Canadian Manufacturers & Exporters BC

A SMART Green Program for

BC Manufacturers

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1 Introduction

Like all manufacturers across Canada, BC manufacturers have worked hard to reduce emissions. Canada-wide, the sector has reduced CO2 emissions intensity by 30 per cent since 1990. BC has been a national leader because of the introduction of the carbon tax. In a 2015 study the Carbon Tax Centre found that:

> *The 12.9% decrease in British Columbia's per capita emissions in 2008-2013 compared to 2000-2007 was three-and-a-half times as pronounced as the 3.7% per capita decline for the rest of Canada. This suggests that the carbon tax caused emissions in the province to be appreciably less than they would have been, without the carbon tax.*

Tackling emissions however is becoming more challenging. The initial steps encouraged by the carbon tax were relatively easy and new measures will come at an increasing cost. This will significantly impact manufacturing as a trade-exposed industry that must compete worldwide.

As the province undertakes its plan to increase the carbon tax in British Columbia it must examine how this will impact on the competitiveness of the manufacturing industry. To minimize any harm to our economy, it must consider new policies that will assist industry to address these impacts and still meet or exceed the emissions targets.

CME released its landmark study Industrie 2030 in in October of 2017 and it noted:

> *Given the importance of technology adoption for the long-term competitiveness of Canadian manufacturing, for reducing the environmental footprint, and how far Canadian firms in general lag their competitors in this area, it is critical that government and the private sector work together to accelerate the adoption of a range of advanced manufacturing technologies.*

To help achieve this Industrie 2030 has stated that Canadian governments should:

> *Reinvest all federal and provincial carbon-pricing revenues back into offsetting the cost of purchasing new technologies and M&E.*

RECOMMENDATION:

That the BC Provincial Government implement a SMART Green program in British Columbia that provides matching grants to manufacturers to invest in technology and equipment to:

- improve environmental performance,
- mitigate costs associated with carbon reduction and
- improve competitiveness.

2 SMART Green Program Details

2.1 Background

In 2016, CME partnered with the Ontario government to develop a SMART Green Program that provides matching grants to manufacturers to invest in technology and equipment to address environmental issues. There are indications that the province of Alberta will implement a similar program as early as September 2017.

A BC SMART Green Program would build off the Ontario model and be tailored to the specific needs of our BC manufacturing sector.

2.2 Program Objective

A BC SMART Green program would support investments in technology and process improvements by manufacturers which result in greenhouse gas emissions intensity reductions per unit of output, improved energy efficiency and improvements in productivity and competitiveness.

The SMART Green program would be open to all manufacturers in the form of non-repayable grants of 50% of eligible costs up to $500,000. The program would improve the competitiveness of the BC manufacturing supply chain by delivering value to eligible manufacturers. It would also contribute to BC's overall emissions reductions goals.

This program would support investments in technology and process improvements by manufacturers which result in GHG emissions intensity reductions and/or avoidance through upgrades to process/production equipment, deliver energy efficiency, and lead to productivity improvements, which in turn lead to lower GHG emissions on a per-production-unit basis.

2.3 Program Assessment Requirements and Funding Details

Project applications would include a current verification report demonstrating actual baseline GHG measurements. Companies without a current report could apply for SMART Green Assessment funding assistance to work with a Qualified Technical Service Provider (QTSP) who would conduct a verification audit of current GHG emissions and energy usage.

Based on our learnings in Ontario, the CME recommends applicants can receive 50% of eligible costs to a maximum of $25,000 for an assessment and $500,000 for a qualified capital project. These are the thresholds that will align with the Ontario program.

Given that CME already has the structure in place to deliver such programs, it's estimated that program delivery cost would be in the range of five to eight percent.

2.4 Eligible Assessments and Projects

Manufacturers may apply for assessment funding to obtain GHG measurement and verification reports, conduct energy efficiency audits, or identify GHG and/or energy reduction opportunities.

Typical eligible projects could include the following:

- Boiler Right Sizing and Load Management
- Advanced Boiler Controls
- High Efficiency Burners
- Feedwater Economizers
- Boiler Combustion Air Preheat
- Blowdown Heat Recovery
- Automated Blowdown Control
- Condensate Return
- Steam Trap Survey and Repair
- Minimize Deaerator Vent Losses
- Steam System Insulation
- Boiler Tune Up
- Reduced Furnace Openings (Air & Chain Curtains)
- Exhaust Gas Heat Recovery
- Oven/Kiln/Dryer/Furnace Insulation
- Lighting Retrofit
- Advanced Heating and Process Controls
- Optimize Combustion Air Compressor Heat Recovery
- Ventilation Optimization
- Ventilation Heat Recovery
- Automated Temperature Control
- Destratification Fans
- Warehouse Loading Dock Seals
- Minimize Door Openings
- Process Integration and PINCH Analysis
- Energy Management
- Solar Walls
- Reduce Boiler Steam Pressure
- Condensing Boiler
- Radiant Heaters
- Condensing Economizers
- Direct Contact Water Heaters
- Burn Digester Gas in Boilers High-efficiency Ovens & Dryers
- High-efficiency Furnaces
- Regenerative Thermal Oxidizers
- Process Heat Recovery
- Process Improvements (i.e. changing cleaning chemicals, set points, exhaust, moisture control, etc.)
- Steam Leak Repairs
- Improved Building Envelope
- High Efficiency Heating Units
- Gas Turbine Optimization
- Steam Turbine Optimization

3 SMART Green Program Experience

The CME's SMART program began with $25 million dollars allocated in the 2008 Ontario provincial budget. Since that time the program has evolved to include support from federal economic development agencies FedDev Ontario and FedNor.

To date, CME SMART Program, through various configurations, has administered funding to more than 1,400 projects in Ontario and delivered over $75 million in project support. This investment spurred a total investment of $300 million dollars.

3.1 SMART Green – Ontario

The latest program, SMART Green, launched October 31, 2016 to support manufacturers who emit less than 25,000 tonnes of GHGs per year. The program provides funding for assessments to identify what projects could be implemented. Funding was available for these assessments at 50% up to $30,000 and could be funded up to 100% of the costs should an eligible project be approved as a result of the assessment.

Capital project funding was available at 50% to a maximum of $500,000 per facility or up to $1,500,000 (capped) for multiple facilities/companies under one parent company.

Since November 1st (official opening of online applications), 81 applications have been received. Of these 81 applications, 43 applications were for assessments where companies had a consultant complete a walk-through of the facility to identify projects and/or complete a baseline of current emissions and 15 are approved capital projects.

Total value of assessments and projects approved to date: $3.5 million, applicants will invest in capital of over $33 million. This represents a significant ROI.

The program launched with 6-month pilot phase. With feedback received from the manufacturers and government, changes were implemented on July 4, 2017.

Changes include:

- Assessment funding amounts increased to 100% up to $30,000 for assessments.
- 50% up to $500,000 for capital projects – multi facility under one parent can have five facilities apply and $1,500,000 in funding
- Electricity projects will be considered
- CME estimates the revised program parameters will support up to 60 projects.