Committee Report

To:	Warden Milne and Members of Grey County Council
Committee Date:	October 10, 2024
Subject / Report No:	CAOR-CW-21-24
Title:	Energy Management Software
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Reviewed by:	Randy Scherzer
Lower Tier(s) Affected:	

Recommendation

1. **That report CAOR-CW-21-24 regarding Energy Management Software be received; and**
2. **That the County single source Utility Data Acquisition Service (UDAS) software from ECCAN at a cost of $5,850 annually (based on processing 130 monthly bills), plus a onetime set-up fee of $2,500, to be funded from the Energy Efficiency in Corporate Buildings Capital Project which will improve the efficiency, availability and accuracy of corporate utility data.**

Executive Summary

Staff require accurate, up-to-date data about energy costs and consumption in County buildings to make good decisions about energy management, budgeting, building commissioning, and capital projects. This report recommends the Utility Data Acquisition Service (UDAS) provided by ECCAN be single sourced as it provides the best solution to meet current needs. UDAS is the only Canadian, independant, stand-alone bill capture service. It uses AI to capture and store data and allows easy transfer to other platforms for data analysis, reporting and visualization. For 130 monthly utility bills for our corporate buildings, UDAS would cost $2,500 to set up and $5,850 as an ongoing annual subscription. UDAS would improve the availability and accuracy of utility data, facilitate mandatory reporting, and save staff time currently allocated to manual entry.

Background and Discussion

Project Goals

Staff require accurate, up-to-date data about energy costs and consumption in County buildings to make good decisions about energy management, budgeting, building commissioning, and

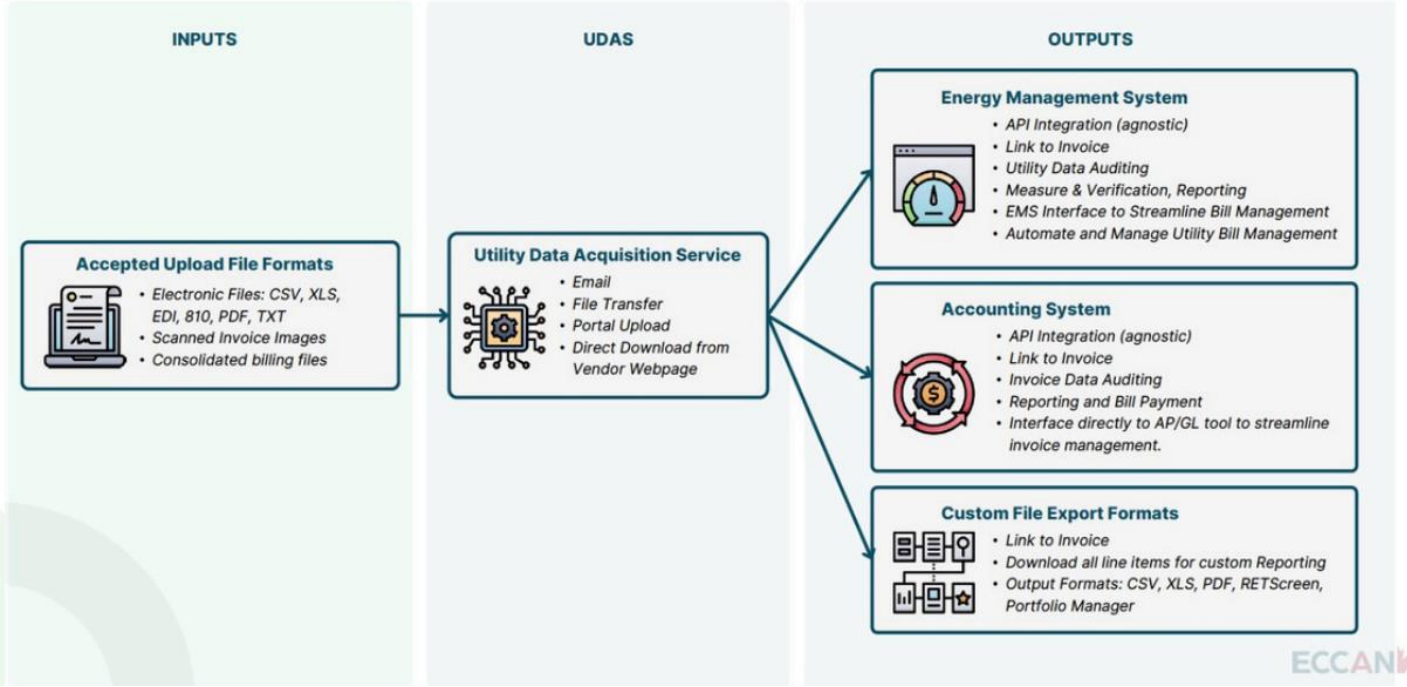
capital projects. It is important to have information about individual buildings to analyze energy performance which will help identify opportunities for energy reduction, conservation and energy savings, as well as a complete inventory to track total GHG emissions and costs. The best source of this information is monthly electricity and natural gas bills. Once the data on utility bills is captured it can be exported to other tools for analysis (RETSCreen), reporting (Energy Start Portfolio), and data visualization (Power BI).

The current system being used is a platform provided by Local Authority Services (LAS) at an annual cost of $339 that requires manual entry to capture financial and energy consumption date. Grey County has approximately 218 buildings, most of which receive a monthly electricity and natural gas bill. Approximately 1,200 bills per year are entered manually into LAS by finance staff. Because of the sheer volume of entries, it is challenging to keep the records up to date and 100% accurate. Any mistakes in data entry take additional staff time to track down the utility bill and to correct the data. LAS does not automatically integrate with other platforms, nor does it allow for tracking other utilities such as water consumption.

Staff require a platform to accurately capture and store utility data that will eliminate the need for manual entry. Staff have identified the Utility Data Acquisition Service (UDAS) provided by ECCAN as the best solution and recommend that it be single sourced.

Benefits of UDAS

Staff recommends UDAS as the first step in managing our energy data. In other platforms that were considered, customers start with the platform for data analysis and visualization. The bill capture service is available at an additional charge and will only feed data into the one platform. UDAS is the only Canadian stand-alone bill capture service. It uses AI to capture and store utility data from PDF bills or spreadsheets and supports a number of output formats so that the data can be analysed in other platforms. It integrates with other energy management platforms such as EnergyCAP, Brightly, and e-Hippo. UDAS has limited data analysis and visualization tools compared to the other platforms, but the County already has access to RETScreen, Energy Star Portfolio and PowerBI to analyze the data and therefore. staff do not require additional tools at this time.



UDAS meets our immediate needs (accurate, timely and accessible utility data with no manual entry) without duplicating tools staff already have, or providing functionality staff don't have capacity to use. Because UDAS integrates well with other platforms, staff can recommend a more sophisticated energy management software if it is needed in the future.

Because it is a relatively simple platform UDAS is a more affordable option. Other platforms with the bill capture add on have an ongoing subscription cost that is 2 to 3 times the cost of UDAS. The initial set-up costs for other platforms are over 5 times the cost of UDAS.

Requirement Checklist

- ✓ Complies with the IT department policy
- ✓ No manual entry required
- ✓ Can track electricity, gas, water, sewage and other utilities
- ✓ Timely access to all bill data, including time of use billing
- ✓ Output formats include CSV, XLS, PDF, RETSCreen and Energy Star Portfolio Manager.
- ✓ Can break down a consolidated bill into individual building data (one bill into several accounts)
- ✓ Can treat a consolidated bill as a single transaction (several bills to one account, for single-family homes, see below)
- ✓ Agnostic API integration with accounting systems.
- ✓ Allows import of historical data (e.g. 2018 baseline data)
- ✓ Staff training and customer support available

Subscription Costs

Subscription costs for UDAS and other energy management platforms are based on the number of bills that need to be tracked. In all non-housing buildings (administrative offices, paramedic services bases, transportation depots, community and cultural facilities, and long-term care homes), staff recommend tracking electricity, natural gas and water consumption – 3 bills per building. In multi-unit residential buildings (MURBs), staff recommend only tracking electricity and natural gas – 2 bills per building. Although residents influence building performance, staff have control over the building's envelope and mechanical systems.

Given the number of single-family housing units owned by the County, each with individual bills, It is prohibitively expensive to monitor electricity and gas usage in each of the single-family homes.– The single-family homes owned by the County would add 342 monthly bills to the package. The recommended approach is to group the single-family units by address from a utility data perspective: 16th Street, Alpha, Durham, Hanover, Meaford, Scattered East Hill, Westmount. Each of the seven groups, would have a consolidated gas and electric bill, for a total of 14 bills. Staff have contacted Hydro One and Enbridge, and it is possible to consolidate the bills from a data perspective in this way. This approach

tracks a reasonable amount of bills, while still capturing the total energy consumption and costs.

Building Type	**Number of buildings**	**Estimated number bills tracked**	**Type of bills**
Non-housing	18	54	Electric, gas, water
MURBs	29	58	Electric, gas
Single-family homes	171	14	Electric, gas (consolidated)
TOTAL	**218**	**126**	

Legislated Requirements

O. Reg 25/23 requires broader public sector (BPS) organizations, including municipalities, to report energy consumption using Energy Star Portfolio Manager. UDAS allows data to be exported in a format that can be easily uploaded to Energy Star Portfolio Manager; the non-housing buildings and the MURBs can be mapped 1:1 with their existing profiles.

Financial and Resource Implications

The price of UDAS includes one-time set-up costs and an ongoing annual subscription cost. For the purposes of this estimate, staff assume that all buildings have one electric, one gas, and one water bill. Some buildings use different or multiple fuel sources (oil, propane) and some are fully electric. Before finalizing a contract with UDAS, staff will determine exactly which bills need to be tracked in each building.

The base rate for set-up (150 bills or fewer) is $2,500. After 150, the set-up costs are $16.67 per bill, and bills are added incrementally in blocks of 10. Once the accounts are set up, historical data for the 2018 baseline can be imported from a spreadsheet at a cost of $1.00-$1.95 per transaction. It is possible to import annual data into UDAS. Staff recommend using annual totals for the baseline data, so the cost for 130 baseline bills would be $130 - $253.50. The set-up includes 10 vendors – these are the utility companies who bill Grey County. Although there are relatively few providers for electricity and gas (Hydro One, Westario, Epcor, Enbridge), each municipality invoicing Grey County for water as well as oil and propane vendors would also need to be set up. The cost to set up extra vendors is up to $250 per vendor. Staff anticipate at least 3 additional set-ups will be needed, but the set-up costs may be less if vendors can send bills by email.

The annual billing is based on the number of transactions. With monthly billing this is 12 transactions per bill per year. With 130 bills, staff anticipate 1,560 transactions annually. At a cost of $3.75 per transaction, this would result in an estimated annual cost of $5,850. The first year of the subscription and the set-up costs would come from the 2024 Corporate Energy Efficiency capital project. If approved, the subscription cost would be included in the Climate Change operations budget in subsequent years.

Climate staff are working with the IT department to include this project in their workflow. The project would be undertaken either in Q4 of 2024 or Q1 of 2025. When we are ready to finalize a contract with ECCAN, staff will clarify the roles and responsibilities of set-up and work with IT to make a feasible workplan. The new system would be in place prior to the next Broader Public Sector Reporting deadline: July 1, 2025.

The Finance team will continue the processes that are currently in place to make and track payments of utility bills. However, having UDAS would mean that gathering, inputting and verifying data would be done automatically. UDAS will save time for the finance staff currently manually entering the utility data. Annual broader public sector reporting would be simplified by exporting data from UDAS and importing to Energy Star Portfolio Manager. In creating future Energy Conservation and Demand Management Plans (every 5 years), staff time could be focused on data analysis and projections, rather than gathering complete and accurate data.

Relevant Consultation

☒ Internal (list) – IT, Finance, Housing

☐ AODA Compliance (describe)

☒ Contribution to Climate Change Action Plan Targets (describe)

Up-to-date data regarding energy costs and consumption in County buildings will allow staff to make good decisions about energy management, budgeting, building commissioning, and capital projects.

☐ External (list)

Appendices and Attachments

None.