



# City of Richmond

## Report to Committee

**To:** General Purposes Committee **Date:** March 20, 2019  
**From:** Peter Russell, MCIP RPP **File:** 10-6000-00/Vol 01  
 Senior Manager, Sustainability and District Energy  
 Jerry Chong, CPA CA, Director, Finance  
**Re:** **Integrating Circular Economy Criteria into City Procurements**

### Staff Recommendation

1. That the work plan outlined in the staff report titled, "Integrating Circular Economy Criteria into City Procurements", dated March 20, 2019 from the Senior Manager, Sustainability and District Energy, be endorsed.
2. That expenditures in the amount of \$150,000 be approved, with funding from the Carbon Tax provision, and that the 5-Year Financial Plan (2019-2023) be amended accordingly.

Peter Russell, MCIP RPP  
 Senior Manager, Sustainability and District Energy  
 (604-276-4130)

Jerry Chong, CPA CA  
 Director, Finance  
 (604-276-4064)

Att. 3

REPORT CONCURRENCE		
<b>ROUTED TO:</b>	<b>CONCURRENCE</b>	<b>CONCURRENCE OF GENERAL MANAGER</b>
Parks Services	<input checked="" type="checkbox"/>	
Engineering	<input checked="" type="checkbox"/>	
Public Works	<input checked="" type="checkbox"/>	
Facilities	<input checked="" type="checkbox"/>	
<b>REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE</b>	<b>INITIALS:</b> 	<b>APPROVED BY CAO</b> 

## Staff Report

### Origin

This report is in response to a referral from the February 21, 2019 Public Works and Transportation Committee Meeting, which requested:

*That staff review the City's current purchasing practices for ways to support the circular economy.*

### Background

#### Sustainable Procurement at the City

Council originally adopted an Environmental Purchasing Policy and guide to increase the use of environmentally-sound products and services in 2000. In 2015, the City rescinded the Environmental Purchasing Policy by consolidating sustainability related objectives within a revised Purchasing Policy. A Purchasing Guidelines document was issued in November 2015 to provide staff with general guidance on incorporating Policy principles into practice. The current approach to purchasing goods, services and construction services by City staff is directed by the following Council policies and guidelines:

- Bylaw 8215 –Officer and General Manager (2007)
- Policy 3104 - Procurement Policy
- Policy 3709 - Financial Signing Authorities Policy
- City of Richmond - Purchasing Guidelines and Procedures (Nov 2015)
- Policy 2020 - Sustainable Green Fleet Policy (acquisition criteria)
- Policy 2307 - Sustainable “High Performance” Building Policy – City Owned Facilities
- Capital Projects Ranking Criteria Model
- A number of City plans and policies also support circular economy objectives, a summary can be found in Attachment 1.

#### City Achievements

The City has undertaken many sustainable initiatives which have incorporated circular economy consideration, including:

- **Recycling Depot:** The City continues to introduce new services and programs as part of our goal to achieve 80% waste diversion by 2020, such as the most recent expansion of materials accepted at the City's Recycling Depot, which commenced in January, 2019.
- **Organic Waste Processing Service:** Enviro-Smart provides organic recycling services for the City. The City receives back 3,000 kg/year of finished product as defined in the agreement the City holds with the company for using on civic projects and parks.
- **Residential Solid Waste & Recycling Collection:** The City's current solid waste and recycling programs are arguably among those leading the region, with 78% waste diversion achieved for single-family residential waste. The City's contractor uses a mix of propane and diesel which will reduce emissions by up to 45% CO<sub>2</sub>e per litre of mix fuel consumed.

- **Demolition Waste and Recyclable Materials Bylaw No 9516:** This Bylaw outlines the target of 70% waste diversion from landfill to increase reuse and recycling of waste from single-family home demolition. The City also encourages homeowners to post their houses on the City's House Moving and Salvage List prior to applying for a demolition permit.
- **Green Buildings:** The City receives credits for "Recycled Content" and "Regional Materials" in the Leadership in Energy and Environmental Design® (LEED) rating system for new civic buildings per Sustainable "High Performance" Building Policy.
- **District Energy:** The City's Lulu Island Energy Company's Alexandra District Energy Utility uses geo-exchange technology for heating and cooling connected buildings. The Oval District Energy Utility intends to harvest heat from the Gilbert Rd sewer forcemain to heat buildings.
- **Corporate Hazardous Materials Management Program:** The City's Corporate Hazardous Materials Management Program (HMMP) identifies legal requirements that apply to the Hazardous Materials used by the City in its operations, and the best management practices that should be followed to reduce risks associated with hazardous materials.
- **Waste Heat Recovery:** The City currently operates sewer heat recovery equipment at the Gateway Theatre and aims to expand this approach through the Lulu Island Energy Company's Oval Village District Energy Utility. The new Minoru Centre for Active Living recovers heat from the pool facilities for heating community use space within the building.
- **Resource Recovery:** The City worked closely with Metro Vancouver to complete an Integrated Resource Recovery Strategy for the Lulu Island Wastewater Treatment Plant to assess available resources, such as heat and nutrients that can be economically recovered.
- **Concrete and Asphalt Recycling:** The City's annual paving program already includes 10% recycled asphalt products. Richmond is also leading, in partnership with the National Zero Waste Council, a pilot certification program for asphalt and concrete pavement products as a tool to build confidence in product quality and to increase the use of these products.
- **Richmond Sustainable Event Guide and Toolkit:** The City developed a Sustainable 7 Step Quick Guide and Toolkit to benefit events through the planning cycle, as well as reduce the environmental, social and economic impacts of events.
- **National Zero Waste Council pilot – Increase diversion rate of wood from construction, renovation and demolition (CR&D):** Staff are participating in the working group to reduce the disposal of CR&D wood waste at the landfill with a focus on alternatives uses such as energy regeneration, recycling, reuse or reduction.
- **Capital Projects Ranking Criteria:** Staff use the Capital Ranking Criteria Model to assess risk management, social, environmental and economic criteria to support decision making.

#### Circular Economy Definition

The Ellen MacArthur Foundation, an emerging and respected thought leader working to accelerate the transition to a circular economy, defines the circular economy as "an economic and industrial system that is restorative and regenerative by design, and which aims to keep

products, components and materials at their highest utility and value at all time.” Looking beyond the current take-make-waste extractive industrial model, a circular economy aims to redefine growth, focusing on positive society-wide benefits. Underpinned by a transition to renewable energy sources, the circular model builds economic, natural, and social capital. A number of best practice resources are available, a summary can be found in Attachment 2.

Trade Agreements

Trade agreements impact municipal government in British Columbia and commit government entities to a comprehensive set of rules for public procurements that are meant to promote open procurement practices; that include:

- a) the Canadian Free Trade Agreement (CFTA) (2017)
- b) the Canada-European Union Comprehensive Economic Trade Agreement (CETA) (2017).
- c) the New West Partnership Trade Agreement (NWPTA) (2010).

The Canadian Free Trade Agreement lists a number of expressly prohibited practices that conflict with the open procurement obligations. These include specific prohibitions against preference for local goods, services, or suppliers; to scheduling events in tendering process or specifying requirements or delivery schedules that limit participation of suppliers; to providing selective information to suppliers to create an unfair advantage; to using registration or qualification systems that create unnecessary obstacles to participation.

Scale of City Procurement Activities

The Purchasing Department at the City is responsible for facilitating the procurement of an extremely wide range of goods, services and construction-related services. The overall expenditure can be broadly segmented into five general categories (Table 1), where certain categories potentially offer greater opportunities for circularity in their specifications, use and disposal than other categories.

**Table 1 - Overall expenditure segmented into general areas of corporate operations**

	<b>Examples</b>
<b>Construction</b>	Road construction, utility infrastructure works, paving, building renovations, demolition, pools, roofing projects, replacement of mechanical systems, parks projects
<b>Professional services</b>	Engineering design, architectural services, consulting, HR related services, event management services
<b>Fleet</b>	Vehicles, vehicle rentals and heavy equipment
<b>Maintenance, Repairs and Operations (MRO)</b>	General materials for public works and parks, park operations, furniture and office management services, office supplies, janitorial supplies, repair and preventative maintenance services, equipment.
<b>IT</b>	Software licenses and hardware, IT maintenance and support services, IT equipment

## Analysis

There are important considerations for developing circular economy criteria in the City procurement policy considering the information above, summarized as follows:

- The City's current policy is effectively delivering sustainability projects;
- The City's procurement process and policy would benefit from clear guidelines, toolkits and indicators in order to realize circular economy outcomes;
- The City needs to be cognizant of its obligations as they relate to procurements that are detailed within the relevant Trade Treaties,
- Each procurement area of the City has unique issues, costs and opportunities that can enable circularity in the procurement of goods and services;
- Circular economy considerations in procurement policies can accelerate the transition towards more sustainable patterns of consumption and production.

The City's procurements also outlined above are proof that purchases support the City's sustainability goals. The City, however, does not have a common approach in the procurement process for achieving circular economy outcomes, common circular economy elements in the procurement processes could include:

- Supporting economic and ecosystem regeneration
- Sourcing lower impact materials
- Resource efficiency maximization and waste generation reduction (life cycle product or service considerations)
- Reducing GHG emissions, energy use and harmful chemicals
- Designing out waste and pollution

### Recommended approach for integrating circular economy elements in the City policy

Multiple approaches and innovative solutions can enhance circularity in the City procurement policy and practices. Further definition of specific circular economy cost considerations, criteria, guidelines, standards, toolkits and indicators will lead the City to sustainable results. Staff also reviewed best practices of other leading cities (Attachment 3) to inform the approach below. The inclusion of circular economy elements in the City procurement policy for circular economy outcomes requires collaboration and dialogue with all the City departments to build structural capacity to develop a common approach for circular practices in the purchases of goods, services and construction-related services. The recommended work plan below incorporates best processes to identify cost considerations, guidelines, standards, toolkits and indicators:

1. Assess procurement processes in the Construction, Professional Services, Fleet, MRO and IT areas for:
  - a. establishing a well-defined framework that integrates circular economy criteria specific to Richmond activities and procurements;
  - b. developing indicators for measuring results and impacts (e.g. GHG emissions, materials and resources, job training opportunities, product and service lifecycle, etc.).
  - c. assessing cost implications for circular economy considerations.

2. Initiate an interdepartmental engagement program to identify innovative solutions and specifications based on circular economy criteria and anticipated cost considerations.
3. Initiate external stakeholder engagement with vendors and local businesses to:
  - a. inform vendors of the City’s circular economy initiatives and expectations for their participation;
  - b. identify and explore opportunities among stakeholders along the entire supply chain for products, services and solutions that address circular economy criteria;
  - c. promote potential partnerships and work closer with industry that could interact and exchange with staff market knowledge and solutions providers.

After one year, staff will report back with a set of procurement policy enhancements with circular economy criteria supported by costing information, guidelines, toolkits and indicators to implement the policy.

**Financial Impact**

The cost to develop the proposed approach is estimated at \$150,000. This cost includes technical support for assessing the procurement process, undertaking the internal and external engagement processes, assessing financial and cost/benefit impacts as well as a temporary coordination staff member to manage the project. If approved by Council, funding can be provided from the Carbon Tax provision, requiring an amendment to the 5-Year Financial Plan (2019-2023).

**Conclusion**

Without change, the current overdraft approach to the world’s finite natural resource bank will mean a lack of ability to support future population growth in a sustainable manner. Governments and businesses have already started to include circularity requirements in the corporate procurement decisions. Sustainable procurement is about “internalising the externalities” and leading by example. It is about driving behaviour change by the City taking the lead and showing what can be done. The recommended work plan and commitment to return to Council with policy revisions will build a unified approach in all City procurements.



Peter Russell  
Senior Manager, Sustainability and District Energy  
(604-276-4130)



David Aarons  
Manager, Purchasing  
(604-276-4061)

mb:MB

## Attachment 1 – City’s polices, plans and strategies

The City of Richmond is a recognized leader in many sustainability-focused areas ranging from robust waste management programs, to leading district energy initiatives, and greenhouse gas emissions reduction programs designed to achieve carbon neutral operations. Richmond City Council has adopted policies and plans to undertake a number of initiatives which directly align with the circular economy agenda. These policies and plans include:

- **Resilient Economy Strategy:** The Strategy purpose is to retain fundamental sectors of the Richmond economy and grow sectors well suited to Richmond’s infrastructure, workforce and other labour assets. It was developed with an emphasis on actions that can be undertaken by the City; enable a diversified economy while focusing on Richmond’s growth potential industries, and concentrate on implementing a few high priority initiatives.
- **Community Energy and Emissions Plan (CEEP):** It is a strategic plan that furthers Richmond’s efforts to manage energy use and reduce community carbon emissions. It defines the municipality’s role— working in partnership with others—in facilitating energy efficiency in the community, developing local energy sources, and reducing the greenhouse gas (GHG) emissions that form our “carbon footprint.” An energy strategy will assist Richmond in achieving the sustainable community vision defined in its 2041 Official Community Plan (OCP).
- **Ecological Network Management Strategy:** The Ecological Network (EN) is the long-term ecological blueprint for the collaborative management and enhancement of the natural and built environments throughout the city, within neighbourhoods, and across land-uses and development types in order to achieve ecologically connected, livable and healthy places in which residents thrive. In support of that vision, the Ecological Network Management Strategy (the Strategy) outlines detailed actions and initiatives developed under four focus areas: Green Infrastructure and Development, Vegetation, Habitat and Wildlife, Parks and Public Spaces and Stewardship and Collaboration.
- **Green Fleet Action Plan:** The City has been implementing sustainable fleet management initiatives for more than 10 years. Through Richmond’s Green Fleet Action Plan, the City has targeted the fleet to expand on this ongoing shift towards “green” operations, which includes applying strategies to purchase vehicles that have lower emissions and explore options to cut fuel consumption. When Richmond developed the Green Fleet Action Plan as a key opportunity to reduce GHG emissions by making changes to its fleet vehicle program, a few key goals were identified: reduce GHG emission, improve fuel efficiency and reduce fuel cost, and continue to provide enhanced City services and maintain service excellence.
- **Smart Cities:** The City of Richmond has developed a transformative and ground-breaking proposal for the Smart Cities Challenge. It will minimize community impacts from major disasters, while also enhancing our quality of life in day-to-day activities. Working together with other levels of government and the private and academic sectors, the City will integrate their mutual technology and data to protect the island city against the impacts of climate change emergency response, integrate communications and strengthen community resilience.

## Attachment 2 - Organizations addressing Sustainable Procurement with circular economy criteria

Several organizations have acknowledged the critical role of public procurement in achieving smart, sustainable and inclusive growth of the business, community and economy, while significantly reducing negative impacts on the environment. Several examples of new strategies, tools and innovative approaches to public procurement with circular economy criteria are emerging to drive change, and include:

- **The Ellen MacArthur Foundation (EMF)** Circular Economy 100 (CE100) programme and publications. The programme provides toolkits and guidelines for how to include Circular Economy criteria in the public procurement of products and services. Cities governments can set criteria in their procurement tendering processes that challenge the market to develop innovative product solutions - from increasing the durability of a product to ensuring that the materials used are non-harmful, repairable, and reusable.
- **The United Nations Environment Programme (UNEP)** publication in 2018 titled “Building Circularity into our Economies through Sustainable Procurement”. The document is part of UNEP has been created as a contribution to – and in close collaboration with the Platform for Accelerating the Circular Economy (PACE), a project accelerator and convening mechanism dedicated to decoupling resource use from economic growth.
- **The International Council for Local Environmental Initiatives (ICLEI)** program named “the Sustainable procurement programme,” which provides a number of initiatives to assist local governments in introducing sustainable procurement policies and processes.
- **The European Commission** publication in 2018 titled “Public Procurement for a Circular Economy”, 2018, which contains a range of good practice case studies as well as guidance on integrating circular economy principles into public procurements to leverage support for a transition to a circular economy.
- **The Smart Cities Stakeholder Platform** publications since 2013 analyzing models and opportunities for implementing public procurement. The publications provide practical advice for public authorities on how to procure in an “innovation-friendly” way. It will help to achieve the most innovative, energy efficient and cost-effective solutions for needs of lower costs, less CO<sub>2</sub> footprint and improvement of operations and services.

### **Attachment 3 – Examples of best practices in other leading cities**

**City of London**, in line with the City Corporation's core values and in the spirit of the 'four Rs', its Responsible Procurement Strategy aims to ensure every item, service and works project procured leads to reliable outputs and responsible outcomes. It has been made relevant to international, national, regional and organizational policies and regulations, and is radical in terms of the extent of positive change it intends to drive.

Member of the CE100 by EMF, the City of London issued the Responsible Procurement (RP) Strategy 2016 – 2019 which aims to further transform the existing procurement service to a high performing one. The RP Strategy details how City Procurement intends to help the City Corporation strengthen its pursuit of these goals, grouped into three key pillars of Responsible Procurement, with the golden thread of value for money applying throughout:

- *Social Value* – Leveraging service and works contracts to protect and enhance the health and wellbeing of local people and the local environment, providing skills and employment opportunities and promoting the local economy.
- *Environmental Sustainability* – Minimising environmental impacts, promoting animal welfare and improving efficiency throughout the supply chains of all goods, services and works procured by the City Corporation.
- *Ethical Sourcing* – Ensuring that human rights and employment rights are protected throughout the City's supply chains and encouraging responsible business practices.

Working in partnership with businesses, local authorities and social sector organisations, the City Corporation has a commitment to economic and social regeneration in London, with a particular focus on the City and its neighbouring regions. The procurement pillars are broken down into three policy areas, each with a number of specific objectives. Every objective has been expanded upon within the RP Strategy in terms of a brief background to the issue, followed by relevant international, national or corporate regulations and policy, finalized with a concrete commitment as to the actions to be taken to effectively implement the RP Strategy.

**City of Portland** updated in 2018 its Sustainable Procurement Policy that contributes to the City's social responsibility, local economic development goals, and preservation of natural resources. This Policy demands cleaner, greener, fairer, smarter, and safer products and services procurement activities which range from small scale actions such as buying recycled paper or less-toxic cleaning products, to the retrofitting of public buildings to meet high energy-efficiency standards or developing an electric vehicle fleet.

All City employees shall utilize the City's sustainable procurement guiding principles and follow sustainable procurement best practices when:

- planning and designing projects,
- developing project and operations budgets,
- developing asset management plans,
- writing product and service specifications or standards,
- selecting materials,
- making purchasing or supplier decisions, and

- developing and managing City contracts and price agreements as applicable to their roles and responsibilities and/or to a specific project.

The Sustainable Procurement Guiding Principles in its Policy are the following:

- **Everything is connected.** All life depends on healthy natural systems. Humanity depends on vibrant and fair social systems. Our purchasing decisions impact these systems on all levels.
- **Conserve.** Reuse first. Buy only what we need second. Acknowledge real limits of natural resources.
- **Think in 3D.** Consider all 3 dimensions—environmental, social, and economic— when evaluating options. Look for hidden costs to people and planet not included in the price.
- **Take a Life Cycle Perspective.** All purchases have impacts over the life of the product or service. Think about long-term costs to people, planet, and the City.
- **Provide Fair Opportunities.** Ensure suppliers have a full and fair chance to compete. Promote transparency in decision making and actively mitigate bias.
- **Ensure Health and Safety.** Take precautions. Avoid toxins that recirculate in air, water, soils and materials to harm people and animals.
- **Uphold Accountability.** Reinforce responsibility and ethical behaviour throughout our supply chain, upstream and downstream.
- **Support Innovation.** Increase demand and build market capacity for sustainable solutions. Change the status quo for the better.
- **Full Integration.** Utilize 3D thinking in all planning, purchasing, and contract management practices. Respect the interests of all stakeholders.
- **Lead the Way.** Seek continuous improvement and collaborate with other agencies to make a positive difference. Together, many small actions add up to big change.

As a procurement strategy, the City of Portland’s Sustainable Procurement Policy promotes fiscal responsibility and smart risk management. Long-term, sustainable procurement contributes to the City’s social responsibility, local economic development goals, and preservation of natural resources. Sustainable procurement activities at the City of Portland range from small scale actions such as buying recycled paper or less-toxic cleaning products, to the retrofitting of public buildings to meet high energy-efficiency standards or developing an electric vehicle fleet. With such a large market share public buyers can have a big influence in driving the market towards sustainable solutions. The Policy applies to all types of City-funded procurements and to all City divisions and employees.

**In Denmark,** the main actors are the Ministry of Environment and Food (MEF) and the local municipalities. Some years ago MEF took the initiative to promote green procurement, and is now expanding the focus to circular procurement. The ministry has established a Partnership for Public Green Procurement, including twelve municipalities, two regions and a water supply company. They have established common goals for increasing green procurement, and several green procurement examples are available, some of which could also be called circular procurement. The partnership accounts for 17% of all public procurement in Denmark, or DKK 50 billion in total. Besides this, circular procurement is a topic of the Forum on Sustainable Procurement – a national network established by MEF to share knowledge and keep procurers from public and private organisations updated on best practice, methods and tools for green procurement. Under the auspices of the forum there is work going on to develop examples of

criteria for the procurement of circular solutions as well as advice on the procurement process. Best practice cases related to procurement to promote the circular economy are shared through a website, newsletters and events. Furthermore, MEF has developed guidelines and tools for Total Cost of Ownership (TCO) for selected product areas. The tools are available on a website where procurers can find green criteria ready to copy and paste into tender documents for a number of product areas. They do not all explicitly state circular procurement, but several of them include circular economy objectives.

**In Finland**, there is a national focus on public procurement in the fields of clean technology, resource efficiency, circular economy and bioeconomy. The authorities in charge of GPP policies include the Ministry of the Environment, the Ministry of Economic Affairs and Employment and the Ministry of Finance. A government decision in-principle on the promotion of sustainable environmental and energy solutions (clean tech solutions) in public procurement was published on 13 June 2013, which states that in all government procurements, the goal is a comprehensive solution that promotes energy and environmental goals and utilises clean tech solutions in the most economically advantageous way. Although there is no explicit reference to the circular economy in the document, specific attention is paid to sectors such as food and catering, vehicles and transport, construction, energy, services and energy-related products (Finnish Government, 2013). In Finland, cities and municipalities have set their own strategies, in which the circular economy is one pillar. This will increasingly be implemented in their procurement strategies and programmes in the near future. Circular investments and procurement is seen as important in the municipalities' strategies due to the fact that the public sector can, through circular procurement and investments, reach their environmental targets, gain financial benefits, and increase business and employment. The strategies do not, however, always explicitly state circular procurement but rather include circular economy objectives into the broader climate mitigation target. In the strategies, investments in infrastructure and building construction are referred to as a means to increase the reuse and recyclability of materials, and as a reference to the circular economy in the municipality. In addition, many pilot projects that aim at improved circularity of materials and resources have been undertaken in the fields of construction, biogas and catering.

**In Sweden**, the National Agency for Public Procurement is the central agency that is responsible for public procurement, including aspects related to the circular economy, suggesting criteria to be used for sustainable procurement for all relevant goods and services. SKL Kommentus is another important agency working in this field, but which focuses more on offering municipalities and county councils framework agreements, including recommended environmental criteria and follow-up activities. The Swedish Ministry of the Environment is active in the ongoing dialogue on the circular economy on an EU-wide basis. The National Agency for Public Procurement offers a "criteria wizard", which includes almost 900 suggestions for environmental criteria for all types of goods and services relevant for public procurement. These recommendations for procurement criteria make a distinction between three levels of details and ambition: basic level, advanced level and spearhead level. The National Agency for Public Procurement offers a daily helpdesk service, a tool for life cycle costing (LCC), and has established a national network (Think tank) for innovation procurement.