TOWN OF EDSON

MUNICIPAL ENERGY MANAGER PROGRAM
FINAL REPORT

OCTOBER 5, 2020 – JULY 22, 2022

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1 Executive Summary

This report outlines the different steps, accomplishments, and experiences in the Municipal Energy Manager (MEM) Program in the Town of Edson. The MEM Program in the Town of Edson kicked off on October 5, 2020 and concluded on July 22, 2022. The program was funded by the Municipal Climate Change Action Centre (MCCAC) and administered by CLEAResult Canada Inc.

Our organization has benefitted enormously from our participation in the Municipal Energy Manager Program. The initiatives undertaken to reduce the carbon footprint associated with municipal operations, along with the future energy conservation measures identified, provide a strong foundation for the Town's environmental strategy moving forward. The Program has proven incredibly cost-effective, with the Municipal Energy Manager directly overseeing a range of high-impact projects, as well as securing access to numerous grants for climate-related projects and planning efforts. I, along with Town staff throughout the organization, have deeply enjoyed working with and learning from the Municipal Energy Manager, whose competence, passion, and demeanour have added great value to our organizational culture. – CAO Christine Beveridge, Town of Edson

The Town of Edson saw considerable success in the MEM Program. the Town followed the prescriptive path of the Program. The main focus of the program in town was emissions reductions in the in-scope facilities. Ten buildings were included in the Municipal Energy Coordinators portfolio. The facilities were the highest energy consuming facilities in town or saw the highest utilization by staff or the public. Energy scans were completed for all facilities, which yielded 274 energy conservation measures. As of July 22, 2022, 70 measures have been completed with 6 more scheduled to be completed by the end of 2022.

Parameters		Values
GHG inventory	Baseline year	Jan 2019 – Dec 2019
	tonnes $[A]$	2,798
GHG savings target (%)		7.8%
GHG savings target (tonnes)		219
Planned savings per annum (tonnes) $[B]$		49.4
Achieved savings per annum (tonnes) $[C]$		206
Total influenced savings (tonnes) $[B] + [C]$		255.4
GHG target achieved (%) $\frac{[B]+[C]}{[A]}$		9.1%

From the completed and planned energy conservation measures, the Town will exceed its emissions reduction target by over 36 tonnes. Annualized avoided utility costs are expected to be around $98,700

from all completed measures. Significant energy reductions were realized in the Wastewater Treatment Plant, Galloway Station Museum, and the Civic Centre. By the end of 2022, the Civic Centre is expected to have reduced its emissions 32% compared to 2019 based on small scale and large capital improvements.

Along with emissions reductions, the Town was successful in working towards a culture of sustainability. The MEC, management, and senior leadership participated in two Energy Management Assessment Session, hosted by CLEAResult. The first session was at the start of the Program and the second at the beginning of the second year. Between the two sessions, the Town improved its Energy Management Assessment score from 48% to 71%, with the most significant improvement in Executive Understanding and Commitment, which increased from a score of 1 to 3 in the first year of the Program.

The Municipal Energy coordinator also ran a very successful employee and public engagement campaign called the Edson Sustainability Series. The Series consisted of 6 lunch and learns that covered sustainability topics ranging from energy management to climate change effects in Alberta. The sessions were recorded and shared on Town social media accounts as well as on staff's personal accounts. The exposure of the series and work the Town was doing led Brendan Riome to be invited to present to several external organizations, including Community Futures West Yellowhead and Climate Caucus.

In our 2022-25 Strategic Plan, Edson Town Council committed to ensuring that our municipality maintains a strong focus on environmental strategies. The Municipal Energy Manager Program has been foundational to these efforts on a number of fronts. Significant GHG emissions reductions have already been achieved, with additional initiatives identified for future implementation. The Program has helped build Edson's resilience in the face of climate change and promoted a culture of climate awareness within the organization and the general public. The expertise of the Municipal Energy Manager has been crucial in informing and guiding Council's deliberations over the last two years on climate-related matters. Council is proud to have been involved in this initiative, and we are grateful for the support provided through the Municipal Climate Change Action Centre – support which both acknowledges and enables Albertan municipalities' indispensable role in environmental stewardship. – Mayor Kevin Zahara, Town of Edson

Going forward, the Town of Edson is in a strong position to continue with sustainability and climate action work. The 2022-2025 Strategic Plan identifies Responding to a Changing Global Environment as a pillar and being resilient in the face of climate change as a goal. From that foundation, and the work that was completed during the Municipal Energy Manager Program, the Town will find continued success in climate action.

2 Organizational Assessment

2.1 Municipality Overview

The Town of Edson is a small municipality located in west-central Alberta. Incorporated in 1911, the Town has long served as a local rail centre supporting the resource-based economy of the region. The Town's position, 200 kilometres west of Edmonton, on the Yellowhead Highway has allowed significant access to a wide range of economic opportunities. The primary industries of the Town are forestry products, oil & gas, and coal mining. It is expected that these industries will continue to be major contributors to the Town's economy for the foreseeable future.

As per the 2016 Census, the Town of Edson has a population of 8,414 residents. From 2001 – 2016, the Town has experienced a growth rate of 0.73% per year. It is expected this growth rate will continue as the Town prepares to reach a population of 10,000 within the next several decades.

The Town of Edson is classified as a sub-arctic climate (Dfc) by the Koppen Climate Classification system. This classification is characterized by wide seasonal temperature variations, with severely cold winters and mild to warm summers. Correspondingly, ASHRAE climate classification places Edson in Zone 7A, with an average of 5000 - 5999 Heating Degree Days (HDD) per year. Due to its high elevation, 920 m above sea level, and location adjacent to the McLeod River Valley, the Town experiences relatively high annual precipitation. Average annual snowfall is 176.5 cm and annual precipitation is 436.3 cm. Wide swings in temperatures create challenges for energy management as specifying design and operating conditions that meet the requirements of hot summers and cold winters.

In 2016 the Town of Edson developed Strategic Priorities that informed the growth and governance of the municipality between 2017 – 2021. Most relevant to the Municipal Energy Coordinator (MEC) position is the strategic pillar of creating a Healthy and Vibrant Community. Within that pillar is the goal of "Recognizing our role in environmental stewardship and creating plans and policies which support responsible practices, including procurement, energy conservation, and the three Rs.".

The Town went through another strategic priority planning session in 2022, with a new strategic plan being released on May 20, 2022. The plan covers from 2022 – 2025 and focuses on areas such as economic development, community building and engagement, infrastructure, and climate resiliency. The focus in the environmental section is on ensuring a focus on environmental strategies and resiliency against climate change.

Prior to the MEM Program, no coordinated effort has been made towards energy conservation in the Town, however significant work has been done on other environmental initiatives. The Town of Edson rolled out a curbside organics program in 2018 and had success in diverting 57% of residential organic waste, by weight, from the landfill in 2019. This success continued in 2020 and 2021 with the achievement

of a 54% and 57% diversion rate. For 2019, 2020, and 2021 the curbside organics program avoided emissions of 1,871, 1,980, and 3,006 tonnes of CO2e, respectively.

The Town has also been actively involved in the development of a Northwest Electric Vehicle Charging Network in collaboration with surrounding municipalities. Additionally, the Department of Infrastructure and Planning has been working with private industry on the installation of electric vehicle charging stations in Town. Specifically, the installation of a Tesla Supercharger and two DC fast chargers at the Canadian Tire in Town.

The scope of energy management practices in the MEM Program will be limited to the highest energy using buildings in the Town portfolio. The buildings included in the scope of the MEM Program are listed in Table 1. Sites 1 – 7 were the focus of the first year of the MEM program; sites 8 -10 were added ion year two.

Table 1 - In-scope Facilities for the MEM Program

Site No.	Site Name	Facility Type	Location
1	Repsol Place	Rec Centre	1021 49th St – Edson AB, T7E 1T7
2	Civic Centre	City Hall	605 50th St – Edson AB, T7E 1T7
3	Edson & District Public Library	Library	4726 8th Ave – Edson AB, T7E 1E3
4	Public Works Shop & Animal Pound	Workshop	1021 49th St – Edson AB, T7E 1NE
5	Edson Fire Hall	Fire/Police	4835 6th Ave – Edson AB, T7E 1E1
6	Galloway Station Museum	Museum	223 55th St – Edson AB, T7E 1L5
7	Griffiths Park Centre	Rec Centre	3240 1st Ave – Edson AB, T7E 0A3
8	Wastewater Treatment Plant	Utilities	SW 24 53 17 – Edson AB
9	Edson Airport	Airport	5719 6th Ave – Edson AB, T7E 1L9
10	Edson Landfill	Landfill	South of 54th St – Edson AB

2.2 MEM Integration

With broad interdepartmental support, integration of the Municipal Energy Coordinator (MEC) position into the Town of Edson was a smooth process. The MEC was organizationally within the Infrastructure and Planning Department. Bruce Thompson, Environmental and Fleet Services Manager, was the Executive Sponsor and direct report for the position. The MEC worked out of the Civic Centre, when COVID restrictions allowed, and worked most closely with the Senior Manager, Infrastructure Pat Fisher on engineering and capital projects.

The Municipal Energy Coordinator was directly responsible for the oversight and implementation of the MEM Program for the Town of Edson. For the first year of the program, the primary goal of the MEC was to develop a strong foundation in energy management and environmental initiatives. The foundation

would enable the Town to continually expand environmental initiatives in the coming years. This foundation was achieved through the prescribed path of the MEM program, the creation of the Edson Sustainability Series, and implementation of small scale, low-cost energy saving projects. The momentum from year one continued into year two with an expansion of the building portfolio, continued sessions of the Edson Sustainability Series, and three capital projects addressing energy efficiency.

2.3 Energy Team Creation

The Energy Team encompassed a cross departmental group of people working in all aspects of the Town. Members were divided into Primary and Secondary members. Primary Members had a wider scope of involvement in Town operations and were responsible more significant involvement in the MEM Program.

Secondary Members were comprised of building managers and operations staff who work directly in their own buildings and have a specialized knowledge of what is required to operate them efficiently and effectively. Table 2 lists all members of the Energy Team. The Energy Team did not have regular meetings. Brendan Riome was the liaison between all members when collaboration was required.

Table 2 - Energy Team Members

Primary Members	Title	Location	Responsibilities
Brendan Riome	Municipal Energy Coordinator	Civic Centre	MEM program deliverables, Project Management
Bruce Thompson	Environment & Fleet Services Manager	Public Works Shop	MEC Executive Sponsor
Mike Thibault	Facilities Maintenance Supervisor	Public Works Shop	Maintenance Scheduling

Secondary Members	Title	Location	Responsibilities
Guy Latour	Parks and Facility Maintenance Manager	Public Works Shop	Maintenance planning,
Shari McDowell	Museum Manager	Galloway Station Museum	Projects and ECMs in Galloway Station Museum
Michael Baird	Library Manager	Edson & District Public Library	Projects and ECMs in Edson & District Public Library
Tyler Robinson	Fire Chief	Edson Fire Hall	Projects and ECMs in Edson Fire Hall

To govern the implementation of the MEM program, a Project Charter was created in November 2020. The Charter outlines overarching objectives for the Town as well as specific deliverables for the first year of the MEM Program. The project objectives laid out in the Charter are in alignment with the deliverables

of the MEM program. Table 3 outlines the Objectives and Deliverables of the Project Charter, and a complete copy of the document can be found in Appendix A.

Table 3 - Project Charter Goals and Objectives

Project Objectives	
1	Develop and implement a "made for Edson" Energy Management Plan/Policy to assist in asset management, facilities operation, and future development. This Plan/Policy will be in alignment with the Town of Edson's Strategic Priorities, 2018 Asset Management Plan, Sustainable Purchasing Guide, and other Municipal Policies regarding sustainability.
2	Improve the value of Town owned capital assets through energy efficiency improvements, increased attention to maintenance, and "best practice" in building operation.
3	Reduce utility costs and GHG emissions from Town owned buildings within the project scope through energy conservation measures.
4	Cultivate a culture of conservation and sustainability amongst Town employees.
Project Deliverables	
1	Complete or initiate projects that will result in a 5% reduction in GHG emissions based on 2019 data (for buildings in scope) by October 2021
2	Develop and implement a "made for Town of Edson" energy management plan or policy
3	Development of an internal Town of Edson energy and emissions database
4	Create a culture of sustainability in all areas of Town operation

2.4 Municipality Engagement

Municipal engagement was a high priority item throughout the MEM Program. The intention was to create visibility for MEC position as well as begin integrating energy management practices into Town operations. The nature of the position was very interdepartmental and required the combined effort of all stakeholders to be truly successful. Initial engagement began in the first quarter of year one with introductions between the MEC and staff members in the Civic Centre during the onboarding process. Introductions allowed the MEC to understand the scope of work undertaken by all departments in the Town as well as for staff to understand the responsibilities of the MEC. Building tours with the Facilities Maintenance Supervisor and Building Managers were completed in Y1 Q1 to familiarize the MEC with processes and equipment in in-scope buildings.

The MEC gave a short presentation to Town Council on February 9, 2021. The presentation provided Council with an introduction to the MEC, and outline of the goals for the MEM program, and what steps were being taken to achieve those goals. No specific projects were discussed, and the provided information was kept at a very high level.

The MEC presented twice to Town Council in Y1 Q3. The first presentation was on April 27, 2021 and outlined potential energy efficiency capital projects that would address operational and maintenance issues in Town buildings. From this presentation Council directed the MEC to develop low-cost projects to address the identified issues. The second presentation, on May 25, 2021, detailed nine low-cost energy efficiency projects developed for Town buildings.

The MEC presented twice to Town Council in Y2 Q1. The first presentation, on November 9, 2021; was to update Town Council on the progress and deliverables from Year One of the MEM program. The MEM covered the Program goals for Year One, completed Energy Conservation Measures (ECMs), emissions, reductions, and the goals for Year Two of the Program.

The second presentation to Town Council by the MEC was on December 7, 2021. This presentation requested Council approve a 5% emissions reduction target for the in-scope buildings from 2019 levels for 2022. Three additional facilities were added to the MEM Program in the Town of Edson for Year Two which gave the Town a new emissions baseline to reduce from. Council made a motion to adopt the 5% reduction for 2022, which was passed unanimously.

In Y2 Q3 the MEC presented to Council on three occasions. The first presentation was on June 7, 2022, where a request was made to direct Administration to apply to Alberta Municipalities Power+ Program. The second presentation was on June 14, 2022, where the MEC provided an update to Council on the progress of the MEM Program. The third presentation was on June 21, 2022, jointly given with Pat Fisher, Senior Manager, Infrastructure, and was a request to adjust the Town's budget to complete a Review of Minimums request to Fortis Alberta.

Throughout the entirety of the MEM Program, the MEC reported weekly to the GM, Infrastructure and Planning through a short report. The report highlighted weekly progress on deliverables for both the MEM Program and other initiatives. The MEC and the Bruce Thompson also held weekly meetings to keep the Program on track.

2.5 Employee Engagement

Employee engagement was a priority in throughout the MEM Program. A program goal for the Town was to create a culture of sustainability within the Town and effective employee engagement was key to achieving this. The first major employee engagement event occurred on December 17, 2020, with a Lunch and Learn hosted by the MEC. The session discussed the results of the Town of Edson's Benchmarking Study, GHG emissions in Alberta, and progress to date with the MEM Program. The presentation had 16 attendees from across the organization, which was considered a very good turnout for a Lunch and Learn.

Y1 Q2 saw less attention being placed on engagement than Y1 Q1 due other deliverables in the Program taking priority. The most significant event was on March 29, 2021, when the MEC participating in an Employee Engagement Session with CLEAResult. The project selected for the session was Weatherization and Building Envelope Improvements. The intention was to create a plan to educate building managers

and maintenance staff on the importance of sealed buildings, weatherstripping, and thermal bridging mitigation. While a plan was created for this engagement topic, more emphasis was placed on other employee engagement campaigns. This was due to other campaigns being viewed as more effective in fostering a culture of sustainability in the Town.

The most successful employee engagement campaign was the Edson Sustainability Series (ESS). This campaign was a series of Lunch and Learns discussing energy management and sustainability topics relevant to Alberta and the Town of Edson. Six sessions of the series were hosted by the MEC, and all were well attended. Recordings of the sessions are posted to the Town of Edson's YouTube Page. Details of the ESS are expanded on in Section 3.5.

The MEC presented to the Edson Youth Council twice over the course of the MEM program. The first presentation was on June 7, 2021. The presentation covered the background of the MEC, energy management and sustainability as field of work, and potential projects the Town was considering pursuing. The second presentation to Youth Council was on May 2, 2022. The presentation covered the most previous ESS session, which was on Good News in Sustainability.

2.6 Municipality Financial Structure

The Town of Edson operates with three-year Operations and five-year Capital budgets. The budget year for the Town is January to December with budget planning occurring in July and August and approval in November or December. Planning sessions determine the budgetary requirements for the coming year and forecasts future years. Forecasted years are finalized when actual revenues and expenditures from the previous year are known.

Energy, specifically electricity and natural gas, is included in the operations budget for each cost centre. The Corporate Services Department determines allocations for utilities from previous years consumption trends and from the Town's service agreements with utility providers. There is currently no collaborative review process for utility budgets or service agreements.

Prospective energy conservation projects, whether they are low-cost, no-cost, or capital, were initially evaluated on how they align with the Town's Strategic Priorities. From there they were evaluated and ranked in accordance with their financial implications, potential GHG reductions, and their alignment with the Project Charter. No specific criteria exist to rank projects in terms of cost per tonne of GHGs avoided.

2.7 MEM Organizational Barriers and Challenges

Throughout the MEM Program, multiple organizational barriers and challenges were faced. Barriers and challenges can be broken down into two broad categories: financial and resources. Financial barriers relate to available capital funding and project priorities. Resource barriers relate to organizational capacity and experience.

Like many small rural municipalities, budgets are limited, and it becomes challenging to implement projects outside of essential services and maintenance. External provincial or federal funding needs to be actively pursued to when considering capital projects.

The lack of financial resources is most acutely felt in facilities maintenance. Currently the Town operates on a reactive maintenance program, which only services equipment after it has failed or is in dire need of repair. This "run to fail" approach has had significant effects on energy consumption in Town buildings as equipment is outdated and not running at peak efficiency. For example, during the MEM Program, efficiency gains in the Museum were offset by lack of preventative maintenance. Lack of available budget was cited as the cause for the missed maintenance. The general lack of a preventive maintenance program proved to be a major hinderance to energy efficiency work.

Secondly, in relation to resource-based challenges, considerable organizational capacity exists to manage large projects and develop policy to guide future growth. However, a significant barrier to the implementation of projects and development of policy is the lack of formalized processes in Town operations. Currently there are no standard project management processes for any department in the Town. Individuals are responsible for their own processes and management. This has led to significant cost overruns, scope creep, and inefficient delivery of projects.

To address the financial challenges, the MEC pursued external grant funding to cover costs for energy conservation projects. As of July 1, 2022, the MEC has directly and indirectly secured over $323,000 in external grant funding for the Town of Edson.

To address the resource challenges, The MEC worked with the Senior Manager, Infrastructure, Pat Fisher, to develop standard sets of documents for project management in Infrastructure and Planning. Clayton Kittlitz, GM, Infrastructure and Planning, has been working with other general managers to develop project prioritization documents to assist in capital planning.

2.8 Dealing with COVID-19

Like all municipalities, the Town of Edson was affected by COVID-19. During the initial lockdowns in April 2020 the Town temporarily laid off 18 employees and moved to a 0.9 schedule for all remaining staff to address budgetary concerns. The 0.9 schedule remained in place until January 1, 2021. During the initial lockdown, many employees were directed to work from home. This was a temporary measure and employees returned to the office during the summer.

New restrictions in November 2020 prompted more action from the Town. Town Council implemented a mandatory mask bylaw on November 18, 2020, which was in effect until the Provincial mandate superseded it. On November 27, 2020, the Town moved to a work from home model for all employees who can do so. Repsol Place was closed to the public on December 13, 2020 and remained closed until Provincial Restrictions were lifted.

During Y1 Q2 of the MEM Program the Town of Edson continued to be affected by COVID-19. Town employees continue to work from home, as per provincial restrictions. General managers and essential employees remained in the office. As of January 1, 2021, the Town returned to a 1.0 work schedule and all employees are back on full-time hours.

In Y1 Q3 the MEC began returning to the office on a week-on-week-off schedule to minimize contact with other employees. As COVID numbers reduced, the MEC returned to the office full time in July 2021. However, due to rising numbers in the fourth wave, the MEC and other employees have been directed to return to working from home as of September 1, 2021. Staff who were working from home were able to return to the office on March 1, 2022, as restrictions were eased. Staff who test positive are required to isolate for the provincially required five days and to wear a mask after returning to work for five days.

2.9 Program Feedback and Recommendations

Overall, the Municipal Energy Manager Program was a good fit for the Town. Edson had little experience in energy management prior to the program and the structure it provided allowed a strong foundation to be built. The Energy Management Assessments were especially helpful for senior leadership to visually see the progress the municipality was making.

Other tools provided, specifically the opportunity register sheet, were very useful in tracking energy and emissions savings. One major drawback with the opportunity register was that it was locked by CLEAResult, so municipalities did not have access to the back-end macros to make changes to the sheet. Allowing energy managers to adjust the tools to their needs would have allowed them to capture more granular data for energy and cost savings. For example, lighting projects reducing electrical demand in a facility had no way to capture the transmission and distribution savings in the opportunity register sheet.

The employee engagement education sessions were a good introduction to creating campaigns. More support in continuing the campaigns would have been beneficial, specifically how to capture performance metrics and adjust messaging to retain engagement.

Support for energy modelling was very good. CLEAResult provided sufficient high-level coaching on the use of RETScreen. Support for modelling outside the education sessions was adequate, although lead times on model help ran long, as in the case of the Civic Centre model. Although it wasn't a major focus of the program for modelling, more support on Energy Star Portfolio Manager would have been helpful for municipalities who wish to continue with tracking energy and emissions but do not wish to use RETScreen.

2.10 Success Stories

The Town of Edson experienced a considerable amount of success in the MEM Program both within the prescribed path of the program and with external initiatives. Broadly, the success the Town has can be broken into two categories: emission reductions and employee engagement.

The Town was very ambitious in its targets for emissions reduction among the 10 buildings in the MECs portfolio. The emissions targets for Y1 and Y2 targeted a 7.8% reduction from 2019 levels, which equals around a 219-tonne reduction. There was no dedicated budget for the energy management for the duration of the program, so no-cost and low-cost initiatives became the focus of the program. How facilities were operated as well as very low hanging fruit for low-cost projects were completed.

Highlighted ECMs that were very successful include adjustments in ventilation temperature setpoints in the Wastewater Treatment Plant, HVAC scheduling setbacks in the Public Library, and updated maintenance practices in Galloway Station Museum. For several low-cost projects, the Town received a $5,000 grant from Fortis Alberta, as shown in Figure 1. The grant covered the installation of occupancy sensors that controlled lighting and ventilation fans, timers for domestic hot water pumps, and a new, high efficiency, hot water pump for the Public Library.

As of the end of the program in Edson on July 22, 2022, 70 ECMs were completed; 41 were no-cost, 28 were low-cost, and 1 mid-cost. The result of the completed ECMs is a projected annual emissions and utility cost reduction of 206 tonnes and $88,700. Three ongoing capital projects will be completed in the fall of 2022 which will increase the amount of savings. A boiler and controls upgrade, and lighting retrofit in the Civic Centre, and a lighting retrofit in the Public Works Shop will reduce emissions and utility costs by an additional 49.4 tonnes and $10,000.

By the end of 2022, the Town of Edson will have achieved a projected emissions and utility cost reduction of 256 tonnes and $98,700, respectively. Percentagewise, this equals a 9.1% reduction in emissions compared to 2019 levels from the 10 in-scope facilities, exceeding the targeted emissions reduction.

Figure 1 - Fortis Save Energy Grant

Employee engagement, and by extension culture building, was the second major success of the MEM Program in the Town of Edson. As a resource town, Edson is not typically viewed as being an environmentally friendly place. Building a culture of sustainability and showing the work we were undertaking was essential to changing that image. The most successful part of that was the Edson Sustainability Series (ESS).

The ESS was a series of lunch and learns hosted by Brendan Riome that covered sustainability topics relevant to Edson and Alberta. Six sessions were hosted over the MEM Program, all of which were well attended and well received. All sessions were recorded and uploaded to the Town's YouTube page and shared using the Town's social media feeds. The result of the sessions was employee education on sustainability topics as well as promotion of the success the Town was having in the MEM Program.

Because of the ESS and the promotion of the recordings, additional opportunities for promotion of the work the Town was doing materialized. Brendan Riome was asked to present to several external organizations on energy efficiency matters. Two organizations reached out: Community Futures West Yellowhead and the Climate Caucus. Both presentations were well received. An Executive Director of Climate Caucus remarked about the presentation:

"It was probably one of our best presentations of the year" – Alex Lidstone, Executive Director, Climate Caucus

3 Program Activities

3.1 Benchmarking Study

The Benchmarking Study for the Town of Edson was initiated and completed in Q1 by CLEAResult. The Municipality Data Collection Form was submitted to CLEAResult on November 4, 2020, and the completed Benchmarking Report was returned on December 2, 2020. Utility data for electricity and natural gas use was provided for the 2018 and 2019 calendar year. The submitted data was normalized to calendar month and will not correspond with invoiced dates and consumption on the utility bills. Facility information for each building is described in Section 3.3.

The three additional buildings added to the Program scope were benchmarked in Y2 Q1 using Energy Star Portfolio Manager in addition to the original seven in-scope facilities. The results were compared to the results from the benchmarking study completed by CLEAResult in Year One. The results and comparison to baseline are below in Table 4. As outlined in the user guide provided by CLEAResult, Site Energy Use Intensity (EUI) was used to compare Year Two performance to a 2019 baseline. Year one performance encompasses the date range of October 1, 2020 – September 30, 2021. The same date range was used as a performance baseline for the Wastewater Treatment Plant, Airport, and Landfill.

Table 4 - Comparison of Energy Benchmarking Performance

#	Facility Name	2019 Baseline			Year One Performance		
		EUI (GJ/m^2)	ECI ($/m^2$)	Energy Star Score	EUI (GJ/m^2)	ECI ($/m^2$)	Energy Star Score
1	Edson & District Leisure Centre	2.88	$36.74	34	2.28	$32.06	62
2	Civic Centre	2.16	$26.13	19	1.95	$24.77	31
3	Edson Public Library	0.96	$13.64	N/A	0.83	$17.44	N/A
4	Edson Fire Hall	0.96	$13.79	N/A	0.99	$14.44	N/A
5	Galloway Station Museum	0.87	$22.95	N/A	0.79	$22.78	N/A
6	Griffiths Park Centre	1.81	$19.17	N/A	1.51	$16.07	N/A
7	Public Works Shop	1.27	$15.86	N/A	1.16	$16.80	N/A
8	Wastewater Treatment Plant				42.47	$1529.62	N/A
9	Edson Airport				1.64	$21.86	N/A
10	Edson Landfill				2.76	$59.16	N/A

From the results CLEAResult's study, the combined EUI of the Year One in-scope buildings was 2.07 GJ/m^2, using 2019 as the baseline year. This is 17% higher than the provincial average of 1.76 GJ/m^2. The Energy

Cost Index (ECI) for the baseline year was $26.42 CAD/m^2, 17% higher than the provincial average of $22.66 CAD/m^2. For total utility cost per occupant, the Town of Edson scored lower than the provincial average; $371 CAD/person versus $375 CAD/person, respectively.

Five of the seven Year One buildings were performing equal to or better than the Alberta Climate Average for EUI. Edson and District Leisure Centre and the Civic Centre had significantly higher EUI's than the provincial average; 2.36 GJ/m^2 versus 1.51 GJ/m^2 for the Civic Centre and 2.88 GJ/m^2 versus 1.85 GJ/m^2 for the Leisure Centre. Throughout Year One it was determined that the high EUI in the Civic Centre was the result of the building having a high occupancy, outdated HVAC equipment, and inadequate building maintenance. The high EUI in the Leisure Centre was contributed to the number of processes that occur in the building, i.e., ice rinks, indoor pool, sauna, the relative age of the facility, and lack of preventative maintenance.

In Y2 Q1, the MEC completed an update of the benchmarking study to measure the performance of in-scope facilities. All buildings, except the Fire Hall, in the Year One portfolio had a decrease in EUI during the first year of the MEM Program. With the effects of COVID-19 and restrictions, it is difficult to discern the true effects of implemented energy management practices. The Edson and District Leisure Centre and the Civic Centre experienced the most effects of restrictions. Leisure centers were shut down provincially for a period in 2021 and mandatory work from home has been in place for most of 2021. The combined effect of these could explain the significant decrease in EUI and increase in Energy Star Score for the two buildings.

The Fire Hall was the only building in the MECs year one portfolio that had an increase in EUI. The most likely explanation for this increase is the higher-than-normal number of calls to the Fire Hall from October 2020 – September 2021. In this period, the Fire Hall received 392 calls; January – December 2018 and 2019 had 295 and 381 calls, respectively. Each call requires the crew to mobilize at the Fire Hall, answer the call, and demobilize with a debriefing. Increased call numbers increase the utilization of the space and total energy consumption.

The Wastewater Treatment Plant, Airport, and Landfill were benchmarked as part of the process in Y2 Q1. As they were added to the MECs portfolio for 2022, their performance will need to be assessed at the end of September 2022 to determine the full effect of implemented ECMs.

3.2 In-Scope GHG Inventory

The Town of Edson's in-scope GHG inventory was initially provided in the Benchmarking Study from CLEAResult. The inventory was expanded in Y2 Q1 to include the three additional in-scope facilities. For Y2 onwards, the Town's emissions inventory was calculated and monitored using RETScreen Expert. Data was collected back to 2015 to get a clearer picture of the Towns emissions. The software allowed the MEC

to breakdown emissions per building relatively simply. Figure 2 shows the breakdown from RETScreen. Table 5 outlines the in-scope emissions inventory.

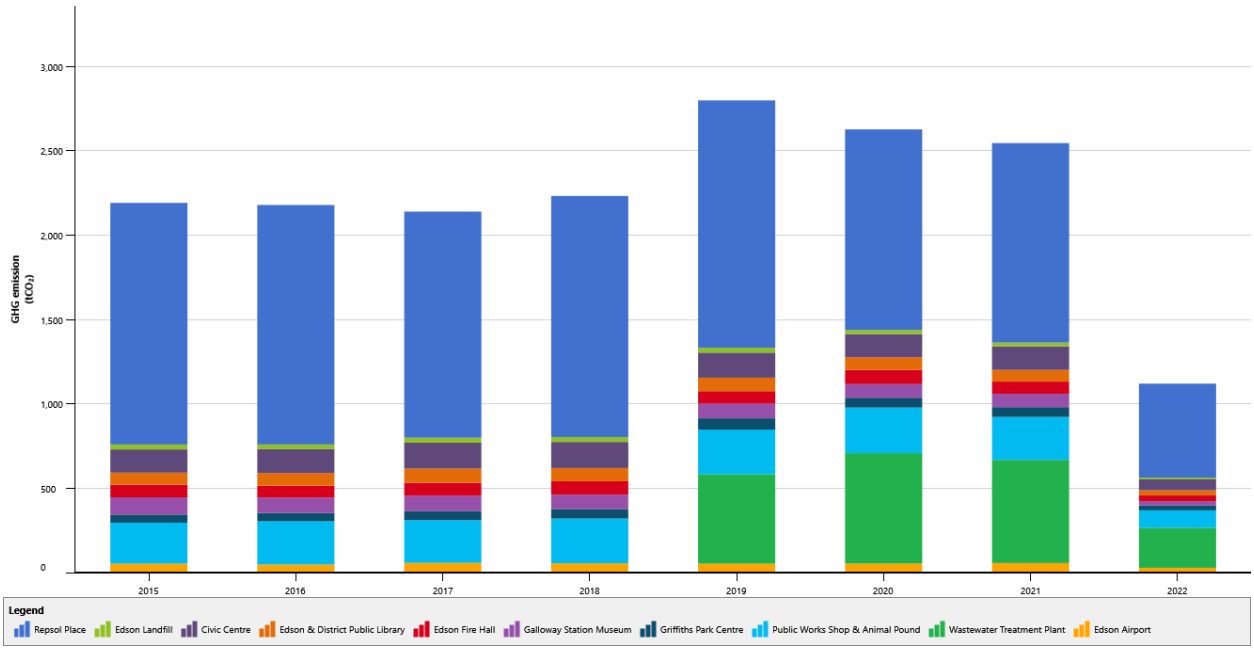


Figure 2 - Town of Edson's Emissions Inventory in RETScreen

Administration initially set a Year One emissions of 5%, as outlined in the Project Charter. In Y1 Q2 the reduction target was adjusted to account for the limited remaining life in the Edson & District Leisure Centre, resulting in an emissions reduction from 5% to 3% for the building. The Leisure Centre was scheduled to be decommissioned and demolished in 2024 as the Town constructs and opens a new Multiplex Facility. This puts a constraint on larger emissions reducing projects in the facility due to uncertainty about lifespan. To account for the uncertainty, the overall Year One emissions target was reduced to 3.6%, which equated to a 79-tonne reduction.

With three additional buildings in-scope for Year Two, a new emissions target was set. The new target went beyond the Year One targets and called for an additional 5% emissions reduction based on a 2019 baseline including all 10 in-scope facilities. In absolute terms, the target calls for an additional 140 tonne emissions reduction. Combined with the Year One target, the total municipal emissions reduction target equalled 219 tonnes over the two years of the MEM Program. Town Council unanimously approved the Year Two target on December 7, 2022.

While the target was ambitious, the accounting created confusion due to there being two different targets for Year One and Two. For future work, it would be beneficial to set a long-term emissions reduction target, e.g., reduce emissions X% by 2030; this would provide more clarity.

Table 5 - GHG Inventory and Influenced Savings

#	GHG-emitting portfolio	2019 GHG emissions (tonnes/ year)	GHG saving target (%)	Expected GHG savings (tonnes/ year)	Target timeline	Annual GHG savings	
						Influenced Savings (tonnes/year)	%
1	Edson & District Leisure Centre	1,466	3%	44	Oct 2022	18.4	42%
2	Civic Centre	148	25%	36	Oct 2022	47.7	133%
3	Edson Public Library	79.9	5%	4	Oct 2022	15.7	393%
4	Public Works Shop	264	5%	12	Oct 2022	47.5	396%
5	Edson Fire Hall	74	5%	4	Oct 2022	12.5	313%
6	Galloway Museum	87	10%	8	Oct 2022	13.8	172%
7	Griffiths Park Centre	67	5%	3.5	Oct 2022	0	0%
8	Wastewater Treatment Plant	531	20%	105	Oct 2022	98	93%
9	Edson Airport	52.8	5%	2.6	Oct 2022	1.5	59%
10	Edson Landfill	28.9	5%	1.5	Oct 2022	0.5	33%
	Total	2,798	7.8%	219		256	9.1%

As shown above, the Town of Edson emitted 2,798 tonnes of GHGs in 2019 from the 10 in-scope facilities. The Leisure Centre and Wastewater Treatment Plant are responsible for 71% of the emissions in the portfolio. Public Works Shop and the Civic Centre are the third and fourth highest emitters, comprising 15% of the portfolio.

As of July 14, 2020, 70 ECMs have been completed that will influence 206 tonnes of emissions reductions annually. Three major capital projects are currently in progress and will be completed prior to the end of 2022. The projects are a boiler and controls retrofit and lighting retrofit in the Civic Centre and a lighting retrofit in Public Works. The boiler and controls retrofit is expected to be completed by September 15, 2022, and the lighting retrofits by November 30, 2022. When completed, the capital projects will influence an additional 49.4 tonnes of emissions reductions.

3.3 Energy Scan and Opportunity Register

All Energy Scans for the 10 in-scope facilities were completed by Y2 Q1. Table 6 outlines the results of the Energy Scans, including the number of ECMs for each site. Griffiths Park Centre did not receive a formal Energy Scan due to the extensive renovations currently underway. Four ECMs were identified at Griffiths

Park Centre that do fit into the context of the MEM Program. The identified ECMs are being completed by Community Services as a separate project from the MEM program.

Table 6 - Energy Scan Progress for In-Scope Buildings

#	Building Name	Scan Completion Date	Opportunity Register Submission Date	Number of ECMs Identified	Measures included in EMP
1	Edson & District Leisure Centre	28/10/2020	25/11/2020	52	Yes
2	Civic Centre	16/11/2020	27/11/2020	26	Yes
3	Edson & District Public Library	7/12/2020	15/12/2020	19	Yes
4	Public Works Shop	30/03/2021	01/06/2021	30	Yes
5	Edson Fire Hall	11/02/2021	12/02/2021	22	Yes
6	Galloway Museum	20/01/2021	01/02/2021	23	Yes
7	Griffiths Park Centre	N/A	N/A	4	No
8	Wastewater Treatment Plant	16/11/2021	13/12/2021	18	Yes
9	Edson Airport	8/11/2021	02/12/2021	26	Yes
10	Edson Landfill	10/11/2021	13/12/2021	22	Yes
11	Municipality Wide	Continuous	Continuous	32	No
			Total	274	

To date, 274 ECMs have been identified in 10 in-scope facilities. Three additional ECMs were identified in Q3. All ECMs a catalogued in a Master Opportunity Register. A summary of identified ECMs from the Master Opportunity Register can be found in Appendix B.

All identified ECMs were prioritized and added to a Master Energy Management Plan (EMP). The EMP is discussed in Section 3.4.

3.3.1 Edson & District Leisure Centre

The Edson & District Leisure Centre was the first building to undergo an Energy Scan on October 21, 2020. It was determined this building would provide the best opportunity to train the MEC on conducting an Energy Scan due to the scope of activities and equipment in the building. The facility serves as the recreational centre for the Town of Edson and contains two ice rinks and an indoor pool. The original building, located at 1029 49th St, was constructed in 1960 and a second rink and the pool were added to the facility in 1987. The rinks are operational from the last week of August to the first week of April in a typical year; the pool operates all year round. During the summer the rink areas are used for sports and

trade shows, with May and June being the busiest months. The main areas of focus in the building were the HVAC systems and the Ice Plant.

A virtual Energy Scan Prep-call was undertaken on October 21, 2020, and the Brainstorming session on October 28, 2020. Both sessions were led by Prashant Patel from CLEAResult. An Opportunity Register (OR) was created by CLEAResult and delivered to the Town of Edson on November 25, 2020. The OR identified 45 energy conservation measures ranging from no-cost opportunities to capital projects. Thirty-four no-cost and low-cost EMCs were identified. The focus in this facility will be on low/no-cost project and operational improvements. The Leisure Centre was expected to be closed and decommissioned in 2024 as the Town completes a new Multi-Plex facility so capital projects in the existing facility will not provide a long-term economic benefit. As of July 2022, there is uncertainty of which course of action will be taken with the Leisure Centre and Multi-Plex.

3.3.2 Civic Centre

The Town Civic Centre was selected as the second building to undergo an Energy Scan. The Civic Centre currently serves as the administrative centre for the Town and the headquarters for the Infrastructure and Planning, Corporate Services, and Community Services departments, as well as the Chief Administrative Officer. Originally constructed in 1957 as a fire hall and library, the building was converted in 1989 to its current configuration. The HVAC system in the building was the primary focus of the scan due to the inefficiencies present. A single boiler provides hot water for radiant baseboard heaters throughout the building, which provide heat to all zones. Seven roof mounted HVAC units provide air conditioning in cooling months and a small amount of preheat during the winter. The boiler unit is original to 1957 and subsequently has a very low operating efficiency.

The scan was completed on November 16, 2020. From the scan, a total of 21 ECMs were identified and added to the Master Opportunity Register. The focus in the Civic Centre will be in HVAC, Lighting, and plug loads. Potential projects include HVAC controls upgrades, a boiler replacement, and interior and exterior LED lighting upgrades.

3.3.3 Edson & District Public Library

The Edson and District Public Library serves the Town of Edson and surrounding areas. Due to its high occupancy count, the facility was a good candidate for an Energy Scan. The building was constructed in 1980 and is currently operated 55 hours per week, accommodating up to 150 guests per day. Interior space is divided into main library stacks, two multipurpose spaces used for programming, and a ceramic studio. The ceramic studio is operated by the Edson Creative Arts Society, independent of the Library. The studio has its own electricity meter, and the utility costs are paid by the Arts Society.

The Library is heated by six furnaces, serving five zones. Roof mounted air conditioning units provide cooling during the summer months. In October 2020, a mechanical condition study was undertaken by Fox Engineering Ltd in preparation for major renovations, planned for 2021 and 2022. From this study and the Benchmarking Study provided by CLEAResult, the Library was found to be performing very well in

terms of energy use. In 2018, the baseline year, the Library had an EUI of 0.96 GJ/m^2; 53% lower than the provincial average of 2.01 GJ/m^2.

An Energy Scan was performed on December 8th, 2020, with Brendan Riome and Michael Baird present. A total of 19 ECMs were identified and added to the Master Opportunity Register. The focus in the Library will be HVAC scheduling, LED lighting upgrades, and a possible DHW heater retrofit.

3.3.4 Galloway Station Museum & Travel Centre

Galloway Station Museum & Travel Centre has served as a tourist information centre and museum for the Edson area since its construction in 2011. The building consists of two sections, the new Museum and the Original Museum; the Original Museum is the original 1917 construction. Within the new Museum is a museum, gift shop, rental space, and archives. In a typical year, the building sees around 40 visitors per day and about 180 rentals per year. Typically, 20 internal events are hosted annually, which consist of speaker series, senior events, and public engagement. The building is open 7 days a week from May long weekend to September long weekend and 6 days a week the rest of the year.

The building has 4 HVAC zones with forced air heating. Three zones have air conditioning. The fourth, in the Original Museum, has no air conditioning. There is an archive room in the basement of the new Museum with its own furnace and humidification system.

The Energy Scan for Galloway Station Museum & Travel Centre was completed on January 20, 2021. Present at the Scan was Brendan Riome and Sheri McDowell, Museum Manager. A total of 21 ECMs were identified in the Scan and were added to the Master Opportunity Register.

3.3.5 Edson Fire Hall

The Edson Fire Hall serves as the main staging area for the Edson Fire Department and Protective Services. The building was constructed in 1984 and has been in continual operation since then. The station is typically staffed Monday to Friday, 8:00AM - 4:00PM, with one Peace Officer staffing the facility as late as 8:00PM. A duty crew occupies the Truck Bay on Saturdays for several hours. Training for staff occurs on Tuesday and Thursday evenings. In a typical year, the Fire Department receives roughly 400 calls. Each call consists of mobilization in the Truck Bay and debriefing in the training room after the call has been completed.

HVAC in the building is separated into three zones: Office Area, Training Room, and Truck Bay. Two natural gas furnaces serve the Office Area and Training Room. The Truck Bay is heated by four natural gas overhead heaters. Roof mounted air conditioning units serve the Office and Training Room in the cooling season. One DHW heater serves the entire building. The training room contains a kitchen with a full-size fridge and stove.

The Energy Scan for Edson Fire Hall was completed on February 11, 2021. Present at the Scan was Brendan Riome and Tyler Robinson, Fire Chief. A total of 18 ECMs were identified and added to the Master Opportunity Register. The focus for the facility was on HVAC and lighting.

3.3.6 Public Works Shop & Animal Pound

Public Works Shop and Animal Pound serves as the operations centre for the Town of Edson's Parks division, Fleet vehicles, Facilities Maintenance, Transportation, and Utilities. An add-on to the building serves as an Animal Pound. The main building is split between offices (~35% by floorspace) and maintenance bays. Regular hours for the building are 7:00AM – 4:00 PM, Monday to Friday. Due to the nature of municipal operations, the building has the potential to operate 24/7 on an on-call basis.

Mechanically the building is split into many zones. The office spaces are served by rooftop units for heating and cooling. All mechanical bays are heated by mixture of radiant heating and forced air unit heaters. The Animal Pound has a small boiler serving in-floor radiant heating in the exterior dog kennels. Inside the Animal Pound is heated by a single forced air unit heater. There is no air conditioning in the Animal Pound.

The Energy Scan for Public Works Shop and Animal Pound was completed on March 26, 2021. Present at the Scan was Brendan Riome, Bruce Thompson, Mike Thibault, and Guy Latour. A total of 22 ECMs were identified and added to the Master Opportunity Register.

3.3.7 Griffiths Park Centre

Griffiths Park Centre is a small community dry recreation centre operated by the Town of Edson. Originally the Boys and Girls Club, the Town took control of the building in 2019 with the intention for the Community Services department to run programming out of the space. The building was constructed in 1983 and has received very few updates since then. The building is divided into several areas: two multi-use recreation spaces, a kitchen, Office and admin spaces, and a storage garage for the Parks Department.

Most of the facility is heated and ventilated by four gas fired furnaces via below grade ductwork; there is no air conditioning in the building. Temperature is controlled by a non-programmable thermostat. The Parks garage is heated by a gas-fired unit heater.

Griffiths Park Centre is currently undergoing significant renovations to convert the space for increased occupancy and programming. An Energy Scan wasn't deemed appropriate given the scope of renovations. However, as identified by an Engineering Study, a lighting and HVAC upgrade was added to the Master Opportunity Register as ECMs. Two other small upgrades were also identified and added to the Register.

3.3.8 Wastewater Treatment Plant

The Wastewater Treatment Plant (WWTP) is the newest facility owned by the Town of Edson and is the second highest energy consumer. The Town took over operation in February 2019 after several years of construction. The facility is relatively small with two indoor processing areas and outdoor two cells. The

facility is typically staffed by one operator Monday – Friday from 7:30AM – 4:00PM and 7:30AM – 2:00PM on Saturday and Sunday. Additional staff members are on call if required.

The WWTP is a very high GHG emitter in the Towns portfolio, comprising 17% of the in-scope emission. Significant opportunities exist in the facility to reduce energy consumption. An energy scan was completed on November 16, 2021, with the MEC and Utility Operator in attendance. The scan covered all areas of the facility including HVAC, lighting, process energy, and building envelope. A total of 17 ECMs were identified and added to the Master Opportunity Register and submitted to stakeholders on December 13, 2021.

3.3.9 Edson Airport

The Edson Airport is a small commercial certified airport that serves private and commercial flights. The Airport is owned by the Town and consists of a Terminal building, two storage garages, a public parking lot, two private hangers, and a runway. The Airport is staffed by one Airport Coordinator Monday – Friday from 7:30AM – 4:00PM. The facility is open 24/7 to aviation users and typically sees 2-3 members of the public per day.

The Terminal and one storage garage were constructed in 1977. The second storage garage was constructed in 2008 as an unconditioned space for equipment; this space was renovated in 2015 by insulating the buildings and adding radiant heaters. The Terminal building received major renovations in 2006 with new siding and a pitched roof. Other significant upgrades at the Airport include the addition of LED runway lights in 2014, LED lighting in the public parking lot in 2018, LED lighting in one of the storage garages, and a new furnace and AC unit in the Terminal.

An Energy Scan was completed on November 8, 2021, with the MEC, Airport Coordinator, and Transportation Manager in attendance. The scan focused on the three Town owned facilities at the Airport and identified 25 ECMs related to HVAC, building envelope, DHW, and plug loads. The ECMs were added to the Master Opportunity Register and submitted to all stakeholders on December 2, 2021.

3.3.10 Edson Landfill

The Edson Landfill is a Class 3 Landfill owned and operated by the Town. Energy consuming facilities at the Landfill include a Weigh Scale and a storage garage for equipment. The facility is open to the public Tuesday- Saturday from 10:00AM – 6:00PM and is closed Sunday, Monday, and Stat holidays.

The Landfill is a very small emitter in the Town's portfolio, emitting around 1% of the in-scope emissions in 2019. Despite this, the Landfill has had success in emissions reductions in other aspects of its operation. In 2018 the Town started a curbside organics collection program to divert organic materials away from the Landfill. The program has been very successful in diverting waste from the Landfill; 2019, 2020, and 2021 achieved 57%, 54%, and 57% diversion rates, avoiding 1,871, 1,980, and 3,006 tonnes of GHGs, respectively. The MEC wanted to continue the momentum this success has achieved by working to lower emissions in other aspects of the Towns waste streams.

An energy scan was completed at the Landfill on November 10, 2021, with the MEC and Executive Sponsor, Bruce Thompson, in attendance. The scan identified 21 ECMs that addressed HVAC, lighting, domestic hot water, building envelopes, and plug loads. The identified ECMs were added to the Master Opportunity Register and submitted to all stakeholders on December 13, 2021.

3.4 Energy Management Assessment & Energy Management Plan (EMP)

3.4.1 Energy Management Assessment

Information such as Action Plans and spider charts for both Energy Management Assessments can be found in Appendix C.

The first Energy Management Assessment (EMA) was facilitated by CLEAResult with the Town of Edson on November 30, 2020. The meeting was attended by operations staff and senior management, from the Town. A list of meeting attendees is shown in Table 7.

Table 7 - EMA Session 1 Attendance List

Name	Title	Organization
Prashant Patel	MEM Coach	CLEAResult
Brendan Riome	Municipal Energy Coordinator	Town of Edson
Bruce Thompson	Environment & Fleet Services Manager	Town of Edson
Mitch Hamm	GM Infrastructure and Planning	Town of Edson
Brigitte Lemieux	Planning Manager	Town of Edson
Mike Derricott	Chief Administrative Officer	Town of Edson
Sarah Bittner	GM Corporate Services	Town of Edson

CLEAResult determined the Town of Edson had a good start in implementing energy management practices. The main strengths of the organization were identified as the support at the executive level, a dedicated energy team, and a strong awareness among employees about the benefits of energy efficiency. Opportunities for improvements were identified in the areas of energy policy, planning and budgeting, employee engagement, training and development, and performance tracking. The Town of Edson scored a 48% based on a guided self-assessment of energy management practices, which is a median score for a first year EMA for municipalities. CLEAResult provided a list of recommendations in Plan, do, Check, Act categories based on where the Town was positioned during the assessment. A total of 26 items were identified for an Action Plan.

The Town of Edson completed a second EMA, hosted by CLEAResult, on November 29, 2021. Attendees from the Town of Edson are shown in Table 8. The session reviewed the progress the Town of Edson made in 2021 based on the year one EMA action plan.

Table 8 - EMA Session 2 Attendance List

Participant Name	Title
Brendan Riome	Municipal Energy Coordinator
Christine Beveridge	Chief Administrative Officer
Clayton Kittlitz	General Manager, Infrastructure and Planning
Bob Beck	General manager, Community Services
Sarah Bittner	General Manager, Corporate Services
Bruce Thompson	Manager, Environment and Fleet Services

The Town received the new EMA report from CLEAResult on December 17th, 2021. From the report, the Town showed a marked improvement in its energy management practices. The Towns overall survey score increased from 48% in the first EMA session to 71%. Each area of the Plan, Do, Check, Act approach to energy management saw an increase in score. The most significant progress was seen in Executive Understanding and Commitment, which increased from a score of 1 to 3 in 2021. From the Action Plan, 15 measures were completed.

The EMA had to pivot in Y2 Q3 due to changes in organizational priorities. The Town of Edson released its new Strategic Plan on May 20, 2022. One identified priority was "Responding to a Changing Global Environment." Two goals under this priority are "Ensuring a strong focus on environmental strategies" and "Be resilient in the face of climate change." Through discussion with Clayton Kittlitz, General Manager, Infrastructure and Planning, it was decided that an Energy Management Policy was not the best course of action to guide sustainability work going forward; having the goals in the Strategic Plan and a policy was viewed as redundant.

The direction going forward is to use the Strategic Plan as the guiding document for environmental work, including energy management. More focus will be placed on implementing environmental initiatives in the Town as opposed to long range planning. Focusing on initiatives will allow the Town to see results sooner than if planning exercises were undertaken.

3.4.2 Energy Management Plan

As Energy Scans were completed, individual Energy Management Plans (EMPs) were developed for each building. When all buildings had undergone an Energy Scan, a Master EMP was compiled in a spreadsheet.

This document separated ECMs by building and by potential cost; one sheet was for no-cost ECMs, another for low-cost ECMs, and one for capital projects. The EMP was treated as a living document that evolved based on available resources for completing ECMs. A full overview of the master EMP can be found in Appendix D.

3.5 Employee Engagement Campaign

The MEC participated in the CLEAResult led Employee Engagement Training session on March 29, 2021. The session covered the development of an Awareness, Desire, Knowledge, Ability, and Reinforcement (ADKAR) based employee engagement campaign. Two employee engagement campaigns were developed in Year One. The planning sheet for each campaign can be found in Appendix E.

The first campaign that was developed targeted weatherization and building envelope improvements. The purpose of the campaign was to educate maintenance staff and management on the importance of proper weather sealing and building envelope maintenance. Engagement with this audience was planned to follow the ADKAR method. Table 9 outlines the ADKAR detail for the Weatherization and Building Envelope Improvement Project.

Table 9 - ADKAR Method for Weatherization Campaign

Awareness	• Reduced energy costs • Lower maintenance costs • Increased building lifespan
Desire	• Simplified maintenance schedules • Better control of HVAC and occupancy comfort • Integration of work into a fixed, preventative maintenance schedule
Knowledge	• The impact of air leakage on building performance and lifespan • Training on how to properly address building envelope issues
Ability	• Track changes in utility consumption after work is completed • Engage with building occupants about changes in comfort levels • Follow-up on work that has been completed
Reinforcement	• Celebrate success when work is completed

The campaign received minimal focus from the MEC, as it was determined to be too specific to push create organization-wide change. Engagement work was undertaken with the Facilities Maintenance Manager, Facilities Maintenance Supervisor, and the Library Manager on the importance of building envelope improvements.

The second campaign developed by the MEC was the Edson Sustainability Series (ESS). The ESS was a series of lunch and learns discussing energy management and sustainability topics relevant to the Town of Edson, Alberta, and Canada. The intention of the series was to integrate sustainable ideas into the town, bring awareness to the changes in the energy landscape, and to attempt to break down communication silos between departments.

Engagement for this project was open to all audiences and levels of the organization. Invitations were sent out to Council, Management, Coordinators, and operators. Engagement with this audience followed the ADKAR method, outlined in Table 10.

Table 10 - ADKAR for Edson Sustainability Series

Awareness	• Education on current trends in sustainability and energy management • Information to inform the direction the Town is moving
Desire	• Desire to improve Town infrastructure and environmental impact
Knowledge	• Host a monthly lunch and learn on relevant topics
Ability	• Receive support from management for the series
Reinforcement	• Feedback from staff on the usefulness of the series • Track number of audience members per presentation

The MEC completed six Edson Sustainability Series webinars over the course of the MEM Program. Table 11 outlines the results of in-person/virtual attendance and their performance on the Town's YouTube Page, as of July 14, 2022.

Table 11 - ESS Attendance and Online Performance

#	Presentation Title	Presentation Date	In-person/Virtual Attendance	YouTube Views
1	Electric Vehicles in Canada and Alberta	May 6, 2021	13	108
2	Alberta's Electrical Grid	June 3, 2021	12	69
3	COVID and Global Emissions	July 15, 2021	9	48
4	Climate Change in Alberta	August 5, 2021	4	106
5	Energy Saving Tips at Home and in the Office	February 3, 2022	9	59
6	Good News in Sustainability	April 22, 2022	9	53

Reception to the series has been generally positive with good attendance compared to other lunch and learns hosted by the Town. Promoting the series on the Town of Edson's social media, as well as on the MEC's person feeds, has also garnered a positive reception from the wider energy management and municipal community.

3.6 Energy Management Software Plan

To manage energy use in the Town of Edson two methods were used to quantify and measure energy savings: RETScreen and engineering calculations. RETScreen was used to create energy models of each building in the portfolio as well as for measurement and verification of ECMs. Engineering calculations were used to determine energy savings and emissions reductions from specific ECMs. Table 12 details the Energy Management Software Plan for the Town of Edson.

Engineering Calculations were used primarily in Y1 Q1 and Q2 as the MEC was not experienced in using RETScreen. As the MEC gained more experience in RETScreen, more calculations were shifted to the software. By Y2, all energy calculations were completed using RETScreen. Additionally, a RETScreen portfolio was completed that compiles all model data. The portfolio was updated using RETScreen Connect to efficiently add new data.

Table 12 - Energy Management Plan

#	Facility Name	Chosen EMS	Competency Level (Scale 1-5)[1]	Fuel Type to be Quantified	Expected model completion date
1	Edson & District Leisure Centre	RETScreen and Eng. Calc.	4	Elec and Gas	Complete
2	Civic Centre	RETScreen	4	Elec and Gas	Complete
3	Edson Public Library	RETScreen	4	Elec and Gas	Complete
4	Edson Fire Hall	RETScreen	4	Elec and Gas	Complete
5	Galloway Station Museum	RETScreen	4	Elec and Gas	Complete
6	Griffiths Park Centre	RETScreen	4	Elec and Gas	Complete
7	Public Works Shop	RETScreen	4	Elec and Gas	Complete
8	Wastewater Treatment Plant	RETScreen	4	Elec	Complete
9	Edson Airport	RETScreen	4	Elec and Gas	Complete
10	Edson Landfill	RETScreen	4	Elec and Gas	Complete

3.7 Projects Summary

The focus for projects in Edson for the MEM Program was on no-cost and low-cost initiatives. A total of 70 ECMs were completed between October 5, 2020 and July 22, 2022; 41 no-cost, 28 low-cost, and 1 mid-cost measure were completed. Table 13 outlines all ECMs/projects completed during the Program. Total projected emission and cost reductions are 205.9 tonnes and $88,730, respectively. Energy and emissions savings were quantified through RETScreen models. CUSUMs for the RETScreen models can be found in Appendix E.

[1] Provide the competency level on chosen EMS – **1:** No prior knowledge, training, or experience; **2:** Beginner knowledge - has attended training or experiential learning but is not yet competent; **3:** Intermediate knowledge and experience, able to work on the subject with extra leanings; **4:** Advanced knowledge and experience, comfortable to work on the subject; **5:** can be considered an expert on this subject.

Table 13 - ECMs Completed during MEM Program

SN	Measure/Project details	Measure category	Cost class	Expected measure cost ($)	Expected energy saving (kWh/year)	Expected energy savings (GJ/year)	Expected cost savings ($/year)	Expected GHG savings (tonnes/year)	Expected measure lifetime (years)	EMS Used for calculation	Completion date
Edson & District Leisure Centre											
1	ECM R11 – Use a wider temperature range for unoccupied spaces	Opp. Reg	No-Cost	$0	1,127	31	$247	2.33	Indefinite	Eng. Calc	08/01/2021
2	ECM R17 – Reduce flood water temperature to 140F	Opp. Reg	No-Cost	$0	0	174	$1,001	8.91	Indefinite	Eng. Calc	05/01/2021
3	ECM R29 – Reduce DHW setpoint to 54C	Opp. Reg	No-Cost	$0	1,905	8.2	$163	1.50	Indefinite	Eng. Calc	08/01/2021
4	ECM R33 - Perform a thermographic scan of the building	Opp. Reg	No-Cost	$0	0	0	$0	0	N/A	N/A	23/03/2021
5	ECM R39 - Reduce the pool temp during unoccupied hours	Opp. Reg	No-Cost	$0					Indefinite		01/06/2021
6	ECM R45 - Lower the setpoints for Centennial dressing room heat pumps while they are unoccupied	Opp. Reg	No-Cost	$0	8,528	0	$520	4.86	Indefinite	Eng. Calc	08/01/2021
7	ECM R46 – Minimum rate review	Opp. Reg	No-Cost	$0					Indefinite	Eng. Calc	01/03/2022
8	ECM 254 – Shut down heat trace lines in the south dressing rooms during spring, summer, and early fall	Opp. Reg	No-Cost	$0	1,476		$135	0.84	Indefinite	Eng. Calc	01/06/2022
			Facility Total	$0	13,036	214	$2,066	18.44			

SN	Measure/Project details	Measure category	Cost class	Expected measure cost ($)	Expected energy saving (kWh/year)	Expected energy savings (GJ/year)	Expected cost savings ($/year)	Expected GHG savings (tonnes/year)	Expected measure lifetime (years)	EMS Used for calculation	Completion date
Civic Centre											
9	ECM 28 – Adjust programming on thermostats to add a setback on evenings and weekends	Opp. Reg	No-Cost	$0	0	96.8	$557	4.95	Indefinite	Eng. Calc	26/01/2021
10	ECM 30 – Control washroom exhaust fans and lighting with occupancy sensors	Opp. Reg	Low-Cost	$1,155	3780	50.3	$652	4.73	10	RETScreen	21/01/2022
11	ECM 31 – replace exhaust fans with notched v-belts	Opp. Reg	Low-Cost	$50	68	0	$6	0.04	5	Eng. Calc	20/07/2021
12	ECM 32 – Install a timer on the DHW recirculation pump	Opp. Reg	Low-Cost	$214	1325	3	$214	0.91	10	RETScreen	21/01/2022
13	ECM 33 - Review temperature setpoints for the lobbies in the building and adjust to a lower temperature	Opp. Reg	No-Cost	$0	554	2.11	$59	0.42	Indefinite	Eng. Calc	20/01/2021
14	ECM 41 - Adjust office fridge and freezer temperatures if they are not optimal	Opp. Reg	No-Cost	$0	50	0	$4	0.03	Indefinite	N/A	26/01/2021
15	ECM 42 - Reduce DHW setpoint to 130 F (54 C)	Opp. Reg	No-Cost	$0	0	0	0	0	Indefinite		26/01/2021
16	ECM 45 – Increase setpoint in the server room to 70F	Opp. Reg	No-Cost	$0	116	0	$11	0.07	Indefinite	Eng. Calc	09/02/2022
17	ECM 46 – Install/repair door sweeps and weatherstripping	Opp. Reg	Low-Cost	$510	0	51.6	$314	2.64	Indefinite	RETScreen	30/03/2022
18	ECM 47 - Perform a thermographic scan of the building	Opp. Reg	No-Cost	$0	0	0	0	0	N/A	N/A	22/02/2021

			Facility Total	$1,929	5,894	203.81	$1,780	13.77			
SN	**Measure/Project details**	**Measure category**	**Cost class**	**Expected measure cost ($)**	**Expected energy saving (kWh/year)**	**Expected energy savings (GJ/year)**	**Expected cost savings ($/year)**	**Expected GHG savings (tonnes/year)**	**Expected measure lifetime (years)**	**EMS Used for calculation**	**Completion date**
Edson & District Public Library											
19	ECM 49 - Program current thermostats with a night setback during heating season	Opp. Reg	No-Cost	$0	0	64	$370	3.29	Indefinite	RETScreen.	14/01/2021
20	ECM 55 - Additional LED retrofits in the Atrium	Opp. Reg	Low-Cost	$245	3,937	0	$337	1.90	15	Eng. Calc	06/07/2021
21	ECM 60 - Reduce DHW setpoints to 54C	Opp. Reg	No-Cost	$0	0	12.2	$70	0.62	Indefinite	Eng. Calc	02/02/2021
22	ECM 62 - Install a timer on the DHW recirculation pump	Opp. Reg	Low-Cost	$890	602	5.3	$87	0.61	15	RETScreen	21/01/2022
23	ECM 63 – Insulate DHW piping where missing	Opp. Reg	Low-Cost	$0	0	6.51	$40	0.33	20	Eng. Calc	09/02/2022
24	ECM 64 – Install or repair door sweeps and weatherstripping on doors	Opp. Reg	Low-Cost	$400	0	76.9	$468	3.93	5	Eng. Calc	02/11/2021
25	ECM 65 - Locate and Seal all penetrations in the building envelope	Opp. Reg	Low-Cost	$75	0	20	$113	1.00	10	Eng. Calc	14/07/2021
26	ECM 66 - Seal window frame in the Quiet Reading Room with weatherproof silicone	Opp. Reg	Low-Cost	$1,690	0	76.7	$441	3.92	15	Eng. Calc	14/07/2021
27	ECM 67 - Turn off all computers at the end of the day instead of letting them be in sleep mode all night	Opp. Reg	No-Cost	$0	85	0	$7	0.05	Indefinite	Eng. Calc	14/01/2021

			Facility Total	$3,300	4,624	262	$2,015	15.66			
SN	**Measure/Project details**	**Measure category**	**Cost class**	**Expected measure cost ($)**	**Expected energy saving (kWh/year)**	**Expected energy savings (GJ/year)**	**Expected cost savings ($/year)**	**Expected GHG savings (tonnes/year)**	**Expected measure lifetime (years)**	**EMS Used for calculation**	**Completion date**
Galloway Station Museum											
28	ECM 68: Program thermostats in applicable spaces with a night setback in heating season	Opp. Reg.	No-Cost	$0	0	16	$90	0.80	Indefinite	Eng. Calc.	19/05/2021
29	ECM 69: Installed a programmable thermostat in the Original Museum	Opp. Reg.	No-Cost	$0	0	28.4	$163	1.45	Indefinite	Eng. Calc	04/05/2021
30	ECM – 70 - Review programs on thermostats and adjust in applicable spaces with a night setback during cooling season	Opp. Reg.	No-Cost	$0	TBD	TBD	TBD	TBD	Indefinite	RETScreen	01/06/2021
31	ECM 72: Clean ducts of dust and obstructions from cleaner, smoother airflow (a schedule was set)	Opp. Reg	Low-Cost	TBD	0	0	$0	0	5	RETScreen	26/05/2021
32	ECM 73: Clean furnaces and AC units to ensure proper performance and efficiency	Opp. Reg	Low-Cost	$4,463	19,000	0	$1,739	7.24	1	RETScreen	26/05/2021
33	ECM 74: Retrofit all interior lighting to LEDs	Opp. Reg	No-Cost	$0	909	0	$78	0.31	10	Eng. Calc.	06/05/2021
34	ECM 80: Perform a monthly or bi-monthly walkaround inspection of exterior lighting to determine if it is functioning properly (i.e., off during the day)	Opp. Reg.	No-Cost						N/A	N/A	01/05/2021

35	ECM 81: Adjust office fridge and freezer temperatures if they are not optimal	Opp. Reg	No-Cost	$0	50	0	$4	0.03	Indefinite	RETScreen	01/05/2021
36	ECM 82 – Insulate DHW piping where missing	Opp. Reg	Low-Cost	$0	0	6.50	$40	0.33	15	Eng. Calc	10/02/2022
37	ECM 84: Reduce DHW setpoints to 54C (130F) if applicable	Opp. Reg.	No-Cost	$0	0	0	0	0	Indefinite	Eng. Calc.	01/05/2021
38	ECM 247 – Minimum Rate Review for the Museum	Opp. Reg	No-Cost	$0	0	0	$14,000	0	Indefinite	Eng. Calc	02/07/2022
			Facility Total	$4,463	19,959	51	$16,134	13.75			

SN	Measure/Project details	Measure category	Cost class	Expected measure cost ($)	Expected energy saving (kWh/year)	Expected energy savings (GJ/year)	Expected cost savings ($/year)	Expected GHG savings (tonnes/year)	Expected measure lifetime (years)	EMS Used for calculation	Completion date
Edson Fire Hall											
39	ECM 89: Set Programming on the thermostats for heating and cooling season	Opp. Reg	No-Cost	$0	0	21	$123	1.09	Indefinite	Eng. Calc.	04/05/2021
40	ECM 90 - Install ERVs or HRVs	Opp. Reg	No-Cost	N/A	N/A	N/A	N/A	N/A	N/A	N/A	01/06/2021
41	ECM 91 – Clean furnaces and HRVs	Opp. Reg	Low-Cost	$800	197	12.4	$93	0.75	1	RETScreen	22/03/2022
42	ECM 92 - Install programmable thermostats and schedule temperature setbacks in the Truck Bay	Opp. Reg	Low-Cost	$1,700	0	134	$771	6.85	10	RETScreen	14/09/2021
43	ECM 98 - Adjust office fridge and freezer temperatures if they are not optimal	Opp. Reg	No-Cost	$0	50	0	$4	0.03	Indefinite	Eng. Calc	12/07/2021
44	ECM 100 - Insulate DHW piping where insulation is missing or damaged	Opp. Reg	Low-Cost	$75	0	10.1	$58	0.51	20	Eng. Calc	06/08/2021

45	ECM 101 - Reduce DHW setpoints to 54C	Opp. Reg	No-Cost	$0	0	4.60	$26	0.24	Indefinite	Eng. Calc	24/02/2021
46	ECM 104 - Install or repair door sweeps, weatherstripping	Opp. Reg	Low-Cost	$400	0	46.0	$265	2.35	5	Eng. Calc	23/08/2021
47	ECM 106 - Locate and seal all penetrations in the building envelope	Opp. Reg	Low-Cost	$50	0	13.6	$78	0.69	10	Eng. Calc	10/08/2021
48	Non-ECM – Resealed around exterior windows where sealant was failing	Maintenance	Low-cost	$2,000	TBD	TBD	TBD	TBD	TBD	RETScreen	03/09/2021
			Facility Total	$5,025	247	242	$1,496	12.51			

SN	Measure/Project details	Measure category	Cost class	Expected measure cost ($)	Expected energy saving (kWh/year)	Expected energy savings (GJ/year)	Expected cost savings ($/year)	Expected GHG savings (tonnes/year)	Expected measure lifetime (years)	EMS Used for calculation	Completion date
Public Works Shop & Animal Pound											
49	ECM 107: Review programs on thermostats and adjust spaces with a setback	Opp. Reg	No-Cost	$0	0	83	$478	4.25	Indefinite	Eng. Calc.	26/05/2021
50	ECM 108 - Install programmable thermostats and schedule temperature setbacks in the Maintenance Bays	Opp. Reg	Low-Cost	$5,900	0	448	$2,569	22.9	10	Eng. Calc	14/09/2021
51	ECM 111 – Interlock washroom fans with occupancy sensors	Opp. Reg	Low-cost	$158	950	4.5	$114	0.77	10	RETScreen	21/01/2022
52	ECM 114 – Install occupancy sensors in rooms with intermittent occupancy	Opp. Reg	Low-Cost	$158	355	0	$32	0.20	10	RETScreen	21/01/2022

53	ECM 121 – Insulate DHW piping where insulation is missing or damaged	Opp. Reg	Low-Cost	$500	0	43.5	$250	2.22	10	Eng. Calc	18/10/2021
54	ECM 120 – Install a timer on the DHW recirc pump	Opp. Reg	Low-Cost	$215	764	24	$216	1.66	10	RETScreen	21/01/2022
55	ECM 122: Reduce DHW setpoints to 54C if Applicable	Opp. Reg	No-Cost	$0	N/A	N/A	N/A	N/A	N/A	N/A	26/05/2021
			Facility Total	$6,431	2,069	602	$3,858	31.98			

SN	Measure/Project details	Measure category	Cost class	Expected measure cost ($)	Expected energy saving (kWh/year)	Expected energy savings (GJ/year)	Expected cost savings ($/year)	Expected GHG savings (tonnes/year)	Expected measure lifetime (years)	EMS Used for calculation	Completion date
Wastewater Treatment Plant											
56	ECM 223 – Schedule thermostats in Lab and Office area	Opp. Reg	No-Cost	$0	8,848	0	$810	5.04	Indefinite	RETScreen	21/01/2022
57	ECM 224 – Adjust setpoints on unit heaters in storage and process areas	Opp. Reg	No-Cost	$0	2,500	0	$229	1.43	Indefinite	RETScreen	18/01/2022
58	ECM 225 – Adjust setpoints in the process areas	Opp. Reg	No-Cost	$0	158,650	0	$14,516	90.43	Indefinite	RETScreen	26/01/2022
59	ECM 227 – Adjust setpoints on the cabinet heaters	Opp. Reg	No-Cost	$0	250	0	$23	0.14	Indefinite	RETScreen	18/01/2022
60	ECM 230 – Reduce DHW setpoint to the lowest applicable setting	Opp. Reg	No-Cost	$0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
61	ECM 238 – Complete a Review of Minimums for the Facility	Opp. Reg	Mid-Cost	$43,000	0	0	$45,000	0	Indefinite	N/A	N/A
62	ECM 231 – Replace DHW heaters with small units/shut down the process heater	Opp. Reg	Low-cost		876	0	$80	0.50	Indefinite	Eng. Calc	18/01/2022

63	ECM 232 – Apply a schedule to the DHW pump	Opp. Reg	No-Cost	$)	300	0	$26	0.17	Indefinite	RETScreen	16/12/2021
			Facility Total	$0	171,424	0	$15,685	97.71			

SN	Measure/Project details	Measure category	Cost class	Expected measure cost ($)	Expected energy saving (kWh/year)	Expected energy savings (GJ/year)	Expected cost savings ($/year)	Expected GHG savings (tonnes/year)	Expected measure lifetime (years)	EMS Used for calculation	Completion date
Edson Landfill											
63	ECM 212 – Insulate DHW piping where missing	Opp. Reg	Low-Cost	$0	641	0	$59	0.37	15	Eng. Calc.	10/02/2022
64	ECM 213 – Reduce DHW setpoint to 52C	Opp. Reg	No-Cost	$0	250	0	$23	0.14	Indefinite	Eng. Calc	26/04/2022
65	ECM 220 – Adjust fridge and freezer temps in the Weigh Scale	Opp. Reg	No-Cost	$0	50	0	$5	0.03	Indefinite	Eng. Calc	26/04/2022
			Facility Total	$0	941	0	$86	0.54			

SN	Measure/Project details	Measure category	Cost class	Expected measure cost ($)	Expected energy saving (kWh/year)	Expected energy savings (GJ/year)	Expected cost savings ($/year)	Expected GHG savings (tonnes/year)	Expected measure lifetime (years)	EMS Used for calculation	Completion date
Edson Airport											
66	ECM 178 – Review HVAC scheduling in the Terminal	Opp. Reg	No-Cost	$0	0	20	$122	1.02	Indefinite	RETScreen	04/02/2022
67	ECM 189 – Insulate DHW piping where missing	Opp. Reg	Low-Cost	$0	0	9.30	$57	0.48	15	Eng. Calc	23/02/2022
68	ECM 198 – Adjust office fridge and freezer temperatures	Opp. Reg	No-Cost	$0	50	0	$5	0.03	Indefinite	Eng. Calc	04/02/2022
			Facility Total	$0	50	29.3	$183	1.53			

SN	Measure/Project details	Measure category	Cost class	Expected measure cost ($)	Expected energy saving (kWh/year)	Expected energy savings (GJ/year)	Expected cost savings ($/year)	Expected GHG savings (tonnes/year)	Expected measure lifetime (years)	EMS Used for calculation	Completion date
All Sites											
69	ECM 26 – Thermographic Scans on all Facilities	Opp. Reg	No-Cost	$0	0	0	0	0			23/03/2021
			Facility Total	$0	941	0	$86	0.54			
			Municipality Total	$59,923	218,244	1,604	$88,730	205.89			-

4 Study and Capital Project List

The Town of Edson has three capital projects related to energy efficiency currently in progress: two in the Civic Centre, and one in Public Works. All projects are planned to be completed in 2022.

Projects are planned in Griffiths Park Centre related to HVAC upgrades and a lighting retrofit. Further engineering work is required to finalize the HVAC design as well as check code compliance for the proposed changes in floor layout. Funding was secured for these projects through the MCCAC's Recreation Energy Conservation Program.

The Town of Edson received a grant through the MCCAC's Climate Resiliency Capacity Building Fund to pursue a climate risk assessment. The assessment will look at how climate change will affect Edson and surrounding area over the next 50 years. Focus will be placed on the effects on infrastructure and land use changes. The Town received $80,000 to pursue this initiative.

The Town is also pursuing a recommissioning grant through the Federation of Canadian Municipalities (FCM). The grant is to address the offline ice battery in the Leisure Centre. The ice battery has been offline for at least five years which is affecting the performance of other systems in the facility. Recommissioning the system will potentially improve the function of systems connected to the ice battery and reduce energy consumption of the ice plant. As of July 14, 2022, the Town is working with CIMCO to draft an application to the grant.

Table 14 - Summary of Studies and Capital Projects

Facility	Project	Grant Funding		Status
		Provider or Program	Amount	
Confirmed				
Civic Centre	LED Lighting Upgrade	Town of Edson	$60,000	Project has been approved as part of the Town of Edson's 2022 Operating Budget. An invitational tender is now open for the design portion of the project.
Civic Centre	Boiler and Controls Upgrade	Town of Edson	$350,000	Project has been approved as part of the Town of Edson's 2022 Operating Budget. The construction tender closed on June 14, 2022, and construction will be completed by September 15, 2022.
Climate Resiliency	Climate Risk Assessment	CRCB Fund, MCCAC	$80,000	Entered into a funding agreement with the MCCAC for a Climate Risk Assessment for Edson and Area
Griffiths Park Centre	HVAC and Lighting Upgrades	REC Fund, MCCAC	$100,000	Both lighting and HVAC grant application has been approved by the MCCAC. Additional engineering work is required to confirm code compliance and design.
Public Works Shop & Animal Pound	LED Lighting Upgrade	Town of Edson	$90,000	Project has been approved as part of the Town of Edson's 2022 Operating Budget. An invitational tender is now open for the design portion of the project.
Exploring				
Leisure Centre	Ice Battery Recommissioning	FCM	$55,000	Pursuing funding to recommission the Ice Battery in the Leisure Centre that has been offline for at least 5 years. Working with CIMCO to apply for the grant.

5 Future Work

The Town of Edson is in a great position to pursue further energy management and climate action work. A strong foundation has been built that will make future work more streamlined. As discussed in previous sections, several capital projects are in progress that will extend beyond the end of the MEM Program. many other environmental capital projects and initiatives have been identified. A significant amount of work remains to move the Town forward on environmental initiatives.

As part of the 2023 budgeting process, the MEC identified all the high-level environmental initiatives. The initiatives cover all aspect of sustainability and include energy management, water use, waste management, fleet and transportation, and parks and land use. A full list of identified initiatives can be found in Appendix G. For the near future, three high priority initiatives were identified:

Energy and Emissions Management -2023 -2024

- Complete a corporate energy, emissions, and cost inventory for all town utility accounts
    - Includes natural gas, electricity, all fleet fuel (gas, diesel, propane)
- Benchmark facilities and fleet to compare Town performance to provincial averages
- Review all Town utility accounts and ensure they are all under the same provider
    - All electricity from ABMunis, natural gas from Enmax, etc.
- Aggregate small, low/no demand accounts under Rate Code 41 Option D
- Continue energy audits on significant energy users
    - Water facilities are the highest priority, followed by Food Bank, and Medical Centre
    - Identify and prioritize energy conservation measures from audits

Climate Risk Assessment - 2023

- Complete a Climate Risk Assessment for Edson and area
- Identify expected changes in climate, temperature, precipitation, and associated risks under RCP models
- Identify actions to improve the Town's resilience to climate change
- Develop a high-level Action Plan to implement identified actions

Water Conservation Initiatives – 2023 - 2024

- Inventory total metered corporate, community, and industrial water consumption
- Inventory total metered water production
- Establish consumption benchmarks for the Town and compare to surrounding municipalities
- Identify specific water conservation measures and initiatives
- Assess the feasibility of identified water conservation measures and initiatives and draft an Action Plan

    - The Action Plan will incorporate the findings of a planned Climate Risk and Resiliency study
    - The Action Plan is to align and enhance the existing Asset Management Plan and Town Strategic Priorities
- Identify and implement public engagement activities to reduce water consumption and demand
- Funding could be provided through the MCCAC's Climate Resilience Capacity Building Program

Appendix A – MEM Program – Project Charter

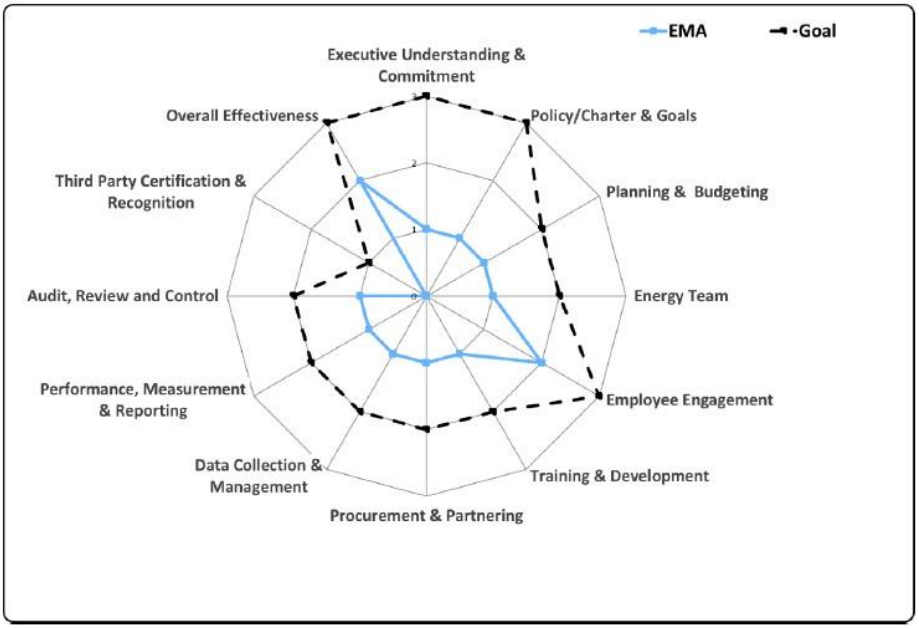
Appendix B – Summary of ECMs from Master Opportunity Register

Priority	Measures identified	Measures completed
! Just do it	44	24
A	4	1
B	10	2
C	4	1
Total	**62**	**28**

Opportunity Area	Measures identified	Measures completed
HVAC	91	24
Chiller plant	0	0
Boiler plant	7	1
Plug loads	39	9
Kitchen/ Refrigeration/ Laundr	0	0
Lighting	41	5
Compressed air	3	0
Refrigeration	7	1
DHW	39	19
Envelope	45	10
Server room / data center	1	1
Other	0	0
Total	**273**	**70**

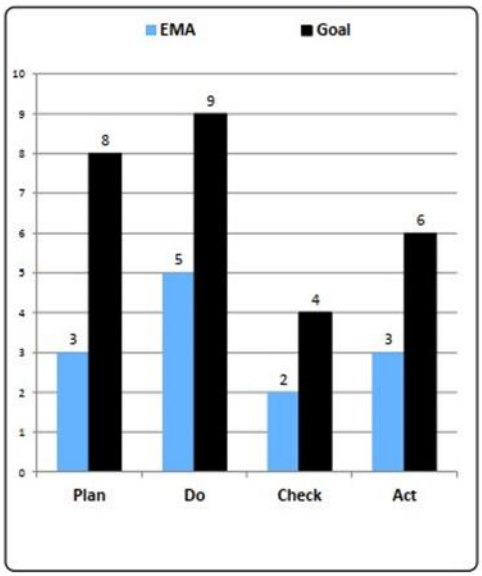
Appendix C – Energy Management Assessment

EMA – Session 1



SURVEY RESULTS

	Management Area	EMA	Goal
Plan	Executive Understanding & Commitment	1	3
	Policy/Charter & Goals	1	3
	Planning & Budgeting	1	2
Do	Energy Team	1	2
	Employee Engagement	2	3
	Training & Development	1	2
	Procurement & Partnering	1	2
Check	Data Collection & Management	1	2
	Performance, Measurement & Reporting	1	2
Act	Audit, Review and Control	1	2
	Third Party Certification & Recognition	0	1
	Overall Effectiveness	2	3
	TOTALS	**13**	**27**
	% Actual versus Goal	**48%**	



Action Plan			
Topic	**Action**	**Due Date**	**Owner**
Plan			
Executive Involvement	Discuss energy management with Council in January 2021 and get them on board by teasing upcoming projects and/or success stories.	Q1 2021	Brendan, Bruce
	Have executive sponsors promote success stories and work towards engaging more employees on energy efficiency and sustainability. Whenever a project that has been identified by an employee is implemented, the Executive Sponsor may publicly acknowledge or reward the person. This will demonstrate executive support and increase the willingness of employees to take an active role in energy conservation.	Q2 2021	Bruce, Mike
Policy/Charter & Goals	Create an Energy Policy. Consider leveraging existing knowledge from strategic initiatives and sustainable purchasing practices when drafting the policy.	Q3 2021	Brendan
	Create awareness around the energy policy through the use of bulletin boards in high traffic areas, tv screens, newsletters, personnel meetings, etc.	Q3 2021	Brendan
	Utilize the Energy Policy as a training tool when onboarding employees. This will help them learn about the Town's energy practices and goals early on.	Q3 2021	Brendan
Planning & Budgeting	Identify short-term and long-term capital projects. This will help with budget planning to increase the likelihood that sufficient funds will be allocated for capital energy saving projects.	Q3 2021	Brendan
Do			
Energy Team	Add members from the marketing department to the Energy Team to help increase public and internal awareness of the MEM program and its successes.	Q1 2021	Brendan
	Hold regular energy team meetings in which projects are assigned and the team is updated on program progress.	Q1 2021	Brendan
Employee Engagement	Use existing meetings or lunch and learns to solicit energy savings ideas from employees. Include energy efficiency conversations into the internal communications, morning briefings, safety meetings, lunch & learn, etc. Identify all the existing avenues that can be used to create energy awareness.	Q2 2021	Brendan
	Share energy savings tips and facts in a weekly newsletter. CLEAResult can provide relevant documents.	Q1 2021	Brendan, Prashant
	Design an energy efficiency/conservation competition amongst departments and encourage associated employees to be vigilant of energy wastes. Highlight their contribution to achieve energy reduction targets in their departments. Celebrate and recognize the winner.	Q2 2021	Brendan

Employee Engagement (cont.)	Use TV screens or bulletin boards in the lunchroom or other high traffic areas to communicate project progress, benchmarking results, energy tips, etc.	Q2 2021	Brendan
Training & Development	Include an element of energy efficiency in employee onboarding materials.	Q3 2021	Brendan, Bruce
	Send an introductory list of energy trainings and certifications to Brendan. These could help build team competency. Share technical trainings organized by CLEAResult or any outside organization.	Q2 2021	Brendan, Prashant
Procurement & Partnering	Do a systematic evaluation on utility rates once every two years to ensure town is not overpaying.	Q2 2021	Brendan
	Connect Brendan with another MEM who has done rate evaluations in the past. This will help the MEM become clearer on utility line items and rate categories.	Q4 2020	Prashant
Check			
Data Collection & Management	Inquire with utility provider to see if more granular energy data could be provided.	Q1 2021	Brendan
	Consider installing sub-metering or purchasing data loggers to track the energy consumption of the Town's largest SEU's (significant energy users).	Q3 2021	Brendan
Performance, Management & Reporting	Build models for the entire portfolio of buildings at the Town and review them at a frequency of no less than once per month.	Q2 2021	Brendan
	Build a list of KPI's to be used by the Energy Team and periodically reviewed by top management.	Q2 2021	Brendan
Act			
Audit, Review & Control	Share sample energy specific SOP's with Town for use as templates.	Q4 2020	Prashant
	Review shared sample SOP's and update the existing one with energy efficiency settings as needed.	Q1 2021	Brendan
	Implement a review process for SOP's where compliance checks are carried out and corrective action is taken should the SOP's not be actively followed.	Q2 2021	Dan, Bruce, Brendan
Third Party Certification & Recognition	Discuss and evaluate what value certification could bring to the Town.	Q2 2021	Brendan, Dam, Bruce
	Consider adding a stipulation to the "new construction" policy requiring buildings to comply with an energy certification, even if actual certification is not pursued.	Q2 2021	Brendan, Bruce
Overall effectiveness	Use the tools, practices, and methodology learned so far to implement ECM's across the rest of the Town's portfolio.	Q3 2021	Brendan, Dan, Bruce

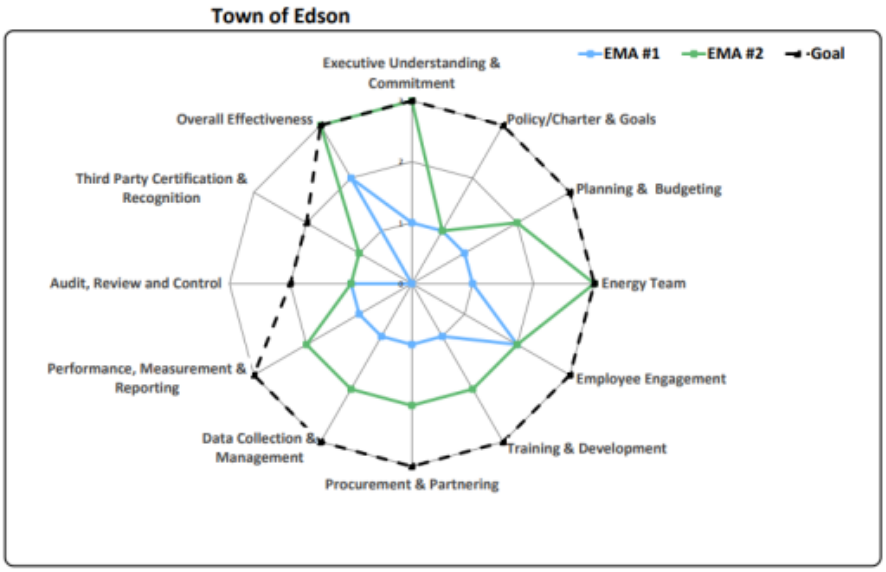


Figure 1: Energy Management Assessment analysis for the Town of Edson

SURVEY RESULTS

	Management Area	EMA #1	EMA #2	Goal
Plan	Executive Understanding & Commitment	1	3	3
	Policy/Charter & Goals	1	1	3
	Planning & Budgeting	1	2	3
Do	Energy Team	1	3	3
	Employee Engagement	2	2	3
	Training & Development	1	2	3
	Procurement & Partnering	1	2	3
Check	Data Collection & Management	1	2	3
	Performance, Measurement & Reporting	1	2	3
Act	Audit, Review and Control	1	1	2
	Third Party Certification & Recognition	0	1	2
	Overall Effectiveness	2	3	3
	TOTALS	**13**	**24**	**34**
	% Actual versus Goal	**38%**	**71%**	

Table 1. Survey Scoring

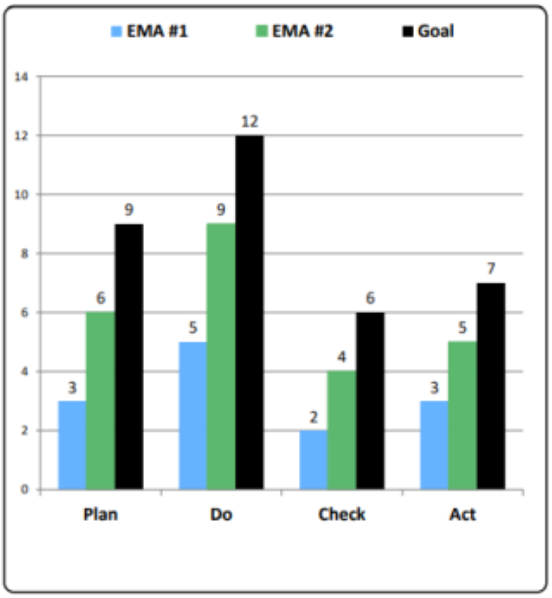


Figure 2. PDCA versus Goal Chart

Figure 2: Survey scoring and PDCA versus goal chart for the Town of Edson

Action Plan			
Topic	**Action**	**Due Date**	**Owner**
Plan			
Executive Involvement	Have executive sponsors promote success stories and work towards engaging more employees on energy efficiency and sustainability	Q1 2022, Ongoing	Brendan, Bruce
	Continue ongoing engagement with council on energy management and share with them ongoing projects.	Q1 2022, Ongoing	Bruce, Brendan
Policy/Charter & Goals	Create an Energy Policy. Consider leveraging existing knowledge from strategic initiatives and sustainable purchasing practices when drafting the policy. Also, consider long term fleet vehicles and new construction buildings.	Q2 2022	Brendan
	Create awareness around the energy policy using bulletin boards in high traffic areas, tv screens, newsletters, personnel meetings, etc.	Q2 2022	Brendan
	Utilize the Energy Policy as a training tool when onboarding employees. This will help them learn about the Town's energy practices and goals early on.	Q3 2022	Brendan
Planning & Budgeting	Continue budget planning for both short-term and long-term capital projects and promote energy management.	Q1 2022	Brendan
	Provide continuous update to council members on budgeting and project-based savings to promote the financial benefits of energy management.	Q1 2022	Brendan
Do			
Energy Team	Continue to increase cross functionality of energy to target awareness and engagement. This can be done by continuing to include people from Marketing, HR, Communications, or other departments who may be able to support energy savings initiatives.	Q1 2022	Brendan
	Continue to hold regular energy team meetings in which projects are assigned to specific team members, followed up on and the team is updated on program progress.	Ongoing	Brendan
	Use TV screens or bulletin boards in the lunchroom or other high traffic areas to communicate project progress, benchmarking results, energy tips, etc.	Q2 2022	Brendan, Prashant
	Engage the employees in regular communication and initiate two-way communication by setting up energy@edson.ca to send energy efficiency related updates for Town of Edson.	Q1 2022	Brendan
Training & Development	Include EE elements in onboarding and do lunch and learns where employees are provided tip sheets.	Q1 2022	Brendan, Bruce
Procurement & Partnering	Continue conducting a systematic evaluation on utility rates once every two years to ensure town is not overpaying.	Q1 2022, Ongoing	Brendan, Sarah

Check			
	Complete installing sub-metering at the wastewater facility to track the energy consumption of the Town's largest SEU's (significant energy users).	Q3 2022	Brendan
Performance, Management & Reporting	Continue to update and track energy progress quarterly on created energy models.	Ongoing	Brendan
	Build a list of KPIs to be used by the Energy Team and periodically reviewed by top management. Display the identified KPIs on the dashboard/monitors on key viewing areas.	Q2 2022	Brendan
Act			
Audit, Review & Control	Add these SOPs to job responsibilities - work with HR department to promote accountability.	Q3 2022	Brendan, HR
	Review shared sample SOPs and update the existing one with energy efficiency settings as needed.	Q1 2022	Brendan
	Implement a review process for SOPs where compliance checks are carried out and corrective action is taken should the SOPs not be actively followed.	Q4 2022	Bruce, Brendan
Third Party Certification & Recognition	Continue to evaluate what value certification could bring to the Town and periodically share the information with council members to gauge their interest.	Q4 2022	Brendan, Bruce
	Consider adding a stipulation to the "new construction" policy or add to energy policy, requiring buildings to comply with an energy certification, even if actual certification is not pursued.	Q2 2022	Brendan, Bruce
Overall Effectiveness	Set emissions target for the town while reviewing the energy policy and integrate climate action planning with energy efficiency.	Q2 2022	Brendan

Appendix D – Master Energy Management Plan

No-cost ECMs

Town of Edson - Master Energy Management Plan - Year Two

	2021			2022											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
1			***COMPLETE*** **Facility: WWTP** **ECM 232** Apply a schedule to the DHW Pump Owner: BR	***COMPLETE*** **Facility: Civic Centre** **ECM 45** Increase the setpoint of the server room to 70F from 67F Owner: BR 01/28: Brendan will work with IT manager who is currently busy with	***COMPLETE*** **Facility: Public Library** **ECM 51** Lower setpoints in vestibules Owner: BR, MB	***COMPLETE*** **Facility: Landfill** **ECM 213** Reduce DHW setpoint in Weighscale and Shop to 52C Owner: BR, BT 02/23: Still in progress, looking for early March Completion	***COMPLETE*** **Facility: Repsol Place** **ECM R52** Review temperature in Olympia Room. Adjust as needed Owner: BR, BB 04/28: To be postponed to next winter.	***ONGOING*** **Facility: WWTP** **ECM 238** Complete a minimum rate review of the WWTP Owner: BR 05/30: To be completed in next few weeks.			**Facility: Public Works** **ECM 127** Standardize sleep schedules on all office computers Owner: BR	***IN PROGRESS*** **Facility: Museum** **ECM 71** Review temperatures in exterior washrooms and adjust as needed Owner: BR 04/29: To be postponed to next winter season.		
2				***IN PROGRESS*** **Facility: Multiple** **ECM R46, 202, 238, 242** Complete a minimum rate review for multiple facilities Owner: BR 06/30: Town submitted the	***POSTPONED*** **Facility: Repsol Place** **ECM R14** Increase ice temperatures Owner: BR, BB 22/02: Ice temperature will not be changed this year due to the	***COMPLETE*** **Facility: Landfill** **ECM 220** Adjust fridge and freezer temperatures if required Owner: BR, BT 02/23: Still in progress, looking for early March Completion	***POSTPONED*** **Facility: Repsol Place** **ECM R50** Review setpoints on radiant heaters in rinks Owner: BR, BB	***COMPLETE*** **Facility: Museum** **ECM 247** Compelte a minimum rate review of the Museum Owner: BR						
3				***COMPLETE*** **Facility: Airport** **ECM 178** Review scheduling on thermostat in the Terminal Owner: BR	***COMPLETE*** **Facility: Repsol Place** **ECM R53** Review setpoints and setbacks in the Hospitality Room and Old Timers Room. Adjust as needed Owner: BR, BB		**Facility: WWTP** **ECM 233** Repair or adjust weatherstripping on exterior doors Owner: BR 04/28: To be postponed to next winter.							
4				***COMPLETE*** **Facility: Airport** **ECM 198** Adjust Fridge and Freezer temperaures if required Owner: BR			**ONGOING** **Facility: WWTP** **ECM 235** Have the operators shut down the dessication oven at the end of the day Owner: BR							
5				***COMPLETE*** **Facility: WWTP** **ECM 223** Apply a schedule on thermostats in the Office, Lunch room, and lab. Owner: BR			***POSTPONED*** **Facility: WWTP** **ECM 228** Complete a thermographic scan of the facility Owner: BR 05/30: To be done in next winter							
6				***COMPLETE*** **Facility: WWTP** **ECM 224** Adjust temperatures on the unit heaters in the storage room, mechanical room, and blower room Owner: BR			***POSTPONED*** **Facility: Landfill** **ECM 240** Complete a thermographic scan of the facility Owner: BR 05/30: To be done in next winter							
7				***COMPLETE*** **Facility: WWTP** **ECM 225** Adjust temperatures in the process areas Owner: BR			***POSTPONED*** **Facility: Airport** **ECM 201** Complete a thermographic scan of the facility Owner: BR 05/30: To be done in next winter							
8				***COMPLETE*** **Facility: WWTP** **ECM 227** Adjust temperatures on the cabinet heaters on the front and rear entrance Owner: BR										
9														

Low-cost ECMs

Town of Edson - Master Energy Management Plan - Year Two

	2021			2022											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
1	***COMPLETE*** **Facility: Public Works** **ECM 121** Insulate DHW piping where insulation is damaged or missing Owner: BR 09/07: Instulation completed for easily accessible areas. Facility	***COMPLETE*** **Facility: Public Works** **ECM 120** Install a timer or demand control on the DHW circulation pump Owner: BR 11/26: Waiting for the parts delivery. Potential implementation in Dec 2021.	***COMPLETE*** **Facility: Public Works** **ECM 111** Interlock washroom fans with occupancy sensors in all applicable areas Owner: BR 10/04: Part of FortisAb grant	***COMPLETE*** **Facility: Public Library** **ECM 62** Replace the current DHW pump with high efficiency unit that has timer and return temperature control Owner: BR, MB 11/26: Waiting for the parts	***COMPLETE*** **Facility: Public Library** **ECM 63** Insulate DHW piping where insulation is damaged or missing Owner: BR, MB, MT Feb 23, 2022 - Completed (dates listed in Master OR)	***ONGOING*** **Facility: Landfill** **ECM 222** Check control scheme of heat tracing under Weighscale and add temperature control and insulation Owner: BR 05/30: Not a high priority item at this point.	**ONGOING** **Facility: Repsol Place** **ECM R21** Insulate hot water piping in the rink Owner: BR, BB Work order has been submitted, waiting for installation	**ONGOING** **Facility: Repsol Place** **ECM 254** Shutdown heat tracing on hot water lines when not in heating season Owner: BR, KH	**Facility: Landfill** **ECM 218** Reseal window frames Owner: BR	**Facility: Museum** **ECM 76** Upgrade elevator lighting to LEDs Owner: BR	**Facility: Public Works** **ECM 124** Install or repair weather stripping and sweeps on exterior doors Owner: BR	**Facility: Landfill** **ECM 203** Install a programmable thermostat in the Weighscale Owner: BR	**Facility: Repsol Place** **ECM R30** Install low-flow faucets and showerheads Owner: BR, BB		
2	***COMPLETE*** **Facility: Public Library** **ECM 64** Install or repair weatherstripping and seals on doors Owner: BR, MB, MT	***COMPLETE*** **Facility: Civic Centre** **ECM 30** Control washroom exhaust fans and lighting with occupancy sensors Owner: BR 11/26: Waiting for the parts delivery. Potential implementation	***COMPLETE*** **Facility: Public Works** **ECM 114** Install occupancy sensors in rooms with intermittent occupancy Owner: BR 10/04: Part of FortisAb grant	***COMPLETE*** **Facility: Airport** **ECM 189** Insulate DHW pipes in Terminal and Shop Owner: BR 01/28: Rescheduled for Feb 01/07: To be completed in W3 of Jan	***COMPLETE*** **Facility: Museum** **ECM 82** Insulate DHW pipes in Original Museum Owner: BR Feb 23, 2022 - Completed (dates listed in Master OR)		**POSTPONED** **Facility: Repsol Place** **ECM R28** Schedule the DHW pumps to turn off during unoccupied hours Owner: BR, BB		**Facility: Landfill** **ECM 216** Locate and seal all penetrations in the building envelope Owner: BR	**Facility: Repsol Place** **ECM R49** Perform annual maintenance on furnaces, boilers, radiant heaters, etc Owner: BR, BB	**Facility: Landfill** **ECM 215** Replace or repair damaged weatherstripping Owner: BR	***ONGOING*** **Facility: Repsol Place** **ECM R47** Flush and descale all DHW tanks Owner: BR, BB		
3		***COMPLETE*** **Facility: Civic Centre** **ECM 32** Install a timer or demand control on the DHW recirculation pump Owner: BR		***COMPLETE*** **Facility: WWTP** **ECM 229** Install occupancy sensors to control lighting Owner: BR 01/28: Contractor selected.	***COMPLETE*** **Facility: Landfill** **ECM 212** Insulate DHW pipes in the Shop Owner: BR Feb 23, 2022 - Completed (dates listed in Master OR)		***COMPLETE*** **Facility: Civic Centre** **ECM 46** Repair or replace weatehrstripping on exterior doors Owner: BR				**Facility: Museum** **ECM B8** Locate and seal all penetrations in the building envelope Owner: BR	***ONGOING*** **Facility: Repsol Place** **ECM R48** Fully service HRVs (clean hosuings, filters,etc) Owner: BR, BB		
4				***IN-PROGRESS*** **Facility: WWTP** **ECM 231** Install a smaller DWH tank for domestic loads. Shut down Process load tank Owner: BR			**ONGOING/POSTPONED** **Facility: Repsol Place** **ECM RS6** Complete the required repairs to bring the heat recovery system back into operation Owner: BR 05/30: Scope is defined. Team is considerig recommissioning grant from FCM. 04/29: Assessment was completed & scope identified.				**Facility: Airport** **ECM 191** Replace or repair damaged weatherstripping Owner: BR			
5				***COMPLETE*** **Facility: Fire Hall** **ECM 91** Clean Furnaces and HRVs for better combustion and airflow Owner: BR 01/28: Work order already placed.											
6															
7															

Capital Projects

Town of Edson - Master Energy Management Plan - Year Two															
	2021			2022											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
1				**Facility: Civic Centre** **ECM 33, 35** Retrofit exisitng boiler and pneumatic control system with a high efficiency boiler and digital control system that improves efficiency and occupancy comfort Owner: BR 05/30: Still out for tender; Going through site walk with potential contractor and tender will be closed next wek. Procurement to follow. 04/29: Receive 99% of design, review completed, and tender will be released in 2-3 weeks. 01/28: Tender closed. Contractor selected. Working on documentation. 02/23: In progress, kick off and walkthroughs completed										
2				**Facility: Civic Centre** **ECM 36** Upgrading lighting in the Civic Centre to LEDs. Covers both indoor and outdoor lighting. Controls will be upgraded as well. Owner: BR 05/30: 60% design completed, seond walk through scheduled this week. 04/29: In the preliminary design phase. 01/28: Tender closed. Contractor selected. Working on documentation. 02/23: In progress, kick off and walkthroughs completed										
3				**Facility: Public Works** **ECM 114** Upgrade Public Works and Animal Pound interior and exterior lighting to LEDs. Controls will be upgraded as well Owner: BR 05/30: 60% design completed, seond walk through scheduled this week. 04/29: In the preliminary design phase. 01/28: Tender closed. Contractor selected. Working on documentation.										
4															
5															
6															

Appendix E – Employee Engagement Campaign

Employee Engagement Planning Session: Applying ADKAR to your project

Project Title: Weatherization and Building Envelope Improvements
Program/Cohort: MCCAC MEM
Municipality Name Town of Edson
Date: 03/29/2021

Audience	Influence Level	Plan		Implement		Monitor & Control	
Audience taken from Sphere of influence		Awareness: Why reduce energy? Desire: Why should I participate?		Knowledge: What do I need to do? Ability: Putting into action		Reinforcement: How do I stay with it?	
Building Managers and Maintenance Staff	Most impacted	Reduction in utility and maintenance costs, reduced environmental impact	Aw	Proper communication and planning with the Maintenance team	K	Track progress of work and report any changes in utility consumption. Celebrate and promote any reductions correlated to the project	R
		Increased building value through maintenance	Aw	Education with the maintenance managers on the importance of tight building envelopes and weatherproofing	K		
		Increased occupancy comfort and HVAC control	D	Review of internal capacity to address smaller parts of the project	Ab		
		Simplified maintenance scheduling	D	Integration of work into a preventative maintenance program	Ab		
				Engagement with building occupants to see if there's been a change in comfort levles	Ab		
Upper Management	Some impact	Reduction in utility and maintenance costs, reduced environmental impact	Aw	Education of how excess air infiltration and thermal bridging can adversely affect building performance and lifespan	K	Reports on how building performance changes with increases in air tightness and thermal control	R
		Increased building value through repair and maintenance (can address AMP)	Aw	Reporting on project progress	Ab		
		Improves the value of Capital Assets	D				
Town Council and Senior Management	Communicator	Reduction in utility and maintenance costs, reduced environmental impact	Aw	Education of how excess air infiltration and thermal bridging can adversely affect building performance and lifespan	K	Reports on how building performance changes with increases in air tightness and thermal control	R
		Improves the value of Capital Assets	D				

What to do and when?					
Timeline		Activity / Action Item	ADKAR	Owner	Status
Q1	January				
	February				
	March				
Q2	April	Present project outline to the Committee of the Whole	Aw	BR	Completed
		Develop work plan with maintenance staff and Facilities Maintenance Supervisor	K	BR, MT, GL	Completed
	May	Education session to maintenance staff, building managers, and upper management on the need for this project	K	BR	
		Continue Project Planning with maintenance supervisors and building managers	Ab	BR, MT, GL	Completed
	June	Prepare project outline, scope, and budget for presentation to council in the capital planning session	K	BR	
Q3	July	Education session to senior management/council about the benefits and potential imporvements in capital assets through this project	D	BR	
	August				
	September	Report on any success in project implementation	R		
Q4	October				
	November				
	December				

Engagement Planning Session: Applying ADKAR to your project

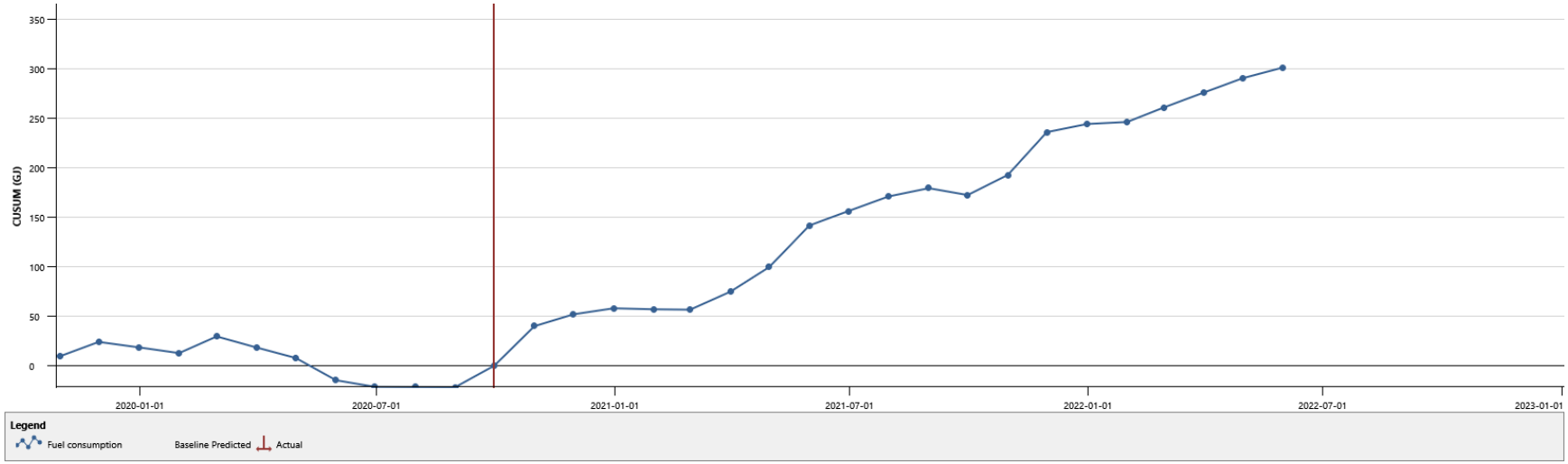
Project Title: Town of Edson Lunch & Learns (Edson Sustainability Series, ESS)
Program/Cohort: MCCAC MEM
Municipality Name Town of Edson
Date: 03/24/2021

Audience	Influence Level	Plan		Implement		Monitor & Control	
Audience taken from Sphere of influence	Taken from Sphere of influence	Awareness: Why reduce energy? Desire: Why should I participate?		Knowledge: What do I need to do? Ability: Putting into action		Reinforcement: How do I stay with it?	
All Town Employees	Communicator	Education on current trends in sustainability and energy management	Aw	Host a monthly Lunch n' Learn on relevant topics	K	Feedback from staff on the usefullness of the series	R
		Information to inform the direction the Town is moving	Aw	Receive support from management for the series	Ab	Track number of audience members per presentation	R
		Desire to improve Town infrastructure and environmental impact	D				

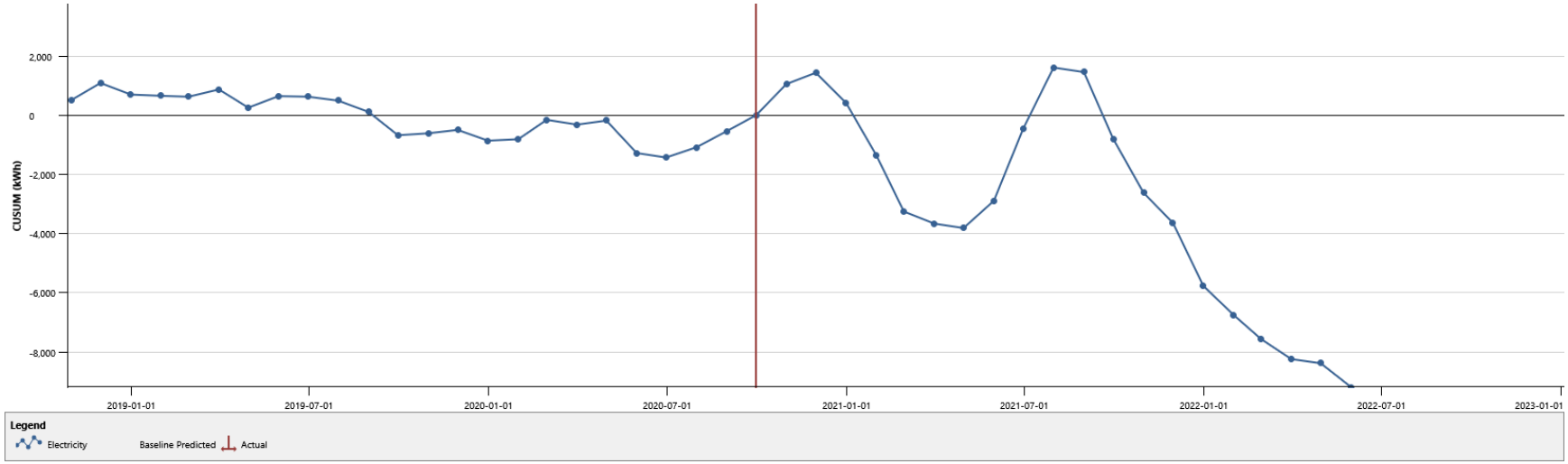
What to do and when?					
Timeline		Activity / Action Item	ADKAR	Owner	Status
Q1	Jan				
	Feb				
	Mar	Discuss series idea with Bruce and Mitch	Aw	BR	Completed
		Create a list of relevant topics for presentation	D	BR	Completed
		Schedule Lunch 'n Learn presentations	K	BR	Completed
Q2	Apr				
	May	Launch Campaign - First L&L	K	BR	Completed
	Jun	Second L&L	K	BR	Completed
Q3	Jul	Third L&L	K	BR	Completed
	Aug	Fourth L&L	K	BR	Completed
		Gather feedback from staff on the value of the presentations	R	BR	Completed
	Sep	Fifth L&L	K	BR	
Q4	Oct	Sixth L&L	K	BR	
	Nov	Seventh L&L	K	BR	
	Dec	Eigth L&L	K	BR	
		Review the effectiveness of the presentations	R	BR	

Appendix F – RETScreen CUSUMs

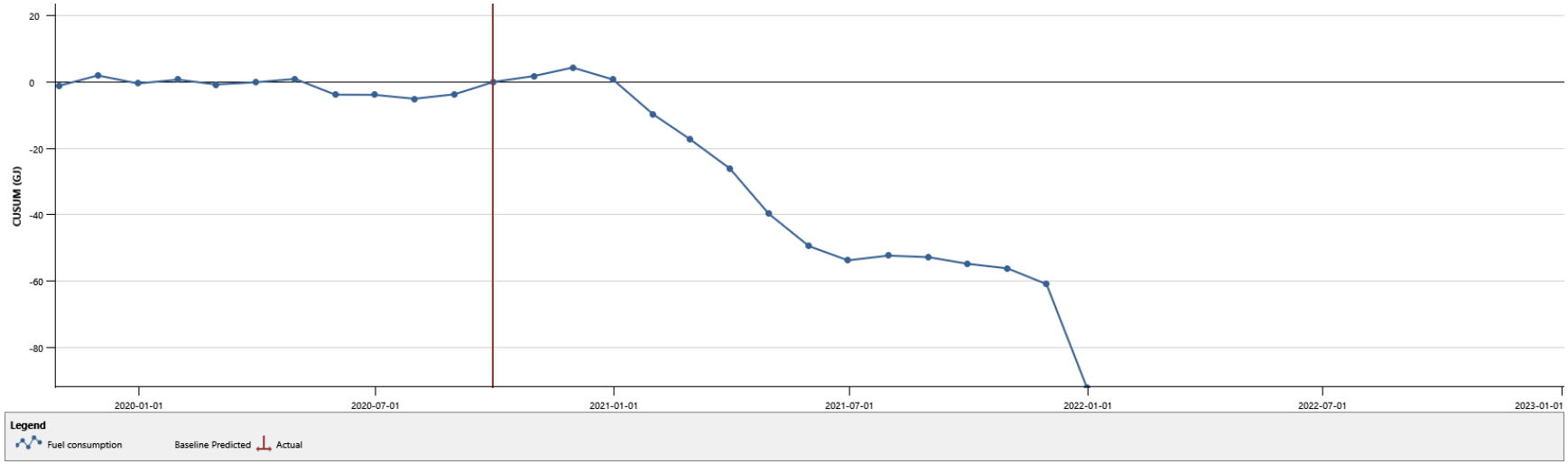
Civic Centre – NG



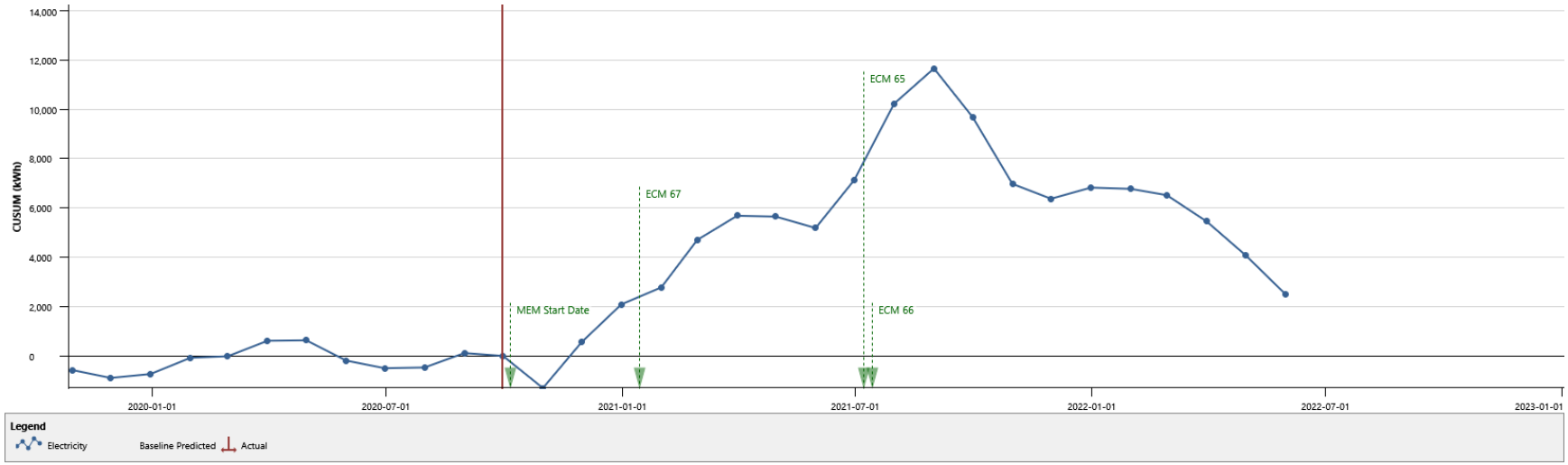
Civic Centre – Electricity



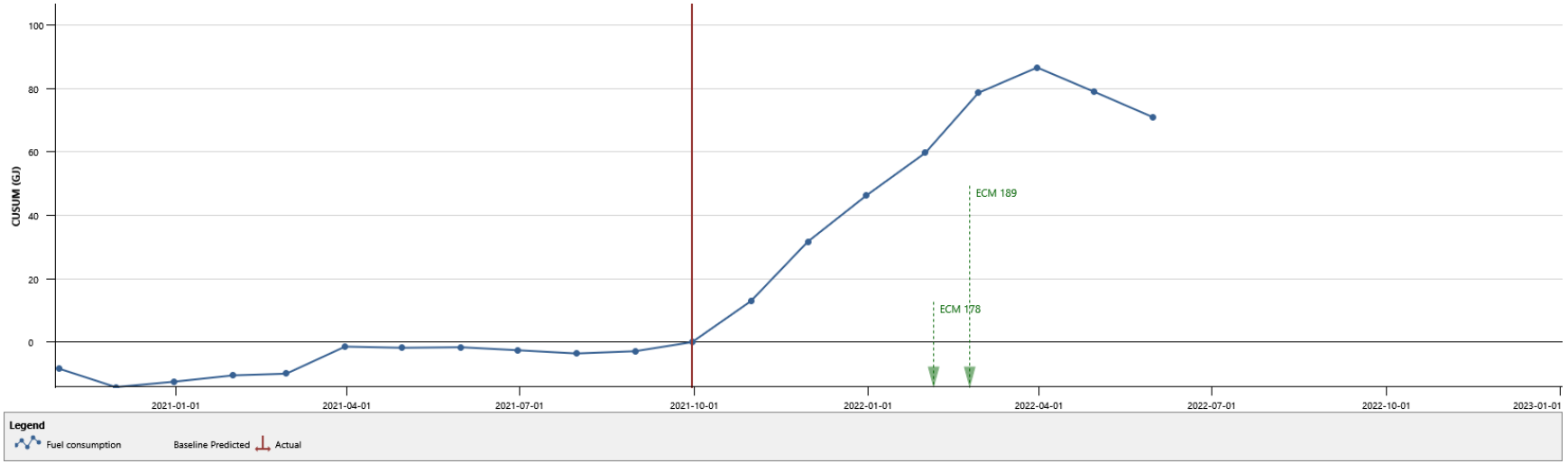
Edson & District Public Library – NG



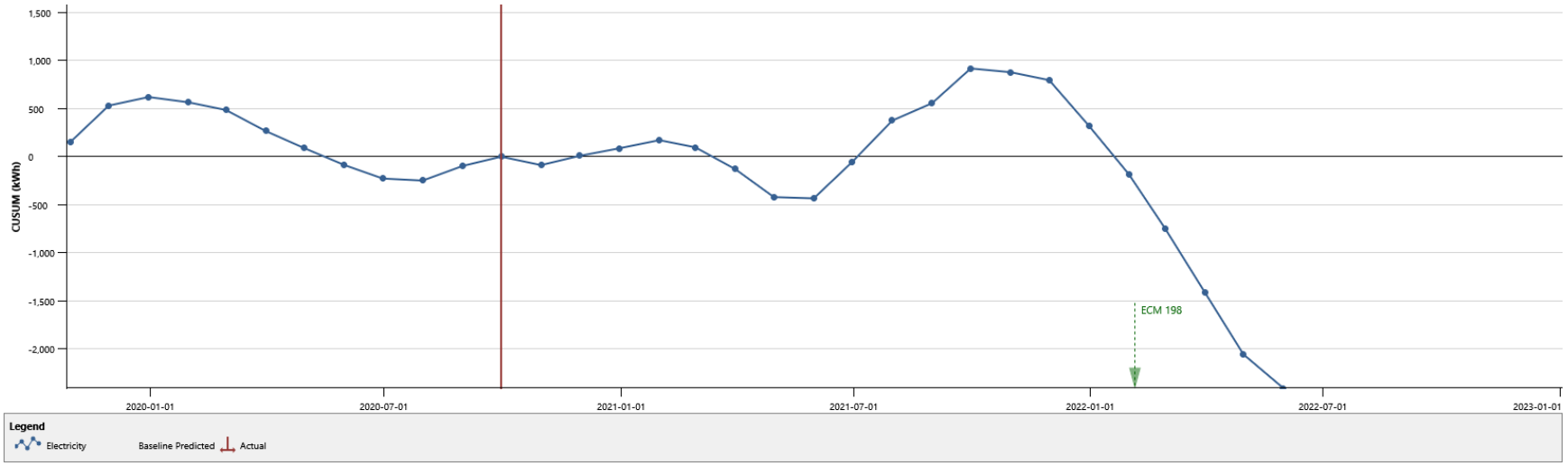
Edson & District Public Library – Electricity



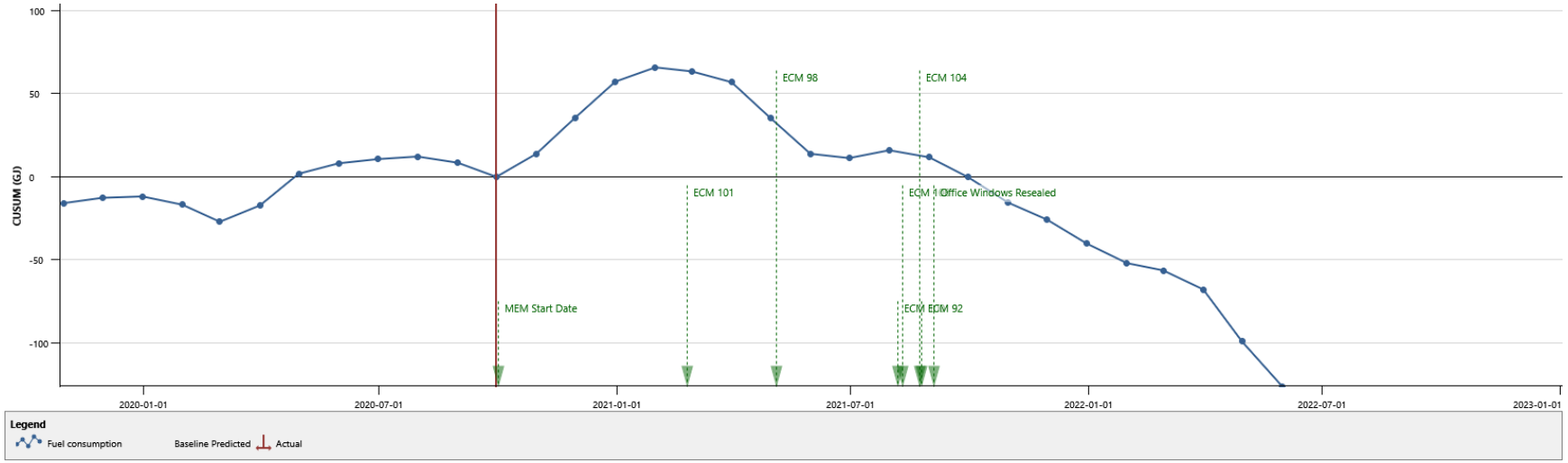
Edson Airport - NG



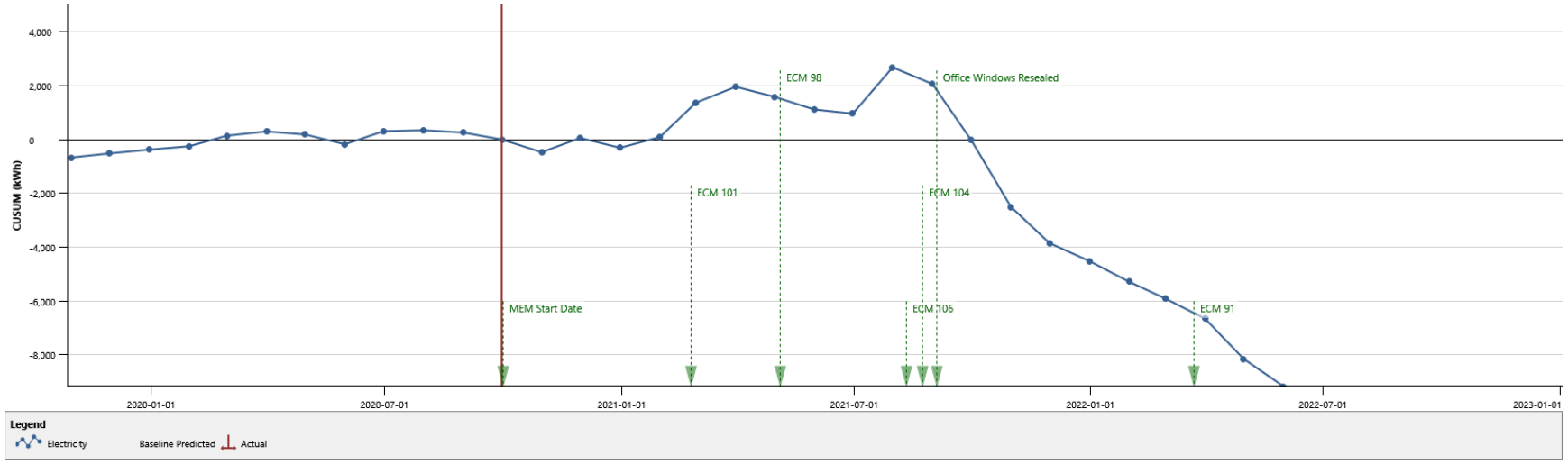
Edson Airport – Electricity



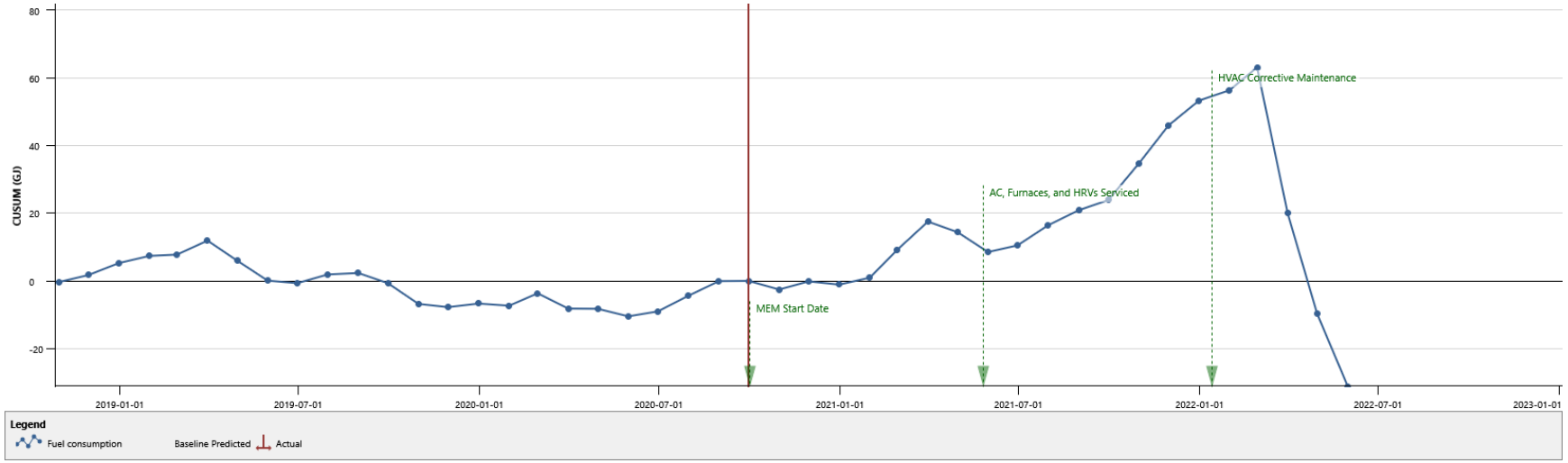
Edson Fire Hall – NG



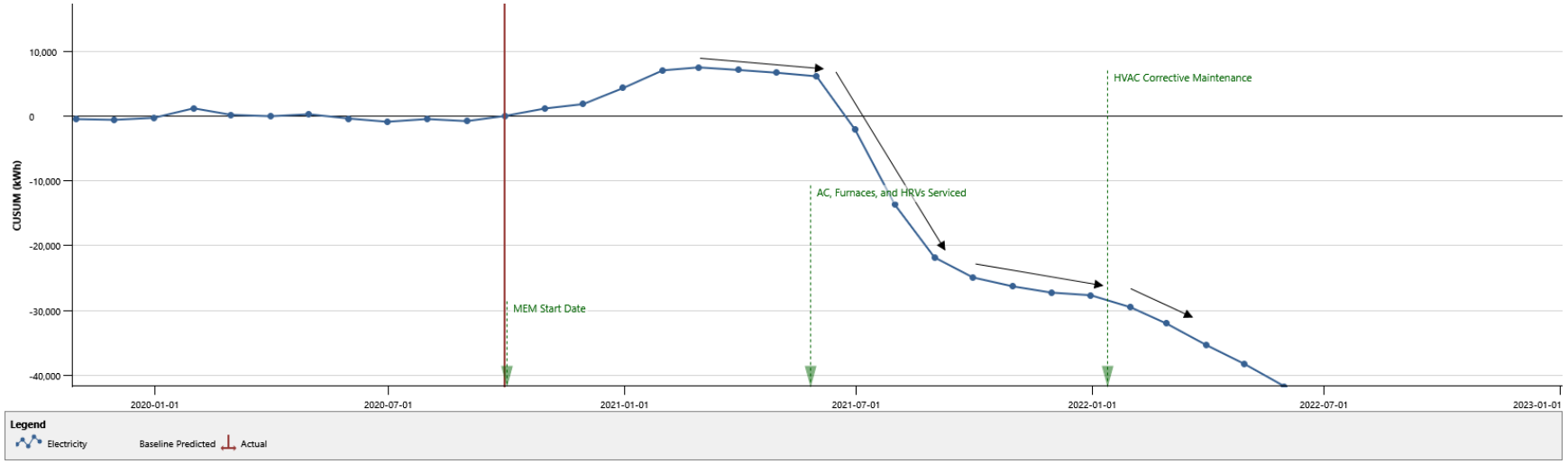
Edson Fire Hall – Electricity



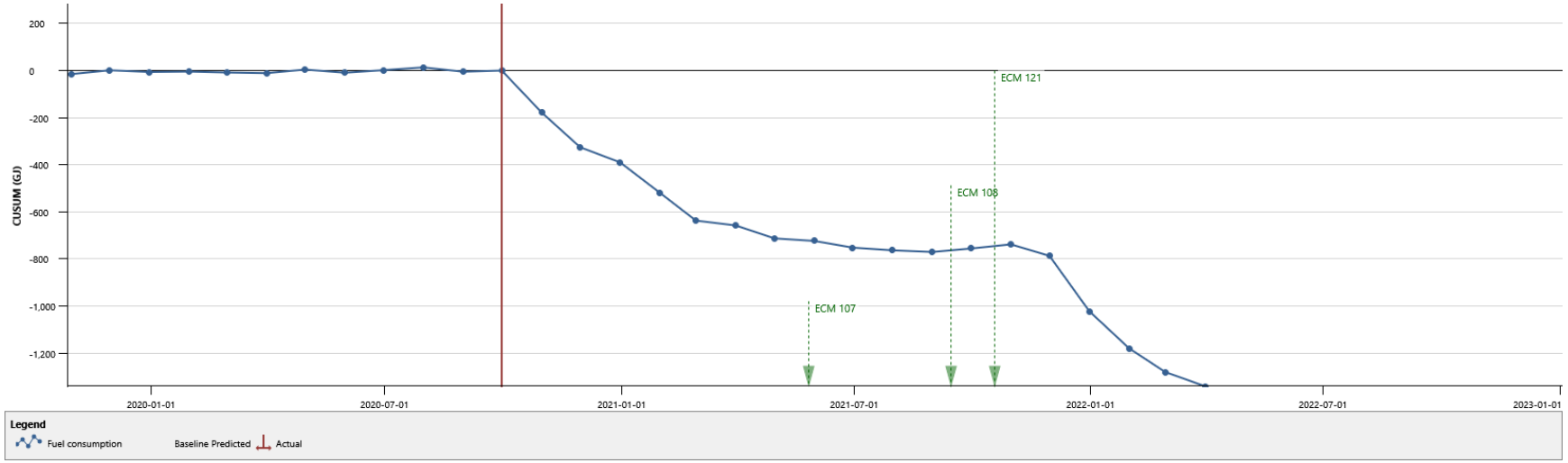
Galloway Station Museum – NG



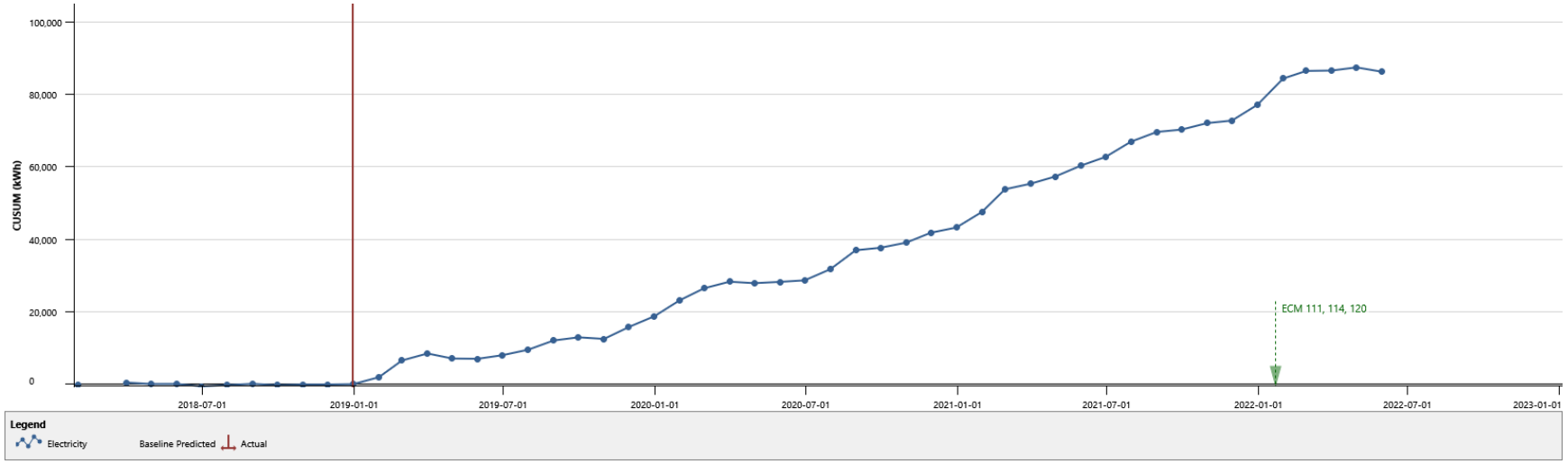
Galloway Station Museum – Electricity



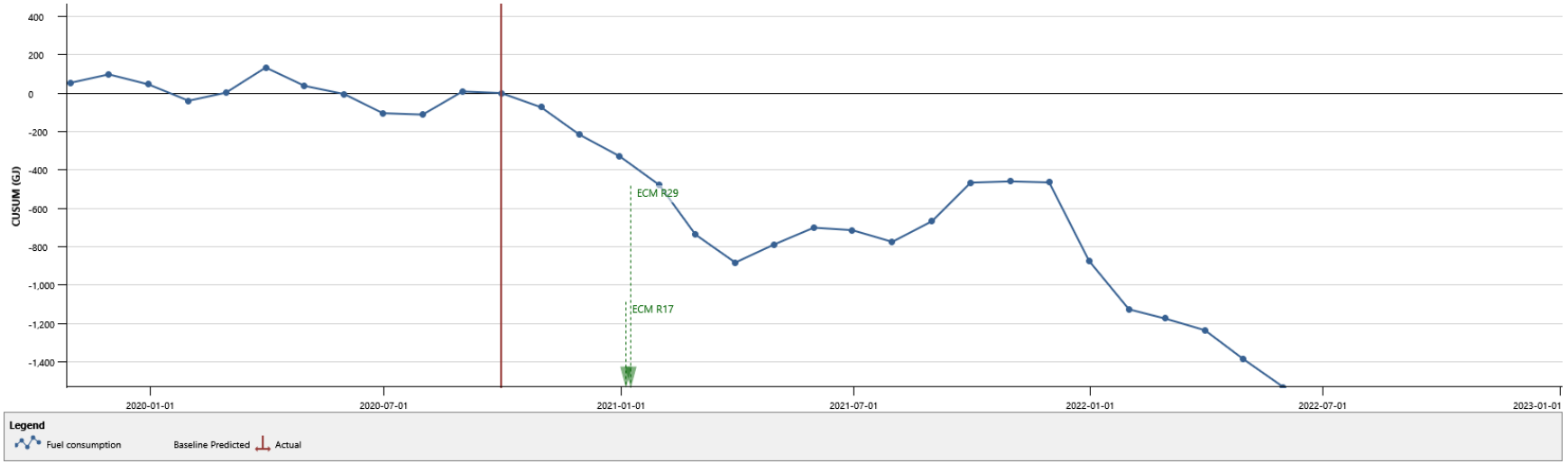
Public Works Shop – NG



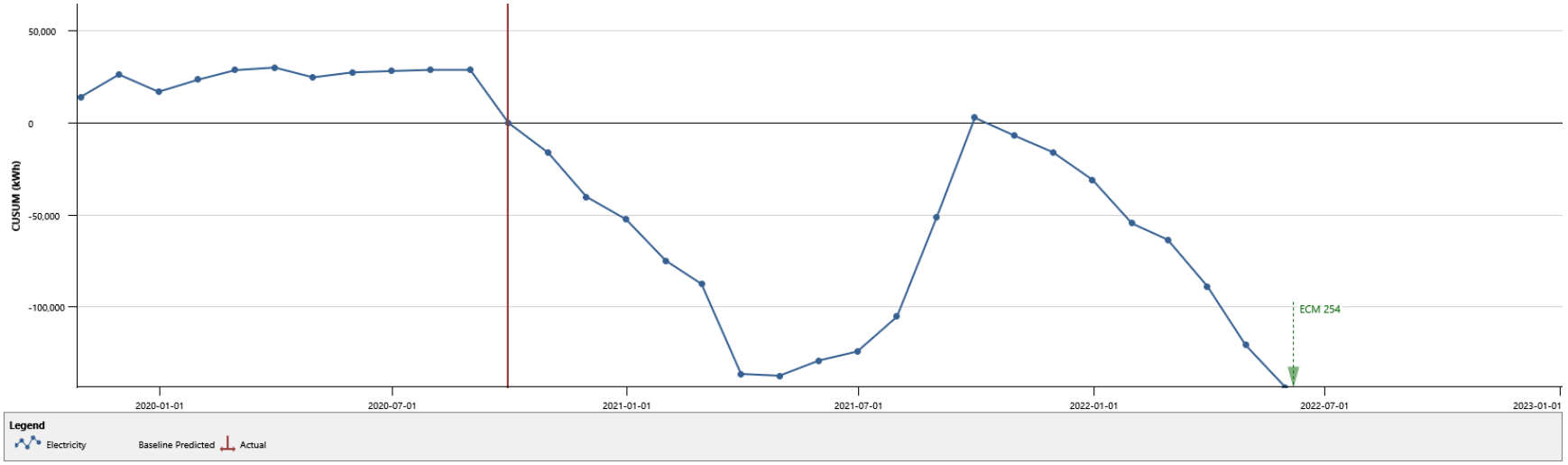
Public Works Shop – Electricity



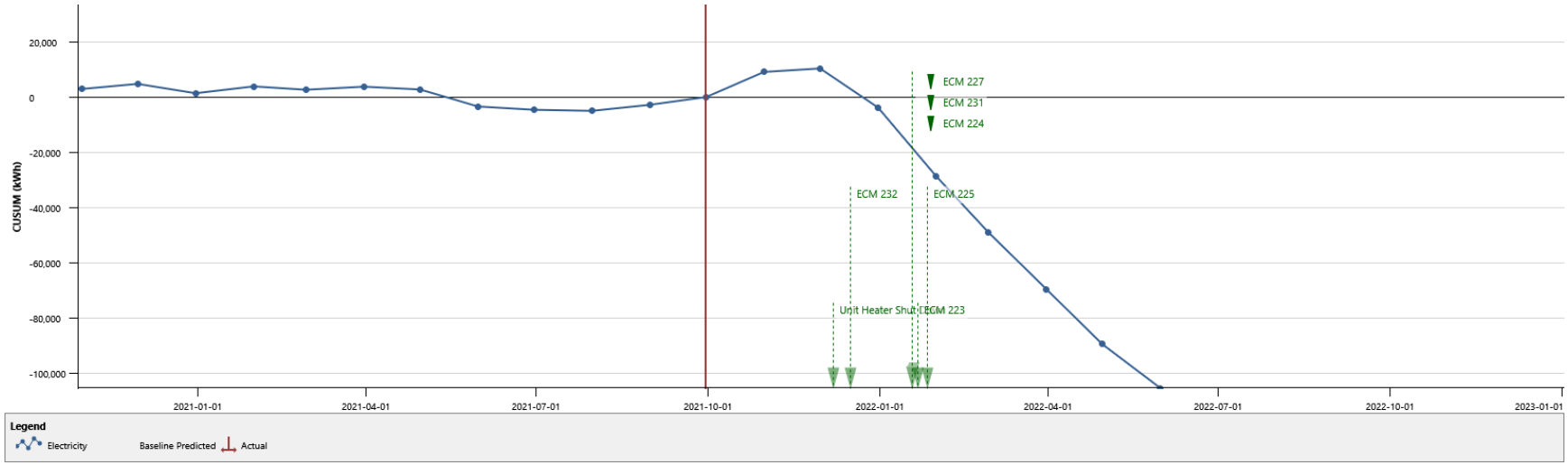
Leisure Centre – NG



Leisure Centre – Electricity



Wastewater Treatment Plant – Electricity



Appendix G – Future Plans and Environmental Initiatives

Energy and Emissions

Targets

- Quantify all emissions and costs from Town operations
- Align environmental action with asset renewal targets
- Ensure the Town is at a sufficient state of readiness to capitalize on available grants from climate action

Ongoing/Existing Initiatives

- Participation in the Municipal Energy Manager Program
- Climate Risk Assessment
- Capital Projects

Corporate Initiatives							
New Initiatives	Time Frame						
	2022	2023	2024	2025	2026	2027	2028+
Establish an Energy Management or Environmental Policy for the Town to govern future work, pursuant to new strategic priorities							
Complete a corporate greenhouse gas emissions Inventory covering all Scope 1 & 2 emissions from the Town							
Undertake a complete review of the Town's utility accounts • Amalgamate all utility accounts under the same provider • Add small users to RC 41D							
Complete a Climate Risk Assessment as funded by the MCCAC							
Complete energy audits of Town owned, leased, and operated facilities.							
Identify, database, and prioritize all identified ECMs from the Energy Audits. Separate into no-cost, low-cost, capital, etc.							
Work with Facilities maintenance to develop an effective preventative maintenance program for Town Facilities							

Rewrite and relaunch the Edson Sustainable Purchasing guide and provide education and training to Town Staff							
Develop a training package on sustainability to be included with employee onboarding							
Review Town Purchasing Policy and update sustainable purchasing requirements							
Identify and set long-term corporate emissions reduction targets with Council (i.e. 2030, 2050 target)							
Complete a Master Environmental Plan for Town operations • Align plan with AMP to ensure completed work improves assets							
Develop and implement a "Work Green" program for Town departments							
Inventory energy consuming equipment in Maintenance Manager as part of the Asset Management Program							
Work with Corporate Services to bring the Town into the ABMunis energy aggregation cycles for electricity and natural gas							
Compile air quality data from monitoring station in Vision Park. Complete air quality monitoring in the Town							
Investigate options for renewable energy (solar) for Town facilities							
Develop a Green Building Policy for new Town Facilities							
Implement no-cost and low-cost ECMs across the Town portfolio							
Forecast energy costs for each budget cycle to ensure accurate budgeting							
Provide energy management workshops and training for Town Staff							
Identify grant funding for environmental, emissions reduction, or energy efficiency work							
Manage and complete Capital Projects that improve the value of Town facilities and reduce energy consumption							

Community Initiatives							
New Initiatives	Time Frame						
	2022	2023	2024	2025	2026	2027	2028+
Develop a public communication plan for environmental initiatives							
Collaborate with Edson Youth Council on community focused initiatives							
Host public education sessions on energy efficiency and emissions reduction							
Complete a community wide emissions inventory							
Develop a community master environmental plan or update the corporate plan to encompass the whole municipality							
Create partnerships with local businesses and trade groups to promote low carbon operations							
Forge regional partnerships with other municipalities to collaborate on sustainability initiatives							

Water Use and Conservation

Targets

- Quantify risks to Town water infrastructure from Climate Change
- Improve Town infrastructure to meet the needs of the present and future community
- Reduce total water consumption to a sustainable level (sustainable within the ability of our system to provide water)

Ongoing/Existing Initiatives

- Sanitary sewer condition assessment
- Storm sewer condition assessment
- Application to the MCCAC for a Water Conservation Initiatives Project

Corporate Initiatives							
New Initiatives	Time Frame						
	2022	2023	2024	2025	2026	2027	2028+
Complete a corporate water consumption inventory of Town owned facilities							
Identify water conservation initiatives in Town owned and leased facilities							
Implement identified water conservation initiatives							
Develop an Action Plan to reduce corporate water consumption							
Review the impact of historical water bans on consumption levels and adjust messaging and communication accordingly							
Implement employee education campaigns on water conservation							
Demonstrate xeriscaping techniques at Town facilities							
Water Capture and Reuse at the Kinsmen Spray Park							

Community Initiatives							
New Initiatives	Time Frame						
	2022	2023	2024	2025	2026	2027	2028+
Complete a community water consumption inventory							
Benchmark Town consumption against provincial averages							
Identify community-based water conservation initiatives							
Develop a communication plan for community water conservation initiatives							
Public engagement on water conservation issues and opportunities							
Implement a public education campaign on water conservation							
Implement identified community-based water conservation initiatives • Rain barrels • Xeriscaping • Lawn, garden watering							
Develop a water conservation Bylaw (if applicable)							
Create partnerships with local business and industries (or other significant users) to identify water conservation opportunities							
Investigate the applicability of a tiered rate system for water							

Waste Management

Targets

- Increase residential waste diversion rates

Ongoing/Existing Initiatives

- Curbside Organic waste collection
- Edson and District Recycling Society
- Solid Waste Management Plan

Corporate Initiatives							
New Initiatives	Time Frame						
	2022	2023	2024	2025	2026	2027	2028+
Increase staff education on solid waste diversion from residential sources							
Develop a corporate waste management plan for Town operations							
Asses the viability of the Town going paperless							

Community Initiatives							
New Initiatives	Time Frame						
	2022	2023	2024	2025	2026	2027	2028+
Increase public education on solid waste diversion from residential sources							
Promote and educate on backyard composting							

Fleet, Transportation, and Active Mobility

Targets

- Improve the fuel efficiency of the Town fleet
- Quantify cost, consumption, and emissions from Town Fleet
- Improve access for electric vehicles on the Highway 16 corridor and surrounding region
- Improve the walkability of Downtown

Ongoing/Existing Initiatives

- Databasing of fleet fuel consumption and costs
- Condition and Risk assessment of the Town fleet
- EVenture Electric Vehicle Charging Network

Corporate Initiatives							
New Initiatives	Time Frame						
	2022	2023	2024	2025	2026	2027	2028+
Complete the Edson installation as part of the EVenture Network							
Complete an inventory of fuel use for Town fleet							
Implement an education campaign for Town staff on alternative/active modes of transportation							
Identify additional locations for the installation of EV chargers • Downtown, Willmore Park, etc.							
Installation of SmartPlugs in Town owned facilities parking lots							
Investigate the utility of an anti-idle for Town vehicles							
Investigate the opportunity for incorporating electric vehicles into the Town fleet • On and off-road vehicles							

Community Initiatives							
New Initiatives	Time Frame						
	2022	2023	2024	2025	2026	2027	2028+
Promote the use of EV chargers in Town (Tesla, Flo stations)							
Introduce an anti-idling bylaw for downtown							
Implement a public engagement and education campaign on Active modes of transportation							
Upgrade the 50th St parking lot with the installation of Level 2 chargers, trees, non-permeable surfaces, etc							
Execute sections of the Trails Master Plan to increase active mobility							
Encourage and support public transportation initiatives in Town							

Parks and Land Use

Targets

- Increase naturalized areas in Town
- Reduce the total area of non permeable surfaces

Ongoing/Existing Initiatives

- Trails Master Plan

Corporate Initiatives							
New Initiatives	Time Frame						
	2022	2023	2024	2025	2026	2027	2028+
Rewrite of the Land Use Bylaw							
Investigate a tree planting program for Town owned buildings • Nature based climate solution							
Add natural assets to the Towns Asset Management Inventory							
Naturalization of parks areas to reduce mowing area and improve biodiversity • Eg. Lions Park by the creek, Centennial Park riparian area							
Identify and implement strategies that will reduce the amount of pesticides and herbicides used by the Town							
Evaluate mowing height and schedule • Potential to reduce mowing frequency in non-essential areas							
Convert Parks hand tools to electric units • Weed whackers, chainsaws, etc.							
Identify bird strike mitigation strategies for Town buildings							
Develop the skatepark to be more naturalized • Complete Disc Golf course							
Investigate the use of tree cover for dust control on major roads							
Identify areas to incentivise low carbon construction and development							
Investigate rehabilitating and enhancing riparian areas in Town • Centennial Park, Wase Creek							

Community Initiatives							
New Initiatives	Time Frame						
	2022	2023	2024	2025	2026	2027	2028+
Investigate areas to increase the tree cover in Town • Beautification • Nature based climate solutions							
Increased involvement and support for community gardens							
Education campaign on low impact landscaping							
Identify bird strike mitigation strategies for the community							