

# Making the case to use garbage to produce renewable fuel, ESG investors look to Cielo to lead the way

“Just because people throw it out and don’t have any use for it, doesn’t mean it’s garbage.” – Andy Warhol

Waste to fuel is one of the hottest sectors right now as the world moves towards greener solutions for both waste and energy. The global waste to fuel energy industry is forecast to grow from US\$35.1 billion in 2019 to US\$50.1 billion by 2027. One company is leading the way with their game changing proprietary technology (license) that turns municipal garbage and other waste into renewable fuels.

The Company is Cielo Waste Solutions Corp. (TSXV: CMC | OTCQB: CWSFF | FSE: C36) (“Cielo”).

Cielo manufactures high-grade renewable diesel, kerosene (aviation jet and marine fuel) and naphtha from all types of garbage waste. Cielo has an exclusive global license from a related party to a technology that can convert multiple different waste streams into renewable diesel at a considerably lower cost than other biofuel companies, all with no harmful emissions.

Cielo’s process is referred to as Thermal Catalytic Depolymerization (TCD). Waste materials are liquified in the reactor with green power and blended with Cielo’s proprietary catalyst. The catalyst causes an instant reaction and forms a distillate which is then distilled further into renewable transportation diesel, kerosene (jet/marine fuel) and naphtha. The process utilizes atmospheric pressure and low heat, thereby resulting in no harmful emissions.

Almost every developed country in the world has a mandate to blend renewable fuels, and Cielo will be selling into this growing market.

## Global waste is growing, as is the demand for 'renewable' diesel fuel

### Global Waste Generated/Year



**2.01**  
Billion Tons  
in 2018



**3.4**  
Billion Tons  
by 2050



**≈ 37%**  
Of Global waste is disposed  
of in landfills

### Demand for Diesel in Canada



**17.4** Billion liters  
of highway diesel  
produced in 2015

**872** Million liters  
of renewable diesel required to meet  
yearly mandate by Canadian Government

**98%**  
of mandated renewable diesel is  
currently imported from overseas  
by ships burning bunker fuel, and  
produced from food crops as feed stock.

### Global Renewable Diesel Production



**4X**  
by 2030

**4.8** Billion liters  
per year in 2019

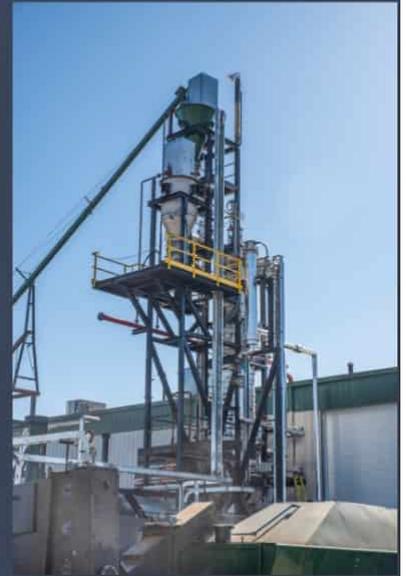
**19.7** Billion liters  
per year by 2023

Source: Cielo investor presentation

Cielo already has their 100% owned first facility operating in Aldersyde Canada and has a second 100% owned facility in the early stages. Announced on August 24, Cielo has now finalized the purchase of the Fort Saskatchewan (Edmonton, Alberta) industrial site/building and the C\$12 million loan (at a 6%pa rate to fund its purchase) for their second facility. You can read an update on Aldersyde and Fort Saskatchewan/Edmonton [here](#).

**Cielo's first waste to fuel facility at Aldersyde is currently in production**

## Aldersyde Facility



TSXV: CMC  
OTCQB: CWSFF  
WKN: C36

Window to a "Greener" World 10

Source: Cielo investor presentation

### **Cielo has more planned waste to energy facilities on the way**

In total Cielo has plans to rapidly grow to have a total of 11 facilities in the next few years. Two will be Cielo 100% owned projects and 9 will be JV funded projects. The two 100% owned ones I have already discussed above (Aldersyde & Fort Saskatchewan/Edmonton).

The 9 JV facilities (MOU JV with Renewable U Medicine Hat Inc.) are planned for locations in Canada and the U.S., all to be funded by the JV partner. The nine facilities to be built are planned as Grande Prairie, Calgary, Medicine Hat (Dunmore), Lethbridge, Kamloops, Winnipeg, Toronto, Halifax and a location in the USA (to be determined).

After this Cielo plans to grow to 40 locations in the next 5–7 years. This would act to divert annually approximately 3.9 million tonnes of waste, creating approximately 1.3 billion liters of renewable fuel, making Cielo one of the fastest growing ESG companies in the world.

### **Cielo's business model including details for Joint Ventures**

## (JVs)

Cielo has developed a simple modular plant/facility manufacturing system. Each plant can produce 4,000 liters per hour or 32 million liters pa. This format allows for multiple plants to be built based on feedstock supply at each facility site. This also allows Cielo to build in more remote locations and eliminate many transportation issues and/or costs. Each plant costs approximately \$50 million to build. Payback on the capital investment is approximately \$28 million annually based on EBITDA.

When there is a JV, the JV partner is responsible for 100% of the financing of each project. Cielo, as contractor, will execute the planning, construction, commissioning and operation of the JV facilities, and overall manage the joint ventures and receive a 7% fee.

## **Details of the JV model (MOU with Renewable U Medicine Hat Inc. for 9 facilities) and revenues that potentially go to Cielo**

### **Highlights of the proposed terms of the joint venture agreements include:**

**The JV partners** are responsible for **100% of the financing** of each project.

**CIELO, as Contractor**, will execute the planning, construction, commissioning and operation of the JV Facilities, and overall manage the joint ventures and receive a **7% fee**. **9 JV facilities = \$31.5M**

Until the JV Partners recover an amount equal to 100% of the cost of the Projects, the JV Partners will receive 70% of the profits from the first JV Facility in each territory while **Cielo enjoys 30%**. **9 JV's = \$75.6M**

**Upon project cost recovery for each JV Facility**, CIELO will be entitled to receive 50.1% of the profits, and the JV Partners will be entitled to receive 49.9% from the JV Facilities per plant. *This estimate is with only one plant per facility.* **9 JV facilities = \$126M/year**

Source: Cielo investor presentation

Analysts forecast Cielo's revenue to grow rapidly from roughly zero in 2020 to C\$26 million in 2023. After 2023 Cielo forecasts C\$125 million in revenue once three facilities are fully operational. Once at 5-7 facilities running at full

capacity Cielo expects to realize in excess of C\$350 million pa in revenue and almost C\$200 million pa in profits.

### **Closing remarks**

Given that the world produces over 3.5 million tons of garbage a day (over 2 billion tons a year) there is a compelling case to make use of this garbage to produce renewable fuels. The best thing about Cielo is that they do all this with no harmful emissions and at a lower cost than other biofuel companies.

The other best thing is they have a very sound business plan where JV partners pay for the initial refinery capital expenditure thereby minimizing dilution for Cielo stock investors. Also, the Board and Management are highly experienced.

Cielo Waste Solutions trades on a market cap of C\$652 million. Definitely, one to watch the next few years as they look to be moving rapidly with their rollout.

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**'Superstar Stock' Cielo Waste Solutions takes free garbage and turns it into valuable diesel fuel**

*Cielo Waste Solutions' 'waste to fuel'*

## ***refineries will help reduce landfill garbage methane and CO2 emissions***

The global waste to fuel energy industry is just taking off now and is forecast to grow from US\$35.1 billion in 2019 to US\$50.1 billion by 2027, at a CAGR of 4.6% from 2020 to 2027. It is highly likely the growth rates will end up much higher than this forecast given the world produces over 3.5 million tons of garbage a day (over 2 billion tons a year), with the vast majority ending up in landfill dumps.

Cielo Waste Solutions Corp. (TSXV: CMC | OTCQB: CWSFF | FSE: C36) ("Cielo") is in the business of turning our waste into fuel, at a lower cost than typical biofuel companies. Cielo has an exclusive global license from a related party to a technology for refining household, commercial (includes municipal waste) and construction/demolition waste into high-grade renewable fuels/diesel. The technology is also effective on wet organics (compost), all plastics, paper, tires, cardboard, sawdust and wood. Cielo plans to construct renewable diesel refineries globally using alternate waste feedstocks.

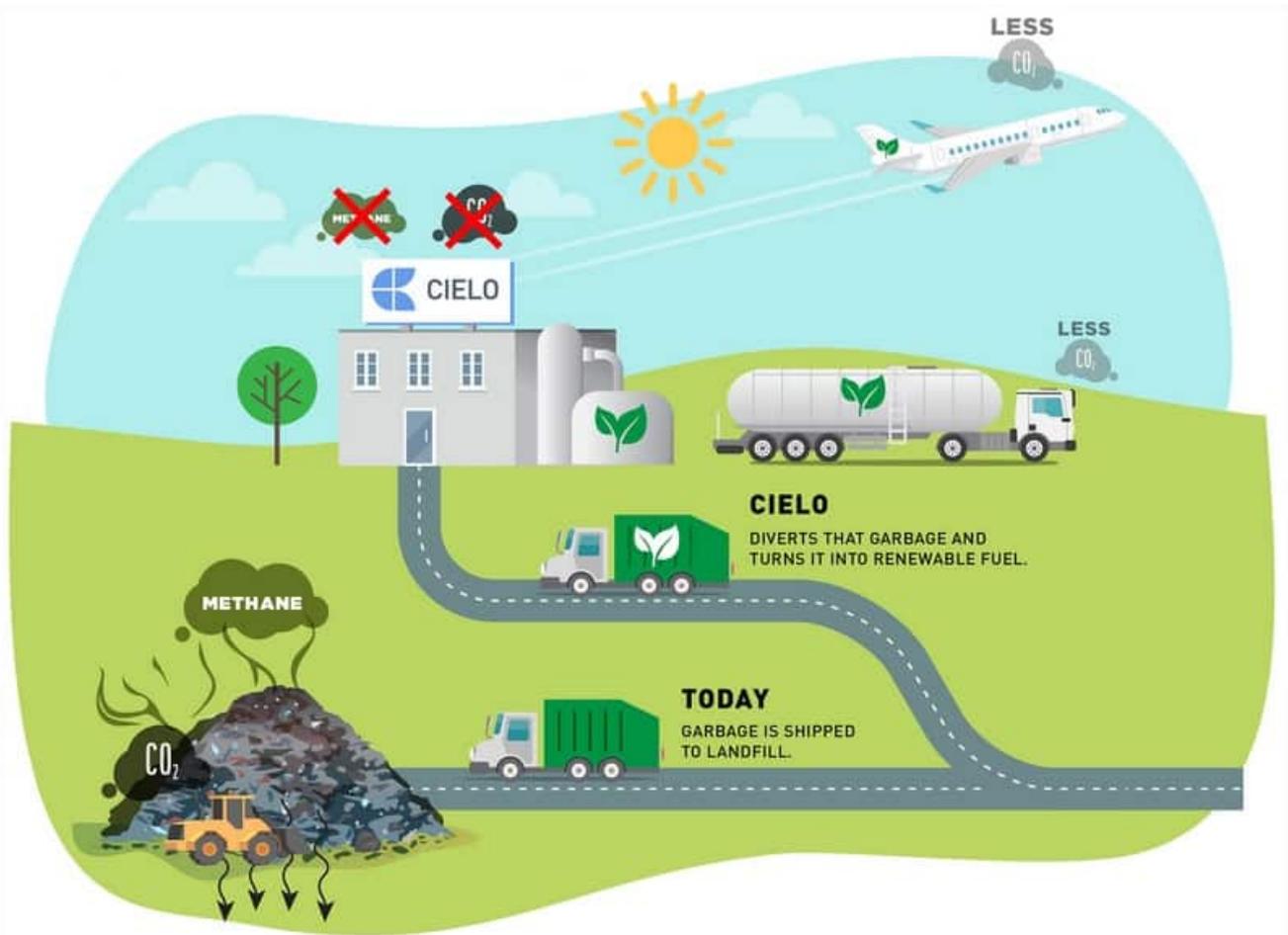


Source: TD Waterhouse stock graph from 7-12-2021

Cielo summarizes well on their website by stating:

“Cielo has an exclusive global license from a related party for a game-changing refining process (“the technology”) that can convert multiple different waste streams into renewable diesel at a considerably lower cost than biodiesel companies. Almost every developed country in the world has a mandate to blend renewable fuels, and Cielo will be selling into this growing market. The global applications of Cielo’s technology are enormous.”

**Today’s waste goes to landfill and produces methane gas and CO<sub>2</sub>, whereas Cielo takes that waste and turns it into renewable fuel**



Source: Cielo

**Cielo's waste to fuel refinery roll out plan progressing well (Cielo projects (2) and JV funded projects (9))**

The Cielo business model is a dual strategy, 100% owned refineries and joint venture (JV) refineries. The JV refineries are designed to reduce upfront CapEx for Cielo by joint venturing with partners who pay to build the waste to renewable fuels facilities.

Cielo already has their 100% owned first refinery operating in Aldersyde Canada. As of July 2021, the Aldersyde plant is currently running at ~5,000 liters per day, on process to ramp up to the designed capacity to produce 24,000 liters per day of diesel fuel. A very nice business given that regular diesel prices globally are averaging about C\$1.73/liter, boosted by the recent oil price surge.

Cielo announced in May 2021, that Cielo has entered into an agreement to purchase land and a 31,750 sq ft building for C\$13 million, on approximately 60 acres in Fort Saskatchewan (Edmonton, Canada), for the purpose of building a second 100% owned refinery facility.

Cielo also has signed an MOU JV with Renewable U Medicine Hat Inc. to expand further in Canada and into the U.S., with a further up to 9 facilities (refineries), all funded by the JV partner. The nine facilities to be built are planned as Grande Prairie, Calgary, Medicine Hat (Dunmore), Lethbridge, Kamloops, Winnipeg, Toronto, Halifax and a location in the USA (to be determined). Highlights of the proposed terms of the joint venture agreements include: The JV partners are responsible for 100% of the financing of each project. Cielo, as contractor, will execute the planning, construction, commissioning and operation of the JV facilities, and overall manage the joint ventures and receive a 7% fee.

Cielo CEO, Don Allan, recently stated:

“With completion of these milestones, Cielo will be in a position to begin to see revenue at our Aldersyde facility as the company begins ongoing production and subsequently see consistent revenue growth from the Edmonton (Ft. Saskatchewan) facility once completed. The completion of these two corporate facilities lays the foundation to build out multiple facilities under the same modular model and as such potentially see exuberant growth over the next 12 to 36 months. We are also very excited to be participating in the sod turning ceremony of the Dunmore facility on Thursday, July 8<sup>th</sup>.”

Analysts forecast Cielo’s revenue to grow rapidly to C\$10 million in 2021, and then double in 2022 to C\$20 million. After 2023, assuming all three facilities operating at full capacity Cielo forecasts C\$125 million in revenue. Once at 5-7 facilities running at full capacity Cielo expects to realize

in excess of C\$350 million pa in revenue and almost C\$200 million pa in profits.

**Cielo expects revenues to rise rapidly as they scale up their own (corporate) refineries and their JV refineries**

**Facility Buildout.** In addition to the pilot/test facility in Aldersyde, Cielo also plans to complete one corporate facility and one JV facility by end of year 2023. With all three plants operating at full capacity Cielo expects to see annual revenues of approx. \$125 million with expected annual EBIDTA of approximately \$56 million.

**Additional Facility Builds.** Cielo expects to build at least 1-2 corporate facilities over the next 24 months in addition to another 1-2 JV facilities. With 5-7 facilities in operation Cielo expects to realize in excess of \$350M in revenue and almost \$200 million in profits.

Source: Cielo company presentation

### **Closing remarks**

Cielo has a great business model that takes free garbage and turns it into valuable diesel fuel. Furthermore, they plan, where possible, to partner with companies that will fund the refinery in return for a share of the profits, thereby reducing CapEx expense to Cielo. It also means Cielo shareholders can see less dilution of their shareholdings, while the business can rapidly scale globally. I would think shareholders would be very happy so far after the Company's past year return of 2,811%.

Cielo Waste Solutions was recently upgraded to the TSXV and is still trading on the same ticker "CMC". Bloomberg lists their current market cap at C\$730 million which is still rather small considering the enormous garbage to energy market revenues of over US\$35 billion pa growing each year. Cielo is a superstar stock after a 29x gain the past year and potentially more to come if they succeed in their expansion plans.