Agenda
Windsor-Essex County Environment Committee
held on Thursday, June 24, 2021
Meeting at 4:30 p.m. via Zoom video conference

1. Call to Order

2. Declaration of Conflict

3. Minutes
Adoption of the minutes of the meeting held November 17, 2020 – ***attached***

4. Presentations

4.1 Via Italia Alley Project
Barry Horrobin, Director of Planning and Physical Resources, Windsor Police Services to be in attendance.

4.2 Windsor Essex Youth Climate Council

5. Business Items

5.1 Essex County Regional Energy Plan - Executive Summary
-attached.

5.2 Draft municipal resolution in favour of Federal action to manage plastics
The draft resolution from Derek Coronado – ***attached.***

5.3 Food and Organic Waste and Biosolids Management Project - Recommendations from the Oversight Committee to EWSWA – *attached*.

5.4 WECEC 2021 Operating Budget
The Financial Variance report for the period ending May 31, 2021 – ***attached.***

6. Subcommittee Reports

6.1 Air

6.2 Environmentally Sensitive Lands and Issues

6.3 Public Engagement

7. New Business

7.1 Ojibway Shores National Urban Park Status – Time Line & Future Actions

Document provided by R. St. Denis – ***attached.***

7.2 Greenhouse Gas and Energy Inventory 2019 – City Wide

Report of the Community Energy Plan Administrator dated June 23, 2021 – ***attached.***

8. Communications

8.1 Notice of Public Information Centre – County Road 22 Design Alternatives & Strategy Study

The Notice of the Public Information Centre – ***attached.***

9. Date of Next Meeting

The date of the next meeting to be determined.''

10. Adjournment

Windsor Essex County Environment Committee

Meeting held November 17, 2020

A meeting of the Windsor Essex County Environment Committee is held this day commencing at 4:00 o'clock p.m. via Zoom video conference, there being present the following members:

Councillor Chris Holt, Chair
Councillor Kieran McKenzie
Deputy Mayor Leo Meloche, Town of Amherstburg
Deputy Mayor Gord Queen, Town of Kingsville
Keri Banar
Derek Coronado
Katie Kuker (arrives at 4:02 p.m.)
Michael Schneider
Richard St. Denis
Jerry Zhu

Also present are the following resource personnel:

Karina Richters, Supervisor Environmental Sustainability and Climate Change
Karen Kadour, Committee Coordinator

1. Call to Order

The Chair calls the meeting at 4:01 o'clock p.m. and the Committee considers the Agenda being Schedule A attached hereto, matters which are dealt with as follows:

Addition to the Agenda

Moved by Deputy Mayor Queen, seconded by R. St. Denis,
That Rule 3.3 (c) of the Procedure Bylaw 98-2011 be waived to add the following addition to the Agenda:

8.2 Ojibway Parkway Wildlife Crossing – Municipal Class EA – Notice of Study Commencement and Online Public Information Centre #1

Carried.

2. Declaration of Conflict

None disclosed.

3. Adoption of the Minutes

Moved by Deputy Mayor Meloche, seconded by K. Banar,
That the minutes of the Windsor Essex County Environment of its meeting held November 14, 2019 **BE ADOPTED** as presented.
Carried.

4. Business Items

4.1 WECEC 2020 Operating Budget

The current balance of the WECEC 2020 Operating budget is $6,072. Discussion ensues regarding the practical use of the operating budget and the following suggestions are provided:

- Pat on the Back Awards event to pursue and support for 2020/2021.
- Green Speaker Series for 2021, which could be hosted outside or held virtually.

Moved by Councillor McKenzie, seconded by K. Banar,
That the remaining funds in the Windsor Essex County Environment Committee 2020 Operating Budget **BE CARRIED FORWARD** to the WECEC 2021 budget.
Carried.

4.2 Update: WECEC Report No. 105: Declaring a Climate Emergency

Councillor McKenzie indicates that the City of Windsor adopted Report No. 105 – declaring a Climate Emergency along with the Town of Tecumseh and the Town of Amherstburg and ERCA. In May 2020, City Council unanimously supported the acceleration of both mitigation and adaptation actions

Moved by R. St. Denis, seconded by Deputy Mayor Queen,
That the update regarding WECEC Report No.105 – Declaring a Climate Emergency **BE RECEIVED.**
Carried.

4.3 Windsor's Climate Change Adaption Plan

Councillor McKenzie advises that the City of Windsor Climate Change Adaptation Plan relates to what the city should do to prepare for climate change. It comes down to the following objectives:

- To protect our public health and safety
- To reduce risk to buildings and properties
- To strengthen our infrastructure resiliency
- To protect biodiversity and enhance ecosystem functions
- To reduce community service disruptions
- To building community resilience

He notes that Council reports now contain a climate change section within the analysis risk section, which includes climate change mitigation and climate adaptation, which will assist Council in the decisions that are being made.

Moved by Deputy Mayor Meloche, seconded by D. Coronado,
That the update relating to the City of Windsor's Climate Change Adaptation Plan **BE RECEIVED.**
Carried.

4.4 Tree Purchase for Earth Day 2020

K. Richters states that at the end of 2019, WECEC purchased trees for the 2020 Earth Day event. Unfortunately, Earth Day 2020 was cancelled due to COVID-19, so the staff at the City of Windsor greenhouses accepted the trees from seedlings, potted, and cared for the trees throughout the year. They are also prepared to winterize the trees (bring the trees back into the greenhouses) in the hopes that they can be planted in the Spring of 2021.

In response to a question asked by the Chair regarding if the allocation of trees will be split between the City and the County, K. Richters responds that the City Forester has plans for the trees; however, if ERCA requires some trees, that consideration will be given to this.

Deputy Mayor Meloche inquires about the distribution and allocation of the trees between the City and the County. He adds there should be some recognition to County efforts as well and adds that WECEC tends to centre more on Windsor activity as opposed to Windsor-Essex County.

Deputy Mayor Gord Queen indicates that a large number of trees were ordered in the Town of Kingsville and they are working with an environmental group from a local high school to do a major planting in 2021.

R. St. Denis reports that the Provincial Government has cut the funding to ERCA substantially. During the last election, the Federal Liberals promised to provide funding for the planting of trees, which would assist ERCA in that endeavour. He suggests reaching out to the local Member of Parliament to ensure that the Federal Government fulfills their agreement to provide funding for trees. He requests that WECEC be invited to the location when the trees are planted by ERCA.

Moved by Councillor McKenzie, seconded by Deputy Mayor Queen,
That the update provided by the Supervisor Environmental Sustainability and Climate Change regarding the tree planting for Earth Day 2021 **BE RECEIVED.**
Carried.

Moved by R. St. Denis, seconded by Deputy Mayor Queen,
That as the Provincial Government cut funding for the planting of trees in Ontario and as the Federal Government made a commitment to make funding available to plant trees in Windsor-Essex County, that a letter **BE SENT** to Irek Kusmierczyk, Member of Parliament to request funding for the planting of trees in Windsor-Essex County.
Carried.

4.5 Confirm and Ratify E-mail Poll

Moved by Councillor McKenzie, seconded by R. St. Denis,
That the following motion **BE CONFIRMED AND RATIFIED:**

That APPROVAL BE GIVEN to an expenditure in the upset amount of $1,500 in support of a virtual event organized by the University of Windsor to be held on September 22, 2020 entitled “The City’s Broken Promise – Confronting anti-Black racism across Canadian urban landscapes”,
Carried.

4.6 Confirm and Ratify E-mail Poll

Moved by Deputy Mayor Queen, seconded by K. Banar,
That the following motion **BE CONFIRMED AND RATIFIED**:

That approval be given to an expenditure in the upset amount of $28.25 payable to eliquidMEDIA for the domain renewal for wecec.org.
Carried.

4.7 Confirm and Ratify E-mail Poll

Moved by D. Coronado, seconded by M. Schneider,
That the following motion **BE CONFIRMED AND RATIFIED:**

WHEREAS the Government of Ontario is planning to ramp up the greenhouse gas pollution from Ontario's gas-fired power plants by more than 300% by 2025 and by more than 400% by 2040; and,

WHEREAS to help fuel this massive increase in fossil fuel electricity and climate threatening pollution, the provincial government recently purchased 3 gas plants at a cost of $2.8 billion and Enbridge is hoping to build a new pipeline through Hamilton to import fracked gas from the U.S.; and,

WHEREAS Ontario is set to throw away more than a third of the greenhouse gas reductions it achieved by phasing-out its dirty coal-fired power plants due to a power plan built around ramping up gas-fired generation to replace the output of the Pickering Nuclear Station (scheduled to close in 2024); and,

WHEREAS there is a better way to keep our lights on. We can meet our 2030 climate target and lower our electricity bills by phasing-out our gas-fired power plants by 2030 and embracing lower cost and cleaner options:

- Reverse cuts to energy efficiency programs and stop under-investing in this quick to deploy and low-cost resource. We can ensure we maximize our energy efficiency efforts by paying up to the same price per kilowatt-hour (kWh) for energy efficiency measures as we are currently paying for power from nuclear plants (e.g., up to 9.5 cents per kWh).
- Return Ontario to leadership in developing increasingly low-cost renewable energy resources. Support renewable energy projects that have costs that are below what we are paying for nuclear power and work with communities to make the most of these economic opportunities.
- Accept Quebec's offer of low-cost 24/7 power from its massive water power system. Quebec has offered power at less than one-half the cost of re-building our aging Darlington and Bruce Nuclear Stations and Ontario can only benefit by making a long-term deal with its green energy-rich neighbour. Quebec's system of reservoirs can be used like a giant battery to back-up made-in-Ontario renewable power, eliminating the need to use gas-fired power plants.

THEREFORE BE IT RESOLVED that the City of Windsor requests the Government of Ontario to place an interim cap of 2.5 megatonnes per year on Ontario's gas plants' greenhouse gas pollution and develop and implement a plan to phase-out all gas-fired electricity generation by 2030 to ensure that Ontario meets its climate targets

And further, that the County of Essex **BE REQUESTED** to consider adopting the resolution as outlined above.

Carried.

5. Subcommittee Reports

5.1 Air Subcommittee

D. Coronado reports that the motion relating to the "Draft Phase-out of Gas-fired Electricity Generation" has been passed by Kitchener, Hamilton and the Town of Halton Hills. He adds that Enbridge has withdrawn the proposal regarding the proposed pipeline to the OEB at this time; however, it may be revisited later.

Moved by R. St. Denis, seconded by Deputy Mayor Meloche,
That the Air Subcommittee update provided by D. Coronado **BE RECEIVED.**
Carried.

5.2 Environmentally Sensitive Lands and Issues Subcommittee

No report.

5.3 Public Engagement Subcommittee

No report.

6. New Business

6.1 Essex Region Energy Plan

K. Richters advises that ERCA is putting together an Essex Region Energy Plan similar to the Community Energy Plan developed for the City of Windsor. They are making great headway and will be before council by the spring of 2021. They are also approving targets that exceed the City of Windsor 2017 Plan. The most notable difference in their Plan is the inclusion of the impact that the greenhouses are having on their greenhouse gas emissions.

6.2 Town of Essex – Climate Change Adaptation Plan

K. Richters indicates that the Town of Essex received funding through FCM to undertake a Climate Change Adaptation Plan, which includes a Community Stakeholder's Steering Committee. Once the draft Plan is in place, possibly early in 2021, it will be provided to WECEC.

6.3 City of Windsor Carbon Budget

K. Richters states that a carbon budget is defined as follows:

The latest science indicates that in order to restrict warming to less than 1.5 degrees Celsius, total CO2 emissions from all anthropogenic sources around the globe since 1870, should not exceed 2500 Gigatonnes (Gtonnes). Presently approximately 2100 Gtonnes have been emitted leaving 400 Gtonnes as a global carbon budget.

Per IPCC, warming needs to be maintained to 1.5 degrees Celsius in order to prevent "Climate Breakdown". The IPCC compared impacts from of a changing climate at a 2 degrees Celsius increase over the goal of limiting temperature increases to a 1.5 Celsius increase, and found the following:

- As many as 457 million more people exposed to climate risks and related poverty;
- Twice as many people suffering from water scarcity;
- Twice as many plants and three times as many insects losing their habitat;
- An ice-free arctic every 10 years instead of 100 years;
- The exposure of 2.6 times as many people to extreme heat at least every five years;
- Double the decline in global fisheries.

K. Richters indicates that the City of Windsor will have to reduce our carbon emissions to 3.2 tonnes per person by 2030 and to net zero by 2050. Currently, the City of Windsor and the County are at approximately 9 tonnes per capita. Therefore, we have ten years to get from 9 tonnes down to 3.2 tonnes. When we look at the calculations under our current forecasted project lines for greenhouse gas emissions, we will exceed our 2030 carbon budget by 2025 for the City of Windsor and our 2050 carbon budget by 2029.

The following table shows various cities and the date the carbon budget will be exhausted:

City	Budget Exhausted
Windsor	2029
Edmonton	2028
Toronto	2033

Vancouver	In progress
Oslo, Norway	Current 2.3 T/capita. On track to ``net-zero 2030
Frankfurt, Germany	2031
Manchester, UK	2028

K. Richters adds that the City of Edmonton will exhaust their budget in 2028 and adds they are moving forward with bold initiatives that look at electrification of all transit within the next ten years.

D. Coronado asks that further updates regarding the carbon budget be provided as the carbon budget also affects the financial budget of the City of Windsor. Not only does this show the excessive carbon footprint of the city, but it also identifies where we are going to be unless we make the changes that are necessary and go beyond the changes that are in the Climate Emergency Declaration. This has financial ramifications and affects peoples' lives in serious ways as well.

In response to a question asked by Councillor McKenzie regarding regular updates to Council, K. Richters responds that a greenhouse gas report will be provided annually.

The Chair states that the adaptation/mitigation lens will be included in every Council report. He asks if there was a development to help our carbon budget, would this be shared with WECEC and is this the kind of information that would be brought to Council?

K. Richters responds that unlike the other cities noted in the foregoing table, the City of Windsor's carbon budget was done internally with city resources. It would be difficult with our current resources to look at the development and say what the impact is. There may be opportunities from a corporate side to try to downscale the carbon budget to the respective city budget. Our corporate inventory is approximately two per cent of our community inventory and thought has been given to making this into a corporate tool where we could look at corporate actions and how this would impact our two per cent.

The Chair adds that this does affect the bottom line on many decisions made at the Council table.

Moved by R. St. Denis, seconded by K. Banar,
That the update provided by the Supervisor Environmental Sustainability and Climate Change regarding the City of Windsor Carbon Budget **BE RECEIVED.**

6.4 Advancing WECEC Priorities

K. Richters refers to the $6,000 remaining in WECEC's 2020 Operating Budget and asks for if there are any initiatives for consideration, i.e. Green Speakers. She notes that the funds can be carried forward to 2021 if approved but that there is also the possibility that the carry forward may not be approved.

Councillor McKenzie advises that the City of Windsor is about to go into an RFP process for camera controlled smart initiatives for all of the city's signalized intersections for new infrastructure. He adds there is an opportunity for WECEC to comment on what they would like to see in the RFP.

Moved by K. Kuker, seconded by Councillor McKenzie,
That the remaining funds in the Windsor Essex County Environment Committee 2020 Operating Budget **BE CARRIED FORWARD** to 2021, and if that request is denied, that trees be purchased for planting to be equally allocated to the City of Windsor and the County.
Carried.

Councillor McKenzie indicates that one of the WECEC priorities relates to the organics diversion and recycling program. The Windsor Essex Solid Waste Authority recently passed a resolution to embark upon a process to develop and implement a regional organics waste program that would include all of the municipalities. There are regulations that will be coming forward in 2025 that requires the City of Windsor to achieve certain targets. Other municipalities have lower targets and some in our region have no targets whatsoever.

Moved by Councillor McKenzie, seconded by Deputy Mayor Leo Meloche,
That the Windsor Essex County Environment Committee recommends that the initiative by the Windsor Essex County Solid Waste Authority to develop and implement a regional food and organics waste management plan BE SUPPORTED by all municipalities in Windsor-Essex, and further, that correspondence BE SENT to each member municipality as well as the County of Essex to provide notification of this initiative.
Carried.

In response to a question asked by D. Coronado regarding the timelines, Councillor McKenzie responds that the requirement from the province is for a full 75 per cent of organic waste from the City of Windsor to be diverted now into some sort of management plan or recycling by 2025.

Deputy Mayor Leo Meloche states that over the years, the Town of Amherstburg has developed a recycling program and has been looking at waste diversion. He notes he brought up the subject of the necessity of weekly garbage pickup at one of the Council

meetings and adds that garbage trucks are going to some homes with only one third of a pail of garbage.

Councillor McKenzie adds this is an interesting idea and he will work with the Deputy Mayor to develop some language to bring forward.

6.5 University of Windsor Cities & Climate Action Forum – Windsor Essex Youth Climate Council

K. Richters advises that this group has been working with the Cities and Climate Action Forum, Youth Councils of Canada and the Peel-based Community Climate Council to build an organized local youth presence on climate issues. She adds that more than thirty youth participated in the first meeting and weekly meetings via Zoom video conference will commence on November 24, 2020.

Moved by Deputy Mayor Gord Queen, seconded by R. St. Denis,
That the update regarding the University of Windsor Cities and Climate Action Forum – Windsor Essex Youth Climate Council **BE RECEIVED.**
Carried.

7. Communications

Moved by Deputy Mayor Gord Queen, seconded by R. St. Denis,
That the following Communications **BE RECEIVED:**

7.1 Windsor Star Article – September 23, 2020: Urban design expert addresses anti-Black racism across city landscapes

7.2 CTV Article – October 27, 2020: Greenhouse light pollution bylaw approved by Kingsville council

7.3 Government of Canada – October 7, 2020 Canada one-step closer to zero plastic waste by 2030

Carried.

8. OTHER BUSINESS

8.1 City of Windsor – Global Covenant of Mayors

K. Richters reports that Mayor Drew Dilkens signed the City of Windsor to be part of the Compact of Mayors, which is now the Global Covenant of Mayors of Climate

Change and Energy. Every year we report on our greenhouse gas emission for corporate community. We look at our risk and vulnerability for climate change adaptation and we look at addressing all of our actions that we are undertaking and review indicators. The report goes to the carbon disclosure project to rate cities against different baselines and this year, similar to last year, the City of Windsor received an "A" rating. The City of Windsor received an "A" for adaptation and a 'B" for our mitigation.

Moved by Deputy Mayor Meloche, seconded by D. Coronado,

That the update regarding the City of Windsor – Global Covenant of Mayors **BE RECEIVED.**

Carried.

8.2 Ojibway Parkway Wildlife Crossing – Municipal Class EA – Notice of Study Commencement and Online Public Notification Centre #1

K. Richters states that the information relating to the online public notification centre #1 is posted on the City of Windsor's website. Comments will be received during a two-week period (November 19-December 3, 2020).

Moved by Deputy Mayor Gord Queen, seconded by Councillor McKenzie,

That the update regarding the Municipal Class EA and the Notice of Study Commencement and Online Public Notification Centre #1 for the Ojibway Parkway Wildlife Crossing **BE RECEIVED.**

Carried.

9. Date of Next Meeting

The next meeting will be held at the call of the Chair.

10. Adjournment

There being no further business, the meeting is adjourned at 5:09 o'clock p.m.

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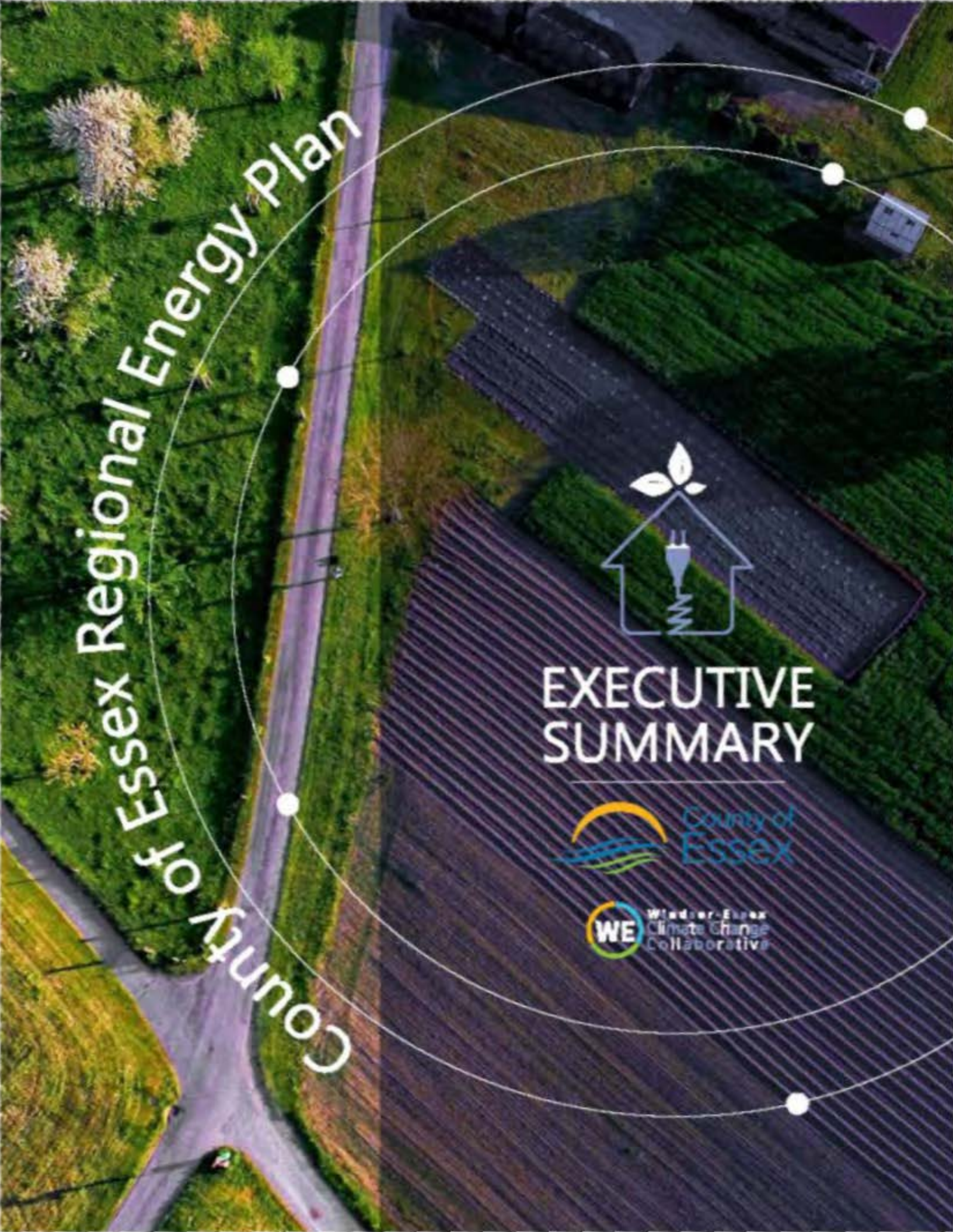
CHAIR

_____

COMMITTEE COORDINATOR


County of Essex Regional Energy Plan
EXECUTIVE SUMMARY
County of Essex
Windsor-Essex Climate Change Collaborative

MESSAGE FROM THE TASK FORCE CHAIR

It's not about the science when it comes to climate change in Essex County, it's about the cost.

Most Windsor-Essex residents accept the reality of a changing climate, but are uncertain about what they can do, as individuals, in the face of such an existential threat.

They want to do their part, they want to leave a better world for their children and grandchildren, but they are worried about the costs of combatting climate change.

Will their municipal taxes go up? Will corporations pass on their increased green costs to the consumer in the form of higher prices? Will the high-paying automotive and manufacturing jobs that have long sustained this region dry up in the face of stringent emissions protocols?

These are important quality of life questions, but the cost of doing nothing far exceeds the cost of meeting the climate challenge head-on, of working together as a region to create new jobs, improving energy efficiency, leveraging funding opportunities, and building a diverse and sustainable economy.

In 2019 and 2020, our region was under flood watches and warnings for hundreds of days in a row. Lake levels remain at unprecedented highs. One-in-100-year flood events are happening with increased frequency. The status quo is not an option. We have to weigh the costs of moving forward against the costs of doing nothing. The cost of doing nothing could be catastrophic.

County Council declared a Climate Emergency to respond to this threat, and now we are backing it up with action.

The modelling work undertaken tells us the amount of energy used in the average home in Essex County is more than twice global best practice. Our per capita greenhouse gas emissions are about five times global best practices. We spend over $800M on all types of energy, most of which leaves the County.

"We need to step up, we need to step up and do our part. Especially for the younger generation, because they're going to inherit this climate and we certainly need to leave it in better hands. The only way we can do that is by starting to turn the tide and every one of us has the responsibility to do that."

The Paris Agreement is a call to action to all sectors of society government, business, civil society, and individuals.

Under the Agreement, Canada has committed to a target to reduce GHG emissions by 30% below 2005 levels by 2030. On April 22, 2021 the federal government increased this goal to 40 to 45%.

These local energy dollars go to Western Canada for oil and natural gas, or elsewhere in Ontario.

There are opportunities to harness that energy and keep those dollars from leaving the region, just as there are opportunities to significantly reduce our household energy consumption, which accounts for 22 percent of total energy use in our region. Retrofitting homes and embracing green practices won't just help the environment, it will lower energy bills, putting more money in your pockets and boosting our local economy.

Municipalities have a responsibility to lead the way by focusing on creating energy efficiency within our own operations. This includes greening our municipal arenas, switching our vehicle fleets to electric, looking at policies to reduce in-person meetings and relying on technology rather than transportation. There are tremendous opportunities to save money and repatriate the energy costs that leave our region and transform them into investments in our local economy.

We have to focus on this incredible potential and not only on "what it will cost" when it comes to increasing energy efficiency and building a diverse and green economy. The transformation won't be easy, but the jobs and growth are there if we can commit to a common vision of sustainability and prosperity.

During the writing of this plan, we experienced a rapid and radical change to society because of a global pandemic – we shifted, virtually overnight, to remote work and becoming more mindful in our transportation and purchasing habits. The cumulative effect of empowered and informed individuals making smart, selfless choices can be transformative. We have an unprecedented opportunity to innovate and embrace a new normal. We must seize it together, creating jobs and a path to shared and sustainable prosperity and smart economic growth.

Gary McNamara, Warden, County of Essex
Chair, Essex County Regional Energy Plan Community Task Force

CONTEXT

Climate change is a fundamental threat to all life on the planet and people's livelihoods.

Scientists warn that the consequences of climate change for humans, animals, and plants will become more severe if the average global temperature continues to rise. In 2015, a historic agreement was signed in Paris by 195 countries to hold "the increase in the global average temperature to well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 degrees Celsius above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change".

In the past few years, climate change issues have become a greater priority for the Windsor Essex Region, and the community has been coming together to address climate concerns. A Climate Change Summit in 2018 resulted in the development of the Windsor Essex Climate Change Collaborative (WEC3) that brings together "community leaders, experts, regional stakeholders, and community members to move towards a low-carbon economy and improve our resilience to our changing climate". The regional collaboration is intended to build on the foundational work of local communities, including the City of Windsor's Climate Change Adaptation Plan and Community Energy Plan.

At the time of writing, 1,926 jurisdictions in 34 countries have declared a climate emergency. In September 2019, the Windsor Essex Environment Committee approved a recommendation to declare a climate emergency for the area. Since then, the City of Windsor, the County of Essex, the Town of Amherstburg, the Town of Tecumseh, and the Town of Essex have joined over 510 Canadian municipalities in declaring a climate emergency. These climate emergency declarations recognize the need for robust and permanent changes, that future climate performance must be a high priority in all decisions and called for cooperation in reducing emissions.

Since 60% of energy consumption and over half of all greenhouse gases (GHGs) in Canada are influenced by communities (e.g., the transportation of people, goods, and services, the powering of local industry and the heating, cooling, and lighting of homes and buildings), all levels of government have the ability to influence local action on climate change. In response, more than 400 Canadian communities have developed community energy plans to establish local priorities for reducing energy use and energy-related emissions. The Essex County Regional Energy Plan (ECREP) will support the County of Essex and its member municipalities take a leadership role in reducing GHG emissions within its geographic boundary from energy use.

While addressing climate change is an important reason to develop a Regional Energy Plan, it is not the only one. Another consideration is ensuring the County of Essex is positioned to manage the economic risks and opportunities associated with the modern energy transition. This energy transition is driving towards decarbonization and more localized and renewable energy sources. With global urbanization proceeding at an unprecedented rate and impacting rural sustainability, this energy transition has the potential to be a new source of rural jobs in addition to addressing environmental and energy security concerns.

The ECREP will allow Essex County to reap the economic benefits of the ongoing modern energy transition by ensuring reliable, cost-competitive energy services for residents and businesses. The opportunity to support local economic development is significant. Local job creation occurs in three ways: 1) direct jobs are created by businesses that support improvements to energy efficiency (e.g., construction trades) or design, build and/or operate local supply and distribution systems; 2) indirect jobs are created in supply chains that deliver goods and services to businesses in the direct job category, and 3) induced jobs are created when the newly-hired workers in direct or indirect jobs spend their new earnings on goods and services. The provision of competitive energy services also serves to attract and retain investment in a community. The modern energy transition allows the Essex Region to create local jobs via all three ways mentioned above.

COVID-19

This plan was started and completed while experiencing two global crises – the climate crisis and the Covid-19 global pandemic. Economic recovery from Covid-19 requires employment and sustained economic development. The climate crisis requires urgent restructuring of energy efficiency and supply at the community level to be carbon-free by 2050. There is growing recognition of an opportunity to bring these two imperatives together.

WHY UNDERTAKE COMMUNITY ENERGY PLANNING?

Community energy planning considers all local energy flows that impact activities within a community, from energy supply through distribution to its end use by consumers. In addition to responding to the trends described above, community energy planning offers several positive economic, environmental, social, and cultural benefits.

From an emissions perspective, community energy planning places emphasis on reducing energy-related emissions. Energy-related emissions arise from the heating and cooling of our homes and buildings, the powering of industries, and the movement of people and goods. Community energy planning may consider measures that address non-energy-related sources of emissions, e.g., local opportunities for waste-to-energy or methane-to-energy. The scope of community energy planning does not include measures that sequester carbon dioxide in forests or agriculture. Still, those land-use opportunities for reducing carbon in our atmosphere are being explored through other projects.

Community energy planning also identifies opportunities to keep energy dollars local by promoting energy conservation and efficiency and opportunities for local energy supply and distribution.

WE ARE READY: MAKING THE PLAN

The creation and implementation of a community energy plan is a community-wide effort.

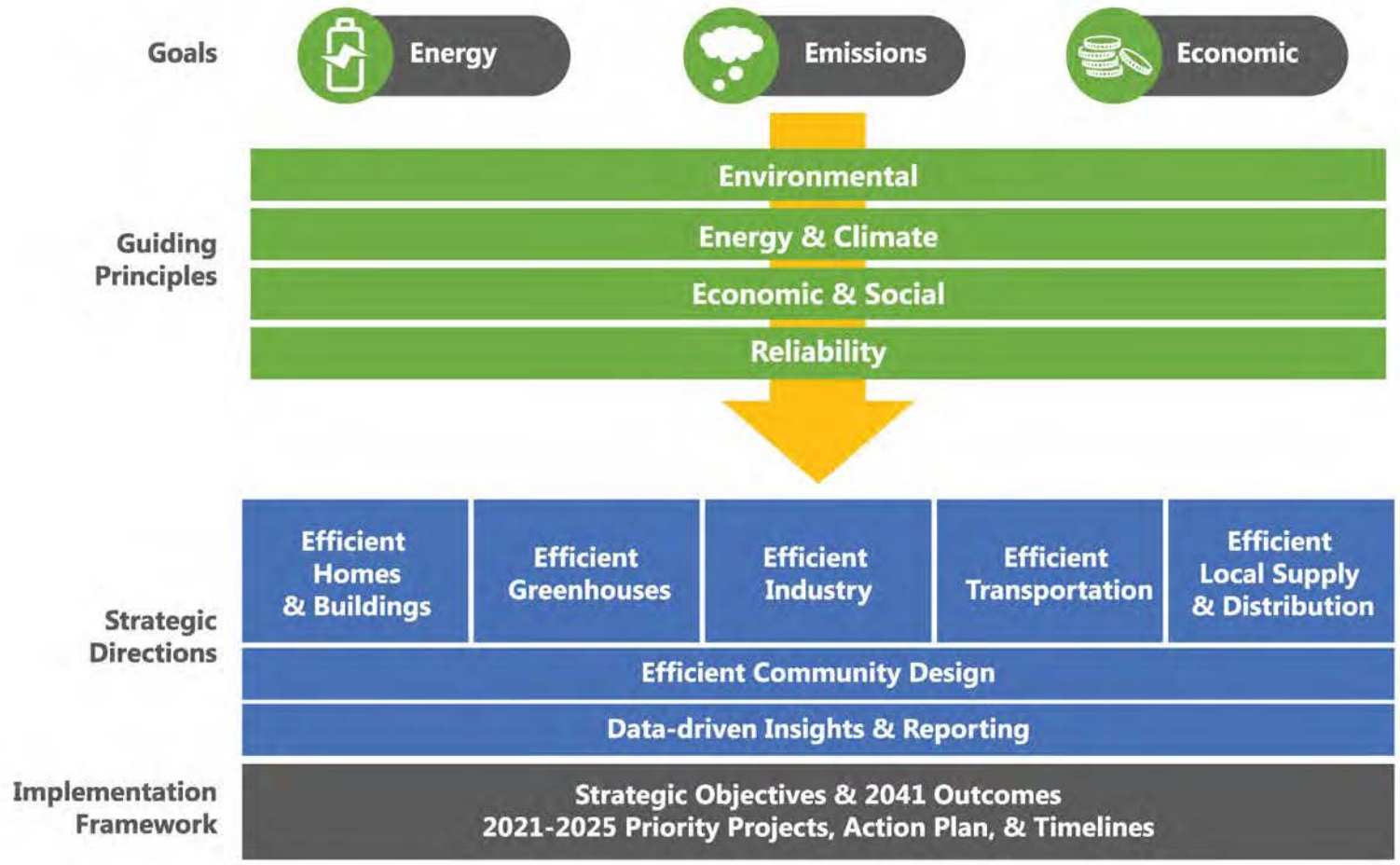
All sectors of society – government, business, civil society, and individuals – have a role to play, whether it is reducing their energy consumption and GHG emissions through adopting new technologies or changing behaviour. Municipal governments (including the County of Essex and member municipalities) have an essential role to play through: Convening and Facilitating (REP planning and implementation), Policy Making, Economic Development, Leading by Example, and Promoting Energy Literacy & Climate Action.

A Community Task Force, consisting of 50 individuals from 7 municipalities, 2 First Nations, 2 post-secondary institutions, 4 utilities, 2 school boards and over 10 community organizations or businesses, were an integral piece of developing the ECREP through providing input and advice on key points.

In August and September 2020, community members shared their views on a proposed vision and principles and priorities for action through a community questionnaire. The responses were used to inform the final Regional Energy Plan. Nearly all respondents believed that taking local action on energy and climate change is of high importance and that we should be doing more to address energy and climate change in this region.

VISION FOR THE REGIONAL ENERGY PLAN

County of Essex Energy Vision



Vision

The Essex Region is an innovative, equitable and sustainable energy community that benefits the environment, economy, and quality of life for all.

Principles

Environmental

- Create a sustainable energy system that meets the needs of the present and future. The energy system creates a sustainable balance between the environmental, economic, social, and cultural needs of Essex Region.
- Recognize that the function, shape and layout of buildings, streets and environments support human health.

Energy and Climate

- Respect climate science and science-based decision-making. Work towards carbon neutrality.
- Test strategies against global best practices in terms of energy efficiency and emissions reduction targets.

Economic and Social

- Ensure all energy-related investments have acceptable risk-adjusted returns.
- Ensure energy costs are competitive with comparable communities.
- Create high-quality employment and train youth to pursue energy and environmental careers.
- Create energy solutions that are equitable across all sectors and demographics, strive for accessibility and affordability in the design and communication of programs.

Reliability

- Respect climate science and science-based decision-making. Work towards carbon neutrality.
- Test strategies against global best practices in terms of energy efficiency and emissions reduction targets.

WE ARE READY: EVIDENCE-BASED TARGETS

Effective energy plans require evidence-based targets.

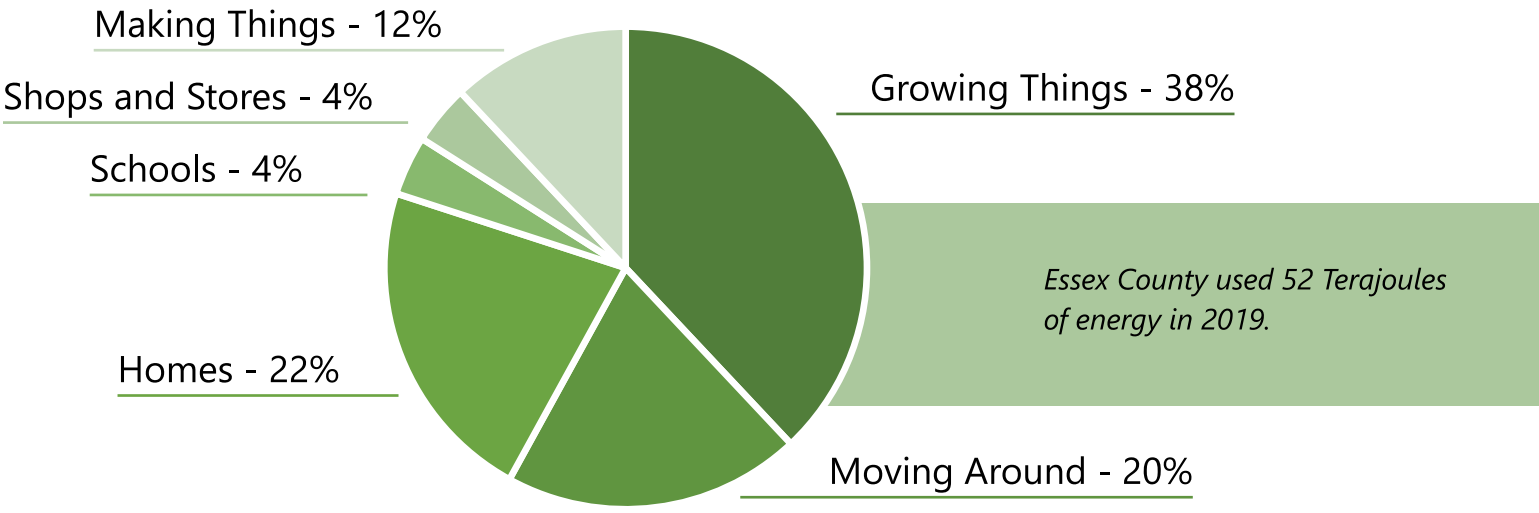
We started by collecting data. Data was used to establish evidence-based targets for the Essex Region, to support the development of goals, strategic objectives, targets, priority projects, and milestones for the Regional Energy Plan. This data included natural gas and electricity consumption for homes, buildings, and greenhouses relating to heating, cooling, lighting, fans, equipment, and other energy consumption sources. Transportation data was modelled based on county fuel use by vehicle type, and passenger and vehicle kilometres travelled. Large energy consumer usage and corporate (municipal) energy use were also reviewed and integrated. These analyses created baseline data to determine the state of energy use and consumption in the Essex Region in 2019.

Essex County's baseline data was compared with several comparable provincial, national, and global benchmarks to understand the opportunity to deliver community benefits through a Regional Energy Plan.

What We Learned

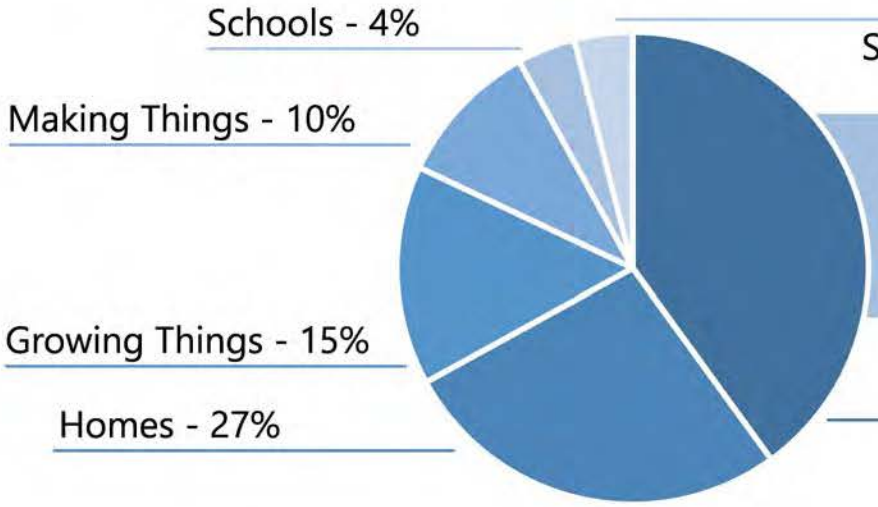
- *On average, homes and buildings in Essex County are approximately half as efficient as global benchmarks. There are many examples of places in Germany, Sweden, and Denmark, which have similar climates to the Windsor Essex Region, where energy efficient new builds and retrofits to older buildings have reduced energy consumption by 80%!*
- *Energy use per home is higher than the national and provincial average.*
- *Energy use in the residential sector per square metre (m2) is the same as the national average but more than twice global best practice*
- *Emissions per capita were higher than national and provincial averages.*
- *Per capita emissions are 5 times global best practice (3 times global best practice if the contribution of the greenhouse sector is removed) and about 8 times the Government of Canada target for 2050 based on the Paris Climate Agreement.*

What data has told us about energy use



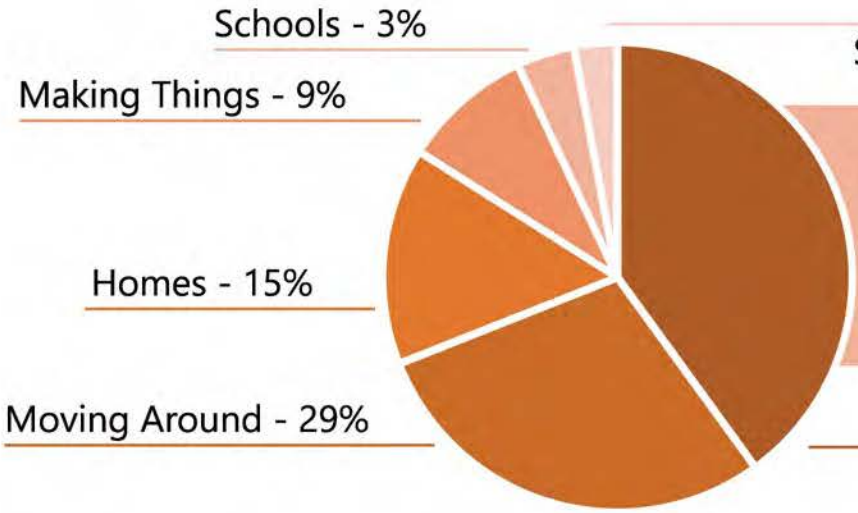
Essex County used 52 Terajoules of energy in 2019.

What data has told us about energy costs



$820 million was spent on electricity, natural gas, gasoline, and diesel within the Essex County community in 2019.

What data has told us about GHG emissions



In 2019, Essex County residents produced 11.5 metric tonnes of GHG emissions per person. Emissions were five times the global best practice and about eight times higher than the Paris Agreement.

STRATEGIES

Energy use, energy-related emissions and energy costs were modelled to 2041. Modelling shows us what our future might look like should no action be taken.

As the population and employment are expected to grow, we anticipate that site energy use will increase by 16% and source energy use by 21%. Greenhouse gas emissions are expected to remain relatively constant (approximately a 3% increase) by 2041 due to a projected increase in vehicle efficiency and reduction in the carbon intensity of the natural gas grid. From a cost perspective, utility costs are estimated to increase by 125% to 300% by 2041. These increases reflect both higher prices and population and employment growth).

Goals to reduce the predicted energy use, energy-related emissions and energy costs were established based on this modelling. In total, three simulations were considered to identify an energy strategy for Essex County. The simulations considered different combinations of integrated energy-related measures for all sectors and energy uses, distribution, conversion, and fuels and were tested to determine their ability to achieve the above energy consumption, GHG emissions and economic framing goals.

In 2019, the Essex Region spent $820 million on electricity, natural gas, gasoline and diesel. If we don't bend-the-curve on energy use through energy efficiency measures, this will increase to between $1.9 billion to $3.1 billion by 2041.

The Community Task Force approved the most aggressive simulation, which brings us closest to the Paris Agreement targets, aligned on the following strategic goals:

- Increase community-wide energy efficiency by at least 50% by 2041 from 2019 levels recognizing selected efficiency measures would consider the entire system from supply through distribution to end-use.
- Enable transition to carbon neutrality by reducing GHG emissions by at least 60% by 2041 from 2019 levels.
- Increase municipal water efficiency by 20% by 2041 from 2019 levels.
- Reduce community-wide energy and water costs in the range of $13 to $18 billion through 2041.

Strategic Directions	And Their Strategies
Strategic Direction 1 – Efficient homes and buildings	• Retrofit 80% of existing homes for an average efficiency gain of 35% • Retrofit 60% of existing buildings for an average efficiency gain of 35% • Require an energy performance label (EPL) on all homes when sold or rented. • Build 30% of new homes and building more efficient than Ontario Building Code (OBC) • Remaining homes and buildings fully meet the energy performance standards.
Strategic Direction 2 – Efficient Greenhouses	• Retrofit 60% of existing greenhouses to achieve 35% efficiency gain • Build 30% of new greenhouses more efficiently than the prevailing industry norms while ensuring remaining greenhouses meet those industry norms.
Strategic Direction 4 – Efficient Transportation	• Reduce the average trip length of light-duty vehicles by 20% • Increase active transportation (walking/cycling) to 5% of passenger kilometres travelled • Increase transit to 3% of passenger kilometres travelled. • Increase electric passenger vehicles to 80% (this includes light-duty vehicles – pick-up trucks and smaller vans) • Increase electric buses to 80% • Increase heavy-duty electric vehicles to 10% • Increase electric vehicle efficiency by 22% • Increase gasoline and diesel vehicle efficiency by 50%
Strategic Direction 5 – Efficient local supply and distribution	• Supply 15% of electricity demand with locally installed solar PV • Supply 10% of heating, cooling and hot water needs not served by district energy with solar thermal and heat pumps. • Supply 70% of existing and 90% of new target commercial, institutional and apartment buildings in higher density areas by district energy • Supply 40% of greenhouses with on-site or near-site integrated energy supply including combined heat and power, local biogas and recovered carbon dioxide injection.
Strategic Direction 6 – Community Planning	• Align all municipal roles in implementing the REP
Strategic Direction 7 – Data-driven insights & reporting	• Establish systems to enable data-driven insights and reporting.
Together, these strategies will:	• increase energy efficiency by 43% by 2041 • reduce annual greenhouse gas emissions by 60% by 2041 • Avoid between $28 billion and $48 billion energy costs between 2018 and 2050 based on low and high-cost projections (respectively).

2021 - 2025 PRIORITY PROJECTS

The following priority projects have been identified and includes lead community partners for the next five years to implement the strategies to meet the established energy plan targets. The Priority Projects are aligned with achieving the goals and objectives the Strategy and establish the first steps on that pathway. Embedded in those first steps are actions that will identify the systems, capabilities and resources that will be required as well as lay the next steps in the journey. Each priority project identifies a potential lead organization and timelines to ensure strategies advance holistically.

Action		Lead	2021	2022	2023	2024	2025
Governance							
0	Approve REP	Task Force & County Council	■				
1.1	Establish governance and implementation structure	Task Force	■	■	■	■	■
1.2	Report on progress	Governance body TBD			■		■
2.1	Complete Retrofit Business Case	TBC	■	■	■	■	■
2.2	Form Retrofit Entity	TBD through Business Case		■			
2.3	Complete Retrofit Business Plan	Retrofit Entity	■	■	■	■	■
2.4	Deliver Retrofit Program	Retrofit Entity			■	■	■
3.1	Complete Growers Energy Co-operative Business Case	WEEDC, OGVG (TBC)	■	■	■	■	■
3.2	Form Co-operative	TBD through Business Case		■			
4	Develop industrial best practice networks	WEEDC, LIUNA, OGVG, WCA	■	■	■	■	■
5.1	Complete District Energy Utility Business Case	TBC	■	■			
5.2	Complete District Energy Utility Business Plan	TBD through Business Case	■	■	■	■	■
5.3	Form District Energy Utility	TBD through Business Case			■		
Policy Alignment							
6	Align Economic and Employment Land Strategy	County of Essex		■			
7	Align Transportation Master Plan	County of Essex	■	■	■	■	■
8	Align Official Plans and Secondary Plans	County & Lower Tier	■	■	■	■	■
9	Align Corporate Energy and Emission Reduction Plans	County & Lower Tier	■	■	■	■	■
10	Develop enabling policies and programs	County & Lower Tier		■	■	■	■
Scale Projects							
11.1	Identify Manufacturing Cluster	County & Lower Tier; WEEDC	■				
11.2	Develop IEMP and implement	Private Sector Partners (TBC)	■	■	■	■	■
12.1	Identify Net-Zero Community	County of Essex	■	■			
12.2	Develop IEMP and implement	Private Sector Partners (TBC)	■	■	■	■	■
13.1	Form bio-energy partnership	TBD Private Sector	■				
13.2	Develop Master Plan and implement	Bio-energy Partnership	■	■	■	■	■
14.1	Identify host community for e-mobility project	County & Lower Tier	■				
14.2	Develop project planning and implement	County & Lower Tier	■	■	■	■	■
Education							
15	Develop program and implement	Regional Comm. Group (TBC)	■	■	■	■	■
Measurement, Reporting & Optimization							
16	Create a “Smart Energy Region”	WEEDC, St. Clair College, U of W	■	■	■	■	■

GOVERNANCE AND OVERSIGHT

The planning process to develop this strategy was deliberate in engaging a broad cross-section of the community to earn buy-in, build capacity and motivate action. Implementation will require ongoing oversight to ensure the strategy and priority projects are achieved. As part of the implementation plan, one of the priority projects includes the formation of a community stakeholder implementation body – or Implementation Task Force - that would oversee, coordinate, and report on overall progress to the community. This Implementation Task Force would be guided by a Terms of Reference, facilitated by a governing administrative body, and draw from the experience and expertise of the Community Task Force who guided the REP development.

Each of the priority projects has a lead agency defined. Lead agencies will look to secure partnerships with additional resources in the community to ensure that strategies maximize local knowledge, expertise and resourcing.

It is recommended that the REP is updated every five years to respond to changes in climate policy, energy policy, technology, and global best practice and the opportunities they provide to accelerate the local energy transition.

CONCLUSION

The Essex County Region Energy Plan is unique in many ways. First, it may be the only Canadian plan produced virtually, with no in-person meetings. The challenges of the global pandemic demonstrated the collective capacity for rapid and radical change. Throughout this crisis, there has been decisive, coordinated action from our community leaders. Now the same commitment needs to be applied to addressing the climate crisis.

The strategy outlined in this report establishes a pathway to reduce GHG emissions from 270 GJ per capita to 150 GJ per capita by 2050 (a 44% decrease in GJ per capita). In the fullness of time, global policy changes will influence markets, technologies will evolve in response to those changing markets, and communities like Essex County will be able to accelerate their transition towards net-zero emissions.

The strategy also puts Essex County on a pathway to reduce source energy consumption from 2.2 million to 0.59 million metric tonnes by 2050, resulting in a cumulative $28 billion in energy savings. The modelling undertaken to determine the potential cumulative savings from energy efficiency was conservative. The subsequent Supreme Court ruling on the constitutionality of the Federal price on carbon and announcements that it will rise to $170 tonnes by 2030 only makes the economic case for implementing this strategy more compelling for the residents and businesses of Essex County.

A fully virtual plan! The Task Force would have driven over 34,500km to come together for in-person meetings. This saved 6.6 metric tons of emissions!

Recovery from Covid-19 will be the best opportunity this century to invest money in the path towards a sustainable future: a low-carbon, resilient future. This strategy provides 'shovel-ready' plans to capitalize on any new funding for climate adaptation and alternative energy projects. This is what Windsor-Essex is good at – re-tooling, responding, innovating – we can lead the way through this critical next decade.

WE are ready.

Draft Municipal Resolution in Favour of Federal Action to Manage Plastics

WHEREAS plastic pollution is recognized by the Government of Canada, as well as governments and scientists around the world, as damaging to the environment; and

WHEREAS Canada lacks a comprehensive and coordinated approach to addressing the growing problem of plastic pollution; and

WHEREAS global annual production of plastic products is expected to double in the next decade, to 800 million tonnes in 2030; and

WHEREAS some 40 per cent of plastic production generates “single-use” items that are used once and thrown away, which runs counter to the principles of a circular economy; and

WHEREAS the majority of plastics produced are not currently suitable for reuse or recycling and some 8,000 tonnes of Canadian plastic waste end up in landfills, incinerators or the natural environment every day; and

WHEREAS municipalities are in the position of managing the end of life of products that are not adequately managed by the producers that put them on the market; and

WHEREAS investing in the circular economy creates jobs;

THEREFORE BE IT RESOLVED that the City of Windsor:

1. Endorse the integrated management plan for plastics proposed by the federal government, which includes:
    a. Adding plastic manufactured items as a toxic substance to Schedule 1 of the *Canadian Environmental Protection Act (*CEPA)
    b. Banning six single-use items: checkout bags, stir sticks, six-pack rings, cutlery, certain takeout containers and straws
    c. Establishing a minimum requirement for recycled plastic content in new plastic products.

2. Ask the federal government to implement this important management plan as soon as possible and, in any case, no later than the end of the year.

3. Urge the federal government to establish a registry that publicly reports on:
    a. Descriptions of the plastic manufactured items put on the market each year in Canada
    b. A list of chemicals found in each product

c. The amount of plastic that enters the waste stream in Canada each year, broken down by how and where the waste is processed (e.g. landfill, incineration/waste-to-energy, recycling, domestic vs. export)

4. Further urge the government to establish a framework for the adoption of Extended Producer Responsibility regulation across the country to ensure producers are responsible for the full lifecycle of the products they put on the market in Canada;

5. Further urge the federal government to set a national recycling target for plastic products;

6. Further urge the federal government to work with municipalities to explore, with a view to investing in, reuse systems to replace single-use plastic products; and,

7. That the County of Essex **BE REQUESTED** to consider adopting the resolution as outlined above.

March 2021
Derek Coronado, Coordinator,
Citizens Environment Alliance of Southwestern Ontario

Office of the City Engineer

MEMO

Date: May 27, 2021

To: The Chair and Board of the Essex-Windsor Solid Waste Authority

From: Stacey McGuire and Tracy Beadow, Project Administrators on behalf of the Regional Food and Organic Waste Oversight Committee

Meeting Date: June 1, 2021

Re: Food and Organic Waste and Biosolids Management Project – Recommendations from the Oversight Committee

Purpose:

The purpose of this report is to provide the EWSWA Board with a set of recommendations from the Food and Organic Oversight Committee related to project direction and participation from municipalities.

It is intended that EWSWA provide direction based on these recommendations at the July 6, 2021 EWSWA Board meeting.

Background:

At the October 6, 2020 EWSWA Board meeting the Board approved the development and implementation of a Regional Food and Organics Waste Management Plan.

At the May 4, 2021 EWSWA Board meeting the report entitled “Organics and Biosolids Waste Management and Processing Project, Phase 1 – Consulting and Project Direction Analysis and Recommendations, GHD Limited dated April 28, 2021” (the GHD Report) was submitted for information along with a presentation summarizing the progress of the Food and Organic Waste Oversight Committee and Technical Working Group.

The EWSWA Board further directed the Regional Food and Organic Waste Oversight Committee to report back final recommendations to the June 1, 2021 meeting for EWSWA Board approval at the July 6, 2021 meeting.

Discussion:

Based on the GHD Report findings the following conclusions and recommendations are presented in support of a proposed direction.

Project Delivery: ***The preferred alternatives all involve construction of a new facility***. A service contract is not being recommended as a preferred long-term solution. The final project delivery model is proposed to be subject of a separate report.

Siting: ***Two existing municipally owned sites have been identified as preferred alternatives; lands adjacent to the Windsor Biosolids Processing Facility (WBPF) in Windsor and lands surrounding the Regional Landfill in the County of Essex. There remains the option for a site to be provided by the proponent as part of a Request for Proposals***. It is possible to structure the procurement to allow bidders to select and bid on one or more site options.

From a feasibility standpoint, it is recommended that the facility be located in geographic proximity to municipalities that are participating to reduce costs for new and upgraded transfer stations and to reduce transportation distances. In keeping with the EWSWA Board direction of October 6, 2020, this memo recommends a regional approach, which includes participation from Windsor and all 7 County municipalities.

If a regional approach is NOT taken, the facility should be sited closer to the centroid of the waste generation for the municipalities that are legislated to achieve diversion targets, which means a location closer to or in Windsor would be preferred (i.e. the WBPF or lands provided by a proponent through the procurement process).

Feedstock: At a minimum, the Organics Provincial Policy Statement (OPPS) requires Windsor, Amherstburg, LaSalle, Leamington and Tecumseh to achieve specific reduction or recovery target rates for residential food and organic waste by 2025. Essex, Kingsville and Lakeshore do not have reduction obligations based on their current populations and population densities. However, development and growth may affect the legislative requirements and there is a plan for a ban on organics in landfills with an anticipated date of 2030. As a result, even those municipalities without current legislative obligations today may be required to find an organics solution in the future.

It is recommended at a minimum that a new facility accept source separated organics (SSOs) from Windsor and the 7 County municipalities. This is in keeping with the direction from the October 6, 2020 EWSWA Board meeting to develop and implement a Regional Food and Organics Waste Management Plan. ***Furthermore, if***

the WBPF is chosen as the site, it is recommended that biosolids from the City of Windsor's two wastewater treatment facilities be included in the minimum feedstock.

It should be noted that the cost-benefit analysis scores improve with increased tonnage as the regional partners benefit from greater economies of scale, revenues and greenhouse gas (GHG) reduction benefits. As such, there is a strong case for including not only SSOs from all of the regional municipalities but also a percentage of optional feedstocks where possible, such as:

- Industrial, Institutional and Commercial sector waste,
- multi-family residential waste,
- fats, oils and greases, and
- horticultural waste

There are however risks associated with including additional feedstocks if less material or tipping fees are realized than anticipated. In addition, greenhouse vine waste contains wire and other contaminants that make it challenging to process.

Some potential mitigation measures include phased implementation and transfer of risk to the contractor by making some feedstocks optional in their proposal at their own risk.

At this point, it is critical that the minimum feedstocks be established in order to effectively proceed with procurement. Generally, the more uncertainty there is in the procurement process the larger the premium will be paid by the owner as the bidder must accept additional risks. For this reason, it is not advisable to proceed to procurement without a firm commitment from the municipalities about their participation.

Furthermore, it should be noted that EWSWA can recommend and build a regional solution, but under the current agreement, municipalities would be in charge of their own collection. Under this arrangement, the amount of SSOs being diverted to the facility directly relates to the rate and method of participation at the municipal level as well as overall community engagement. This report does not include a recommendation for a preferred collection agreement. These details would be subject of a future report.

Although a regional approach is being recommended, each municipality must receive direction from their respective Councils as soon as possible in support of or against participating in the regional project at its onset (i.e. when it begins its operation). GHD and members of the Regional Food and Organic Waste Technical

Working Group may be available to assist municipal staff with the preparation of Council reports and attend the Council meetings to make presentations and answer questions.

There may be options to phase in feedstock from some municipalities or optional feedstock sources rather than including them all at the onset of the project. For example, those municipalities that have no current obligations, but would be affected by the future landfill ban on organics may wish to participate on the date the landfill ban comes into effect. However, this must be defined at the time of procurement to obtain accurate costing for the project. If some municipalities don't participate initially but choose to at a later date, the costs that would be incurred by those municipalities would not be the same as if they participated at the onset.

Technology: Both composting and Anaerobic Digestion (AD) have been identified to be feasible technology options that meet the objectives of the OPPS. The following sections provide an overview on some available technologies.

Composting

Composting involves the decomposition of organic matter by bacteria in an oxygen-rich (aerobic) environment. Oxygen is added to the organic material and the resulting microbial process generates a dry, stable compost, water and heat. Covered windrow composting and in-vessel composting are contained systems which allow for better odour control measures than traditional windrow composting.

Composting is a lower cost process that is simple and well established. The County's existing leaf and yard waste program involves a compost facility at the Regional Landfill which has been fairly successful.

Composting is easily adaptable and scalable making it less costly to decrease or increase capacity as required. However, composting requires a large footprint.

Composting will allow organics to be diverted from landfill which will reduce greenhouse gas emissions, however greenhouse gases are generated during the process which offset some of the emissions reduction potential. Composting does not produce a renewable energy component.

Anaerobic digestion (AD)

AD also involves the decomposition of organic matter by bacteria, but in an oxygen-limited (anaerobic) environment. The AD process produces a digestate material which

can be used as fertilizer and a clean renewable energy source called biogas which can be further refined to produce a renewable natural gas.

AD typically requires a smaller footprint than composting and odours can be managed to a greater degree since air is not introduced to the process. The AD process is more complicated than composting, but AD technology is well used and best practices well established in Canada.

AD projects will contribute to greenhouse gas emissions and energy reduction targets to a greater degree than composting. The capital and operating expenses related to AD projects tend to be high, however these expenses may be partially offset by revenues from the sale of the end products, including the renewable natural gas. There is a risk that revenues associated with the sale of renewable natural gas will not be realized to the same degree as predicted in the costing models developed.

There are opportunities to combine an organics AD solution with another greenhouse gas and energy reduction project for greater environmental benefits and revenue generation. Greater volumes of renewable natural gas can be realized with the addition of wastewater sludge as feedstock or using methane from the landfill gas collection system. These opportunities would also complement capital planning initiatives already in place.

Other Technologies – BioDryer

The BioDryer technology allows the co-processing of food and organic waste and biosolids in BioDryer tunnels where the materials are heated and dried through an aerobic process which produces a biofuel that through thermal power generation, would produce steam or power. The process also produces a dried ash material that could be used for fertilizer or compost. In addition, a fraction of the feedstock could be directed to a composting unit instead of a biofuel unit.

Consultation with the Ministry of Environment, Conservation and Parks (MECP) has indicated that only the fraction diverted to the composting process may be considered acceptable in accordance with the OPPS.

Other Technologies – Synthesis Gas – “Syngas”

This chemical reduction process technology converts organic waste into synthesis gas (Syngas) for production of electricity or conversion into natural gas or biofuels. The technology claims to be able to recover ammonia which can be sold as a fertilizer product.

Consultation with the MECP has indicated that this process does not meet the requirements of the OPPS.

Consultation with MECP

Some members of the Regional Food and Organic Waste Technical Working Group met with the MECP's policy and approvals branches on May 19 and 21, 2021 respectively to discuss the anticipated changes to the OPPS and release of guidance documents outlining technology best practices in the fall of 2021.

The MECP verified that the changes coming to the OPPS in the fall are not expected to change the deadlines or targets previously established. Rather the changes would be supplemental to the already established policy and are centered around the topics of compostable materials and the anticipated ban on organics in landfill.

The guidance documents to be released in the fall are intended to provide detail on the public facing side (i.e. what residents can anticipate) and best practices and tools for the municipalities that will have obligations to meet, including how the municipalities can track their progress towards their diversion targets. At this time, the best practice documentation is being developed based on composting and anaerobic digestion only.

None of the amendments or guidance documents being proposed will change the obligations already established for municipalities. For this reason, and because some municipalities in Windsor-Essex must meet these obligations by 2025, it is important to maintain momentum on this project.

A discussion on the BioDryer and Syngas technologies and their applicability to the OPPS also took place at both MECP meetings with the policy group and the approvals group.

The current OPPS states the diversion targets cannot be achieved through the use of food and organic waste to generate alternative fuels or energy from waste without the concurrent recovery of nutrients. This is not anticipated to change with the fall 2021 amendments to the OPPS. The MECP noted a desire to see the end product of the organic processing facility to go to the most beneficial end use.

For the reasons above, BioDryer and Syngas technologies were eliminated from the shortlist of alternatives developed by the Regional Food and Organic Waste Technical Working Group and included in the GHD Report to avoid significant delays. However, the recommendations of this EWSWA Board report are intended to allow the Food and Organics Waste Technical Working Group to move forward to the next steps of the

project in parallel to the finalization of the MECP OPPS changes and guidance document development. The recommendation is intentionally worded to allow the BioDryer or Syngas technology, or any other technology that produces renewable energy to be considered, as long as they help the municipalities to meet the obligations of the OPPS.

If a proponent is able to prove their technology would be accepted by the MECP as meeting the requirements under the OPPS that technology and proponent may be considered. It is proposed that this decision be made by the evaluation committee during the bid period related to a procurement. This will provide time for the proponents to consult with the MECP prior to bids being submitted for a future procurement.

Greenhouse Gas Emissions Reductions and Renewable Energy

On May 19, 2021, the County of Essex approved the Essex County Regional Energy plan which sets reduction targets for greenhouse gas emissions and energy use. This plan sets out even more stringent targets than the City of Windsor's Community Energy Plan (2017). The City of Windsor has also approved energy and greenhouse gas targets identified in the Corporate Climate Action Plan and Corporate Energy Management Plan.

Both composting and AD projects will divert organic materials from landfill which will result in a significant reduction in greenhouse gas emissions. However, composting generates some greenhouse gas emissions that will reduce the benefits to a degree. AD projects create a renewable natural gas (RNG) that will displace non-renewable natural gas and create an energy source from waste that is not obtainable from composting.

For AD projects, the sale of RNG can offset a portion of the capital and operating costs. The models developed in GHD's report assume RNG would be sold rather than used for self consumption (powering fleet, heating buildings, etc) because that will produce the most revenue. There are three main options related to the use of RNG created by an AD project:

- A project that sells the RNG to an out-of-province utility would contribute to the global climate emergency but not achieve localized target reductions.
- A project that sells the RNG to an in-province utility would contribute to the community targets and the global climate emergency.
- A project that uses the RNG on site or within the municipality which the facility is located would reduce corporately reported greenhouse gas emissions and

contribute to the global climate emergency. However the additional corporate benefits would come at a cost due to the loss of RNG as a revenue source.

In support of the City and County's Energy and GHG reduction targets this memo recommends that only technology options that produce renewable energy be carried forward to the RFP stage. This would eliminate composting only solutions, although composting could be part of a larger project that also produces energy.

Odour Control: Members of the EWSWA Board and other municipal representatives have expressed significant concern regarding odours at the time of organics processing and through land application of the end product.

Odour is a major concern for any organics process, regardless of the technology. Odours may occur through transportation and collection, pre-processing and tipping of waste, through the processing, packaging and end product application. Efforts must be made to address odours across the entire life cycle of the waste.

Composting involves the addition of air through the organic materials which can result in additional odours if the air is not properly treated. AD does not add air to the process so odours can be more easily contained using best industry standards.

There are municipally owned and operated facilities that have been very successful in containing fugitive odours (e.g. Toronto's Disco Road facility which is located in an urban area). It is important that minimum standards for odour mitigation be defined as part of the procurement and that this item be placed at high priority.

Some examples of ways to mitigate odours include, but are not limited to:

- Minimize off-site and on-site queuing of vehicles
- All processing and storage occurs in enclosed buildings and tanks under negative air pressure
- Buildings are designed to prevent ingress or egress of uncontrolled air and water
- All process and building air is collected and treated before discharge
- Air flows through the plant from "clean" to "dirty" areas
- Process air is not permitted to be used for building air
- Wastes are normally processed the same day they are received
- Fast acting overhead doors
- All doors remain closed when not in use
- Two layers of containment between waste process and storage areas and the outside
- Daily monitoring for odour at property line

- Maintain minimum air flows or air changes within buildings to ensure fresh air is being circulated
- Build in standards for end use of digestate/compost produced

The recommendations of this report ***place an emphasis on pursuing odour control standards for a new build in excess of minimum industry standards.*** This can be evaluated as part of the procurement process.

Schedule and Timing Risks: The OPPS requires that diversion targets be met by the year 2025 which this group has interpreted to mean the new processing facility must be built, commissioned and ready to accept feedstock from any curbside collection or depot programs by the end of 2025.

The GHD report notes that a new owned facility may not be realistically completed by the end of 2025. At this time there are no orders or fines associated with failure to meet the 2025 deadline, however municipalities could be required to provide reporting to prove consistency and compliance with the OPPS direction. ***It may be necessary to pursue a service contract to bridge the time between the obligation deadline in the OPPS and the start of operations of the new facility.***

There will likely be planning and environmental approvals required for the construction of any new facility, the impacts of which may not be fully understood until the site is known. It may be advisable to initiate the approvals processes for the two preferred municipally owned sites (lands adjacent to the regional landfill in Essex and WBPF in Windsor) with the resulting risk that costs may be incurred on a site or sites that are not used for the project.

The planning process prior to procurement will be a lengthy one which may include environmental and land approvals in addition to the time it will take to assemble a detailed scope document for procurement. It is not anticipated that a procurement document will be ready for release prior to the OPPS amendments and guidance document release. It is important to continue to work closely with the MECP as the project progresses to ensure the project is supported by the MECP and the guidance document as it is developed. This link has been established and will be maintained.

The recommendations of this report are that the planning and procurement phases of the project be initiated, while maintaining regular consultation with the MECP.

The expected timeline for next steps is summarized below:

- July 6, 2021 – EWSWA Board to provide direction for the project based on the recommendations of this report
- July - September, 2021 – The 7 County municipalities report to their respective Councils for direction on whether or not they will participate in the regional solution in the initial phase of operations
- September 30, 2021 – Deadline for municipalities to opt into the Regional Food and Organics project at the onset of the project

Recommendations:

1. That the Food and Organic Waste Management Oversight Committee **BE DIRECTED** to proceed with a procurement plan for construction of a new Food and Organics Waste Processing Facility ("the Facility") with the following minimum criteria:

    a. That the Facility **BE LOCATED**:
        i. on lands adjacent to the Regional Landfill, or
        ii. on lands adjacent to the Windsor Biosolids Processing Facility, or
        iii. at a site supplied by a proponent through the procurement submissions, and;

    b. That, consistent with the intent of the City of Windsor Community and Corporate Energy Plans and the Essex County Regional Energy Plan, that the Facility **BE DESIGNED** using a technology that produces renewable energy with concurrent recovery of nutrients, in addition to helping municipalities towards their greenhouse gas reduction goals and to meet or exceed waste diversion targets set out in the Organics Provincial Policy Statement, and;

    c. That the Facility **BE DESIGNED** to accept, at a minimum, source separated organics from Windsor and the participating municipalities (confirmed by September 30th, 2021), through a curbside collection program ", and;

    d. That if the Facility is located at the Windsor Biosolids Processing Facility, biosolids from the City of Windsor's wastewater treatment facilities **BE**

INCLUDED in the minimum feedstock, with the costs and revenues related to the processing of the biosolids portion of the feedstock being apportioned to the City of Windsor, and;

e. That industry standards **BE EXCEEDED** regarding odour control at the facility and the end product, and;

2. That the 7 County municipalities **BE REQUESTED** to report to each of their respective Councils by September 30, 2021 for direction on whether those municipalities will participate in the Regional Food and Organics Waste Management program at its onset and to what degree, based on the recommendations of the Oversight Committee and endorsed by the EWSWA Board (attached as Schedule “A”), and;

3. That the Food and Organics Waste Oversight Committee **BE DIRECTED** to report back to the EWSWA Board with a recommended Procurement Plan outlining project delivery model selection, timing and next steps, and;

4. That the Food and Organics Waste Oversight Committee **BE DIRECTED** to pursue planning and environmental approvals for the municipally owned sites adjacent to the regional landfill in the County of Essex and the Windsor Biosolids Processing Facility in the City of Windsor, and;

5. That, prior to any contract award for design and construction of the Facility, the General Manager of EWSWA **BE DIRECTED** to report back to the EWSWA Board with a Regional Food and Organics Waste Management Plan, such plan to include the proposed funding model including sharing of expenses, revenues and environmental credits and responsibilities of all parties related to the Facility and the food and organic waste collection system.

Submitted By

Stacey McGuire, P.Eng., Project Administrator
Tracey Beadow, P.Eng., Project Administrator
City of Windsor

CITY OF WINDSOR
FINANCIAL VARIANCE BY ACCOUNT
For the Period Ending May 31, 2021
41.67% of Year Elapsed

Dept ID 0111723 **Run Date/Time: June 09, 2021 at 15:05**

ACCOUNT CODE	ACCOUNT DESCRIPTION	BUDGET	YTD ACTUALS	YTD VARIANCE	PROJECTED ADJUSTMENTS	YE PROJECTED VARIANCE	PREVIOUS YEAR ACTUALS
Revenues							
6330	Other Municipal Grants & Fees	0.00	-4,000.00	4,000.00		4,000.00	-4,000.00
7058	TRANSFER From Reserve Account	0.00	-6,108.00	6,108.00		6,108.00	0.00
	## TOTAL REVENUES	**0.00**	**-10,108.00**	**10,108.00**		**10,108.00**	**-4,000.00**
Expenses							
4248	TRANSFER to Reserve Account	0.00	0.00	0.00		0.00	6,108.00
4295	Public Relations	4,000.00	0.00	4,000.00	1,000.00	3,000.00	1,891.78
	## TOTAL EXPENSES	**4,000.00**	**0.00**	**4,000.00**	**1,000.00**	**3,000.00**	**7,999.78**
	NET TOTALS	**4,000.00**	**-10,108.00**	**14,108.00**	**1,000.00**	**13,108.00**	**3,999.78**

Ojibway Shores
National Urban Park Status
Time Line and Future Actions
As at June 2021

Submitted by: Richard St. Denis

BENEFITS:
Tourism, Employment, Service, Knowledge, Finances, the Protection of the lands and species.

August 2019

The campaign for establishing Ojibway National Urban Park began with a townhall with hundreds of residents and many organizations (including local, national and international environmental groups) in support, especially the Wildlife League.

September 2020

The Speech from the Throne, the Federal Government pledged to work with cities to expand Urban Parks, linking this to the goal of protecting 25% of Canada's land and fighting Climate Change using nature-based solutions.

April 2021

The Federal Budget allocated the funding for this commitment.

BACKGROUND

The campaign for Ojibway Shores National Urban Park joined with the Wildlands Nature Connectivity Project, which is about finding those gems where we can restore, protect and connect natural landscapes across Southern Canada to address the dual challenges of Climate Change impacts like flooding where species need protection.

Southern Ontario is most at risk of flooding with the highest number of endangered species. Urban Protection, natural infrastructure and ecological corridors are a way to build back nature and address these challenges.

Windsor is in a prime position to be the first to benefit from this Federal commitment. Ojibway Shores, along with Ojibway Park, Tail Grass Prairie Park, Black Oak Heritage Park, the Spring Garden Nature Area, and Ojibway Prairie Provincial Nature Reserve are Tall Grass Savannah Forest and Wetlands. Tall Grass systems are the best natural sponges helping fight flooding. This represents an opportunity to create a natural urban park connected to an ecological corridor, solve flooding and help the economy. While protecting these lands, this will also protect the species that live there.

WHERE WE GO FROM HERE

How to make Ojibway Shores a National Urban Park:

1. Grass roots messaging from local organizations and environmental groups to send Federal Government consent.
2. Transfer Ojibway Shores to the Federal Government.
3. Create a National Urban Park
4. Re-naturalize Turkey Creek
5. Build and restore natural infrastructure

MOTION:

The Windsor Essex County Environment Committee (WECEC) supports the creation of the Ojibway Shores National Urban Park. WECEC requests a letter be sent on our behalf to the Federal Government (Minister of Transport; Minister of Infrastructure and Communities; Minister of Environment and Climate Change) and our local Federal Members of Parliament to encourage the Ojibway National Urban Park. (Similar to Council approval on June 7, 2021 meeting motion.)

THE CITY OF WINDSOR ONTARIO, CANADA

Council Report: S 189/2020

Subject: Greenhouse Gas and Energy Inventory 2019-City Wide

Reference:

Date to Council: June 23, 2021
Author: Kyle Bassett
Community Energy Plan Administrator
kbassett@citywindsor.ca
519-253-7111 x 3224
Pollution Control
Report Date: December 21, 2020
Clerk's File #: El2021

To: Mayor and Members of City Council

Recommendation:

That the report of the Community Energy Plan Administrator dated December 21, 2020 entitled "Greenhouse Gas and Energy Inventory 2019" **BE RECEIVED** for information.

Executive Summary:

The 2019 greenhouse gas (GHG) and energy inventory is presented for the City of Windsor Community and Corporation.

Community GHG Emissions

Emissions and energy usage per capita for the Community reduced slightly compared to 2014 baseline.

Corporate GHG Emissions

Emissions and energy use for the Corporation increased notably compared to baseline. Increased corporate emissions are primarily due to increases in the building and wastewater sectors. The Windsor Bio-solids facility, representing 3317 tonnes was added to corporate scope in 2019, but has not been included in corporate totals detailed herein.

Building emissions have increased in part due to operation of Combined Heat and Power (CHP) units at Huron Lodge and WFCU. Wastewater emissions have increased due to increases in the volume of water being treated. This increase in water volumes treated may be due to backflow and infiltration resulting from an increase in lake and ground water levels. However, emissions per litre treated has not changed.

Background:

In 2015, The City of Windsor began the process of developing a long-term comprehensive plan to address energy and greenhouse gas emissions through the completion of a Community Energy Plan (CEP) and associated Corporate Climate Action Plan. These plans were approved by City Council in July 2017 (CR426/2017).

The vision of the Community Energy Plan is to create economic advantage, mitigate climate change, and improve energy performance. It strives to position Windsor as an energy center of excellence that boasts efficient, innovative, and reliable energy systems that contribute to the quality of life of the residents and businesses.

The Community Energy Plan (CEP) included a community-wide goal to reduce greenhouse gas (GHG) emissions by 40% of 2014 levels and to reduce per-capita energy consumption by 40%. Increasing efficiency of new-build developments was identified as an important element of the GHG reduction pathway.

Included in the CEP is a directive to report energy and Greenhouse gas inventory reports biennially. In November of 2020, Council requested (CR558/2020) administration to report annually on greenhouse gas emissions and energy usage. This council report serves to address this request.

The final discussion section of the report titled “Partnerships and Collaboration 2021” serves to address CR187/2020 Clause 9.

Discussion:

City of Windsor Community Inventory

The City’s Community Energy Plan Administrator prepares and creates two greenhouse gas (GHG) and energy inventories on a yearly basis in order to monitor and verify progress towards the council-approved reduction goals. The first inventory is the Community inventory, which includes sector analysis for residential, commercial, institutional, industrial, and transportation and solid waste energy and emissions.

The residential sector includes emissions and energy from natural gas (primarily used for building heating and hot water) as well as electricity (used to power home appliances, electronics and lighting).

Similarly, Commercial and Institutional sector include emissions and energy from natural gas and electricity.

The Industrial sector includes natural gas used for space heating, hot water and industrial processes as well as electricity used for powering equipment.

Transportation includes diesel and gasoline fuels used for powering of all vehicles including both personal and commercial. As transport energy and emissions are based

on gas station fuel sales, this sector would also include fuels used for powering yard machinery such as lawn mowers, snow blowers, and chainsaws.

Solid waste emissions are calculated through total tonnage collected by the City of Windsor through curbside collection and deposited at the public drop-off.

Data for the energy and emissions inventory was provided by local utilities companies Enwin and Enbridge. Enwin provided data for water and electricity consumption. Enbridge provided data for natural gas consumption. A market report containing quantities of diesel and gasoline fuel from Kent Market Research Group was used to determine emission and energy from transportation.

Emissions and energy consumption for each yearly inventory is presented in comparison to that from 2014, which serves as the baseline year for the CEP. The CEP outlines that yearly increases in emissions and energy are anticipated until such time that emissions reduction strategies are implemented. This inventory is consistent with CEP business-as-usual projections.

Summary data from the inventory is presented in Table 1.

Table 1: Community GHG Inventory Summary Table.

	Baseline 2014	2019	% Change to Baseline
Total Emission ($C0_2e$)	1,812,728	1,825,916	+ 0.73
Total Energy (GJ)	39,016,987	39,672,749	+ 1.68
Population	211,000	217,185	+ 2.93
Emissions per Capita	8.59	8.41	- 2.14
Energy per Capita	184.91	182.67	- 1.21

The graphs below displays the 2019 energy and emissions data in comparison to the historic inventories.

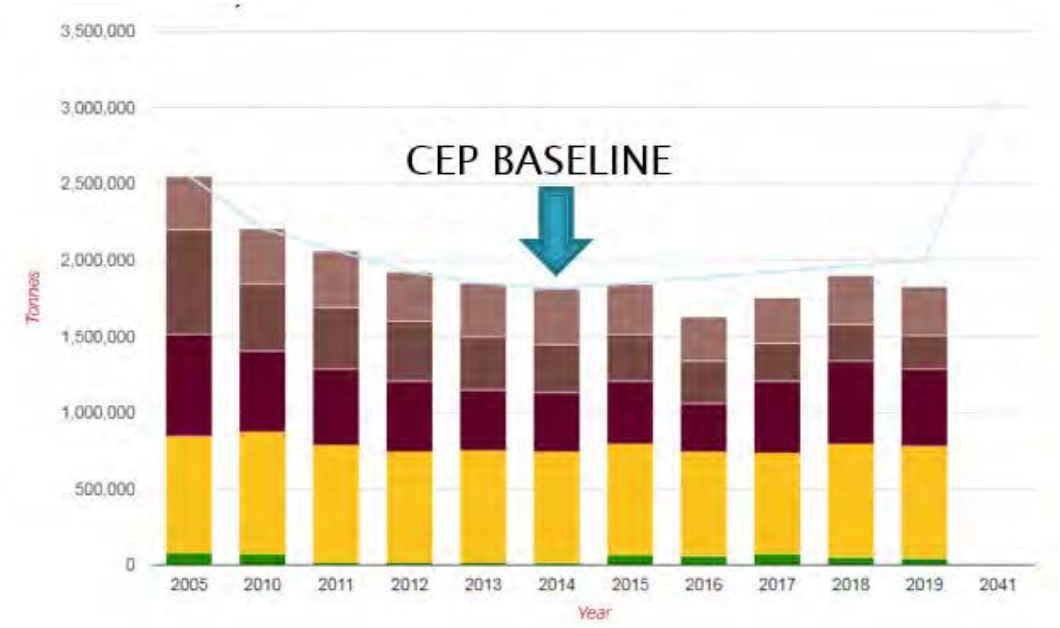


Figure 1 - Historic Emissions Inventory – Windsor Community

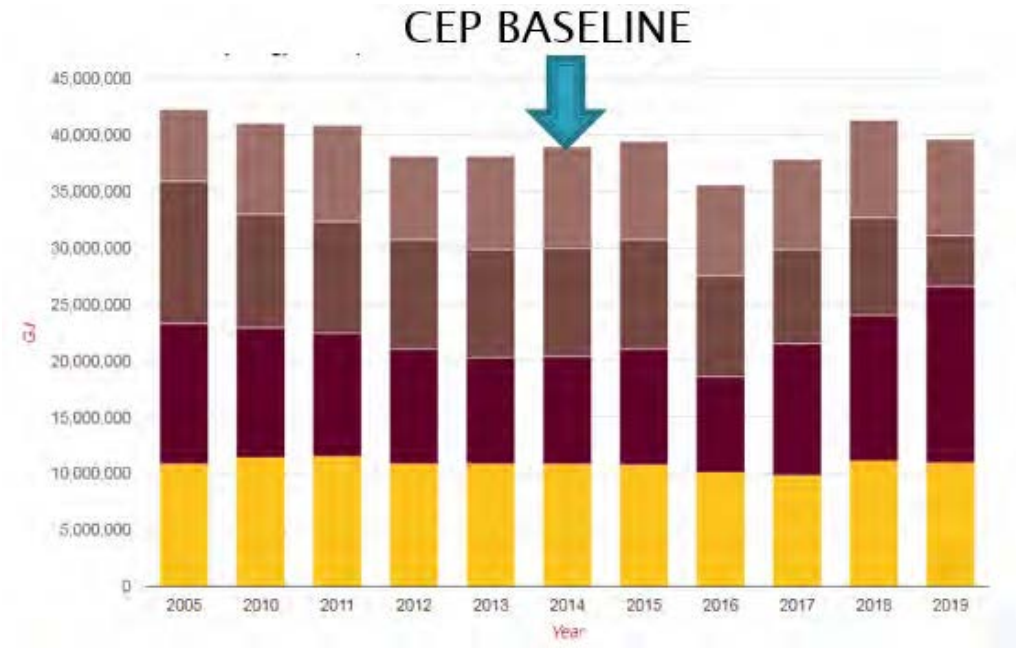
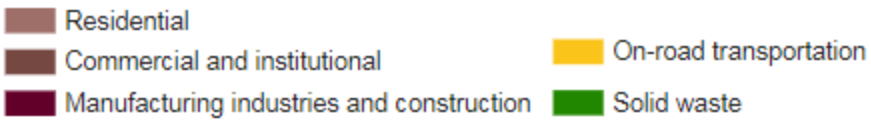


Figure 2 - Historic Energy Inventory – Windsor Community



Observable trends can be discerned from the historic energy and emissions data. Emissions and energy for 2019 is approximately equal to that of 2014 despite a modest growth in population. The 2019 emissions and energy represent a reduction over 2018, which is promising as 2018 had the highest emissions level of the past 15 years.

In a best-case-scenario 2018 would represent peak emissions and all subsequent years would result in decreases until the point at which the city reaches carbon neutrality or zero emissions.

Two critical parameters for monitoring progress towards CEP goals are the per capita emissions and per-capita energy. For 2019 per capita emissions and energy decreased by 2.14 and 1.21 percent respectively.

In order to understand emissions and energy consumption in the context of building heating and cooling demands, the climate loading for 2019 is considered. Climate loading is based on heating degree days and cooling degree days. These measurements compare the difference between outdoor temperatures and indoor standard room temperature in order to determine how much a heating or cooling system has to work to maintain the indoor temperature. The data for heating and cooling degree days is presented in Table 2.

Table 2: Heating and Cooling Degree

Year	Heating Degree Days	Cooling Degree Days
Historic 1976-2005	3541	376
2016	3179	557
2017	3073	407
2018	3255	495
2019	3260	440

Based on the available heating and cooling days it can be determined that 2019 experienced a moderate climate in comparison to previous years. The climate loading was not significantly different from historic and as such, one would not expect to see increased emissions and energy specifically associated with increased climate loading.

Priority Projects for 2021

The Environmental Sustainability and Climate Change Office is preparing for a number of studies to be undertaken in 2021 to further move CEP Strategies towards implementation. The two priority projects are as follows.

Deep Energy Retrofit Program Design – In October 2020 Administration applied to the Federation of Canadian Municipalities Community Energy Financing program. Details of the intended study and grant opportunity are available in S107/2020. It is expected that the decision from FCM should be received in the summer 2021. Upon receiving the grant, administration will undergo an 18 month study period to determine a robust program design. The program design will be presented to City Council for final decision.

Sustainable Neighbourhood Action Plan for Sandwich South – Administration will submit an application to FCM for grant funding to complete a sustainable neighbourhood action plan for the Sandwich South Area. Details of this study are outlined in S116/2020. Response to this application would be expected Fall 2021.

City of Windsor Corporate Inventory

Greenhouse gas emissions and energy consumed by the Corporation of the City of Windsor are inventoried yearly to monitor and verify progress towards the corporate reduction targets outlined in the Corporate Climate Action Plan (CCAP). The targets are structured similarly to the broader CEP targets but also include interim targets. The baseline year remains 2014. This action plan outlined the targets as follows:

CCAP Energy Reductions Targets:

- 11% by 2030
- 25% by 2041

CCAP Emissions Reduction Targets:

- 20% by 2030
- 40% by 2041

The Corporate inventory includes the sectors of Buildings, Vehicles, Streetlights, and Water/Wastewater. Building energy and emissions are calculated using natural gas, electricity and district energy usage. Vehicle emissions include gasoline and diesel fuels used to power the City's fleet. Streetlights include the electricity used to power the streetlights. The Water/Wastewater energy and emissions are calculated using natural gas and electricity consumption; as well as Diesel fuel used for back-up generators. The total emissions and energy are presented in Table 3.

Table 3 – Corporate emissions and energy

CORPORATE	Baseline 2014	2019	% Change to Baseline
Total Emission ($C0_2e$)	34,563	35,820	+ 3.6%
Total Energy (GJ)	812,826	829,082	+ 2%

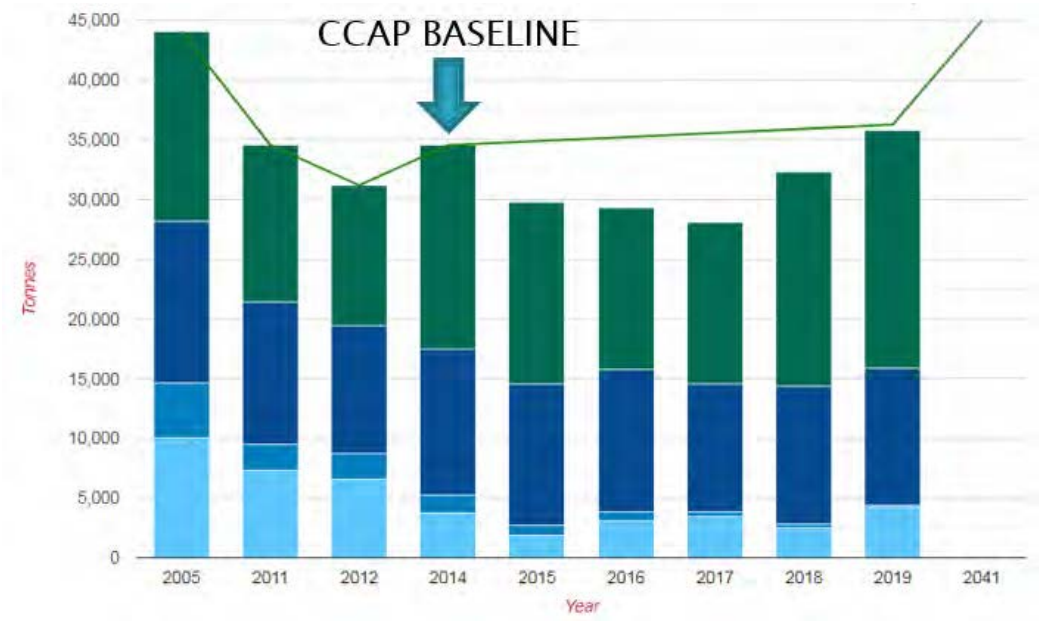


Figure 3 - Historic Emissions Inventory – The Corporation of the City of Windsor

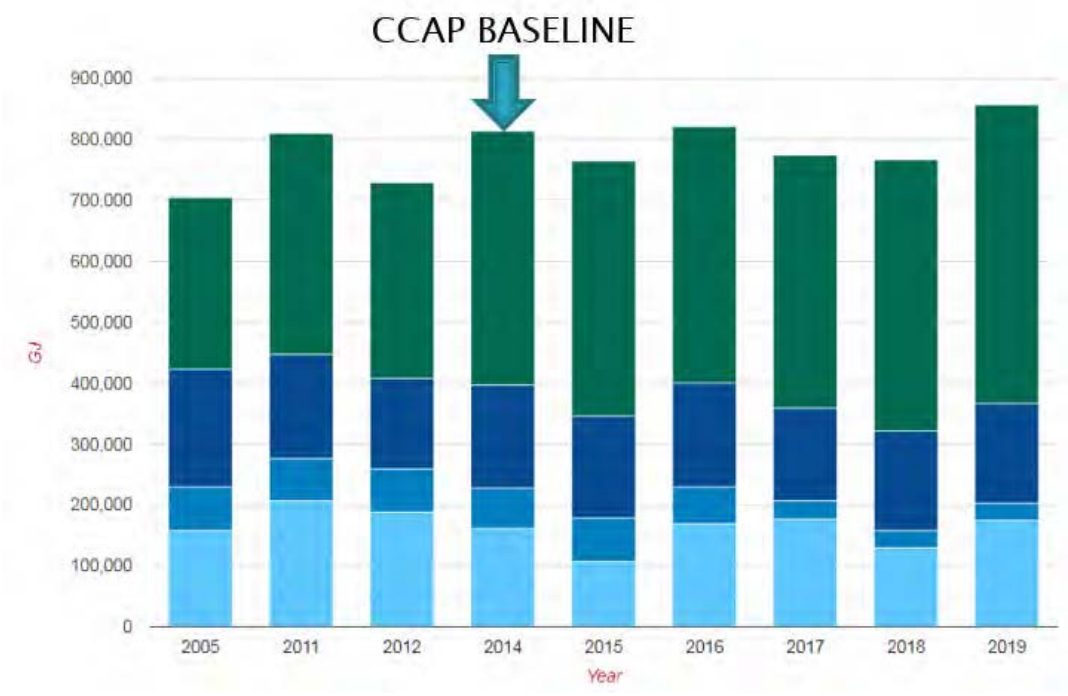


Figure 4 - Historic Energy Inventory – The Corporation of the City of Windsor

Note: Waste is included in the Community Inventory

The historic corporate emissions and energy inventory reveals a trend of increasing emissions over the past two years. This is a challenging trend to observe as the goal of the CCAP is to decrease emissions. By considering the distribution of total emissions about the various corporate sectors, further insight can be gleamed as to the cause for the emissions increase. Emissions from each sector are presented in Table 4.

Table 4 – Corporate emissions by sector

	Baseline 2014	2019	% Change to Baseline
Building	17,053	19,086	+ 12%
Vehicle	12,247	12,360	+ 1%
Streetlights	1,484	135	- 91%
Water/Wastewater	3,752	4,879	+ 30%

Additions to Corporate Scope

Windsor Biosolids Processing Facility – 3317 Tonnes GHG (not included in totals above but will be included in Corporate 2020 inventory). In previous years, this facility has been included in the Community Inventory.

Paul Martin Building – 91 Tonnes GHG – Included in totals above

As can be seen in the table, increases have occurred for the Buildings and Water/Wastewater sectors.

Increase in Building Emissions

In 2019, the City of Windsor added Paul Martin Building to its building fleet resulting in a minor increase of 91 Tonnes GHG.

A large proportion of the overall increase is due to the operation of Combined Heat Power (CHP) units, which are now operational at WFCU and Huron Lodge facilities. CHP is a cost efficient technology that generates electricity and thermal energy through the combustion of inexpensive natural gas. Heat from the combustion of the fuel is captured and utilized for space heating, cooling, domestic hot water and industrial processes. The electricity produced by the CHP reduces the amount of electricity purchased from the provincial grid and as such reduces operational costs.

CHP technology was approved for implementation by City Council at Huron Lodge & WFCU Center in 2015 (CR 144/2015) and was subsequently approved for the WIATC in 2016 (CR 641/2016). At the time the City introduced this technology, the Provincial government was aggressively supporting and promoting implementation of CHPs and offered capital cost incentives of up to 40%. This equates to $2.6 million of incentives for the City's three CHP systems. When fully operational the three systems will generate $1 million in annual operational savings.

By plotting electricity consumption, natural gas consumption and emissions on the same graph (as displayed in the figures below), the effects of the CHP utilization are observed.

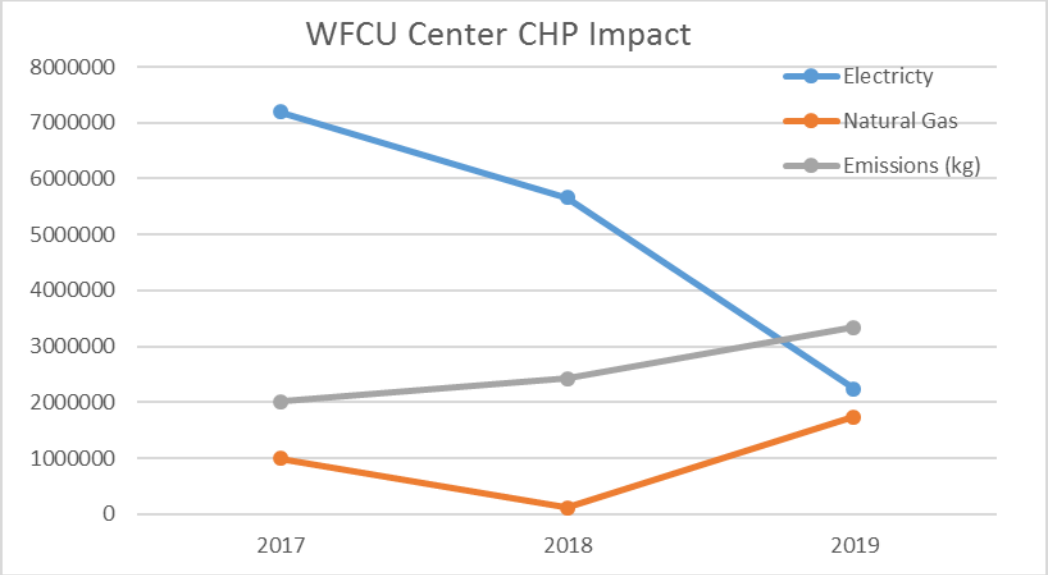


Figure 5 – Energy Utilization and Emissions from WFCU Center

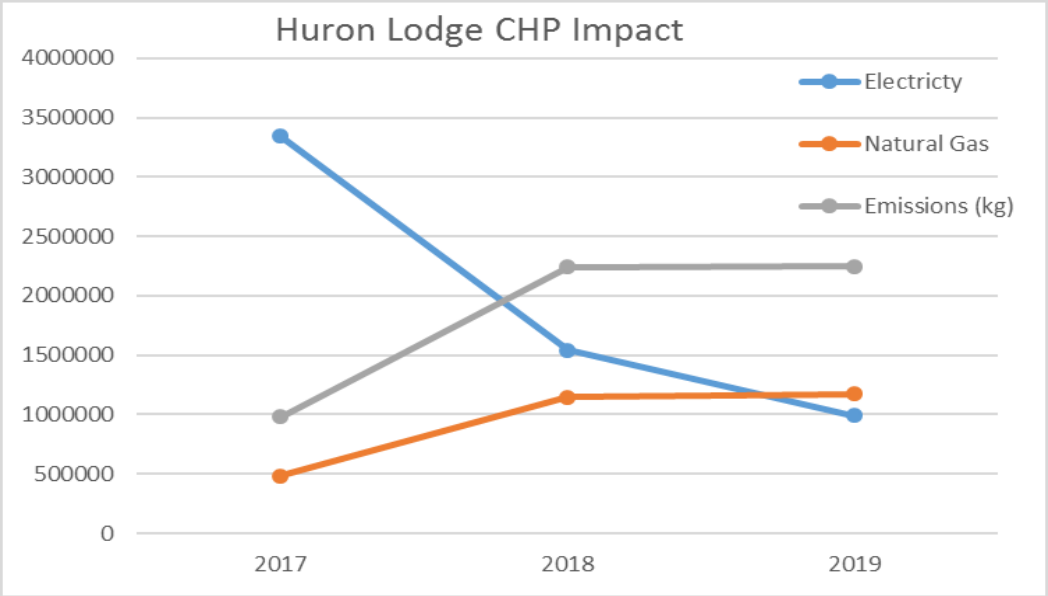


Figure 6 – Energy Utilization and Emissions from Huron Lodge

For WFCU the CHP system became operational in 2019 and this is consistent with the data showing a decrease in electrical consumption with a simultaneous increase in natural gas consumption. The implementation of CHP at WFCU resulted in a 38% increase in emissions.

The CHP for Huron Lodge came online in 2018 resulting in the 129% increase in emissions.

The two CHP systems combined have increased natural gas consumption by 1.4 million cubic metres. This has resulted in a net annual increase of 1947 Tonnes CO_2 per year. An additional CHP unit was installed at the WIATC and became operational in 2021. Increases in emissions for WIATC are expected in the 2021 inventory.

While the increase in GHG appears to conflict with the goals, it should be noted that decisions for implementation of CHP's units was not solely based on reduction of costs to electricity. CHP systems generate the electricity needed at these three sites ensuring they are operationally viable in the event of power not being available from the grid. As Huron Lodge is a home for the age and WFCU and WIATC both provide shelter in emergency situations this additional benefit from these systems provides the City the ability to address other objectives and needs in the community.

The net annual increase in gas consumption associated with the 2 CHP units has resulted in a carbon tax payment of approximately $55,000. The net operational savings generated by the two CHPs is at a minimum $631,000 annually leaving a net benefit of approximately $576,000. It is important to note that it is difficult to determine what this benefit ratio will be given over the next 10 years given the observed fluctuations in electricity pricing as well as projected increase in carbon tax to $170 by 2030.

The Cities Energy Initiatives office works to improve the performance of the building fleet by implementing projects such as Net Metering, Battery Storage, Electric Vehicle Charging Stations, LED Lighting Retrofits, Sub-metering, and Enterprise-wide Smart Energy Management Systems. These projects play a vital role in increasing energy efficiency and aiding in the Cities climate actions.

The majority of City buildings have decreased or maintained emissions levels showing that building retrofits are helping. However, the increased emissions at WFCU, Huron Lodge, and WIATC have negated these reductions.

Increase in Water/Wastewater

In 2019, The City of Windsor took over operations of the Windsor Biosolids Pelletizer Facility. This facility processes the wastewater sludge by-product from our wastewater treatment facilities into a land-applied fertilizer. Facility operations account for 3317 tonnes of GHG. Although this facility has been added to the fleet, the additional 3317 tonnes has not been included in the 2019 corporate inventory detailed above. This is to prevent this acquisition from skewing trends related to baseline energy and emissions comparisons at this time. The 2020 Corporate inventory will be adjusted to include this addition, with the emissions removed from the Community Inventory at that time.

Another sector within the corporate inventory which shows a drastic increase over 2014 levels is the water/wastewater category, which experienced a 30% increase in emissions over the baseline. Analysis of historic emissions from wastewater facilities have indicated that emissions per litre of wastewater treated have remained consistent at 0.02 Tonnes CO_2/Litre, so the increase is not due to a loss of efficiency within the

wastewater treatment process. The cause for this increase in emissions becomes apparent when considering the volume of wastewater treated in 2019 compared to 2014 at the Lou Romano Water Reclamation Plant. Historic volumes of wastewater treated as well as historic volumes of precipitation are presented in Figures 7 and 8 below.

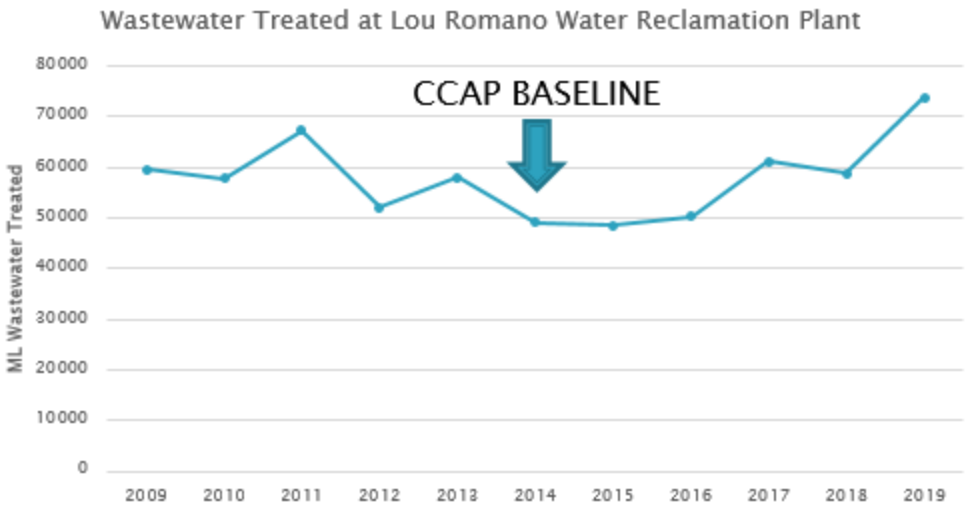


Figure 7 – Volume of treated wastewater at Lou Romano Water Reclamation Plant

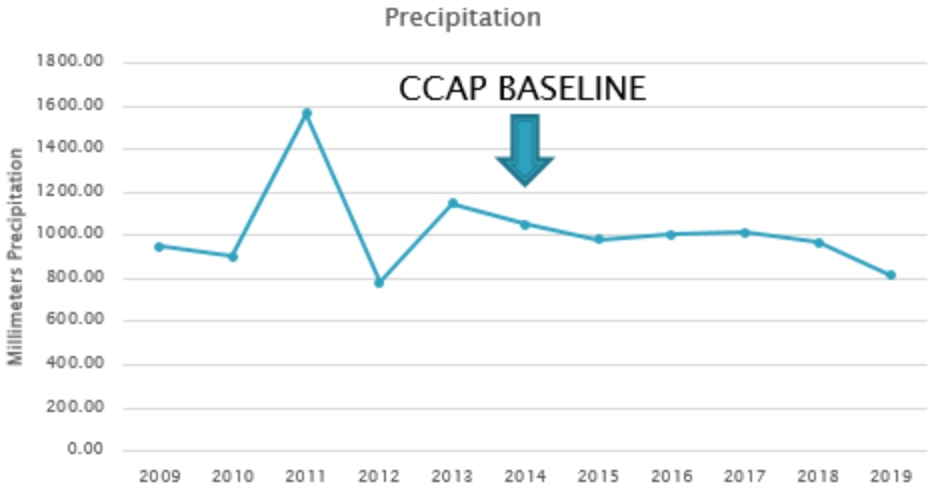


Figure 8 – Annual precipitation totals

As can been seen in the figures, the volume of water treated at Lou Romano Wastewater Treatment Plant has increased 50% relative to 2014 levels. Little River Pollution Control Plant did not experience the same drastic increase. Also noted, is that annual precipitation totals were 23 percent lower in 2019 when compared to 2014. Municipal water usage has also decreased 11 percent. This calls to question the cause for the increase in volume of wastewater treated.

A significant driver may be the high water levels recently experienced in the Lake St. Clair / Detroit River watershed as shown in the figure below.

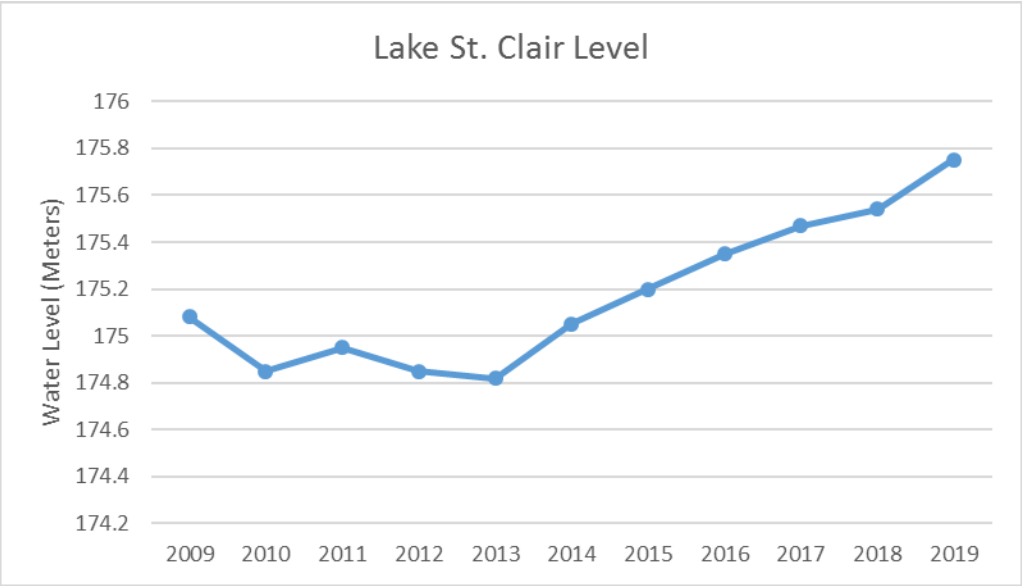


Figure 9 – Historic water levels of Lake St. Clair

The trend of rising water levels since 2014 is clearly evident from the data shown in Figure 9. The rise in water level is consistent with the rise in treated wastewater volumes and this would suggest that there is a new interaction occurring between the wastewater network and the water bodies. Under normal conditions, the storm water sewer system discharges into the river/lake at times of precipitation. Under the new high water levels, several of these outlets are at or below lake level and as such may experience backflow of lake water into the sewer network, which may result in increases of water being treated at the plant. This was known to have occurred at a couple locations in 2019 and mitigation measures have been put in place.

Another element to the interaction is the increase in ground water level resulting from increased lake level. Under higher ground water levels, the opportunities for increased infiltration into sump pumps, private drain connections, and sewer mains may be a contributing factor in the increased wastewater volumes.

A deeper analysis into the magnitude of backflow and infiltration as well as locations of where this may be occurring within the sewer network are beyond the scope of this inventory report. The Sewer and Coastal Flood Protection Master Plan has already identified actions to reduce the impacts of high water levels on the City's east side. In addition, the City of Windsor recently submitted a grant application to the National Disaster Mitigation Program that will assist in identifying possible problem locations between the City border with Lasalle and the Ambassador Bridge.

Canada's Federal Environmental Targets

In November 2020 a bill was presented to the House of Commons entitled "Canadian Net-Zero Emissions Accountability Act" which legislates Canada's commitment to a new

environmental goal of net-zero emissions by the year 2050. Canada is joining over 120 counties with net-zero emissions goals. The act would do the following:

- Legally bind the Government to a process to achieve net-zero emissions by 2050.
- Set rolling five-year emissions-reduction targets and require plans to reach each one and report on progress.
- Establish the Net-Zero Advisory Body to provide independent advice to the Government on the best pathway to reach its targets.
- Require the Government of Canada to publish an annual report describing how departments and crown corporations are considering the financial risks and opportunities of climate change in their decision-making.
- Enshrine greater accountability and public transparency into Canada's plan for meeting net-zero emissions by 2050.
- Provide for independent third-party review by the Commissioner of the Environment and Sustainable Development to ensure accountability for all future governments.

This new net-zero target is a drastic increase over the existing Paris accord target and can only be met with equally drastic emissions reduction measures. As such, it is anticipated that new resources and tools will be provided to Provincial and Municipal governments to empower the necessary emissions reductions. Full details as to the spectrum of supports being offered is forthcoming but the preliminary announcement indicate the following:

- Expanded funding for home retrofit programs including grants and low-cost loans;
- Funding for Electric Vehicle infrastructure;
- Increases in carbon tax from $50 in 2022 to $170 by 2030; and
- Inclusion of $300 per tonne shadow carbon price used for evaluating lifecycle costing for 40 year planning horizon for federal infrastructure projects.

The change to the federal goal may force the City of Windsor to consider revising Windsor's goals to align with the federal. Alignment with federal goals previously has opened up opportunities for grant funding and support. In addition, the Global Covenant of Mayors for Climate and Energy, which the City of Windsor has been a signatory since 2015, requires that municipalities align GHG targets with Federal targets within five years of the federal announcement.

A glimpse into the carbon emissions reduction pathway required for the City of Windsor to meet a net-zero 2050 goal was presented in the recent Carbon Budget council report (S135/2020).

Partnerships and Collaboration for 2021

The Environmental Sustainability and Climate Change office collaborates and engages with numerous municipalities and environmental stakeholders on a continuous basis. This allows for the sharing of knowledge, best-practices and lessons learned in the effort to streamline and coordinate efforts across many geographical and organizational jurisdictions. It is recognized that climate change is a challenge that transverses municipal, provincial and federal borders and as such partnerships and collaboration are necessary to effectively address this challenge. It should be noted that the use of the term "partnerships" in this context does not constitute a legal arrangement, but an informal one designed to share information and reduce duplication of efforts across municipalities.

Municipal Partnerships

County of Essex, City of Guelph, Town of Newmarket, City of Oakville, City of Burlington, City of Kingston, City of Vaughn, City of Toronto, City of London. Other municipalities are also consulted when similar priorities are identified.

The ESCC Office also engages with the City of Detroit. However, due to legislative differences between the two Countries, the focus is on sharing of ideas.

Organizational Partnerships

Federation of Canadian Municipalities' Partners for Climate Protection, Global Covenant of Mayors for Climate & Energy and the Carbon Disclosure Project, Clean Air Partnership, QUEST Canada (Accelerating Smart Energy Communities in Canada), Our Energy Guelph, University of Windsor, St. Clair College

Risk Analysis:

There are no significant risks associated with this information report

Climate Change Risks

Climate Change Mitigation:

This information outlined in this inventory report is challenging from a climate change mitigation risk perspective. Data reveals that neither the Windsor community nor the Corporation is progressing towards its environmental goals in any numerically significant way. This is logical as GHG-reduction strategies from the CEP or CCAP are only beginning to be implemented at this point. Until such time that major CEP/CCAP Strategies (ex. Deep Energy Efficiency Retrofits or District Energy expansion) are implemented, the city has little to no control over the community emissions within its jurisdiction and as such, the monitoring and validation of these emissions represent a first key step towards reduction. Understanding the quantity and distribution of emissions among the various sectors is paramount in determining the low-carbon pathway moving forward.

Major investment is required to impact emissions in a meaningful way. To determine the scale of these investments and the impact that inaction would have on the cities future, one can consider the future 2030 carbon tax of $170/tonne CO_2 applied to the total community emissions of 1.9 MT. This results in a total of $323,000,000 dollars spent annually on carbon cost. This is a reoccurring cost and as such it would be fiscally prudent to invest in technologies to reduce this liability. This point is further emphasized when considering that the carbon tax is merely a symptom of the impacts of climate change, and the true cost is associated with the actual impacts to society due to a changing climate such as flooding, extreme heat, vector borne diseases and increased severity and frequency of intense storms. The majority of studies on the topic have determined that mitigation of climate change is less costly than adaptation to climate change impacts. A recent report from the Federal Emergency Management Agency in the US states that for every dollar spent on mitigation, six dollars are saved on adaptation. As such, investment into mitigation now will be less expensive than adaptation in the future.

Climate Change Adaptation:

Over a 50 year planning horizon, a certain level of climate change adaptation will be required regardless of mitigation efforts. This is due to a concept known as “climate inertia” which can be viewed as the time delay between the instance of emission and occurrence of the impacts caused by such emission. There is the opportunity however to prevent impacts above and beyond the inertia-based climate impacts by reducing and eventually eliminating emissions.

The GHG inventory outlined herein indicates that an environmentally relevant reduction of emissions has yet to occur. Emissions from this time period will continue to contribute to future climate change impacts as addressed in the City’s Degree of Change, Climate Change Adaptation Plan.

Financial Matters:

N/A

Consultations:

Corporate Climate Change Task Force which includes representation from Fleet, Solid Waste, Corporate Energy, Facilities, Pollution Control, Transit Windsor, Transportation Planning, Planning, Operations, Engineering, and Building.

Conclusion:

Community and Corporate Greenhouse gas inventories have been completed for 2019. Community emissions have reduced slightly when compared to the 2014 baseline date, while corporate emissions have increased notably. Increases in corporate emissions are primarily due to increases at Corporate buildings and volume of wastewater treated.

Community emissions are expected to maintain current level or rise annually until low-carbon infrastructure projects are implemented within the community.

Typically, a comprehensive emissions and energy inventory report is presented to council on a biennial basis in order to identify and analyze trends in relation to CEP goals. The next comprehensive report would normally be presented to council in 2021 and include 2020 data. Due to the drastic changes in 2020 energy usage due to the Covid-19 pandemic, the next comprehensive report will be presented to council in 2022 and include 2021 data.

Planning Act Matters:

N/A

Approvals:

Name	Title
Karina Richters	Supervisor, Environmental Sustainability and Climate Change
Kevin Webb	Manager, Environmental Quality
Jake Renaud	Senior Manager of Pollution Control
Melissa Osborne	Senior Manager of Asset Planning
Mark Winterton	City Engineer
Jason Reynar	Chief Administrative Officer

Notifications:

Name	Address	Email
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Notice of Public Information Centre
County Road 22 Design Alternatives and Strategy Study

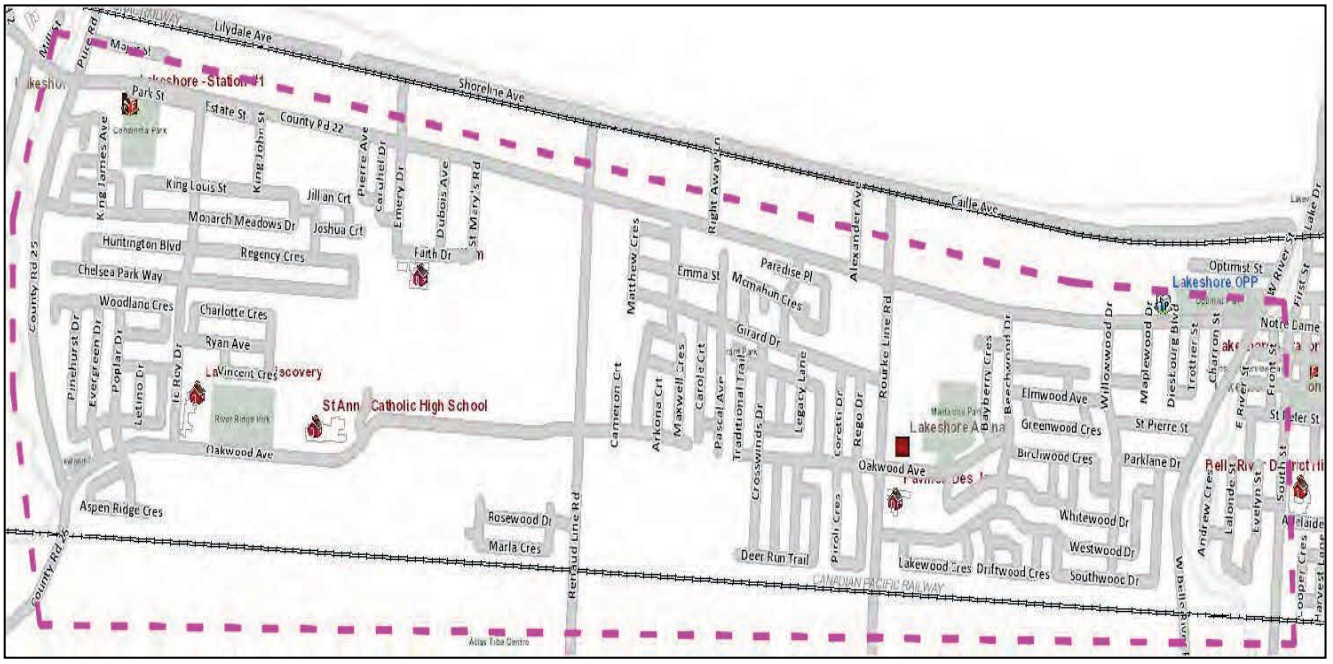
Dear Stakeholder,

The County of Essex has retained WSP Consultants in consultation with the Municipality of Lakeshore as a key stakeholder to undertake a Corridor Alternative and Strategy Study for County Road 22. The study area includes County Road 22 from East Puce Road to Belle River Road in the Municipality of Lakeshore.

The goals of this study include:

- Respond to an opportunity to improve roadway safety and capacity concerns with a vision of an "Urban Avenue".
- Revisit the preferred design solution for County Road 22 outlined in the 2006 Class EA and subsequent recommendation made in the 2012 CWATS Master Plan.
- Provide a preferred alternative design to County Road 22 that improves service while also enhancing access for active mobility along the corridor.

The project Limits are shown below:



As a key Stakeholder for this project, please join us for the Virtual Public Information Center to view a presentation about the project followed by a question and answer period with the members of the project team.

Online Virtual Public Information Center: **Thursday June 17th, 2021, starting at 6:30 p.m.** with a question and answer period to follow.

Virtual PIC Weblink: https://www.countyofessex.ca/CR22PIC

For this Public Information Center, there will be a number of opportunities for you to participate and provide input including:

1. Visiting the project webpage to learn about the work completed to date and to review the outcomes of the Study at: https://www.countyofessex.ca/countyroad22design

2. "Attending" the online virtual public information center and presentation on **Thursday June 17, 2021 at 6:30 PM** with a question and answer period to follow at: https://www.countyofessex.ca/CR22PIC

3. Complete a comment sheet posted on the PlaceSpeak project website at: https://www.placespeak.com/en/topic/6454-county-road-22-design-alternatives-strategies-study/#/overview

4. A recording of the PIC Presentation will be made available on the project website, and comments will be accepted following the PIC, with comments officially closing on **July 29th, 2021**.

If you have any questions regarding this project, please contact either of the individuals listed below:

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