The Future of Charging: Strange Things Are Afoot at the Circle K

As the world looks to electrify 65 million miles of roadways, an iconic gas station-convenience store chain places itself at the frontlines of determining how quickly—and profitably—that transition occurs.

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Key Takeaways

- Across the world, a small but growing number of companies have established networks of electric vehicle (EV) charging stations. Few, if any, of these networks are profitable yet because EV penetration is still low.
- Canada-based Alimentation Couche-Tarde, parent of the ubiquitous Circle K brand of gas stations/convenience stores, has pledged to be the global leader in *charging stations*/convenience stores. It also says it has every intention of sustaining its enviable returns on capital.
- In Norway, the company's first major charging market, its locations are performing like gangbusters as EV drivers spend more time and money inside its stores while charging than they did during the few minutes it took to gas up.
- Problem is, Norwegians do three-quarters of their charging at home or at their destination, *not* at service stations like Circle K.
- Couche-Tard's response? Trust its scale advantage and perhaps turn itself into something bigger than a bricks-and-mortar retail chain.

How important is it to US drivers to save on gasoline? A survey several years ago by the National Association of Convenience Stores found that nearly two thirds would drive five or more minutes out of their way to save five cents per gallon.[1] This is irrational—the detour could cost the average driver about 30 cents more than they save—but it helps explain the brutal competitive challenge of running a gas station.

Watch as Harding Loevner analyst Sergei Pliutsinksi takes us on a spin through the investment thesis for how frozen slushies may be part of the answer to global warming.

Motorists' sensitivity to the price of gasoline means that the average gas station earns less than 5% gross margins on fuel sales. Profits are so skinny that the major oil companies, who built most of the world's gasoline retail infrastructure, abandoned most of their retail operations years ago. Most gas stations are now run by independent operators, who lease equipment and buy gasoline from the majors and 60% of whom in the US own just a single store.

If selling gas is a lousy business, selling the other stuff that motorists buy while filling up is a slightly better one. Again, it's not rational, but the person who is willing to drive an extra five minutes in search of cheaper fuel is often willing to pay US$6.75 for a four-pack of AA batteries that would cost US$4.50 at Target or invest in a Powerball ticket. This behavioral disconnect is why running a gas station/convenience store is more profitable than just a gas station but, even so, at the volumes that independent stores typically operate, the markup on those batteries barely covers overhead. On average, independent gas station/convenience store operators in the US earn about US$60,000–70,000 per store each year, before paying themselves.

The way to improve these results is through scale. Buy enough batteries, slushy mix, and gasoline, and you can drive down the prices you pay your suppliers. This increases your margins. Obtain lower-cost gasoline supply and you can draw in more gas-price-fixated customers. This, in turn, increases your sales volumes, which allows you to go back to your suppliers and get a bigger break on costs, which you can then translate into greater market share, even cheaper gas, and higher sales and profits.

Alimentation Couche-Tarde, parent company of the ubiquitous Circle K convenience store, has mastered this cycle. From its roots in the late 1970s as a corner store operated by a penny-pinching Montreal entrepreneur,[2] it has grown into the world's second-largest convenience store chain after 7-Eleven, and the one with the most impressive track record of profitability and growth. Couche-Tarde's scale means it is able to buy gasoline in large volumes on more favorable terms than those for smaller operators and sell the gas under its own Circle K brand for what are consistently among the lowest prices in its markets. Its gross margins on gas, estimates Harding Loevner consumer analyst Sergei Pliutsinski, are "in the range of 10%," or twice that of the independent retailers. On other merchandise, where Couche-Tarde earns 30% of its revenues, gross margins expand to 35%, built on the back of products like the twenty fountain-drink flavors that customers can choose from when filling their 20- or 30-ounce plastic thermal "Polar Pop" cup for 79 cents (99 cents for the 44-ounce Epic XL). On average the company sells 17 Polar Pops in the US every *second*.

After covering the overhead of operating 14,000 locations, Couche-Tarde earns about US$2.5 billion on US$45 billion in revenue a year, for net profits of 5%-6%, or "right about where I want them to be," says Pliutsinski. Any higher, he explains, and new entrants would be attracted to the industry. A new competitor would have to invest tens of billions of dollars and take a decade or more to achieve the same scale as Couche-Tarde—all to make 5%. "You'd have to be out of your mind," Pliutsinski says.

> At every Circle K location, customers have a choice of twenty fountain-drink flavors when filling their 20- or 30-ounce plastic thermal "Polar Pop" cup for 79 cents. On average the company sells 17 Polar Pops in the US every *second*.

But what happens to Couche-Tarde when cars stop running on gasoline? Can it adapt its business model to the coming global energy transition? These are the questions Couche-Tarde's management faces as they stand on the front line of the transition. Although electric vehicle (EV) market penetration is still low in most countries, charging stations have begun to dot the landscape.[3] It is unclear how the technology and the market for EV charging will evolve, and none of the companies installing and operating the stations are profitable yet, but capital is pouring into them. Some charging stations are provided by Tesla for the exclusive use of its vehicle owners. Others are part of open charging networks like EVGo, Blink, ElectrifyAmerica, or Europe's IONITY. Another provider, ChargePoint, has pursued a low-capital-intensity model—selling or leasing its equipment to businesses like hotels, big-box retailers, and quick-service restaurants to attract EV-owning patrons—but it, too, still operates at a loss. Even Shell and BP have reversed course on being in retail and unfurled their own ambitious EV charging plans.

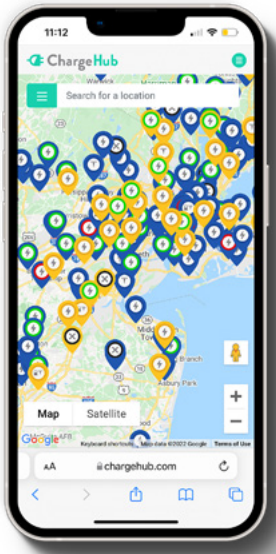
Couche-Tard's management says they have no intention of allowing their company to fade into irrelevance, to become the Blockbuster Video of transportation energy. Couche-Tard is committed, they say, to being the global leader in *charging stations*/convenience stores. They point to the company's early success in equipping current locations with chargers in a handful of markets. As Pliutsinski notes, however, "in the next breath, they also make it clear they are not about to undertake a huge increase in capital expenditures that blows a hole in their returns on invested capital."

How the company squares *that* circle will go a long way toward determining what the purveyor of the Trolli Sour Gummi Creations Martian Mix Berry Mango Flavor Froster looks like a decade from now, with potential implications for the shape of the nascent EV charging industry.

When in Norway...

As every EV owner knows, a part of the EV motoring experience is using an app that allows one to see, in real time, the available charging outlets nearby. Zoom out in many parts of the US and the charging icons would seem to be everywhere: bunched like grapes in densely populated areas, strung along the I-95 corridor from Maine to Florida every dozen or so miles. It matters little whether the app is Tesla's or a universal one like ChargePoint or ChargeHub. To the eye of an EV driver, it can seem as if the electrified future is already here.

But there are a few problems with this picture. One is that, for EV owners to drive along the nation's byways as unencumbered by range anxiety as internal combustion engine drivers are today, the number of available charging outlets will need to increase many times over (estimates range from five to more than ten times by 2030). And those chargers are expensive. A level 3, or "DC fast charger," capable of returning a battery to 80% strength in 30 minutes or so,[4] the kind typically demanded from retail charging operations, runs upwards of US$100,000 for each charging pillar.[5]

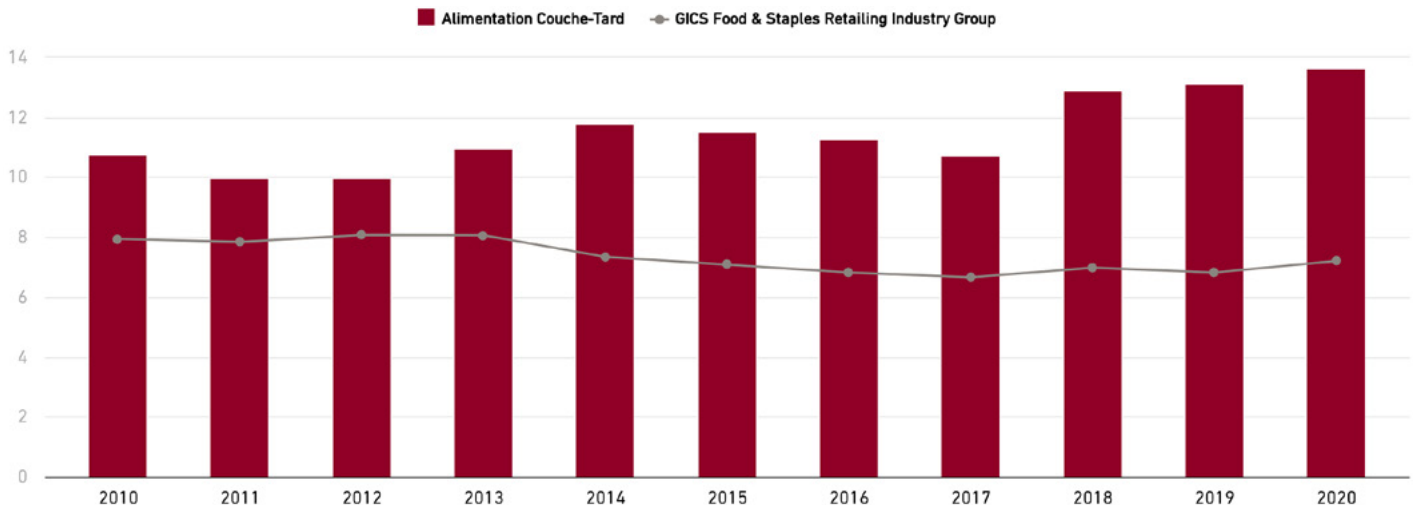


Source: ChargeHub Harding Loevner.

ChargeHub's EV charging station location app.

To encourage the installation of hundreds of thousands of Level 3 chargers in the US, the infrastructure bill recently passed by Congress includes US$7.5 billion for new charging infrastructure, as well as billions more to expand the nation's green energy capacity (without which charging would just transfer the usage of fossil fuels upstream) and overhaul the electrical grid to handle millions more drivers plugging in. Still, even those sums are viewed primarily as inducement for the much-larger private capital that will be needed but whose returns could be deferred until more EVs take to the road—the chicken-or-egg conundrum of the EV transition.

A Legacy Worth Protecting: Cash-Flow Return on Investment



Source: HOLT, Harding Loevner.

Cash-flow return on investment, or CFROI, is a measure of a company's economic value created as a function of the total investment in the business. The chart above shows the CFROI for Alimentation Couche-Tard and for the Food & Staples Retailing Industry Group as a whole.

There is another problem with the state of the charging market, and it concerns what drivers encounter when they get to one of those charging points. In a break from the traditional convenience store station model, many charging stations are unattended and bereft of services, often just a collection of charging pillars gathered on the edge of a parking lot. Tesla has made it a policy of trying to place as many of its US chargers as possible within a short walk of popular restaurants like Panera Bread or Dunkin' Donuts, and ChargePoint has recently captured 70% of the ex-Tesla US charging market by planting chargers outside Marriott hotels, Targets, and the like, but in terms of maintenance that can still leave the chargers in a no-man's land. The situation can be frustrating to drivers: Volkswagen CEO Herbert Diess felt the need to vent on social media after he tried to charge one of his company's ID.3 electric SUVs at an IONITY charging outlet as he drove across the Alps to a vacation destination in Italy. "No bathroom, no coffee, an out-of-service/broken charging point. It was anything but a premium charging experience, IONITY!" he posted to LinkedIn—about the service provided by the network that happens to be bankrolled by his *own* company. "A sad state of affairs," he concluded.

> Get too far out ahead of the market and Couche-Tard could find itself owning hundreds of millions worth of idle chargers. Move too slowly and it could give a competitor like ChargePoint more time to sort out its model and establish itself as a formidable adversary.

These twin realities—the chicken-or-egg and the sad state of affairs—figure into Couche-Tard's electrification strategy. Get too far out ahead of the market and it could find itself owning hundreds of millions worth of idle chargers. Move too slowly and it might miss the obvious, and potentially lucrative, chance to replace the lonely trudge to the Panera, giving a competitor like ChargePoint more time to sort out its model and establish itself as a formidable adversary.

Couche-Tarde's testing ground for a new strategy has been its stores in Norway, its market with by far the highest EV penetration. At the largest of these 620 facilities there are two-dozen single-outlet DC fast chargers, with several more three-outlet pillars tucked under pavilions topped by solar panels that harness the midnight sun to supplement juice drawn from the grid. Many of the Circle K stores anchoring the charging centers look more like ski chalets than the cinderblock boxes familiar to Americans. Inside, warm lighting bathes the main shopping areas, with refrigerated cases and hot and frozen drink dispensers encircling a fresh produce section. In the seating areas, blonde wood booths with laptop and phone chargers all but demand drivers buy a cup of warm cocoa. Private nooks offer a view of the charging action from upholstered *wing back chairs*.

Couche-Tard doesn't provide sales figures for individual stores. On a recent call with Harding Loevner, however, CFO Claude Tessier said that the Norway operations are "performing very well" and

Source: Alimentation Couche-Tard.

One of Couche-Tard's 620 Circle K charging station convenience stores now operating in Norway.

paying back their upfront investments at a pace that allows them to exceed the same targeted 15% internal rate of return targeted and being exceeded by North American new store builds.[6] A significant factor in this success is the much higher cross-selling or "conversion" rate for EV-charging customers. About 15% of gasoline customers venture inside to make additional purchases during their car's few minutes at a Circle K pump, while 40% of EV drivers do so during the 20–30 minutes their vehicle is charging. The amount of time and money spent inside the store per visit is also higher, suggesting total merchandise sales per charging stop have the potential to be more than triple that of gas stops. The amount EV customers spend outside will be less—say, US$20 per charge vs. US$50 for gassing up—but figuring on a wholesale cost of several bucks for the electricity, gross margins on charging revenues might be 70% vs. 10% for Circle K's industry-leading gasoline margins. That equates to a near-tripling of gross profit per charging visit for the traditionally less profitable part of the business as well.

But Pliutsinski cautions that these stirring back-of-the-envelope profit calculations don't reflect several offsetting factors: including the capital and depreciation costs of installing all those chargers, and the fact that the number of visits will be lower for EV drivers.

Bigger Slice of a (Much) Smaller Pie?

Couche-Tard readily acknowledges that most of its markets don't resemble Norway, which started preparing its population for life after fossil fuels 20 years ago, reinvesting the proceeds from its North Sea oil production into some of the world's largest offshore wind farms. Helped by generous subsidies including tax incentives, 70% of all new cars sold in Norway last year were EVs. California and Quebec—two other markets where Couche-Tard has begun rolling out its charging station/convenience stores in size—share (some) of Norway's policy tailwinds.[7] Beyond these areas, the level of EV penetration and clarity about how the EV transition will unfold fall off precipitously.

One issue that's obscuring the outlook is uncertainty over how the funding environment for EV infrastructure will evolve. "We're in the phase with charging now, probably similar to the early days of Amazon when it was subsidizing merchants to join its platform, where there's a lot of free money flowing into the land grab," Tessier says. Volkswagen has committed to spending US$2 billion on charging infrastructure in the US and Europe as part of its settlement in the turbo diesel scandal several years ago. Part of the largesse found its way into Couche-Tard's Norway operations, as many of the DC fast chargers Couche-Tard installed there were leased on highly favorable terms from VW-backed IONITY. In the US, Couche-Tarde is exploring similar arrangements as it vies for a role in the public-private partnerships taking shape to electrify interstate-highway rest stops. At some point, though, the flow of free money will slow, and Couche-Tarde's new model could face a true test.

At this point, Couche-Tard has four years of real-world experience operating hundreds of charging station/convenience stores, enough to start drawing some conclusions about its customers' behavior. One of the most sobering takeaways is the degree to which Couche-Tard's addressable market is likely to shrink over time.

For its first four decades in business, Couche-Tard operated in a world where cars received 100% of their energy from dedicated fueling stations that sold gasoline. In the new world of electrified transportation, however, only a portion of powering up will take place at service stations. In Norway the company has found that customers do 50%–60% of their charging at home, and another 20% at their destination. That leaves only about 20%–30% of total power needs for stations like Circle K to fulfill.

Although the higher merchandise sales and the better margins the company expects to make on charging sales should help, "Couche-Tard will need to double its market share just to stay even with where it is today," says Harding Loevner's Sergei Pliutsinski. "So, then you have to ask—how is it going to do that?"

According to Pliutsinski, this replacement of the service station by home and destination charging is a long-term existential threat to Couche-Tard's business. Although the higher merchandise sales and the better margins the company expects to make on charging sales should partially blunt the impact, "you're still probably looking at a halving of the company's total addressable market," he says. "That means it will need to double its market share just to stay even with where it is today. So, then you have to ask yourself—how is Couche-Tard going to do that?"

Part of Couche-Tard's answer to that question seems out of character for the world's second-largest bricks-and-mortar convenience chain. As Tessier explains, starting in Norway, Couche-Tarde is ceasing to define itself exclusively as a store-based retail business and instead positioning itself, like Amazon or Wal-Mart, more as an ecosystem. It now earns a small but growing share of its revenues in the country selling Circle K-branded chargers for *home* use. Coupled with an app tied to the company's loyalty programs, the metered home electricity usage encourages customers to continue to stop at Circle K's stores where the more people charge at home, the more they become eligible for free or discounted merchandise, car washes, or charging sessions.

Couche-Tard's upstart rival ChargePoint also sells at-home chargers, and its clients like Target and McDonald's can incorporate charging into their own loyalty programs. One difference is that Couche-Tarde already has 14,000 locations, many of which are just down the road from the big-box stores and fast-food joints that ChargePoint is trying to coax into entering the charging station business. And Couche-Tarde believes the same scale gives it an advantage in winning over the tens of thousands of independently operated convenience stores. "In the US, independents still make up over 60% of the market," Tessier points out. "How are they going to manage this transition on their own? We think there's going to be a significant opportunity for consolidation, and a lot of these operators will eventually want to become a part of our branded ecosystem." Assuming he is correct, scale should beget scale, and eventually Couche-Tarde could wind up with the lowest wholesale electricity costs, and cheapest charging prices in its markets, just like it now has for gas.

Tessier envisions these changes occurring over the next decade or *two*. The company projects the volume of gasoline it sells will decline by about 1% a year starting in 2025. Those projections, by the way, are wildly below the rates of EV adoption that scientists believe will be necessary to stave off the most catastrophic effects of climate change. The figures probably say more about the measured approach Couche-Tarde is taking to the reinvention of its business than any proprietary insights it has into how the combustible mix of climate science, politics, finance, and consumer behavior will react in the years ahead.

The point is, from Pliutsinski's perspective, the company's plan for putting the kilowatt in Circle K is at least a plausible strategy for increasing market share and sustaining profitability and even growth. He says it reminds him of certain retail companies in Japan, where declining birthrates and an aging population have reduced the addressable market for many retail segments. Amid the societal and economic upheavals those trends have engendered, some especially creative and resilient businesses have nevertheless managed to increase their market shares fast enough to continue growing their top lines.

"So, Couche-Tarde can definitely do it," he says. "We've seen it before. The thing is, when you're dealing with massive change at this level that upends whole industries, it's always messy."

Contributors

Analyst Sergei Pliutsinski contributed research and viewpoints to this piece.

Endnotes

1 "2015 NACS Retail Fuels Report," National Association of Convenience Stores, February 2015.

2 Billionaire founder Alain Bouchard has suggested that his tightfisted ways that inform the company to this day—it has among the lowest corporate overheads in the industry—were borne of spending part of his childhood in a trailer park, after his road contractor father lost his business when a major customer stiffed him on a contract.

3 In a handful of markets, Couche-Tarde also operates stores as Couche-Tard and On the Run, and under the affiliated brands 7-jours, Dairy Mart, Daisy Mart, and Winks.

4 As with most types of batteries, car batteries charge at a faster rate until about 80% full, at which point they start to require more time for the electrons in the current to find the remaining cells in the battery still in need of a charge. Even using a fast charger, it can take up to an hour to achieve a 100% charge, although as the technology develops the time required for a 100% or an 80% charge should fall.

5 In contrast to a Level 3 charger, a *Level 2*, or the kind that many people also install at home, costs between US$2,000 and US$10,000 to install from scratch. But it takes up to seven hours to fully recharge a depleted battery, limiting its out-of-home suitability to charging at work or topping up while parked at the gym or mall.

6 The quotes from Alimentation Couche-Tarde CFO Claude Tessier that appear in this article were not provided in writing. They are used with Couche-Tarde's permission from a recent a one-on-one video call with Harding Loevner analyst Sergei Pliutsinski and reflect our understanding of the conversation.

7 Even with extensive incentives, and a 74% increase in the number of new EV sales in California over the prior year, EVs still represented just 9.5% of all new car sales in the state in 2021.

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