



INFORMATION ONLY COUNCIL REPORT
Development Services
For the April 7, 2020 Council Meeting

DATE: April 1, 2020
TO: Paul Gipps, CAO
FROM: Stirling Scory, Planner II
RE: Corporate Climate Action Update

This report is being brought forward as an information only report. The update was previously scheduled for a Committee of the Whole meeting, which has since been cancelled. Any future decisions will be brought forward at a later date for Council discussion, with consideration for public meeting access opportunities.

EXECUTIVE SUMMARY:

In 2007, the Intergovernmental Panel on Climate Change (IPCC) released a report that measured the affects of anthropogenic climate change and found that if left unchecked, the earth's climate would change to a point where ecosystems, persons, cities, and countries would be affected. Following the release of the report, British Columbia Premier, Gordon Campbell, announced the B.C. Climate Action Charter. The Charter would require all signatory municipalities to become corporate carbon neutral by 2012.

As of 2020 the City of West Kelowna has not yet reached the goal set out in the B.C. Climate Action Charter despite continued initiatives that have improved corporate and community sustainability to reduce greenhouse gas (GHG) emissions. As a requirement of the Charter municipal signatories are also required to report their annual initiatives and actions to reduce GHG emissions, as well as their total emissions and respective sources.

To understand how the City has responded to the Charter request, City staff have prepared Climate Action Revenue Incentive Program (CARIP) reports that include corporate and community initiatives, and corporate emissions. Findings from the report indicate that while the City has not become corporate carbon neutral, the joint Provincial-UBCM Green Communities Committee has provided the City with a Level 3 score which indicates that steps are being taken to become corporate carbon neutral (Level 4).

Recently, many municipalities around the world have declared a climate emergency. This is partly in response to changing global climactic and environmental conditions, and local impacts. As well, many municipalities have understood the potential long term affects of climate change on their community. A report released by the IPCC in 2018 reported that the earth's global average temperature will rise by 1.5°C, and that at our current pace would be achieved within the century. The report indicated that such a change would result in increased storm severity and frequency, rising sea levels, increased flooding, drought, and impact vulnerable persons, particularly those that have poor health.

The announcements of many of the municipalities has brought about a surge in climate action response and actions for many municipalities for the future. West Kelowna is poised to begin taking potential action through growth and development opportunities with the provision of new city infrastructure and facilities, including a potential new public works yard, municipal hall, water treatment plant, and fire hall. All of these facilities provide opportunities to reassess how the City attempts to reduce emissions and spending on energy sources.

A review of the City's corporate emissions and corporate initiatives is provided for Council's information in understanding where the City of West Kelowna stands in response to climate action and to the BC Climate Action Charter. This report also identifies for Council the source of and amount of emissions produced with respect to corporate operations. An important note, this report only covers the City's corporate initiatives. While staff understand that there are many initiatives taken at the community level, this is not relevant for the purpose of this information report.

BACKGROUND:

The earliest global efforts to combat anthropogenic climate change, which is the release of green house gas emissions which causes change in the earth's climate from the action and intervention of the earth's natural environmental cycle, started as early as 1994 when the United Nations Framework Convention on Climate Change (UNFCCC) was announced. There, the countries that ratified the Convention became leaders on anthropogenic climate action with the singular aim of protecting human health and stabilizing anthropogenic GHG emissions, despite little scientific support that analyzed the effects of anthropogenic climate change. In 2007, the IPCC presented evidence on the earth's climate, and the measured effects that anthropogenic GHG emissions were having. The findings indicated that ultimately if left unchecked the earth's climate would continue to change, and would have the greatest impact on developing countries, earth's fragile ecosystems, coastal cities, and people that are either very young or old.

In 2007, British Columbia Premier, Gordon Campbell, announced that the Province would take decisive and aggressive action on anthropogenic caused climate change. These actions were set out in the *B.C. Climate Action Charter* (the Charter). The Charter is a non-binding, voluntary agreement between the Province and the Union of B.C. Municipalities and the local governments that became signatories to the Charter that share a common understanding of the effects of anthropogenic climate change and agree to become corporate carbon neutral by 2012. In 2008, the District of West Kelowna became a signatory on the Charter and committed to becoming corporate carbon neutral. In 2008, the B.C. Provincial government also released the Green Communities legislation (Bill 27) which amended the Local Government Act and Community Charter. The amendments required local and regional governments to adopt GHG emission reductions targets, actions, and policies for achieving the targets.

DISCUSSION:

Official Community Plan

The City of West Kelowna Official Community Plan (OCP) provides specific policy for climate action and emissions; however, there are limited policies that directly impact the corporate operations of the City and its emissions. In Section 3.7.4 (Energy and Emissions) of the OCP, the following policies may be considered as corporate steps to reduce corporate emissions:

2. Support and maintain an active staff-based Climate Action Committee.

5. Incorporate greenhouse gas reduction evaluation and pricing criteria in both modelling and procurement for all municipal infrastructure, including infrastructure which relates to waste management.
6. Encourage the investigation and development of renewable energy supply options, such as city energy, ground source heat pumps, solar and heat recovery systems, particularly in the Boucherie/Westbank Centres, Corridors and Industrial areas where opportunities might be present.

The existing OCP is under review and may find that these policies require updating to better meet the needs and goals of the community. The 2011 OCP mentions potential reduction opportunities and how GHGs may be reduced through certain mechanisms. The effectiveness of these mechanisms, e.g. land use planning, building retrofits, and high efficiency building requirements, may be measured by their effectiveness, including: soft, medium, and firm measures. As we move forward, Council may consider adopting policies that are geared toward medium or firm measures that may have more success and/or impact in reducing GHG emissions. In general the 2011 OCP emissions policies are soft measures.

Measuring Success

The Charter requires that all signatories acknowledge and share a common understanding that climate change has been caused largely by anthropogenic GHG emissions. It is also a common understanding of signatories that if left unchecked, climate change will have an effect at a local, regional, national, and global level. Similar to the directives of the United Nations, the Charter has an interest in protecting public and private infrastructure, and in providing measures to ensure the health and safety of all British Columbians.

Under the Charter, the participating local government signatories have agreed to commit to the following items:

- Becoming carbon neutral in their corporate operations;
- Measuring and reporting their community's greenhouse gas emissions;
- Creating complete, compact, more energy efficient communities; and
- Reporting annually to the Province the steps that have been taken to reduce GHG emissions and the progress being made to become carbon-neutral by 2012.

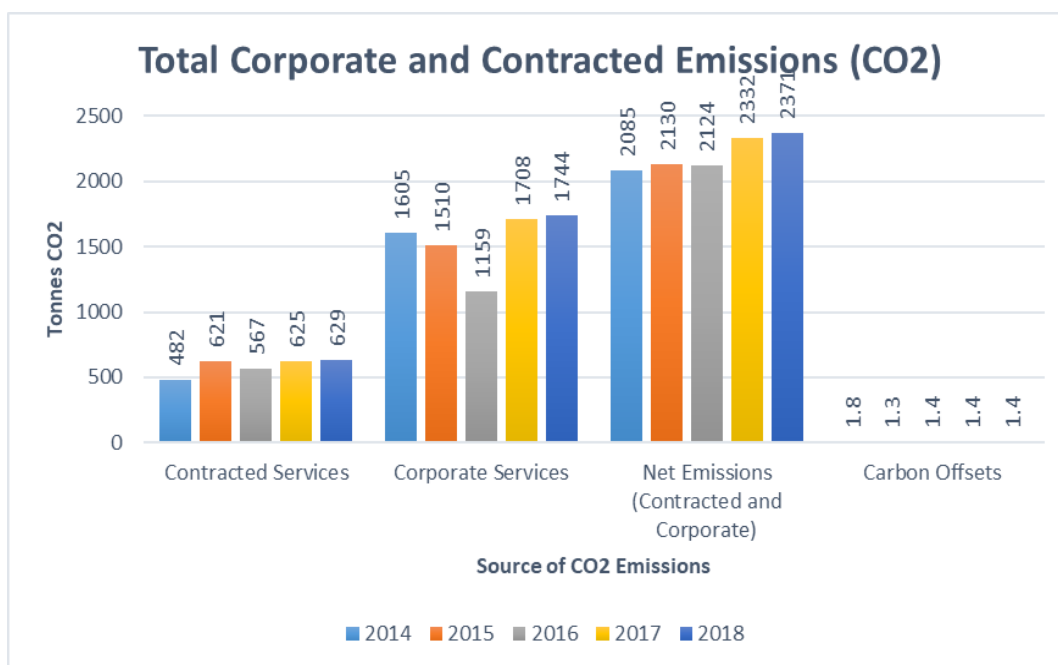
As required by the Charter, the City reports annually through the CARIP report the actions taken in the community that have a direct relation to climate change mitigation.

Corporate Emissions

As required by the Charter, the City of West Kelowna reports annually through the CARIP report its corporate carbon emissions, and community and corporate actions and potential initiatives. In 2019 the City had a surplus of 2371 tonnes of CO₂ e (equivalent), which does not meet the Charter's requirement; in addition, the total CO₂ emissions year over year has been increasing. The CARIP report also includes a score provided by the joint Provincial-UBCM Green Communities Committee. The City has received a score of 3 (of 4) which indicates they are taking steps to becoming corporate carbon neutral (a score of 4). An analysis of the CARIP 2014 to 2018 reports is detailed below.

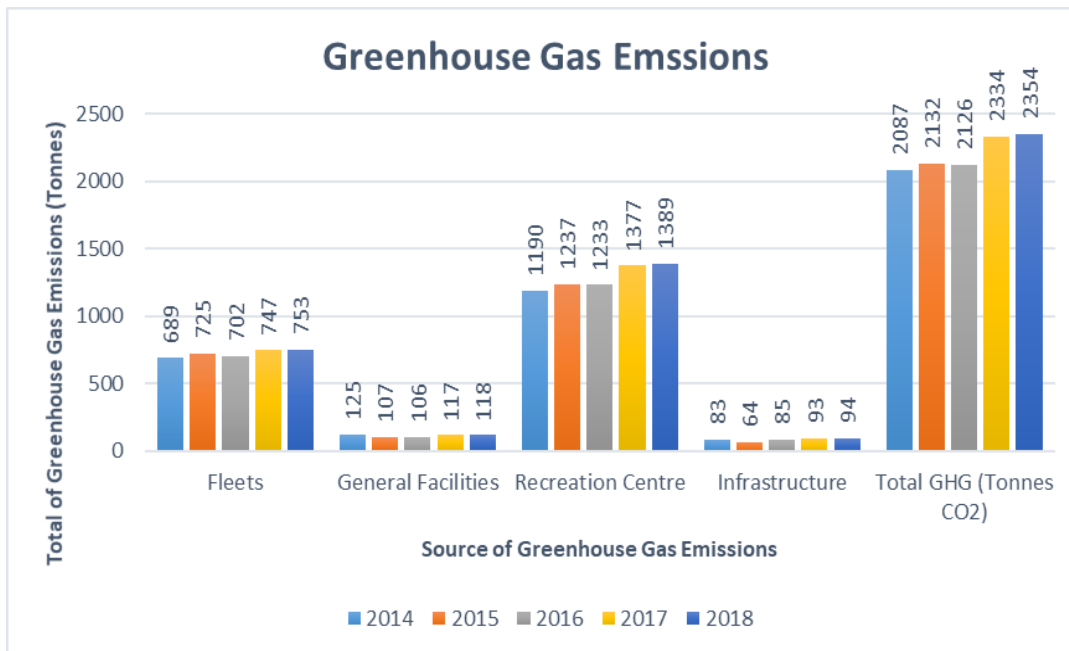
Total Corporate and Contracted Emissions (CO₂)

The total corporate and contracted emissions is summarized by the chart below. Between 2014 and 2018 the total emissions (corporate and contracted sources) of CO₂ have had a total net increase. The largest contribution of CO₂ between the two sources is from corporate operations. The City does not currently purchase carbon offsets, which would have the potential to significantly decrease the total reported emissions; however, the City does have an annual carbon tax credit and a gas tax reserve fund, both of which may be used to fund initiatives in the community. The carbon tax is typically treated as revenue and not used for corporate initiatives, and the gas tax reserve is typically invested into corporate and community initiatives. In the past the gas tax reserve was used to improve sidewalks and for the purchase of the Royal LePage Place, and Jim Lind Arena geothermal heater.



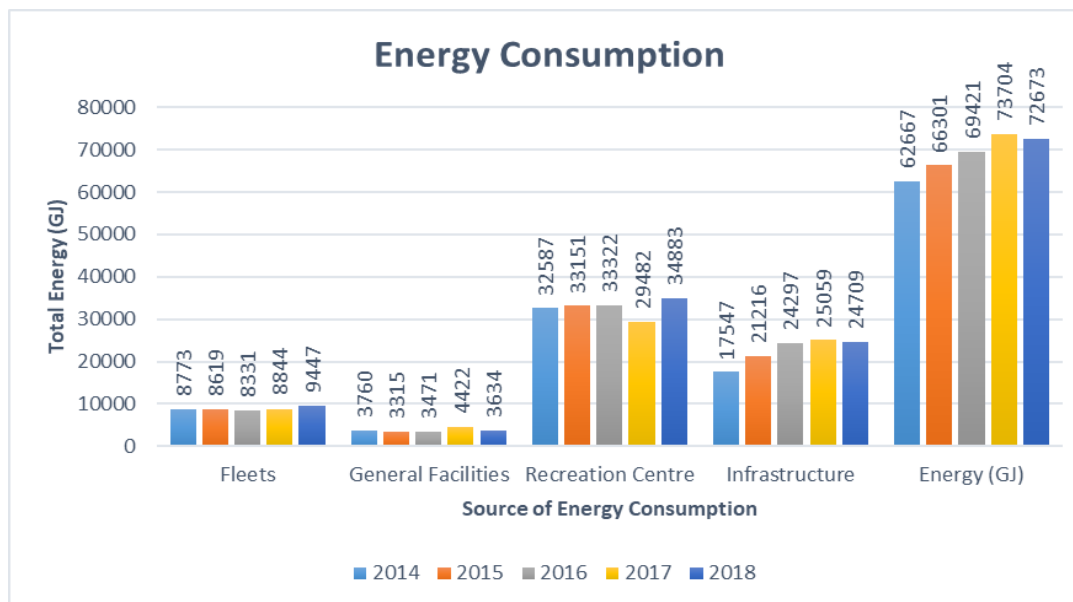
Greenhouse Gas Emissions

The total (corporate and contracted) emissions of GHGs is summarized by the chart below. The chart indicates that between 2014 and 2018 the total net emissions has increased. The greatest source of emissions is from recreation facilities, of which the Royal LePage Place and Jim Lind Arenas, and the Johnson Bentley Memorial Aquatic Centre are the highest emitters. With respect to the fleets, these include all City vehicles, of which operations and maintenance crews are responsible for the most emissions.



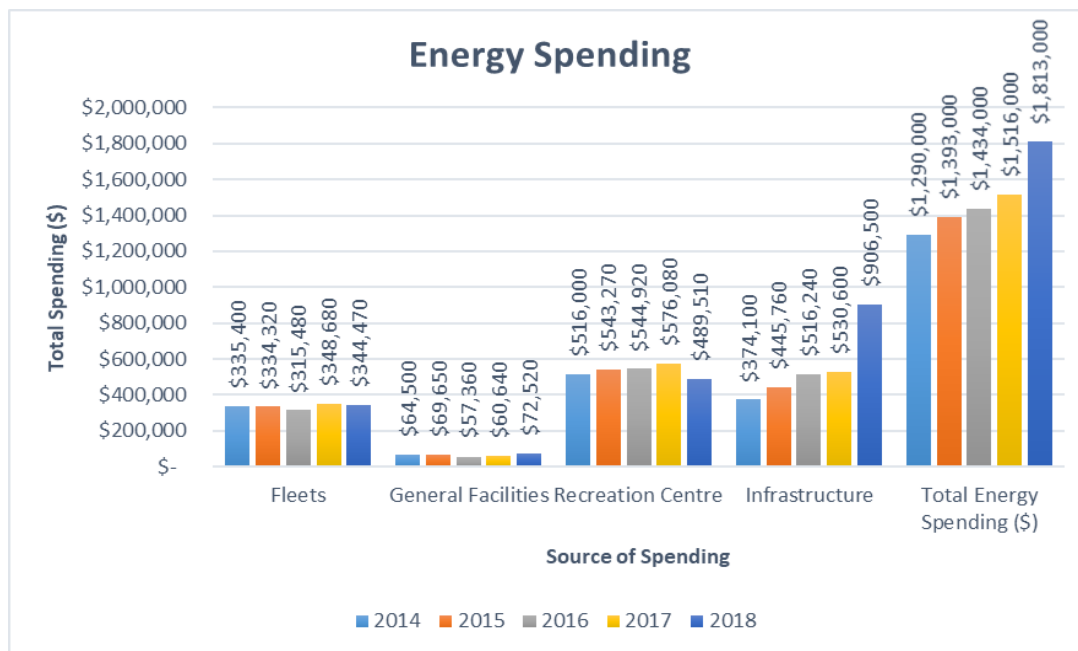
Energy (Emissions) Consumption

The energy consumption of the City is summarized in the table below. To establish a common measurable amount, the emissions of the City's electric, gasoline, diesel, and propane emissions were converted to Gigajoules (GJ), where 1 GJ is approximately 25 – 30 litres of diesel or gasoline. By use, recreation centres/facilities consume the most energy. This would include the Royal LePage Place, Jim Lind Arena, and Johnson Bentley Memorial Aquatic Centre. Infrastructure also consumes a considerable amount of electric energy, which includes lighting for roadways and facilities. The total energy use has had a net increase since 2014.



Energy (Emissions) Spending

The total energy spending of the City's operations is detailed below. Energy spending over time has been similar for both recreation and infrastructure operations, followed by fleets. The exception is that in 2018 the total cost of infrastructure spending in 2018 nearly doubled its previous year and of the recreation spending. The net total for energy spending has increased consistently between 2014 and 2018.



Since committing to the Charter the City has increased their CO₂ emissions despite initiatives taken at the corporate level – **See Attachment A**. However, there are explanations for this increase. First, the city has experienced consistent population growth and development activity during the same period of time. This has required that the City provide additional amenities, services, and programs for the community. This includes parks service and maintenance, and facility operations which are both GHG emissions intensive. Additionally, as the community grows a greater number of city workers and a greater vehicle fleet are required. This also increases resource demand. Additional factors that go beyond the City's control can include emergency response and preparedness, including recent years where wildfires and flooding have required corporate investment and the expenditure of GHG emissions. Looking beyond 2020, there is evidence in the *Regional Housing Needs Assessment*, produced by the Regional District of Central Okanagan that the City of West Kelowna will continue to grow. By 2036 it is projected that the total city population will exceed 56,000 persons, which is a total population increase of nearly 12,500 over 16 years, or approximately 780 persons a year. This increase in population will require additional staffing, resource consumption, and emission expenditures.

How does the City of West Kelowna Compare: A Regional Analysis

West Kelowna like other municipalities in the region must adapt to climate change, and strive to become corporate carbon neutral. To understand where West Kelowna stands in comparison to cities in the region, an analysis of four cities was conducted. The analysis assessed the recent CARIP reports completed for each city for the year of 2018. The four cities analyzed include: City of Vernon, City of Penticton, City of Kamloops, and City of Kelowna. It is important to note that

emissions totals, funding, and actions taken for each city will vary due to city size, history of development and the infrastructure available. Location can also play a factor in emissions totals. In consideration of these observations, it should be noted that the City of Kelowna and City of Kamloops are significantly larger in both population and area, and have a greater number of facilities and programs compared to West Kelowna, Vernon and Penticton; however, the comparison was included to gauge what actions were being taken in these municipalities and how they compare to the City of West Kelowna. While it is important to acknowledge their emissions totals, it is also interesting to see what energy systems they have, if any, if the city has a GHG reduction plan, and if the city is purchasing offsets or contributing to a reserve fund for future projects.

Of the four cities that have been included in this summary analysis, the City of Penticton appears to be the most successful, as it has achieved carbon neutrality. However, as discussed above, the cities are hard to compare as there are differences in size, location, and development pattern/land use and the facilities that are provided in each.

City of Vernon: 2018 CARIP Report Summary

Does the City have a corporate GHG reduction plan?	No.
Is the City Vernon developing, or constructing a: <ul style="list-style-type: none"> • District energy system • Renewable energy system 	No. No.
Is the City of Vernon operating a: <ul style="list-style-type: none"> • District energy system • Renewable energy system 	Yes. No.
What are the total emissions (corporate and contracted)?	3,639 t CO ₂ e
Does the City purchase carbon offsets?	No.
Are funds set aside in a climate reserve fund or similar?	Yes.
Has the City achieved corporate carbon neutrality?	No – Level 3, accelerating progress on charter commitments.
What other initiatives, programs, or actions have been completed by the City of Vernon?	1. Established a Climate Action Advisory Committee. 2. Currently undertaking a comprehensive Climate Action Plan – looks at risk, vulnerability and provides an adaptation plan.

City of Penticton: 2018 CARIP Report Summary

Does the City have a corporate GHG reduction plan?	Yes.
Is the City of Penticton developing, or constructing a: <ul style="list-style-type: none"> • District energy system • Renewable energy system 	No. No.
Is the City of Penticton operating a: <ul style="list-style-type: none"> • District energy system • Renewable energy system 	No. No.
What are the total emissions (corporate and contracted)?	2,018 t CO ₂ e
Does the City purchase carbon offsets?	Yes. 773 t CO ₂ e
Are funds set aside in a climate reserve fund or similar?	Yes.
Has the City of Penticton achieved corporate carbon neutrality?	Yes – Level 4, corporate carbon neutrality achieved.
What other initiatives, programs, or actions have been completed by the City of Penticton?	1. Implemented the BC Energy Step Code, an optional compliance path in

	BC Building Code that local governments may use to incentivize or require a high level of energy efficiency in construction.
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City of Kelowna: 2018 CARIP Report Summary.

Does the City have a corporate GHG reduction plan?	Yes.
Is the City of Kelowna developing, or constructing a: <ul style="list-style-type: none"> District energy system Renewable energy system 	No. No.
Is the City of Kelowna operating a: <ul style="list-style-type: none"> District energy system Renewable energy system 	No. No.
What are the total emissions (corporate and contracted)?	6,021 t CO ₂ e
Does the City purchase carbon offsets?	No.
Are funds set aside in a climate reserve fund or similar?	Yes.
Has the City of Kelowna achieved corporate carbon neutrality?	Not sure.
What other initiatives, programs, or actions have been completed by the City of Kelowna?	<ol style="list-style-type: none"> Partnered with Fortis BC, to apply for a grant that would provide fast charge stations for electric vehicles. Partnered with Partnerships for Sustainable Water in BC and Irrigation Association of BC to develop a water budget calculator.

City of Kamloops: 2018 CARIP Report Summary.

Does the City have a corporate GHG reduction plan?	Yes.
Is the City of Kamloops developing, or constructing a: <ul style="list-style-type: none"> District energy system Renewable energy system 	No. No.
Is the City of Kamloops operating a: <ul style="list-style-type: none"> District energy system Renewable energy system 	No. Yes.
What are the total emissions (corporate and contracted)?	8,275 t CO ₂ e
Does the City purchase carbon offsets?	No.
Are funds set aside in a climate reserve fund or similar?	Yes.
Has the City of Kamloops achieved corporate carbon neutrality?	No. Level 2 – measuring GHG emissions.
What other initiatives, programs, or actions have been completed by the City of Kamloops?	<ol style="list-style-type: none"> Planned project – Canada Games Aquatic Centre Infrastructure Improvement Project, involves a building material renovation of the building's envelope, as well as changes to the mechanical and electrical systems.

The Future of Climate Action

In 2018, the IPCC released a report that revealed that effects of continued anthropogenic caused climate change is reaching a tipping point, and that an 1.5°C increase in the average global temperature will damage the world's ecosystems, cause major damage to cities, and prove harmful to peoples health if emissions cannot be reduced. Since the release of the IPCC report

many nations have redoubled their efforts in committing to stop climate change and reduce their GHG emissions. In the same year the province of BC released the *Clean BC* report, which committed the province to increasing the price of carbon to \$50 a tonne by 2021. The increase in carbon prices would be intended to be used to offset the rising cost of living, and also reduce community based GHG emissions. In the same year the Province also released a new piece of legislation, the *Climate Change Accountability Act*.

The Act requires BC to meet the following GHG emissions target levels:

- By 2030 and for each subsequent year, BC GHG emissions will be at least 40% less than the level of those emissions in 2007;
- By 2040 and for each subsequent year, BC GHG emissions will be at least 60% less than the level of those emissions in 2007; and
- By 2050 and for each subsequent year, BC GHG emissions will be at least 80% less than the level of those emissions in 2007.

In 2015, as a means of establishing further support and to raise a call to action, the Parties to the Convention entered into the Paris Agreement, which was established with the aim of strengthening global recognition and identifying, through a unified approach, methods to reduce the effects of anthropogenic climate change. The primary goal of the Paris Agreement is to ensure that the average global temperature does not rise above 2°C, or above pre-industrial levels. Similarly to the B.C. Climate Action Charter, the Paris Agreement requires all Parties in the Agreement to submit their contributions in combating climate change, and to report regularly on the emissions produced. Canada was one of 194 countries that signed onto the agreement.

In 2019 the Province of B.C. released another piece of climate action legislation, the *Zero-Emission Vehicles (ZEV) Act*. The Act was created to ensure that there is greater availability of zero emission vehicles for sale, and that these vehicles will be more affordable for the public. The Act requires that the annual percentage of new light-duty vehicles sold or leased be a ZEV, where:

- By 2025 10% of the total vehicles sold will be a ZEV;
- By 2030 30% of the total vehicles sold will be a ZEV; and
- By 2040 100% of the total vehicles sold will be ZEV.

In 2019 many municipalities around the world declared a climate emergency, many of which were located in Canada, the United States, Australia, and in numerous countries in the European Union. These municipal declarations were in large, a response to increasing storm severity, rising temperatures, flooding, forest fires, potential sea level rise, and the loss of ecosystems.

West Kelowna is no exception, there are climate change impacts that have already begun to take affect on the community, including forest fire and flooding events. However, despite these challenges, West Kelowna may be uniquely positioned to adapt and overcome the many pending issues of a changing climate.

CONCLUSIONS:

West Kelowna Climate Action Opportunities: 2020 and Beyond

In 2020 West Kelowna City staff will begin engaging with the community as part of the visioning process for the OCP Review. This will provide significant opportunity to engage with the public to identify community values, goals, and objectives for the future. As part of this process there are opportunities to gauge public interest in certain areas like climate change and climate adaptation.

The City is preparing to build new facilities, which may include a new fire hall, City Hall, water treatment plant, and public works yard. The construction of these facilities in the future will provide opportunities to reduce the City's corporate GHG emissions through green building initiatives such as LEED (Leadership in Energy and Environmental Design) certification. Additionally, the construction of the new city hall and public works yard will likely reduce vehicular emissions from the City's workforce commuting between multiple locations.

Community Climate Action Plan

In the future, Council may consider resourcing a staff role to aid in monitoring and implementing policy to reduce emissions at a corporate and community level. Additionally, Council may consider adopting a Climate Action Plan, similar to Kelowna, to aid in the monitoring and implementation of objectives and goals through policy. While the Kelowna Action Plan focuses solely on community initiatives, there is opportunity to incorporate corporate initiatives as well. Council may also consider having a sustainability action committee. Together, staff and a committee may address the needs of the City in meeting the B.C. Climate Action Charter policy, and of the new provincial Acts that are driving change in the Province's response to climate change.

Collaboration and Joint Action

Council may also consider how our goals may be common amongst our neighbours. Westbank First Nation and Peachland play a large role in the development of land in the west side, and are integral to the function of our community, as we share many businesses, facilities, and natural areas that are commonly used by all. This close relationship should also extend to our climate adaptation and mitigation strategies and objectives. Together, we may find common understanding and objectives in meeting climate adaptation and mitigation strategies.

Council may consider some initial steps to facilitate this collaboration opportunity by exploring ways to share information. As a start we may have planning staff work together on a joint climate action mitigation and adaptation strategy for our communities. We may also consider the possibility of sharing data and information with respect to our GIS and asset management systems, to better understand how our facilities and infrastructure are operated and whether there are opportunities to work collaboratively in the future to provide a shared energy system, or facility to our communities. While collaboration is a certain possibility, it is important to note that Westbank First Nation is not a part of the Charter, and has not agreed to become corporate carbon neutral.

District Energy Station

The City of West Kelowna currently operates a geothermal energy heater, which is used at the Royal LePage Place and Jim Lind Arenas. To date, the use of this renewable energy source has not been used to its maximum capability or efficiency; therefore, there is a possibility to make better use of this energy source in the future, pending interest and funding. One such possibility is to positively leverage the existing geothermal energy to allow for future operations as it is an energy source that is low impact and has low emissions. This may be done through a district energy station and may serve a greater purpose than it is currently being used for. The incorporation of such a system would also reduce West Kelowna's corporate carbon emissions.

Carbon Offsets

A popular method of reducing corporate emissions, and one of the only means of doing so for large municipalities is to purchase carbon offsets. However, it is important to note that carbon offsets do not actually offset corporate emissions directly. The offset indirectly offsets our emissions by investing into sustainable energy or other projects to reduce our emissions footprint. If the City does not reduce its emissions, then the City will be required to purchase additional offsets as emissions increase. Council may consider this initiative, but may choose to save the money that would be invested in carbon offsets and choose to put the funds into a carbon offset reserve that may be used at the City's discretion for local investment. Often the money used and/or contributed to a carbon offset is invested outside of the local government area. As a means of tracking progress and the effectiveness of investment it may be more advantageous to monitor spending directly. Additionally, the City currently receives a carbon tax credit, however, the expenditure of this fund varies on a year to year basis. Council should consider how this fund may be used on a long-term basis, and whether there are opportunities to invest in a large project/initiative in the future. Council should also consider how the City's gas reserve fund may be used for long-term community investment.

REVIEWED AND APPROVED BY:

Mark Koch, Director of Development Services
Tracey Batten, Deputy CAO/Corporate Officer
Paul Gipps, CAO

Attachments:

Attachment 1 - Corporate Climate Actions and Initiatives

Powerpoint: Yes x No_____

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