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JUN 18 2014
TOWN OF FORT FRANCES

May 9, 2014

Report To: Mayor & Council

From: Doug Brown, Manager Operations & Facilities

SUBJECT: Review & Acceptance of 5 Year Energy Conservation & Demand Management Plan – July 1st, 2014 to June 30, 2019

In accordance with the Green Energy Act (2009) and Ontario Regulation 397/11, the Town is required to develop and submit a 5-year Energy Conservation and Demand Management (ECDM) Plan to the Ministry of Energy prior to the July 1st, 2014 deadline. The Town must ensure a copy of the Energy Conservation and Demand Management Plan is available to the general public through it's website and hardcopies are available at the Civic Center.

Please find attached a draft copy of the Energy Conservation and Demand Management Plan and administration report prepared by Travis Rob, CBO, Facilities/Special Projects Coordinator for your review and comments. As outlined in the ECDM plan, the Operations & Facilities Executive Committee will form part of the newly formed "Energy Management Committee" for the Corporation where there will be required to meet twice a year to discuss energy issues. Over the past three years Honeywell was retained to complete an energy audit and through a performance guarantee agreement completed energy retrofit upgrades to several facilities within the community. This will be the commencement point for the 1st revision of the Energy Conservation and Demand Management Plan.

At this time Council must review and endorse the Energy Conservation and Demand Management Plan prior to the July 1st, 2014 deadline.

The Operations & Facilities Executive Committee recommends the following:

1) That Council endorses the Energy Conservation and Demand Management Plan as presented.
2) That an electronic copy of the Town's Energy Conservation and Demand Management Plan is submitted to the Ministry of Energy prior to the July 1st, 2014 deadline.
3) That an electronic copy of the Energy Conservation and Demand Management Plan is posted on the Town's website prior to the July 1st, 2014 deadline.
4) That hardcopies of the Energy Conservation and Demand Management Plan are available to the general public at the Town Civic center starting July 1st, 2014.

5) That the Operations & Facilities Executive committee form part of the newly formed "Energy Management Committee" as outlined in the Energy Conservation and Demand Management Plan.

Respectfully submitted,
Operations & Facilities Division

Doug Brown

Doug Brown, P. Eng.
Manager Operations & Facilities

Council approval of this report will ensure the following:

1. That Council endorses the Energy Conservation an Demand Management Plan as presented.

2. That an electronic copy of the Town's Energy Conservation and Demand Management Plan is submitted to the Ministry of Energy prior to the July 1st deadline.

3. That an electronic copy of the Energy Conservation and Demand Management Plan is posted on the Town's website prior to the July 1st, 2014 deadline.

4. That hardcopies of the Energy Conservation and Demand Management Plan are available to the general public at the Town Civic Center starting July 1st, 2014.

5. That the Operations & Facilities Executive Committee form part of the newly formed "Energy Management Committee" as outlined in the Energy Conservation and Demand Management Plan.

f/n2014Juneenergyconservation&demandmanagementplan

RECOMMENDED

JUN 18 2014

DIV. MNG. K. Liedenhoff

EXECUTIVE COMM. Doug B

May 1, 2014

Report To: Doug Brown, Manager of Operations and Facilities

From: Travis Rob, CBO, Facilities/Special Projects Coordinator

RE: Acceptance of the Town of Fort Frances Energy Conservation and Demand Management Plan in Accordance with O.Reg. 397/11.

The Government of Ontario through the Green Energy Act passed a regulation in August 2011 whereby all public sector organizations must submit annually, by July 1, their energy consumption data and further by July 1, 2014 have in place an Energy Conservation and Demand Management (ECDM) Plan. The regulation outlines not only which buildings municipalities must report on, but a general overview of the requirements of the ECDM Plan. For the purposes of the regulation, ECDM Plans must be available in print at the Civic Centre and online on the Municipalities website. This plan must include all municipal facilities, for which the municipality pays the utilities and must be reviewed and updated every five years. A guidebook was developed and distributed by the Ministry of Energy to help the public sector to generate their plans and maintain in compliance with the requirement.

The Town of Fort Frances, with the work completed by Honeywell through the Honeywell Energy Project, had already located and organized much of the background information required to formulate the plan. From this data all that was required was gather any missing data and present it in a fashion that would be appealing to the general public. Further to this a portion of the ECDM Plan must outline energy projects, their anticipated energy savings and cost. Municipalities are allowed to pick any point in time as the starting point to build their energy plan from, because of the Honeywell Energy Project, the Town of Fort Frances ECDM Plan utilizes 2011 as the base year. This means that all of the energy retrofits completed through the Honeywell Project will count towards the ECDM Plan requirements.

Attached to this report is a copy of the Town of Fort Frances Energy Conservation and Demand Management Plan. The Town is required to have Council approval of this plan by July 1, 2014.

Respectfully Submitted

Travis Rob, EIT
Chief Building Official, Facilities/Special Projects Coordinator.

FORTFRANCES
BOUNDLESS

Revision
1

TOWN OF FORT FRANCES

JULY 1, 2014 TO JULY 1, 2019

Energy Conservation and Demand Management Plan

Revised: June 2014

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Chapter 1

Our Commitment

THe Town of Fort Frances is committed to the reduction in energy consumption and green house gas emissions through the continual monitoring of energy consumption and the implementation of energy saving retrofits when possible. The Town will utilize any and all sources of funding to ensure procurement of technologies that provide equitable payback through gains in efficiency and reductions in maintenance. Through these methods the Town will realize greater control over our operational budgets well into the future.

Declaration of Commitment – Council Resolution

Vision

The Corporation will continue to reduce energy consumption and mitigate costs through the wise and efficient use of energy and resources. This will involve a collaborative effort to increase the education, awareness, and understanding of energy management within the Corporation. The Town of Fort Frances will investigate the use of new technologies to increase the efficiency of our facilities while maintaining or improving the level of service already provided.

Goals – Long Term

To continuously improve the energy efficiency within the Town of Fort Frances facilities and operations, with an overarching goal to improve user comfort and reduce operational costs.

Energy Conservation Target

The Town of Fort Frances will strive to continuously reduce its energy consumption and greenhouse gas emissions, while realizing operational and maintenance expense reductions and replacing aging systems.

Objectives – Short to Medium Term

1. Undertake energy audits on all Town owned Buildings by the end of 2012.

2. Implement energy saving retrofits discovered in the energy audits over the next five (5) years.

3. Implement a preventative maintenance program to track maintenance work on Town facilities and fleet to ensure proper preventative and ongoing maintenance occurs.

4. Engage staff at all levels to conserve energy and provide training by way of seminars, newsletters, and/or other means as available.

Chapter 2

The Current Situation

Currently the Town of Fort Frances utilizes a manual method to capture the electrical bills and utilizes the Union Gas MyAccount system to capture gas billing data. This data is then taken and normalized against weather data obtained from Environment Canada to understand the true energy consumption over the year and compare it to the consumption from previous years.

Currently the Town is at the beginning stages of implementing a preventative maintenance program to schedule and track our maintenance within our organization and ensure that all of our systems are maintained in excellent condition.

Baseline Data

The Town of Fort Frances is setting 2011 as it's baseline year for this Energy Conservation and Demand Management Plan, energy consumption data and all energy conservation initiatives will stem from this point forward. This plan incorporates all energy consuming municipal facilities, not including fleet.

Organizational

Stakeholder Needs

Internal stakeholders (Council, staff) need to be able to develop the skills and knowledge to clearly communicate the corporate commitment to energy efficiency. External stakeholders (Residents, User Groups) need the municipality to be accountable for energy performance and to minimize the energy driven operational component of the user fees.

Our Municipal Energy Needs

We need reliable, renewable, low cost energy sources delivered to the most energy efficient facilities and efficient energy consuming technologies feasible. We need to periodically review the available energy sources and when financially feasible entertain the transition from one energy source to another.

Municipal Energy Situation (SWOT)

The Town of Fort Frances benefits from the historic power agreement where by the municipality receives electrical energy at some of the lowest rates in the province.

Further to this the municipality is served by natural gas, which has shown historically level costs for the last number of years. The Town, however, owns some older facilities that utilize electrical energy, either solely for heating or as a means of backup to the natural gas systems. Further to this many of the facilities utilize electricity for domestic water heating due to constraints in venting or other reasons. These uses of electricity increase the overall cost of operation in these facilities. Many of these facilities are of an age where The Town will be completing renewal or retrofit projects to address end of useful life of these appurtenances. At that time transitioning to new technology gas fired appliances or completing other remediation to the originally installed equipment should be investigated.

	Helpful	Harmful
Internal Origin	Strengths - Generally well maintained facilities - Recent upgrades to some facilities	Weaknesses - Some facilities without Natural Gas Service - Some Facilities with multiple services - Limited internal knowledge or energy champion to lead or advise projects
External Origin	Opportunities - Some of the Lowest Electricity Rates in Ontario - Natural Gas Supply - Many Facilities with equipment nearing or at end of life	Threats - Many facilities operating equipment beyond useful life - Limited financial ability to undertake trial or experimental projects

How We Manage Energy Today

The management of energy consumption and energy performance within the Town of Fort Frances currently fall to the responsibilities of Finance (cost management) and facility managers (operations) and is generally utilized solely for budgeting purposes.

Technical Information

Summary Of Current Energy Consumption and Green House Gas (GHG) Emissions

	2011		2012		2013	
	Commodity	GHG (mt CO_2e)	Commodity	GHG (mt CO_2e)	Commodity	GHG (mt CO_2e)
Electricity (kWh)	7953770.41	1352.14	7552772.66	1283.97	6996117.08	1189.34
Natural Gas (m^3)	459969.15	919.94	351309.04	59.72	588538.73	100.05
Propane (L)	12583.50	25.17	9574.20	1.63	17172.60	2.92
Fuel Oil (L)	1744.10	3.49	2356.70	0.40	2688.50	0.46
TOTAL GHG Emissions		2300.73		1345.72		1292.77
Average Annual Temp. (^oC)	3.55		4.80		1.26	

Trends in Energy Consumption

ELECTRICAL:

For our facilities we see that the electrical consumption is driven by the occupancy of the building with consumption peaks in the summer due to cooling loads. The facilities that utilize electrical heating trend, based on the heating degree-days, with winter peaks from the heating load.

All of our treatment plants and sewage pumping stations see consumption vary based on pumped quantity, irrespective of weather conditions or occupancy.

GAS:

For our facilities utilizing gas heating the consumption is correlated to heating degree-days not occupancy as most of our facilities do not currently operate on a setback schedule.

Summary of Current Technical Practices

Currently the Town of Fort Frances has a staff member in each facility or division that oversees the operation and maintenance of that facility and coordinates any repairs or maintenance that is required. Some of these people do not possess the technical knowledge to fully know and understand the work that must be completed and when it must be completed. There are three contractors, and electrician, plumbing and HVAC and carpenter that the Town has available to complete work as required as well as other knowledgeable staff that can be called upon for advise when needed. The Town does not have a work order program in place to track and advise when things need to be completed, such as filter changes, belt changes, equipment checks, etc. so it is difficult to be sure that this is always happening on a regular and timely bases.

Summary of Solar Photovoltaic Energy Production

Sites	2012 (kWh)	2013 (kWh)
Water Treatment Plant	14,664	13,538
Memorial Sports Centre	14,713	13,179
Children's Complex	13,812	10,960
Public Works	15,624	13,248

The Town of Fort Frances owns and operates four rooftop photovoltaic solar installations each with a nameplate capacity of 10kW. These systems are installed on the Town of Fort Frances Water Treatment Plant, Memorial Sports Centre, Children's Complex and Public Works Garage. These installations are enrolled in the Ontario Power Authorities MicroFIT program with connection dates in late 2011 and a contract term of 20 years.

Summary of Solar Thermal Water Installations

The Town of Fort Frances has one Solar Thermal Water Installation at the Fort Frances Library and Technology Centre. The energy harnessed from this unit is not metered, however the nameplate rating on each of the two panels indicates that each panel is responsible for 22Mbtu/day. This solar heated water is utilized by the Library building to supplement the domestic hot water needs of that facility which is satisfied by a natural gas fired water heater. This means that the solar collector panels will provide, roughly 1.19m^3 of natural gas savings per day, or 434.35m^3 per year in savings. This translates to a reduction in Green House Gas Emissions of 0.869 $mtCO_2e$ per year.

Chapter 3

Our Plan

The Town of Fort Frances is taking the development of an Energy Conservation and Demand Management Plan as an evolving tool to monitor and improve the overall condition and future maintenance of our corporate facilities.

Strategic Planning

Long-term Strategic Issues

Strategic level issues addressed in this plan are: energy policy development, development of skills and knowledge, organizing for energy management, managing energy information, communicating with our stakeholders, and investing in energy management measures.

Links With Other Municipal Plans and processes

The energy management plan will be integrated with the budget planning process, preventative maintenance planning, and the overall asset management plan.

Leadership

Energy Leader

The Town of Fort Frances has assigned the Chief Building Official to be the corporate energy leader. He will have the overall responsibility and leadership for corporate energy management

Energy Team

The Fort Frances energy management team will consist of departmental employees as well as council members. The following are the current members of the energy management team:

- Chief Building Offical, Facilities/Special Projects Coordinator
- Manager of Operations and Faciltites

- Treasurer
- Manager of Community Services
- Operations and Facilities Executive Committee

Structure

Integration of Energy Management with Other Management Processes

Energy management will be coordinated with budget planning and strategic planning initiatives undertaken by the Town.

Divisional Responsibilities

Energy accountability and management will be incorporated into divisional responsibilities and include a representative from each division into the Energy Management Committee.

Accountability for Energy

Corporate energy performance accountability will be assigned to the Corporate Energy Leader. Annual energy consumption reports will be submitted to the Ministry of Energy as well as to Mayor and Council, available on the Town of Fort Frances website and available to the general public in hard copy at the Town of Fort Frances Civic Centre.

Resources

Staffing Requirements and Duties

The person assigned the role of Corporate Energy Leader will be required to undertake training in energy management, energy planning, and basic energy auditing techniques. This person will be responsible for administering this plan as well as acting as a liaison with facility operators and division managers to evaluate the opportunities for efficiencies when upgrades are being considered for our faculties

External Consultants and Energy Suppliers

When sourcing external consultants or energy suppliers, criteria based on our energy goals will be included in the selection of the consultant while still fulfilling the requirements of our procurement policy.

Development of Energy Projects

Internal Assessments

A criterion will be established to assess current energy consumption and analyze energy use in corporate facilities. An investigation into new technologies will be completed to determine the best solution to achieve the energy saving goals of the organization and allow for a life cycle cost comparison to be completed as well as an investigation into

potential funding opportunities that are available. From this a method for selecting energy saving retrofits will be developed to ensure knowledgeable implementation of any retrofits is completed.

Staff Suggestions

All corporate employees will be encouraged to suggest policies, technologies, or operational changes to the Corporate Energy Leader; He will bring the suggestions to the next meeting of the energy management committee for discussion. All suggestions will be discussed and analyzed for energy saving opportunity lifecycle cost, potential for funding, and recommendations will be brought forth for implementation.

Energy Audits

A criterion for energy audits will be established, and municipal staff will conduct a walkthrough type audit every five years in conjunction with the review of the energy management plan. Full engineering audits will be undertaken as needed, suggested by the energy management committee.

Opportunity Selection Criteria and Process

A set of financial criteria will be defined, based on the project, for the screening and implementation of energy savings projects in conjunction with the Town's procurement policy.

Capacity Building

Communication Programs

A communication program will be developed to continually provide information regarding the corporate energy consumption and make that information available to the residents of the Community. The Town will provide information regarding energy saving retrofits and their attributed benefits on the Town's website as well as tips for energy savings. Newsletters, posters and emails will be used to inform staff of energy saving tips and best practices.

Energy Awareness Training

Energy Awareness Training will be provided as required to staff. The Corporate Energy Leader will be required to receive training in energy management and energy planning.

Energy Skills Training

Energy Skills Training will be provided as required to staff. The Corporate Energy Leader will be required to receive training in basic energy auditing techniques.

Business Procedures

A review of all business processes and procedures will be undertaken to ensure energy efficiency is properly incorporated. Any operational processes or procedures that are obviously inefficient will be altered, however possible, to improve the energy efficiency of that operation.

Procurement

Energy Purchasing

Given the Town's ability to utilize the historic Power Agreement, it is at this time not feasible to engage a purchasing entity for the procurement of electrical energy, however at this time the Town utilizes Local Authority Services ' Natural Gas Procurement program for all of their Natural Gas Accounts. This program bulk purchases Natural Gas for the year at a discounted rate and passes the savings onto the program subscribers.

Consideration of Energy Efficiency of Acquired Equipment

The process of purchasing of equipment and materials will be altered to incorporate energy efficiency into the selection criteria, while still adhering to the corporate procurement policy.

Consideration of Energy Efficiency for All Projects

Full life cycle cost analysis will be conducted during the design process for all possible capital expenditures to assess the financial feasibility and return on investment of any energy efficiency upgrades.

Standards for New Buildings

The Town will select criteria for the design and construction of new corporate facilities that include energy performance factors and that use the principles embedded in standards such as LEED and the Model National Energy Code for Buildings during the design process.

Method of Implementation of Energy Projects

Internal Implementation

Energy Project ideas will be brought to The Energy Management Committee where they will be discussed and decision will be made regarding the Town's ability to implement the energy project.

External Providers

A criteria and strategy will be developed in conjunction with the Town's procurement policy to secure external services and expertise for implementing energy projects.

Creative Approaches

The Town will research opportunities to utilize public private partnerships, creative financing arrangements including energy performance contracting, grants and other funding sources, and other creative approaches to implement energy projects.

Investment in Energy Projects

Investment Criteria

All energy projects will undergo lifecycle cost analysis with net present value and simple payback calculations to assess the potential energy cost savings, greenhouse gas emission reductions and the priority of the energy project will be compared to other investment needs of the Town at that time.

Financial Analysis Conducted

The cost and potential savings will be analyzed to assess the financial impact on the Town from the basis of operations, energy, and capital cost over the life of the energy project.

Budgetary Resources for Energy Projects

We will incorporate energy projects into our capital planning and budget development procedures.

Capital

Adequate capital funds will be allocated to energy projects that satisfy the above financial and investment criteria during capital planning.

Expense

Our financial system will incorporate expense line items pertaining to energy project analysis and implementation.

Other Sources of Funds for Energy Projects

The Energy Leader and Energy Management Committee will investigate, communicate and apply for all provincial and federal funding sources available for energy projects. The Energy Leader will keep the Committee advised to changes in provincial and private enterprise programs to ensure that the Town utilizes these funds whenever possible.

Monitoring

Ongoing Monitoring of Consumption

The Town of Fort Frances will incorporate an annual monitoring and targeting program (M&T) with annual reports to Council outlining annual energy consumption and reductions. The review of the energy consumption will coincide with the development of the annual report as required under the Green Energy Act and will include the last full year for which data is available.

Measurement and Verification of Energy Projects

All energy projects will be closely monitored for the first year to document the savings and performance of the systems after which ongoing annual monitoring will continue to ensure the systems continue to perform properly.

Reporting

Reporting for the Green Energy Act

The requirements for an annual report under the Green Energy Act, O.Reg 397/11 will be monitored for updates and sufficient reports will be generated to fulfill these requirements.

Reports to Stakeholders (Community)

While the report is being generated for the Green Energy Act, a secondary report will be prepared for the general public, where they will have accesss to this report on the Town's website as well as hard copies at the Town of Fort Frances Civic Cenre. This report will contain an overview of the last year's energy consumption. This report will also include a listing of energy projects completed and the anticipated energy savings and cost of these projects as well as a description and anticipated life cycle.

Reports To Council

The report generated for the general public will be first taken to Council for review and endorsement to keep Council informed on the success of current and past energy projects, as well as informed on the drivers of energy consumption for decisions regarding future energy projects.

Reports to Accountable Staff

Staff who are accountable for energy performance will receive updates from the energy Leader based on the monitoring and targeting (M&T) system, with a level of detail required to understand the current situation and how energy projects are working to reduce the energy consumption.

Chapter 4

Execution of Our Plan

The Town of Fort Frances will utilize internal resources to search out and pin point areas that could utilize energy projects to reduce operational costs. Where specialized knowledge is required to ensure a proper installation and operation, The Town will engage a reputable engineering firm with experience in energy efficient design to ensure that any and all applicable regulations are complied with and the installation can operate at peak efficiency.

Energy Projects

Corporate Level

The Town of Fort Frances will carry out communication program implementation and business procedure alterations methodically to ensure a seamless adoption of energy programs and energy saving techniques.

Facility (Asset) Level

The Town will utilize facility/divisional representatives on the Energy Management Committee to facilitate the strategic implementation energy performance reporting, business procedure amendments, and communication initiatives

Current Projects (2014 – 2019)

The following is a table outlining projects the Town of Fort Frances plans to undertake from the base year (2011) through the to the first revision of this plan (2019)

	Commodity Savings			Financial Savings					Cost	GHG Reduction
	Hydro		Gas	Hydro	Gas	Utility	Ops	Total	Total Sale	
COST SAVING MEASURES (CSM)	kW	kWh	m3	$	$	$	$	Savings	Price	t CO2e
Airport										
Lighting Systems Upgrade & Controls	0.00	17437.07	0.00	$ 2,111.63	$ -	$ 2,111.63	$ 176.15	$ 2,287.78	$ 24,586.66	3.0
Building Envelope	0.00	9333.33	0.00	$ 1,130.27	$ -	$ 1,130.27	$ -	$ 1,130.27	$ 9,537.77	1.6
Civic Centre										
Lighting Systems Upgrade & Controls	33.40	146330.32	-4010.45	$ 12,313.65	$ (1,472.81)	$ 10,840.84	$ 3,574.22	$ 14,415.06	$ 122,530.62	17.3
Control System Upgrades & Scheduling	1.68	106554.73	3757.94	$ 7,414.87	$ 1,380.08	$ 8,794.95	$ 1,319.24	$ 10,114.19	$ 177,278.38	25.2
Car Plug Controls	0.00	4434.00	0.00	$ 303.00	$ -	$ 303.00	$ -	$ 303.00	$ 5,602.40	1.8
Heating Plant Upgrades	0.00	0.00	4975.13	$ -	$ 1,827.08	$ 1,827.08	$ 2,258.00	$ 4,085.08	$ 215,564.84	9.4
Building Envelope	0.00	0.00	6278.20	$ -	$ 2,305.63	$ 2,305.63	$ -	$ 2,305.63	$ 21,637.70	11.9
Daycare										
Lighting Systems Upgrade & Controls	0.00	8688.71	-215.71	$ 689.88	$ (87.45)	$ 602.43	$ 79.17	$ 681.60	$ 13,066.95	1.1
Building Envelope	0.00	4666.67	0.00	$ 370.53	$ -	$ 370.53	$ -	$ 370.53	$ 4,964.35	0.8
HVAC Upgrade	0.00	9203.38	0.00	$ 730.75	$ -	$ 730.75	$ 800.00	$ 1,530.75	$ 97,027.29	1.6
East End Hall										
Lighting Systems Upgrade & Controls	0.00	1013.58	-26.57	$ 80.48	$ (10.51)	$ 69.97	$ 69.71	$ 139.68	$ 2,006.74	0.1
Improve Building Insulation	0.00	0.00	648.18	$ -	$ 256.32	$ 256.32	$ -	$ 256.32	$ 5,602.40	1.2
Building Envelope	0.00	4200.00	0.00	$ 333.48	$ -	$ 333.48	$ -	$ 333.48	$ 3,104.66	0.7
Memorial Sports Centre										
Lighting Systems Upgrade & Controls	54.49	159195.95	-2717.17	$ 14,162.40	$ (1,024.13)	$ 13,138.27	$ 2,735.02	$ 15,873.29	$ 212,241.04	21.9
Control System Upgrades & Scheduling	0.00	55942.79	10122.45	$ 3,716.28	$ 3,884.51	$ 7,600.79	$ 2,280.24	$ 9,881.03	$ 83,862.40	28.6
Ice Refrigeration Plant Upgrades	0.00	314258.57	0.00	$ 20,876.20	$ -	$ 20,876.20	$ -	$ 20,876.20	$ 110,424.39	53.4
Building Envelope	0.00	0.00	6807.20	$ -	$ 2,564.64	$ 2,564.64	$ -	$ 2,564.64	$ 20,164.43	12.9
Pool Dry-O-Tron Upgrade	0.00	0.00	4814.83	$ -	$ 1,768.21	$ 1,768.21	$ 900.00	$ 2,668.21	$ 221,031.16	9.1
Museum										
Lighting Systems Upgrade & Controls	0.00	15180.95	-134.74	$ 1,205.37	$ (53.66)	$ 1,151.70	$ -	$ 1,151.70	$ 12,281.76	2.3
Control System Upgrades & Scheduling	0.00	0.00	0.00	$ -	$ -	$ -	$ -	$ -	$ 58,493.58	0.3
Building Envelope	0.00	6300.00	0.00	$ 500.22	$ -	$ 500.22	$ -	$ 500.22	$ 4,299.84	1.1
Public Works Garage										
Lighting Systems Upgrade & Controls	0.00	63328.76	-1482.38	$ 5,028.30	$ (586.20)	$ 4,442.10	$ 286.43	$ 4,728.53	$ 69,332.39	8.0
Car Plug Controls	0.00	10416.00	0.00	$ 827.00	$ -	$ 827.00	$ -	$ 827.00	$ 5,602.40	0.8
Building Envelope	0.00	0.00	3412.32	$ -	$ 1,349.38	$ 1,349.38	$ -	$ 1,349.38	$ 11,746.67	6.5
Riverview Cemetery										
Lighting Systems Upgrade & Controls	0.00	2079.43	0.00	$ 165.11	$ -	$ 165.11	$ 79.58	$ 244.69	$ 6,884.17	0.4
Building Envelope	0.00	10500.00	0.00	$ 833.70	$ -	$ 833.70	$ -	$ 833.70	$ 3,733.53	1.8
Sister Kennedy Centre										
Lighting Systems Upgrade & Controls	0.00	13222.74	-315.85	$ 1,049.89	$ (124.90)	$ 924.98	$ 307.47	$ 1,232.45	$ 13,201.83	1.7
Building Envelope	0.00	4666.67	0.00	$ 370.53	$ -	$ 370.53	$ -	$ 370.53	$ 3,338.09	0.8
Sorting Gap Marina										
Lighting Systems Upgrade & Controls	0.00	1382.28	0.00	$ 109.75	$ -	$ 109.75	$ 136.78	$ 246.53	$ 3,216.55	0.2
Building Envelope	0.00	4806.00	0.00	$ 381.60	$ -	$ 381.60	$ -	$ 381.60	$ 1,509.53	0.8
Waste Water Treatment Plant										

Lighting Systems Upgrade & Controls	2.79	5984.97	-153.72	$ 613.02	$ (60.79)	$ 552.23	$ 22.70	$ 574.93	$ 7,111.84	0.7
Install Fine Bubble Aeration System	40.70	263517.97	0.00	$ 21,597.63	$ -	$ 21,597.63	$ (4,000.00)	$ 17,597.63	$ 220,850.14	44.8
Building Envelope	0.00	0.00	476.68	$ -	$ 188.50	$ 188.50	$ -	$ 188.50	$ 1,211.99	0.9
Water Treatment Plant										
Lighting Systems Upgrade & Controls	5.33	13814.31	-354.82	$ 1,681.10	$ (124.19)	$ 1,556.92	$ 405.26	$ 1,962.18	$ 17,764.53	1.7
Heating Plant Upgrades	0.00	0.00	1983.30	$ -	$ 694.15	$ 694.15	$ 1,388.31	$ 2,082.46	$ 108,091.25	3.7
Install VFD Drive and HE Motors (HLPs)	0.00	0.00	0.00	$ -	$ -	$ -	$ -	$ -	$ 205,925.81	11.3
Building Envelope	0.00	0.00	1465.09	$ -	$ 512.78	$ 512.78	$ -	$ 512.78	$ 4,313.85	2.8
City Wide										
Streetlighting Upgrade (LED)	160.18	686915.55	0.00	$ 55,462.46	$ -	$ 55,462.46	$54,500.15	$109,962.60	$ 829,052.00	-
TOTALS:	**298.57**	**1943374.71**	**35329.87**	**$154,059.10**	**$13,186.64**	**$167,245.74**	**$67,318.42**	**$234,564.16**	**$2,938,195.92**	**292.2**

Chapter 5

Evaluation

To develop and accept a plan is not sufficient, the plan needs to be continuously reviewed, revised and promoted amongst Staff, Administration, and Council to adapt it as part of standard operating practices.

Review

Energy Plan Review

The Town of Fort Frances will undergo a thorough review of the Corporate Energy management Plan once every five years to update the current state of municipal facilities and operations, short and long term reduction goals, and keep the document current with the rapid advancements in energy reduction technologies and best practices.

Discussion of Progress

The Town of Fort Frances Energy Management Committee will meet **twice annually** to discuss current energy saving projects and activities, maintenance issues and end of life replacement and current grant and incentive programs. Facility representatives will be able to discuss successes and challenges, new technologies and ideas to utilize other experiences and knowledge to progress the municipality to a more sustainable future and to keep all members up to date on activities. More frequent meetings can be utilized when required to aid in the planning and implementation of large-scale energy projects, annual budgeting, or other situations as necessary.

Annual Reporting

The Town of Fort Frances will prepare an annual report in alignment with the Ministry requirements as an attachment to this plan. The annual report will be available to the general public on the Town's website as well as hard copy at the Town of Fort Frances Civic Centre. This annual report will be brought to the Energy Management Committee and subsequently to Council as well as posted on the Ministry of Energy Portal. Further to this report an overview of current year energy saving initiatives, predicted savings and costs will be included in the annual report to Council and annual appendix to this report.

Appendix I

Annual Energy Consumption and Green House Gas Emission Report

	A	B	C	D	E	F	G
1	UP or DOWN ARROW in column A to	Energy Consumption and Greenhouse Gas Emissions Reporting - for 2012					
2	Confirm consecutive 12-mth period (mth-yr to mth-yr)						
3	Sector						
4	Agency Sub-sector	Town					
5	Organization Name	Town of Fort Frances	Please fill in the mandatory fields indicated in red, in addition to submitting data				
6							
7							
8	Operation Name	Operation Type	Address	City	Postal Code	Total Floor Area	Unit
9	*Stephenson Building*	*Administrative offices and related facilities, including municipal council chambers*	*2160 Yonge Street*	*Toronto*	*M7A 2G5*	*135034*	*Square meters*
10	Museum	Cultural facilities	259 Scott St.	Fort Frances	P9A 1G8	9359	Square feet
11	Sister Kennedy Centre	Community centres	401 Nelson St.	Fort Frances	P9A 1B3	7366	Square feet
12	East End Hall	Community centres	1227 5th St. E.	Fort Frances	P9A 3P9	6184	Square feet
13	Public Works	Storage facilities where equipment or vehicles are maintained, repaired or stored	900 wright Ave	Fort Frances	P9A 3J9	15591	Square feet
14	Riverview Cemetery	Storage facilities where equipment or vehicles are maintained, repaired or stored	1319 Colonization Ro	Fort Frances	P9A 2T6	2535	Square feet
15	Fort Frances Cemetery	Storage facilities where equipment or vehicles are maintained, repaired or stored	401 Kings Highway	Fort Frances	P9A 3P9	4225	Square feet
16	Sunny Cove	Community centres	#960 Highway 11	Fort Frances	P9A 3P9	15000	Square feet
17	Civic Centre Administration	Administrative offices and related facilities, including municipal council chambers	320 Portage Ave.	Fort Frances	P9A 3P9	17636	Square feet
18	Civic Centre OPP Offices	Police stations and associated offices and facilities	320 Portage Ave.	Fort Frances	P9A 3P9	6197.12	Square feet
19	Civic Centre Fire Hall	Fire stations and associated offices and facilities	320 Portage Ave.	Fort Frances	P9A 3P9	12468.4	Square feet
20	Fort Frances Library and Technology C	Public libraries	601 Reid Ave.	Fort Frances	P9A 0A2	15000	Square feet
21	Water Treatment Plant	Facilities related to the treatment of water	901 Colonization Roa	Fort Frances	P9A 3P9	0	Square feet
22	Sewage Treatment Plant	Facilities related to the treatment of sewage	2 Mcirvine Road	Fort Frances	P9A 3P9	0	Square feet
23	Church St. Lift Station	Facilities related to the pumping of sewage	325 Minnie Ave	Fort Frances	P9A 3P9	0	Square feet
24	White Pine Lift Station	Facilities related to the pumping of sewage	740 Scott St.	Fort Frances	P9A 3P9	0	Square feet
25	Boundary Road Lift Station	Facilities related to the pumping of sewage	1715 Colonization Ro	Fort Frances	P9A 3P9	0	Square feet
26	Patcin Ave. Lift Station	Facilities related to the pumping of sewage	932 Kaitlyn Drive.	Fort Frances	P9A 3P9	0	Square feet
27	Ice For Kids Arena	Indoor ice rinks	720 Scott St.	Fort Frances	P9A 1H8	56037.24	Square feet
28	52 Canadians Arena	Indoor ice rinks	720 Scott St.	Fort Frances	P9A 1H8	53883.92	Square feet
29	Memorial Sportsplex	Indoor swimming pools	720 Scott St.	Fort Frances	P9A 1H8	16687.94	Square feet
30	Central Ave Lift Station	Facilities related to the pumping of sewage	712 Central Ave	Fort Frances	P9A 3P9	0	Square feet
31	5th Street Lift Station	Facilities related to the pumping of sewage	1330 5th Street E.	Fort Frances	P9A 3P9	0	Square feet

	H	I	J	K	L	M	N	O	P	Q	R
1											
2											
3											
4											
5	on your energy usage.										
6			Energy Type and Amount Purchased and Consumed in Natural Units						Total (calculated in webform)		
7			Electricity		Natural Gas		Propane				
8	Avg hrs/wk	Annual Flow (Mega Litres)	Quantity	Unit	Quantity	Unit	Quantity	Unit	GHG Emissions (Kg)	Energy Intensity (ekWh/sqft)	Energy Intensity (ekWh/Mega Litre)
9	*70*	*23516.00224*	*2181065*	*kWh*	*125300*	*Cubic meter*		*Litre*			
10	40	0	106788	kWh	4520.415	Cubic Meter	0	Litre	18802.33817	16.54343013	0
11	40	0	72851.67	kWh	7780.25	Cubic Meter	0	Litre	21706.2251	21.11572522	0
12	8	0	10562.67	kWh	4036.382	Cubic Meter	0	Litre	8645.731618	8.644960832	0
13	50	0	134694.4	kWh	20129.06	Cubic Meter	0	Litre	50992.5945	22.36043621	0
14	40	0	40175.43	kWh	0	Cubic Meter	0	Litre	3858.448297	15.84829586	0
15	40	0	75305.02	kWh	0	Cubic Meter	0	Litre	7232.294121	17.82367337	0
16	33	0	15123	kWh	0	Cubic Meter	0	Litre	1452.41292	1.0082	0
17	40	0	262791.1	kWh	12139.75	Cubic Meter	0	Litre	48190.19637	22.21646948	0
18	168	0	262791.1	kWh	12139.75	Cubic Meter	0	Litre	48190.19637	63.22447457	0
19	168	0	131395.5	kWh	6069.874	Cubic Meter	0	Litre	24095.09149	15.71210158	0
20	50	0	271471	kWh	2080.782	Cubic Meter	0	Litre	30006.05747	19.57233914	0
21	40	1591.67	721579.1	kWh	54823.59	Cubic Meter	0	Litre	172951.4163	0	819.4110518
22	40	2042.078	1510820	kWh	44344.58	Cubic Meter	0	Litre	228938.2131	0	970.6310471
23	1	9.565	132438.8	kWh	0	Cubic Meter	0	Litre	12719.42235	0	13846.18923
24	1	135.01	24395.65	kWh	0	Cubic Meter	0	Litre	2342.958226	0	180.6951337
25	1	5.606	7412.81	kWh	0	Cubic Meter	0	Litre	711.9262724	0	1322.299322
26	1	13.745	1957.51	kWh	0	Cubic Meter	0	Litre	187.9992604	0	142.4161513
27	100	0	1105328	kWh	71791.05	Cubic Meter	0	Litre	241885.7986	33.34045842	0
28	100	0	746591.7	kWh	68975.72	Cubic Meter	0	Litre	202110.0254	27.45995968	0
29	100	0	383216.8	kWh	24841.2	Cubic Meter	0	Litre	83769.5849	38.78390826	0
30	1	748.07	132438.8	kWh	0	Cubic Meter	0	Litre	12719.42235	0	177.0406513
31	1	341.71	37275.87	kWh	0	Cubic Meter	0	Litre	3579.974555	0	109.086272

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