HALIFAX
REGIONAL MUNICIPALITY

PO Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

Item No. 11.3.1

Halifax Regional Council
May 26, 2009

TO: Mayor Kelly and Members of Halifax Regional Council

SUBMITTED BY: Andrew Younger

Councillor Andrew Younger, Chair
Energy and Underground Services Advisory Committee

DATE: May 7, 2009

SUBJECT: **Guiding Principles: Energy Efficiency Funding Strategy**

ORIGIN

January 16, 2009 Energy and Underground Services Advisory Committee.

April 24, 2009 Energy and Underground Services Advisory Committee.

RECOMMENDATION

It is recommended that Regional Council:

1. Approve the concept of using energy savings from projects to fund future energy efficiency projects with the following guiding principles as per the business case in the April 24, 2009 staff report:
   - Energy projects shall be considered on a case by case basis.
   - Energy efficiency savings shall be recovered and allocated to the Energy and Underground Service Co-Location Reserve
   - Energy efficiency funding in the Reserve Q131 shall not be permitted to exceed $2 million.
   - Non repayable loans shall only be considered for preliminary energy efficiency studies or audits and can not exceed 10% of funds available in the reserve.
   - Projects that must be submitted and approved as part of the capital budget process do not require EUGS committee approval.

BACKGROUND/DISCUSSION

At the January 16, 2009 Energy and Underground Services Advisory Committee meeting, a report regarding Energy Efficiency Funding Strategy (dated January 14, 2009) was presented by staff. The Committee endorsed the staff recommendation with an amendment, i.e. the Committee recommended that *all* energy savings from projects be funded through the Energy and Underground Service Co-Location Reserve to fund future energy efficiency projects. With this amendment staff wanted to ensure there would be no confusion in the utilizing of the EUGS Reserve as a self sustaining funding mechanism; therefore, the recommendation went back to staff and guiding principles were developed.

At the Energy and Underground Services Advisory Committee meeting of April 24, 2009, the Committee passed a motion amending their original motion of January 16, 2009 to incorporate the guiding principles, and to approve the concept of using energy saving from projects to fund future energy efficiency projects with the guiding principles.

BUDGET IMPLICATIONS

Please refer to the attached staff report dated March 10, 2009.

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

ALTERNATIVES

Staff have not suggested alternatives.

ATTACHMENTS

Attachment 'A': March 10, 2009 staff report to the Energy and Underground Services Advisory Committee.

Attachment 'B': January 14, 2009 staff report to the Energy and Underground Services Advisory Committee.

A copy of this report can be obtained online at http://www.halifax.ca/council/agendasc/cagenda.html then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Sheilagh Edmonds, Legislative Assistant

ATTACHMENT 'A'

HALIFAX
REGIONAL MUNICIPALITY

PO Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

Energy and Underground Services Committee
April 24, 2009

TO: Andrew Younger, Chair and Members of Energy and Underground Services Committee

SUBMITTED BY: Phillip Townsend, Acting Director, Infrastructure and Asset Management

DATE: March 10, 2009

SUBJECT: **Guiding Principles: Energy Efficiency Funding Strategy**

ORIGIN

Energy Efficiency Funding Strategy EUGS Report and amended recommendation from January 16, 2009 to:

1. *Approve in principle the concept of using **all** energy savings from projects to fund future energy efficiency projects.*
2. *Approve amendments to the Energy and Under Ground Services Co-Location Reserve business case as attached in Appendix B to allow energy efficiency savings to be directed into the reserve.*

RECOMMENDATION

1. **Approve the concept of using energy savings from projects to fund future energy efficiency projects with the following guiding principles as per the attached business case:**
   - Energy projects shall be considered on a case by case basis.
   - Energy efficiency savings shall be recovered and allocated to the Energy and Underground Service Co-Location Reserve
   - Energy efficiency funding in the Reserve Q131 shall not be permitted to exceed $2 million.
   - Non repayable loans shall only be considered for preliminary energy efficiency studies or audits and can not exceed 10% of funds available in the reserve.
   - Projects that must be submitted and approved as part of the capital budget process do not require EUGS committee approval.

2. **Amend the original January 16, 2009 EUGS Report to incorporate the guiding principles for Regional Council approval as per Appendix A.**

BACKGROUND

On January 16, 2009 staff presented to the Energy and Underground Services Committee a report and recommendations on a sustainable funding model for energy efficiency projects. The committee made an amendment to the report's recommendation (to utilize all of the energy efficiency savings from projects to fund future energy efficiency projects).

Prior to forwarding the report to HRM Regional Council for final approval, staff require clarity on the intent of the recommendation to avoid potential confusion in the utilizing of the EUGS Reserve as a self sustaining funding mechanism.

Factors influencing energy efficiency investments can be complex. Due to financial and human resource constraints, HRM has a long term strategy to implement energy efficiency projects in buildings both new and retrofit. A complex integrated decision making matrix is used to prioritize projects in retrofit applications where several factors influence the timing and level of energy efficiency investments in existing buildings. Examples include:

- Achievability and sustainability of savings? Are savings large enough and with enough certainty to justify mobilization of project staff and limited capital resources? (A detailed energy audit helps in this pre-screening criteria).
- HRM's ability to finance the project? (Can HRM energy efficiency investments be assisted from other levels of government?)
- How does the project fit within the long term capital planning strategy? Will the building be a long term asset of HRM? Are there any future avoided costs in implementing the energy efficiency improvements now?
- Project management issues, timing, and ease of execution? Is the project complex? Can it be completed within one budget cycle? Does HRM have the neccessary project management expertise to execute?
- Does the project address other operational factors other than energy? I.e., improve air quality, reduce maintenance costs, remove an oil tank or other environmental liabilities, etc?

DISCUSSION

Staff have discussed potential issues for confusion and possible conflict with the committee's intent. It is felt that the following guiding principles would help streamline future approval and implementation of projects while avoiding staff confusion.

Guiding Principles

#1. Energy projects shall be considered on a case by case basis.

Explanation: Although a great deal of circumstances can be envisioned, opportunities and the "fine print" for highly leveraged cost sharing can be difficult to predict. Ultimately the Energy and Underground Services Committee should have the authority and discretion to recommend projects to Regional Council for approval.

#2. Energy efficiency savings will be recovered on a permenant basis.

Explanation: Energy efficiency savings should be recovered indefinitely as these costs will no longer be incurred. With long term benefits for the Municipality both financial and environmental, managers should want to participate in these projects.

#3. Non repayable loans shall only be considered for preliminary energy efficiency studies or audits and can not exceed 10% of funds available in the reserve.

Explanation: Non repayable loans should only be considered for preliminary feasibility studies or audits to initiate projects. Non repayable loans should not be considered for the capital funding of energy efficiency projects outside of the normal course of capital/operating budget planning and approvals due to specific reporting requirements. Non repayable loans can not exceed 10% of the funds available in the reserve in any one year. A cashflow prediction of the financial sustainability of the reserve should be updated yearly.

#4 Energy efficiency funding in the Reserve Q131 shall not be permitted to exceed $2 million.

Explanation: Projects typically take 2-3 years to plan, fund and execute. HRM has limited resources to successfully manage the implementation of large scale energy efficiency projects. A cap on the reserve should be implemented to ensure there is not a backlog of projects not getting implemented. The initial January 16, 2009 report had suggested a cap of $3 million for energy efficiency projects, however it was thought better to simplify the Q131 Reserve Business Case by harmonizing the energy efficiency cap with the funding for Co-Location projects.

#5 Projects that must be submitted and approved as part of the capital budget process do not require EUGS committee approval.

Explanation: It is felt once the initial list of projects already identified and funded in 2008-2009-2010 that HRM staff should be able to plan projects through the Capital budget processes. This should help streamline the implementation of projects while ensuring accountability.

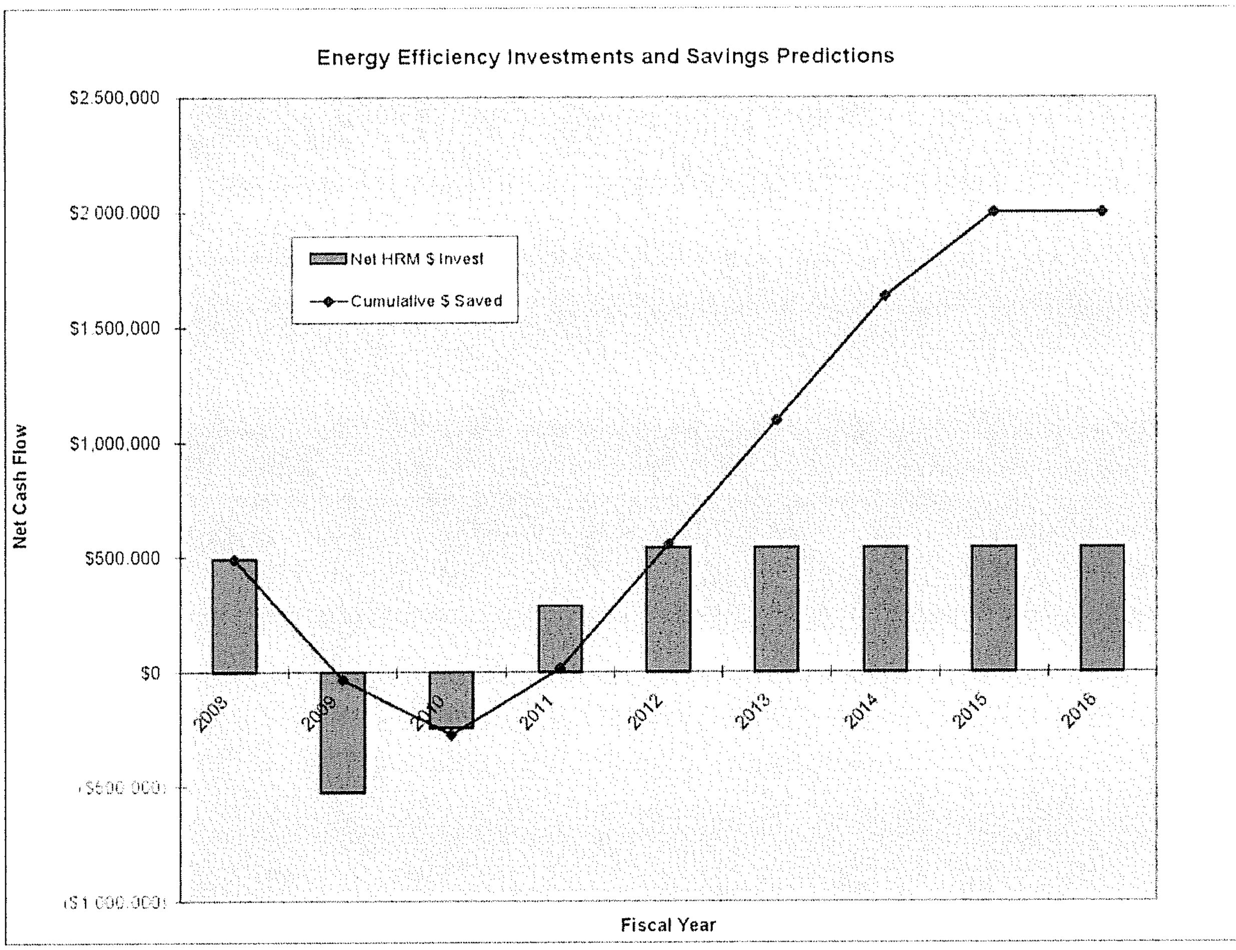
Working collaboratively with the Enegry Auditor and their team, Finance will: Administer the reduction of budgets due to the energy savings and fund the Energy and Underground Services Co-location Reserve Q131. If the Reserve's $2 million limit is reached, the energy savings will be allocated strategically to bolster the overall financial health of the municipality.

BUDGET IMPLICATIONS

There are no budget implications to this recommendation. The funding and subsequent approval of energy efficiency projects will be effected.

Working collaboratively with the Enegry Auditor and their team, Finance will: Administer the reduction of budgets due to the energy savings and fund the Energy and Underground Services Co-location Reserve Q131. If the Reserve's $2 million limit is reached, the energy savings will be allocated at the direction of EMT and Council.

A cash flow model of energy efficiency expenditures and savings flowing through the reserve is shown below.



FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

ALTERNATIVES

None.

ATTACHMENTS

Appendix A - Amended Energy Efficiency Funding Strategy EUGS Report, January 16, 2009 to submit to Regional Council for final approval.

Appendix B - Proposed Amended Business Case EUGS Reserve Q131

A copy of this report can be obtained online at http://www.halifax.ca/council/agendasc/cagenda.html then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Julian Boyle, Energy Auditor, IAM, 476-8075

Cathie O'Toole

Report Approved by: Cathie O'Toole, Director, Finance

APPENDIX A - AMENDED JANUARY, 16 2009 EUGS report

HALIFAX
REGIONAL MUNICIPALITY

PO Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

Energy and Underground Services Committee
April 24, 2009

TO: Andrew Younger, Chair and Members of Energy and Underground Services Committee

SUBMITTED BY: ______________________________
Phillip Townsend., Acting Director, Infrastructure and Asset Management

DATE: March 10, 2009

SUBJECT: **Energy Efficiency Funding Strategy**

ORIGIN

- 4 Approved HRM EcoTrust Applications 2008 for $1,628,342 in funding
- 2008-2009 Capital and Operating Budgets, Infrastructure and Asset Management
- Regional Council Report, EcoTrust/Energy Efficiency Funding, January 22, 2008
- Community Energy Plan (and corporate actions), approved by Council December 4, 2007
- Greenhouse Gas Reduction Plan, approved by Council 2005

RECOMMENDATION

1. Approve the concept of using all energy savings from projects to fund future energy efficiency projects as per the amendments to the Energy and Under Ground Services Co-Location Reserve business case as attached in Appendix A.

BACKGROUND

Last year HRM spent over $20 million on energy costs. Approximately 40% of these costs are electricity, 15% heating fuel (oil, natural gas), and 45% transportation fuel (gas, diesel). Despite a recent dramatic decline in the cost of oil, it is expected that the majority of these costs will continue to increase.

HRM has successfully completed a wide variety of energy efficiency projects over the last several years (building retrofits, LED traffic lights, etc). Over $5 million has been spent on various corporate energy efficiency projects which save the municipality over $750,000 per year in energy costs. Projects also have several significant benefits beyond the utility operating cost savings including reducing maintenance costs, re-capitalizing older systems (and thus avoiding future emergency replacements), improving building conditions (air quality, lighting levels) as well as meeting a key Council environmental objective of reducing corporate greenhouse gas emissions by 20% by 2012. HRM has implemented a detailed corporate bench marking process for buildings to track and prioritize energy initiatives.

DISCUSSION

High leverage with a high degree of cost sharing, reducing HRM cost and risk

Despite continuing policy shifts and program redevelopments over the last 5 years, Federal and Provincial departments continue to put more emphasis on energy efficiency and environmental funding. HRM has been very successful in partnering with a wide variety of Federal and Provincial departments in making energy efficiency investments. Energy efficiency investments would most likely continue to be made by HRM with or without these partnering opportunities as the business cases are typically very strong or the recapitalization needs too urgent. By accessing Federal and Provincial programs it greatly increases the size, scope and accelerates the timing of these investments as well as reducing the project execution and budget risks.

Of the $5 million recently invested in specific energy efficiency projects, $2 million has been committed through the HRM budget process (typically repayable reserve funded), with the balance of funding from external sources. Despite the benefits of energy efficiency projects, internal funding for them will always continue to be a challenge, as there are many demands on HRM capital, and by their nature energy efficiency projects tend to be very capital intensive.

HRM Financial Reserves are the correct financial mechanism for the funding of energy efficiency projects. There is a high degree of accountability to ensure projects achieve the anticipated benefits. However there are two significant problems in continuing to fund energy efficiency projects through the current model:

> **Projects require seed money.** In order to properly scope, accurately budget, and secure cost sharing, a great deal of effort and upfront expense occurs. Although not significant in the overall cost of execution (these upfront costs typically run 5-10% the overall project), it is usually the most difficult part of the project. Without proper audits, feasibility studies and project planning, project results can be less than optimum. Securing sustainable seed funding for these costs and other project start-up costs would reduce current implementation barriers by smoothing out project development and execution, regardless of the status of cost sharing.

HRM Reserve funding is limited. With energy efficiency projects costing from several hundred thousand to several million, HRM reserves are typically used as an HRM funding source. Despite successes, HRM has accumulated a long list of underfunded, partially complete projects due to these constraints.

Unique Opportunity in 2009

In January 2008, HRM staff identified an initial list of short, medium and long term energy efficiency projects, creating a scope, budget and savings opportunity list. Staff also identified several new and existing sources of external funding that are targeted towards energy efficiency. With Council's approval, detailed funding applications for cost sharing with Provincial and Federal programs were submitted and have been approved.

2009 presents a unique opportunity due to the extremely high leveraging of external funding secured in the current project queue. HRM has been very successful in moving the energy efficiency cost sharing ratio from a "normal" range of 2:1 ($2 for every $1 of HRM budget) to 5:1. This is in large part due to the Province's EcoTrust program that will expire in 2010. HRM finds itself in the circumstance that it will not have to borrow money from itself (through a Reserve) to fund the initial HRM Capital as it has in the past. It is proposed to use this opportunity in 2009 to implement a longer term, self sustaining funding model for energy efficiency projects that do not effect HRM's debt or other Capital funding.

The recommendation under discussion serves two purposes:

1. It would confirm the resolution from the January 16, 2009 EUGS committee meeting to utilize all of the energy savings from projects to fund future projects and:

2. Amending the EUGS Reserve is a house-keeping item that will allow the EUGS Reserve to be used as the energy efficiency savings account. Other reserves could be used, however this seems like the most logical reserve as the Councillors on the EUGS committee typical vet most projects and energy initiatives. An amended reserve business case is attached in Appendix A.

The proposed sustainable funding model will increase HRM's capacity to execute energy efficiency projects. The ability to sustainably fund energy efficiency projects is a good news story. Very few organizations have the ability to self fund and execute projects with so many benefits.

BUDGET IMPLICATIONS

There are no initial budget implications to this recommendation. Future operational budgets will be effected as energy efficiency savings derived from completed energy efficiency projects will flow into the EUGS Reserve.

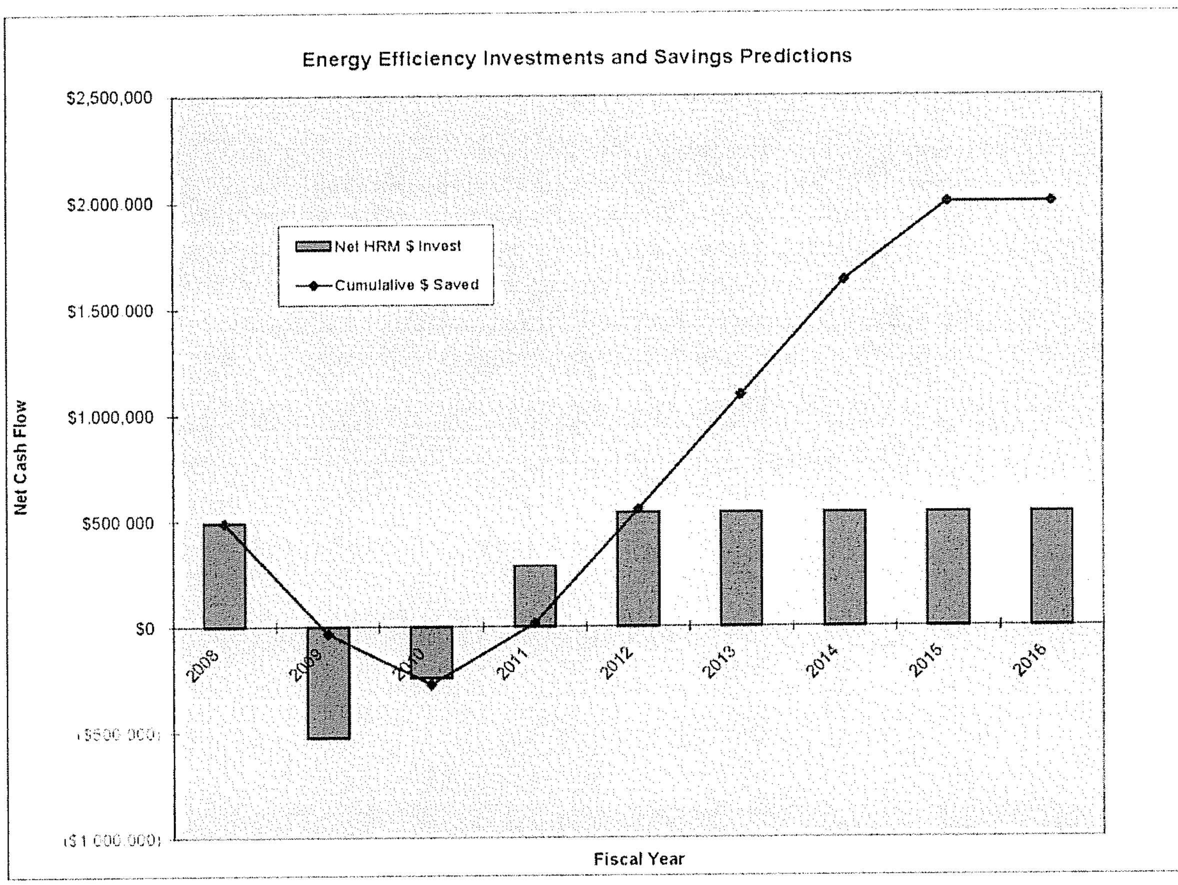
Similar to current reserve repayments on recent projects, future EUGS Reserve repayments will have to be budgeted for yearly. TPW Operations are highly supportive of the concept as there are many positive impacts of energy efficiency projects beyond utility savings and the reserve repayments eliminate volatility within the energy operating budget.

Proposed Project List

All identified 2009 projects are fully funded and will be given a green light consistent with all necessary approvals after a strategy is adopted.

Project	Total Project Budget	Expected Energy Savings	Expected HRM Contribution
Metro Transit EPC2	$840,000	$70,000	$350,000
Centennial Solar HW	$556,000	$45,000	$150,000
Sackville Sports Stadium	$3,163,105	$200,000	$400,000
Woodside Fire Station #15	$80,000	$10,000	$10,000
King Street Fire Station #13	$45,000	$8,000	$0
Highfield Park	$40,000	$12,000	$10,000
Austria Lake - Musquodoboit Fire Station #25	$18,000	$4,000	$10,000
Waverley Fire Station #41	$22,000	$3,000	$5,000
Mid-Musquodobuit Fire Station #38	$30,000	$3,000	$10,000
Lake Echo Fire Station #21	$28,000	$3,000	$10,000
Sheet Harbour Fire Station #28	$18,000	$2,000	$5,000
Halifax Police Station	$322,237	$110,000	$60,000
Halifax City Hall	$230,000	$60,000	$30,000
Public Gardens Greenhouses	$71,000	$9,000	$45,000
Total Project Cost	**$5,363,342**	**$539,000**	**$1,095,000**

A cash flow model of energy efficiency expenditures and savings flowing through the reserve is shown below.



FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

ALTERNATIVES

1. The EUGS committee could choose not capture energy savings to fund future projects. Projects could continue to be funded in an ad-hoc basis or partially funded.

ATTACHMENTS

Appendix A - Proposed Amended Business Case EUGS Reserve Q131

A copy of this report can be obtained online at http://www.halifax.ca/council/agendasc/cagenda.html then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Julian Boyle, Energy Auditor, IAM, 476-8075

Report Approved by: Mike Labrecque, P.Eng., Director, Transportation & Public Works

Report Approved by: Cathie O'Toole, Director, Finance

APPENDIX B - AMENDED BUSINESS CASE

Reserves Business Case

Halifax Regional Municipality • Financial Services • • 490-6470 • Fax: 490-6238

Date: April 24, 2009
Contact: Cathie O'Toole, Director, Finance

Energy and Underground Services Reserve

Purpose

The purpose of the Energy and Underground Services Reserve is to enable the municipality to respond quickly to opportunities that may arise outside the normal operating and capital budget during the fiscal year, and to leverage funds from other levels of government and external agencies to either co-locate under ground services, or to fund energy efficiency projects. Co-location Capital projects that can be planned in advance and are not contingent upon receiving funding from third parties, will be submitted as part of the regular capital business planning/budget process for consideration. Savings from energy efficiency projects will fund the reserve and those savings are to be used only for future energy efficiency projects.

Source of Funds

There are seven sources of funds for this reserve:

1. **Funds received September 2004 regarding sale of natural gas orphan systems on Troop Avenue and Lakeside Terrace - $99,609.79.** HRM constructed these orphan systems through existing capital projects in prior fiscal years.

2. **Funds received for HRM services (mostly staff time) provided to Heritage Gas during prior fiscal years - $60,820.** In September 2004, HRM billed for these prior year services and received payment from Heritage Gas.

On November 2, 2004, Council approved a Development Agreement between Heritage Gas and HRM. Services have been billed on a quarterly basis and recorded as a recovery within the budget where the cost of services was recorded - PWT - Right of Way Services. The current Development Agreement expires at the end of 2009, it is anticipated that similiar cost recovery mechanisms will be put in place in the renewed agreement.

3. **Transfer of the Balance of HRM Capital Account #CSE0900 regarding Co-location of Underground Services - $121,000**. This project was approved as part of the 2004/05 capital budget in the amount of $250,000. The capital project objective is to take advantage of opportunities to co-locate utilities in existing capital projects such as Harbour Solutions trenching or existing TUGS works.

4. **The net proceeds from any future sales of natural gas orphan system or conduit assets.** Costs have been recovered from the past sale of orphan systems for Hollis Street, Chestnut, and Dawson. Currently, the only assets which could be sold in the future are segments of conduit in Wellington, Spring, Elliott, and Cranston, through which natural gas line, fibre optic of telecom cables could be threaded in the future.

5. The Provincial Department of Energy committed to pay HRM $30,000 per year for 10 years, commencing in 2004/05 to be used toward projects which further development of the natural gas distribution system in HRM. On an annual basis projects are reviewed with them that could be funded directly by the Department of Energy contribution, and any remaining balance shall be deposited in the Energy and Underground Services Reserve, with the understanding that it must be used for future natural gas related projects.

6. **Energy efficiency savings.** A source of funds would be energy efficiency savings derived from energy efficiency projects, as well as interest and prinicpal repayments from energy efficiency project loans.

7. Future allocations to the reserve will be reviewed in conjunction with the annual corporate scorecard/business planning and budget process.

Interest will be paid on the funds in accordance with the HRM Reserves Policy.

Application of Funds

The funds in the Energy and Underground Services Reserve can be accessed on a repayable or non-repayable basis subject to the approval of the Energy and Underground Services Sub-committee of Council, EMT and Council. Funds may be utilized for the following applications from their dedicated sources:

- Co-location of natural gas lines with HRM capital projects, or projects led by others
- Co-location of fibre optic cable with HRM capital projects, or projects led by others
- Under grounding telecom & power lines in conjunction with HRM capital projects, or projects led by others
- Other projects may be considered if they pertain to under ground services or co-locations
- Energy efficiency projects (to be a repayable loan)
- Preliminary energy efficiency studies, or audits (to be a non repayable grant) and can not exceed 10% of funds available in the reserve.

Time Line

The adequacy of the balance in the reserve will be assessed on an annual basis, and corrective funding actions taken if necessary. A minimum of balance of $200 thousand will be maintained in the reserve to enable response to sudden unanticipated opportunities. The balance in the reserve will not be permitted to accumulate beyond $2 million dollars for Co-Location purposes or $2 million for energy efficiency projects.

Approval Process

The Energy and Under Ground Services sub-committee can initiate expenditures from the reserve subject to confirmation of the availability of funds, approval of the Director of Finance, and approval of EMT prior to going to Council for authorization in accordance with the Reserve Policy.

Attachment

Projected annual contributions, withdrawals and balances.

Approval

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CAO

ATTACHMENT 'B'

HALIFAX
REGIONAL MUNICIPALITY

PO Box 1749
Halifax, Nova Scotia
B3J 3A5 Canada

Energy and Underground Services Committee
January 16, 2009

TO: Andrew Younger, Chair and Members of Energy and Underground Services Committee

SUBMITTED BY: Phillip Townsend., Assistant Director, Infrastructure and Asset Management

DATE: January 14, 2009

SUBJECT: **Energy Efficiency Funding Strategy**

ORIGIN

- 4 Approved HRM EcoTrust Applications 2008 for $1,628,342 in funding
- 2008-2009 Capital and Operating Budgets, Infrastructure and Asset Management
- Regional Council Report, EcoTrust/Energy Efficiency Funding, January 22, 2008
- Community Energy Plan (and corporate actions), approved by Council December 4, 2007
- Greenhouse Gas Reduction Plan, approved by Council 2005

RECOMMENDATION

1. Approve the concept of using some or all energy savings from projects to fund future energy efficiency projects.
2. Approve amendments to the Energy and Under Ground Services Co-Location Reserve business case as attached in Appendix B to allow energy efficiency savings to be directed into the reserve.

BACKGROUND

Last year HRM spent over $20 million on energy costs. Approximately 40% of these costs are electricity, 15% heating fuel (oil, natural gas), and 45% transportation fuel (gas, diesel). Despite a recent dramatic decline in the cost of oil, it is expected that the majority of these costs will continue to increase.

HRM has successfully completed a wide variety of energy efficiency projects over the last several years (building retrofits, LED traffic lights, etc). Over $5 million has been spent on various corporate energy efficiency projects which save the municipality over $750,000 per year in energy costs. Projects also have several significant benefits beyond the utility operating cost savings including reducing maintenance costs, re-capitalizing older systems (and thus avoiding future emergency replacements), improving building conditions (air quality, lighting levels) as well as meeting a key Council environmental objective of reducing corporate greenhouse gas emissions by 20% by 2012. HRM has implemented a detailed corporate bench marking process for buildings to track and prioritize energy initiatives.

DISCUSSION

High leverage with a high degree of cost sharing, reducing HRM cost and risk

Despite continuing policy shifts and program redevelopments over the last 5 years, Federal and Provincial departments continue to put more emphasis on energy efficiency and environmental funding. HRM has been very successful in partnering with a wide degree of Federal and Provincial departments in making energy efficiency investments. Energy efficiency investments would most likely continue to be made by HRM with or without these partnering opportunities as the business cases are typically very strong or the recapitalization needs too urgent. By accessing Federal and Provincial programs it greatly increases the size, scope and accelerates the timing of these investments as well as reducing the project execution and budget risks.

Of the $5 million recently invested in specific energy efficiency projects, $2 million has been committed through the HRM budget process (typically repayable reserve funded), with the balance of funding from external sources. Despite the benefits of energy efficiency projects, internal funding for them will always continue to be a challenge, as there are many demands on HRM capital, and by their nature energy efficiency projects tend to be very capital intensive.

HRM Financial Reserves are the correct financial mechanism for the funding of energy efficiency projects. There is a high degree of accountability to ensure projects achieve the anticipated benefits. However there are two significant problems in continuing to fund energy efficiency projects through the current model:

> **Projects require seed money**. In order to properly scope, accurately budget, and secure cost sharing, a great deal of effort and upfront expense occurs. Although not significant in the overall cost of execution (these upfront costs typically run 5-10% the overall project), it is usually the most difficult part of the project. Without proper audits, feasibility studies and project planning, project results can be less than optimum. Securing sustainable seed funding for these costs and other project start-up costs would reduce current implementation barriers by smoothing out project development and execution, regardless of the status of cost sharing.

HRM Reserve funding is limited. With energy efficiency projects costing from several hundred thousand to several million, HRM reserves are typically used as an HRM funding source. Despite successes, HRM has accumulated a long list of underfunded, partially complete projects due to these constraints.

Unique Opportunity in 2009

In January 2008, HRM staff identified an initial list of short, medium and long term energy efficiency projects, creating a scope, budget and savings opportunity list. Staff also identified several new and existing sources of external funding that are targeted towards energy efficiency. A future Council Report will outline the list of projects and potential sources of funding. With Council's approval, detailed funding applications for cost sharing with Provincial and Federal programs were submitted.

2009 presents a unique opportunity due to the extremely high leveraging of external funding secured in the current project queue. HRM has been very successful in moving the energy efficiency cost sharing ratio from a "normal" range of 2:1 ($2 for every $1 of HRM budget) to 5:1. This is in large part due to the Province's EcoTrust program that will expire in 2010. HRM finds itself in the circumstance that it will not have to borrow money from itself (through a Reserve) to fund the initial HRM Capital as it has in the past. It is proposed to use this opportunity in 2009 to implement a longer term, self sustaining funding model for energy efficiency projects that do not effect HRM's debt or other Capital funding.

The recommendation under discussion serves two purposes:

1. Staff are looking for direction from the EUGS committee to answer the following questions:
   Should energy savings be "captured" to fund future projects?
   How much of the savings should be "captured? 100%? 50% or some other amount?

2. Amending the EUGS Reserve is a house-keeping item that will allow the EUGS Reserve to be used as the energy efficiency savings account. Other reserves could be used, however this seems like the most logical reserve as the Councillors on the EUGS committee typical vet most projects and energy initiatives. An amended reserve business case is attached in Appendix B.

The proposed sustainable funding model will increase HRM's capacity to execute energy efficiency projects. The ability to sustainably fund energy efficiency projects is a good news story. Very few organizations have the ability to self fund and execute projects with so many benefits.

BUDGET IMPLICATIONS

There are no initial budget implications to this recommendation. Future operational budgets will be effected as energy efficiency savings derived from completed energy efficiency projects will flow into the EUGS Reserve. It is anticipated that TPW's Operations department will be most effected by the implementation of the concept.
As with all capital and reserve funded projects direction from Council is required to proceed. Future approval of energy efficiency projects and their subsequent funding will be effected as the EUGS reserve can be used as a source of funding. EUGS reserve funding can be issued on a repayable, or non-repayable basis to support capital initiatives.

Similar to current reserve repayments on recent projects, future EUGS Reserve repayments will have to be budgeted for yearly. TPW Operations are highly supportive of the concept as there are many positive impacts of energy efficiency projects beyond utility savings and the reserve repayments eliminate volatility within the energy operating budget.

Proposed Project List

All identified 2009 projects are fully funded and will be given a green light consistent with all necessary approvals after a strategy is adopted.

Project	Total Project Budget	Expected Energy Savings	Expected HRM Contribution
Metro Transit EPC2	$840,000	$70,000	$350,000
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Total Project Cost	**$5,363,342**	**$539,000**	**$1,095,000**

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

ALTERNATIVES

1. The EUGS committee could choose not capture energy savings to fund future projects. Projects could continue to be funded in an ad-hoc basis or partially funded.

ATTACHMENTS

Appendix A - Original Business Case EUGS Co-location Reserve
Appendix B - Proposed Amended Business Case EUGS Reserve

A copy of this report can be obtained online at http://www.halifax.ca/council/agendasc/cagenda.html then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by: Julian Boyle, PENG., Energy Auditor, IAM, 476-8075

Reserves Business Case

Halifax Regional Municipality • Financial Services • • 490-6470 • Fax: 490-6238

Date: January 18, 2005
Contact: Brad Anguish, Director, Environmental Management Services

Energy and Underground Services Co-Location Reserve

Purpose

The purpose of the Energy and Underground Services Co-Location Reserve is to enable the municipality to respond quickly to opportunities that may arise **outside** the normal operating and capital budget during the fiscal year, and to leverage funds from other levels of government and external agencies to co-locate under ground services such as natural gas conduit, fibre optic cable, power and telecom lines with other capital projects. Capital projects that can be planned in advance and are not contingent upon receiving funding from third parties, will be submitted as part of the regular capital business planning/budget process for consideration.

Source of Funds

There are five sources of funds for this reserve:

1. **Funds received September 2004 regarding sale of natural gas orphan systems on Troop Avenue and Lakeside Terrace - $99,609.79.** HRM constructed these orphan systems through existing capital projects in prior fiscal years. Money from the sale of these orphan system has been received and is being temporarily held in a balance sheet account pending approval of this reserve business case.

2. **Funds received for HRM services (mostly staff time) provide to Heritage Gas during prior fiscal years - $60,820.** In September 2004, HRM billed for these prior year services and received payment from Heritage Gas. As with the money received from the sale of the orphan systems noted above, this money is being temporarily held in a balance sheet account pending approval of this reserve business case.

On November 2, 2004, Council approved a Development Agreement between Heritage Gas and HRM. Future services will be billed on a quarterly basis and recorded as a recovery within the budget where the cost of services was recorded - PWT - Right of Way Services.

3. **Transfer of the Balance of HRM Capital Account #CSE0900 regarding Co-location of Underground Services - $121,000**. This project was approved as part of the 2004/05 capital budget in the amount of $250,000. The capital project objective is to take advantage of opportunities to co-locate utilities in existing capital projects such as Harbour Solutions trenching or existing TUGS works. To date $129,000 has been expended regarding the installation of two segments of conduit in Hollis Street as part of the Harbour Solutions project, to enable natural gas lines to be threaded at a future date. The balance of the Capital Account has not been identified to specific projects.

4. **The net proceeds from any future sales of natural gas orphan system or conduit assets.** Currently, the only asset which could be sold in the future is a segment of conduit in Hollis Street, through which natural gas line, fibre optic of telecom cables could be threaded in the future.

5. The Provincial Department of Energy has committed to pay HRM $30,000 per year for 10 years, commencing in 2004/05 to be used toward projects which further development of the natural gas distribution system in HRM. On an annual basis we will review projects with them that could be funded directly by the Department of Energy contribution, and any remaining balance shall be deposited in the Energy and Underground Services Reserve, with the understanding that it must be used for future natural gas related projects.

6. Future allocations to the reserve will be reviewed in conjunction with the annual corporate scorecard/business planning and budget process.

Interest will be paid on the funds in accordance with the HRM Reserves Policy.

Application of Funds

The funds in the Energy and Underground Services Co-location Reserve can be accessed on a repayable or non-repayable basis subject to the approval of the Energy and Underground Services Subcommittee of Council, EMT and Council. Funds may be utilized for the following applications:

- Co-location of natural gas lines with HRM capital projects, or projects led by others
- Co-location of fibre optic cable with HRM capital projects, or projects led by others
- Under grounding telecom & power lines in conjunction with HRM capital projects, or projects led by others
- Other projects may be considered if they pertain to under ground services or co-locations

Time Line

The adequacy of the balance in the reserve will be assessed on an annual basis, and corrective funding actions taken if necessary. A minimum of balance of $200 thousand will be maintained in the reserve to enable response to sudden unanticipated opportunities. The balance in the reserve will not be permitted to accumulate beyond $2 million dollars.

Approval Process

The Energy and Under Ground Services sub-committee of the Healthy, Sustainable, Vibrant Community theme team can initiate expenditures from the reserve subject to confirmation of the availability of funds, approval of the Director of Finance, and approval of EMT prior to going to Council for authorization in accordance with the Reserve Policy.

Attachment

Projected annual contributions, withdrawals and balances.

Approval

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CAO

Reserves Business Case

Halifax Regional Municipality • Financial Services • • 490-6470 • Fax: 490-6238

Date: December 9, 2008
Contact: Cathie O'Toole, Director, Infrastructure and Asset Management

Energy and Underground Services Reserve

Purpose

The purpose of the Energy and Underground Services Reserve is to enable the municipality to respond quickly to opportunities that may arise outside the normal operating and capital budget during the fiscal year, and to leverage funds from other levels of government and external agencies to either co-locate under ground services, or to fund energy efficiency projects. Co-location Capital projects that can be planned in advance and are not contingent upon receiving funding from third parties, will be submitted as part of the regular capital business planning/budget process for consideration. Savings from energy efficiency projects will fund the reserve and those savings are to be used only for future energy efficiency projects.

Source of Funds

There are six sources of funds for this reserve:

1. **Funds received September 2004 regarding sale of natural gas orphan systems on Troop Avenue and Lakeside Terrace - $99,609.79.** HRM constructed these orphan systems through existing capital projects in prior fiscal years. Money from the sale of these orphan system has been received and is being temporarily held in a balance sheet account pending approval of this reserve business case.

2. **Funds received for HRM services (mostly staff time) provide to Heritage Gas during prior fiscal years - $60,820.** In September 2004, HRM billed for these prior year services and received payment from Heritage Gas. As with the money received from the sale of the orphan systems noted above, this money is being temporarily held in a balance sheet account pending approval of this reserve business case.

On November 2, 2004, Council approved a Development Agreement between Heritage Gas and HRM. Future services will be billed on a quarterly basis and recorded as a recovery within the budget where the cost of services was recorded - PWT - Right of Way Services.

3. **Transfer of the Balance of HRM Capital Account #CSE0900 regarding Co-location of Underground Services - $121,000**. This project was approved as part of the 2004/05 capital budget in the amount of $250,000. The capital project objective is to take advantage of opportunities to co-locate utilities in existing capital projects such as Harbour Solutions trenching or existing TUGS works. To date $129,000 has been expended regarding the installation of two segments of conduit in Hollis Street as part of the Harbour Solutions project, to enable natural gas lines to be threaded at a future date. The balance of the Capital Account has not been identified to specific projects.

4. **The net proceeds from any future sales of natural gas orphan system or conduit assets.** Currently, the only asset which could be sold in the future is a segment of conduit in Hollis Street, through which natural gas line, fibre optic of telecom cables could be threaded in the future.

5. The Provincial Department of Energy has committed to pay HRM $30,000 per year for 10 years, commencing in 2004/05 to be used toward projects which further development of the natural gas distribution system in HRM. On an annual basis we will review projects with them that could be funded directly by the Department of Energy contribution, and any remaining balance shall be deposited in the Energy and Underground Services Reserve, with the understanding that it must be used for future natural gas related projects.

6. **Energy efficiency savings.** A source of funds would be energy efficiency savings derived from energy efficiency projects, as well as interest and prinicpal repayments from energy efficiency project loans.

7. Future allocations to the reserve will be reviewed in conjunction with the annual corporate scorecard/business planning and budget process.

Interest will be paid on the funds in accordance with the HRM Reserves Policy.

Application of Funds

The funds in the Energy and Underground Services Reserve can be accessed on a repayable or non-repayable basis subject to the approval of the Energy and Underground Services Sub-committee of Council, EMT and Council. Funds may be utilized for the following applications:

- Co-location of natural gas lines with HRM capital projects, or projects led by others
- Co-location of fibre optic cable with HRM capital projects, or projects led by others
- Under grounding telecom & power lines in conjunction with HRM capital projects, or projects led by others
- Other projects may be considered if they pertain to under ground services or co-locations
- Energy efficiency projects (to be a repayable loan)
- Preliminary energy efficiency studies, or audits (to be a non repayable grant)

Time Line

The adequacy of the balance in the reserve will be assessed on an annual basis, and corrective funding actions taken if necessary. A minimum of balance of $200 thousand will be maintained in the reserve to enable response to sudden unanticipated opportunities. The balance in the reserve will not be permitted to accumulate beyond $2 million dollars for Co-Location purposes or $3 million for energy efficiency projects.

Approval Process

The Energy and Under Ground Services sub-committee of the Healthy, Sustainable, Vibrant Community theme team can initiate expenditures from the reserve subject to confirmation of the availability of funds, approval of the Director of Finance, and approval of EMT prior to going to Council for authorization in accordance with the Reserve Policy.

Attachment

Projected annual contributions, withdrawals and balances.

Approval

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CAO

5.2 Energy Efficiency Projects Funding Strategy

A staff report dated January 14, 2009 entitled Energy Efficiency Funding Strategy was circulated.

Mr. Julian Boyle, Energy Auditor, addressed the Committee and noted that the circulated report had some minor revisions from the unsigned copy of the report which had been previously e-mailed, but the overall content was the same.

Mr. Boyle reviewed the report which outlined the concept of using energy savings from projects to fund the capital of future energy efficiency projects. In his presentation, he noted the following points:

- HRM's energy costs in 2008 were approximately $20 million–40% was electricity; 45% was transportation fuel (e.g. diesel gas); and 15% was heating fuel (oil, natural gas).
- Within the last seven or eight years, there has been approximately a 60% increase in energy costs; and electricity has increased 8-9%.
- In the last four years, over $5 million has been spent on corporate energy efficient projects and this has resulted in energy cost savings of $750,000 per year.
- Other benefits include: saving on maintenance costs; recapitalizing older systems, thereby avoiding costs; and improving building conditions.
- Another significant benefit is meeting Council's objective to reduce Greenhouse Gas Emissions of 20 percent by 2012.
- Partnerships with Federal and Provincial Governments help in the acceleration of size, scope and timing of investments and reduced project execution and budget risks.
- 2009 is a unique opportunity as staff have been able leverage HRM dollars specifically dedicated to energy efficiency. $1 million of HRM money will help produce about $5 million of projects. Each project takes approximately 1 ½ to 3 years from inception to completion.

In concluding his presentation, Mr. Boyle asked for the Committee's feedback on options for creating a sustainable funding model, as follows:

Option 1	100% of energy savings go back into the Reserve, which can be used for future projects.
Option 2	Take 50% of the energy savings and put back into the Reserve, with the other 50% going in the operating budget.
Option 3	Status quo, i.e. keep doing it the same way and the energy savings (100%) would go immediately to the operating budget.

Mr. Boyle responded to questions.

MOVED by Councillor Adams, seconded by Councillor Hum that the Energy and Underground Services Advisory Committee recommend Halifax Regional Council:

1. **Approve the use of all energy savings from projects funded through the Energy and Underground Service Co-Location Reserve to fund future energy efficiency projects.**

2. **Approve amendments to the Energy and Underground Services Co-location Reserve business case as attached in Appendix B of the January 14, 2009 staff report to allow energy efficiency savings to be directed into the reserve.**

Mr. Boyle responded to further questions.

At 10:47 a.m. Ms. Mary Ellen Donovan, Municipal Solicitor entered the meeting.

MOTION PUT AND PASSED.