

Recycle

Less energy is required to manufacture goods from recycled materials than from virgin material

Definition

Recycling refers to diverting products from disposal at the end of their useful lives. This includes sorting, transporting and processing them to produce secondary sources of materials that are subsequently used in the production of new goods.

Composting is considered to be a form of recycling and is defined as is a biological process that breaks down kitchen, lawn, and garden wastes into soil-like material called humus.

Why Recycle?

Municipalities throughout the province have longstanding recycling programs and more recently some have begun composting programs in recognition that up to 52 percent of household waste is organic matter which can be composted.

The benefits to recycling are well researched and documented:

- Producing aluminum from scrap instead of bauxite cuts energy use and air pollution by 95 percent.
- Making paper from discards instead of trees not only saves forests, it reduces the energy used by up to three quarters and requires less than half as much water.
- Recycling newspaper emits less than a third of the greenhouse gas emission emitted by using virgin materials, and recycling cardboard uses half.
- Recycling or composting 14,000 tonnes of waste creates nine jobs and seven jobs respectively, whereas landfilling the waste creates only one job.
- Composting produces a rich soil supplement which improves plant growth.
- Revenue can be generated from selling compost to the community.

However, there are also a great deal of costs associated with running recycling and composting programs including expenditures relating to man-power, facilities, and outreach and promotion. The exact costs depend on the system chosen. For example, do citizens take items to depots or does the municipality provide curb-side pick-up?

Recycled Material Markets and Producer Programs

One of the biggest challenges associated with financing recycling programs is the fluctuations experienced in the market for recycled material. Prices are often well below the rate for cost recovery.

Extended producer responsibility (EPR) and product stewardship (PS) programs are perhaps the most promising solution as they shift the burden of managing products at the end-of-life from municipalities, to the producers and consumers of those products.

The Government of Canada explains, an EPR program specifically identifies end-of-life management as the responsibility of producers (e.g., brand owners, manufacturers or first importers), whereas a “product stewardship” program allocates responsibility to each of the stakeholders involved in the life-cycle of a product (e.g., consumer, provincial and municipal government, industry). (Government of Canada, 2010)

The Canadian Council of Ministers of the Environment (CCME), through the Canada-wide Action Plan for EPR, supports the move towards greater producer responsibility. Under the Action Plan, the first priority is to deal with packaging and the CCME is establishing an industry-government working group to develop a Canada-wide approach to minimize packaging. Click [here](#) for more information.

In the meantime, Alberta has five regulated stewardship programs dealing with used tires, electronics, beverage containers, used oil and paint. Many municipalities provide collection sites and/or organize roundups for these programs. For more details, see information the Alberta Recycling Management Authority, Beverage Container Management Board and the Alberta Used Oil Management Association below.

AUMA is advocating that Alberta's recycling regulation be updated to expand and improve the viability of Alberta's existing product stewardship programs and to enable the development of EPR programs.

Municipal Examples

Municipality	Initiative
Provincial	
Bow Valley Waste Management Commission (BVWaste)	Francis Cooke Landfill The Francis Cooke Landfill site incorporated a number of sustainability elements into their office building. <ul style="list-style-type: none"> • The building and maintenance shop are heated using a biomass boiler that uses recycled wood products as fuel. • Parking and traffic surfaces around the building have been prepared using recycled asphalt from the Francis Cooke resource recovery operations. • Recycled fill material was used in landscaping, such as a topsoil product made at the facility from compost prepared from the Bow Valley's recycled yard and garden material. • All office windows were recovered from a building that was decommissioned at the Calgary airport. • Most of the building's furnishings have been purchased from a used office furniture distributor in Calgary. • The building's interior surfaces have been finished with recycled paint collected through Alberta's used paint recovery program. • During the construction of the building effort was made to recycle materials that otherwise would have been destined for landfill. Materials recovered for recycling are typical of the Francis Cooke

	<p>resource recovery program and included metal, drywall, wood, cardboard and paper.</p> <p>Click here for more information.</p>
<p>City of Airdrie</p>	<p>Garbage Limits As of April 2017, Airdrie residents are allowed one bag of garbage per week. Bag tags for excess garbage bags can be purchased for \$3/tag. A total of four bags can be placed out for collection each week (one bag included in standard fees plus up to three tagged bags). The City's Waste Management Bylaw includes care and compassion provisions for diapers and medical exemptions.</p> <p>Waste Audits Council directed staff to determine levels of contamination by looking for organics and recyclable materials in residential garbage bags over 2017. The results of the waste audits will be presented to Council in 2018.</p> <p>Organics In 2014 Airdrie introduced city-wide curbside organics recycling through a green cart program. The city's website provides tips for residents who are experiencing challenges with the program such as smells from the carts.</p> <p>Click here for more information.</p>
<p>City of Calgary</p>	<p>Blue Cart Recycling The City provides blue cart recycling collection to single family homes in Calgary. Residents simply place their clean recyclables loose in their carts for weekly collection.</p> <p>Green Cart Food and Yard Waste The City is starting weekly Green Cart food and yard waste collection in mid-2017. The collection will be turned into nutrient-rich compost at the City's new indoor composting facility.</p> <p>Multi-family Recycling Requirements Since Feb. 1, 2016, all multi-family buildings in Calgary must have recycling for residents. This includes condos, apartments, townhouses or any building with five or more units.</p> <p>In late 2017, the City will also require multi-family buildings to divert food and yard waste from the garbage for composting or diversion.</p> <p>Waste Diversion for Businesses and Organizations In 2016 City embarked on changes to the way businesses and organizations handle their waste through a series of rate and bylaw amendments that require recycling and diversion of food and yard waste from landfills. Since November 2016, businesses and organizations have been required recycle paper, cardboard and certain other materials.</p>

	<p>Starting November 2017, businesses and organizations will be required to divert food and yard waste materials.</p> <p>Click here for more information.</p>
City of Camrose	<p>Recycling Success</p> <p>The City of Camrose is committed to being a leader in responsible environmental stewardship and encourages all citizens to do their part.</p> <p>As a result of recycling efforts in 2015, the City of Camrose was able to divert over 1.9 million kilograms of materials from the Camrose Regional Sanitary Landfill.</p> <p>Camrose also offers tips for residents on how to reduce waste and guidelines for backyard composting on their website.</p> <p>Click here for more information.</p>
City of Chestermere	<p>Municipal Program Award</p> <p>Chestermere Utilities Inc. (CUI) is responsible for waste collection services for the City of Chestermere. In 2016, the CUI won the Municipal Program Award from the Recycling Council of Alberta (RCA) – Rs of Excellence Awards. The Rs of Excellence Awards have been designed to recognize the special contributions RCA members are making to “promote and facilitate waste reduction, recycling and resource conservation in the Province of Alberta.”</p> <p>The City’s curbside waste collection program has a limit of one clear garbage bag per week in addition to compost and recycling carts. Curbside recycling and composting make it easy for Chestermere residents to reduce the amount of waste entering the landfill.</p> <p>Click here for more information.</p>
City of Edmonton	<p>Recycling Early Adopter</p> <p>Edmonton adopted curbside recycling program in 1988. Today, over 90 percent of Edmontonians voluntarily participate in the City's recycling programs, which include:</p> <ul style="list-style-type: none"> • A Blue Bag program for houses, duplexes and fourplexes • A Blue Bin program for apartments, condos and townhouses • Recycling Depots throughout the city for all residents and small businesses <p>E-waste Recycling</p> <p>The Global Electric and Electronic Processing Inc. facility at the Edmonton Waste Management Center (EWMC) also recycles over 30,000 tonnes of electronic waste materials every year.</p> <p>Composting</p>

	<p>In addition, Since 2000, the Edmonton Composting Facility at EWMC uses the city's organic household waste and biosolids (treated sewage sludge) to create compost. This sustainable process, along with established recycling programs, enables Edmonton to divert over 50 percent of its residential waste from landfill.</p> <p>Click here for more information.</p>
<p>City of Leduc</p>	<p>Curbside Cart Collection & Recycling Program</p> <p>The City is now diverting 52 percent of its residential waste through its curbside collection program.</p> <p>Each residential utility household is given a kitchen container, an organics cart and a waste cart. Under the cart collection program, families continue to put recyclables into a blue bag and simply sort organics.</p> <p>Click here for more information.</p>
<p>City of Lethbridge</p>	<p>Environment Deconstruction</p> <p>City of Lethbridge has adopted deconstruction as a responsible means of building disposal. Deconstruction is the selective dismantlement of building components, specifically for reuse, recycling, and waste management. It differs from demolition where a site is cleared of its building by the fastest way.</p> <p>Between 2009 and 2013 the City diverted 7,178 tonnes of construction and demolition (C&D) (or the equivalent volume of 53 average 2000 square foot houses) from entering local landfills, in turn resulting in only 886 tonnes (or the equivalent volume of only 6.5 houses) being landfilled.</p> <p>Click here for more information.</p>
<p>City of Lloydminster</p>	<p>Increasing Diversion through Organics Collection and Recycling</p> <p>In 2013, the City introduced an enhanced curbside collection program to households, which features waste, organics and blue bag collection. That year, the Lloydminster Sanitary Landfill received a total of 259,439 tonnes of material. Of this amount, only 13 percent (33,220 tonnes) was landfilled. 81 percent of the incoming material was recycled, while 6 percent (liquid and septic waste) was treated.</p> <p>Click here for more information.</p>
<p>City of Red Deer</p>	<p>Cart Pilot Program</p> <p>Certain households in Red Deer have been selected to participate in a pilot program using coloured carts to help sort and manage household refuse. The black cart is dedicated to garbage, blue cart for recycling, and the green cart for organics including yard waste, food scraps, and pet waste.</p> <p>The City of Red Deer's Waste Management Master Plan provides the city the a framework to help homes or businesses reduce the amount of waste</p>

	<p>sent to the landfill through waste reduction and recycling initiatives over the next ten years.</p> <p>Click here for more information.</p>
City of St. Albert	<p>Exceeding Waste Diversion Targets</p> <p>One of the goals of St. Albert's Environmental Master Plan was to reduce solid waste per person per year and the amount of waste sent to landfills; the City met and exceeded their original targets. The current goal is to reduce solid waste generation to 105 kilograms or less per person and to increase the diversion rate to 75 percent by 2020.</p> <p>Much of the credit goes to the introduction of an automated curbside solid waste program in 2011. The City also implemented a number of initiatives and improvements to help reduce waste sent to landfill, for example St. Albert's seasonal waste programs which include Curbside Large Item Pick Up and Curbside Leaf Pick Up.</p> <p>Click here for more information.</p>
Strathcona County	<p>Toxic and Hazardous Materials</p> <p>In early 2016, the Broadview Enviroservice Station opened as a permanent drop-off location for toxic and hazardous materials. In addition, the station has recycle bins, brush and yard waste bunkers, tire recycling, and a reusable clothing donation bin making it a one-stop-eco-friendly-shop.</p> <p>Green Routine</p> <p>For regular household waste, Strathcona County has a waste collection service known as the Green Routine. This service includes curbside pickup of recyclable materials, organics and waste. The Green Routine has the potential to divert up to 89 percent of waste.</p> <p>Click here for more information.</p>
Town of Canmore	<p>Beyond Curbside Recycling</p> <p>The Town passed a new Recycling and Waste Disposal Bylaw in 2016, which bans recyclables from going into garbage containers.</p> <p>Blue recycling bins are located in every neighborhood, beside brown garbage bins. They are set up for three streams of recycling:</p> <ul style="list-style-type: none"> • Mixed paper (all paper and cardboard) • Plastic and metal • Glass <p>The town also has special recycling programs for Christmas trees, leaf and grass waste, scrub and brush, and household hazardous waste.</p> <p>Click here for more information.</p>
Town of Devon	Triple Stream

	<p>Devon’s recycling program consists of three collection streams that assist the community to meet their 65 percent waste diversion goal. Each stream is dealt with differently to keep contamination to a minimum:</p> <ul style="list-style-type: none"> • Waste Carts are for garbage only. If recyclable items are left in a cart, the cart may not be emptied. Waste is limited to what will fit into the cart with the lid closed. • Blue Bags are for dry recyclables only. If garbage or wet items are mixed in with recyclables, the bag may not be picked up. • Green carts are for organic material. It is best to place organics loose in the cart, with the exception of pet waste, which must be bagged. Only see-through 100 percent compostable bags or brown paper compostable bags are permitted in green bins. <p>The Town has developed a complete A-Z list of items to help resident determine how waste should be sorted.</p> <p>Click here for more information.</p>
<p>Town of Olds</p>	<p>Neighbourhood Grass Bins</p> <p>The Town of Olds has large green bins labelled “Grass Clippings” for residential yard waste. Acceptable materials include grass clippings, garden waste, and leaves.</p> <p>Click here for more information.</p>
<p>Town of Stony Plain</p>	<p>Residential Recycling and Compost</p> <p>The Town of Stony Plain collects blue bag recycling and organics year-round, along with its regular residential garbage collection.</p> <p>Additionally, the Rotary Recycling Centre accepts other waste items such as paint and paint products, electronics, dry batteries, lightbulbs and light-tubes.</p> <p>Click here for more information.</p>
<p>Town of Taber</p>	<p>Municipal Solid Waste initiative</p> <p>In May 2016, Taber implemented the Municipal Solid Waste Initiative (MSWI) – a comprehensive three cart system for recycling, organic waste, and residual waste. Implementation of the MSWI has led to only 28.5% of the previous tonnage of residential waste being landfilled.</p> <p>Click here for more information.</p>
<p>Town of Vegreville</p>	<p>Reducing the Town’s Carbon Footprint</p> <p>The Town of Vegreville recognizes the importance of reducing its carbon footprint and encourages its residents to do the same. In a three year period, the Vegreville Materials Recovery Facility (VMRF) shipped the equivalent of 93 tractor trailer loads of recyclable materials to processing facilities. If these tractor trailer loads were lined up, they would stretch for 1.25 km, or 14 football fields.</p>

	<p>Residential Composting Program</p> <p>The Town of Vegreville has found a way to deliver cost-effective, residential composting services to its small community. The Residential Composting Program will extend the life of the town's landfill without a costly commitment to developing and operating a municipal composting facility.</p> <p>The town has contracted with local company Growing Power Hairy Hill to generate electricity, distill ethanol, and produce nitrogen-rich soil from waste. The anaerobic digestion process uses a range of materials, including grain and feedlot waste, to create compost. This compost is used to produce green power that is fed into the provincial grid. Diverting compostable material from the town's landfill will extend the site's life and help reduce odours and organic compounds leaching into the soil.</p> <p>In 2012, the town received a FCM Sustainable Communities Award. Click here to watch a video describing the town's project.</p> <p>Click here for more information.</p>
<p>Village of Beiseker</p>	<p>Recycling Society</p> <p>The Beiseker Recycling Society is a non-profit volunteer organization that offers a recycling service to the residents of Beiseker. For a \$10.00 refundable deposit, residents will receive a blue box to fill with recycling items. A full box is put out on Wednesday mornings and replaced with an empty box. There is a \$4.00 charge per month for the recycling program which will appear on residents' bi-monthly utility bill. Beiseker residents may also deposit recyclables in the green bins located just outside the depot entrance gate at the Public Works yard.</p> <p>Click here for more information.</p>
<p>West Yellowhead Regional Waste Authority (WYRWA)</p>	<p>West Yellowhead Recycles</p> <p>The West Yellowhead Regional Waste Authority (WYRWA) is a regional waste authority covering the municipalities of Yellowhead County and the Towns of Edson, Hinton and Jasper.</p> <p>The WYRWA provides recycling information for the municipalities it serves as well as educational presentations on waste management for all ages. Presentations are based on environmental care and taking care of our world, focusing on how waste management plays a role in that overlying theme.</p> <p>Click here for more information.</p>
<p>YOUR MUNICIPALITY HERE</p>	<p>WE KNOW MANY MUNICIPALITIES HAVE EXCELLENT RECYCLING AND COMPOSTING PROGRAMS THAT COULD SERVE AS A MODEL FOR OTHERS TO FOLLOW. IF YOURS IS ONE OF THEM, SEND THE INFORMATION TO RACHEL DE VOS, rdevos@auma.ca</p>

National	
City of Ottawa	<p>Recycling in Canada’s Capital The City of Ottawa diverts just under 50 percent of garbage from the landfill through their curb-side pick-up program.</p> <p>Ottawa’s blue bin recyclables are sorted and sold to different companies to reuse or to make into new products. Recycling creates jobs in the manufacturing and service sectors and boosts the economy.</p> <p>Green Bin Program Organics recycling is an important part of the City of Ottawa’s long term waste strategy. Diverting residential organic waste away from landfill saves the City millions of dollars by reducing the need for a new landfill site.</p> <p>Roughly 45 percent of Ottawa’s garbage (by weight) is compostable organic material that can be put into the green bin. Just as Ottawa residents separate recyclable materials from their garbage, the Green Bin program makes it easy to separate organics for curb-side pickup.</p> <p>The organic material is brought to an indoor composting facility owned by Orgaworld Canada where it will be turned into compost. The compost is used on farmer’s fields in Eastern Ontario. Orgawold is responsible for the marketing and sale of the finished compost. The City receives 5 percent of the finished compost.</p> <p>Click here for more information.</p>
City of Regina	<p>Waste Plan Regina (WPR) In January 2011, City Council adopted Waste Plan Regina’s (WPR) Enhanced Residential Service Option and set a target to divert 40 percent of residential waste by 2015 and 65 percent by 2020.</p> <p>A WPR update was published in 2015/2016. Key accomplishments from the plan include:</p> <ul style="list-style-type: none"> • Regina’s residential waste diversion rate is currently 20 percent. • Implemented mandatory multi-family recycling effective January 1, 2015; 98 percent of these properties have recycling services. • Initiated a key public education campaign titled “Recycle the Right Stuff” to inform residents of what is and is not accepted in the curbside Blue Cart Recycling Program. • Engaged over 15,000 people through public education and outreach initiatives. • Coordinated Household Hazardous Waste Days, Leaf & Yard Waste Depots, Treecycle, Big Blue Bin Program and landfill diversion for items such as scrap metal, white goods, propane tanks, and batteries.

	<ul style="list-style-type: none"> • Began a long-term study to better understand residential waste and to gather comprehensive data to inform future programming decisions. • Introduced the 240-litre garbage carts for new service and replacements. <p>Click here for more information.</p>
<p>City of St. John's</p>	<p>Curb It Communications Award</p> <p>The City of <i>St. John's Curb It Recycling Program</i> won the 2012 Gold Communication Excellence Award given by the Solid Waste Association of North America (SWANA).</p> <p>The communications plan has helped the recycling program achieve the following successes:</p> <ul style="list-style-type: none"> • A participation rate of more than 70 percent in its first year, surpassing the targeted 40 percent goal. • The program has successfully diverted more than eight million pounds of recyclables from the landfill in its first year. • The low contamination rate (i.e. non-recyclables being incorrectly included with recycling in blue bags) of three percent is well below the industry standard. <p>Composting</p> <p>The City is working towards the launch of a curbside organics (compostable) collection program. When the new Central Compost Facility is up and running, resident will be able to dispose of their organics at the curb.</p> <p>Click here for more information.</p>
<p>City of Richmond</p>	<p>On Track for 80 percent Waste Diversion</p> <p>With the implementation of a full suite of services that make it easier than ever to recycle and reduce garbage, the City of Richmond is on track to achieve its goal for 80 percent waste diversion by 2020. In addition to its residential recycling and garbage collection services, the City has also introduced new programs and requirements that facilitate convenient waste management and encourage responsible recycling.</p> <p>A key initiative in 2016 involved the implementation of the City's new residential Garbage Cart program, which involved a shift to biweekly garbage collection. Under the new program, single-family garbage has been reduced by 17 percent and organics recycling has increased by nearly 16 percent. This program complements the City's recycling programs – the Blue Cart/Blue Box program and the Green Cart program – as well as the drop off services available at the Richmond Recycling Depot and the Large Item Pick Up program. Together, these services make it easy for residents to recycle the majority of their household waste, and their progress is</p>

	<p>evident as Richmond residents with curbside collection are now diverting 78 percent of their waste from the landfill.</p> <p>Click here for more information.</p>
<p>City of Vancouver</p>	<p>Greenest City The introduction of the Greenest City Action Plan set a target to reduce Vancouver’s solid waste going to the landfill or incinerator by 50 percent from 2008 levels.</p> <p>Green Bin Program The City introduces a new Green Bin program to collect and divert compostable food scraps. In 2013 the City switched Green Bin and garbage collection frequencies so that Green Bins are now collected every week and garbage is collected biweekly. In 2014, the City initiated programs to address recovery of food scraps from multi-family buildings and businesses. On January 1, 2015 a Metro Vancouver region-wide ban on the disposal of organic waste with garbage came into effect. The City supported the ban with a by-law requiring all properties in Vancouver to have an organic waste diversion plan, and the disposal ban is enforced at the City’s disposal facilities.</p> <p>Since the start of the Green Bin program the amount of food and yard waste collected annually from single family homes has increased by nearly 75 percent and garbage collected has decreased by 45 percent. Nearly 100 percent of all apartment and condo buildings with City waste collection now have access to the Green Bin program or alternative measures. Seven out of 10 businesses that generate food waste in the city have set up an organics-recycling program.</p> <p>Recycling Recycling is an important part of Vancouver’s zero waste goal. In a partnership with the Keep Vancouver Spectacular program, ElectroRecycle, and Encorp, electronic recycling drop-off events have been set up throughout the year. In 2015, over 11,000 electronics and small appliances were diverted from disposal and recycled through our drop-off events.</p> <p>Click here for more information.</p>
<p>City of Yellowknife</p>	<p>Centralized Composting Program As part of the Centralized Compost Program, the City of Yellowknife is phasing in selected neighbourhoods each year to Curbside Organics Collection. By the end of 2017, this service will be offered to all single family dwellings throughout the city. This Program equips residents with green carts, kitchen catchers and starter kits; everything they need to separate organic waste in accordance with the Yellowknife Centralized Compost Program.</p>

	<p>Collected organic material is taken to the newly constructed compost facility, where it is combined with carbon amendments (like leaf and yard waste, and paper) and placed into long piles called 'windrows.' These windrows take approximately 2 years to decompose into mature and stable compost.</p> <p>More than 400 tonnes of organics have been diverted from the landfill.</p> <p>Click here for more information.</p>
<p>Town of Cape St. George, Newfoundland and Labrador</p>	<p>Small Town Waste Reduction and Recycling</p> <p>The Town of Cape St. George was a co-winner of the Waste Program award from the Federation of Canadian Municipalities (FCM) in 2015.</p> <p>Cape St. George received the award for being a leader among small rural municipalities with the Town's comprehensive curbside recycling program and resourceful approach to reuse and composting. The town aims to reduce the overall waste tonnage shipped to landfill by 40 percent (from 300 to 180 tonnes) and, through the program, has achieved a 25 percent reduction in the first year.</p> <p>Created primarily to minimize waste transportation costs, the program is helping the town adjust to provincial changes that will consolidate many local dumps into two regional landfills fed by a number of transfer stations. Once a week, the town's newly acquired recycling truck picks up garbage, recyclables and kitchen waste in separate bags. Recyclables go to the local recycling centre (built with support from the federal Gas Tax Fund) and are shipped to the regional recycling facility. The town also runs a community composting program.</p> <p>Click here for more information.</p>

Resources

Other Organizations	Resource
Provincial	
<p>Alberta CARE</p>	<p>Coordinated Action for Recycling Enterprises</p> <p>Since 1994 Alberta CARE, formerly Northern CARE, has worked in cooperation with many different government organizations, industries, recycling groups and non-profit societies – all with the intent of increasing the viability of recycling initiatives in Alberta.</p> <p>Alberta CARE, in cooperation with Alberta municipalities and organizations, focuses on:</p> <ul style="list-style-type: none"> • Coordination of regionally-based recycling projects and programs; • Promotion and education of the benefits and importance of recycling;

	<ul style="list-style-type: none"> • Increasing public awareness of recycling opportunities and challenges; • Connecting varied private and public interests in relation to the coordination of recycling initiatives and in some cases, playing a leadership role in same; • Identifying potential economic development opportunities associated with recycling and waste management initiatives. <p>Click here for more information.</p>
<p>Alberta Environment and Parks</p>	<p>Composting at Home Don't have the resources to start a municipal composting program? Why not encourage your citizens to start backyard composting. Alberta Environment has a webpage dedicated to tips on at-home composting options and has even produced guidebooks on Backyard Composting and a Vermicomposting. Alberta Environment encourages municipalities to borrow this information for their websites or information inserts on utility bills.</p> <p>Click here for more information.</p> <p>Standards for Composting Facilities If you are thinking of establishing a municipal composting program make sure to check out the Composting Facilities webpage which provides information on standards that composting facilities must meet.</p> <p>Click here for more information.</p>
<p>Alberta Infrastructure</p>	<p>Waste Diversion and Recycling Wherever possible, Alberta Infrastructure is working to implement recycling programs and to reduce waste. Alberta Infrastructure was one of the first organization's to pilot the City of Edmonton's Blue Bin Recycling Program for Commercial facilities. Here are some of the other initiatives Alberta Infrastructure is currently engaged in:</p> <ul style="list-style-type: none"> ▪ Battery Recycling: Since early 2009, Alberta Infrastructure has managed a battery recycling program for government tenants. Through this program, over 16,000 kg of batteries have been collected and recycled (that's the size of 10 mid-size cars!). ▪ Fluorescent Lamp and Mercury Recycling: The operation of government buildings requires hundreds of thousands of fluorescent light bulbs. Since 2006, Alberta Infrastructure has responsibly disposed of and recycled approximately 350,000 fluorescent light bulbs – amounting to 50,000 kg of glass, 700 kg of metal, 800 kg of phosphor, and over 6 kg of Mercury. Additional items recycled under this program include HID/UV/HPS bulbs, halogen and compact fluorescent bulbs, and thermometers. ▪ Construction Waste: More than 90 percent of demolition rubble from the former post office located at the site of the new Royal Alberta Museum in Edmonton was recycled and re-used during

	<p>construction. Site rubble has been used in road construction projects like the Anthony Henday Ring Road.</p> <p>Click here for more information.</p> <p>Greening Government The Government of Alberta’s Greening Government Strategy is a government-wide policy that commits Ministries to continuously reducing, in concrete and measurable ways, detrimental environmental impacts that result from government operations and procurement practices.</p> <p>Greening Government Highlights:</p> <ul style="list-style-type: none"> ▪ Every year, Alberta Infrastructure formally registers and participates in various national and international environmental awareness campaigns such as Earth Hour, the Commuter Challenge, Waste Reduction Week, and National Sweater Day. ▪ In 2011, the Government of Alberta received an “R’s of Excellence Award for Government Leadership” from the Recycling Council of Alberta for its rollout of the Greening Government Strategy. ▪ In June 2013, Alberta Infrastructure achieved the “most distance traveled by carpool” in the Commuter Challenge ▪ In 2013, Alberta Infrastructure staff were awarded “Green Team of the Year” by the World Wildlife Foundation’s <i>Living Planet @ Work Program</i> for their work in encouraging sustainability in the workplace. <p>Click here for more information.</p>
<p>Alberta Innovates – Energy and Environment Solutions (AI-EES)</p>	<p>Landfill Free Alberta The goal of AI-EES Landfill Free Alberta strategy is 50 percent reduction in organic waste to landfill by 2030.</p> <p>AI-EES worked alongside the City of Edmonton and Enerkem to open the world’s first full-scale waste to fuels facility – the Edmonton Waste Management Center of Excellence – which diverts a large percentage of Edmonton’s waste from its landfill. AI-EES is now collaborating with rural municipalities, such as Parkland County, Spruce Grove and Stony Plain on developing a Waste-to-Value-Added demonstration project. To further accelerate its landfill-free strategy, AI-EES is working with Alberta Municipal Affairs, the Ministry of Environment and Parks, and the University of Alberta.</p> <p>Next steps will include:</p> <ul style="list-style-type: none"> • Identifying the right location and size of regional waste-to-energy facilities • Launching waste-to-value-added projects that would demonstrate and set an example of how municipalities can participate and

	<p>achieve environmental, economic and GHG benefits over the long-term</p> <ul style="list-style-type: none"> • Identifying best available accounting standards for GHG benefits and supporting the offset system in developing the scientific validation for specific waste-to-biofuels application • Developing an international business strategy for assisting other countries in becoming landfill-free. This strategy fits international sustainability requirements <p>Click here for more information.</p>
<p>Alberta's Recycling Hotline</p>	<p>Questions Answered</p> <p>Operated by the Recycling Council of Alberta in partnership with Alberta Environment, this service answers over 700 calls a month on various recycling and waste minimization topics from municipalities, businesses, and the general public. A searchable online database has been created to increase access to information.</p> <p>Click here for more information.</p>
<p>Alberta Recycling Management Authority</p>	<p>Tires, Paint, Electronics, Household Hazardous Waste</p> <p>The Alberta Recycling Management Authority is a not-for-profit association responsible for managing Alberta's tire, electronics and paint recycling programs. Known simply as "Alberta Recycling," the organization reports to the Minister of Environment and is run by a Board of Directors representing many stakeholder groups including the AUMA.</p> <p>Originally established in 1992 to manage the province's tire recycling program, Alberta Recycling has since evolved to include Tire Recycling Alberta, Electronics Recycling Alberta and Paint Recycling Alberta. These programs operate under separate divisions and are funded by environmental fees collected at the time of sale of eligible products such as new passenger car and truck tires, new TVs and computers, or paint.</p> <p>Municipalities are key partners in implementing these programs by providing collection sites. Collection incentives are available for municipalities who register their sites with Alberta Recycling and fulfill all the necessary requirements.</p> <p>Alberta Recycling also administers the Household Hazardous Waste collection program that ensures proper disposal of leftover household products containing potentially hazardous ingredients. The Household Hazardous Waste program is a voluntary program paid for by participating municipalities and the Government of Alberta.</p> <p>Click here for more information.</p>
<p>Alberta Used Oil Management</p>	<p>Used Oil</p> <p>AUOMA is a not-for-profit association of wholesale suppliers of lubricating oil materials with partners and stakeholders. These include all first sellers of</p>

<p>Association (AUOMA)</p>	<p>oil, oil filters and plastic oil containers; collectors and processors of used oil materials; provincial recycling organizations and government.</p> <p>The program is funded by an Environmental Handling Charge (EHC), not a government tax, placed on wholesale suppliers of lubricating oil and filters. In turn, a Return Incentive (RI) is paid to private sector collectors.</p> <p>Click here for more information.</p>
<p>Beverage Container Management Board (BCMB)</p>	<p>Beverage Containers</p> <p>The BCMB is responsible for the collection and recycling of beverage containers throughout Alberta. It operates within policy parameters set out by the Minister of Alberta Environment. The BCMB is an alliance of beverage manufacturers, depot operators, environmental organizations, the public and the Alberta Government, and municipalities as represented by the AUMA.</p> <p>Its website contains detailed information for consumers, beverage retailers and bottle depot owners.</p> <p>Click here for more information.</p>
<p>Edmonton Waste Management Centre of Excellence (EWMCE)</p>	<p>One-Stop Shop for Sustainable Waste Management</p> <p>The EWMCE is a not-for-profit partnership between the City of Edmonton, University of Alberta, Alberta Innovates-Technology Futures, AMEC Earth and Environmental Ltd, Northern Alberta Institute of Technology and EPCOR Water Services Inc.</p> <p>It is one-stop resource for services in sustainable waste management with state-of-the-art research, demonstration, and education facilities supported by the world-class expertise and waste management infrastructure.</p> <p>EWMCE provides</p> <ul style="list-style-type: none"> • Technology Development: pilot and commercial-scale facilities, real-time access to waste streams, and close linkages to expert researchers. • Research: Assistance is available in problem definition, preparation of grant applications, project management, report preparation and other areas, as required • Education and Training: Delivers scientific and applied knowledge for individuals, corporations, associations and institutions. Programs are developed in consultation with clients to meet their specific needs. • Advisory Services: Offers technical advice and project management in all areas of waste management available on a per-diem or fixed-fee basis. <p>Click here for more information.</p>

Recycling Council of Alberta (RCA)	<p>All Things Recycling</p> <p>The RCA is dedicated to support municipal recycling programs through:</p> <ul style="list-style-type: none"> • Facilitating knowledge exchange and networking at its annual conference and other events. • Recognizing excellence in recycling and waste reduction thoughts its awards program • Providing workshops, presentations and reports on recycling including life-cycle analysis of different waste management options. • Meeting face-to-face with municipalities to help work through waste management issues. <p>Click here for more information</p>
National	
Canadian Wood Waste Recycling (CWWR) Business Group	<p>Wood Waste Recycling</p> <p>CWWR is Canada’s leading Wood waste recycling, resource management business group focused on bringing industry “businesses” together on a national basis to develop the Alberta and Canadian Wood waste recycling, Bio economy.</p> <p>The Canadian Wood Waste Recycling, Business Group was formerly established as the Alberta Wood Waste Recycling Association (AWWRA).</p> <p>Click here for more information.</p>
CleanFARMS	<p>Farm Waste Recycling</p> <p>CleanFARMS is a not-for-profit industry stewardship organization committed to environmental responsibility through the proper management of agricultural waste. Their programs help farmers responsibly manage agricultural plastic and other inorganic waste from farms across Canada.</p> <p>CleanFARMS operates a true EPR program in Alberta, collecting certain agricultural plastics (all pesticide and fertilizer containers) from 155 Alberta municipal locations since 1989. All bulk pesticide containers are collected at retail locations, keeping them out of municipal sites. CleanFARMS also collects obsolete pesticides and animal health products from Alberta farms every three years. CleanFARMS has indicated an interest in expanding their current programming to include all agricultural plastics and packaging such as grain bags, silage bags, twine and other materials.</p> <p>Click here for more information.</p>
Compost Council of Canada	<p>Compost Network</p> <p>The council is a national non-profit, member-driven organization with a charter to advocate and advance organics residuals recycling and compost use. It serves as the central resource and network for the compost industry in Canada and, through its members, contributes to the environmental sustainability of the communities in which they operate.</p>

	<p>Click here for more information</p> <p>Quality Assurance The council has established the Compost Quality Alliance (CQA) as a voluntary program utilizing standardized testing methodologies and uniform operating protocols to improve customer confidence in compost selection and utilization.</p> <p>Click here for more information.</p>
<p>Environment Canada</p>	<p>Municipal Solid Waste and the Environment</p> <ul style="list-style-type: none"> • Technical Document on Municipal Solid Waste Organics Processing (2013) – This Environment Canada document provides science-based, objective and user-friendly information on the various aspects of municipal solid waste organic waste management processing. It draws on lessons learned and knowledge of professionals, practitioners and academics in the field of organics management across North America. • Solid Waste Management for Northern and Remote Communities: Planning and Technical Guidance Document – Environment and Climate Change Canada, with input from territorial government representatives, key stakeholders, and subject matter experts, developed a voluntary guidance document on how to manage municipal solid waste (MSW) in Canada’s northern, remote, and small communities. This is a summary of the guidance document which covers both the planning and technical aspects of waste management. <p>Environment Canada also provides additional resources and tools on municipal solid waste management.</p> <p>Click here for more information.</p>
<p>Federation of Canadian Municipalities (FCM)</p>	<p>Green Municipal Fund FCM provides funding for feasibility studies, pilot projects and capital projects related to initiatives that divert waste from municipal landfills and that address specific waste stream challenges.</p> <p>For most municipalities, projects must demonstrate the potential to divert at least 60 percent of municipal solid waste from landfill to be eligible for funding. If your municipality has already achieved a total diversion rate of at least 60 percent, your project must demonstrate the potential to result in an incremental improvement above 60 percent. Institutional and commercial waste may be included if your municipality is responsible for managing this waste.</p> <p>For remote communities, an eligible project must target an incremental diversion rate of 15 percent over the current baseline.</p>

	Click here for more information.
Natural Resources Canada (NRCAN)	<p>Mining Wastes as Resources According to NRCAN, Canada is examining options to reprocess and repurpose mine wastes to reduce environmental impacts and recover valuable byproducts such as critical and strategic metals.</p> <p>Click here for more information.</p>
Saskatchewan Eco Network (SEN)	<p>Reducing Environmental Impacts of Mining SEN recommends using recycled materials instead of mined materials as a way to reduce the environmental impacts of mining.</p> <p>Recycling has a number of advantages. For example, it takes far less energy to recycle discarded materials than to extract, process, and refine metals from ore. It takes 95percent less energy to produce aluminum from recycled materials rather than from bauxite ore. Recycling copper takes seven times less energy than processing ore; recycled steel uses three-and-a-half times less.</p> <p>Click here for more information.</p>
International	
Solid Waste Association of North America (SWANA)	<p>Waste Professionals SWANA provides solid waste professionals with conferences, certification, publications and technical training courses.</p> <p>Click here for more information.</p>