally, simple payback criteria are applied for evaluation of energy projects. No account taken of lifetime of the investment. For all measures as part of the 2012 energy audits have evaluated based on lifecycle costs using the organisation's specified discount rates.

Objective(s): Full discounting methods using internal rate of return and ranking priority projects as part of an ongoing investment strategy.

Action: As part of the energy audits, identified energy reduction recommendations will have associated lifecycle business case.

Resource needs: No additional resource needs, covered by planned energy audits with coordination by the existing Energy Program Manager.

e) Human Resources

Current situation: Energy manager working well with accounts/finance department to present well-argued cases to decision makers.

Objective(s): City Council to take a proactive approach to a long-term investment in Energy Management Program.

Action: Council approval of business plan and capital & operational budget requests

Resource needs:

No additional resource needs, covered by the existing Energy Program Manager, who is responsible for developing the business plan and business case and participating in the Business Development Framework Pilot.

f) Project funding

Current situation: Energy projects not formally considered for funding from capital budget, except when very short-term returns are evident.

Objective(s): Projects compete equally for funding with other core business investment opportunities. Full account taken of benefits which do not have direct cost benefit, e.g. improved service-based accounting, capacity building, marketing opportunities, environmental factors.

Action:

- Populate 10 year budgeting cycle with energy projects.
- Demonstrate prioritization of energy projects in alignment with corporate strategic goals.
- Investigate and secure third party financial support (i.e. Envida & other potential sources)
- Work with Financial Analysts to seek third party financial support through incentive programs (for audits, retrofits) and partnerships

Resource needs:

- Seeking funding will be covered by existing Energy Program Manager and Corporate Manager with assistance from Financial Analyst assigned to Corporate Energy Department.

Awareness and information

a) Energy management responsibilities

Current situation: Energy Management is centralized under the Energy Program Manager. Within other Departments or Divisions, there are no formal assigned staff responsibilities for energy efficiency.

Objective(s): Move responsibility for energy efficiency to departmental level.

Action:

- Formalize staff responsibility for energy efficiency. Develop lists of responsibilities for key energy staff and all departments.
- Program Manager to establish Corporate Energy Committee with representatives from all energy account holders.

Resource needs:

No additional resource needs, the existing Program Manager will work with departments establish Corporate Energy Committee and develop lists of responsibilities.

b) Energy efficiency awareness (Communications)

Current situation: No Corporate Energy communications strategy for corporate or CEI initiatives, either internal (Corporate) or external (public). Energy performance has only been occasionally reported and only to a limited audience. No general promotion of energy-saving measures.

Objective(s):

- Develop and implement a formal Corporate Energy communications strategy for corporate energy and CEI initiatives.
- Actively seek ideas from staff.

Action:

- Work with Communications Division to design Corporate Energy communications strategy for Corporate Energy and CEI initiatives; leveraging existing and new media tools (web 2.0).
- Develop specific communication pieces.
- For all communications or any media-related inquiries relating to Corporate Energy, provide assistance to the primary spokespersons; namely the Task Force Manager and Chair of the City Implementation Committee of the Mayor's Task Force on Community Energy
- Share knowledge & experience with other municipalities.

Resource needs: No additional resource needs. The existing Program Manager will be responsible for generating Corporate Energy communications strategy with assistance from Communications Division.

C) Reporting procedures

Current situation:

- Internal energy status reports have only been generated in response to specific requests (i.e. Council).
- Up until now, there has been no requirement to publicly report the Corporation's energy consumption or greenhouse gas footprint. 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). This includes annual reports and a strategic plan updated every 5 years.

Objective(s):

- Increase frequency of corporate energy efficiency reporting and review.
- Performance compared against internal and external references or benchmarks.
- Meet regulatory reporting requirements

Action:

- Publish energy and greenhouse gas reports, customized to audience (targeted stakeholders / public).
    - Energy Conservation Plan, as required under new regulation OReg 397/11, Section 6, part of the Green Energy Act (2009). This includes annual reports and a strategic plan updated every 5 years.
    - ICLEI Partners for Climate Protection (PCP) program, annual reporting and meetings.
    - Council Report on Energy Achievements
    - Internal and external communications

Resource needs:

No additional resource needs, covered by the existing Program Manager.

d) Review of energy performance

Current situation:

- We are only just beginning to monitor and report on energy consumption. This has focused on utility costs rather than energy consumption, in keeping with the focus on energy budgeting and variance analysis.
- Baseline energy use has been established for thirteen audited facilities, representing 90% of energy total corporate expenditure on the tax-base side (streetlights excluded).

Objective(s):

- Utilize ManagingEnergy energy data management software and other existing business systems for frequent:
    - Review of energy efficiency performance compared against internal and external references or benchmarks.
    - Analysis of facility consumption to discover operational anomalies and to identify the worst performing facilities
    - Analysis of utility invoices to uncover billing errors

Action:

- Establish schedule for regular energy efficiency performance reviews.
- Implement ManagingEnergy energy web-based data management software
- Train energy budget holders and accounting staff on software

Resource needs:

- Implementation covered by the existing Program Manager.
- Staff and Council will have reports to review.
- Budget holders and accounting staff will need to be trained on energy software

e) Ongoing training (Capacity Building)

Current situation: Staff energy efficiency awareness generally low. A few staff have knowledge of energy efficiency techniques and facts. Little, if any, training in energy efficiency for staff. The Program Manager, Energy is a Professional Engineer but does not have certification as a Certified Energy Manager (CEM). Another item related to corporate capacity-building includes the support that the Energy Program Manager provides on Planning Department initiatives, including:

- Integration of CEI goals into City Planning Activities (Official and Secondary Plans, analyzing and developing planning incentive tools like CIPs, LICs).
- Assistance to Building Services to incorporate/promote CEI goals and regulations like the 2012 Ontario building code (OBC), including the Assist in development of 2012 OBC checklist

Objective(s):

- Developing general staff awareness is covered by item *b) Energy efficiency awareness (Communications)*.
- Technical and premises staff development mainly via professional and technical journals.
- Occasional initiatives to train staff in energy efficiency.

Action:

- Energy Program Manager to work with Departments to identify training needs, develop framework and facilitate staff training and information sessions.
- Depending on training, Energy Program Manager to deliver or sub-contract to outside consultant/agency.
- Energy Program Manager to receive training as Certified Energy Manager (CEM).

Resource needs:

- Certified Energy Manager (CEM) training for Energy Program Manager $3k
- Energy Management training $5k
- Depending on level of training required, can be delivered by Energy Program Manager or sub-contracted to outside consultant/agency.
- Department staff to dedicate time/resources to training
- Remaining capacity building action items covered by existing Program Manager

f) Market awareness

Current situation: Trade journals, literature and other sources scanned by Energy Program Manager on an ad hoc basis for information on the latest developments relating to energy efficiency. Energy Program Manager attends 1 to 2 targeted conferences per year.

Objective(s):

- To understand Best Practice and industry trends
- Develop network of other energy managers in other jurisdictions.

Action:

- Energy Program Manager to
    - Accommodate time to review trade information on Best Practice and industry trends.
    - Continue to develop network of other energy managers in other jurisdictions.
    - attend following two annual conferences, including Energy Matters (Peel Region) and AMO/LAS Connections Energy Symposium

Resource needs:

- Conferences - 2 events x $1.5k = $3k
- No additional resource needs, covered by the existing Program Manager.

Technical

a) Existing plant and equipment

Current situation: Equipment is not energy efficient, but has been commissioned for economy and undergoes periodic maintenance.

Objective(s): Equipment and plant is appropriately selected, energy efficient, commissioned for low energy consumption and well maintained. Over time, this would be extended from fixed plant to portable appliances.

Action:

- Energy Program Manager to
    - Work with Departments and Purchasing to ensure that major energy-consuming equipment and plant is appropriately selected for energy efficiency.
    - Assist in commissioning and Measurement & Verification activities.
    - Implement and oversee continuous commissioning of facilities to optimize efficiency.

Resource needs:

No additional resource needs, covered by the existing Program Manager with assistance from Departments.

b) Plant and equipment replacement

Current situation: Apart from isolated purchases and consumables such as light bulbs, there is no wide-spread consideration of energy efficiency in product selection.

Objective(s):

- Equipment selected to be fit for purpose, bearing in mind likely life cycle costs and energy efficiency factors.

Action:

- Energy Program Manager to work with staff purchasing major energy-consuming equipment to ensure that life cycle costs and energy efficiency are factored into decision making, including assessing power efficiency data on products as part of selection process.

Resource needs:

No additional resource needs, covered by the existing Program Manager and cooperation from Departments.

c) Maintenance procedures

Current situation: Condition surveys and occasional activity, often prompted by plant failure or safety considerations. Remedial work only carried out on major defects.

Objective(s): Move from *reactive* trouble-shooting to *proactive* preventative maintenance and optimization.

Action:

The 2013 budget request includes an additional *Facility Optimization Coordinator* function responsible for optimizing facility utility consumption on a day-to-day basis. This functional role would be funded for the first year or two through the Corporate Energy Program, although oversight would remain with Corporate Building Maintenance. The Plan envisions this functional role as being incorporated within Corporate Maintenance in future.

Having this additional staff resource would enable closer oversight of energy usage to identify anomalies as they occur, allowing maintenance to optimize operation or provide timely maintenance as appropriate.

Resource needs:

- Additional functional role covered under 1d) above.
- No additional resource needs, covered by the existing Program Manager.

d) Operational knowledge

Current situation: Staff is only marginally aware of how they affect energy use. Operational improvements that save energy are only implemented where they can be easily accommodated within traditional working practices.

Objective(s):

- Immediate (1-2 yr goal)
    - Improve operations and housekeeping practices in an attempt to reduce energy usage.
    - Help all staff understand their role with respect to corporate energy use.
- Longer term (3-5 yr goal) – staff taking positive steps to minimize energy use.

Action:

- General training to help all staff understand how their roles impact on energy efficiency and how they can take positive steps to minimize energy use will be part of awareness training covered by 3b), above.
- Specific training to facility operational and maintenance staff will need to be customized based on equipment and controls that staff encounter in their work.

Resource needs:

The existing Energy Program Manager will be responsible for delivering general energy awareness training.

The Energy Program Manager will work with Departments to identify specific training needs. It is envisioned that these training needs will be funded through Department training budgets.

e) Documentation and record keeping

Current situation: Documentation exists for most of the larger facilities, including basic descriptions of major building systems (i.e. HVAC plant) and instrumentation and control schedules. Asset data was last updated a few years back but the data is not consistently maintained.

As part of the audits conducted in 2012 on thirteen tax-based facilities, asset details were inventoried for all major equipment including:

- Fans and pumps > 5 hp (3.75 kW)
- Boilers > 100,000 BTU/Hr
- Building Systems that consume energy or affect energy consumption > 2 kilowatts (7000 BTU/Hr)
- All building systems that consume water or affect water consumption

This information has yet to be incorporated into the City's existing Operations and Maintenance WAM asset management database.

Objective(s):

- Improved asset documentation of major equipment and details for plant instrumentation and controls.
- Improved operational record-keeping (i.e. baseline power consumption etc)

Action:

- Program Manager to coordinate with CSS to
    - Integrate asset inventory for 13 audited facilities into existing WAM asset management system (or its replacement).
    - Continue collecting inventory information for other facilities
- Program Manager to coordinate with other Departments for asset inventory of other facilities.

Resource needs:

Existing Program Manager with Departmental assistance.

f) Operational methods

Current situation:

Corporate Energy has implemented an energy data management system called *ManagingEnergy* that will enable more accurate energy accounting. The software generates baseline energy equations that are normalized to weather and other factors like occupancy. This will improve our ability to assess facility performance against established targets.

Estimating annual energy operating budgets has been made difficult by:

- Poor understanding of facility energy use
- Poor understanding of method of utility rate calculations by utilities
- Complicated allocation of facility budgets across multiple internal business accounts
- Uncertainty regarding energy rate increases in a volatile market

The above have created variances in year-on-year energy budgets. Some of this uncertainty and variability can be reduced with more sophisticated understanding of energy use and what avoided costs can be realistically achieved. Other variables, such as energy rate increases, will continue to have uncertainty.

Objective(s):

Develop robust methodology for establishing realistic annual energy budgets, setting realistic energy reduction targets, and assessing performance at a service (facility) level.

Action:

- Develop robust energy baselines for all major facilities.

- Develop a standard methodology for establishing realistic annual energy budgets based on facility energy baselines and calculated avoided energy costs from energy conservation measures (through audits).
- Streamline accounting to better align internal account codes to facilities as opposed to business units. This will help with move towards service-based accounting.
- Improve energy and financial accounting procedures to better enable assessment of performance to targets, including regular variance reporting.

Resource needs:

No additional resource needs, covered by the existing Program Manager with assistance from Finance and business account holders.

Summary of Corporate Energy Program Resource Needs

The expanded Corporate Energy Program envisioned in this Business Plan includes requests for resourcing at both the program (operational) and project (capital) level. Both components are integrated and integral to an effective Corporate Energy program.

Operational Resource Needs

Figure 7 below summarizes the additional **operational** resource needs for the Corporate Energy program in 2013. That is, additional to current staff and operational budgets.

Figure 7: Summary of 2013 Corporate Energy Program operational resource needs:

Area of Focus	Resource Requirements	Estimated Cost
Energy Management / Information Systems	Facility Optimization Coordinator functional role	**$80k**
	Subscription to Managing Energy data management software	**$35k**
	Energy data management resource (see Note 1)	**$40k**
Exploiting Opportunities (Energy Projects)	Project Manager	**(see Note 2 at bottom)**
	Additional energy auditing using an outside consultant in conjunction with a hired commissioning team	**$75K**
	Continuous facility commissioning using a hired commissioning team	**$50K**
Awareness & Information (Capacity Building)	Energy Management training labour for management of training program - covered by existing Program Manager and HR staff	**$8k**
Total		**$288k**

Note 1) for the "Energy Data Management" resource, it is envisioned that this part-time (50%) role could either be staffed using existing Finance resources or, alternatively, could be a contract position. Utility accounting will be streamlined through implementation of the ManagingEnergy energy management software, so current Accounts Payable staff may be

able to be dedicated to this role without need for additional resourcing. In case this is not possible, $40k has been allocated in Corporate Energy's operational budget request to cover this function.

Note 2) Since the Project Manager position is a resource need associated with the $3.3M capital project request for 2013-2015, costs are included within the 2013-2015 Capital funding request although the plan envisions the possibility of continuing this function as an operationally funded FTE in future years as a resource for ongoing energy-related projects.

Capital Resource Needs

In addition to recommending areas of development for the Corporate Energy program, listed above, the business plan also includes a plan for implementing significant energy reduction measures, with a long-term goal of 28% reduction in absolute energy use (gas & electricity) across the City's portfolio by 2031.

Significant energy-related investments in 2010 and 2011, including City funds and matching grants, enabled the City to maintain 2011 energy expenditure at the 2010 level, despite the addition of new facilities and despite 9% increase in hydro consumption rates in 2011. This proves that energy management is an effective tool for mitigating hyperinflationary energy price increases. We are looking to renew this strategy of investing in energy conservation, beginning with an ambitious energy reduction program starting in 2013.

Formal energy audits in 2012 have identified $3.3M of energy conservation measures at thirteen buildings, representing 90% of energy total corporate expenditure on the tax-base side (streetlights excluded). These energy reduction retrofits have been split into $1.25M capital request for energy reduction projects in 2013, $985k in 2014 and $1.09M in 2015. This is followed by continued annual investment over the next 20 years as the list of projects and facilities is expanded following future energy audits (Figure 8). This future investment increases based on decreasing Return-on-investment (ROI) for future retrofits that have higher paybacks. The business case for the 2013-2015 capital request, with specific measures broken out by facility, is included in Appendix 2.

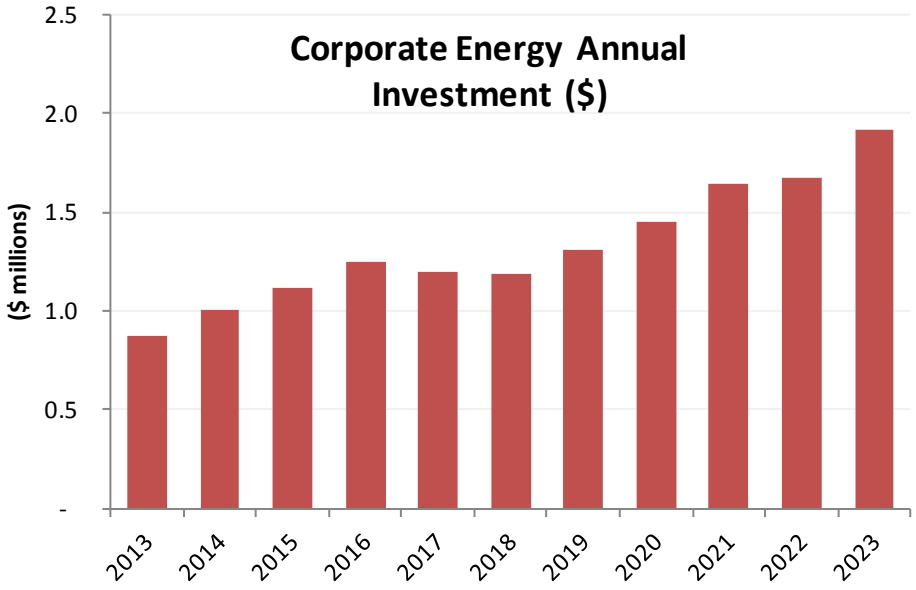


Figure 8 Corporate Energy Investment ($/year)

Relationship between Operational and Capital Resource Needs

While application for the $288k 2013 operational budget request is separate from the $3.3M 2013-2015 capital budget request for energy conservation measures, operational and capital aspects are very much intertwined. The capital energy retrofits will require internal project management resources, which will depend on approval of operational expansions. Conversely, an Energy Management Program without funding for retrofits will be ineffective at delivering on real avoided energy costs, thus undermining the goal. For this reason, supporting both program (operational) and project (capital) components of the business plan in an integrated way is crucial to an effective Corporate Energy program.

Financial Benefits to the Corporation

The business case for building a robust Corporate Energy program is not simply a financial one. It should be assessed based on integrated benefits of ongoing energy management, both fiscal and institutional which, together, will reduce the Corporation's exposure to increases due to growth and energy rate escalation. However, assessing the business case based on quantifiable avoided costs is significant enough by itself to justify the program expansion and continued funding.

The energy reduction projects alone are expected to produce 8.3% energy reduction across all tax-based energy accounts. Additional avoided costs are expected from finding errors on utility bills and cost saving utility procurement strategies. An expected energy reduction of $156k in 2013 has been incorporated into the 2013 budget, which will help mitigate expected double-digit utility rate escalation. This increases to $376k/yr in 2014 and $423k/yr in 2015, equating to 5% of overall utility spend (See Figure 9). Achieving these annual avoided costs is dependent on approval of the 2013, 2014 and 2015 capital budget requests.

	Energy Saving Measure	Avoided costs ($)
2013	**Bill Verification**	$25,000
	Utility Procurement strategy	$25,000
	2013 Energy Reduction Projects (Capital)	**$106,000**
	• Operating efficiencies	$30,000
	• Re-commissioning (2 yr payback)	$20,000
	• Capital Energy Reduction Projects	$56,000
	2013 Total Avoided costs (2%)	**$156,000**
2014	**2014 Energy Reduction Projects**	$114,000
2015	**2015 Energy Reduction Projects**	$47,000
2013 - 2015	**All measures (5.9%)**	$423,000

Figure 9 Anticipated Avoided costs from Proposed Energy 2013/2014 Reduction Measures

While the payback on individual energy efficiency investments can be shown to meet typical institutional-grade payback of 9-10 years or lower, the real benefits are realized when we look at future avoided costs.

Investment in energy efficiency now will continue to save money indefinitely and, importantly, future avoided costs will compound in lock-step with exponentially-increasing energy prices. Thus energy management equals risk management.

The magnitude of the Corporation's risk exposure to energy price escalation can be significantly mitigated by investment in energy conservation today, resulting in significant future avoided costs, estimated at over **$2M/yr** by 2018 and **$4.2-5.4M/yr** in 2023 (Figure 10).

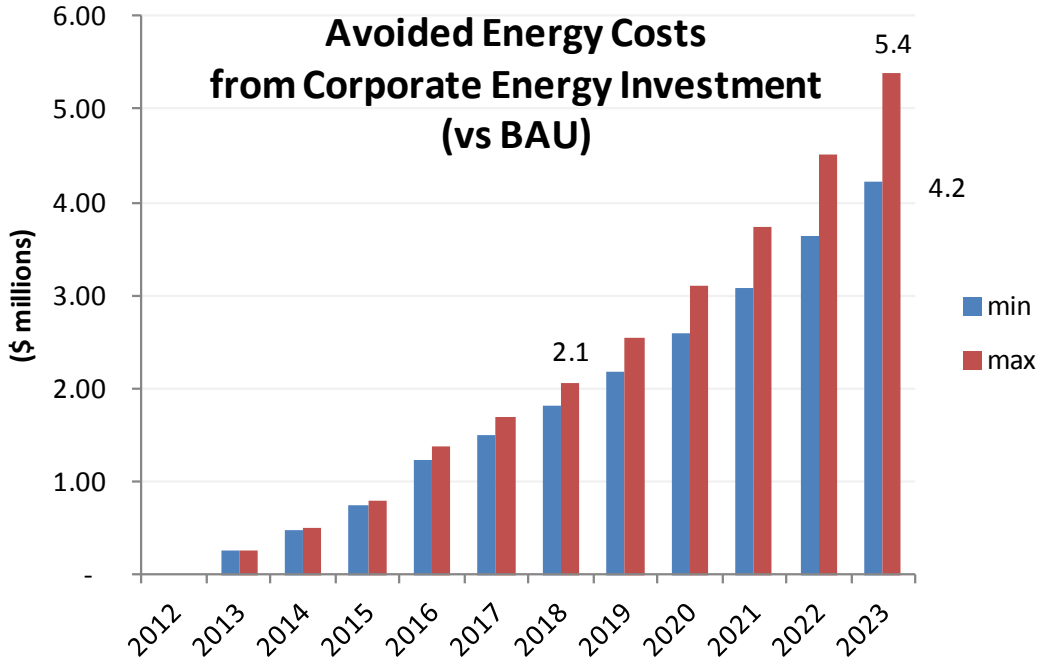


Figure 10 future avoided energy costs from energy investments (annual)

This represents **$21-26M** in cumulative avoided costs over 10 years (Figure 11).

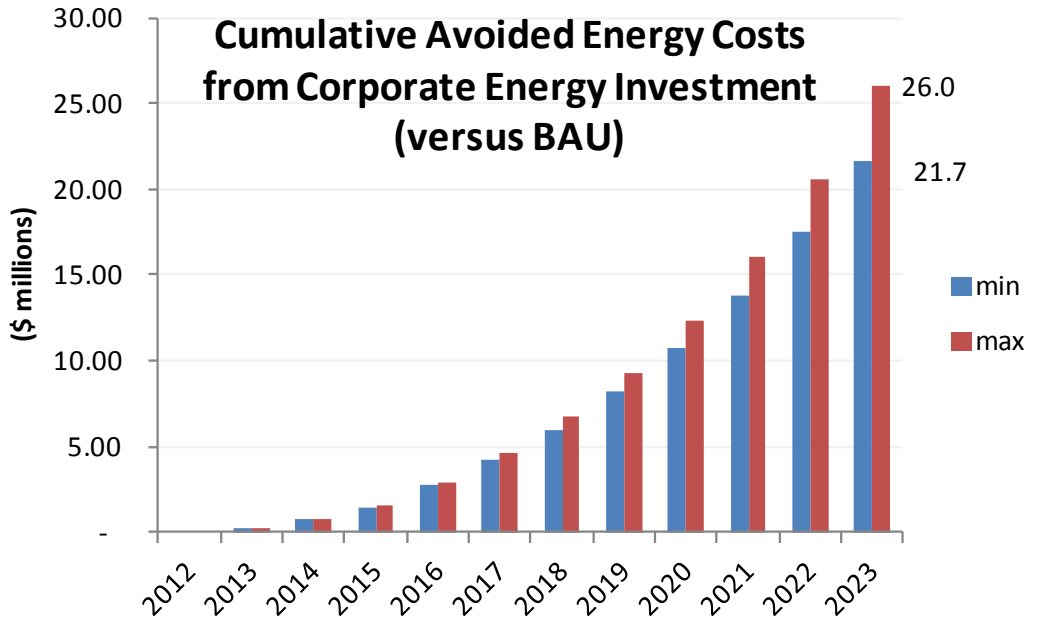


Figure 11 future avoided energy costs from energy investments (cumulative)

Factoring in Corporate Energy Program investments, the net avoided costs are $1.2M/yr in 2018 and $2.3-3.5M per year in 2023 (Figure 12).

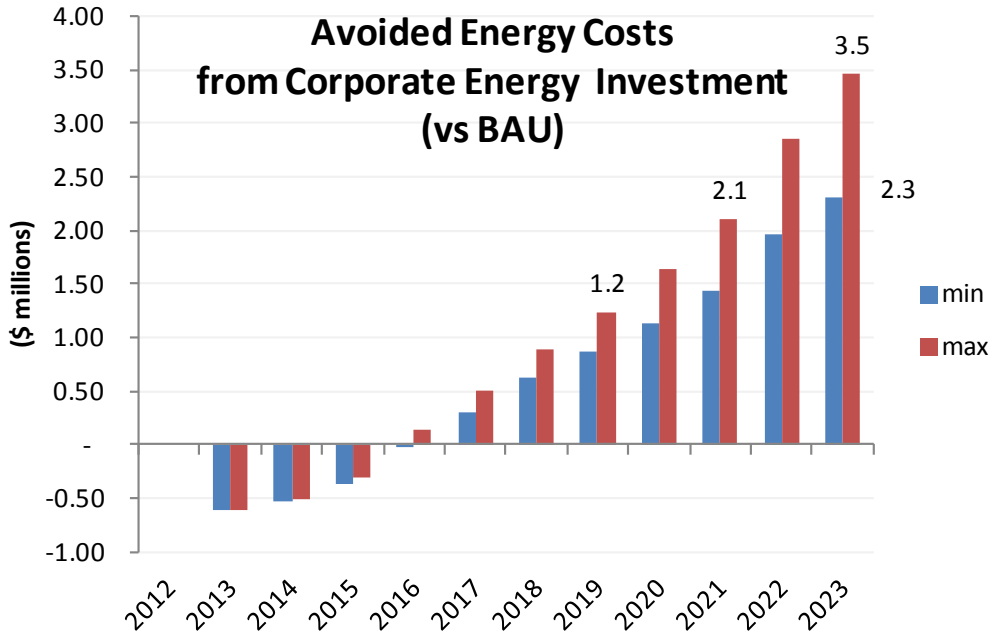


Figure 12 future net avoided energy costs from energy investments

This represents **$7.1-11.4 M** in net cumulative avoided costs over 10 years and **$86M** over 20 years (Figure 13).

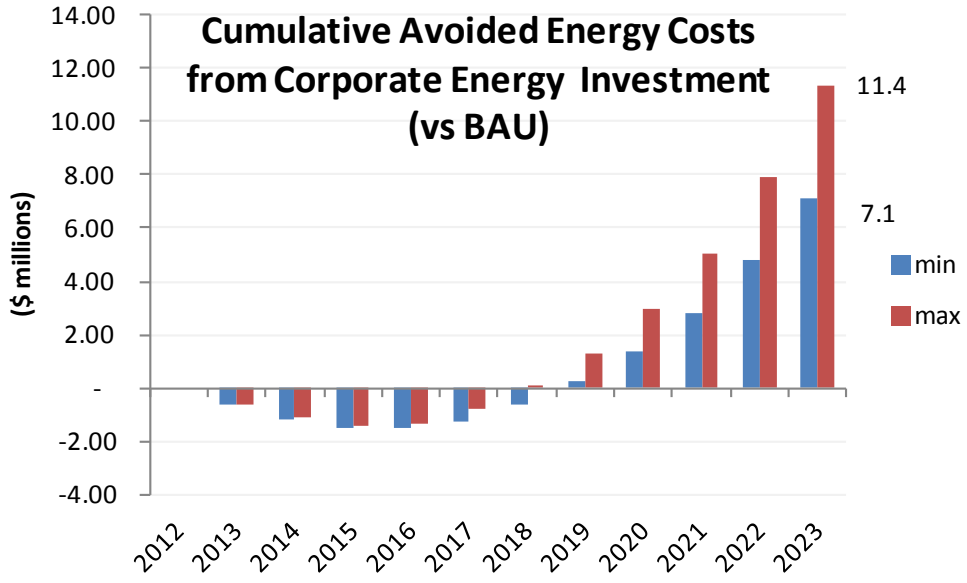


Figure 13 future net avoided energy costs from energy investments (cumulative)

Without significant energy investment, the City is fully exposed to increases due to growth and energy rate escalation. The business case analysis presented in this Plan demonstrates that invested capital will not only be recovered, but significant savings will be realized in avoided costs.

Discussion of Funding Alternatives

This Business Plan envisions a significant program expansion and annual capital budget requests spanning 10 years. A number of strategies are being assessed to fund this expansion, including the traditional possible funding sources that have been identified are:

Traditional Funding Sources

The traditional possible funding sources that have been identified include:

- Leveraging existing approved capital
- Tax-supported debt (debenture, mortgage), funded via reserves

Leveraging existing approved capital

Opportunities to fund energy efficiency projects through existing capital budgets, such as Corporate Maintenance Lifecycle capital replacement budget, have been investigated. Over two dozen projects with energy-related components are being implemented as part of Lifecycle capital replacement budget in 2013/2014 and the Energy Program Manager will continue to liaise on leveraging this budget to realize energy efficiencies wherever feasible.

The Energy Program Manager is participating in scoping discussions for major facility retrofits, including the Police Headquarters and planned renovations at Victoria Road Recreation Centre starting in 2013. It is envisioned that avoided energy costs can be realized through these funded projects.

Tax-supported debt (debenture, mortgage), funded via reserves

On July 23, 2012, Council approved use of the $13M Capital Renewal Reserve Fund (aka Hydro Note) for measures that will “mitigate tax rate increases”. We foresee that energy reduction measures could be funded through this reserve since these measures result in avoided costs, thus mitigating tax burden. Council also approved increasing capital funding to 20%, which would provide room to accommodate unfunded Corporate Strategic Plan initiatives like Community Energy.

Corporate Energy is also looking to gain funding access to the 2012 $1.5M Hydro Dividend in 2012. This will enable design and procurement to begin immediately (in 2012) so that savings can accrue as early as possible in 2013. Approval of this Plan and early funding via the Hydro Dividend would also enable staff to proceed with organizing for FTE expansions required in early 2013.

Alternative Funding Opportunities

Given the City's fiscal constraints, it will be necessary to look at alternative and innovative ways to mobilize available resources, both internal and external. The positioning of Corporate Energy within the new Enterprise Division, together with the program's alignment with the "Doing Business Differently" committee, provides an opportunity to identify and better assess alternate delivery and funding models.

Opportunities to mobilize City-owned assets into community-based energy activity need to be explored. One existing example already implemented is revenue generation from facility roof space leased to Envida for solar panels. Another example is exploring using facility heating and cooling infrastructure as part of a District Energy System, likely in coordination with GHMI and utilities (Guelph Hydro, Union Gas).

Also, avoided energy costs that can be mobilized towards various alternative resourcing strategies that don't require access to traditional operating or capital budgets. This includes investigating third party bridge financing - including funding through Guelph Hydro via its unregulated arm, Envida.

These are just some of the innovative ways that Corporate Energy program can bring benefit to the Corporation.

Grants and Top-ups

The need for internal funding &/or third party bridge financing can be significantly reduced through grants and outside "top-up" money that is currently available for energy reduction initiatives. The possible sources that have been identified include:

- Federal Gas Tax money
- Grants/Incentives

Re-allocation of Federal Gas Tax money

The City of Guelph currently receives $7M per year in Federal Gas Tax (FGT). Current policy is to allocate FGT to roads & infrastructure. Other jurisdictions - including Waterloo/Kitchener/Ajax - are applying FGT to energy projects. Approximately $100M of FGT money was utilized for energy efficiency projects between 2005 and 2011 (227 projects). Corporate Energy would like to investigate with staff and Council, the possibility of allocating funds from the FGT to energy conservation projects.

Grants / Incentives

Corporate Energy has begun exploring avenues for incentive funding for energy conservation projects. Application will be submitted for an FCM Green Municipal Fund (GMF) that could provide up to 50% matching grant.

Corporate Energy is also being considered as part of a coordinated corporate application for funding under the Federal Community Infrastructure Improvement Fund. Like the FCM Green Municipal Fund, this retrofit fund contributes 50% of the cost.

We have also begun the process of applying for audit and retrofit incentives provided through Union Gas and Guelph Hydro utilities.

Summary

Escalating fossil fuel costs are a financial risk and a service risk for the City since many of its services are highly reliant on energy (e.g. facility operation, pumping water to homes). A properly resourced Corporate Energy program can reduce the Corporation's risk exposure to escalating energy costs, through best practice, and increase resilience to future price volatility. Thus energy management equals risk management.

Energy management is more than just implementing energy conservation retrofits. A robust energy management strategy covers both program and project aspects. Energy management is multi-dimensional, encompassing the technical aspects of facility and process operation, organizational management, and human behaviour. Beyond specific energy reduction capital projects, a holistic approach leverages existing staff and budgets to build energy resilience from within.

If we just consider financially quantifiable benefits, investment in a corporate energy management program pays for itself ten-fold in avoided energy costs/risk. The magnitude of avoided costs resulting from deep energy reduction demonstrates that the business case for conservation is strongest when viewed from a risk management context rather than just in simple payback terms. Investment in energy conservation today will result in net avoided costs of $1.2M/yr by 2018 and $2.3 to 3.5M/yr in 2023, representing $11.4 M in net cumulative avoided costs over 10 years and $86M over 20 years. These avoided costs are contingent on approval of the following operational and capital budget requests:

- $1.25M capital request for energy reduction projects in 2013, $985k in 2014 and $1.09M in 2015, followed by continued future annual investment as the list of projects and facilities is expanded following future energy audits.
- $288k 2013 operational budget request for program expansion to deliver best practice energy management.

Expansion of the corporate energy management program will require significant continued investment. But investing to reduce utility expenditure is the one of the few palatable options the City has to reducing the tax burden posed by Corporate operational costs (versus service reductions, freeze on hiring, increased user fees etc).

While application for the Corporate Energy Program operational budget request is separate from the 2013/2014 capital budget request for energy conservation measures, it is important to remember that the operational and capital aspects are very much intertwined. The capital energy retrofits are dependent on elements of the operational resourcing request, for instance a Project Manager to oversee the retrofit projects on behalf of the Corporation. Conversely, an Energy Management Program without funding for retrofits will be ineffective at delivering on real avoided energy costs, thus

undermining the goal. For this reason, supporting both program (operational) and project (capital) components of the business plan in an integrated way is crucial to an effective Corporate Energy program.

Support for the Corporate Energy Program aligns with corporate goals, based on commitment to the Community Energy Initiative and directives of the 2012-2016 Corporate Strategic Plan, and a need to retain a leadership position in the community and amongst municipal peers.

There is always a concern that an ambitious undertaking, such as the one outlined in this business plan, will fall short of expectations. The rigorous performance metrics developed for validating achievement of the Corporate Energy program on many fronts will ensure that performance can be monitored, and that interventions can be made to rectify shortfalls as they occur. The energy management best practice measures being implemented, including state-of-the art data management software, together with sufficient staff resourcing, will ensure that energy avoided costs are managed and tracked and that year-to-year goals are achieved.

This plan outlines the corporate risk posed by exponentially escalating energy costs and how we can mitigate that risk through Best Practice energy management based on a robust internationally-accepted framework.

Appendices

Appendix 1 - Corporate Energy Program Performance Metrics

Appendix 2 - Cost/Benefit Analysis – Capital Projects

Appendix 1 Corporate Energy Program Performance Metrics

Background

In 2011, Corporate Energy embarked on a capacity assessment to better understand where the City is at with regards to energy management. The capacity assessment utilized a UK Department of Environment guide which helps organizations understand its current position with respect to a range of energy management issues and identify which areas should be improved. The performance metrics within this methodology have been adopted by Corporate Energy as a tool to assess program development towards the goal of best practice corporate energy management.

Below is a summary of Corporate Energy program scoring for 2010, 2011 together with goals for 2012 and 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.

Capacity Assessment Framework

The capacity assessment utilized a UK Department of Environment guide which helps organizations understand its current position with respect to a range of energy management issues and identify which areas should be improved. Further details of this assessment methodology can be found in the attached Appendices. The approach is based on two levels of scoring matrices covering four main categories:

Level 1 Matrix →

Level 2 Matrix

1) Energy management
a) Energy policy
b) Organising
c) Motivation
d) Information systems
e) Marketing
f) Investment
2) Financial management
a) Identifying opportunities
b) Exploiting opportunities
c) Management information
d) Appraisal methods
e) Human resources
f) Project funding
3) Awareness and information
a) Energy management responsibilities
b) Energy efficiency awareness
c) Reporting procedures
d) Review of energy performance
e) Ongoing training
f) Market awareness
4) Technical
a) Existing plant and equipment
b) Plant and equipment replacement
c) Maintenance procedures
d) Operational knowledge
e) Documentation and record keeping
f) Operational methods

Summary of Scores - Corporate-Level Energy Management Capacity Assessment

Using this capacity assessment as a benchmark, we have established a baseline scores for 2010 and 2011 as well as corporate-level goals for 2012 and 2013. **Table 1** summarizes the scoring. Figures 1 through 4 provide more information of what these scores mean.

Corporate Energy Program Scorecard (greener the better, Max score is 4)

Energy management

Scores 2010	Scores 2011	Targets 2012	Targets 2013	
0	0	2	4	Energy management responsibilities
0	2	2	3	Energy efficiency awareness
1	1	2	2	Reporting procedures
0	2	2	2	Review of energy performance
1	1	2	3	Ongoing training
2	2	3	3	Market awareness
0.7	1.3	2.2	2.8	Average score

Awareness and information

Scores 2010	Scores 2011	Targets 2012	Targets 2013
1	1	2	3
0	1	2	3
0	1	2	2
0	1	2	3
1	1	1	2
0	2	2	2
0.3	1.2	1.8	2.5

Financial management

Scores 2010	Scores 2011	Targets 2012	Targets 2013	
0	1	3	3	Existing plant and equipment
1	1	3	3	Plant and equipment replacement
1	1	3	4	Maintenance procedures
1	1	3	4	Operational knowledge
2	2	3	4	Documentation and record keeping
2	2	2	4	Operational methods
1.2	1.3	2.8	3.7	Average score

Technical

Scores 2010	Scores 2011	Targets 2012	Targets 2013
0	1	1	2
0	0	1	2
1	1	1	2
1	1	1	2
1	1	2	2
1	1	2	2
0.7	0.8	1.3	2.0

Figure 1 - ENERGY MANAGEMENT SECOND-LEVEL MATRIX

Level	Energy policy	Organising	Motivation	Information systems*	Marketing	Investment
4	Energy policy, action plan and regular review have commitment of top management as part of an environmental strategy. ``	Energy management fully integrated into management structure. Clear delegation of responsibility for energy consumption. Energy Committee chaired by board member.	Formal and informal channels of communication regularly exploited by energy manager and energy staff at all levels.	Comprehensive systems set targets, monitor consumption, identify faults, quantify savings and provide budget tracking.	Marketing the value of energy efficiency and the performance of energy management both within the organisation and outside it.	Positive discrimination in favour of 'green' schemes with detailed investment appraisal of all new-build and refurbishment opportunities.
3	Formal energy policy, but no active commitment from top management.	Energy manager accountable to energy committee representing all users.	Energy committee used as main channel together with direct contact with major users.	M&T reports for individual premises are based on sub-metering. Achieved performance against targets reported effectively to users.	Programme of staff awareness and regular publicity campaigns.	Same payback criteria employed as for all other investment.

Level	Energy policy	Organising	Motivation	Information systems*	Marketing	Investment
2	Unadopted energy policy set by energy manager or senior departmental manager.	Energy manager in post, reporting to ad hoc committee, but line management and authority are unclear.	Contact with major users through ad hoc committee chaired by senior departmental manager.	Monitoring and targeting reports based on supply meter data. Energy unit has ad hoc involvement in budget setting.	Some ad hoc staff awareness training.	Investment using short-term payback criteria only.
1	An unwritten or uncoordinated set of guidelines.	Energy management is the part-time responsibility of someone with limited authority or influence.	Informal contacts between engineer/technical staff and a few users.	Cost reporting based on invoice detail. Engineer compiles reports for internal use within technical department.	Informal contacts used to promote energy efficiency.	Only low-cost measures taken.
0	No explicit policy.	No energy management or any formal delegation of responsibility for energy consumption.	No contact with users.	No information system. No accounting for energy consumption.	No promotion of energy efficiency.	No investment in increasing energy efficiency in premises.

Figure 2 - FINANCIAL MANAGEMENT SECOND-LEVEL MATRIX

Level	Identifying opportunities	Exploiting opportunities	Management information	Appraisal methods	Human resources	Project funding
4	Detailed energy surveys are regularly updated. Lists of high- and low-cost opportunities already costed and ready to proceed immediately.	Formal requirement to identify the most energy-efficient option in all new-build, refurbishment and plant replacement projects. Decisions made on the basis of life cycle costs.	Full management information system enabling identification of past savings and further opportunities for investment meeting organisation's financial parameters.	Full discounting methods using internal rate of return and ranking priority projects as part of an ongoing investment strategy.	Board take a proactive approach to a long-term investment programme as part of a detailed environmental strategy in full support of the energy management team.	Projects compete equally for funding with other core business investment opportunities. Full account taken of benefits which do not have direct cost benefit, eg marketing opportunities, environmental factors.
3	Energy surveys conducted by experienced staff or consultants for buildings likely to yield largest savings.	Energy staff are required to comment on all new-build, refurbishment and plant replacement projects. Energy efficiency options often approved but no account is taken of life cycle costs.	Promising proposals are presented to decision-makers but insufficient information (eg sensitivity or risk analysis) results in delays or rejections.	Discounting methods using the organisation's specified discount rates.	Energy manager working well with accounts/finance department to present well-argued cases to decision makers.	Projects compete for capital funding along with other business opportunities, but have to meet more stringent requirements for return on investment.

Level	Identifying opportunities	Exploiting opportunities	Management information	Appraisal methods	Human resources	Project funding
2	Regular energy monitoring/analysis identifies possible areas for saving.	Energy staff are notified of all project proposals with obvious energy implications. Proposals for energy savings are vulnerable when capital costs are reduced.	Adequate management information available, but not in the correct format or easily accessed in support of energy-saving proposals.	Undiscounted appraisal methods – eg gross return on capital.	Occasional proposals to decision makers by energy managers with limited success and only marginal interest from decision makers.	Energy projects not formally considered for funding from capital budget, except when very short-term returns are evident.
1	Informal ad hoc energy walkabouts conducted by staff with checklists to identify energy-saving measures.	Energy staff use informal contacts to identify projects where energy efficiency can be improved at marginal cost.	Insufficient information to demonstrate whether previous investment in energy efficiency has been worthwhile.	Simple payback criteria are applied. No account taken of lifetime of the investment.	Responsibility unclear and those involved lack time, expertise and resources to identify projects and prepare proposals.	Funding only available from revenue on low-risk projects with paybacks of less than one year.
0	No mechanism or resources to identify energy-saving opportunities.	Energy efficiency not considered in new-build, refurbishment or plant replacement decisions.	Little or no information available to develop a case for funding.	No method used irrespective of the attractiveness of a project.	No-one in organisation promoting investment in energy efficiency.	No funding available for energy projects. No funding in the past.

Figure 3 - AWARENESS AND INFORMATION SECOND-LEVEL MATRIX

Level	Energy management responsibilities	Energy efficiency awareness	Reporting procedures	Review of energy performance	Ongoing training	Market awareness
4	Lists of responsibilities and their assignment exist and are comprehensive and regularly reviewed. All staff have responsibilities.	Energy efficiency performance regularly presented to all staff. Full use made of publicity. Advantage taken of all available dissemination routes for promoting new measures for saving energy.	Comprehensive reporting of current status compared with best practice, o regular basis ar geared at a variety of audiences. Full support to publi statements.	Energy and water efficiency regularly reviewed. Performance compared against internal and external references or benchmarks. Ideas actively sought.	Continuous professional development properly resourced for technical and premises staff. Active technical library. All staff have ready access to domestic and non-domestic energy efficiency information.	Keep abreast of technological developments by ongoing monitoring of trade journals, literature and other sources on issues affecting energy efficiency.
3	Lists of responsibilities and their assignment exist for key energy staff and all departments.	Energy efficiency status presented to all staff at least annually. Occasional but widespread use of publicity to promote energy-saving measures.	Current status reports issued annually to shareholders ar staff. Impartial reporting of performance to staff and departments on a regular basis.	Frequent energy efficiency reviews using monitored consumption and cost data. Analysis is regular, wide-ranging but ritualistic.	Continuous professional development for technical and premises staff. All staff are aware of and have access to an energy efficiency library.	Regular studies carried out on trade journals, literature and other sources to assess current developments impacting on energy efficiency.

Level	Energy management responsibilities	Energy efficiency awareness	Reporting procedures	Review of energy performance	Ongoing training	Market awareness
2	Some staff and departments have written responsibilities.	Energy performance presented to staff on a regular basis. Occasional use of publicity for promoting energy-saving measures.	Occasional issue of energy efficiency status reports. Concentrates or good news.	Occasional technical energy efficiency reviews. Regular cost checks with exception reporting. Analysis of limited scope.	Technical and premises staff development mainly via professional and technical journals. Occasional initiatives to train staff in energy efficiency.	Trade journals, literature and other sources scanned on an ad hoc basis for information on the latest developments relating to energy efficiency.
1	Unwritten set of responsibility assignments.	Energy performance occasionally reported and known to very few staff. Energy-saving measures are rarely promoted.	Reports only issued if prompted by a business need. Most reports wi contain only good news.	Energy review activity based on revenue costs. Limited exception reporting only.	Energy efficiency awareness generally low. A few staff have knowledge of energy efficiency techniques and facts. Little, if any, training in energy efficiency for staff.	Trade journals, literature and other sources studied for energy implications when a purchase is imminent.
0	No evidence of assignment of energy efficiency tasks and duties.	No staff have explicit responsibilities or duties.	No reporting.	No monitoring activity to underpin review processes.	Little, if any, knowledge of energy efficiency amongst staff. No attempt made to inform staff of techniques and benefits of energy efficiency.	Energy efficiency not a consideration when keeping up to date on products or technology.

Figure 4 - TECHNICAL SECOND-LEVEL MATRIX

Level	Existing plant and equipment*	Plant and equipment replacement	Maintenance procedures	Operational knowledge	Documentation and record keeping	Operational methods
4	The majority of existing equipment (fixed plant and portable appliances) incorporates best practice energy-efficient features, is correctly commissioned for energy efficiency and well maintained.	Equipment is selected to be the most appropriate to the application. Life cycle costs and energy efficiency are taken into account. Energy saving is a major consideration in product selection.	Maintenance is based on needs, with formal condition appraisal methods being performed for all equipment and fabric elements affecting energy efficiency. Results acted upon where necessary.	All staff understand how their roles impact on energy efficiency and take positive steps to minimise energy use. Staff receive targeted training in energy efficiency.	Fully detailed descriptions of system concepts, plant control and operation. Detailed schedules of all plant, instrumentation and controls.	Operation methods and settings for energy efficiency defined and implemented. Full utilisation of feedback from monitoring.
3	Equipment and plant is appropriately selected, energy efficient, commissioned for low energy consumption and well maintained.	Equipment is selected to be appropriate to the application with energy-saving features taken into consideration. Life cycle costs and energy efficiency are evaluated.	Condition surveys carried out regularly on equipment and fabric elements affecting energy efficiency. Action undertaken for most defects identified.	Staff are aware of how they affect energy use and take all good housekeeping measures to save energy. Further training received on a regular basis.	Detailed descriptions of plant control and operation, and outline system concepts. Reasonably detailed schedules of all plant instrumentation and controls.	Delivered conditions and operating methods for energy efficiency defined and implemented. Informal use of information from monitoring.

Level	Existing plant and equipment*	Plant and equipment replacement	Maintenance procedures	Operational knowledge	Documentation and record keeping	Operational methods
2	Most equipment is not specifically energy efficient, but either was commissioned or is being regularly maintained for low energy consumption.	Equipment selected to be fit for purpose, bearing in mind likely life cycle costs and energy efficiency factors.	Condition surveys carried out regularly on all equipment and fabric elements affecting energy efficiency. Remedial work constrained by budgets.	Most good housekeeping practices are adhered to in an attempt to reduce energy usage. Occasional energy efficiency training received.	Basic descriptions of plant control and operation. Basic plant instrumentation and control schedules for most control systems.	Targets set against realistic budgets, and maintained through financial procedures.
1	Equipment is not energy efficient, but has been commissioned for economy and undergoes periodic maintenance.	Power efficiency data on products obtained as part of selection process.	Condition surveys and occasional activity, often prompted by plant failure or safety considerations. Remedial work only carried out on major defects.	Energy-saving techniques are only adopted where they can be easily accommodated within traditional working practices.	Minimal, or poor plant control and operation. Plant instrumentation and control schedules for only some of the plant and control systems.	Targets set by default through budget setting procedures.
0	Energy performance has not been considered during the procurement, commissioning or maintenance of existing plant and equipment.	No consideration of energy efficiency in product selection.	No regular surveys or maintenance carried out.	No consideration is given to energy efficiency during working operations.	None available.	No targets set.

Appendix 2 Cost / Benefit Analysis – Capital Projects

Summary of Community Energy Capital Request
PL0029 9900-8204 ENERGY CONSERVATION INITIATIVE

	2013	2014	2015	2016	2017	Next 5
Total	2,197,653	1,032,145	1,000,000	1,000,000	1,000,000	5,000,000
HST (1.76%	38,679	18,166	17,600	17,600	17,600	88,000
Total	2,236,332	1,050,311	1,017,600	1,017,600	1,017,600	5,088,000

Capital Cost summary for 2013 Energy Reduction Measures

Measure		Annual Total Energy Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	NPV
Centennial Arena		7,282	52	83,345	6,322	89,667	213,716
Centennial Pool		335	3	1,979	0	1,979	12,939
City Hall		23,601	213	206,673	26,992	233,665	728,402
Evergreen		16,509	64	117,349	28,000	145,349	568,336
Exhibition Arena		6,492	59	95,410	14,545	109,953	187,589
Main Library		14,994	108	152,741	9,100	161,841	644,214
River Run		46,907	274	303,582	40,000	338,974	1,707,340
Sleeman		51,229	374	419,568	51,394	470,962	1,822,915
Transit Garage		57,495	458	272,366	44,500	316,866	2,178,544
VRRC		15,552	115	87,037	0	87,037	604,381
WERC		33,866	266	208,598	32,761	241,359	1,183,956
45 Municipal		0	0	0	0	0	0
50 Municipal		0	0	0	0	0	0
	Total	274,263	1,985	1,948,649	253,615	2,197,653	9,852,331
	HST (1.76%)	4,827		34,296	4,464	38,679	
	Total	279,090		1,982,946	258,078	2,236,332	

Capital Cost summary for 2014 Energy Reduction Measures

Measure	Annual Total Energy Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	NPV
Centennial Arena	3,077	28	17,732	3,224	20,956	116,073
Centennial Pool	0	0	0	0	0	0
City Hall	0	0	0	0	0	0
Evergreen	1,348	8	20,902	5,000	25,902	16,093
Exhibition Arena	0	0	0	0	0	0
Main Library	5,801	45	169,012	23,650	192,662	99,407
River Run	3,745	34	58,316	11,500	69,816	73,792
Sleeman	14,161	130	22,052	4,382	26,434	599,636
Transit Garage	0	0	0	0	0	0
VRRC	12,251	97	154,029	18,049	172,078	371,813
WERC	20,011	134	339,910	44,098	378,878	247,013
45 Municipal	7,365	42	108,749	13,511	122,260	115,164
50 Municipal	5,886	36	23,160	0	23,160	217,480
Sub-total	73,643	554	913,860	123,414	1,032,145	1,856,470
HST (1.76%)	1,296		16,084	2,172	18,166	
Total	74,940		929,944	125,586	1,050,311	

Centennial Arena

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
	Measure	Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
1	Lighting Upgrade: T8, 32W to 25W	$ 72	$ 254	$ -	$ -	$327	2.3	$2,756	$0	$2,756	5.3	$11,750
	Lighting Upgrade: Incandescent to CFL	$ 117	$ 932	$ -	$ -	$1,050	8.3	$258	$0	$258	0.2	$46,027
	Lighting Upgrade: Parabolic Incandescent to LED	$ 18	$ 75	$ -	$ -	$93	0.7	$211	$0	$211	1.8	$3,919
	Lighting Upgrade: LED Exit Signs	$ 18	$ 119	$ -	$ -	$137	1.1	$722	$0	$722	3.7	$5,382
2	HVAC Upgrade: Control Unit Heaters with Programmable Thermostats	$ -	$ 320	$ 1,532	$ -	$1,852	10.9	$7,864	$0	$7,864	3.3	$53,547
3	HVAC Upgrade: Insulate Piping	$ -	$ -	$ 496	$ -	$496	2.6	$863	$0	$863	1.5	$14,323
4	Control Upgrade: Install Vending Machine Timers	$ -	$ 206	$ -	$ -	$206	1.8	$939	$0	$939	3.3	$8,207
5	Water Upgrade: Ultra Low Flow Aerators	$ -	$ -	$ 227	$ 345	$572	1.2	$495	$0	$495	0.8	$17,335
6	Arena Upgrade: Interlock Ice Resurfacing Machine Garage Heater to Overhead Door	$ -	$ 149	$ -	$ -	$149	1.3	$738	$0	$738	3.5	$5,883
7	Arena Upgrade: Install Variable Frequency Drive on Evaporative Condenser	$ -	$ 2,006	$ -	$ -	$2,006	17.9	$6,461	$1,468	$7,930	3.0	$81,025
8	Arena Upgrade: Implement Floating Head Pressure with Infrared Sensor	$ -	$ 3,077	$ -	$ -	$3,077	27.5	$17,732	$3,224	$20,956	4.5	$116,073
9	HVAC Upgrade: Install Weather Stripping and Door Closers for Interior and Exterior Doors	$ -	$ 76	$ 442	$ -	$518	3.0	$3,682	$0	$3,682	5.0	$13,397
10	HVAC Upgrade: Install High Efficiency Domestic Hot Water Tank	$ -	$ -	$ 553	$ -	$553	2.9	$22,067	$4,012	$26,079	13.3	$2,652
11	HVAC Upgrade: Block in Old Concession Booth Window	$ -	$ 35	$ -	$ -	$35	0.3	$1,156	$0	$1,156	11.8	$465
12	Arena Upgrade: Install Separate High Efficiency Heater Tanks for Fixtures and Flood Water	$ -	$ -	$ 1,885	$ -	$1,885	9.9	$46,362	$6,322	$52,684	6.8	$31,072

Centennial Arena

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
Measure		Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
13	Arena Upgrade: Install Low-E Ceilings	$ -	$ 3,361	$ -	$ -	$3,361	30.0	$27,225	$0	$27,225	5.1	$122,749
14	Arena Upgrade: Instal New Laser Level on Ice Resurfacing Machine	$ -	$ 154	$ -	$ -	$154	1.4	$16,500	$0	$16,500	19.2	-$8,633
15	Arena Upgrade: New Refrigeration Compressor and Motors	$ -	$ 2,461	$ -	$ -	$2,461	22.0	$44,953	$6,130	$51,083	9.3	$60,815
16	Arena Upgrade: Soft Starter on Compressors and Brine Pump Motors	$ -	$ 246	$ -	$ -	$246	2.2	$7,826	$1,779	$9,605	12.8	$1,883
Total		$ 226	$ 13,471	$ 5,134	$ 345	$19,176	147.3	$208,810	$22,935	$231,746	6.0	$587,871

Marginal Rate	$ 9.0300	$ 0.0840	$ 0.3510	$ 2.5000	
Utility Savings	$ 226	$ 13,471	$ 5,134	$ 345	$ 19,176

2012 Operational Measures	226	1,663	938	0	2,826	20	9,431	0	9,431	21	103,005
2013	0	3,546	1,532	0	5,078	40	26,334	3,224	29,558	11	175,503
2014	0	3,361	1,885	0	5,245	40	73,587	6,322	79,909	12	153,821
2015	0	35	553	0	588	3	23,223	4,012	27,235	25	3,117
All Pursued Measures	226	8,604	4,908	0	13,737	103	132,575	13,558	146,133		435,446

Centennial Pool

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
Measure		Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
1a	Lighting Upgrade: T12 to T8, 32W T8 to 25W T8, CFL's	81	517	0	0	$599	4.7	$2,538	$0	$2,538	3.1	$24,096
1b	Lighting Upgrade: Induction	569	2,545	0	0	$3,114	23.0	$26,987	$0	$26,987	5.4	$112,152
2	Lighting Controls: Install Occupancy Sensors	47	287	0	0	$334	2.6	$1,979	$0	$1,979	4.1	$12,939
3	HVAC Upgrade: Install Weather Stripping	0	0	180	0	$180	0.9	$1,024	$0	$1,024	4.2	$4,545
4	HVAC Upgrade: Replace Pool Mechanical Room Exhaust Fan	0	82	0	0	$82	0.7	$1,790	$0	$1,790	9.5	1,964
5	HVAC Upgrade: Install a Dehumidifier and a HRV	0	1,300	7,101	0	$8,401	46.5	$320,005	$29,091	$349,097	14.6	-51,872
Total		697	4,732	7,281	0	$12,710	78.4	$354,323	$29,091	$383,415	6.8	103,824
Revised Total with Sam's items removed		697	3,350	180	0	4,227	31	32,528	0	32,528		$153,732
	Marginal Rate	$ 6.7700	$ 0.0830	$ 0.3767	$ 2.3936							
	Utility Savings	$ 697	$ 4,732	$ 7,281	$ -	$ 12,710						
	2012 Operational Measures	81	517	180	0	779	6	3,562	0	3,562	7	28,641
	2013	47	287	0	0	334	3	1,979	0	1,979	4	12,939
	2014	0	0	0	0	0	0	0	0	0	0	0
	2015	569	2,545	0	0	3,114	23	26,987	0	26,987	5	112,152
	All Pursued Measures	697	3,350	180	0	4,227	31	32,528	0	32,528		153,732

City Hall

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
	Measure	Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
1	Lighting Controls GCAC Occupancy Sensors	0	6,808	0	0	$6,808	61.6	$39,338	$5,364	$44,702	4.8	$258,767
2	Lighting Controls GCAC- Occupancy/photocell Sensors	0	4,733	0	0	$4,733	42.8	$16,741	$2,283	$19,024	3.3	$191,165
3	Lighting Controls GCAC- Photosensor	0	130	0	0	$130	1.2	$825	$142	$967	4.8	$4,855
4	Lighting Controls POA- Occupancy Sensors	0	2,426	0	0	$2,426	22.0	$11,381	$1,552	$12,933	3.8	$95,020
5	Lighting Upgrade GCAC- LEDs	37	348	0	0	$385	3.1	$633	$0	$633	1.8	$16,407
7	Lighting Upgrade POA-LEDs	198	894	0	0	$1,092	8.1	$4,222	$0	$4,222	3.5	$44,248
8	Schedule AH-C05	0	885	357	0	$1,242	11.2	$1,375	$0	$1,375	1.0	$48,693
9	Install A Lead Condensing Boiler	0	0	3,157	0	$3,157	28.1	$73,910	$10,079	$83,988	12.0	$18,044
10	Recommission FCU-3: Basement Storage Room	0	305	0	0	$305	2.8	$868	$0	$868	2.3	$12,656
11	Living Wall Timer	0	426	0	0	$426	3.9	$78	$0	$78	0.3	$18,716
12	ReCommission AH-C06 Chiller Mech Room	0	839	902	0	$1,741	15.6	$7,601	$2,036	$9,637	2.5	$55,590
13	Relocate Bylaw Enforcement to Annex Building	0	4,260	2,715	0	$6,975	62.7	$66,910	$9,124	$76,035	6.5	$200,016
14	Reprogram AHU Ventilation Schedules: 5pm-11pm	0	2,305	2,405	0	$4,710	42.3	$5,948	$1,190	$7,137	1.5	$168,569
16	Optimize Start Stop of AHU's to Precool Building	0	467	0	0	$467	4.2	$1,869	$0	$1,869	3.3	$18,875
17	Verify Thermostat Control of Electrical Room Exhaust Fans	0	661	1,137	0	$1,798	16.1	$8,949	$0	$8,949	3.3	$55,556
18	0	0	0	0	0	$0	0.0	$0	$0	$0	0.0	$0
19	0	0	0	0	0	$0	0.0	$0	$0	$0	0.0	$0
20	0	0	0	0	0	$0	0.0	$0	$0	$0	0.0	$0
21	0	0	0	0	0	$0	0.0	$0	$0	$0	0.0	$0
22	0	0	0	0	0	$0	0.0	$0	$0	$0	0.0	$0
23	0	0	0	0	0	$0	0.0	$0	$0	$0	0.0	$0
24	Water Conservation: Install Dual Flush Flush Valves and Ultra Low Flow Urinals	0	0	0	702	$1,706	0.0	$34,801	$4,034	$38,835	10.8	$17,546

City Hall

Energy Savings	Utility Savings ($)					Emissions Reduction	Financials				
Measure	Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
Total	235	25,489	10,671	702	$38,101	325.6	$275,450	$35,804	$311,254	2.7	1,224,723
Marginal Rate	$ 6.4415	$ 0.0830	$ 0.2070	$ 2.4300							
Utility Savings	$ 235	$ 25,489	$ 10,671	$ 1,706	$ 38,101						
2012 Operational Measures	37	5,397	3,898	0	9,333	84	19,720	1,190	20,910	13	339,473
2013	198	15,831	902	0	16,931	151	80,108	11,378	91,486	23	649,644
2014	0	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0	0
All Pursued Measures	235	21,229	4,800	0	26,263	235	99,828	12,568	112,396		989,118

Evergreen Seniors Centre

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
	Measure	Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
1	Lighting Controls- Install Occupancy Sensors	289	1,464	0	0	$1,753	5	$5,443	$0	$5,443	2.5	$72,215
2	Install New Shower Heads	0	0	0	170	$170	0	$648	$0	$648	3	$4,761
3	Install Day Lighting Control	36	184	0	0	$220	1	$990	$0	$990	3	$8,785
4	Install VSD's on AC-1,2,4,5	0	6,643	0	0	$6,643	25	$30,191	$10,000	$40,191	4	$255,360
5	Install Window Film on South Sky Windows	0	909	781	0	$1,690	8	$12,715	$0	$12,715	5	$52,054
6	Lighitng Upgrade- T5HO, CFLs	225	1,126	0	0	$1,351	4	$10,665	$0	$10,665	5	$49,602
7	Install Advanced RTU Compressor Controls	63	1,528	0	0	$1,590	6	$15,581	$0	$15,581	6	$55,570
8	Re-Commission DHW Room	0	29	62	0	$91	0	$1,022	$0	$1,022	7	$2,229
9	Continuous Commissioning	0	183	107	0	$290	1	$3,895	$0	$3,895	8	$7,682
10	Install Occupancy Sensors in Select Rooms	0	300	591	0	$892	5	$8,476	$4,000	$12,476	8	$19,646
11	Install Demand Control Ventilation	0	364	546	0	$910	5	$9,509	$6,500	$16,009	9	$17,788
12	Install De-Stratification Fans in Gym	0	29	522	0	$551	3	$9,713	$0	$9,713	9	$8,160
13	Duct Solar Hot Air from Behind PV Panels to RTU	0	-92	888	0	$796	5	$11,189	$5,000	$16,189	11	$7,933
14	Install Demand Controlled Kitchen Ventilation	0	1,169	0	0	$1,169	4	$19,885	$7,500	$27,385	9	$29,633
15	Install Air Curtain over Front Entrance	0	428	0	0	$428	2	$12,067	$4,000	$16,067	13	$3,847
	Total	613	14,265	3,498	170	$18,545	73.8	$151,988	$37,000	$188,988	6.7	595,265

Evergreen Seniors Centre

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
Measure		Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
	Marginal Rate	$ 6.7659	$ 0.0840	$ 0.3119	$ 2.4300							
	Utility Savings	$ 4,146	$ 1,198	$ 1,091	$ 413	$ 6,849						
	2012 Operational Measures	0	29	62	170	261	0	1,670	0	1,670	10	6,990
	2013	550	3,866	887	0	5,304	20	33,707	0	33,707	23	190,339
	2014	63	10,005	1,137	0	11,205	44	83,642	28,000	111,642	36	377,997

Exhibition Arena

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
	Measure	Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
1	Lighting Upgrade: T12 to T8, 32W to 25W T8, Incandescent to CFL, LED Exit Signs	144	544	0	0	$689	4.8	$4,521	$0	$4,521	4.4	$26,127
	Lighting Upgrade: LEDs	9	18	0	0	$27	6.2	$106	$0	$106	3.1	$990
2	Lighting Controls: Install Occupancy Sensors	63	167	0	0	$230	1.5	$1,979	$0	$1,979	5.3	$8,391
3	HVAC Upgrade: Install Weather Stripping for Interior and Exterior Doors	0	448	93	0	$541	4.5	$2,890	$0	$2,890	3.8	$19,885
4	HVAC Upgrade: Insulate Piping	0	0	136	0	$136	0.7	$427	$0	$427	2.6	$3,737
5	HVAC Upgrade: Install High Efficiency Furnaces	0	0	1,001	0	$1,001	5.4	$6,766	$1,538	$8,304	5.6	$22,804
6	Control Upgrade: Install Vending Machine Timers	0	108	0	0	$108	1.0	$626	$0	$626	4.0	$4,162
7	Water Upgrade: Ultra Low Flow Aerators	0	0	141	248	$389	0.8	$536	$0	$536	1.2	$11,605
8	Arena Upgrade: Interlock Ice Resurfacing Machine Room Heater to Overhead Door	0	167	0	0	$167	1.5	$738	$0	$738	3.2	$6,660
9	Arena Upgrade: Implement Floating Head Pressure with Infrared Sensor over Ice Sheet	0	2,996	0	0	$2,996	26.9	$17,732	$3,224	$20,956	4.6	$112,532
10	HVAC Upgrade: Install High Efficiency Domestic Hot Water Tanks (Upper and Lower Mechanical Rooms)	0	0	102	0	$102	0.6	$37,338	$6,789	$44,126	25.5	-$28,696
11	HVAC Upgrade: Install Natural Gas Fired Heaters with Thermostats	0	757	-297	0	$461	5.2	$7,360	$1,673	$9,032	8.5	$15,886
12	Arena Upgrade: Install High Efficiency Domestic Hot Water Tank for Flood Water	0	0	770	0	$770	4.2	$29,160	$5,302	$34,461	15.6	-$8,686
13	Arena Upgrade: Install Low-E Ceilings	0	2,276	0	0	$2,276	20.4	$27,225	$0	$27,225	6.7	$74,902
14	Arena Upgrade: Instal New Laser Level on Ice Resurfacing Machine	0	209	0	0	$209	1.9	$16,500	$0	$16,500	17.1	-$6,173
15	Arena Upgrade: New Refrigeration Compressor and Motors	0	2,397	0	0	$2,397	21.5	$58,151	$7,930	$66,080	10.8	$43,979

Exhibition Arena

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
	Measure	Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
16	Arena Upgrade: Soft Starter on Compressors and Brine Pump Motors	0	240	0	0	$240	2.1	$9,450	$1,718	$11,168	13.9	$141
17	HVAC Upgrade: Replace MUA Unit	0	-183	-835	0	-$1,018	-6.2	$21,160	$3,847	$25,007	N/A	-$56,895
	Total	217	10,144	1,111	248	$11,719	103.0	$242,665	$32,021	$274,682	8.0	$251,351

Marginal Rate	$ 9.0263	$ 0.0838	$ 0.3390	$ 2.5000	
Utility Savings	$ 217	$ 10,144	$ 1,111	$ 248	$ 11,719

2012 Operational Measures	153	1,118	228	0	1,500	17	8,570	0	8,570	18	54,901
2013	63	334	0	0	397	3	2,717	0	2,717	9	15,051
2014	0	2,996	0	0	2,996	27	17,732	3,224	20,956	5	112,532
2015	0	3,394	-297	0	3,097	29	74,961	11,321	86,280	33	60,006
All Pursued Measures	217	7,842	-68	0	7,990	76	103,980	14,545	118,523		242,490

Main Library - Norfolk

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
Measure		Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
1a	Lighting Upgrade - T12 to Reduced wattageT8, LEDexit,CFLs	2,410	9,849	0	0	12,258	88	66,463	0	66,463	3	578,471
1b	Lighting Upgrade- Parabolic Incandescent to LED	37	134	0	0	170	1	1,199	0	1,199	5	6,396
2	Controls - Install Thermostatic Valves on All Perimeter Radiators	0	0	877	0	877	5	3,734	1,425	5,159	4	21,949
3	Install Low Flow Water Fixtures	0	1,033	0	748	1,781	9	13,120	0	13,120	5	56,888
4	Lighting Controls- Install Occupancy Sensors	109	410	0	0	519	4	4,216	0	4,216	5	19,073
5	Install Lead Condensing Boiler	0	0	1,225	0	1,225	7	25,228	4,750	29,978	11	9,392
6	Convert Multi-Zone AHU-1 to VAV System	0	2,757	0	0	2,757	25	47,980	9,450	57,430	9	67,929
7	Install New Direct Expansion Cooling System for AHU-1	54	1,468	0	297	1,819	13	95,804	9,450	105,254	10	22,086
8	Controls - New Building Automation System	0	928	389	0	1,316	11	77,287	7,675	84,962	5	24,648
9	Schedule DHW Recirculation Pump	0	24	0	0	24	0	1,042	0	1,042	14	73
10	Install Regenerative Braking Elevator	0	37	0	0	37	0	144,634	0	144,634	5	10
M-OPP1	Turn off AHU-1 During Unoccupied Hours	0	3,330	0	0	3,330	30	1,752	0	1,752	1	145,178
Total		2,609	19,968	2,490	1,046	$26,113	194.4	$482,458	$32,750	$515,208	6.3	952,092

Marginal Rate	$ 6.7659	$ 0.0836	$ 0.3052	$ 2.4300	
Utility Savings	$ 2,609	$ 19,968	$ 2,490	$ 1,046	$ 26,113

Main Library - Norfolk

Energy Savings	Utility Savings ($)					Emissions Reduction	Financials				
Measure	Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
2012 Operational Measures	37	4,497	0	748	5,282	40	16,071	0	16,071	10	208,462
2013	2,519	10,258	0	0	12,777	92	70,679	0	70,679	8	597,544
2014	0	951	1,266	0	2,217	16	82,062	9,100	91,162	23	46,670
2015	54	4,225	1,225	297	5,801	45	169,012	23,650	192,662	30	99,407
All Pursued Measures	2,609	19,931	2,490	1,046	26,076	194	337,824	32,750	370,574		952,082

River Run Centre

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
	Measure	Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & PM	Total Implementation Cost	Payback (Years)	Net Present Value
1	Install Demand Control Ventilation on AHU's	12,670	0	66	0	$12,736	1	$27,525	$10,000	$37,525	2	$525,563
2	Lighting Upgrade: LEDs	2,114	6,104	0	0	$8,218	56	$35,948	$0	$35,948	3	$329,678
3	Lighting Upgrade: 32W to 25W T8, CFLs and LED Exit Signs	165	1,004	0	0	$1,169	9	$5,457	$0	$5,457	4	$46,535
4	Install Motion Sensors in Small Rooms	0	4,178	1,847	0	$6,026	55	$22,198	$10,000	$32,198	4	$211,218
5	Install De-Stratification Fan in CCH	0	70	313	0	$383	3	$3,318	$0	$3,318	6	$3,070
6	Install VFD's on Air Handler Fans	0	5,668	0	0	$5,668	52	$55,819	$7,500	$63,319	6	$194,214
7	Re-Duct Rm 231 S/A to SF-5 Duct	0	2,108	597	0	$2,705	25	$19,810	$5,000	$24,810	6	$88,336
8	Lighting Controls: Install Occupancy Sensors	95	422	0	0	$517	4	$2,304	$7,500	$5,196	6	$18,008
9	Re-Commission Building Automation System	1,832	5,622	1,591	0	$9,045	66	$107,225	$0	$107,225	7	$277,867
10	Install VFD's on HHW Pumps	0	1,216	0	0	$1,216	11	$20,020	$6,500	$26,520	10	$29,057
11	Install Film on CCH South Windows	0	596	1,466	0	$2,062	19	$31,568	$0	$31,568	8	$41,665
12	Install Reflective Barrier Behind Radiators	0	0	459	0	$459	4	$6,728	$5,000	$11,728	12	$3,070
13	Combine Scheduling Resouces with Events Planning	0	85	269	0	$354	3	$23,978	$0	$23,978	9	$12,851
14	Replace Chiller	0	1,109	0	0	$1,109	10	$302,801	$12,000	$314,801	9	($86,849)
	Total	16,875	28,183	6,609	0	$51,667	318	$664,699	$63,500	$723,591	6.4	$1,694,283

	Electricity	Electricity	Natural Gas	Water
Marginal Rate	$ 6.8857	$ 0.0816	$ 0.2069	$ 2.4300

River Run Centre

Energy Savings	Utility Savings ($)					Emissions Reduction	Financials				
Measure	Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & PM	Total Implementation Cost	Payback (Years)	Net Present Value
Utility Savings	$ 16,875	$ 28,183	$ 6,609	$ -	$ 51,667						
2012 Operational Measures	0	0	0	0	0	0	0	0	0	0	0
2013	4,206	17,330	3,439	0	24,975	190	173,132	17,500	186,024	23	883,306
2014	12,670	7,931	1,245	0	21,845	84	130,450	22,500	152,950	29	824,034
2015	0	1,812	1,926	0	3,738	34	58,316	11,500	69,816	30	73,792
All Pursued Measures	16,875	27,073	6,609	0	50,558	308	361,898	51,500	408,790		1,781,132

Sleeman Centre

	Energy Savings	Utility Savings ($)					Emissions Reduction	Financials				
	Measure	Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
1	Lighting Upgrade - Program start Electronic Ballast 25 w lamp	924	5,529	0	0	6,452	51	75,509	10,297	85,805	5	239,067
2	Lighting Upgrade: Dimmable Ballasts & Lighting Controls	48	338	0	0	386	3	5,608	765	6,373	6	13,179
3	Lighting Upgrade: Program start Existing u-tube lamps	62	342	0	0	404	3	6,027	822	6,849	5	14,389
4	Lighting Upgrade: Incandescent to LED	896	3,312	0	0	4,209	30	33,846	0	33,846	5	165,739
5	Lighting Upgrade: Induction Lighting over Ice Pad	1,767	6,747	0	0	8,515	62	89,193	12,163	101,355	6	305,217
6	Lighting Controls: Stand Alone Occupancy Sensors	388	2,057	0	0	2,445	19	17,561	0	17,561	5	89,159
7	Lighting Controls: Full Lighting Control System	4,349	19,042	0	0	23,392	175	157,036	21,414	178,450	5	864,679
8	HVAC Upgrade: ReBalance and ReCommission Arena HVAC Units and Exhaust Fans	0	1,263	3,822	0	5,086	35	10,693	1,458	12,151	2	161,040
9	HVAC Upgrade: Install Temperature Sensor for Kitchen Exhaust Fan	0	233	625	0	858	6	2,384	325	2,710	3	26,805
10	HVAC Upgrade: Review Scheduling of Restaurant Rooftop Units	0	209	214	0	423	3	330	0	330	1	15,430
11	Arena Upgrade: Refurbish Mechanical Refrigeration Equipment	0	26,172	0	0	$26,172	240.9	$195,639	$26,678	$222,317	5.3	$1,004,433
12	Arena Upgrade: Optimize Compressor Operation	0	4,169	0	0	$4,169	38.4	$8,200	$1,864	$10,064	1.9	$174,402
13	Arena Upgrade: Replace Snow Melt Pit Heat Exchanger	0	0	1,142	1,021	$2,163	6.9	$16,616	$3,021	$19,637	6.0	$48,720
14	Arena Upgrade: Reinstate Desuperheater for Flood Water Pre-Heat	0	0	2,293	0	$2,293	13.9	$15,425	$2,805	$18,230	5.4	$52,965
15	Arena Upgrade: Install Floating Head Pressure Controls	0	6,887	0	0	$6,887	63.4	$13,852	$2,518	$16,370	1.9	$288,366

Sleeman Centre

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
	Measure	Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
16	Install Vending Machine Controls	0	743	0	0	$743	6.8	$3,625	$0	$3,625	3.5	$29,379
17	Lighting Upgrade: Retrofit 2ft T12 lamps and ballasts	6	14	0	0	$20	0.1	$1,554	$0	$1,554	12.6	$3
18	Lighting Upgrade: Exterior Induction Lighting	15	8	0	0	$22	0.1	$1,287	$0	$1,287	16.0	-$382
19	Arena Upgrade: Insall Instantaneous Condending Flood Water Heaters	0	0	754	0	$754	4.6	$31,539	$5,734	$37,274	12.6	-1,880
20	HVAC Upgrade: Install a Lead Condensing Heating Boiler	0	0	3,764	0	$3,764	22.8	$54,649	$7,452	$62,102	9.0	67,740
21	HVAC Upgrade: Install High Efficiency Domestic Hot Water Heater Tanks	0	0	2,853	0	$2,853	17.3	$72,018	$9,821	$81,839	12.1	21,508
22	Water Conservation - Install Dual Flush Valves, 1/8 gpf Urinals and Ultra Low Flow Faucet Aerators	0	0	0	1,361	$1,361	0.0	$81,651	$11,134	$92,785	17.5	-33,316
	Total	8,456	77,065	15,468	2,381	103,370	$803	$894,241	$118,270	$1,012,511	6.6	$3,546,643

Marginal Rate	$ 6.9257	$ 0.0816	$ 0.3047	$ 2.4300		
Utility Savings	$ 8,456	$ 77,065	$ 15,468	$ 2,381	$ 103,370	

2012 Operational Measures	0	1,705	4,662	0	6,366	44	13,408	1,783	15,191	5	203,275
2013	4,092	25,969	0	0	30,062	239	246,773	26,564	273,337	49	1,144,498
2014	4,349	19,042	3,435	1,021	27,847	196	189,077	27,240	216,316	16	966,364
2015	15	8	0	0	22	0	1,287	0	1,287	16	-382
2015	0	4,169	7,372	1,361	12,902	83	248,058	36,005	284,063	53	228,454
All Pursued Measures	8,456	50,893	15,468	2,381	77,199	562	698,602	91,592	790,194		2,542,210

Transit Garage

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
Measure		Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
1	Re-Program Barn Unit Heaters	0	0	496	0	496	3	510	0	510	1	14,658
2	Utilize Maintenance De-Straitfication Fans	0	206	358	0	564	4	283	0	283	1	19,733
3	Lighting Controls - Install Occupancy Sensors	1,720	15,400	0	0	17,120	139	30,922	0	30,922	2	725,936
4	Continuous Commissioning	166	909	728	159	1,962	13	11,330	0	11,330	4	64,053
5	Lock Out Bay Doors	0	0	292	0	292	2	1,788	0	1,788	5	7,246
6	Install Induction Lighting in Barn	3,483	31,181	0	0	34,664	281	164,497	35,000	199,497	4	1,342,028
7	Replace 32W T8's with 25W T8's	99	894	0	0	993	8	11,540	0	11,540	7	33,010
8	Install Air Curtains on Fueling Bay Doors	-426	-219	3,304	0	2,659	18	42,691	5,500	48,191	10	27,440
9	Install New Bus Wash Boiler	0	0	1,089	0	1,089	7	22,926	4,000	26,926	7	19,087
10	Increase SDHW Storage	0	0	215	0	215	1	7,075	0	7,075	14	-56
	Total	5,043	48,371	6,482	159	$60,054	475.7	$293,563	$44,500	$338,063	5.2	2,253,134
	Marginal Rate	$ 6.7659	$ 0.0832	$ 0.3052	$ 2.4300							
	Utility Savings	$ 5,043	$ 48,371	$ 6,482	$ 159	$ 60,054						
	2012 Operational Measures	99	1,100	1,146	0	2,345	17	14,122	0	14,122	13	74,647
	2013	3,649	32,090	728	159	36,626	294	175,827	35,000	210,827	8	1,406,081
	2014	1,294	15,181	4,394	0	20,869	164	96,540	9,500	106,040	18	772,463
	2015	0	0	0	0	0	0	0	0	0	0	0
	2015	0	0	0	0	0	0	0	0	0	0	0
	All Pursued Measures	5,043	48,371	6,268	159	59,840	474	286,488	44,500	330,988		2,253,190

Victoria Road Rec Centre

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
Measure		Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
1	Lighting Upgrade: T8, 32W to 25W	424	1,864	0	0	$2,288	16.7	$10,950	$0	$10,950	3.4	$90,756
	Lighting Upgrade: CFLs	9	46	0	0	$55	0.4	$41	$0	$41	0.6	$2,527
	Lighting Upgrade: Install Induction Lighting	2,681	12,868	0	0	$15,548	115.0	$87,037	$0	$87,037	3.9	$604,381
2	Lighting Controls: Install Occupancy Sensors	424	2,155	0	0	$2,579	19.3	$11,876	$0	$11,876	3.3	$102,632
3	Control Upgrade: Install Vending Machine Timers	0	98	0	0	$98	0.9	$313	$0	$313	2.5	$4,033
4	HVAC Upgrade: Install Weather Stripping for Interior and Exterior Doors	0	294	236	0	$530	3.9	$2,890	$0	$2,890	3.9	$17,485
5	Arena Upgrade: Install Variable Frequency Drive on Evaporative Condenser	0	1,133	0	0	$1,133	10.1	$5,099	$1,159	$6,257	3.9	$44,126
6	Arena Upgrade: Install High Efficiency Domestic Hot Water Tank for Flood Water	0	0	1,082	0	$1,082	5.9	$27,358	$4,974	$32,332	12.7	$10,722
7	HVAC Upgrade: Replace Electric Domestic Hot Water Tank in Family Change Room with a Gas-Fired High Efficiency Domestic Hot Water Tank	0	1,866	-811	0	$1,055	12.3	$14,751	$2,682	$17,434	7.7	$41,228
8	HVAC Upgrade: Install High Efficiency Domestic Hot Water Tank in Mechanical Room Penthouse	0	0	2,372	0	$2,372	12.9	$67,720	$9,234	$76,954	9.8	$20,861
9	Arena Upgrade: Install New Dehumidifier	0	5,679	-3,258	0	$2,421	33.1	$48,667	$6,636	$55,303	8.8	$99,307
10	Arena Upgrade: Install Low-E Ceilings	0	4,030	0	0	$4,030	36.0	$27,225	$0	$27,225	4.5	$152,244
11	Arena Upgrade: Instal New Laser Level on Ice Resurfacing Machine	0	184	0	0	$184	1.6	$16,500	$0	$16,500	18.0	-$7,284
12	Arena Upgrade: New Refrigeration Compressor and Motors	0	3,005	0	0	$3,005	26.9	$55,291	$10,053	$65,344	9.5	$71,477
13	Arena Upgrade: Soft Starter on Compressors and Brine Pump Motors	0	300	0	0	$300	2.7	$9,639	$1,752	$11,391	12.6	$2,613
14	Pool Upgrade: Install Dehumidifier	0	-3,555	12,421	0	$8,866	35.7	$482,438	$43,858	$526,296	19.5	-$268,971
Total		3,538	29,968	12,043	0	$45,548	333.4	$867,795	$80,348	$948,143	7.8	$988,137

Victoria Road Rec Centre

Energy Savings	Utility Savings ($)					Emissions Reduction	Financials				
Measure	Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
Marginal Rate	$ 9.0263	$ 0.0840	$ 0.3390	$ 2.5000							
Utility Savings	$ 3,538	$ 29,968	$ 12,043	$ -	$ 45,548						
2012 Operational Measures	433	2,302	236	0	2,972	22	14,194	0	14,194	10	114,801
2013	2,681	12,868	0	0	15,548	115	87,037	0	87,037	4	604,381
2014	0	0	0	0	0	0	0	0	0	0	0
2015	0	1,133	3,454	0	4,587	29	100,177	15,367	115,543	26	75,709
All Pursued Measures	3,114	16,303	3,690	0	23,107	166	201,408	15,367	216,774		794,891

West End Community Centre (figures still assume Cogen plant operational)

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
Measure		Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Implementation Cost ($)	Payback (Years)	Net Present Value
Operational: Turn Off Flood Water Preheat Pump		0	101	0	0	$101	1	$44	$0	$44	0.3	$4,466
Operational: Schedule Change Room MAU		0	134	939	0	$1,073	7	$313	$0	$313	0.3	$34,314
Operational: Lower/Control Temperature in Olympia Room		0	0	75	0	$75	0	$156	$0	$156	1.8	$2,175
Operational: Replace or Repair Hot Water Storage Tank Insulation		0	0	812	0	$812	5	$5,035	$0	$5,035	4.5	$20,111
Operational: Condenser Coil Cleaning		0	3,320	0	0	$3,320	30	$6,380	$0	$6,380	2.0	$140,652
1a	Lighting Upgrades: 32W to 25W T8	101	460	0	0	$562	4	$5,020	$0	$5,020	5.0	$21,122
1b	Lighting Upgrade: Incandescent to LED Conversion	151	564	0	0	$715	5	$4,405	$0	$4,405	4.0	$3,425
2	Install Lighting Controls: Common Area Photo Cells	565	2,996	0	0	$3,561	27	$4,866	$0	$4,866	1.0	$152,703
3	Arena Upgrade: Implement Floating Head Pressure	0	4,241	0	0	$4,241	39	$27,104	$3,696	$30,800	4.8	$158,515
4	Arena Upgrade: Replace De-Super Heater to Preheat Flood Water	0	0	6,100	0	$6,100	37	$15,110	$2,419	$17,529	2.5	$170,038
5	Arena Upgrade: Raise Secondary Refrigerant Temperature	0	2,082	0	0	$2,082	19	$3,771	$655	$4,426	1.8	$87,830
6	Arena Upgrade: Install VFD on Evaporative Condenser Fan	0	1,974	0	0	$1,974	18	$11,182	$1,942	$13,124	4.0	$76,180
7	Arena Upgrade: Install Window Film on Exterior Windows	0	453	0	0	$453	4	$2,320	$0	$2,320	3.7	$17,836
8	HVAC Upgrade: Operate Co-Gen Plant to Heat Hot Water Plant	6,347	56,997	-33,250	0	$30,094	320	$57,639	$7,860	$65,499	2.0	$1,720,046
9	HVAC Upgrade: Implement, Review and Optimize Night Setback on All AHU's	0	0	1,724	0	$1,724	10	$3,991	$760	$4,751	2.3	$48,259
10	HVAC Upgrade: Recommission BAS Control of AHU's	0	1,016	1,585	0	$2,601	19	$5,440	$9,520	$14,960	4.0	$79,326

West End Community Centre (figures still assume Cogen plant operational)

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
	Measure	Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Implementation Cost ($)	Payback (Years)	Net Present Value
11	HVAC Pilot Project: Install Advanced Compressor Controls	0	4,528	0	0	$4,528	41	$31,094	$0	$31,094	4.5	$170,928
12	Install Vending Machine Controls	0	476	0	0	$476	4	$3,074	$0	$3,074	3.8	$18,512
13	Lighting Upgrade: Arena Induction Lighting	1,944	9,072	0	0	$11,016	83	$106,544	$14,529	$121,073	5.8	$398,634
14	HVAC Upgrades: Install Occupancy Sensors to Control Lions Lair, Community Room 2 and Hastings Room AC Units	0	270	602	0	$872	6	$6,034	$0	$6,034	4.8	$24,670
15	Pool Upgrade: Install New Natatorium Dehumidification/ Ventilation Units	0	885	2,931	0	$3,816	25	$408,926	$48,486	$457,411	14.0	-$73,258
16	Arena Upgrade: Install High Efficiency Instantaneous Flood Water Boilers	0	0	2,232	0	$2,232	13	$23,171	$3,709	$26,880	7.3	$54,450
17	Arena Upgrade: Install Low-E Ceilings	0	4,830	0	0	$4,830	44	$46,506	$5,514	$52,020	6.3	$164,745
18	HVAC Upgrades: Install High Efficiency Heating Boilers	0	0	8,144	0	$8,144	49	$197,509	$23,418	$220,927	8.0	$8
19	HVAC Upgrade: Install High Efficiency Domestic Water Heaters - DHW-Referee's, DHW Change Rooms	0	0	1,284	0	$1,284	8	$21,539	$5,000	$21,410	16.0	-$32,345
20	HVAC Upgrade: Install New Heat Recovery Ventilator for Arena Change Rooms	0	-503	4,024	0	$3,521	20	$51,185	$6,456	$57,641	7.5	$60,155
21	Water Conservation: Install Dual Flush Valves, 1/8 gpf Urinals and Ultra Low Flow Faucet Aerators	0	0	0	1,282	$1,282	0	$46,486	$0	$46,486	14.0	-$2,973
	Total	9,108	93,897	-2,799	1,282	$101,488	841	$1,094,843	$133,964	$1,223,678	5.0	$3,520,522

Marginal Rate	$ 6.6495	$ 0.0821	$ 0.3047	$ 2.7100	
Utility Savings	$ 9,108	$ 93,897	$ (2,799)	$ 1,282	$ 101,488

	2012 Operational Measures	817	4,731	3,550	0	9,099	65	26,904	760	27,664	23	305,087
	2013	1,944	10,357	2,187	0	14,488	108	118,018	24,049	142,067	15	502,630
	2014	0	13,278	6,100	0	19,378	158	90,580	8,712	99,293	21	681,326
	2015	0	4,328	14,399	0	18,727	127	318,370	39,098	357,468	29	279,358
	All Pursued Measures	2,761	32,694	26,236	0	61,691	458	553,872	72,619	626,491		1,768,401

45 Municipal Works Yard

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
	Measure	Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
1	Lighting Controls: Install Occupancy Sensors	63	192	0	0	255	2	1,732	0	1,732	4.8	9,618
2	Controls: Commission BAS	0	3,827	0	0	3,827	35	20,563	0	20,563	3.8	149,732
3	Controls Upgrade: Install Occupancy Sensors to Control Office Unit Heaters	0	0	573	0	573	3	3,681	0	3,681	4.9	14,065
4	Install Condensing Unit Heaters in Repair Service Shop	0	0	3,141	0	3,141	19	33,098	5,110	38,208	5.4	69,161
5	Install Heat Recovery Unit Ventilator in Repair and Service Bay	0	-594	3,644	0	3,050	16	36,959	8,401	45,360	8.8	42,794
6	Install High Speed Bay Door	0	0	347	0	347	2	33,278	0	33,278	22.5	-20,474
7	Water Conservation: Install Dual Flush Valves, 1/8 GPM Urinals and Ultra Low Flow Faucet Aerators	0	0	0	759	759	0	12,352	0	12,352	8.9	12,401
	Total	63	3,425	7,704	759	$11,951	76.5	$141,664	$13,511	$155,175	8.4	277,297

Marginal Rate	$ 6.7659	$ 0.0830	$ 0.3119	$ 2.7100	
Utility Savings	$ 63	$ 3,425	$ 7,704	$ 759	$ 11,951

2012 Operational Measures	0	3,827	0	0	3,827	35	20,563	0	20,563	4	149,732
2013	0	0	0	0	0	0	0	0	0	0	0
2014	63	192	573	0	827	5	5,413	0	5,413	10	23,683
2015	0	-594	6,785	0	6,191	35	70,057	13,511	83,568	14	111,955
All Pursued Measures	63	3,425	7,357	0	10,845	74	96,033	13,511	109,544		285,370

50 Municipal

Energy Savings		Utility Savings ($)					Emissions Reduction	Financials				
	Measure	Electricity demand (kW)	Electricity Consumption (kWh)	Natural Gas	Water	Total Annual Savings ($)	Annual Tonnes CO2 Avoided	Price Estimate (Mat'l & Lab)	Engineering & Proj Mgmt	Total Implementation Cost ($)	Payback (years)	NPV
1	Lighting Upgrade - T12 to T8, LED Exit Signs	0	1,515	0	0	1,515	9	9,886	0	9,886	5	57,562
2	Lighting Controls- Install occupancy Sensors	0	2,868	0	0	2,868	18	8,412	0	8,412	2	118,583
3	Use Unoccupied Setback Temperatures	0	694	0	0	694	4	1,439	0	1,439	2	29,247
4	Control Infrared Heaters with Outdoor Air Temperature	0	0	1,503	0	1,503	9	4,861	0	4,861	3	41,334
5	Install Low Flow Water Fixtures	0	0	0	190	190	0	5,272	0	5,272	12	1,082
6	Capture Rain Water for Brine Tanks	0	0	0	2,453	2,453	0	27,636	0	27,636	7	51,521
	Total	0	5,077	1,503	2,642	$9,222	40.4	$57,506	$0	$57,506	5.2	299,329

Marginal Rate	$ -	$ 0.1209	$ 0.3119	$ 2.7100	
Utility Savings	$ -	$ 5,077	$ 1,503	$ 2,642	$ 9,222

2012 Operational Measures	0	694	0	0	694	4	1,439	0	1,439	2	29,247
2013	0	4,383	0	0	4,383	27	18,298	0	18,298	7	176,146
2014	0	0	1,503	0	1,503	9	4,861	0	4,861	3	41,334
2015	0	0	0	0	0	0	0	0	0	0	0
All Pursued Measures	0	5,077	1,503	0	6,579	40	24,598	0	24,598		246,727

Financial Analysis for Energy Audit Measures

Each energy saving opportunity undergoes a detailed financial analysis and includes all relevant costs to provide a clear picture of which energy saving opportunities should be implemented.

The business case financial analysis includes capital cost estimates for Total Implementation Cost with a breakout by Material & Labour as well as Engineering & Project Mgmt.

The Cost/benefit analysis uses two measures - Payback (years) and Net Present Value (NPV).

For Payback, the analysis goes well beyond "Simple Payback", incorporating utility savings, inflation, projected utility rates, avoided capital costs, changes in maintenance costs and bank rates. The NPV estimates include the total value of all cash streams discounted to present day dollars. figures used for the life cycle costing analysis include:

- MARRR 5.0%
- Inflation 2.0%
- MARRA (as a product of MARRR and Inflation) 7.1%
- Electricity Escalation 13.0% (note 1)
- Natural Gas Escalation 9.7% (note 2)
- Water & Sewer Escalation 10.0% (note 3)
- Corporate Tax Rate - 11% Ontario (effective July1/12)
- Inflation rate – use 2%
- Interest Rate - 4% 10 yr term, 4.8% 20 yr term
- Depreciation schedules for specific asset classes and their respective Life in years is shown below.

Notes:

1. The electricity escalation rate was drawn from a published Energy Probe Report and is the average escalation rate for the provided timeframe (2012-2018). Below is a summary that I prepared for Electricity Escalation from the MOE Long-Term Energy Plan (LTEP) and also Energy Probe.
2. The escalation rate for natural gas assumes minimal escalation over the next five year period (2% for distribution) and then predicts that the escalation will closely match that of electricity. This results in an average natural gas escalation of 9.7% over the 20 year timeframe for the calculations.
3. The water and sewer escalation rate was provided from the City's Long Term Water/WasteWater Financial Plan.

Financial Calculations:

$MARR_A = (1+MARR_R) \times (1+Inflation)$

$NPV = \Sigma [(Annual\ Cash\ Balance) / (1+MARR_A)\_]$

The estimates are based on Class C Cost Estimates for the most part, using measured quantities from preliminary design, as defined by PWGSC (Public Works and Government Services Canada). This cost estimate will be improved following project approval. In some instances, ie lighting opportunities, the cost estimate is closer to Class B.

COMMITTEE REPORT

TO	**Corporate Administration, Finance & Enterprise Services Committee**
SERVICE AREA	Finance & Enterprise Services – Economic Development
DATE	October 9, 2012
SUBJECT	**City Land Sale Approval Process and Guidelines for the Sale of City-Owned Land – Hanlon Creek Business Park**
REPORT NUMBER	FIN-ED-12-10

SUMMARY

Purpose of Report:

To seek approval of a process and guidelines for the sale of city-owned land within the Hanlon Creek Business Park.

Committee Action:

To consider and approve a process and guidelines for the sale of city-owned land within the Hanlon Creek Business Park.

RECOMMENDATION

"That a process for the sale of city-owned land within the Hanlon Creek Business Park, as attached to the October 9, 2012 report entitled "City Land Sale Approval Process and Guidelines – Hanlon Creek Business Park" be approved; and,

That the approval to approve, amend and/or terminate Offers to Purchase/Agreement of Purchase and Sale for the sale of city-owned lands within the Hanlon Creek Business Park be delegated to the General Manager of Economic Development; and,

That the City Solicitor be authorized to complete all transactions relating to the Hanlon Creek Business Park and execute, on behalf of the City, all documents relating thereto; and

That the guidelines for the sale of city-owned land within the Hanlon Creek Business Park, as attached to the October 9, 2012 report entitled " City Land Sale Approval Process and Guidelines – Hanlon Creek Business Park" be approved."

BACKGROUND

Land Sale Approval Process

It has been the city's practice that Economic Development negotiate the sale of city-owned employment land and recommend approval of Agreements of Purchase and Sale to Council.

Presently, the competition for business investment attraction and retention between communities is intense. Business customers require efficient and timely responses to meet their needs and schedules, including the timely approval of city-owned land sales. In addition, the city is also competing with local private sector land owners and developers who have the ability to facilitate the sale of their lands in an expedited manner.

The current city-land sale approval process has been in use for a considerable period of time and is in need of change to meet the needs of an increasingly competitive marketplace and to ensure that the city of Guelph is operating in a business- like manner.

The recommended change to the city-owned land sale approval process directly supports Strategic Direction 1.2 in Prosperity 2020, namely to "Re-position Guelph as a premier business investment location" through the improvement of city business approval processes.

Guidelines for the Sale of City-Owned Land

Economic Development is now in a position to negotiate and prepare Offers to Purchase/Agreements of Purchase and Sale for city-owned land within the Hanlon Creek Business Park.

Sales of city-owned land in the existing Hanlon Business Park and York-Watson Industrial Park were subject to a set of guidelines established by council many years ago. These guidelines are now outdated and are in need to be updated to better respond to potential purchasers.

REPORT

Land Sale Approval Process

The existing city land sale approval process is shown on Schedule "A". This process requires sales of city-owned land, and any subsequent Amending Agreements, be

presented to Committee/Council for approval and directing the Mayor and Clerk to execute the Agreement on behalf of the city. This process provides for potential delays in presenting reports to Committee/Council as well as significant staff time in the preparation of required reports.

The proposed city land sale approval process is shown on Schedule "B". The new process proposes that the Mayor and Clerk continue to execute Agreements of Purchase and Sale, and any subsequent Amending Agreements, on behalf of the City. The General Manager of Economic Development (or designate) would be delegated the authority, in consultation with other city staff as required, to recommend execution of Agreements of Purchase and Sale and any subsequent Amending Agreements directly by the Mayor and Clerk, once approved by the City Solicitor, and without the need for reports to Committee/Council.

The delegation form to delegate authority to the General Manager of Economic Develop to approve, amend and/or terminate Offers to Purchase/Agreements of Purchase and Sale for the sale of city-owned land in the Hanlon Creek Business Park is attached as Schedule "C". It should be noted that upon any approval, amendment of an Offer to Purchase/Agreement of Purchase and Sale, the General Manager of Economic Development will prepare an information report to advise Council of the approval or amendment that has occurred and providing details on the purchaser.

It has been our experience that the majority of land sale reports presented to Committee/Council have been approved with little or no discussion.

City land sales require the passing of a By-law authorizing the sale prior to the closing date. This requirement would be continued under the proposed process.

Where conditions are to be contained in an Agreement that do not meet approved pricing and land sale policy guidelines established by Council for the Hanlon Creek Business Park, or where the purchaser and staff disagree on terms and conditions to be contained in an Agreement, a report would then be prepared with a staff recommendation for consideration by Committee/Council.

Guidelines for the Sale of City-Owned Land

The proposed Hanlon Creek Business Park Guidelines are attached as Schedule "D". These guidelines would form the basis to negotiate and prepare Offers to Purchase/Agreements of Purchase and Sale with prospective purchasers in the Hanlon Creek Business Park.

Where an Offer to Purchase/Agreement of Purchase and Sale contains terms and conditions that deviate from the approved Hanlon Creek Business Park Guidelines, the General Manager of Economic Development would, in consultation with Legal & Realty Services, prepare a report to Committee/Council to advise and seek approvals prior to execution of any agreement by the city.

The preparation of a new standard Offer to Purchase/Agreement of Purchase and Sale is nearing completion and these guidelines would be incorporated into the agreement.

CORPORATE STRATEGIC PLAN

Strategic Focus – Innovation in Local Government: Strategic Direction 2.2 – Deliver public service better.
Strategic Focus – City Building: Strategic Direction 3.2 – Be economically viable, resilient, diverse and attractive for business.

FINANCIAL IMPLICATIONS

N/A

DEPARTMENTAL CONSULTATION

Financial Services
Legal and Realty Services

COMMUNICATIONS

N/A

ATTACHMENTS

Schedule "A": Current city-owned land sale approval process
Schedule "B": Proposed city-owned land sale approval process
Schedule "C": Delegation of Authority Form
Schedule "D": Hanlon Creek Business Park Land Sale Guidelines

"original signed by Jim Mairs"

_____

Prepared By:
Jim Mairs
Sr. Business Development Specialist/
Assistant Manager
519-822-1260 x 2821
Jim.mairs@guelph.ca

_____

Recommended By:
Peter Cartwright
General Manager of Economic
Development
519-822-1260 x 2820
peter.cartwright@guelph.ca

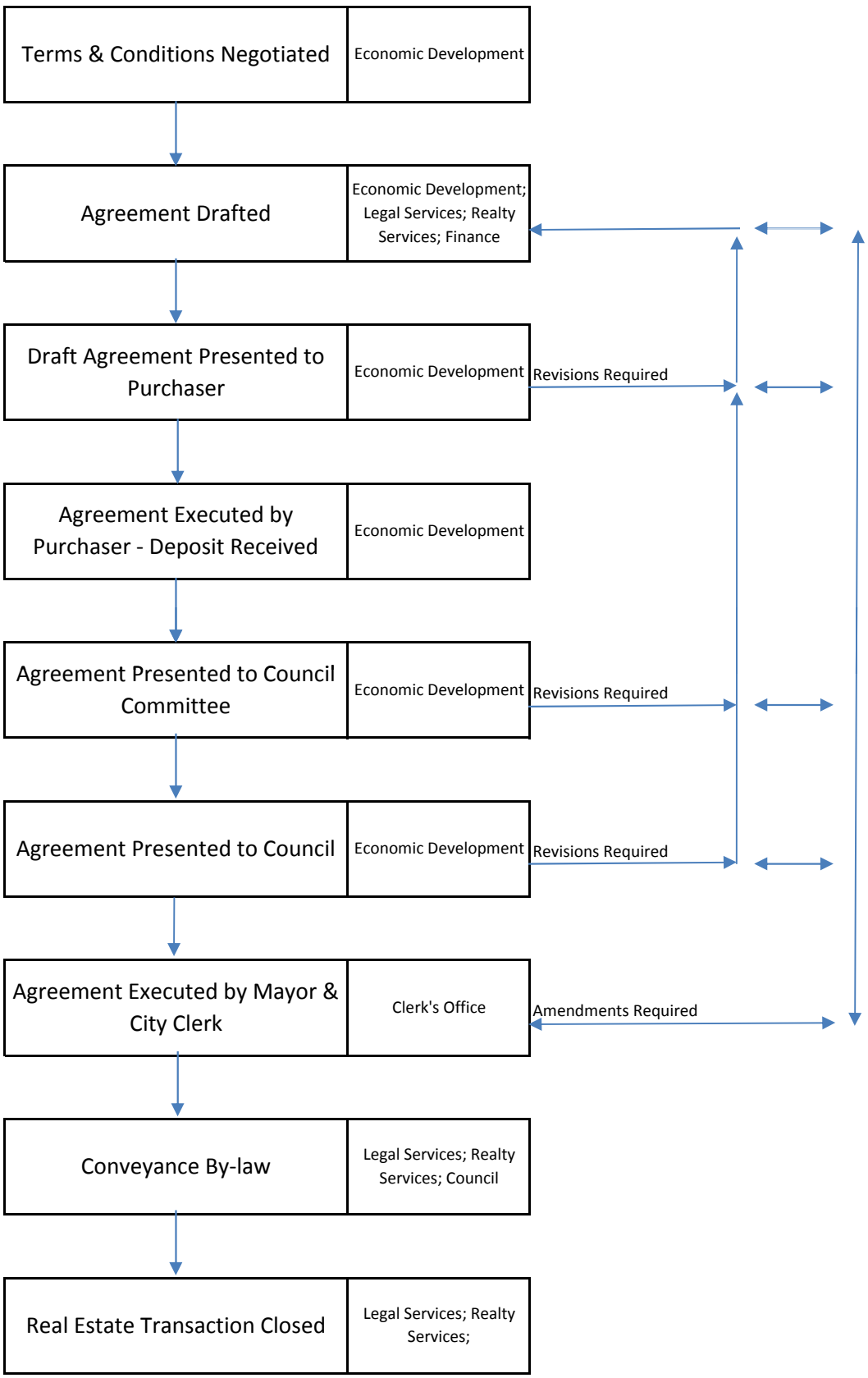
"original signed by Al Horsman"

_____

Recommended By:
Al Horsman
Executive Director
Finance and Enterprise Services
519-822-1260 x 5606
Al.horsman@guelph.ca

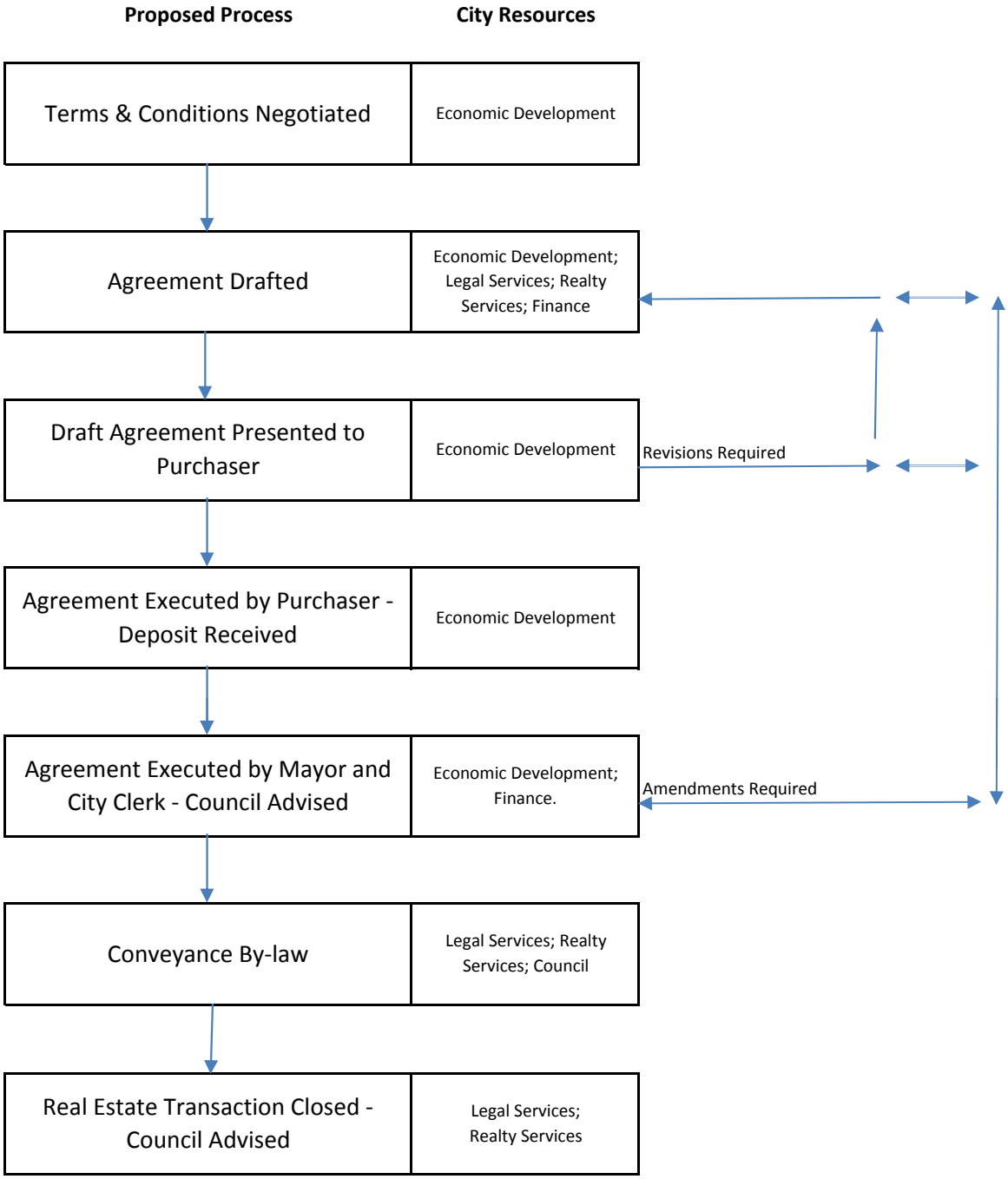
SCHEDULE "A"

Current City Owned Land Sale Approval Process



Schedule "B"

Proposed City Owned Land Sale Approval Process



SCHEDULE C

Schedule "XX" to By-law Number "XXXX"

DELEGATION OF AUTHORITY TO NEGOTIATE THE PURCHASE PRICE FOR THE SALE OF CITY-OWNED LAND IN THE HANLON CREEK BUSINESS PARK

Power to be Delegated	Authority to negotiate the purchase price for the sale of city-owned lands with prospective land purchasers in the Hanlon Creek Business Park.
Reasons in Support of Delegation	o Contributes to the need to respond in a positive manner to potential business investment opportunities. o Provides for greater flexibility to negotiate the sale price with prospective purchasers where appropriate and required to secure a business investment. o Contributes to making Guelph competitive in the local, provincial, national and international business markets. o Contributes to making city–owned land competitive with existing local employment land owners/developers. o Supports Strategic Direction 1.2 in Prosperity 2020 to re-position Guelph as a premier business investment location. o Supports Strategic Direction 3.2 in the 2012-2016 Corporate Strategic Plan to be economically viable, resilient, diverse and attractive for business.
Delegate(s)	o General Manager of Economic Development o A person who is selected from time to time by the General Manager of Economic Development to act in the capacity of the delegate in the delegate's absence.
Council to Retain Power	o Yes, for deviations outside of policy.
Conditions and Limitations	o Delegation of authority is limited to the sale of city-owned land in the Hanlon Creek Business Park. o Delegation of authority is to be within established guidelines and parameters as approved by Council.
Review or Appeal	Not applicable.
Reporting Requirements	Information reports to be prepared and circulated to Council providing details of the sale and the purchaser, and any subsequent amendment to, or termination of, an Offer to Purchase/Agreement of Purchase and Sale.

SCHEDULE "D"

HANLON CREEK BUSINESS PARK

LAND SALE GUIDELINES

	GUIDELINES
LAND SALE APPROVALS	• Agreements shall be negotiated by Economic Development Services. • Mayor and City Clerk to execute Agreements on behalf of the city. • By-law authorizing the conveyance of the land shall be passed by Council prior to the closing of an Agreement. • Economic Development Services shall prepare an information report to Council following execution of an Agreement. • Prior to execution of an Agreement by the city, Council approval shall be required where proposed terms contained in the Agreement deviate from the land sale guidelines.
PROPERTY DESCRIPTION	• Reference Plan shall be prepared by the city, at its cost; such plan to be used to confirm the actual property area.
SITE PLAN AGREEMENT	• Purchaser shall be required to enter into a Site Plan Agreement prior to final Site Plan approval, such Site Plan Agreement to be registered on title at the purchaser's cost.

PAYMENT OF PURCHASE PRICE	• 5% deposit shall be submitted with an Agreement; such deposit to be applied to the total purchase price on closing. • Deposit shall be forfeited if the sale does not close because of default by the purchaser; otherwise the deposit shall be returned to the purchaser without interest or deduction. • Balance of the total purchase price, plus HST, shall be payable on closing of the sale.
LATERAL SERVICE CONNECTIONS	• Lateral service connections (water, sanitary sewer, storm sewer) shall be installed by the city to the property line, at the purchaser's cost, and upon proper application by the purchaser. • Where the city has pre-installed lateral service connections (water, sanitary sewer, storm sewer) to the property line, the purchaser shall reimburse the city for the actual cost to install such lateral service connections; such reimbursement shall be a condition of the execution of a Site Plan Agreement. • Lateral service connections (water, sanitary sewer and storm sewer), from the property line onto the purchaser's property, shall be installed by the purchaser and at its own cost. • Lateral service connections for utilities (electricity, natural gas, telephone, telecommunications), to the property line and onto the purchaser's property, shall be arranged by the purchaser with the respective service provider and installed at its own cost.

STORM WATER DITCHES	• City, where applicable, shall sod the storm water ditches along all property frontages at the city's cost; and the purchaser shall agree to assume complete responsibility for the maintenance of the sod.
DEVELOPMENT CHARGES	• Purchaser shall pay all applicable development charges in accordance with the City's Development Charge By-law; and at the rate in effect at the time of building permit issuance.
AS IS CONDITION	• Property shall be purchased on an "as is" and "where is" basis, except as may be specifically set out in an Agreement. • Purchaser shall have up to 30 business days prior to the closing date to satisfy itself with respect to any aspect of the property condition. • If the purchaser determines it is not satisfied with respect to any aspect of the condition of the property, the purchaser can terminate the Agreement and the deposit shall be returned without interest or deduction.
AGREEMENT NOT ASSIGNABLE	• Agreement shall not be assigned or transferred by the purchaser at any time, except to an affiliate as defined in the Business Corporations Act; and provided such affiliate provides an undertaking to fully comply with all provisions of the original Agreement. • Assignment or transfer of an Agreement contrary to the above shall make the Agreement capable of being terminated by the city at its option, and if terminated the deposit paid shall be forfeited to the city.

TITLE	• Purchaser shall have up to 30 business days prior to the closing date to satisfy itself with respect to title to the property. • If the purchaser determines it is not satisfied with respect to any aspect of title to the property, the purchaser can terminate the Agreement and the deposit shall be returned without interest or deduction.
CLOSING DATE	• Closing date shall not exceed 90 business days after execution of an Agreement. • General Manager of Economic Development may extend the closing date by up to further 30 business days.
IRREVOCABLE DATE	• City shall have up to 10 business days following receipt of an executed Agreement from the purchaser to accept and execute an Agreement • If the city does not accept and execute the Agreement within 10 business days, the deposit shall be returned without interest or deduction.
OPTION TO REPURCHASE AGREEMENT	• Option to Repurchase Agreement shall be executed by the city and the purchaser on or before the closing date; such Option to Repurchase Agreement shall be registered on title at the city's cost.

	• Option to Repurchase Agreement shall require the purchaser to start construction of a minimum sized building on the property, in accordance with the City's Zoning By-law, within one (1) year from the date of closing. • General Manager of Economic Development may extend the start construction date by up to a further one (1) year. • City may exercise its Option to Repurchase at any time within four (4) years of the date of closing, at 90% of the original purchase price.
DEVELOPMENT CONVENANTS & RESTRICTIONS	• Development Covenants and Restrictions shall be attached to all Agreements and registered on title.
REAL ESTATE COMMISSIONS	• 5% real estate commission shall be paid from the proceeds of the sale on closing to a realtor who has registered their client with Economic Development Services. • To register a client with Economic Development Services, the realtor shall either personally introduce their client or provide a letter on the client's stationery and signed by the client advising the realtor is representing them. • Realtor shall be required to sign and date a Client Registration Form with Economic Development Services; and such registration shall have a termination date of 90 business days, unless otherwise extended on the discretion of the General Manager of Economic Development.

OPTION TO PURCHASE AGREEMENT	• Option Agreement may be negotiated and accepted by the city where: o property to be optioned directly abuts property already owned by the Optionee, or o intended use of the optioned property shall provide a net overall benefit to the HCBP business park • Option Agreement shall be subject to the following: o 10% deposit of the total purchase price shall be submitted with the Option Agreement; such deposit to be applied to the total purchase price on closing if exercised, or forfeited to the city if not exercised. o Option Agreement term shall not exceed two (2) years from the date of execution of the Option Agreement. o Option Agreement shall not be assigned by the Optionee at any time, except to an affiliate as defined in the Business Corporations Act and provided such affiliate provides an undertaking to fully comply with all provisions of the original Option Agreement; and any assignment or transfer of an Option Agreement to the contrary shall make the Option Agreement capable of being terminated by the city at its option, and if terminated the deposit paid shall be forfeited to the city. • Mayor and City Clerk to execute an Option Agreements on behalf of the city

	• Economic Development Services shall prepare an information report to Council following execution of an Option Agreement.
RIGHTS-OF-FIRST-REFUSALS	• Rights-of-First-Refusals shall not be accepted.

COMMITTEE REPORT

TO	**Corporate Administration, Finance & Enterprise Services**
SERVICE AREA	Finance & Enterprise Services – Economic Development
DATE	October 9, 2012
SUBJECT	**Prices for the Sale of City-Owned Land – Hanlon Creek Business Park Phase 1**
REPORT NUMBER	FIN-ED-11

SUMMARY

Purpose of Report:

To seek approval of prices for the sale of city-owned land within the Hanlon Creek Business Park Phase 1.

Committee Action:

To consider and approve prices for the sale of city-owned land within the Hanlon Creek Business Park Phase 1.

RECOMMENDATION

"That the prices for the sale of city-owned land within the Hanlon Creek Business Park Phase 1, as attached to the October 9, 2012 report entitled "Prices for the Sale of City-Owned Land – Hanlon Creek Business Park Phase 1, be approved**;** and,

That the General Manager of Economic Development report back to Committee/Council on an annual basis to review and establish prices for the sale of city-owned land within the Hanlon Creek Business Park Phase 1 for each subsequent year; and,

That the city pay real estate commissions to brokers/realtors who have introduced and registered their client with the Economic Development Office, in the total amount of 5% of the total purchase price plus HST on the commission, from the proceeds of the sale on closing**."**

BACKGROUND

City-owned land in the Hanlon Creek Business Park Phase 1 (HCBP Phase 1), as shown on Schedule "A" attached, is now available for immediate sale and building construction.

The price of city-owned land has historically been established based on the cost to acquire and service the land. The city's objective is to provide competitively priced land to attract new investment and to support existing local business expansion.

The following factors were considered when establishing the price for city-owned land in the HCBP Phase 1:

- Price of city-owned land has an influence in stabilizing employment land prices in the local real estate market.
- In a competitive business environment, price and terms must be negotiable.
- Prices must be set at a level that is attractive to both new and existing businesses, and be competitively priced in the marketplace.
- Price must be set to achieve the city's financial return on investment target of approximately 3%, as well as new employment opportunities, property assessment/tax revenues and development charge revenue.

REPORT

In establishing prices for the sale of city-owned land in the HCBP Phase 1, two key factors were considered - the recovery of costs and competition in the marketplace.

Recovery of Costs

At a minimum, prices should reflect recovery of all land acquisition, planning and servicing, financing and marketing costs. The total cost to acquire and service city-owned land in HCBP Phase 1 is approximately $25 million. The total city-owned net saleable area in HCBP Phase 1 is approximately 94 acres. This represents a "break-even" price of approximately $266,000.00 per acre.

Competition in the Marketplace

Staff compiled information comparing employment land prices in the Greater Toronto West (GTA West) and Canada's Technology Triangle (CTT) areas (see Schedule B). These market areas were selected because they represent the most immediate competitive markets for Guelph for the sale of employment lands.

In the GTA West, the current market price for employment lands range from approximately $375,000 - $ 900,000 per acre with the average price being in the $550,000-$560,000 per acre range. These prices do not include applicable development charges, which are substantially higher in the GTA West communities than in Guelph at present, and add significantly to the total development costs per acre for a prospective purchaser. Inventory of available employment lands in the GTA West communities varies. However, the immediate adjacent communities of

Milton and Halton Hills appear to have a good inventory of employment lands within the $375,000 - $500,000 per acre range.

In the CTT area (Cambridge, Kitchener and Waterloo), the current market price for employment lands range from approximately $210,000 - $300,000 per acre. It should be noted that the price of $210,000 per acre applies to existing available employment lands in Cambridge; however, based on discussions with the Cambridge Economic Development office future new employment lands will be around $300,000 per acre. Development charges in the CTT communities are higher than in Guelph and add to the overall development costs for a purchaser. At the present time, the inventory of available employment lands in the CTT area is quite low and this puts Guelph in a good position with respect to available employment lands. West of the CTT in other southwestern Ontario communities, employment land prices drop off significantly to below $100,000 per acre.

In Guelph, the current market price for employment lands range from approximately $280,000 - $375,000 per acre. The lower price is generally found in the older, more established northwest industrial area, with the higher price for the newer south end employment lands along the Hanlon Expressway. It should be noted that the $375,000 per acre employment lands are asking prices only and likely have room for further price reductions based on negotiations with purchasers. Also, some private land owners have priced these lands at a premium as it is their preference not to sell just the land but to incorporate the land price in a complete design-build package for building construction.

Three sales were recently completed within the HCBP Phase 1. The city completed sales to Wurth Canada Limited at $255,000 per acre for 12.7 acres and to Fusion Homes at $265,000 per acre for 2.1 acres. These were negotiated prior to the registration of the draft plan of subdivision and the completion of grading and servicing of HCBP Phase 1and the negotiated prices recognize the risk taken by the Purchaser in this regard. In addition Belmont Equity Partners sold approximately 8.0 acres of land at $280,000 per acre to a local Guelph builder. It should be noted that this sale was on an "as is" basis and did not include rough grading estimated at around $20,000 per acre, reflecting a total adjusted price of $300,000 per acre.

The recommended price for city-owned lands in HCBP Phase 1 lands is shown on Schedule "C". Price ranges from $300,000 per acre for internal lots to $325,000 per acre for lots fronting onto the Hanlon Expressway. Prices would be effective immediately upon approval by Council for a period of one year. The General Manager of Economic Development would review and make recommendations back to Committee/Council on an annual basis on prices for each subsequent year.

The pricing reflects an "as is" condition and does not include the installation of municipal lateral service connections (water, sanitary and storm sewer), or other utility (hydro, gas, telephone/communications) service connections, or any applicable development charges for the proposed building to be constructed on the lands. These costs shall be the responsibility of the Purchaser, which is standard industry practice.

Real estate brokers/agents are an important source of potential land sale investment leads. Most municipalities, including Guelph, have traditionally not listed their employment lands with any one broker/agent but will pay a real estate commission fee to any broker/agent who has properly registered their client with Economic Development Services. Guelph presently pays real estate commissions in the amount of 5% of the total purchase price, plus HST, upon closing. It is recommended that Guelph continue to pay real estate commissions on the sale of city-owned land in the HCBP Phase 1 at the rate of 5% of the total purchase price, plus HST on the commission. The HCBP Phase 1 Pro Forma includes this cost which is reflected in the proposed price schedule.

CORPORATE STRATEGIC PLAN

Strategic Focus – City Building: Strategic Direction 3.2 – Be economically viable, resilient, diverse and attractive for business.

FINANCIAL IMPLICATIONS

City land sales revenue of $27.6 million (based on recommended price schedule) in HCBP Phase 1

Real Estate Commissions of $0.70 million (based on estimate of 50% of land sales being commissionable) in HCBP Phase 1

DEPARTMENTAL CONSULTATION

Financial Services
Legal and Realty Services

COMMUNICATIONS

N/A

ATTACHMENTS

Schedule "A"- HCBP Phase 1 Lands

Schedule "B" – Employment Land Prices

Schedule "C" – HCBP Phase 1 Pricing Schedule

"original signed by Jim Mairs"

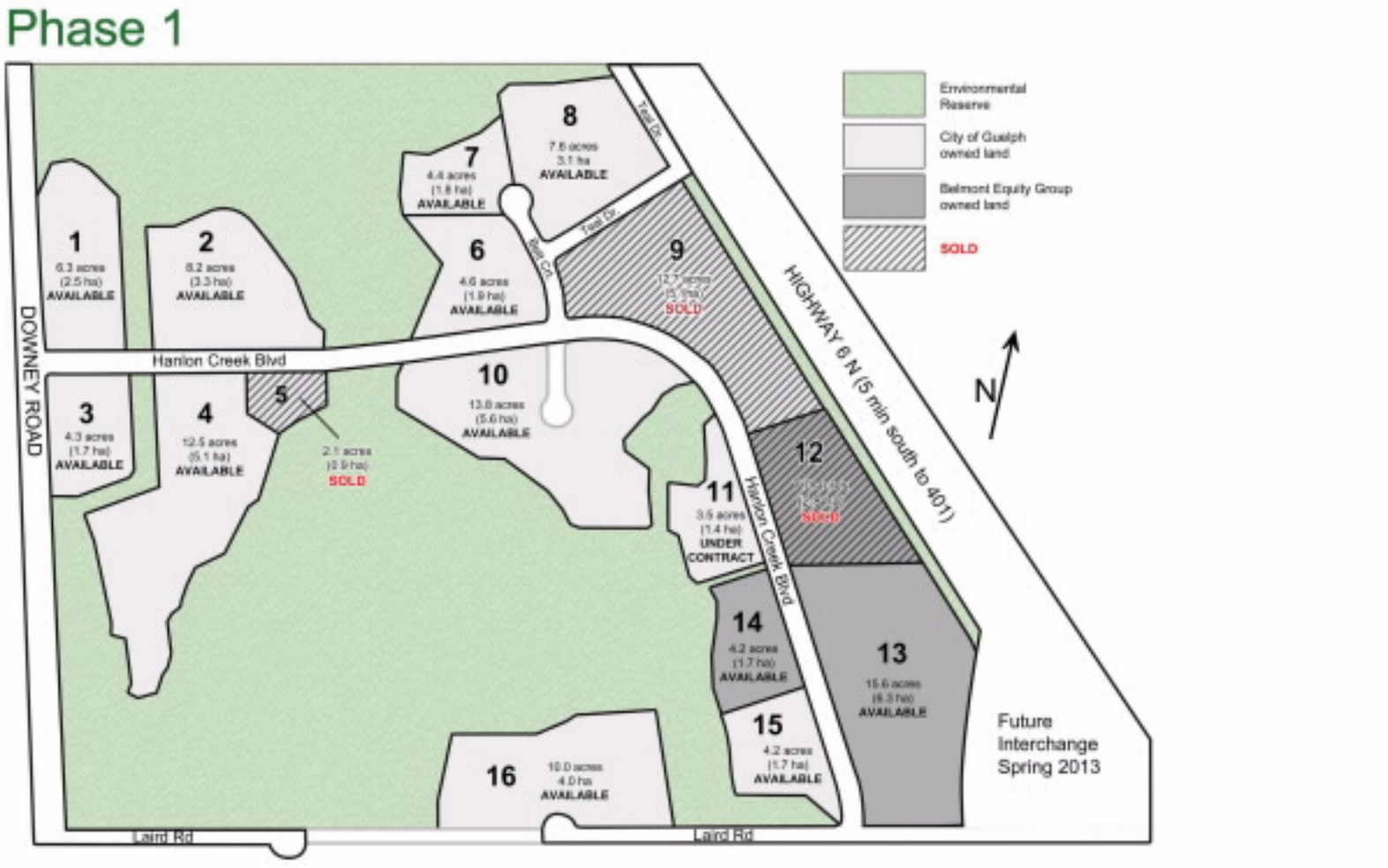
Prepared By:
Jim Mairs
Sr. Business Development Specialist/
Assistant Manager
519-822-1260 x 2821
jim.mairs@guelph.ca

Recommended By:
Peter Cartwright
General Manager of Economic
Development
519-822-1260 x 2820
peter.cartwright@guelph.ca

"original signed by Al Horsman"

Recommended By:
Al Horsman
Executive Director
Finance and Enterprise Services
519-822-1260 x 5606
al.horsman@guelph.ca

SCHEDULE A – HCBP Phase 1_Report FIN-ED-12-11



Colliers INTERNATIONAL

GTA West Current Lands Available

Municipality	2011-2012 Sites	Buildable Square Footage	Near Future Sites	Number of Sites	Price per Acre	D.C per Acre 40% Coverage	Total per Acre
Vaughan	261 acres	4.6 mil sq.ft.	315 acres	9	$800,000	$241,845	$1,041845
Caledon	248 acres	4.3 mil sq.ft.	195.5 acres	7	$425,000	$184,520	$609,520
Brampton	246 acres	4.3 mil sq.ft.	320 acres	7	$900,000	$186,088	$1,086,088
Mississauga	362 acres	6.5 mil sq.ft.	101 acres	7	$800,000	$225,922	$1,025,922
Halton Hills	20 acres	350 k sq.ft.	145 acres	4	$400,000	$328,442	$728,442
Milton	144 acres	2.5 mil sq.ft.	499 acres	7	$375,000	$342,033	$717,033
Oakville	118 acres	2 mil sq.ft.	164 acres	5	$450,000	$367,733	$817,733
Burlington	10 acres	174 k sq.ft.	122 acres	1	$425,000	$278,784	$703,784
Guelph	184 acres	3.2 mil sq.ft.	537 acres	8	$325,000	$100,884	$425,884
Cambridge	104 acres	1.8 mil sq.ft.	240 acres	5	$250,000	$185,391	$435,391
Kitchener	67 acres	1.77 mil sq.ft.		1	$250,000	$227,208	$477,208
Brantford	147 acres	2.6 mil sq. ft.	200 acres		$125,000	$90,000	$215,000

SCHEDULE B - EMPLOYMENT LAND PRICES_REPORT FIN-ED-12-11

DEVELOPMENT CHARGES DECEMBER 2011						
Municipality	Land Price per Acre	Development Charges	City Charges Per Square Foot	County/Region Charges Per Square Foot	Total Development Charges Per Square Foot	Development Charges By-Law Review Date
Mississauga	$650,000.00	Yes	$5.45	$5.99	$11.44	Jan 31/12
Brampton	$575,000.00	Yes	$4.92	$5.99	$10.91	Jan 31/12
Milton - Non Retail	$500,000.00	Yes	$3.23	$15.71	$18.94	June 01/12
Oakville	$575,000.00	Yes	$7.55	$15.71	$23.26	Apr 01/12
Burlington - Non Retail - Urban	$475,000.00	Yes	$4.47	$11.94	$16.41	Apr 01/12

Prepared By:

Ted L. Davis, C.I.M.
Broker of Record
D 226.366.9040
C 519.830.6647
ted.davis@avisonyoung.com

Ray A. Robinson, SIOR
Managing Director
Sales Representative
D 226.366.9030
C 416.346.2918
ray.robinson@avisonyoung.com

AVISON YOUNG Intelligent Real Estate Solutions

Avison Young Commercial Real Estate (Southwestern Ontario), Brokerage
299 Brock Road S, Bldg A • Guelph, ON N1H 6H9
T 226.366.9090 F 866.541.9755 W avisonyoung.com

HST REG # 80766 1657 RT0001

SCHEDULE B - EMPLOYMENT LAND PRICES

MUNICIPALLY OWNED INDUSTRIAL LAND PRICES

MUNICIPALITY	LAND PRICE (per acre)
Waterloo	$ 300,000.00
Kitchener	$ 250,000.00
Cambridge	$ 210,000.00
Hamilton	$ 205,000.00
Brantford	$ 125,000.00
Ingersoll	$ 100,000.00
County of Brant	$ 125,000.00
Sarnia-Lambton	$ 70,000.00
London	$ 95,000.00
Stratford	$ 100,000.00
Woodstock	$ 100,000.00
Strathroy-Caradoc	$ 70,000.00
Chatham-Kent	$ 70,000.00
Windsor	$ 83,500.00
St. Thomas	$ 45,000.00

Source: City of Brantford Economic Development and Tourism Dept., February 2012

SCHEDULE C

HANLON CREEK BUSINESS PARK PHASE 1 PRICING

BLOCK	AREA (ACRES)	PRICE PER ACRE	TOTAL PRICE	COMMISSION 5%	STATUS
1	6.3	$ 300,000.00	$ 1,890,000.00	$ 94,500.00	Available
2	8.2	$ 300,000.00	$ 2,460,000.00	$ 123,000.00	Available
3	4.3	$ 300,000.00	$ 1,290,000.00	$ 64,500.00	Available
4	12.5	$ 300,000.00	$ 3,750,000.00	$ 187,500.00	Available
5	2.1	$ 265,000.00	$ 556,500.00	$ 27,825.00	Sold
6	4.6	$ 300,000.00	$ 1,380,000.00	$ 69,000.00	Available
7	4.4	$ 300,000.00	$ 1,320,000.00	$ 66,000.00	Available
8	7.6	$ 325,000.00	$ 2,470,000.00	$ 123,500.00	Available
9	12.7	$ 255,000.00	$ 3,238,500.00	$ 161,925.00	Sold
10	13.8	$ 300,000.00	$ 4,140,000.00	$ 207,000.00	Available
11	3.5	$ 325,000.00	$ 1,137,500.00	$ 56,875.00	Optioned
15	4.2	$ 300,000.00	$ 1,260,000.00	$ 63,000.00	Available
16	10	$ 300,000.00	$ 3,000,000.00	$ 150,000.00	Available
TOTAL	**94.2**		**$27,892,500.00**	**$1,394,625.00**	

COMMITTEE REPORT

TO	**Corporate Administration, Finance & Enterprise Committee**
SERVICE AREA	Finance
DATE	October 9, 2012
SUBJECT	**2012 Mid-Year Investment Performance Report**
REPORT NUMBER	FIN-12-39

REPORT SUMMARY

Purpose of Report: To report on Mid-Year June 30, 2012 investment portfolio performance and holdings as required by Ontario Regulation 438/97 of the *Municipal Act, 2001*, and by the City's 2011 Investment Policy

Council Action: Receive for information

RECOMMENDATION

That report FIN-12-39 dated October 9, 2012, with respect to the 2012 Mid-Year investment portfolio performance and holdings be received for information.

BACKGROUND

Ontario Regulation 438/97 of the *Municipal Act, 2001*, requires a municipality to adopt a statement of investment policies and goals and requires an investment report to be provided to Council at least annually. This report has been prepared in compliance with this regulation.

After a comprehensive review in consultation with the City's investment dealers, amendments to the City of Guelph's existing corporate Investment Policy were approved by Council at its meeting of December 5, 2011. The complexity of the previous policy was restrictive, and changes regarding term and credit risk were adopted to permit a wider range of investment options and to improve returns without incurring significant additional risk. Targets were revised to achieve the City's primary investment objectives without the excessive restrictions which do not necessarily contribute to investment quality.

The primary objectives of the investment program are as follows:

- Adherence to statutory requirements,
- Preservation of capital,
- Maintaining liquidity, and
- Earning a competitive rate of return.

Provincial legislation requires that the Treasurer submit an investment report to Council, each year or more frequently as specified by Council. The current Investment Policy requires a report on the financial position, investment performance, market value, and compliance status of the portfolio at least twice per year. A 2011 investment information update was provided on May 14, 2012, at the time of amendments to the existing Investment Policy. In accordance with Ontario Regulation 438/97, the investment report is to include:

- **Statement of Performance:** A statement about the performance of the portfolio of investments of the City during the period covered by the report;
- **Investments in Own Securities:** A description of the estimated proportion of the total investments of the City that are invested in its own long-term and short-term securities to the total investment portfolio of the City and a description of the change, if any, in that estimated proportion since the previous year's report;
- **Record of Own Security Transactions:** A record of the date of each transaction in or disposal of the City's own securities, including a statement of the purchase and sale price of each security;
- **Investment Policy Compliance:** A statement by the Treasurer as to whether or not all investments are consistent with the investment policies and goals adopted by the City;
- **Regulation Investment Standard Compliance:** A statement by the treasurer as to whether any of the investments fall below the standard required for that investment during the period covered by the report; and
- **Other:** Such other information that the council may require or that, in the opinion of the treasurer, should be included.

In accordance with the City's 2011 Investment Policy, the following information should also be included in the investment report:

- A summary, by amount and percentage, of the composition of the investment portfolio;
- Monthly investment balances; and
- Year-end balance.

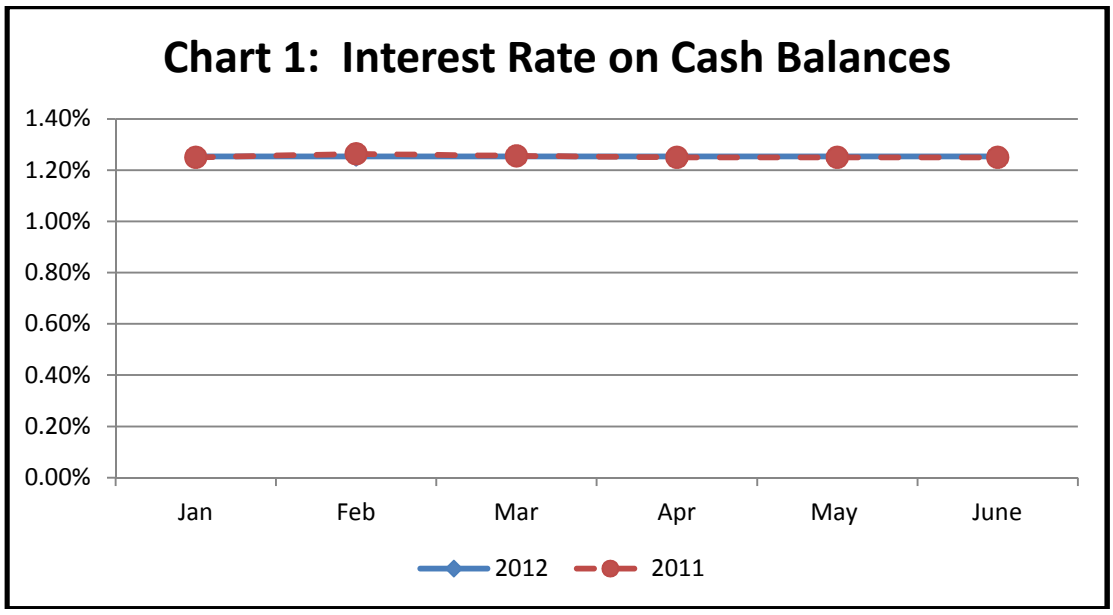
REPORT

Statement of Performance

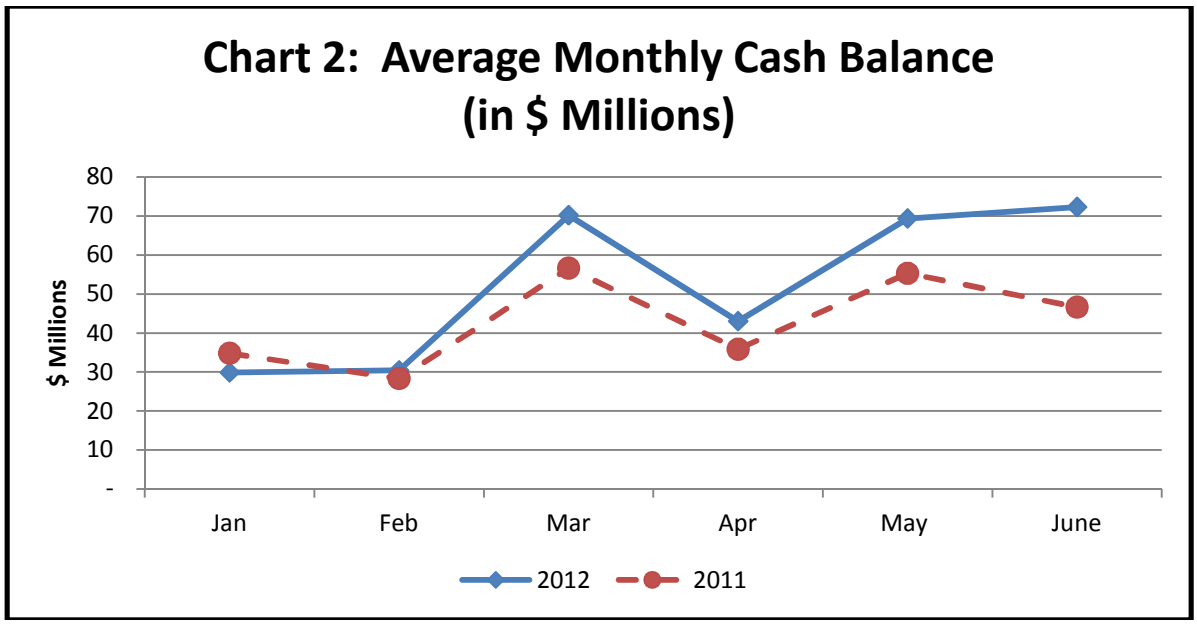
Interest earned on investments projected out to December 31, 2012 compared to budget of $2.09 million is on target.

2012 Investment Activity - Cash

The current agreement with the City's bank allows for interest to be paid on the bank balance at a rate of prime minus 1.75%. The prime rate has remained steady at 3% since September 9, 2010. See **Chart 1** below for a comparison of interest rates in June of 2011 and 2012.



See **Chart 2** below for a comparison of average monthly cash balances in June of 2011 and 2012. The cash balance was temporarily higher on June 30, 2012, when $52 million in tax payments were received; $40 million in the last week of June alone. In July 2012, $22 million was invested to capitalize on the higher cash balances.

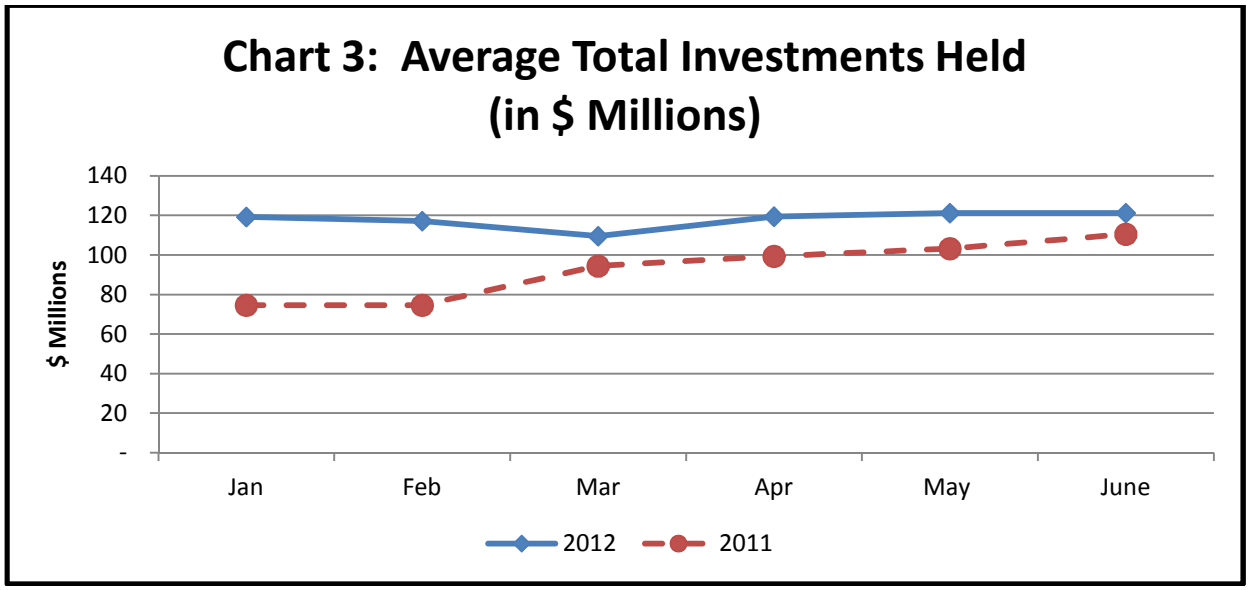


Bank Cash Interest income earned on bank balances for 2012 totaled $328,544 compared with $268,337 the previous year due to higher bank balances. The possibility of investing additional cash was researched but low short term rates are comparable to the interest paid by the bank.

2012 Investment Activity - Investments

The investment process has been improved. Projected investment amounts are reviewed monthly, and quotes are obtained from at least three financial institutions, based on specific criteria produced by the newly developed investment model.

The City earned a total of $1.30 million and an average yield of 2.22% on its investments as at June 30, 2012 compared with $1.34 million and 2.90% as at June 2011, which is due to higher-yielding investments maturing and being re-invested at lower interest rates. See **Chart 3** below for a comparison of average total investments held in 2011 and 2012 on a month to month basis up to June 30.



The cash and investment positions (purchase price) of the City at June 30, 2011 are compared to the positions at June 30, 2012 below:

	June 30, 2011 (Purchase Price)	June 30, 2012 (Purchase Price)	June 30, 2012 (Market Value)
Long-Term*	$ 47,484,765	$ 63,799,829	$ 64,556,856
Short-Term	$ 61,807,991	$ 52,014,789	$ 52,144,333
Total Investments	$ 109,292,756	$115,814,618	$116,701,189
Cash	$ 47,170,770	$ 83,360,256	$ 83,360,256
Total	**$156,463,526**	**$199,174,874**	**$200,061,445**

*Note: Includes MAV II notes with book value of $2.0 million for Dec 31, 2011 and $2.0 million for June 30, 2012 and market value of $1.5 million.

Attached **Schedules I and II** provide the portfolio mix, term limits, and holding limits as at June 30, 2012.

Asset-Backed Commercial Paper (ABCP) Restructuring

In January of 2009, a restructuring plan was implemented to convert frozen short-term asset-backed commercial paper to long-term notes of various classes with terms matching the maturity of the underlying assets. Recognizing the highly speculative nature of the ultimate payment of principal at maturity, provisions for impairment totaling $1.144 million were booked in 2009 and 2010. In 2011, notice was received that the principal amount of MAV II 3 notes, with a face value of $245,818, had been reduced to zero, and this amount has been written off against the provision. The remaining MAV II notes as of June 30, 2012, have a face value of $2.066 million and a market value of $1.517 million. The provision for impairment reflects the net carrying value equal to market at December 31, 2011. The remaining MAV II notes as of June 30, 2012, are as follows:

Class	Maturity	Rating	Face Value	June 30, 2012 Market Value	Dec 31, 2011 Impairment Provision
MAV II A-1	07/15/2056	A+	$ 502,795.17	$ 397,208.18	
MAV II A-2	07/15/2056	BBB+	$ 1,270,940.00	$ 934,140.90	
MAV II B	07/15/2056	Not Rated	$ 230,711.00	$ 158,325.42	
MAV II C	07/15/2056	Not Rated	$ 62,043.00	$ 27,764.24	
Total			**$ 2,066,489.17**	**$ 1,517,438.74**	**$742,529.36**

Own Securities

None of the 2010, 2011, 2012 investments of the City were invested in its own long-term or short-term securities.

Investment Policy and Regulation Investment Standard Compliance

In an attempt to aid in the achievement of the primary objectives of the investment policy, the Investment Policy places restrictions and limitations on investment quality, diversification, and term. The current portfolio is in compliance with the *Municipal Act* and Ontario Regulation 438/97 and within the targets set out in the current City Investment Policy in all but the following respects:

- Under Ontario Regulation 438/97, a municipality **shall not invest in a bond, debenture, promissory note or evidence of indebtedness with a Dominion Bond Rating Service Limited, or equivalent, rating lower than AA(low)**. As outlined above, most of the MAV II notes acquired in January of 2009 under asset-backed commercial paper restructuring would not meet this requirement.
- Under the current policy, the **City shall not invest in a security with a DBRS or equivalent bond rating lower than A**. As outlined above, most of the MAV II notes acquired in January of 2009 under asset-backed commercial paper restructuring would not meet this requirement.
- Under the current policy, the **maximum term** for asset backed securities is 5 years. As outlined above, the MAV II notes acquired in January of 2009 and maturing in 2056 do not meet this requirement.

In all other respects, investments are fully consistent with the investment policies and goals adopted by the City.

FINANCIAL IMPLICATIONS

Investment income reduces the amount otherwise required from property taxation to finance City services and increases the value of reserve funds used to finance capital projects.

DEPARTMENTAL CONSULTATION/CONCURRENCE

None noted

COMMUNICATIONS

None noted

ATTACHMENTS

Appendix: Investment Reporting Requirements

Schedule I - Investment Portfolio Listing and Term Limits as at June 30, 2012
Schedule II – Investment Portfolio Holding Limits

"original signed by Kelly Burden"

_____

Prepared By:
Kelly Burden
Financial Consultant
519-822-1260 ext. 2367
Kelly.Burden@guelph.ca

"original signed by David Haylett"

_____

Reviewed By:
David Haylett
Supervisor, Accounting Services
519-822-1260 ext. 2309
David.Haylett@guelph.ca

"original signed by Al Horsman"

_____

Recommended By:
Al Horsman
Executive Directory, CFO, Finance & Enterprise Services
519-822-1260 ext. 5606
Al.Horsman@guelph.ca

Appendix 1

Investment Reporting Requirements

These investment reporting requirements are in accordance with Ontario Regulation 438/97 of the *Municipal Act, 2001*.

1. Statement of Performance

The City of Guelph earned an average return of 2.22% on its investments as of June 30, 2012.

2. Investments in Own Securities

None of the 2012 investments of the City were invested in its own long-term or short-term securities.

3. Record of Own Security Transactions

None of the 2012 investments of the City were invested in its own long-term or short-term securities.

4. Statement of Treasurer re Investment Policy Compliance

I, Al Horsman, Executive Director, CFO, Finance and Enterprise Services for the City of Guelph, hereby state that:

a - $1,563,694 in MAV II notes acquired in January of 2009 under asset-backed commercial paper restructuring do not meet the requirement of a DBRS or equivalent bond rating of at least A.

b - $2,066,489.17 in MAV II notes acquired in January of 2009 and maturing in 2056 exceed the maximum term of 5 years for asset backed securities.

The remaining investments have been made in accordance with the investment policies adopted by the City of Guelph.

5. Statement of Treasurer re O.R. 438/97 Investment Standard Compliance

I, Al Horsman, Executive Director, CFO, Finance and Enterprise Services for the City of Guelph, hereby state that:
$1,563,694 in MAV II notes acquired in January of 2009 under asset-backed commercial paper restructuring do not meet the requirement of a DBRS or equivalent bond rating of at least AA(low).

None of the other investments held by the City of Guelph fell below the required standard as at June 30, 2012.

Signed: _____

Dated: _____

Schedule I

City of Guelph
Investment Portfolio
as at June 30, 2012

Short-Term Investment Portfolio

Issuer	Yield	Maturity Date	Face Value	Term to Maturity (Days) At June 30/12	Restriction	Exceeded
RBC	1.500%	12-Oct-12	$6,500,000	104	365	-
RBC	1.500%	20-Oct-12	$2,000,000	112	365	-
TD	1.550%	01-Nov-12	$9,999,839	124	365	-
TD	1.900%	05-Nov-12	$5,000,000	128	365	-
BMO	1.500%	19-Nov-12	$5,000,000	142	365	-
BMO	1.950%	19-Feb-13	$2,500,000	234	365	-
CIBC	1.350%	9-Mar-13	$10,514,950	255	365	-
CIBC	1.550%	2-Apr-13	$8,000,000	276	365	-
BMO	1.950%	21-May-13	$2,500,000	325	365	-
Short-Term Investment Total					**$52,014,789**	

Long-Term Investment Portfolio

Issuer	Yield	Maturity Date	Face Value	Term to Maturity (Years) At June 30/12	Restriction	Exceeded
MAVII CL A-1 Note	-	15-Jul-56	$502,795	44.07	5	39.07
MAVII CL A-2 Note	-	15-Jul-56	$1,270,940	44.07	5	39.07
MAV II CL B Note	-	15-Jul-56	$230,711	44.07	5	39.07
MAV II CL C Note	-	15-Jul-56	$62,043	44.07	5	39.07
IBRD	1.120%	31-Oct-12	$5,000,000	0.3	20	-
RBC	4.640%	04-Nov-13	$1,297,228	1.3	10	-
Province of Ontario	2.500%	21-Jun-14	$1,500,000	1.9	20	-
CIBC	2.686%	2-Nov-15	$5,000,000	3.3	10	-
Farm Credit Corp	2.000%	15-Dec-15	$5,000,000	3.4	20	-
CIBC	3.200%	15-Mar-16	$10,000,000	3.7	10	-
BMO	3.030%	08-Jul-16	$2,499,999	4.0	10	-
BMO	2.900%	08-Jul-16	$2,500,000	4.0	10	-
BMO	2,855%	08-Jul-16	$2,060,722	4.0	10	-
BMO	2.600%	08-Jul-16	$10,000,000	4.0	10	-
Region of Waterloo	3.510%	01-Dec-16	$1,143,000	4.4	10	-
City of Toronto	5.076%	18-Jul-17	$5,000,000	5.05	10	-
Province of Ontario	2.979%	01-Dec-21	$16,091,114	9.4	20	-
Long-Term Investment Total					**$69,158,552**	

Total Investment Portfolio **$121,173,341**

Schedule II

City of Guelph
Investment Portfolio
as at June 30, 2012

Issuer	Investment Value	Investment Percentage of Holdings	Policy Maximum Portfolio Percentage Limit
Federal			
Government of Canada			100%
Federal Guarantees	$10,000,000	8.3%	50%
Provincial Governments & Provincial Guarantees	$17,591,114	14.5%	75%
Country Other than Canada			5%
Municipal			
City of Guelph			50%
Other Municipalities & OSIFA – AAA & AA	$6,143,000	5.1%	50%
Other Municipalities & OSIFA – A			10%
School Board, Ont. University, Local Board, Conservation Authority, Public Hospital, Housing Corp.			20%
Financial Institutions			
Schedule I Banks	$85,372,738	70.5%	75%
Schedule II and III Banks	$2,066,489	1.7%	25%
Loan or Trust Corporations, Credit Union			5%
Supranational Financial Institution or Government Organization			25%
Asset Backed Securities			25%
Corporate Debt			25%
Commercial Paper			15%
Joint Municipal Investment Pools			15%
TOTAL	$121,173,341	100.0%	

City of Guelph
Investment Policy
as at December 5, 2011

Securities [1]		Minimum DBRS[2] Credit Rating		Maximum Term (years)	Maximum Credit Exposure	
		Short Term	Long Term		Individual Limit by Credit Rating	Portfolio Limit (max)
Federal	Government of Canada[3]	n/a	n/a	20	100%	100%
	Federal Guarantees	n/a	n/a	20	100%	100%
Provincial	Provincial Governments & Provincial Guarantees[4]	R1 high	AAA	20	75%	75%
		R1 mid	AA low	20	75%	
		R1 low	A low	7	50%	
Country other than Canada			AA low	1	5%	5%
Municipal	City of Guelph					50%
	Other Municipalities & OSIFA		AAA AA low	10	50%	50%
			A low	5	10%	10%
School Boards			AA low	2	10%	10%
University in Ontario, Board of Governors of a College						
Local Board or Conservation Authority						
Board of a Public Hospital						
Non-profit Housing Corporation, Local Housing Corp.						
Financial Institutions	Schedule I Banks	R-1 low	AA low	10	75%	75%
	Schedule II & III Banks	R-1 mid	AA low	5	25%	25%
	Loan/Trust Corporations, Credit Unions	R-1 high	AA low	1	5%	5%
Supranational Financial Institution or Supranational Government Organization			AAA	5	25%	25%
Asset Backed Securities[5]		R-1 high	AAA	5	10%	10%
Corporate Debt			AAA	5	25%	25%
			AA low	> 5	15%	
Commercial Paper		R-1 mid		1	15%	15%
Joint Municipal Investment Pools					15%	15%
Portfolio Term To Maturity				ST – 1 LT - 10		

Note (1) Per definitions and restrictions contained in O.R. 438/97

Note (2) Equivalent ratings from Moody's Investor Services, Standard and Poor's or Fitch Ratings are acceptable as well.

Note (3) Minimum 5% of the portfolio must be in Government of Canada or Federal Government Guarantees.

Note (4) Minimum 10% of the portfolio must be in Provincial Governments or Provincial Guarantees, rated AA low or higher.

Note (5) Canadian Bank administered with a minimum of 2 credit ratings.

COMMITTEE REPORT

TO	**Corporate Administration, Finance & Enterprise Services**
SERVICE AREA	Finance & Enterprise Services – Economic Development
DATE	October 9, 2012
SUBJECT	**Amending Agreement to a Development Charge Early Payment Agreement – Wurth Canada Limited, Hanlon Creek Business Park**
REPORT NUMBER	FIN-ED-12-08

SUMMARY

Purpose of Report:
To seek approval of a second Amending Agreement to a Development Charge Early Payment Agreement between the City of Guelph and Wurth Canada Limited.

Committee Action:
To recommend approval of a second Amending Agreement to a Development Charge Early Payment Agreement between the City of Guelph and Wurth Canada Limited.

RECOMMENDATION

"That the Mayor and Clerk be authorized to execute an Amending Agreement to a Development Charge Early Payment Agreement between the Corporation of the City of Guelph and Wurth Canada Limited, for the lands described as all of Block 9, Registered Plan 61M-169 in the Hanlon Creek Business Park, as outlined in the report of the General Manager of Economic Development dated October 9, 2012."

BACKGROUND

Council at its meeting held on November 28, 2011 authorized the execution of an Amending Offer to Purchase/Agreement of Purchase and Sale and an Amending Development Charge Early Payment Agreement between the City of Guelph and Wurth Canada Limited, in the Hanlon Creek Business Park, and as outlined on Schedule "A" attached.

The Amending Offer to Purchase/Agreement of Purchase and Sale changed the closing date of the sale from November 30, 2011 to December 14, 2011 and extended the start construction date of a building from 18 months to 22 months after the closing of the sale.

The Amending Development Charge Early Payment Agreement changed the date upon which Wurth was required to obtain building permit issuance for their proposed building from February 28, 2012 to October 14, 2012 and to remain eligible to apply the early payment industrial development charge of$42.51 per square meter of building.

REPORT

Wurth has requested consideration of a second amendment to the Development Charge Early Payment Agreement to extend the date upon which building permit issuance is required (see Schedule "B" attached). Specifically, they have requested an extension of the building permit issuance date from October 14, 2012 to February 28, 2013. There is no request or requirement to further amend the Offer to Purchase/Agreement of Purchase and Sale.

They have advised that the submission of an application and plans for building permit approval is primarily due to delays with their own process engineers, in both Germany and the U.S., who are designing the building's interior operations and functions. They further advised that it is their intent to submit the required building permit application and plans in the November/December 2012 period. They have instructed their architect and other consultants to re-submit their site plan approval plans by mid October 2012 for review and approval by the City.

In speaking with Wurth' s Canadian President, he has indicated they fully intend to start construction of their building in mid 2013, with occupancy in mid 2014, in compliance with the Amended Offer to Purchase/Agreement of Purchase and Sale. He is fully committed to moving forward with their new Canadian head office and distribution facility in Guelph and seeks support for the requested extension to the building permit issuance date.

CORPORATE STRATEGIC PLAN

Strategic Focus – City Building: Strategic Direction 3.2 – Be economically viable, resilient, diverse and attractive for business.

FINANCIAL IMPLICATIONS

Development Charge Revenue

Under the original Development Charge Early Payment Agreement, the development charges savings to Wurth was $172,649.05. The first Amending Agreement extension to the building permit issuance date (to October 14, 2012) effectively increased the savings to Wurth to $372,471.09.

The requested second amendment to the building permit issuance date (to February 28, 2013) would result in the same development charges savings of $372,471.09, if the building permit is issued prior to February 28, 2013.

The reduction in development charges collected would result in development charges being insufficient to fund capital projects to the same extent that they had been estimated in the calculation of the development charge rates. This shortfall must be made up from property taxes and user rates.

Tax Revenue

The estimated projected annual tax revenue to the City is $200,000.00

DEPARTMENTAL CONSULTATION

Financial Services
Legal and Realty Services

COMMUNICATIONS

N/A

ATTACHMENTS

Schedule "A"- Wurth Canada Limited Site – Hanlon Creek Business Park
Schedule "B" - Letter from Wurth Canada Limited

"original signed by Jim Mairs"

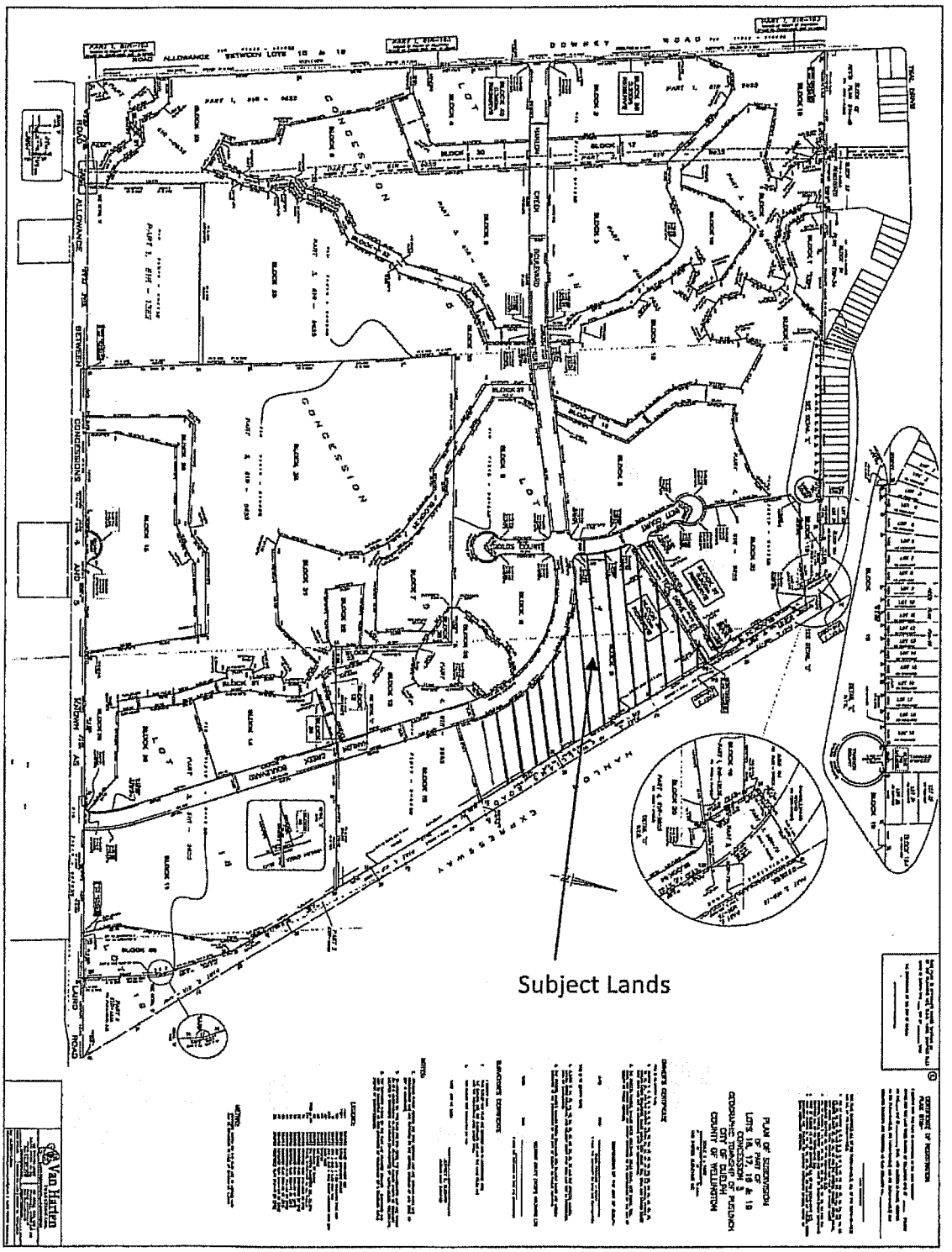
Prepared By:
Jim Mairs
Sr. Business Development Specialist/
Assistant Manager
519-837-5600 x 2821
jim.mairs@guelph.ca

Recommended By:
Peter Cartwright
General Manager of Economic
Development
519-837-5600 x 2820
peter.cartwright@guelph.ca

"original signed by Al Horsman"

Recommended By:
Al Horsman
Executive Director
Finance and Enterprise Services
519-822-1260 x 5606
al.horsman@guelph.ca

Schedule "A" Site Location Map



WURTH CANADA LIMITED/LIMITEE
6330 Tomken Road
Mississauga, Ontario
L5T 1N2

Jim Mairs
CITY OF GUELPH
Economic Development & Tourism Services
1 Carden St.
Guelph, Ontario N1H 3A1

cc. Peter Cartwright

Date:	Tel:	Fax :	E-Mail :
14 September 2012	905-362-4751	905-362-0363	esweeney@wurth.ca

Wurth Canada Development Charge Early Payment Agreement

Dear Mr. Mairs,

Thank you for your e-mail dated September 14, 2012. Your assistance in this matter is very much appreciated. We confirm that the deadline of February 28, 2013 to having a building permit issuance is acceptable.

We have had significant delays with the detailed layout of our warehouse. Wurth has been using the construction firm Miebach to assist in this layout for the installation of an automated Material Handling Equipment (MHE). We obtained a site plan from Joe DeCicco of Global Architects today which we believe will be the final version. Please find attached a copy of this site plan as well as the warehouse layout and the elevations.

Mr. DeCicco has forwarded this site plan today to Owen Scott from Landplan Collaborative Ltd., the landscape architect firm located in Guelph whom we are using for this project. He also forwarded this site plan to Rick Clement from Aecom, who has been retained to do all our civil work for this project.

A site plan application is scheduled to be submitted on October 2, 2012. We are now working with Bill Blackburn, our project manager from MHPM to select a builder who will submit the building application. We are confident this application will be submitted in sufficient time to allow for an approval by February 28, 2013.

Thank you again for helping Wurth obtain an extension to the deadline for building permit issuance included in the Development Charge Early Payment Agreement. Please feel free to contact me should you require any additional information.

With Best Regards,

Ernie Sweeney

COMMITTEE REPORT

TO	**CAFES Committee**
SERVICE AREA	Finance and Enterprise Services
DATE	October 9, 2012
SUBJECT	**August 2012 Operating Variance Report**
REPORT NUMBER	FIN-12-42

SUMMARY

Purpose of Report:
The purpose of this report is to provide a high level overview of the August 31, 2012 operating variance and estimated year end net operating budget position for the Tax Supported and Enterprise funded programs.

Council Action:
THAT the Finance report FIN-12-42 dated October 9, 2012 entitled "August 2012 Operating Variance Report" be received for information purposes.

RECOMENDATION

THAT the Finance report FIN-12-42 dated October 9, 2012 entitled "August Operating Variance and Revenue Report" be received for information purposes.

SUMMARY

Once the Annual Budget is produced, actual expenditures are monitored and compared against budget. While some differences are expected, variances should not be considerably above or below budget. Expenditures which are tracking close to budget indicate strong financial stewardship and a solid budget process.

Departments were provided with current expenditures for the month ending August 31, 2012 and asked to provide year end projections. The chart that follows gives a high level indication of the 2012 projected year end operating variance.

	Projected Variance at Dec 31, 2012 ($)	Variance at Dec 31, 2012 (%)	
City Departments including General Revenues	$ 462,000	0.3%	Unfavourable
Local and Outside Boards	$ (990,000)	(1.5%)	Favourable
Total Tax Supported	**$ (528,000)**	**(0.3%)**	**Favourable**
Total Enterprise Budgets	$ (619,000)	(1.2%)	Favourable

**(Brackets indicate a favourable variance)

Overall, the Service Area managers and Local and Outside Boards are projecting a favourable tax supported variance which is within 1% of the overall net tax levy. The Enterprise Service Area managers are predicting a favourable variance of slightly over 1% of the Enterprise budget.

REPORT

A. PROJECTED YEAR END VARIANCE

Staff have examined expenditures as of August 31, 2012 and compared them to the Council approved operating budget. Departments reviewed the financial information and were asked to provide a projection of the anticipated year end position for their department and comment on significant deviations from budget.

It should be noted that forecast variances are subject to change based on improved financial information throughout the year. The chart that follows provides a summary of the projected year end variance position by Service Area based on information received from Service Area management (brackets indicate a favourable variance):

Summary of Projected Year End Operating Variance for 2012

	Total Annual Budget for Year 2012 ($)	Projected Variance at Dec 31, 2012 ($)	Projected Variance at Dec 31, 2012 (%)
Tax Supported			
City Departments	$ 93,948,000	$ 1,442,000	1.5%
General Revenues and Expenses	$ (161,795,000)	$ (980,000)	(0.6%)
Sub-Total City Departments and Financing	$ (67,847,000)	$ 462,000	0.3%
Local Boards	$ 40,728,000	$ (700,000)	(1.7%)
Grants, Outside Boards and Agencies	$ 27,119,000	$ (290,000)	(1.1%)
Total Local and External Boards	$ 67,847,000	$ (990,000)	(1.5%)
Total Tax Supported	**$ -**	**$ (528,000)**	**(0.3%)**
Enterprise Budgets			
Water	$ -	$ (175,000)	(0.8%)
Wastewater	$ -	$ (250,000)	(1.0%)
OBC	$ -	$ (70,000)	(2.9%)
Court Services	$ -	$ (124,000)	(5.1%)
Total Enterprise Budgets	**$ -**	**$ (619,000)**	**(1.2%)**

***(Brackets indicate a favourable variance)

Note: Enterprise budget show a net zero budget due to revenue fully offsetting anticipated expenditures. The % shown is based on total expenditures.

Tax Supported Budget Variance Overview

The tax supported budget has an overall projected favourable variance of $528,000. Of this, the City Departments are projecting a net unfavourable variance of $1,442,000. General revenues are indicating a positive variance of $980,000 which includes a one-time $1,500,000 favorable variance from a change in timing of dividend payment from Guelph Municipal Holdings Inc offset by $530,000 lower than budgeted tax collections including write offs.

Local Boards which include Police and Library have forecast a positive variance of $700,000. Outside boards, shared services, social housing and child care assistance have projected a favourable City share of the year end variance of $290,000.

Tax Supported Variance by Service Area

Significant operational variances are outlined below summarized by Service Area (see appendix 1).

CAO Office and Council

- The CAO Office is tracking close to budget and with no significant variance for the end of the year. Council is expecting a small $20,000 positive variance from unspent training allocation.

Operations, Transit & Emergency Services

- The net projected variance for Operations, Transit and Emergency Services is a combined unfavourable position of $460,000.
- Transit are projecting an unfavorable variance of $600,000 due to increased fuel and maintenance costs, lower than budgeted pass sales and a negative impact of the mobility fare parity.
- Public works are expecting a favorable $340,000 variance due to lower than expected winter control costs in early 2012 offset by higher than expected fuel consumption and street lighting energy costs.
- Emergency Services are projecting an unfavorable $200,000 variance for 2012.

Planning & Building, Engineering & Environmental Services

- This area is expecting a favourable variance of $73,000 due to higher planning and building revenues offset by higher than budgeted insurance and property tax costs from a new facility in Solid Waste.

Community & Social Services

- Community and Social Services are currently projecting a combined $175,000 unfavourable variance. This is due to lower than budgeted recreation program revenue collection and increased facility repair costs. There is a positive offset from changes to provincial funding and youth shelter funding.

Corporate and Human Resources

- Corporate and Human Resources are currently projecting a negative variance of $900,000 for the end of 2012 primarily related to OMB hearings and significant ongoing litigation costs. These litigation costs are unbudgeted for 2012 and have historically been funded from reserves. Please refer to the Litigation Status Report provided to Council for more information.

Finance and Enterprise

- Finance and Enterprise are not projecting a year end variance for 2012. Current surpluses exist for Downtown Renewal but will be transferred to reserves to cover grant awards in 2013.

Local Boards

- Library does not anticipate a significant year end variance.
- Police are forecasting a $700,000 favourable year end variance. This is due to significant savings from position vacancies and higher recoveries from the Ontario Police College.

Outside Boards & Agencies

- Overall, outside boards, grants and agencies are currently projecting a combined $290,000 favourable variance. Of this, Social assistance is expecting a $10,000 favourable variance due to lower than expected caseload offset by increased shelter use. Social housing are expecting a $280,000 favourable variance due to savings in monthly subsidy payments to housing providers and lower property taxes and utility costs.

General Revenues and Expenditures

- There is a projected overall favorable variance of $980,000 for General Revenues and Expenditures.
- There is a projected one-time $1,500,000 favorable variance due to the change in timing of dividend revenue from Guelph Municipal Holdings Inc. The dividend will now be declared and paid quarterly rather than annually.
- Tax Collection is expecting a net $530,000 unfavourable variance. This is due to significant additional in year tax write offs and vacancies, but is offset by approximately $150,000 additional payments in lieu of taxes.

Enterprise

Overall, the Enterprise budgets are expecting $619,000 favourable variance primarily from higher water and wastewater revenue levels. Court Services are also expecting a positive variance.

Water Works

- Water is currently projecting a favourable $175,000 year end variance. Water revenue is currently tracking above forecast due to the fluctuations of water consumption offset by increased operating expenditures.

Wastewater

- Wastewater is currently projecting a favourable $250,000 year end variance. Wastewater revenues are tracking above budget due to increased volume. Operating expenditures are tracking close to budget and a significant year end variance is not expected.

Ontario Building Code

- OBC is currently projecting a favourable $70,000 year end variance due to increased permit revenues offset by higher staffing costs.

Court Services

- Court Services are projecting a $124,000 favourable year end variance. This is due to increased revenue and cost savings that are expected to continue to the end of the year.

B. IDENTIFIED CORPORATE RISK AREAS

The following key risk areas have been identified corporately as having a possible negative impact on the 2012 operating results.

Fuel Costs

Projected negative variances have been identified due to higher than budgeted fuel costs particularly in the transit area.

Legal Costs

Legal expenses related to ongoing litigation is not currently incorporated into the operating budget and has historically been funded from the OMB and Other Litigation Reserve. Ongoing non-OMB litigation costs have increased significantly since the June 2012 variance report. Please see the Legal Status Council report provided by Legal Services on Sept 24, 2012 for more information on litigation.

Tax Collection

The Tax Department are reporting significantly higher than budgeted write offs due to successful MPAC assessment appeals. An additional risk has been identified of a potential significant shortfall in supplementary tax revenue but is dependent on construction completion. Currently we are forecasting achieving the target for supplementary taxes.

Recreation Revenue

Overall recreation revenue collection is lower than budgeted. This is due to lower enrollment in the programs being offered possibly due to general economic factors. The current revenue projection has improved since previously reported in the June variance report due to the positive impact of the fall program revenue.

CORPORATE STRATEGIC PLAN

The Corporate Strategic Plan objective of Organizational Excellence will be met through ongoing monitoring of the City budget and mitigation of negative variances as part of *building robust systems and frameworks aligned to strategy.*

FINANCIAL IMPLICATIONS

Favourable year-end variances have historically been transferred to the appropriate Tax or Enterprise rate stabilization reserves and capital reserve funds. Unfavorable variances will be addressed through mitigation measures as necessary.

DEPARTMENTAL CONSULTATION/CONCURRENCE

Departments must manage their programs according to municipal standards and within the approved budget. The responsibility of monitoring the operating budget is shared by Finance and the Departments managing their programs. Department managers were provided financial information based on expenditures to August 31, 2012 and provided projections based on available information in consultation with Finance.

COMMUNICATIONS

Operating variance reports are prepared periodically for Council to monitor projections for year-end variances and to compare actual results against budget. Finance and Executive Team have committed to producing five operating variance reports for the year. This is the third operating variance report for 2012.

ATTACHMENTS

Appendix 1 – Operating Budget Variance Aug 31, 2012 – Department Summary

"original signed by Colm Lynn"

Prepared By:
Colm Lynn, CGA
Senior Corporate Analyst
519-822-1260 ext 2321
colm.lynn@guelph.ca

"original signed by Albert Horsman"

Recommended By:
Albert Horsman
Executive Director Finance and
Enterprise and City Treasurer
519-822-1260 ext 5606
al.horsman@guelph.ca

Appendix 1
Operating Budget Variance based on Aug 31, 2012
City of Guelph: Departmental Summary

	Total Annual Budget for Year 2012 ($)	Projected Variance at Dec 31, 2012 ($)	Projected Variance at Dec 31, 2012 (%)	Comments
TAX SUPPORTED				
City Departments				
CAO - ADMINISTRATION AND COUNCIL	$ 1,626,000	-$ 20,000	(1.2%)	Slight positive training variance projected.
OPERATIONS, TRANSIT & EMERGENCY SERVICES	$ 49,134,000	$ 460,000	0.9%	Savings in winter control due to mild winter offset a negative variance in Transit of approximately $600k due to fuel and maintenance and $250k negative variance in street lighting. Emergency Services expect an unfavorable $200k due to compensation and fuel.
PLANNING, BUILDING, ENGINEERING & ENVIRONMENTAL SERVICES	$ 14,528,000	-$ 73,000	(0.5%)	Higher planning revenues offset by increased property taxes and insurance costs in Solid Waste Department.
COMMUNITY & SOCIAL SERVICES	$ 15,725,000	$ 175,000	1.1%	Higher than expected maintenance costs, and lower program revenues in Recreation Dept.
CORPORATE & HUMAN RESOURCES	$ 8,665,000	$ 900,000	10.4%	OMB related costs historically funded through reserves and significantly increased costs of ongoing litigation.
FINANCE AND ENTERPRISE	$ 4,270,000	$ -	0.0%	No significant variance anticipated.
TOTAL CITY DEPARTMENTS (excl Financing)	**$ 93,948,000**	**$ 1,442,000**	**1.5%**	
GENERAL EXPENSES AND CAPITAL FINANCING	-$ 161,795,000	-$ 980,000	(0.6%)	$1.5M in one-time hydro dividend offset by increased tax write offs and vacancies
TOTAL CITY DEPARTMENTS (incl Financing)	**-$ 67,847,000**	**$ 462,000**	**0.3%**	
Local and Outside Boards				
LOCAL BOARDS	$ 40,728,000	-$ 700,000	(1.7%)	Savings from position vacancies and increased Ontario Police College recoveries.
OUTSIDE BOARDS & AGENCIES	$ 25,936,000	-$ 290,000	(1.1%)	Lower than expected caseload in Ontario Works and significant savings in Social Housing due to lower property taxes and heating costs.
GRANTS	$ 1,183,000	$ -	0.0%	No significant variance projected.
Subtotal Grants, Local and Outside Boards & Agencies	**$ 67,847,000**	**-$ 990,000**	**(1.5%)**	
TOTAL TAX SUPPORTED (incl Outside Boards, Grants and Financing)	**$ -**	**-$ 528,000**	**(0.3%)**	
ENTERPRISE - USER PAY				
WATER REVENUE	-$ 21,232,000	-$ 250,000	1.2%	Higher volume consumed due to summer drought conditions.
WATER OPERATIONS	$ 21,232,000	$ 75,000	0.4%	Distribution system maintenance's soil disposal costs are the main driver of the unfavourable variance.
SUB-TOTAL WATER WORKS	**$ -**	**-$ 175,000**	**(0.8%)**	
WASTEWATER REVENUE	-$ 24,594,000	-$ 250,000	1.0%	Higher volume related revenue than forecasted.
WASTEWATER OPERATIONS	$ 24,594,000	$ -	0.0%	No significant variance projected.
SUB-TOTAL WASTEWATER	**$ -**	**-$ 250,000**	**(1.0%)**	
ONTARIO BUILDING CODE REVENUE	-$ 2,400,000	-$ 200,000	0.0%	No significant variance projected.
ONTARIO BUILDING CODE COSTS	$ 2,400,000	$ 130,000	0.0%	No significant variance projected.
SUB-TOTAL OBC	**$ -**	**-$ 70,000**	**(2.9%)**	
COURT SERVICES REVENUE	-$ 2,419,000	-$ 61,000	0.0%	Projecting increased revenue by year end.
COURT SERVICES EXPENSES	$ 2,419,000	-$ 63,000	0.0%	Projecting an overall positive variance at year end .
SUB-TOTAL COURTS	**$ -**	**-$ 124,000**	**(5.1%)**	
TOTAL ENTERPRISE / USER PAY	**$ -**	**-$ 619,000**	**(1.2%)**	

(Brackets indicate a favourable variance)