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CLIMATE CHANGE AND
EMISSIONS MANAGEMENT
(CCEMC) CORPORATION

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BACKGROUND ON CCEMC PROJECTS

The following background offers additional details and media contact information for CCEMC projects that help Alberta municipalities adapt to climate change and improve landfill practices to reduce GHG emissions.

Biocovers for Greenhouse Gas Mitigation from Landfills

Tetra Tech, Inc.

Project Value: \$3,490,000

CCEMC Contribution: \$1,745,000

Stage of Development: Demonstration

Project Status: Early Stages

GHG Reductions: GHG emissions reductions are anticipated to occur when the technology is deployed into the marketplace (4000 tonnes by 2020).

Many Alberta municipalities are working toward solutions to address challenges associated with landfills. One solution proposed by Tetra Tech may reduce GHG emissions by taking a new approach to landfill covers. This project will demonstrate the effectiveness of a hybrid of landfill biocover technologies which destroy fugitive methane emissions from landfills. The approach is superior to today's traditional low-permeability cover systems and, to test it out, CCEMC is supporting a full-scale demonstration of the technology in Leduc, Alberta. Instrumentation will help Tetra Tech measure the impact so the results can support the development of a protocol to accurately quantify the performance of the technology.

Media contact:

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Adaptive Waste Digestion and Organic Nutrient Recovery Facility

Desviar Inc.

Project Value: \$3,300,000

CCEMC Contribution: \$1,650,000

Stage of Development: Demonstration

Project Status: Contribution Agreement

GHG Reductions: GHG emissions reductions are anticipated to occur when the technology is deployed into the market (1,100,000 tonnes by 2020).

Desviar Inc. is a fifth-generation organics-receiving and processing facility that converts organic feedstocks into agricultural nutrients. This family-owned operation reclaims trapped nutrients (before they go to a landfill), grows crops and sells the streams of resulting products to their wide network of customers. Located on a piece of land halfway between Okotoks and High River, the plant site was originally homesteaded by the family's grandfather in 1903.

CCEMC funding will help the company build a new organics processing system that generates heat, and uses the methane produced through anaerobic digestion as a supplemental fuel.

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Waste Characterization Study
City of Lethbridge

Project Value: \$124,000
CCEMC Contribution: \$69,000
Stage of Development: R&D
Project Status: Early stages

Methane is one of the most potent greenhouse gasses. It is 25 times more potent at trapping heat in our atmosphere than carbon dioxide. One of the main sources of methane emissions is from decomposing organic waste at landfill sites. Today, Alberta offset protocols for landfill emissions use calculations that are based on studies from outside of the province and they may not be completely accurate. Data from this project will help refine Alberta offset protocols associated with landfill gas. The City of Lethbridge will recover core samples from landfills for testing. Results will verify, and if necessary, correct the models the province uses to measure methane emissions from landfills.

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South Saskatchewan River Basin Adaptation to Climate Variability

Alberta Innovates – Energy and Environment Solutions/WaterSMART Solutions Ltd.

Project Value: \$1.6 million

CCEMC Contribution: \$1.6 million

Project Status: Complete

This initiative aimed to harness the energy and creativity of southern Albertans to explore practical options for adapting the basin's water management to climate variability and change. Water is fundamental to community sustainability and growth, and the way water is managed in the South Saskatchewan River Basin (SSRB) will become even more important in the face of changing weather patterns and climate. The work built on and integrated existing data, capacity and knowledge of water users and decision makers to improve understanding and explore how to manage for the range of potential impacts of climate variability throughout the SSRB's river systems.

Alberta Innovates-Energy and Environment Solutions (AI-EES) joined with th WaterSMART Solutions Ltd. to facilitate an informed and collaborative approach to identifying specific and implementable water resource management adaptation strategies.

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Adapt-action

Miistakis Institute, as part of the Biodiversity Management and Climate Change Adaptation (BMCCA) Project, led by the Alberta Biodiversity Monitoring Institute

Project Value: \$382,000

CCEMC Contribution: \$382,000

Project Status: Complete

[Adapt-action](#) is a new online tool developed by the [Miistakis Institute](#) as part of the [Biodiversity Management and Climate Change Adaptation \(BMCCA\) Project](#), led by the Alberta Biodiversity Monitoring Institute.

It was created for Alberta municipalities to help them identify and understand the potential implications of climate change for their communities and respond proactively. Adapt-action focuses on building climate change resiliency through the use of ecosystem-based adaptation strategies—the protection or restoration of healthy ecosystems that support community well-being. In addition to helping municipalities respond positively to climate change, Adapt-action will help them to capitalize on emerging opportunities.

Adapt-action includes a Strategy Checklist where communities can identify things they are already doing that support climate resiliency, and those strategies that might be incorporated into ongoing planning. Currently, it includes comprehensive information on community implications and resiliency-building strategies for two climate change issues, water scarcity and flooding. These two topics were highlighted as priorities during consultation with municipalities. Future growth of Adapt-action will focus on developing content for additional climate change issues, like wildfire and extreme storms.

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