

Supplementary Note to the Submission for the Consultation on the Legislative Proposals to the Income Tax Act – Clean Technology Manufacturing Investment Tax Credit

By: Mark A. Scholz, President & CEO
Canadian Association of Energy Contractors



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This note supplements the submission made by the Canadian Association of Energy Contractors to the Department of Finance on January 25, 2024.

Summary of Note

As outlined in our initial submission on the proposed Investment Tax Credits, the Canadian Association of Energy Contractors (CAOEC) believes we can help the Government of Canada achieve three key policy goals:

- (a) further Indigenous economic reconciliation;
- (b) accelerate a domestic critical mineral industry; and
- (c) reduce carbon emissions on our path to net zero.

The government can achieve this by expanding the criteria for 'Property and Uses' within the "Legislative Proposals to the Income Tax Act – Clean Technology Manufacturing Investment Tax Credit," ensuring drilling rig and service rig companies can fully utilize the tax credit to invest in the carbon abatement technologies needed for the extraction of critical minerals and diverse resource streams across Canada's energy landscape.

As a follow-up, we recently met with the Prime Minister's Office, the Ministries of Labour, Energy and Natural Resources, Environment Canada and Climate Change to discuss the Association's original written submission on the Legislative Proposals to the Income Tax Act – Clean Technology Manufacturing Investment Tax Credit (CTMI).

At these meetings, we were asked to provide the following supplementary information to the Department of Finance as part of the budget consultation process. We are encouraged to see the interest in the Canadian energy services sector from officials in multiple departments and would be pleased to answer any questions.

If the following strategic amendments are made to the current CTMI, it would see an estimated investment of \$532MM in new carbon abatement technology over the next seven years for a cost to the government of \$160MM, resulting in a commutative emissions reduction of almost 1MT.

This supplementary note addresses the following key questions raised through meetings with officials:

1. What proven technologies are the most critical to the drilling and service rig industry's decarbonization plans?
2. Can you explain how including drilling and service rigs in the Regulations would not be considered a fossil fuel subsidy?
3. What would the estimated GHG reductions be if these technologies were deployed? If the drilling rig and service rig industry were included in the CTMI, how much would it invest, and what is its estimated exposure to the federal treasury?
4. Can you provide suggested language to the Department of Finance that would include the priority technologies?

1. Priority Technologies:

High-Line Power (Fully Electric Rig)

Connecting the drilling rig to grid power reduces GHGs, noise, and truck traffic because diesel generators are not required.

Assumptions: Electrical grid intensity varies across Canada, with British Columbia, Alberta, and Saskatchewan having grid intensities of 18.6, 620, and 660 g-CO₂eq/kWh, respectively.

Results: 98%, 21%, and 16% GHG reduction for British Columbia, Alberta, and Saskatchewan, respectively

Battery Energy Storage System (BESS)

When coupled with on-site generators, BESS will reduce the number of generators online (two instead of three, for example). In addition, charging the batteries increases the load on the engine, allowing it to run more efficiently.

Assumptions: BESS reduces diesel consumption for diesel generators from 5,632 L/day to 4,844 L/day.

Results: 14 – 20% GHG reduction

Hydrogen Blending

Hydrogen does not emit CO₂ when combusted. A 20% H₂ blend with natural gas is possible without modification to the natural gas engine.

Results: 38% GHG reduction

Bi-Fuel (Natural Gas + Diesel) Generator

The equipment allows a diesel engine to burn diesel, natural gas, or a combination of the two. Dynamic gas blending (DGB) allows the engine to maximize the amount of natural gas used automatically. With DGB, up to 70% of the diesel can be replaced with natural gas.

Assumptions: A conservative 55% replacement of diesel reduces engine emissions by 1.89 tonnes CO₂eq/day.

Results: 12 – 15% GHG reduction

100% Natural Gas Generator

Replacing a diesel generator with a natural gas generator reduces GHG emissions, maintenance, and truck traffic.

Assumptions: Natural gas generators emit 12.25 tonnes CO₂eq/day, reducing engine emissions by 3.44 tonnes CO₂eq/day.

Results: 22 – 25% GHG reduction

2. Not a Fossil Fuel Subsidy:

The listed clean drilling rig and service rig technologies are all either net-zero sufficient or utilize limited fossil fuel, thus labelling it as “fossil fuel efficient” as defined by the parameters set out in the *Inefficient Fossil Fuel Subsidies Government of Canada Guidelines* since it:

1. supports clean energy and renewable energy;
2. helps provide essential energy services to remote communities; or
3. supports Indigenous participation in energy activities.

3. GHG Reduction and Investment Estimates:

Clean Technology	Per Unit Cost	Per Unit GHG Reduction*	% of Rig Fleet with Units	2030 % Target	Cumulative GHG Reduction to 2030**	Industry Investment	CTMI (30%)
1. Hi-line Power (Fully Electric Rig)	\$ 1,000,000	2,000	10%	15%	150,000	\$ 15,000,000	\$ 4,500,000
2. Battery Energy Storage System (BESS)	\$ 1,400,000	549	3%	20%	137,250	\$ 70,000,000	\$ 21,000,000
3. Hydrogen Blending	\$ 250,000	1,471	1%	10%	198,585	\$ 6,750,000	\$ 2,025,000
4. Bi-fuel (Natural Gas + Diesel) Generator	\$ 2,100,000	472	27%	70%	306,800	\$ 273,000,000	\$ 81,900,000
5. 100% Natural Gas Generator	\$ 4,000,000	858	1%	15%	180,180	\$ 168,000,000	\$ 50,400,000
					972,815	\$ 532,750,000	\$ 159,825,000

*Tonnes CO2eq/year

**Tones CO2eq

4. Proposed Legislative Language:

The Association recommends adding the following to section 127.49 of the proposed Legislative Proposals Regulations to the Income Tax Act, Clean Technology Manufacturing Investment Tax Credit.

Amendment #1:

CTM property includes;

- (A) paragraph (b)(i) of Class 41 in Schedule II to the Regulations;
- (B) paragraph (a) of Class 10 in Schedule II to the Regulations;
- (C) paragraph (i) of Class 8 in Schedule II to the Regulations;
- (D) paragraph (a) of Class 43, Class 29, or Class 53 in Schedule II to the Regulations;
- (E) qualified expenditure; or
- (F) property/costs ancillary to a property described in (A) to (E).

qualified expenditure is an expense incurred by the taxpayer for the purpose of retrofitting equipment, switching fuel sources of an engine (fuel switching), changing the power source of an engine, or similar type projects that reduce the greenhouse gas emissions of a property described in (A) to (F) which may include:

- (A) the conversion of or replacement of an internal combustion engine (“ICE”) to run on:
 - i. electric fuel cell technologies; or
 - ii. natural gas; or
 - iii. a combination of ICE and an alternative source as described in i) to ii);
- (B) replacement of or retrofit of generators and other ancillary equipment with equipment that runs on electricity, hydrogen, natural gas, or a combination of thereof.

Amendment #2:

qualifying material means:

- (a) lithium;
- (b) cobalt;
- (c) nickel;
- (d) copper;
- (e) rare earth elements;
- (f) graphite;
- (g) helium; and
- (h) petroleum

Amendment #3:

qualifying mineral activity means:

- (b) a mineral process activity, including drilling and well servicing

Amendment #4:

The Association recommends exempting drilling and service rig technologies from the “substantially all” requirements to ensure critical mineral and geothermal resource extraction is not negatively impacted.