

Revised Community Energy Transition Strategy

Final Strategy, Action Plan and Policy

Recommendation

That Executive Committee recommend to City Council:

1. That the Community Energy Transition Strategy and Action Plan, as set out in Attachment 1 of the April 12, 2021, Urban Form and Corporate Strategic Development report UFCSD00209, be approved, as the City of Edmonton's climate change mitigation plan.
2. That the Climate Resilience Policy C627, as set out in Attachment 7, be approved.
3. That Edmonton's Community Energy Transition Strategy Policy C585 and Sustainable Building Policy C532, be repealed.

Previous Council/Committee Action

At the November 30, 2020, Executive Committee meeting, the following motion was passed:

That Administration provide an update to Committee on the Corporate Climate Leaders Program and any progress made on Goal #3 of the Climate Resilient Edmonton: Adaptation and Action Plan, as part of the 1.5 report to be presented on March 22, 2021.

Executive Summary

This report provides an overview of the revised Community Energy Transition Strategy and Action Plan that were updated based on previous Council and Committee direction. The revised Energy Transition Strategy supports the goals in ConnectEdmonton and The City Plan and is built from a robust engagement approach. However, achieving the path outlined in the Energy Transition Strategy will require additional bold action on an accelerated time frame. Edmonton's vision is achievable, but will require significant levels of public and private investment in the region of approximately \$42 billion over the next 30 years. The City of Edmonton's investment share may require \$100 million annually plus additional capital costs for new City of Edmonton buildings of up to 15 percent in project capital costs beginning in the 2023-2026 budget cycle. This private and public investment will catalyze an economic growth opportunity for the region and increase investment in local infrastructure. A funding approach with potential tools is included in this report. The strategy and action

plan are being brought forward for adoption by a resolution of Council as the City's Climate Change Mitigation Plan (the "Mitigation Plan"), as per the requirements under the City of Edmonton Charter Regulation. A new Climate Resilience Policy is also being brought forward for approval that updates, integrates and replaces Edmonton's Community Energy Transition Policy C585 and the Sustainable Building Policy C532.

This report also provides a response to the November 30, 2020, motion requesting an update on the Corporate Climate Leaders Program and progress made on Goal #3 of Climate Resilient Edmonton: Adaptation Strategy and Action Plan.

Report

Albertans and Edmontonians have a proud history of being some of the best energy innovators in the world. This expertise has led to growth and economic prosperity. The energy innovators in our province have supplied the global markets with energy products for the last 50 years, and are positioned to supply the new energy products the global markets are demanding for the next 50 years.

Responding to changing global markets and conditions will present opportunities and challenges. Globally, it is expected that tens of trillions of dollars will be invested in the energy transition. Edmonton businesses and industry could market, support and sell its energy transition expertise to this growing global demand. There are emerging business opportunities that could attract new talent dedicated to technology innovation, and support the growth and diversification of our economy while contributing to meeting climate and energy goals. Harnessing these opportunities will require a focused effort as well as significant investment and upfront funding.

Energy Transition - Supporting ConnectEdmonton and The City Plan Implementation

ConnectEdmonton sets the direction for our future and outlines where we need to change today to realize our vision for Edmonton in 2050. ConnectEdmonton's goal of Climate Resilience includes a city transitioning to a low-carbon future. The City Plan's vision for our future city outlines Big City Moves that point the way as we deliberately change our city to welcome one million more on our journey towards a population of two million. At the August 27, 2019, City Council meeting a motion was passed to revise the Community Energy Transition Strategy and bring back a ten year year action plan to achieve a level of ambition aligned with a 1.5 degree global average temperature increase, as well as a funding strategy and the implementation of a carbon accounting system. The Energy Transition Strategy outlines how we achieve the transformational change to a low carbon city as outlined in ConnectEdmonton and The City Plan on an accelerated and more aggressive timeline.

The Energy Transition Strategy is a key city building initiative and supports The City Plan implementation but moves further and faster on some policies and directions. The strategy signifies the city's transition to a new energy economy and a low carbon city. The transition will also provide economic development and job diversification. To achieve these outcomes in the next 30 years will require bold, future-focused and ambitious risk taking in a just and equitable way. There are transformative, innovative changes taking place in the energy industry. Edmonton has an opportunity to capitalize and diversify the economy through new investments within emerging industries in the energy and innovation sectors and benefit from well established companies that are transforming their businesses.

Updated Strategy and Action Plan

The updated Energy Transition Strategy and ten year action plan (see Attachment 1) are about accelerated and transformational change. The updated strategy aligns to the Reimagine Guiding Principles of Be Bold, Be Brave, Be Agile and Be Smart. The implementation approach, using multiple levers of change, will need to be agile and smart. The action plan outlines actions over the next 10 years that will put Edmonton on a trajectory to achieve overall targets. The action plan includes categories that can help Council identify priorities (ie. "Big Wins") and actions that could be accelerated more easily (ie. "Quick Wins"). Central to implementation of the strategy is ensuring that the transition is just and equitable and contributes to prosperous outcomes for all.

Within the strategy, PATHWAYS are areas of transformative action. They are interconnected, and all of them are required to meet Edmonton's energy transition goals. The Pathways are:

- Renewable and Resilient Energy Transition
- Emissions Neutral Buildings
- Low Carbon City and Transportation
- Carbon Capture and Nature Based Solutions

Underlying all of these pathways is the FOUNDATION of Climate Solution Leadership which recognizes that the City will need to lead if it wants the business community and residents to participate in the transition. City Administration will also monitor programs that the provincial and federal governments implement that support energy transition including the federal carbon tax and continue to advocate to other levels of government for further support.

Building on Energy Transition Work to Date

Edmonton has already started down the transformative pathways noted in the previous section. Several initiatives have been underway since the first comprehensive strategy was adopted by City Council five years ago including:

- The City Plan was the first municipal development plan in Canada to include a carbon budget, limiting the amount of greenhouse gases that can be emitted
- Development of Blatchford, planned to be a carbon-neutral community for 30,000 residents that uses 100% renewable energy
- Extension of Edmonton's LRT network and Edmonton Transit Services deployment of its first battery-electric buses into service, and single largest purchase of electric buses (40) in Canadian history
- Development of protected bike lanes in the downtown core and expansion of the bike network to connect beyond the core
- Adoption of Edmonton's Electric Vehicle Strategy and roll out of electric vehicle charging facilities
- Approval and funding of the Downtown District Energy System
- Launch of Change Buildings for Climate: Building Energy Retrofit Accelerator (BERA), a program that provides rebates for energy efficiency retrofits on commercial buildings 10,000 sq ft and larger
- Community activation programs that include outreach, energy benchmarking, as well as building retrofit, solar and EV charging incentives (see Attachment 2)
- The Corporate Climate Leaders program and implementation of Climate Resilient Edmonton: Adaptation Strategy and Action Plan (see Attachment 3).

These initiatives are some examples of the many energy transition efforts already underway across the community and are the types of initiatives that need to be scaled up and accelerated in the coming decade. Canada Infrastructure Bank's Zero Emission Bus Program (see April 12, 2021, City Operations report CO00366) outlines opportunities for funding the additional cost of purchasing electric buses to replace retiring diesel units with a low interest loan and repayments based on operational cost savings of electric buses compared to conventional diesel buses.

Implementation Approach

The updated Energy Transition Strategy requires a smart and agile implementation approach in partnership with Edmontonians and a range of community and industry partners. A transition, by its very nature, requires different actions at different points in time. While the approach to achieving greenhouse gas emissions targets requires multiple actions, not every action is required immediately or forever, and the solutions must respond to the challenge of new fiscal constraints. Though the majority of climate actions have a positive return on investment, they do impose an upfront cost, and it will not be feasible or realistic for those costs to be borne all at once. The implementation approach identifies that initiatives or decisions will have a design life, that is the period of time the initiative or service is needed and is relevant. To be agile and dynamic a monitoring process is needed to determine when a change in approach is required.

The implementation approach includes four elements:

- Levers of Change - aligned with and expanded upon those identified in The City Plan
- Implementation Gates - aligned with the Capital Project Development and Delivery approach, using different “gates” to establish formal checkpoint reviews with Council
- Prioritization - aligned with the integrated Financial and Carbon budget processes (see Attachment 4).
- Thresholds - signals in the market transformation to be monitored to determine when to implement an action, when to change or modify Administration's approach, or when to stop an action.

Carbon Accounting and Budgeting

The City of Edmonton established a local carbon budget of 135 megatonnes between 2020 and 2050. Local carbon budgets are an emerging field of work, and the thinking, precision and methodologies will continue to be refined based on new knowledge and improved scientific understanding. In order to remain informed and assess progress over this period, the City will require a new management and accounting approach to integrate greenhouse gas reductions into City budgeting and prioritization processes. The City is evaluating the resource requirement necessary to establish, monitor and report against a Carbon Budget.

Budget and Financial Information

COVID-19 has impacted residents, businesses and the City and COVID-19 will impact the energy transition. A smart and responsive funding approach for the transition is needed to catalyze investment and help recover from the current economic and COVID-19 health crisis. There will be global market opportunities for cities and organizations that are ready for them, as many national COVID-19 recovery plans are being linked to a transition to a more climate resilient future. Edmonton's Economic Action Plan (see April 12, 2021, Urban Form and Corporate Strategic Development report UFCSD00208) outlines opportunities for Edmonton to support and grow clean technologies sectors.

Edmonton's vision is achievable, but will require significant levels of public and private investment of approximately \$42 billion over the next 30 years. The transition is a collective effort that can only be achieved by catalyzing innovation through partnerships with other orders of government, industry, regional partners, institutions, communities, businesses, residents and academia. The majority of the needed investment will need to come from these partnerships.

Smart municipal investment is also needed to achieve not only transition, but, at the same time, other City Plan goals. It is estimated that the City of Edmonton's

investment share may require \$100 million annually, as well as up to an additional 15% in project capital costs for new City of Edmonton buildings. This investment will fund programs and incentives to mobilize private investment (\$25 million annually) and fund local infrastructure (\$75 million annually), such as the complete build out of the active transportation network and new and expanded bus facilities that will support an electrified and growing transit fleet. Both new and expanded facilities are required to address the storage and maintenance of a growing fleet that includes electric buses.

Ongoing prioritization and trade-off discussions will be needed - Administration's approach to this prioritization is identified in Attachment 1 beginning on page 39. The majority of new funding requirements for the 10-year Action Plan are staged to be included as part of the 2023-2026 and 2027-2030 integrated financial and carbon budget cycles. These initiatives and funding requirements will be presented for debate and approval through the strategy's gated implementation approach and Council will be required to consider funding as part of the budget process. Financing Edmonton's share of the public investment will require challenging trade-off and prioritization discussions and innovative funding approaches. Additional details on funding approaches and conventional and emerging funding tools are provided in Attachment 5. Attachment 6 provides an overview of the federal and provincial funding landscape.

Climate Resilience Policy

In alignment with the updated strategy and the City's new policy framework, Administration identified opportunities to update and reduce the number of existing climate policies. This involves:

- Repealing the following two existing policies: Edmonton's Community Energy Transition Strategy Policy C585 and Sustainable Building Policy C532
- Adopting an integrated Climate Resilience Policy (see Attachment 7) that includes integration of climate adaptation planning and the requirement for City buildings to be constructed to emission neutral buildings standard (which is a significant performance increase from the current policy level). This policy change may have a financial implication of up to an additional 15% in project capital costs for buildings, beginning in the 2023-2026 budget cycle, and there are expected operational cost savings over the lifecycle of the asset.
- Developing corresponding Administrative Procedures to detail the new construction, retrofit and operational performance criteria that was previously included in the Sustainable Building Policy.

The integrated Climate Resilience Policy commits to immediately and urgently:

1. Act to be a carbon neutral community by 2050 through Energy Transition to help limit global warming to 1.5 degrees Celsius;
2. Act to adapt, prepare for and respond to a changing climate; and
3. Lead climate solutions in service delivery and corporate management.

Policy governance will be required, for decisions that could conflict with other City Plan outcomes or that have significant unfunded financial implications.

Legal Implications

Section 615.4(1) of the City of Edmonton Charter requires the City to establish and make publicly available a Mitigation Plan for the purpose of addressing and mitigating the effects of climate change. Subsections 615.4(4) and (9) require that the City establish its first Mitigation Plan on or before December 31, 2020 and it be adopted by a resolution of the Municipal Council. On November 16, 2020, the City applied for an extension of this deadline until June 30, 2021.

Public Engagement

Through The City Plan engagement and the work to update the Energy Transition Strategy, Edmontonians shared their excitement and desires for a low carbon future. At the same time, Administration heard from stakeholders that there will be difficult tradeoffs that come with this transition, which will create challenges for decision makers. Twenty-eight events took place to listen to Edmontonians, including targeted stakeholders with diverse expertise, and the City's Indigenous Memorandum of Understanding Partners. Over 850 conversations took place and over 2,600 written comments were shared (see Attachment 8).

Successful implementation and mobilizing community action will require continued partnership with citizens and industry. This work is collaborative and dynamic in nature, requiring ongoing engagement during implementation. Further engagement opportunities will be identified and provided to Edmontonians during implementation. It will also be critical that Administration continues to listen and learn from our partners.

Corporate Outcomes and Performance Management

Corporate Outcome(s): Edmonton is an environmentally sustainable and resilient city			
Outcome(s)	Measure(s)	Result(s)	Target(s)
Advance a thriving, resilient, sustainable economy and environment	Community greenhouse gas emissions	17,216,193 tonnes of carbon dioxide equivalents (2019). A decrease of 5.6% percent below 2005	35 percent below 2005 levels (11,871,000 tonnes of CO ₂ e by 2035)

Risk Assessment

Risk Element	Risk Description	Likelihood	Impact	Risk Score (with current mitigations)	Current Mitigations	Potential Future Mitigations
Legal/Regulatory	Approval of the Climate Change Mitigation Plan ensures we meet the extension requested of June 30, 2021.	1 - rare	2 - moderate	2 - low	Strategy and action plan have been developed to fulfill charter requirements.	
Political Influences	There is the potential that new provincial government legislation, policies or future directions can influence the advancement of any City climate change implementation plans.	3 - possible	3 - major	9 - medium	Monitoring policy and funding changes.	Advocating or adjusting implementation.

Attachments

1. Edmonton's Community Energy Transition Strategy and Action Plan
2. Current Energy Transition Community Programs
3. Update on the Corporate Climate Leaders Program and Progress on Goals #3 of Climate Resilient Edmonton: Adaptation Strategy and Action Plan
4. Integrated Financial and Carbon Budgeting
5. Funding Approach
6. Federal and Provincial Grant Funding Landscape
7. Council Policy - Climate Resilience
8. Climate Resilience and Our Future City: What We are Hearing: Climate - The City Plan

Others Reviewing this Report

- M. Persson, Chief Financial Officer and Deputy City Manager, Financial and Corporate Services
- C. Owen, Deputy City Manager, Communications and Engagement
- G. Cebryk, Deputy City Manager, City Operations

- A. Laughlin, Deputy City Manager, Integrated Infrastructure Services
- K. Armstrong, Deputy City Manager, Employee Services
- R. Smyth, Deputy City Manager, Citizen Services
- K. Fallis-Howell, Acting City Solicitor