

AAMDC Climate Change Advisory Committee – Overview Report

August 2017



Prepared by the Alberta Association of Municipal Districts and Counties
2017

EXECUTIVE SUMMARY

In 2016, the AAMDC established an ad hoc committee to analyze the impacts, challenges, and opportunities of various climate change policies on Alberta's rural municipalities. The Climate Change Advisory Committee (CCAC) was tasked with providing a rural municipal perspective on the positive and negative impacts of provincial and federal legislation, policies, and programming related to climate change. This report provides an overview of the committee's activities as well as background on the issues discussed.

The purpose of the AAMDC committee was not focused on the core sources of climate change nor the scientific aspects of this global issue. Instead, the committee focused on the policy response to climate change by both the Government of Alberta and the Government of Canada and its impacts on rural municipalities and rural Alberta.

Climate change is a real and pressing concern and meaningful action is required to both mitigate and adapt to these concerns. The *Alberta Climate Leadership Plan* (ACLP) is intended to help government shape a clear and informed climate change policy that positions Alberta's economy for long-term success in a lower-carbon world. The federal *Pan-Canadian Framework on Clean Growth and Climate Change* also outlines strategic action to address climate change across Canada and will impose climate change mitigation strategies on provinces that do not have equivalent policies in place. These guiding provincial and federal policies demonstrate that rural municipalities need to be proactive in the climate change discussion and that, regardless of the political direction that Alberta takes in the future, carbon pricing or other equivalent policies will be present in Alberta in the future.

The topics covered by the committee were varied but encompassed exploring the benefits and costs of the Alberta Climate Leadership Plan on rural municipalities which includes the expansion of renewable energies in Alberta, the application of the Alberta carbon levy, the phase-out of coal fired power generation, the role of agriculture, and the cap on oil sands emissions at 100 megatonnes (MT) per year. The committee also considered these topics in the context of the initiatives put forward by the Government of Canada.

An important consideration through all climate change mitigation policies is the need for realistic but stringent performance measures. These measures are important to ensure that policies adopted are providing the greatest benefit while minimizing the social and economic costs. In this context, the committee acknowledged that climate change is about more than just a carbon tax and should be viewed as an opportunity, not a barrier. Despite the challenges that these policies create, the committee wanted to emphasize that opportunities are available and should be found.

Through this process, the Committee recognized the important perspective and voice that rural municipalities have within the climate change discussion. Rural municipalities are willing and active partners in this dialogue and should continue to pursue meaningful engagement with the provincial and federal government to minimize the impacts of climate change and any adverse impacts that climate change policies and legislation have on rural Alberta and its residents.

Though much progress was made in identifying key positions and developing recommendations to guide the AAMDC, the Committee emphasizes that climate change is an ongoing priority and this committee is the start of a longer process for the AAMDC. There is work to be done, and rural municipalities are in a prime position to be part of the solution, working collaboratively to implement action that support climate change initiatives.

As part of the Committee's mandate, recommendations were drafted for consideration by the AAMDC Board of Directors. Those recommendations are featured below. For further information on the recommendation and the rationales, as well as additional work completed by the Committee, please see the full report below.

General Climate Change Recommendations

1. That the AAMDC work with the Government of Alberta as a partner in implementing climate change initiatives.
2. That the AAMDC develop resources, such as draft bylaws or best management practices, to support municipalities in making informed decisions about climate change and climate change policies.
3. That the AAMDC work with the Government of Alberta to identify solutions to offset the disproportionate burden carried by rural municipalities and rural residents resulting from Alberta's climate change policies and their impacts on land-use.
4. That the AAMDC encourage municipalities to consider provincial and federal climate change initiatives in the development of bylaws, plans, and policies.
5. That the AAMDC advocate to the provincial and federal governments to establish educational and financial programs to support rural municipalities and the agricultural sector in maintaining the integrity of the rural landscape, which serves an important role in climate change mitigation.

Carbon Levy Recommendations

6. That the AAMDC advocate to the Government of Alberta to exempt municipalities from the provincial carbon levy.
7. That the AAMDC advocate to the Government of Alberta that a share of carbon levy revenue be distributed within rural Alberta proportionate to the amount rural Alberta contributes to the carbon levy fund.
8. That the AAMDC advocate to the Government of Alberta to pursue an equivalency agreement approach with the Government of Canada to ensure that any carbon-pricing schemes in Alberta remain a 'made in Alberta' approach.
9. That the AAMDC advocate to the Government of Alberta that they continue to exempt marked fuels used for agricultural purposes from the carbon levy.
10. That the AAMDC advocate to the Government of Alberta that they exempt natural gas and propane used in the agriculture and food production industries from the carbon levy.

Expansion of Renewable Energy Recommendations

11. That the AAMDC request that the Government of Alberta and regulators adhere to municipal land use bylaws as a mandatory component of the approval process for renewable energy projects.

12. That the AAMDC advocate to the Government of Alberta and associated regulators for the need to develop resources to support and build capacity in municipalities with regard to existing, proposed, and future renewable energy developments.
13. That the AAMDC advocate that the Government of Alberta work with partner organizations, AAMDC members, and stakeholders to develop resources and educational tools that will support building rural landowner understanding of renewable energy development projects on their lands or adjacent lands.
14. That the AAMDC recommend that the Government of Alberta continue to support the partnership of the Municipal Climate Change Action Centre to encourage the expansion of renewable energy technologies on municipal facilities and buildings.
15. That the AAMDC advocate to the Government of Alberta to enable and/or incentivize the use of brownfield sites for renewable energy projects.

Energy Efficiency

16. That the AAMDC continue to partner with the Municipal Climate Change Action Centre to support the energy efficiency initiatives for municipalities.
17. That the AAMDC recommend that the Government of Alberta appropriately fund the Municipal Climate Change Action Centre to support continued energy efficiency initiatives for municipalities.

Phase-out of Coal Fire Power Recommendations

18. That the AAMDC advocate for greater engagement by the Government of Alberta with communities impacted by the early phase-out of coal fired power generation to further understand the social and economic impacts that will result from the closure of these facilities.
19. That the AAMDC advocate for adequate supports to meet the needs of communities affected by the phase-out of coal fired power generation.
20. That the AAMDC advocate to the Government of Alberta for financial support to municipalities in a timely and measurable manner to offset the net-loss of assessment attributed to the phase-out of coal-fired power generation.
21. That the AAMDC advocate that the Government of Alberta, where possible and appropriate, work with existing electricity producers to repurpose or retrofit existing coal-fired electricity generation facilities to allow for long-term economic stability for those communities in which the facilities reside.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	2
INTRODUCTION	6
COMMITTEE MEMBERSHIP.....	7
COMMITTEE MANDATE	8
COMMITTEE PROCESS	8
AREAS OF FOCUS	9
AAMDC CLIMATE CHANGE ADVISORY COMMITTEE POSITION STATEMENTS.....	13
AAMDC CLIMATE CHANGE ADVISORY COMMITTEE RECOMMENDATIONS	16
MUNICIPAL RESOURCES FOR CLIMATE CHANGE IN ALBERTA.....	22
CONCLUSION	22

APPENDICES

APPENDIX A: THE ALBERTA CLIMATE LEADERSHIP PLAN	23
APPENDIX B: THE GOVERNMENT OF CANADA'S PAN-CANADIAN FRAMEWORK ON CLEAN GROWTH AND CLIMATE CHANGE	31
APPENDIX C: AAMDC SURVEY ON THE ALBERTA CARBON LEVY	33
APPENDIX D: AAMDC SURVEY ON WIND POWER IN ALBERTA	34

INTRODUCTION

In 2016, the AAMDC established an ad hoc committee to analyze the impacts, challenges, and opportunities of various climate change policies on Alberta's rural municipalities. The AAMDC Climate Change Advisory Committee's (CCAC) work commenced on February 27, 2017 and was completed by August 17, 2017.

The following report highlights the work of the CCAC as they explored various issues related to the impacts of climate change and climate change policies on rural Alberta.

Rural Alberta and Climate Change

Climate change and climate change policies have been described as impacting rural communities first because they are more intimately tied to the land base than urban communities. Whether it be through their dominant industries or the nature of their transportation networks, the unique features of rural communities warrant consideration in climate change mitigation and adaptation policies.

In Alberta, a province which is rich with natural resources and with a diverse and expansive agriculture industry, climate change can have an impact on growing seasons and agriculture production. Climate change policies may also put fiscal pressures on fossil-fuel industries which are predominantly located in rural areas. However, rural municipalities, residents, and businesses also have the potential to make important economic and conservation contributions to climate change mitigation and adaptation efforts in the Alberta. Alberta's rural communities also have the incentives to act because many of the mitigation activities may have potential economic impacts within their communities. These opportunities include, but are not limited to, environmental entrepreneurship and renewable energy production as well as natural resource management techniques that are important climate change mitigation strategies.

Rural Municipalities and Climate Change

Alberta is the only province where the entire land mass, with the exception of national and provincial parks, are municipally managed. Rural municipalities in Alberta cover 86.5% of Alberta's total land mass. This results in Alberta's rural municipalities having a strong relationship with Alberta's land, water, and air, and by extension the broader environment.

As the government closest to rural Albertans, rural municipalities must balance the social, economic, and environmental benefits and costs of the decisions they make because they have a responsibility to provide a level of service to their residents in a manner that reflects the public interest. Rural municipalities practice ongoing environmental stewardship through land-use planning, water management, and the management of growth. Each of these areas have important considerations for climate change and climate change related policies and legislation.

As the climate changes, rural municipalities are experiencing the impacts first hand through flooding, droughts, and wildfires, and must adjust services to reflect climate change mitigation and adaptation programs. Municipalities must work collaboratively with a wide range of partners to ensure services are provided to their residents in an environmentally responsible manner.

While climate change is impacting municipalities, so too are the policies introduced to mitigate and adapt to climate change. Rural municipalities are required to pay the Alberta carbon levy on

their fuel usage which has an impact on their spending. This could result in an indirect decrease in economic activity in the resource sector which is predominantly found in rural Alberta which could have a corresponding impact on their property assessment values.

As well, rural municipalities are the most suitable hosts for the expansion of renewable energy projects, like wind and solar, in Alberta as the province transitions to generating 30% of their electricity through renewable sources by 2030. This will require municipalities to develop land-use plans and bylaws that ensure that renewable energy projects are properly cited and minimize disturbances to rural residents.

In a select number of rural municipalities, there are significant direct and indirect impacts in terms of reduced economic activity and assessments as a result of the phase-out of coal fired power generation. Though the Government of Alberta has committed to transitioning these communities towards other economic development opportunities, the future of these communities remains unclear.

As outlined in the recommendations and positions statements below, rural municipalities have an important perspective and voice in the climate change discussion. Rural municipalities are willing and active partners in this conversation and will continue to pursue meaningful engagement with the provincial and federal governments to minimize the impacts of climate change and any adverse impacts that climate change policies and legislation have on rural Alberta.

COMMITTEE MEMBERSHIP

To gather a province-wide perspective, the AAMDC CCAC was comprised of an elected official from each of the AAMDC's five districts and a chair from the AAMDC's Board of Directors. These elected officials were nominated independently with support from their respective municipalities, and selected by the AAMDC Board based on their knowledge of the issue and perspectives they bring to the committee.

The Committee members included:

Soren Odegard	Committee Chair	AAMDC District 5
Ian Sundquist	District 1	Municipal District of Willow Creek
Paul McLauchlin	District 2	Ponoka County
AnnLisa Jensen	District 3	Parkland County
Veronica Bliska	District 4	Municipal District of Peace
Arnold Hanson	District 5	Beaver County

COMMITTEE MANDATE

The purpose of the committee was to provide a rural municipal perspective on the positive and negative impacts of provincial and federal legislation, policies and programming related to climate change. The committee's work is in response to the provincial and federal legislation, policies and programming related to climate change and does not constitute an endorsement of those legislation, policies and programs.

The committee's role focused on exploring and identifying opportunities for municipalities by recommending resources, tools, etc. that municipalities can use to mitigate climate change or take advantage of provincial/federal legislative changes.

Committee topics included, but were not limited to:

- The impacts of Alberta's carbon levy on rural municipalities
- Transition programs for the closure of coal-fired plants
- Legislative opportunities and challenges related to renewable and alternative energy
- Municipal opportunities for adapting to new climate change related legislative requirements
- Rural specific challenges and opportunities for adapting to new climate change related legislative requirements
- The Pan Canadian Approach to Pricing Carbon Pollution
- Other relevant topics

COMMITTEE PROCESS

At a high level, the task presented to the CCAC was to identify challenges and opportunities for rural municipalities and rural residents within the realm of the various climate change policies, regulations, and legislation that have been introduced provincially in Alberta and federally across Canada.

Through a collaborative working process, the CCAC discussed and researched many important topics related to climate change itself and the policies introduced to mitigate climate change's impacts. The CCAC has developed position statements and recommendations which were presented to the AAMDC Board of Directors for approval as official AAMDC positions. The AAMDC will share the recommendations with the Government of Alberta and other levels of government.

Figure 1: CCAC Workflow Process



Where relevant and appropriate, external subject matter experts were invited to present to the committee to provide valuable insight and information. These included:

- Michael Fulsom – Alberta Climate Change Office

- David Dodge – Energy Efficiency Alberta
- Marc Huot, Laura De Carolis, Marc Baxter – Municipal Climate Change Action Centre (MCCAC)
- Deputy Minister Andre Corbould – Alberta Environment and Parks
- Assistant Deputy Minister, Sandra Locke – Alberta Climate Change Office

AREAS OF FOCUS

In alignment with the Committee's mandate and with issues addressed in both the Alberta Climate Leadership Plan and the Pan-Canadian Framework, the following were areas of focus for discussion, research, and analysis.

The Alberta Carbon Levy and Carbon Pricing

The Alberta Carbon Levy is the first economy wide price of carbon in Alberta. The principal of carbon pricing is that carbon intensive activities are made more expensive to reflect the full social cost to society. This increased cost is intended to change behavior and encourage lower-carbon intensive activities. Consequently, individuals and businesses that rely to a greater degree on carbon emitting activities, such as driving, will pay a greater share of the carbon levy.

The committee discussed the Alberta carbon levy and its direct and indirect impact on rural municipalities and residents. Using the AAMDC survey on Alberta's carbon levy and other sources of information, the committee developed several position statements and recommendations on the Alberta carbon levy.

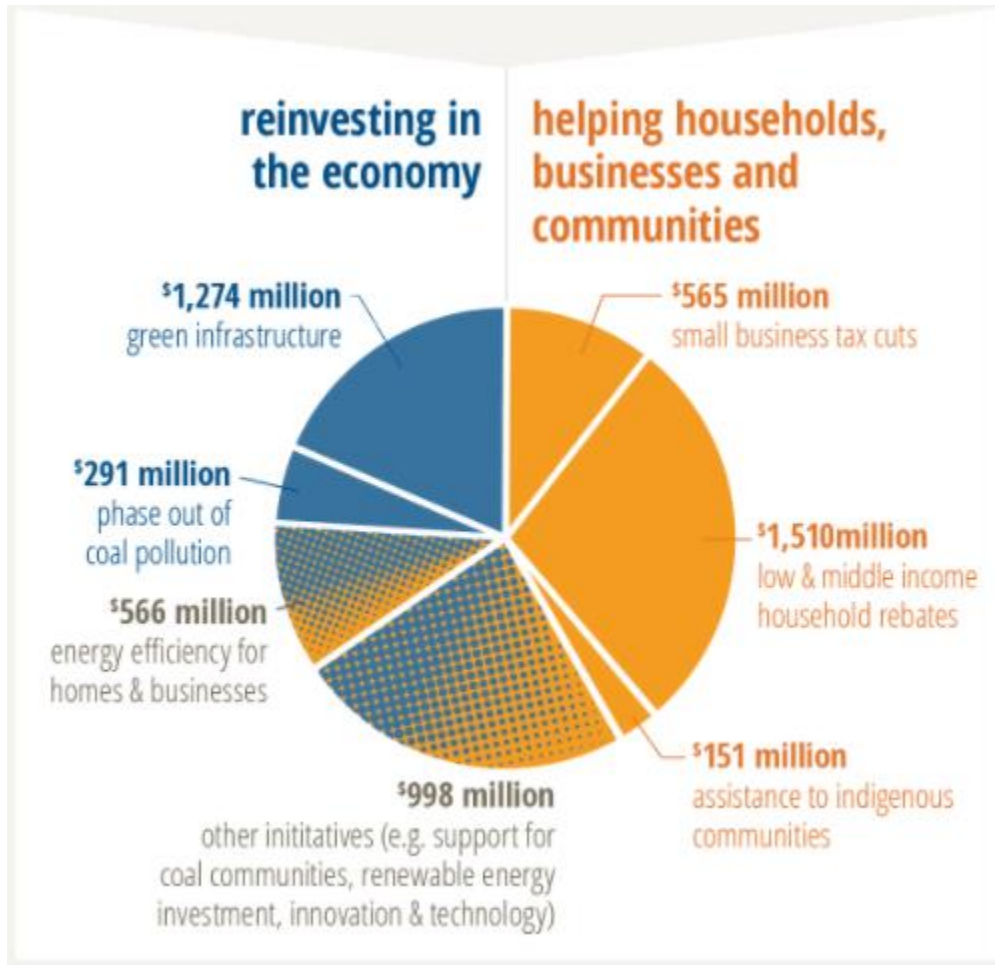
By virtue of the geographic expanses that make rural Alberta unique, those residing in rural Alberta will pay a larger share of the carbon levy than those in the urban areas of the province. This challenge is exacerbated by the lack of available low-carbon alternatives such as public transportation.

For many rural Albertans, this means that it is difficult to change their behavior without a considerable disruption to their lives and in the end, they are forced to pay the carbon levy rather than change behavior and reduce their emissions.

Despite these challenges, the committee also recognized the policy direction taken by the Government of Canada to implement a system of carbon pricing for those provinces that do not currently have a carbon pricing system or equivalent policy in place. Effectively this means that without change at both the provincial and federal level, carbon pricing will remain present in Alberta and a reality for rural municipalities and all Albertans. Therefore, it is important that all levels of government work together to identify ways to minimize the burden of carbon pricing while achieving the desired policy outcome.

Figure 1 highlights the carbon pricing split between funding to reduce emissions (blue) and funding to support those identified communities and businesses that will be impacted by the Alberta carbon levy (orange). In total, \$5.4 billion will be collected through the Alberta Carbon Levy between 2017 and 2020. For more information on the Alberta Carbon Levy and the Alberta Climate Leadership Plan, see Appendix A.

Figure 1: Alberta Carbon Pricing Reduction Funding



Source: Pembina Institute (2017)

Energy Efficiency

Energy efficiency is often the “low-hanging fruit” of climate change mitigation strategies and can reduce both energy use and energy costs. Alberta’s first energy efficiency policy was created in 2016 and a new provincial agency, Energy Efficiency Alberta (EEA), is funded by revenues generated from the carbon levy. EEA will receive an estimated \$645 million in revenues generated by the carbon levy that will be distributed through programs and services to assist Albertans in reducing their carbon footprint.

The committee met with both Energy Efficiency Alberta and the Municipal Climate Change Action Centre (MCCAC) to discuss energy efficiency opportunities and challenges. The committee’s findings are identified in the position statements and recommendations below.

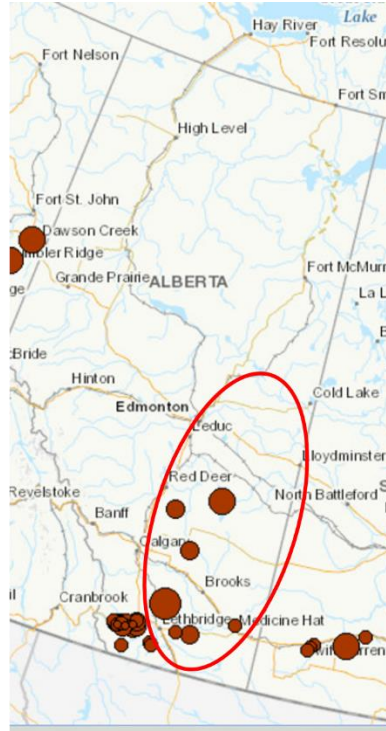
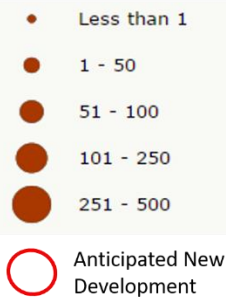
Renewable Energy

The Alberta Climate Leadership Plan calls for 30% of Alberta’s electrical needs to be met by renewable energy by 2030. The nature of Alberta’s geography and the required land resources

for renewable energy projects means that the vast majority of renewable energy projects will be developed in rural areas. While this brings new opportunities for business and investment in rural Alberta, there are also challenges that can be faced by municipalities and rural residents who may be unfamiliar with this type of development.

EXISTING AND POTENTIAL WIND DEVELOPMENT IN ALBERTA

Existing Wind Generation (MW)



Source: Natural Resource Canada, Map of Clean Energy Resources and Projects in Canada, link [here](#).

The committee discussed a range of renewable energy opportunities and some of the concerns that have been brought forward by rural municipalities and rural residents with regards to the proliferation of renewable energy development. The committee's findings are identified in the position statements and recommendations.

Agriculture and Climate Change

Agriculture is rural Alberta's largest employer and is a staple of rural life. It also has an important role in climate change mitigation and adaptation. While the agriculture industry contributes to climate change through methane and carbon emissions, agricultural lands also act as an important carbon sink that prevent harmful emissions from entering the atmosphere. In Alberta, farmers, ranchers, and other agriculture producers have made substantial progress in lowering GHG emissions per unit of production using advanced agricultural practices that also improve sustainability.

Climate change policies such as the Alberta carbon levy increase the costs of energy consumption from fossil fuels. Though marked fuel used in farming operations is exempt from the carbon levy, there are other fuels used in the transportation of agriculture products that are impacted by the levy. Agriculture producers are price takers which means that they are often unable to pass along cost increases onto consumers of their products and therefore, it is

important to assess how climate change policies impact the ability of agriculture producers to operate sustainably and support food production for Albertans and the broader economy.

The committee discussed the role of agriculture in the context of climate change and the Alberta Climate Leadership Plan. An important consideration for the committee was to ensure that climate change policies were not having adverse impacts on the cost to produce food or on the sustainability of Alberta's agriculture industry.

Phase-out of Coal

The Governments of Alberta and Canada have both committed to the phase-out of coal fired power generation. For decades, Alberta has relied on coal fired power for much of its electrical needs and the phase-out of coal in favour of renewable energies and natural gas does provide environmental benefits but also has social and economic impacts, particularly in those communities in which the coal fired electricity facilities reside. The Government of Alberta has committed to assisting those communities as they transition but many questions remain unanswered and impacted rural municipalities, towns, and villages have already noticed the changes to their community.

The committee discussed several areas related to the phase-out of coal fired power generation and their findings are captured in the position statements and recommendations developed.

NEXT STEPS

The AAMDC Climate Change Advisory Committee's purpose was to provide a rural municipal perspective on the positive and negative impacts of provincial and federal legislation, policies and programming related to climate change. As these policies and programs continue, so will the need for the AAMDC and its member municipalities to be continually engaged on this important issue. As such, the work of this Committee should be understood as a starting point for a longer and on-going commitment by the AAMDC and member municipalities to address challenges and take advantage of the opportunities that these policies and programs create. Therefore, the Committee has provided direction for future research and policy analysis areas for the AAMDC, and for future AAMDC initiatives. These include:

- Improve education for member municipalities about climate change policies and their impacts. Policy documents, including the *Pan-Canadian Framework on Clean Growth and Climate Change* and the *Alberta Climate Leadership Plan*, demonstrate that there are opportunities for municipalities to demonstrate leadership regarding climate change.
- Exploring options that municipalities can implement to reduce methane emissions. Methane reduction is an increasingly important issue, and future work to understand the role municipalities can play is needed.
- Monitor the impacts of climate change policies on rural municipalities in a general sense to improve policy and support the implementation of programs that will address rural specific needs.

The AAMDC will consider the recommendations brought forward by the Committee and incorporate them into advocacy efforts as appropriate.

AAMDC CLIMATE CHANGE ADVISORY COMMITTEE POSITION STATEMENTS

The AAMDC has position statements developed on policy issues that impact rural municipalities. The Committee was tasked with developing a series of position statements specific to climate change and climate change policy. These position statements were submitted to the AAMDC Board of Directors for consideration.

Overarching statements:

- Recognizing that there is only one taxpayer, municipalities, operate using taxpayer funding and should be exempt from the carbon levy.
- The AAMDC recognizes that Alberta is striving to be a leader in climate change policy. To support effective implementation of provincial climate change policies, alignment between *Alberta's Climate Leadership Plan* and the federal *Pan-Canadian Framework on Clean Growth and Climate Change* is essential.
- Municipalities recognize the risks of climate change and are active participants in programs that aim to reduce impacts for the benefit of current and future generations (ex. participation in programs offered through the Municipal Climate Change Action Centre).
- Climate change is an increasingly important policy issue that is influenced by multiple factors, including population growth, resource development, and environmental concerns.
- Rural municipalities are partners in Alberta's climate change initiatives.
- All climate change mitigation and adaptation policies should be accompanied by tangible and realistic performance measures to ensure success and constant improvement, but also to ensure benefits are realized at the least cost.
- The AAMDC is actively involved in the Municipal Climate Change Action Centre, which provides technical assistance and expertise to municipalities to increase energy efficiency of operations and support the reduction of greenhouse gases.
- The Municipal Climate Change Action Centre, a partnership between the AAMDC, AUMA, and the Government of Alberta, could be used as a change agent to support climate change initiatives through:
 - Facilitating the equitable allocation of a portion of carbon levy revenue to municipalities in order to support the broad range of capital and operational climate change mitigation and adaptation initiatives required to address climate change in all Alberta communities.
 - Providing technical expertise to support initiatives that reflect local mitigation and adaptation priorities and contribute to achieving global climate change goals.
 - Facilitating the coordination of provincial and municipal programs and communication activities that enhance the understanding of climate change by businesses and citizens, and supports actions.

- The approval processes for solar and wind projects must have both clarity and transparency to ensure landowners and communities are informed about the projects developed on and surrounding their lands.
- It is crucial that the Government of Alberta ensures that all renewable energy infrastructure and property may be assessed by municipalities in a fair manner.
- In the transition to 30 per cent renewables by 2030, large scale renewable projects, such as wind farms and large solar arrays, will require large tracts of land for projects. As a result, rural residents will carry a disproportionate burden of the Alberta climate change policies through changes to land-use on the rural landscape.
- Climate change policy should consider the social, economic and environmental impacts and benefits of agriculture and food production, as well as the ecological goods and services derived from the rural land base.
- To support a cohesive approach to addressing climate change, municipalities should work collaboratively with their neighbours and Indigenous communities to access programs and leverage resources that will provide local and regional benefits.

Carbon levy:

- Recognizing that there is only one taxpayer, municipalities operate using taxpayer funding and should be exempt from the carbon levy.
- The AAMDC urges the Government of Alberta to implement a revenue neutral approach to ensure that impacts of the carbon levy do not result in undue hardship for Albertans.
- The provincial carbon levy may be an effective tool in reducing greenhouse gas emissions. However, its impacts on both municipalities and rural residents must be considered. For example, the municipal costs to deliver services and maintain infrastructure will rise. At present, rural residents have very few, if any, alternative transportation options which limits their ability to reduce their use of fossil-fuel powered vehicles. This will remain the case until affordable transportation technologies become available that are suitable for use in rural areas.
- To demonstrate the importance of addressing climate change, revenue received from the carbon levy should be redirected to address climate change mitigation and adaptation directly as opposed to funding social initiatives. Sufficient funding is needed and should be directed to programs that reduce GHG emissions in a measured and transparent manner.
- Without viable alternatives, incentive programs will have little effect in reducing carbon emissions. Alternatives for transportation and other municipal operations, such as the operation of heavy machinery, are needed to realize reductions in emissions.
- A portion of the carbon levy should be dedicated to support municipalities whose economies are dependent on high carbon industries as they transition to low carbon economic activities.

- Agriculture serves an important role in carbon sequestration. The agricultural sector has a unique ability to remove carbon dioxide from the atmosphere, store or sequester carbon in soils, and increase the resilience of soils to a changing climate.
- The Government of Alberta should consider addressing the increasing administrative costs included in the billing for utilities in Alberta. The disproportionate increase in administrative costs makes the carbon levy and climate change less affordable for Albertans.
- Recognizing that the federal government will be imposing carbon-pricing in all provinces across Canada by 2019, a *made in Alberta* solution for lowering carbon levels allows a local solution and transition period as opposed to a federally mandated approach.
- When considering climate change related legislation and policies, the Government of Alberta and the Government of Canada must consider, not only the direct costs to municipalities and rural residents but also the indirect costs that are distributed throughout the rural economy.

Phase out of coal generated electricity:

- Phasing out coal-generated electricity will impact communities and Albertans employed in the coal industry as the province transitions to increased use of renewable energy. Financial supports and resources need to be in place to assist these communities during this transition and engagement with the AAMDC and its member municipalities is necessary to ensure there is a balance between achieving climate leadership and the sustainability of communities impacted by this transition.
- Engagement with communities directly impacted by the phase out of coal-generated electricity is essential to understand the social and economic impacts resulting from closing facilities.
- Where possible and fiscally prudent, the Government of Alberta should work with Alberta's existing electricity producers to repurpose or retrofit existing facilities to allow for long term economic stability in those communities.

Supporting greater development of renewable energy and energy efficiency:

- The AAMDC is a founding partner of the Municipal Climate Change Action Centre and values the provision of funding and services to support municipalities in adopting energy efficiency improvements.
- As the government closest to the people, municipalities are a vital partner with the provincial and federal governments in supporting renewable energy projects and energy efficiency initiatives.
- When undertaking renewable projects, the government, and regulators such as Alberta Utilities Commission, need to adhere to municipal land use bylaws.
- Rural municipalities should have the authority to properly locate renewable energy projects within their boundaries to ensure efficient and effective land-use planning and to minimize any disturbance to residents.

Placing a cap on oil sands emissions to 100 MT per year

- The AAMDC values the work of the Oil Sands Advisory Group and defers to their impending recommendations to implement the 100 MT per year carbon emissions limit for the oil sands industry, and the other areas of focus outlined in their mandate including but not limited to:
 - Improving local and environmental performance issues (air, water, biodiversity, and cumulative effects); and,
 - Exploring ways to best invest in innovation, including how to reduce emissions intensity.
- The AAMDC and its members look forward to consultation on the implementation of the 100 MT per year carbon emissions limit and the other outcomes of the Oil Sands Advisory Group.

AAMDC CLIMATE CHANGE ADVISORY COMMITTEE RECOMMENDATIONS

The following recommendations were developed collaboratively by the AAMDC Climate Change Advisory Committee for consideration by the AAMDC Board of Directors.

General Climate Change Recommendations

1. That the AAMDC work with the Government of Alberta as a partner in implementing climate change initiatives.

Rationale: As the government closest to the people, municipalities are a valued partner in supporting the implementation of climate change initiatives. The success of the Municipal Climate Change Action Centre (MCCAC) demonstrates the value that partnerships can create through increased understanding and access to climate change related programs and initiatives.

2. That the AAMDC develop resources, such as draft bylaws or best management practices, to support municipalities in making informed decisions about climate change and climate change policies.

Rationale: Municipalities may have limited capacity and/or expertise to support informed decision making regarding climate change. Developing resources that will build knowledge, will allow municipalities to make informed decisions that will provide benefit to their residents. The use of municipal bylaws and best management practices to support climate change initiatives and policies should be encouraged.

3. That the AAMDC work with the Government of Alberta to identify solutions to offset the disproportionate burden carried by rural municipalities and rural residents resulting from Alberta's climate change policies and their impacts on land-use.

Rationale: The Government of Alberta's target to achieve 30 per cent renewables by 2030 will have impacts on how land and resources are used and allocated in

rural Alberta. Cumulative effects and competing land-use interests are considerations for rural municipalities in balancing climate change priorities with industry needs, social impacts, and other environmental priorities for public benefit.

Large scale renewable projects, that require large tracts of land, will likely be located in rural Alberta. More clarity is needed to further understand the impacts that this growing industry will have on rural residents, landowners, rural municipalities, agriculture, and food production.

4. That the AAMDC encourage municipalities to consider provincial and federal climate change initiatives in the development of bylaws, plans, and policies.

Rationale: Municipalities must be proactive in their management of lands and provision of services. Alberta's Climate Leadership Plan and the *Pan-Canadian Framework on Clean Growth and Climate Change* will have implications for municipalities, especially rural municipalities. Therefore, it is imperative that municipalities develop policies and management practices that align with these provincial and federal policies and minimize the adverse impacts while capturing opportunities that may be created. For instance, the majority of wind power generation in Alberta will take place in rural Alberta and rural municipalities should develop land-use bylaws that speak to the proper siting of these facilities.

5. That the AAMDC advocate to the provincial and federal governments to establish educational and financial programs to support rural municipalities and the agricultural sector in maintaining the integrity of the rural landscape, which serves an important role in climate change mitigation.

Rationale: Alberta's rural areas play an important role in Alberta and Canada's climate change mitigation strategy – both in terms of the industries that operate in rural Alberta and the landscape itself which acts as an important carbon sink.

Albertans should understand the importance of rural municipalities and the benefits the agriculture sector provides in regards to climate change mitigation.

Educational and financial programs should:

- Broaden the understanding of the importance of rural municipalities and the benefits the agriculture sector provide in mitigating climate change impacts.
- Identify areas where municipalities and agriculture producers could improve operations while protecting the ecological integrity of the rural landscape.

Carbon Levy Recommendations

6. That the AAMDC advocate to the Government of Alberta to exempt municipalities from the provincial carbon levy.

Rationale: Municipalities have no choice but to raise taxes or reduce services to accommodate the increased costs associated with the carbon levy. This amounts to double taxation as local residents are already paying their portion of the carbon tax through their own individual consumption of taxed fuels.

7. That the AAMDC advocate to the Government of Alberta that a share of carbon levy revenue be distributed within rural Alberta proportionate to the amount rural Alberta contributes to the carbon levy fund.

Rationale: In general, rural residents are disproportionately impacted by the Alberta carbon levy and other carbon pricing schemes. This is due to the large geographic areas in which rural residents reside, their dependence on fossil fuel powered vehicles with no alternative transportation, and the nature of industries situated in rural Alberta. The application of the Alberta carbon levy and subsequent spending of revenues generated by the carbon levy, should be done in a manner that minimizes the distortionary impacts of this taxation on rural residents, and should be distributed within rural Alberta in a manner that is proportionate to their contribution into the Alberta carbon levy fund.

8. That the AAMDC advocate to the Government of Alberta to pursue an equivalency agreement approach with the Government of Canada to ensure that any carbon-pricing schemes in Alberta remain a 'made in Alberta' approach.

Rationale: As the federal government has mandated a carbon-pricing scheme to be in place across Canada by 2019, this provides the opportunity for Alberta to pursue an equivalency agreement that would meet the intent of the federal policy. This will ensure that carbon pricing in Alberta is unique to the industries and natural resources that exist in Alberta.

9. That the AAMDC advocate to the Government of Alberta that they continue to exempt marked fuels used for agricultural purposes from the carbon levy.

Rationale: The agriculture industry is rural Alberta's largest employer and continues to be the bedrock of many rural communities. As primary producers, farmers and other agriculture producers have few options to pass along the costs of a carbon levy – especially as costs in other areas including transportation of farm goods has increased considerably. The exemption of marked fuel from the carbon levy has been an important tool to allow for the continued sustainability of Alberta's agriculture industry and ensure that producers are competitive on the global market.

10. That the AAMDC advocate to the Government of Alberta that they exempt natural gas and propane used in the agriculture and food production industries from the carbon levy.

Rationale: The challenge of a carbon levy for the agriculture sector stems from the difficulty posed by costs associated with adapting to the levy. For example, consumption of fuels, natural gas, and propane is necessary for livestock and poultry barns, transporting agriculture goods, and in irrigation used to support production. These elements are all essential to the proper functioning of agriculture operations and these costs cannot be passed on and must be absorbed.

An increase in the cost of agriculture inputs drives up costs and could lead to adverse results such as decreased profits, declines in net exports, and higher consumer prices.

This recommendation reflects AAMDC Resolution 1-17S: Carbon Levy Exemption of Natural Gas and Propane for All Food Production Uses.

Expansion of Renewable Energy Recommendations

11. That the AAMDC request that the Government of Alberta and regulators adhere to municipal land use bylaws as a mandatory component of the approval process for renewable energy projects.

Rationale: Under the *Municipal Government Act*, the Alberta Utilities Commission (AUC) has the ability to overrule municipal land-use bylaws; however, municipalities are responsible for providing long-term land use planning. To carry out these responsibilities, it is important that municipalities be able to direct development appropriately on the landscape and mitigate the negative impacts on rural residents including the management of cumulative effects.

Municipalities currently lack the authority to require adherence to municipal land use bylaws for proposed renewable energy projects and it impedes the ability to provide long-term land use planning. Without regulatory certainty, long-term municipal planning will be impacted.

12. That the AAMDC advocate to the Government of Alberta and associated regulators for the need to develop resources to support and build capacity in municipalities with regard to existing, proposed, and future renewable energy developments.

Rationale: Municipalities may lack the technical expertise or capacity to optimize opportunities related to renewable energy development projects. Developing tools and providing resources, such as financial support, or access to technical expertise that would build local knowledge and capacity are needed.

13. That the AAMDC advocate that the Government of Alberta work with partner organizations, AAMDC members, and stakeholders to develop resources and educational tools that will support building rural landowner understanding of renewable energy development projects on their lands or adjacent lands.

Rationale: Working collaboratively provides an opportunity to obtain a wide perspective on these issues. Other organizations, such as the Farmer's Advocate Office, the Surface Rights Board, and the Pembina Institute, are developing or have developed resources and tools to support rural landowners. Leveraging those resources will expedite the availability of information to landowners.

14. That the AAMDC recommend that the Government of Alberta continue to support the partnership of the Municipal Climate Change Action Centre to encourage the expansion of renewable energy technologies on municipal facilities and buildings.

Rationale: The MCCAC has proven to be a valuable model of collaboration to facilitate climate change programs specific to municipalities. Continued support for the MCCAC ensures focused resources to support municipalities in implementing climate change initiatives.

15. That the AAMDC advocate to the Government of Alberta to enable and/or incentivize the use of brownfield sites for renewable energy projects.

Rationale: Brownfield sites are under-utilized and limited by regulatory barriers but, in some instances, may be ideal for renewable energy sites. Where appropriate, the Government of Alberta should reduce regulatory hurdles and enable development of renewable energy projects on these lands.

Energy Efficiency

16. That the AAMDC continue to partner with the Municipal Climate Change Action Centre to support the energy efficiency initiatives for municipalities.

Rationale: As a partner in the MCCAC, rural municipalities have had access to programs and expertise to support the implementation of climate change initiatives at the local level. AAMDC's continued involvement with the MCCAC ensures focused resources that will continue to support municipalities in addressing the impacts of climate change.

17. That the AAMDC recommend that the Government of Alberta appropriately fund the Municipal Climate Change Action Centre to support continued energy efficiency initiatives for municipalities.

Rationale: To be of greater benefit to municipalities, funding for the MCCAC should be increased to improve utilization by municipalities to meet the expectations of the *Alberta Climate Leadership Plan* and the *Pan-Canadian Framework on Clean Growth and Climate Change*.

Phase-out of Coal Fire Power Recommendations

18. That the AAMDC advocate for greater engagement by the Government of Alberta with communities impacted by the early phase-out of coal fired power generation to further understand the social and economic impacts that will result from the closure of these facilities.

Rationale: A collaborative relationship with the Government of Alberta includes having effective engagement process with impacted parties. The Government of Alberta should prioritize working directly with communities who will be impacted by the phase-out of coal fired power generation to better support the transition process.

Further, the Government of Alberta should be cognizant of the impact that the announcement of the early closure of coal fired power generation facilities has had on communities as workers and businesses relocate once the certainty of long-term employment and business has been removed. Further public announcements should be in collaboration with municipalities and communities to limit the adverse impacts.

19. That the AAMDC advocate for adequate supports to meet the needs of communities affected by the phase-out of coal fired power generation.

Rationale: Communities who will be impacted by the phase-out of coal fired power generation will require assistance for residents, local industries and the general sustainability of the community. Efforts should be made to ensure that adequate supports are in place to support impacted communities.

20. That the AAMDC advocate to the Government of Alberta for financial support to municipalities in a timely and measurable manner to offset the net-loss of assessment attributed to the phase-out of coal-fired power generation.

Rationale: The *Alberta Climate Leadership Plan* will phase-out coal fired power generation by 2030 and this will mean that several coal power facilities will be closed prematurely. This will have an adverse impact on the property assessments for those facilities which will impact the revenue of rural municipalities. In a survey conducted by the AAMDC, three rural municipalities indicated the total assessed values of coal fired power facilities was \$2.9 billion. Where conversion to other fuel stocks are not possible and facilities are retired prior to their projected end of life, municipalities should receive support to offset the loss in assessment and ease the burden on rural residents who would otherwise be required to cover the loss through their property taxes.

21. That the AAMDC advocate that the Government of Alberta, where possible and appropriate, work with existing electricity producers to repurpose or retrofit existing coal-fired electricity generation facilities to allow for long-term economic stability for those communities in which the facilities reside.

Rationale: The phase-out of coal fired power generation impacts local economies, resulting in employment loss and broader socio-economic impacts in these communities and the broader region. The announcement of these facility closures has already impacted employment and community investment. Retrofitting or repurposing facilities supports the sustainability of communities impacted by the phase out of coal through new employment opportunities and continued support for local economies.

MUNICIPAL RESOURCES FOR CLIMATE CHANGE IN ALBERTA

Municipalities in Alberta are on the front line of climate leadership and resources have been developed to support best management practices and municipal projects that support climate change mitigation efforts.

Below is a short list of available municipal resources.

Municipal Climate Change Action Centre (MCCAC)

To assist municipalities in climate change mitigation efforts, the AAMDC, the Alberta Urban Municipalities Association (AUMA), and Alberta Environment and Parks partnered to create the Municipal Climate Change Action Centre in 2009. The MCCAC distributes funding and develops tools to municipalities undertaking climate change related projects.

For more information on the MCCAC, see mccac.ca

Federation of Canadian Municipalities (FCM)

The Federation of Canadian Municipalities represents municipalities across Canada and has taken a leadership role in municipal climate change action. Recently, the FCM has announced two programs related to climate change, the Municipalities for Climate Innovation Program (MCIP) and the Municipal Asset Management Program (MAMP). Both will be delivered by FCM and will provide municipalities with access to funding, training and learning opportunities to increase their capacity to reduce greenhouse gas emissions, build resilience to the impacts of climate change, and support better planning and management of municipal infrastructure.

For more information, see FCM.ca

CONCLUSION

Climate change is an exceptionally complex policy issue that requires coordination from all levels of government, industry, community groups, and private citizens. Policies that address climate change must be implemented with a careful understanding of their impacts. To help inform the Government of Alberta and the Government of Canada of the opportunities and challenges posed by climate change policies, the AAMDC initiated the Climate Change Advisory Committee.

The committee was tasked with providing the rural municipal perspective on the positive and negative impacts of provincial and federal legislation, policies, and programming related to climate change. Within this, the committee focused on several important areas including the impacts of carbon pricing on rural municipalities, the closure and phase-out of coal fired power generation, opportunities and challenges related to renewable energy, and the general impacts from climate change related policies

APPENDIX A: THE ALBERTA CLIMATE LEADERSHIP PLAN

The following comprises an overview of the *Alberta Climate Leadership Plan*. The plan contains several significant initiatives:

- The implementation of a price on carbon (carbon levy)
- The phase out of coal-generated electricity by 2030
- Supporting the development of renewable energy
- Placing a cap oil sands emissions to 100 megatonnes per year
- Reducing methane emissions by 45% by 2025
- Promoting greater energy efficiency in Alberta

Each initiative is described in greater detail below.

The Implementation of a Price on Carbon

As of January 1, 2017, a carbon levy is being charged on all fuels that emit greenhouse gas emissions when combusted at a rate of \$20/tonne in 2017 and \$30/tonne in 2018. The rate is based on the amount of carbon pollution released by the fuel when it's combusted, not on the mass of fuel itself. These include transportation and heating fuels such as diesel, gasoline, natural gas and propane. The levy does not apply to electricity.

The rates of the levy are as follows:

Type of Fuel	January 1, 2017 \$20/tonne	January 1, 2018 \$30/tonne (additional increase)	January 1, 2018 \$30/tonne (total cumulative)
Marked farm fuels	Exempt	Exempt	Exempt
Diesel	+5.35 ¢/L	+2.68 ¢/L	8.03 ¢/L
Gasoline	+4.49 ¢/L	+2.24 ¢/L	6.73¢/L
Natural Gas	+1.011 \$/GJ	+0.506 \$/GJ	1.517 \$/GJ
Propane	+3.08 ¢/L	+1.54 ¢/L	4.62 ¢/L

To help businesses adjust to the carbon levy, the Government of Alberta announced that the small business corporate income tax rate was reduced by one third, from 3% to 2% effective

January 1, 2017. The reduction is projected by the province to save small business owners \$185 million in 2017-18.

Exemptions and Rebates

In an attempt to ensure the carbon levy does not adversely impact sectors of the economy or the population in a disproportionate manner, exemptions and rebates to the carbon levy have been provided by the Government of Alberta.

Rebates

Rebates are provided to lower- and middle-income Albertans to offset costs associated with the carbon levy. The rebates are intended to protect those who spend a higher percentage of their income on energy costs and have fewer financial resources to invest in energy efficiency products. 60% of households are expected get a full rebate: \$200 for an adult, \$100 for a spouse and \$30 for each child under 18 (up to four children).

Full rebates will be provided to single Albertans who earn \$47,500 or less, and to couples, single parents and families who earn \$95,000 or less. Additional households will receive a partial rebate.

Exemptions

Exemptions to the carbon levy include the following:

- Sites covered by the *Specific Gas Emitters Regulation* (SGER) performance standards – Sites covered under the requirements of the SGER/performance standards will be exempted from paying the levy on heating fuels. This exemption ensures that the government's carbon pricing mechanisms are effectively integrated and facilities are not charged for their heating fuel use under both the carbon levy and the SGER/performance standards.
- Natural gas produced and consumed on site – Natural gas produced and consumed on site by conventional oil and gas producers will be exempt from the carbon levy until January 1, 2023. Marked fuel purchased for other qualifying off-road uses will be subject to the levy.
- Biofuels – Biofuels, which include ethanol, biodiesel and bio-methane, are exempt to reflect their lower carbon impact. The exemption for ethanol and biodiesel will be administered through lower rates on gasoline and diesel. The lower rates for these fuels will reflect the 5% and 2% renewable fuel requirements for gasoline and diesel, respectively.
- Inter-jurisdictional flights – As Alberta is only taking responsibility for the GHG emissions produced within its own jurisdiction, emissions from fuel used by airplanes flying between Alberta and other jurisdictions are exempt from the levy.
- Indigenous use – Eligible First Nations individuals and bands will be exempt from the levy when fuel is purchased on-reserve for personal or band use. This is consistent with exemptions for Alberta's other commodity taxes.

- Marked farm fuels are exempt from the carbon levy - This means that the carbon levy does not apply to dyed diesel or gasoline used in farming operations. Agriculture is the only economic sector with a levy exemption.
- Other exemptions – Fuel sold for export will be exempt from the levy as it is not consumed in Alberta and the related emissions are not released here. Industrial exemptions, where deemed appropriate, will apply to situations where fuels are used in industrial processes without releasing GHG emissions.

The phase-out of coal-generated electricity by 2030

Under the *Alberta Climate Leadership Plan*, pollution from coal-fired electricity generation will be phased out by 2030. The plan also sets a "30 by '30" renewable energy target, in which 30% of electricity used by Albertans will come from renewable sources like solar, wind and hydro by 2030. The justification for the phase-out of coal-generated electricity is to both reduce emissions and improve the health of Albertans.

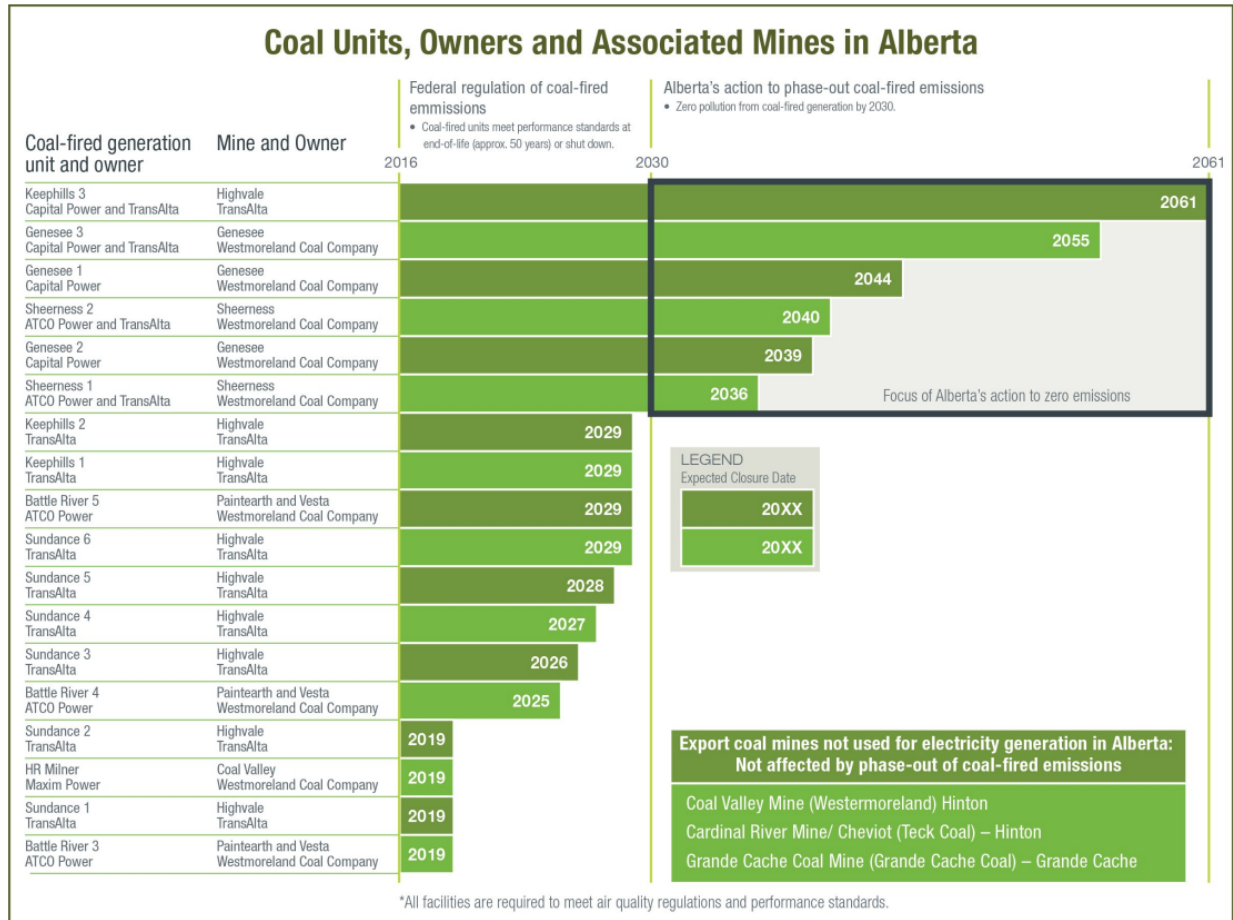
Coal has traditionally been Alberta's low-cost source of electricity. In 2014, Alberta's electricity sector accounted for 16% of Alberta's total greenhouse gas emissions and the majority of these emissions were from coal-fired electricity generation. Alberta produces more coal emissions than all other Canadian provinces combined.

Under existing federal regulations, coal-fired power plants must meet GHG emission standards or retire when they reach 50 years of operation. This means that 12 of Alberta's 18 coal-fired generating units are already slated to retire by 2030. The *Alberta Climate Leadership Plan* sees that the remaining six generating units will be phased out in advance of their previously anticipated retire date.

In anticipation of the early retirement of the six coal fired electricity units, electricity producers have considered and are currently weighing options to convert these units to cleaner burning natural gas. This will not be a financially viable option for all of the generating units but where it is possible, this will ensure that producers can continue to benefit from their initial investment and that local municipality can continue to rely on those facilities for assessment.

The phase-out of coal to other electricity generating options is accomplished through:

- Ensuring 30% of Alberta's electricity come from renewable sources by 2030
- Allowing coal units to convert to natural gas where it is economically viable
- Creating a market for private investment in technologies such as natural gas, cogeneration or other technologies



Source: Government of Alberta, Advisory Panel on Coal Communities. Link available [here](#).

Advisory Panel on Coal Communities

In response to the concerns associated with coal communities, an Advisory Panel on Coal Communities was assembled. The mandate of the Advisory Panel is to:

- Examine the potential effect of the retirements of coal-fired generation plants and associated mining operations on communities
- Identify strategies to support worker transition

These meetings will help the panel understand the challenges and opportunities communities are facing so that next steps can be undertaken. The panel is expected to provide report to the Government of Alberta in the summer of 2017 but at the time of writing this report, no report by the Advisory Panel has been released. The report is expected to include:

- What the panel heard from community members
- An assessment of relevant regulations, policies and programs that support workers and communities
- An assessment of local knowledge, interests and perspectives related to economic impact and retraining opportunities

- Recommendations for connecting impacted communities to Government of Alberta resources
- Recommendations and guidance to support community economic transition, as well as specific actions that government can take to support workers and communities during the transition

Coal Mining in Alberta

Eight coal mines currently operate in Alberta. Five of these mines produce subbituminous coal, which is used in Alberta for electricity generation. Five mines produced about 23.3 million tonnes of subbituminous coal for domestic coal-fired power plants in 2015. These include:

- Genesee
- Highvale
- Montgomery
- Paintearth/Vesta
- Sheerness

Bituminous coal, often referred to as metallurgical or coking coal, is exported for steel making and other purposes. Three mines produced about 4 million tonnes of coal in 2015. Metallurgical and export mines will not be affected by the phase-out of coal-fired emissions.

- Cheviot (Cardinal River)
- Coal Valley
- Grande Cache (suspended operations in late 2015)

Supporting the development of renewable energy

Under the *Alberta Climate Leadership Plan*, Alberta will add 5,000 megawatts of renewable energy capacity by 2030 through the Renewable Electricity Program, run by the Alberta Electric System Operator (AESO).

To meet this firm target, investment in Alberta's electricity system will be solicited through a competitive bidding process, which will aim to provide both grid reliability and is delivered at the lowest possible cost to consumers. The program will align with Alberta's initiative to phase-out coal pollution to ensure system reliability is maintained.

The Government of Alberta projects that an estimated \$10.5 billion in new investment will flow into the provincial economy by 2030, creating at least 7,200 new jobs.

Other initiatives that have been undertaken include:

- Amendments to the Microgeneration Regulation
- Solar for Schools Program
- Alberta Indigenous Community Energy Program

- On-Farm Solar Management Program

Energy Efficiency Alberta

Energy Efficiency Alberta (EEA) is a new provincial agency established as part of the Climate Leadership Plan. Funded by revenues generated from the carbon levy, EEA will provide programs and services to assist Albertans in reducing their carbon footprint. The EEA will receive an estimated \$645 million in revenues generated by the carbon levy that will be distributed through programs and services being developed.

Initial programs announced as part of the EEA operations include:

- Free installation of residential efficiency products such as lighting elements, water fixtures and programmable thermostats in homes and multi-unit residential dwellings across Alberta.
- Rebates for efficient appliances, lighting and insulation for homes.
- Incentives for high-efficiency retrofits of lighting, heating, cooling and hot water systems for businesses, non-profits and institutions.

The EEA also announced the Non-Profit Energy Efficiency Transition (NEET) Program, which will provide funding for non-profit and volunteer groups to assess efficiency of lighting, heating, cooling and hot water systems. Under the NEET Program, non-profit and volunteer groups will be able to access EEA's Business, Non-Profit and Institutional Rebate Program, which offers incentives for the purchase and installation of high-efficiency products.

Energy Efficiency Programs for Farms

Through the Climate Leadership Plan, the Government of Alberta is investing \$10 million to help farm operations reduce their emissions and save on energy bills through efficiency upgrades. The programs include:

- On-Farm Energy Management Program assists producers with the purchase of equipment that improves energy efficiency or monitors energy consumption. This includes lighting, pumps, meters, boilers, heaters and low-energy, livestock-watering fountains.
- On-Farm Solar PV Program assists producers with the purchase of grid-connected solar panel systems that can be used to generate electricity and reduce emissions on farms.
- Irrigation Efficiency Program helps producers invest in new or upgraded low-pressure irrigation equipment, improving water efficiency and reducing energy use.
- Accelerating Innovation Program
 - Facilitates collaboration between agricultural societies, industry organizations and producer groups to collaborate through proof-of-concept and commercialization of new products, new processes or new business practices in Alberta.

- Assists primary producers, agri-processors and other for-profit companies with the early adoption of new technologies or practices that have the potential for sector-wide impact.

Placing a cap on oil sands emissions to 100 megatonnes per year

The oil sands sector accounts for roughly one-quarter of Alberta's annual emissions.¹ Oil sands facilities are currently charged a *Specified Gas Emitter Regulation* (SGER) levy based on each individual facility's historical emissions, irrespective of how intense (e.g. tonnes of GHG per barrel produced) or efficient that operation has been. Oil sands operations currently emit roughly 70 Megatonnes (Mt) per year. There is currently no limit on oil sands emissions, either by facility or industry-wide.

Under the *Alberta Climate Leadership Plan*, Alberta is expected to transition to an output-based allocation approach for the carbon price and will legislate an overall limit to oil sands GHG emissions. These changes are intended to create the conditions for the oil sands sector to innovate and become more globally competitive.

Alberta's new approach includes the following:

- An oil sands specific output-based allocation approach that will replace the current approach. A \$30/tonne carbon price will be applied to oil sands facilities based on results already achieved by high performing facilities.
- A legislated emissions limit on the oil sands of a maximum of 100Mt in any year with provisions for cogeneration and new upgrading capacity.

The 100 Mt limit allows room for growth and development of Alberta's resource and ideally, will incent changes that see the number of produced barrels increase relative to associated emissions. Based on current oil production projections, estimates on when the sector will hit that cap range from the early 2020's to 2030. Hence, production currently planned will go ahead which will allow output to rise. However, over the longer term, the sector will have to continually reduce emission intensities in order to grow output.

Reducing methane emissions by 45% by 2025

The climate change impact of methane is 25 times greater than carbon dioxide over a 100-year period. Cutting methane emissions is the most cost-effective way to accelerate greenhouse gas reductions.

In Alberta, the oil and gas industry is the largest source of methane emissions. Methane emissions in 2014 from Alberta's oil and gas sector were 31.4 megatonnes of carbon dioxide equivalents. This accounted for 70% of Alberta's methane emissions and 25% of all emissions from the upstream oil and gas sector.

Alberta's climate leadership plan aims to reduce methane emissions from oil and gas operations by 45% by 2025 using the following approaches:

- Applying new emissions design standards to new Alberta facilities.

¹ Government of Alberta. (n.d.) "Capping Oil Sands Emissions". Link available [here](#).

- Improving measurement and reporting of methane emissions, as well as leak detection and repair requirements.
- Developing a joint initiative on methane reduction and verification for existing facilities, and backstopping this with regulated standards that take effect in 2020, to ensure the 2025 target is met.

Implementation of the new oil and gas methane standards will be led by the Alberta Energy Regulator with input from Alberta Energy and the Alberta Climate Change Office.

Alberta's reduction target and timeline match the commitments recently announced by the Canadian and American federal governments.

APPENDIX B: THE GOVERNMENT OF CANADA'S PAN-CANADIAN FRAMEWORK ON CLEAN GROWTH AND CLIMATE CHANGE

In March 2016, the Government of Canada and the majority of Canada's premiers committed to putting Canada the path to meet or exceed the national target of reducing greenhouse gas emissions by 30 percent below 2005 levels by 2030.

The plan requires adopting a range of measures, including carbon pricing, adapted to the specific circumstances of each province and territory.

The Government of Canada outlined a benchmark for carbon pricing in which the goal is to ensure that carbon pricing applies to a broad set of emission sources throughout Canada with increasing stringency over time to reduce GHG emissions at lowest cost to business and consumers, and to support innovation and clean growth.

The benchmark includes the following elements:

- Timely introduction - All jurisdictions will have carbon pricing by 2018.
- Common scope - Pricing will be based on GHG emissions and applied to a common and broad set of sources to ensure effectiveness and minimize interprovincial competitiveness impacts. At a minimum, carbon pricing should apply to substantively the same sources as British Columbia's carbon tax.
- Two systems - Jurisdictions can implement (i) an explicit price-based system (a carbon tax like British Columbia's or a carbon levy and performance-based emissions system like in Alberta) or (ii) a cap-and-trade system (e.g. Ontario and Quebec).
- Increased stringency - Legislated increases in stringency, based on modelling, to contribute to the national target and provide market certainty.
 - For jurisdictions with an explicit price-based system, the carbon price should start at a minimum of \$10 per tonne in 2018 and rise by \$10 per year to \$50 per tonne in 2022.
 - Provinces with cap-and-trade need (i) a 2030 emissions-reduction target equal to or greater than Canada's 30 percent reduction target and (ii) declining (more stringent) annual caps to at least 2022 that correspond, at a minimum, to the projected emissions reductions resulting from the carbon price that year in price-based systems.
- Revenues remain in the jurisdiction of origin - Each jurisdiction can use carbon pricing revenues according to their needs, including to address impacts on vulnerable populations and sectors and to support climate change and clean growth goals.
- Federal backstop - The federal government will introduce an explicit price-based carbon pricing system that will apply in jurisdictions that do not meet the benchmark. The federal system will be consistent with the principles and will return revenues to the jurisdiction of origin.

- Five-year review - The overall approach will be reviewed by early 2022 to confirm the path forward, including continued increases in stringency. The review will account for progress and for the actions of other countries in response to carbon pricing, as well as recognition of permits or credits imported from other countries.
- Reporting - Jurisdictions should provide regular, transparent, and verifiable reports on the outcomes and impacts of carbon pricing policies.
- Collaboration with territories - The federal government will work with the territories to address their unique circumstances, including high costs of living, challenges with food security, and emerging economies.

In Alberta, this does not significantly alter the Alberta Climate Leadership Plan as a carbon pricing system was already in place. The primary addition is that the price of carbon will rise to \$50 by 2022 which was not the case under the Alberta plan.

Source: Government of Canada (2017)

APPENDIX C: AAMDC SURVEY ON THE ALBERTA CARBON LEVY

In 2016/17, the AAMDC's completed survey on Alberta's carbon levy and the phase-out of coal. The survey received responses from 46 rural municipalities.

With the implementation of the Alberta carbon levy, municipalities anticipated that their gasoline and diesel bills would, on average, increase by 6% or \$45,564. Across all respondents, the total increase would be approximately \$1,831,903. Municipalities also anticipate their natural gas bills to increase, on average, \$14,112 and \$508,054 in total across all respondents.

The total impact on the Alberta carbon levy across all fuel types was reported as approximately \$2.3 million but if extrapolated to all AAMDC members, this could increase to approximately \$3.7 million.

When asked to identify the direct impacts to their municipality as a result of the Alberta carbon levy, the following responses were received.

DIRECT IMPACTS TO MUNICIPALITIES	RESPONSES	PERCENTAGE OF RESPONDENTS
Increases in the property tax mill rates	27	65%
Reduction in services to residents and businesses	17	40%
Reduction in fuel consumption by the municipality	10	23%
More efficient transportation choices	6	14%
Greater adoption of energy efficiency technologies	13	30%
Greater adoption of renewable energy	8	19%
Other	11	26%

When asked to identify the indirect impacts to the residents and businesses within their municipality as a result of the carbon levy, the following responses were received.

INDIRECT IMPACTS TO RESIDENTS AND BUSINESSES	RESPONSES	PERCENTAGE OF RESPONDENTS
Reduced economic development and activity	20	47%
Reduction of employment opportunities or jobs	15	35%
More efficient transportation choices	6	14%
Greater adoption of renewable energy	8	19%
Other	6	9%

Three municipalities responded indicating that they house coal fired power generation facilities (Leduc County, Parkland County and the Special Areas Board). They indicated that the total assessed value of those facilities was \$2.9 billion, which, if coal is phased out, could represent a \$2.8 billion loss in assessment value to the municipality or 10% in Leduc County, 17% in Parkland County, and 6% in the Special Areas Board.

APPENDIX D: AAMDC SURVEY ON WIND POWER IN ALBERTA

In April 2017, the AAMDC distributed a survey to AAMDC members on the topic of utility sized wind energy projects. Thirty-one responses were received though many respondents indicated that they had no experience with wind energy projects.

Ongoing or future projects

Of the thirty-one municipalities that responded.

- Seven have utility sized wind energy projects within their boundaries
- Three indicated that they have wind energy projects approved or under construction
- Six indicated that they have wind energy project proposed within their municipality.
- The MD of Pincher Creek has approximately 14 separate projects of varying sizes have been approved and built, starting in the early 1990s. The current number of turbines installed is 235 which generate 394.85 MW. An additional 6 projects with 172 turbines have been approved but have not yet been installed. This will increase the capacity within the county by 521.90 MW.

Assessment value of wind projects

- Of those that have wind energy projects within their boundaries, they reported the assessed value of these projects to be within \$100 million and \$300 million. Given the small number of projects, calculating averages is not appropriate.
- The MD of Pincher Creek's current assessed value of electrical co-generation is \$429,525,850 (90% of which is wind power). It is 28% of the total assessment in the MD.

Reaction from the public to wind energy development

When asked for the general reaction by the public to proposed wind energy projects, municipalities responded as follows:

Strong Support	0%
Support	7.14%
Neutral	39.29%
Opposed	14.29%
Strongly Opposed	7.14%
Other	32.14