

**Board of Directors Meeting Highlights  
Held on June 18, 2020 at 8:30 AM  
as a Virtual Meeting**



### **Serviced Municipalities with less than 5,000 Population, Public Spaces, and Schools at Risk**

We heard a lot of concern around the current Ministry proposal: that after transition producers are not required to service municipalities with less than 5,000 population, public spaces, and schools.

For members that have not yet passed a Council resolution, we have updated the resolution. It now references one additional “whereas” clause:

WHEREAS the Municipality of X is concerned about a recent proposal by the Ministry of Environment, Conservation and Parks that could jeopardize over 135 small rural, remote, and Northern community Blue Box programs across the Province as well as servicing to schools and public spaces;

And one additional “therefore be it resolved” clause:

THAT the Municipality of X strongly advocates for language to be included in the regulation that ensures municipalities under 5,000 continue to receive Blue Box servicing as was agreed as part of the Provincial government’s Blue Box mediation as well as schools and public spaces.

For those who have already passed a resolution, thank you! For those who are looking to pass a separation resolution to flag concerns to the Province about this latest proposal, feel free to use/amend the above language as you see fit.

### **Looking for an Expanded Polystyrene Recycling Option?**

Second Wind Recycling, launched last year out of St. Thomas, seeks to serve sustainability minded Municipalities in South-Western Ontario with affordable recycling of scrap EPS packaging (Styrofoam).

Partnered with the Continuous Improvement Fund in modelling an innovative mobile-densification approach, Second Wind Recycling is offering a preferred rate of service to Municipalities within the service territory, which the Bluewater Recycling Association falls within.

Below is a link to an article done with the CIF that illustrates the service in action:

<https://thecif.ca/cifs-mobile-eps-densification-collection-pilot-has-officially-launched/>

The program is currently operating in five local municipalities with public drop offs at depots and landfills. Participation and diversion have both been strong from the onset. Municipalities interested in greatly improving their sustainability for a small investment can contact Second Wind Recycling for a free assessment and quote while route capacity remains available.

[www.secondwindrecycling.com](http://www.secondwindrecycling.com)      [info@secondwindrecycling.com](mailto:info@secondwindrecycling.com) Dane Rice, 519-494-4984

## Recycling Operations During COVID-19

The arrival of the novel coronavirus, COVID-19, caused many business sectors to act quickly—implementing new safety measures, making changes to operations and securing access to personal protective equipment (PPE). For the waste and recycling industry, which has been dubbed an essential service by the government, the pandemic brought a vast variety of new challenges, especially as waste industry employees continued to work on the frontlines to protect human health and the environment.

The Association has undergone a number of changes over the past few months, some of which will be temporary, and some of which will be permanent. From implementing more work from home options, to following social distancing measures, to ramping up cleaning efforts and access to PPE, to investing in advanced technologies and physical barriers, the Association continues to put into place best practices to keep both its employees and customers safe.

The shutdown took place across the Province—essentially occurring within a two-week period. This naturally resulted in significant confusion about numerous things including whether recycling was even considered essential. There was a lot of conflicting guidance early on relative to gloves, masks, how long the virus can last on surfaces, how the virus actually spreads, what was essential and what wasn't, what was being enforced ... and when you consider what our industry had to do in a very short period of time, we're proud of what we were able to accomplish.

We decided early on that we needed to manage risk, and we started with our people. We employed measures inside our physical assets to provide services within our communities, all while making sure we got materials picked up in a manner that wouldn't cause additional problems.

One of the biggest challenges of working during the pandemic is that the industry is very labour intensive, with employees often working in close proximity to each other. In an effort to maintain social distancing, the Association, staggered start times and breaks for workers, provided employees with additional PPE and more.

As the Province starts to reopen, The Association continues to follow these best practices in an effort to maintain safe working environments.

For the past few months, non-essential businesses have remained temporarily shuttered, and many shelter-in-place orders have been extended. These factors, along with others, have led to an uptick in residential waste and recycling volume, and a decrease in most commercial volume, in particular hospitality and office buildings. However, some commercial facilities experienced increased volumes including grocery stores and, as can be expected, multifamily homes.

Of this volume, the majority of materials are small cardboard from online purchases as well as aluminum, glass and polyethylene terephthalate due to some deposit systems being temporarily paused.

This increase in volume, however, has not been the easiest to manage, as 146 recycling programs were suspended due to COVID-19 concerns, worker safety, workforce limitations, hauler and facility decisions and prioritization of services. These suspensions impacted 3 million households, and approximately 6 percent of recycling tonnes.

As COVID-19 spread quickly during the start of 2020, consumers raced to stock up on disposable paper items like toilet paper, tissues, paper towels and wipes, even though the coronavirus isn't known to cause digestive issues. This "paper panic" has since slowed, as the number of confirmed COVID-19 cases continues to decrease in many areas.

Other commodities the industry has kept its eye on are aluminum, plastics, old corrugated cardboard, residential papers and news and mixed paper, all of which have experienced changes due to the impact of COVID-19.

While all commodities fluctuate with the economy, single stream is one of the most volatile, previously registering at a 50 percent annual volatility. In comparison, other commodities such as gold registered at only 14 percent volatility, increasing with coking coal, platinum, aluminum, thermal coal, copper and iron ore until reaching the second highest volatile commodity, oil, at 43 percent. This is not new with the pandemic; however, COVID-19 drove volatility further.

### Working Through An Unexpected Surge

The pulp-and-paper industry has experienced an unforeseen surge in demand this spring. In late April, the American Forest & Paper Association (AF&PA), Washington, reported that U.S. tissue mills set record-high levels of tissue production this spring. U.S. tissue mills manufactured about 700,000 tons of tissue in March alone. In February and March, AF&PA reports that its member companies delivered more than 22,000 tons of parent roll tissue per day. These increases were likely spurred by the COVID-19 pandemic.



### Outbreak at recycling facility impacts Calgary's blue bin service

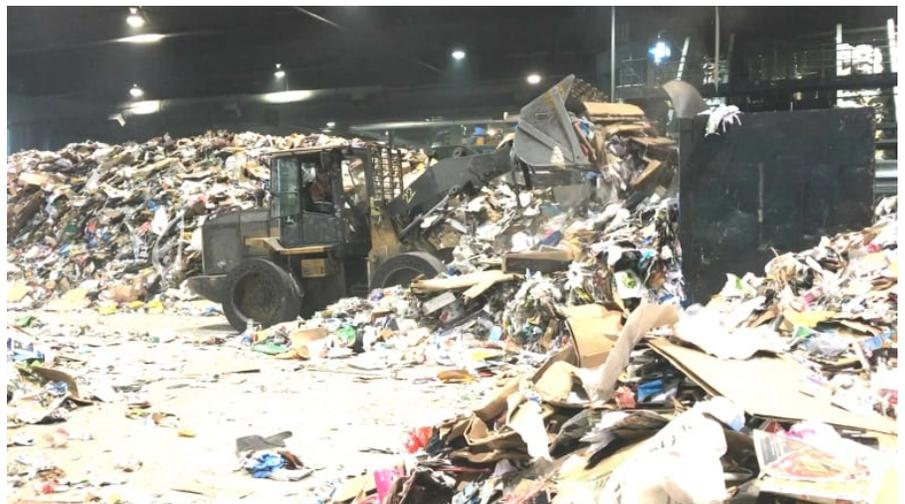
Recyclables in bins left for pickup will be taken to landfill until facility is sterilized

The Cascades Recovery+ recycling plant in southeast Calgary is about 100,000 square-foot in size, manages between 100 and 200 tonnes of recycling every two to three days, and runs continuously six days a week.

An outbreak at a facility that handles Calgary recycling means the contents of blue bins left out by residents will be taken to the landfill until the issue is resolved.

Calgary Emergency Management Agency chief Tom Sampson says the facility has had about 19 people test positive for COVID-19 and has had to shut down to sterilize.

Both he and Calgary Mayor Naheed Nenshi are asking Calgarians to store recyclables at home rather than putting out their bins.



## Blue Box Program Transition Plan Consultations

Stewardship Ontario hosted three webinar consultations focused primarily on matters affecting specific stakeholder groups during the blue box transition:

The consultation webinars were an opportunity to review and comment on how Stewardship Ontario intends to implement the Minister's direction outlined in his August 15, 2019 letter, including:

- Demonstrating transparency and meaningful consultation;
- Supporting competition and preventing conflict of interest;
- Demonstrating fairness to stewards and protecting consumers; and
- Maintaining program performance.

Other matters of interest presented included:

- The proposed process and timelines for transition and related costs;
- The proposed approach to ensure continuity of funding for municipalities;
- Anticipated changes to the method Stewardship Ontario is proposing to determine steward fees during transition; and
- How reserve funds will be applied to offset transition costs and steward fees.

## Coca-Cola and Carlsberg Will Switch to Plant-Based Bottles That Break Down Within a Year

According to the National Oceanic and Atmospheric Administration, scientists estimate that eight million metric tons of plastic—approximately the weight of 90 aircraft carriers—finds its way into the oceans every year. The Paper Bottle Company (Paboco) wants to help manufacturers and distributors reduce their single-use plastic waste by creating bottles made from degradable plant sugars rather than fossil fuels. BillerudKorsnäs, a paper packaging developer, first started this initiative in 2013, and has been joined by research companies and industry leaders like Avantium and ALPLA. The project proudly announced in October 2019 that Coca-Cola, L’Oreal, and Absolut had joined their efforts.

The historic brewery, Carlsberg, has been a long-time partner of the Paper Bottle Project and explained in a press release, “We are working on developing the world’s first ‘paper’ beer bottle made from sustainably-sourced wood fibers that is both 100% bio-based and fully recyclable.” Shortly after, the brewing company unveiled its first paper bottle for their Pilsner beer as proof of concept on their social media sites. These paper bottles, made out of a plant-based polymer called “PEF,” are



expected to be fully recyclable and to naturally degrade within a year, unlike their plastic counterparts. The sustainability company which creates these bottles hopes to have them ready for consumer use by 2023. These paper bottles could help mitigate the severe plastic pollution problem being faced by oceanic habitats, and mark a shift towards global industrial sustainability.

## ISRI to develop product recyclability protocol

The Institute of Scrap Recycling Industry (ISRI), Washington, says it is developing a recyclability protocol and certification system for paper-based packaging products entering into the recycling stream. Once developed, the protocol will be expanded to other products made from recyclables.

The protocol and certification will be phased in over the next year, ISRI says. Working with Moore & Associates, Atlanta, as a third-party consultant, ISRI is undergoing a thorough review of existing certifications and standards to aid in the integration of the protocol with applicable programs. This will be followed by a survey of material recovery facilities (MRFs) nationwide to gain an inventory of packaging that is recycled from the standpoint of materials and shape and size as well as regional variances in technology and capacity. With the data, the certification protocol, including testing methodologies and procedures, and the application process for obtaining certification will be developed, ISRI says. The process for obtaining certification by brands will be fully documented and transparent, the association adds.

“Under the current system, there is no standard to determine a product’s recyclability from beginning to end, which is an obstacle for increasing packaging recycling rates,” says ISRI President Robin Wiener. “Products are labeled recyclable that are not, consumers are confused and the residential recycling stream is weakened by excessive amounts of products and materials that do not belong. Having one, universal determination for recyclability created by the recyclers that collect and process the material, in coordination with the mills that consume it, will be an enormous step forward in the evolution of recycling.”

She adds, “Once in place, the recyclability protocol will assist packaging manufacturers in understanding what is and what is not recyclable, especially in the design stage. This will lead to a revolution in design innovation as more brands seek ways to not only use recyclable content in production but meet consumer demands for easy-to-recycle goods. As more products are developed with recycling in mind, consumers will rediscover recycling and the vast benefits it provides.”

Among the many things that will be taken into consideration are industry expertise on material supply, processing and demand challenges and needs; ISRI’s Design for Recycling initiative, which encourages manufactures to factor in a product’s recyclability in the design stage; and the role of the ISRI specifications, which are used globally to buy and sell recyclables.

ISRI says it will consult with the American Forest & Paper Association (AF&PA), the Foodservice Packaging Institute, The Recycling Partnership and other stakeholders during the development of the protocol and certification.

“This protocol is just the start of an effort that has the potential to really change the world,” Wiener says. “Additional customizable protocols can be developed for packaging made from other materials, including aluminum and other metals. When put together, we can expand the benefits of recycling and see further reduction in greenhouse gases, improved environmental conservation and an economic boost. We encourage all paper and packaging brands to join in these efforts to make it easier for all to recycle.”

## Tough recycling decision for RDCK coming up

For the past few years the Regional District of Central Kootenay (RDCK) has been attempting to turn its rural residential recycling over to Recycle BC, the agency that runs and pays for rural recycling programs in most of the province including the City of Nelson.

This would theoretically mean a big cost saving for residents of the RDCK because under the current system they are taxed about \$1 million per year for recycling collection.

Under an agreement with Recycle BC, the manufacturers of the recycled material, not RDCK residents, would pay for Recycle BC's collection and transport of rural recycled materials, as is the case now in the City of Nelson.

But how much this would reduce the RDCK's costs is an open question, according to the RDCK's Uli Wolf, because Recycle BC is unwilling to cover the entire cost of providing a full service, and the regional government would have to take up the slack.

Over the past year, the RDCK and Recycle BC have negotiated a plan, not signed yet, that would see 12 fenced and staffed depots — fencing and staffing are requirements of Recycle BC — throughout the regional district, funded by Recycle BC, with an as-yet-undetermined number of satellite depots funded and run by the RDCK, which would deliver collected material from its satellites to the 12 main depots.

Recycle BC recently announced that it will not accept any material in its new depots if it comes from industrial, commercial or institutional (ICI) sources.

This has been their rule all along: the agency is not mandated to take waste from big waste-emitters like Walmart or Celgar, who hire private contractors to take away their recycling.

The RDCK has always allowed small businesses to deposit their paper and packaging in its bins. Most notably, businesses in Nelson often deposit their recycling at the Lakeside depot and at the Grohman depot. But because Recycle BC is going to crack down on ICI, any material in the recycling that appears to be from a commercial source could be rejected and the RDCK penalized with a fine.

So the RDCK would have to set up and pay for a separate recycling stream for ICI materials, cutting further into any tax saving for residents. Considering all this, would it be financially worthwhile to sign a contract with Recycle BC at all?

Meanwhile the RDCK has voted to take a two-part resolution to the annual conference of the Union of BC Municipalities in September.

The first part asks the provincial government to include ICI materials in the Recycle BC mandate across the province. In other words, users of paper and packaging in industry, commerce, and institutions would pay Recycle BC to pick up and process their material rather than hiring their own contractors.

In the second part of the resolution, the RDCK board will ask the provincial government to require that certain products such as writing paper, toilet paper, facial tissue, paper towels, and packaging be made of recycled material. This is needed, the RDCK resolution says, because markets for recycled materials are drying up worldwide and this would create a new market for recycled packaging. The resolution goes further to ask that the province eliminate “subsidies on virgin materials such as oil to create a more level playing field, reduce the carbon footprint and revitalize the already consumed cardboard and packaging waste.”

## Regulations may boost less sustainable plastic alternatives

Plastics have become the public face of the waste pollution crisis, prompting an unprecedented consumer and regulatory backlash. Industry is responding by switching to other materials without considering their environmental impact.



Over the past couple of years plastics have become the public face of the waste pollution crisis, prompting an unprecedented consumer and regulatory backlash that shows no sign of stopping.

Industry is responding by switching to other materials without considering their environmental impact relative to plastics, or whether sufficient local waste collection systems are in place. This is the finding of a recent report, *Plastic Promises*, by independent UK-based think tank the Green Alliance.

Although its findings will come as little surprise to those involved in recycled plastics markets, and are mirrored across Europe, it once again highlights the gap in consumer understanding of the relative environmental impact of non-plastic alternatives and the unintended consequences this is having across the recycling industries.

For example, non-plastic food-packaging alternatives, on average, increase energy use by 2.2 times, carbon dioxide (CO<sub>2</sub>) emissions by 2.7 percent, and weight by 3.6 times, according to a UK parliamentary select committee report released late in 2019.

Indeed, the shift in packaging for products like bottled drinks from glass to materials such as polyethylene terephthalate (PET) that took place across recent decades was in part driven by its lower carbon usage and weight.

Coupled with this, food-contact paper and cardboard packaging typically needs to be treated with a plastic barrier, making it more difficult to recycle thus doing little to counterbalance the problem of micro-plastic ocean leakage.

For consumers, plastic is a homogenized entity rather than a series of different materials with different degrees of sustainability, recyclability or local collection rates.

PET, for example, has post-consumer collection rates of plastic bottles across Europe at 63 percent according to the ICIS 2018 study – the latest year for which data is available – but country by country collection varies from as low as 21 percent in Bulgaria, to as high as 96.2 percent in Germany.

These facts have done little to stem the tide of announcements of switches to non-plastic packaging from retailers and consumer brands, because public perception is these alternative materials are always more sustainable, leading to rising pressure to abandon single-use plastics. The same consumer pressure is not being felt to the same extent on other packaging types, despite plastics accounting for less than a quarter of packaging waste generated in Europe.

Plastics account for 19 percent of packaging waste generated in Europe, compared with cardboard and paper at 41 percent and glass at 19 percent, according to Eurostat figures collected in 2016 – the latest year for which data is available.

Because of the public focus on single-use plastics, regulatory efforts are being disproportionately focused there. This has led to a raft of upcoming regulation specifically targeted at the plastics industry, the latest of which is a plastic tax due to be introduced in Italy on July 1, 2020. This will tax plastic at €0.45/kg with the exemption of recycled plastic and bio-based plastic.

The law is clearly targeted at encouraging recycling. In recent years, a two-tier market has opened up across European recycling markets between companies that are driven by sustainability targets – typically from the packaging sector and bowing to public pressure – willing to pay above virgin values to secure material, and those purchasing for cost-saving reasons. Southern Europe has typically seen a higher percentage of cost-based packaging purchasing of recycling than other regions.

This is on top of EU legislation mandating minimum average recycled content of 25 percent in PET bottles by 2025 – on a country-by-country basis – and 30 percent across all beverage bottles by 2030.

Effectively allowing prices of recycled material to trade significantly above virgin values before cost-saving kicks in through taxation will no doubt increase buying interest in recycling from companies that had previously shown little interest, as will minimum average recycled content mandates.

Nevertheless, while these measures are targeted specifically at the plastics industry and not across environmentally harmful packaging as a whole, the regulatory framework runs the risk of giving other packaging materials an unfair competitive advantage.

Rather than helping solve the problem of packaging waste and encouraging recycling, this could drive firms to move to alternative materials that are equally, or even more, damaging to the environment – shifting the problem rather than tackling it.

The risk is doubled by ongoing consumer pressure and lack of detailed knowledge on the impact of different materials. It's further compounded by the inability of waste collection rates to meet sustainability targets.

Waste collection in Europe is predominantly controlled by municipalities. Under-funding in the wake of the global recession of 2008 has meant that collection systems have not kept pace with packaging growth or complexity.

Shortages of material for in-demand grades of recycled material – typically transparent material most attractive to the packaging industry – led natural recycled polyethylene (R-PE) pellet and natural recycled polypropylene (R-PP) pellets to trade above virgin grades for the first time in 2019, while the spread between virgin PET and recycled R-PET food-grade pellets reached a record high.

Faced with shortages of suitable recycled material, a growing consumer backlash and a hostile regulatory environment that is not mirrored in non-plastic packaging, it is no wonder that some companies are deciding to shift away from plastics.

Further encouraging this shift towards material choices that do little to improve end-of-life environmental impact would be the worst possible outcome for the planet. Regulation that encourages recycling or responsible waste disposal can only be a good thing, but narrowly focused laws that shift the problem to other sectors could intensify the damage, or at a minimum leave it unchecked.

All the while, the major challenge of increasing collection rates and infrastructure remains unsolved. If lawmakers were determined to help the recycling industry, this is where their efforts would be concentrated.

## Carton manufacturers invested big in attaining 'recyclable' status, but can they sustain it?

By funding education, technology and end markets, the Carton Council earned highly-sought federal recyclability status. Yet some MRFs and governments question if this packaging is worth the effort.

From dishing out lunchroom milks to stocking shelves with snacks and alternative dairy products, cartons have come a long way as part of daily life. In recent years, the product barely edged its way into a new category of maturity: Recyclability.



The achievement can be attributed in large part to the Carton Council, a nonprofit industry group founded in 2009 to fund and help organize higher carton recycling rates. At the time, only one mill accepted polycoated cartons. By 2012, eight more locations around the world did. Household access to carton recycling soared from 6% in 2009 to 61% as of 2019, 1% above the domestic accessibility levels required to legally call a product "recyclable" under federal guidelines.

But as new international trade policies shook recycling programs in the United States in recent years, some states and municipalities started dropping cartons from recycling lists.

This holds true for these aseptic containers, which make up a small percentage of the waste stream and can often accumulate in MRFs for months before facilities have enough for a shipment. While all recycling procedures are now further disrupted by the coronavirus, and the paper portions of cartons could help resolve changing supply chain needs, it might be too soon to tell how the pandemic will affect what does or doesn't get recycled.

Despite these changes, the council continues to fund new collection efforts, MRF processing abilities and domestic markets for cartons. The group's interventions resemble what some in the packaging sector might consider a voluntary and more appealing version of extended producer responsibility (EPR). But for carton recycling to continue growing, some solutions — like widespread adoption of an alternative roofing material or a viable use for the plastic and aluminum carton components — will have to kick in before more municipalities potentially abandon the material as a whole.

Some of the reasons why the material is no longer considered widely recyclable. If a MRF collects cartons, it has to find the space to set them aside until a large enough quantity accumulates for resale. Cartons make up 0.2% of what comes in. Part of the council's technique to ramp up national carton collection and processing is to help MRFs mitigate any obstacles that stand in the way of collecting and selling cartons. So far, the council has given millions of dollars in grants to MRFs to make this happen.

After MRF sorting comes purchasing and reuse — a final step the Carton Council bolsters as well. Right now, five paper mills in North America accept cartons for processing. One, the Quebec location of Sustana Fiber, announced the facility would be accepting cartons earlier this month. All facilities extract the fiber and turn them into paper products, but throw away the plastic or aluminum components. The Carton Council funds research into solutions for the byproduct in the U.S..

If recycled cartons don't go to these mills, then they go to a Continuous Materials location in Des Moines, Iowa. The startup turns post-consumer paper and plastic into low-slope roof coverboard for commercial buildings. Called Everboard, the sustainable replacement for traditional building supplies sits atop a Pennsylvania theater, an Atlanta office building and even a Taco Bell in Texas. Continuous produces the material in part because the company acquired ReWall, the Iowa-based start-up that pioneered an early version of this coverboard and was long supported by the Carton Council.



Whether or not the material is pervasive (or valuable) enough for all MRFs to justify accepting the carton, it's considered likely that more of this packaging will appear in coming years. Cartons hold serious appeal for manufacturers. Their linear dimensions allow for space-efficient shipping, and some versions make perishable items surprisingly shelf-stable.

As that growth happens, the suite of Carton Council actions — like funding robotic sorting and future uses of their product — could be viewed as useful steps toward complying with future EPR or product stewardship policies. This concept, which has cropped up more often in discussions about recycling, puts manufacturers physically or financially in control of how their products are handled after consumer use.

At the same time, a voluntary program also means municipalities are free to drop carton collection if they want to. New Orleans, Greensboro, North Carolina and parts of Washington state dropped the material from recycling services within the past year.

It's possible that new mills tapping into this paper source could help cartons keep their hard-won designation that only came after nearly a decade of work. Keeping that status might take even more voluntary investment from the Carton Council than the organization has already spent in the past decade.

## Michigan Moves to Overhaul its Waste Industry to Favor Recycling Over Landfills

Sending waste to landfills is more expensive than it seems, a recycling advocate told Michigan lawmakers Tuesday. It costs money to store and manage trash. It also takes valuable material like plastic and aluminum out of the supply chain and away from manufacturers who could reuse it, Michigan Recycling Coalition Executive Director Kerrin O'Brien said. "Currently, Michiganders spend over \$1 billion to landfill nearly \$600 million worth of materials every year," she said, figures shown in a 2017 state recycling council report. "That's a lot of money."

A package of bills recently introduced in the state House aims to flip that equation by rewriting Michigan's solid waste law to emphasize recycling and composting material over sending it to landfills. O'Brien, lawmakers and waste industry representatives testified Monday in front of the House Natural Resources Committee about those bills, which aim to increase the state's recycling rate, provide curbside or drop-off recycling for almost every Michigander and strengthen oversight of landfill and composting facilities.

The proposed overhaul has been years in the making, starting in 2012 as an initiative to improve Michigan's recycling rate — which hovers around 15% — under former Republican Gov. Rick Snyder. Specifically, the five-bill waste overhaul package aims to:

- Increase the recycling rate to 30% by 2025 and ultimately to 45%.
- Expand residential recycling services.
- Increase state oversight of landfills, recycling and composting facilities.
- Use some of the money in the Solid Waste Management Fund, supported by fees levied on landfills, composting and waste processing facilities, to develop the Michigan recycling market.
- Require counties to rewrite their waste management plans, with state funding help, to increase recycling and composting in their communities. Those plans would have to be approved by the state.

## World's Biggest Jewelry Firm Moves to Recycled Gold, Silver

Pandora A/S, which makes more pieces of jewelry than any other company in the world, will stop relying on newly mined gold and silver and instead use only recycled precious metals. The new policy, which takes effect in 2025, will help the Copenhagen-based company beef up its climate credentials and make it a more appealing target for investors eager to fill their portfolios with assets that meet environmental, social and governance goals.

Pandora says its shift to recycled precious metals will cut carbon emissions by two thirds for silver and more than 99% for gold. One of the key benefits to the environment is the considerable reduction in water use as a result of less mining, it said.

Annual emissions from the global gold market are equivalent to around 126 million tons of CO<sub>2</sub>, with more than a third of that coming directly from mining and smelting, according to the World Gold Council.

One of the industry's most significant emissions is cyanide, which can lead to groundwater contamination, among other threats to the environment. Concerns over the risks associated with managing mines and their waste have also mounted following a fatal disaster at a Vale SA iron ore operation in Brazil, in which a dam collapsed.

Pandora says it currently uses 71% recycled gold and silver in its production, with roughly 15% of the world's silver coming from recycled sources.

## Petroleum commentary: Irving just may have woken us all up

It's been said by people much smarter than me that "for every action there is an equal and opposite reaction".

I bubble-thought that for a moment or two, and I suggest we switch that around a bit to say that, "for every inaction there is a reaction". Inaction is a result of not reacting to something that is wrong. I call that dormancy.

Sort of like ignoring a sleeping giant.

Sleeping is the apt description for the energy sector today, which is under assault from both the demand and supply sides of the teeter totter. With less than two weeks until the start of the driving season, gasoline demand is down 39% while jet fuel is at negative 67%. This, while on the supply side combined petroleum product inventories including crude are up 10%.

These numbers are astonishing and unheard of for this time of year.

But this has been a wake-up call for one of our own sleeping giants, Irving Oil, the owner and operator of the 320,000-bpd refinery in Saint John. N.B., and the largest in the country.

In what appears to be, at first squint, an offering of an altruistic lifeline to oilsands producers in the west, Irving has requested permission from our Ottawan leadership to use foreign flagged tankers to ship western crude from B.C. to Saint John via the Panama Canal, a distance of a staggering 11,770 km away.

This is an example of action or the awakening of one giant in reaction to the inaction of another — the Canadian government and its collection of provincial siblings.

Irving has made its decision, I believe, based on the observation that through their economic crystal ball the price of Western Canadian Select (WCS) will remain well below the costs of both West Texas Intermediate (WTI) and Brent. This is especially attractive since their refinery uses the higher priced and globally benchmarked Brent as their feedstock not WTI. On the totem pole of crude oil pricing WCS sits at ground level.

Continuing with the same metaphor, it seems that Irving has decided that the pipeline game is not being played on level ground and the rules of the game are constantly changing.

Shipping by actual ship through the wide-open Panama Canal avoids the environmental confines and hazards prevalent in the political ponds in this country.

When the tankers begin to unload low-ball priced WCS in Saint John, this will not be lost on Suncor and Valero that will be observing all of this with a combined capacity in Quebec of 420,000 bpd. But to bring in WCS by tanker would mean shipping through the Gulf of St. Lawrence.

But hold on! Quebec won't allow that Western Canadian crude that originates from the oilsands to cross the Quebec border despite the fact that Saudi crude merrily unloads in Montreal without any hassles.

If Quebec won't allow WCS to unload in Quebec City or Montreal, then the financial futures of refineries in that province will be in serious doubt.

This is not the time to press the political alarm to snooze because Irving just may have woken us all up.

Good morning Ottawa!

## Daimler, Volvo venture a breakthrough for hydrogen trucks

A significant corner has been turned in the quest to bring hydrogen to the highway in heavy trucks. The deep pockets and vast engineering capabilities of Daimler Trucks AG and the Volvo Group have indeed come together, however unlikely that may seem. The two companies announced in late April a 50/50 joint venture to develop, produce, and commercialize fuel cell systems for heavy-duty vehicle applications and other uses like stationary power. Daimler will consolidate all its current fuel cell activities in the joint venture, while the Volvo Group will acquire 50% of it for about US\$650 million.



The deal is subject to regulatory approval, though that would seem to be a foregone conclusion given Europe's intense effort to create a sustainable and carbon-neutral transport system by 2050. The two companies intend to meet their Paris Agreement obligations, which include the end of internal combustion engine production by that year.

And that in itself is big news. There have been other collaborations between OEMs in the recent past as car and truck makers struggle to meet the challenge of new technologies and environmental demands on their own, then realizing that there's strength in numbers. But I can't think of a coming together on the same scale as this one between two such fierce competitors. Once again, pragmatism wins.

The German outfit has built up significant expertise through its Mercedes-Benz fuel cell unit over the last two decades and is now consolidating all those group-wide activities in a new Daimler Truck fuel cell enterprise – with Canadian content. It will be based in Nabern, Germany, with production facilities elsewhere in that country and in Vancouver. The JV will operate as an independent and autonomous entity, the companies said, the goal being to move fuel cell production to high volumes by the mid-2020s, and full-scale production about 10 years later.

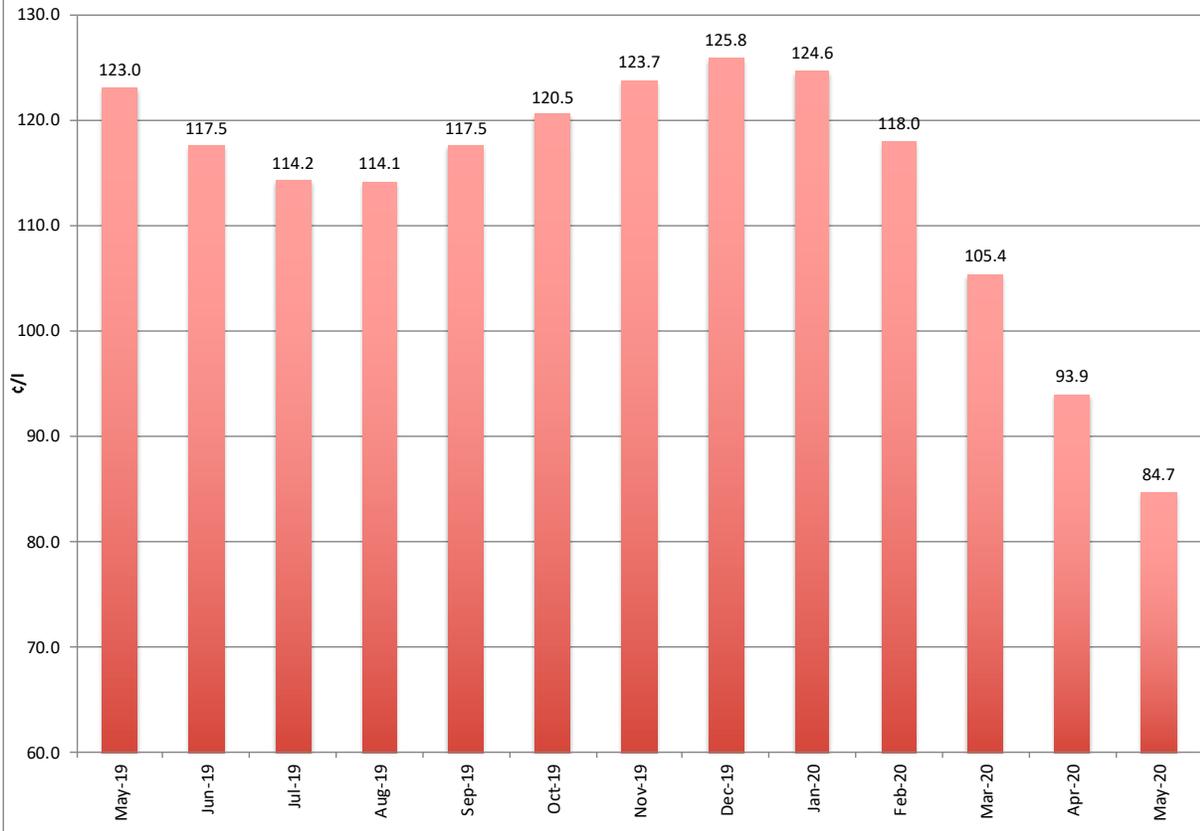
Nikola, on the other hand, says it will produce its fuel cell trucks starting in 2022, with some 14,000 orders already in the can. It plans to develop fuelling stations – essentially truckstops with stores and restaurants – along the routes served by its early-adopter customers. It's aiming to begin in the western U.S. before migrating eastward with the market, saying its Norwegian partner NEL will build about 700 stations starting in 2022.

Daimler and Volvo acknowledge that such infrastructure is obviously essential and that it will need other companies to join the effort. A comprehensive fueling network doesn't yet exist in Europe, so I'll bet that NEL plays a role there, too. Its leadership in that realm is clear.

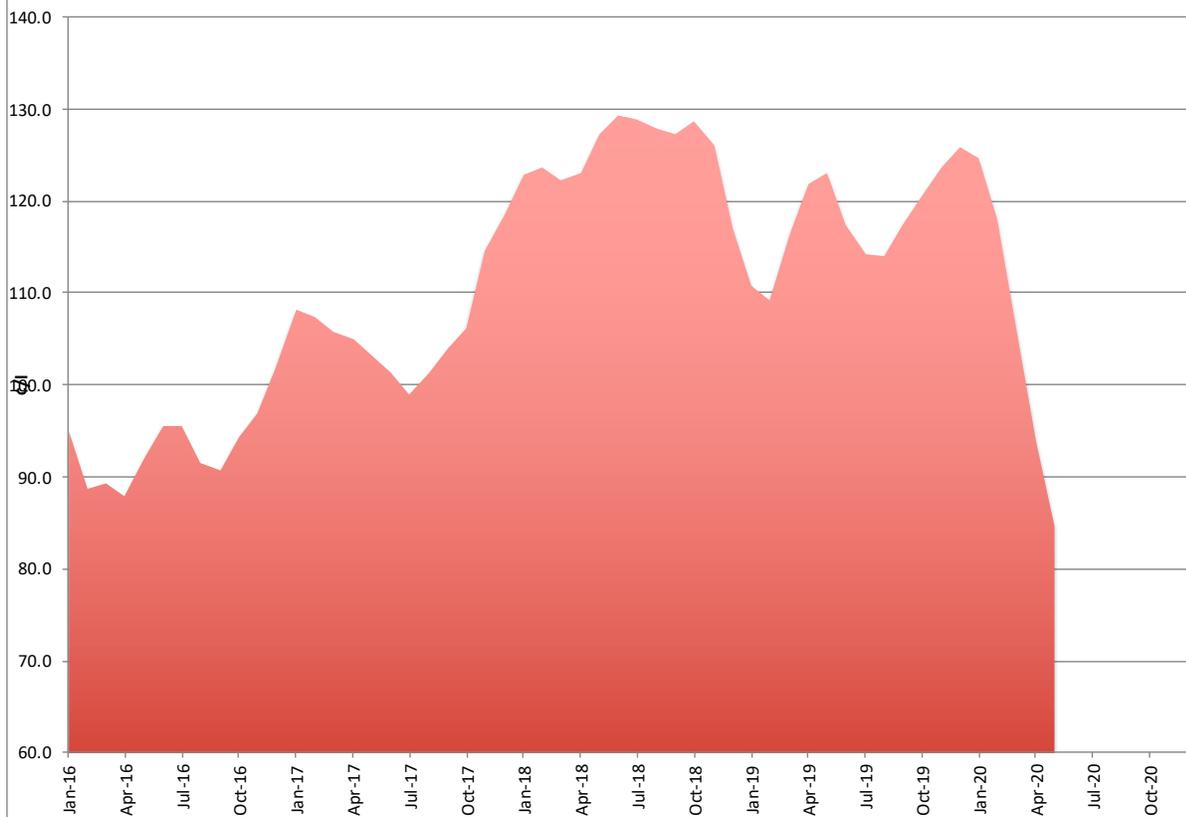
What remains to be seen is whether Nikola's infrastructure, which should be firmly in place long before Daimler/Volvo fuel cell trucks start plying North American highways, facilitates quick adoption of its new competitors' machines. Will we see another partnership? This is going to get interesting.

By the way, in case you're thinking hydrogen isn't up to the truck task, consider that it has nearly three times the energy content of gasoline – 120 megajoules per kilogram for hydrogen versus 44 MJ/kg for gasoline." Diesel fuel has 45 MJ/kg, while natural gas compressed to 3000 psi has 55 MJ/kg.

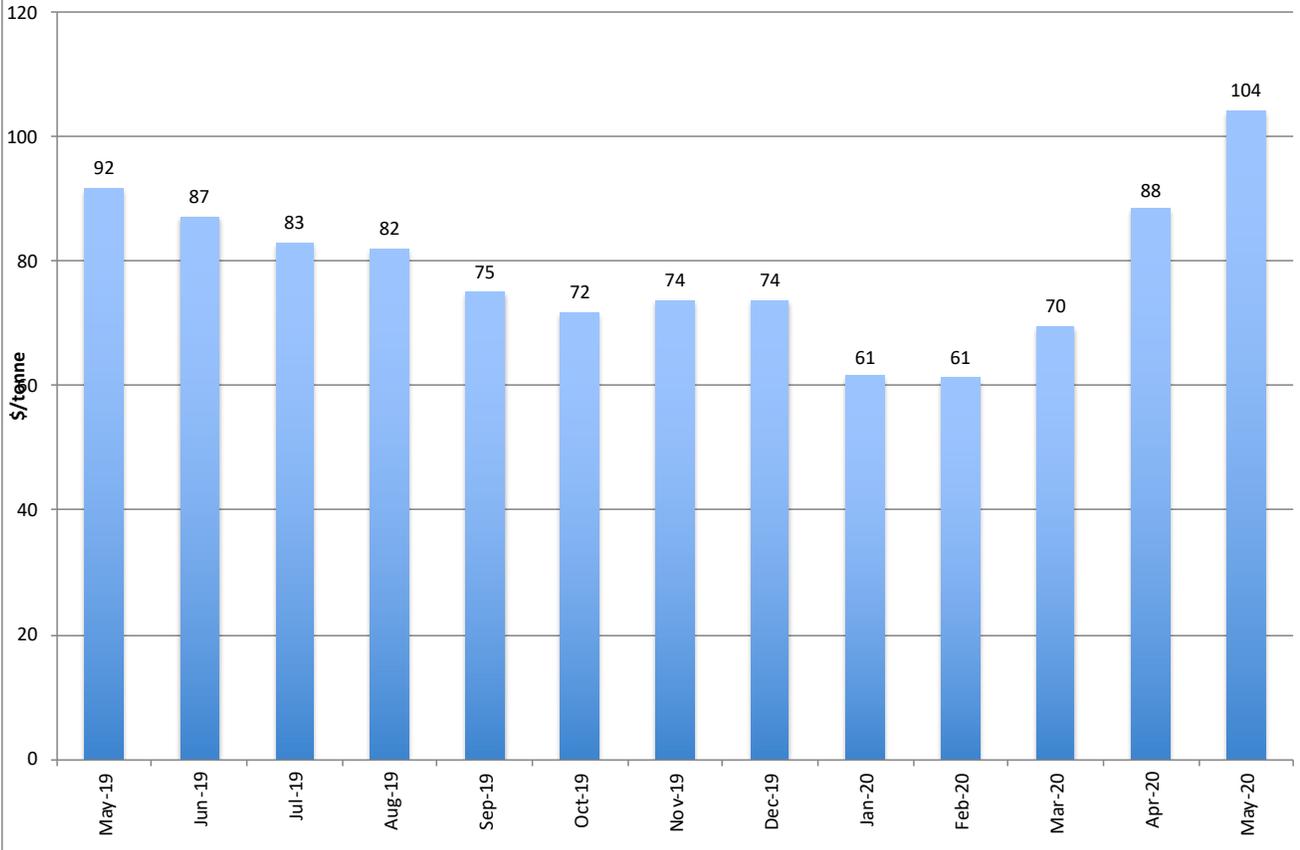
### Diesel Price (Retail incl. Tax)



### Diesel Price (Retail incl. Tax)



### Commodity Prices



### Commodity Prices

