

OPINION

Efficient use of critical minerals is the only strategy that supports Canada's climate goals

By JOSIPA PETRUNIĆ (/AUTHOR/JOSIPA-PETRUNIC) JUNE 8, 2022

We are at a delicate time where electrification of transportation has significant potential to reduce polluting emissions if natural resources are used prudently.



B.C. Premier John Horgan and Prime Minister Justin Trudeau announce funding to buy 118 new buses, including 10 long-range electric buses on July 18, 2019. The positive shift towards the electrification of transportation creates a new problem: a strain on the minerals, metals, and materials for the batteries that power those vehicles. *Photograph courtesy of the Province of British Columbia*

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When it comes to climate change action, Canada finds itself in a unique position. All federal political parties recognize climate change is real and dangerous. But the war in Europe, global supply chain bottlenecks, and rising energy prices have hammered the economy. Rightly, the government is trying to combat climate change through symbiotic economic stimulus and job growth initiatives. The only-
Part of the response includes money for electric vehicles (EVs), including buses and cars. The growth in EVs is set to rise across the country due to the combination of environmental regulations that call for the production of more EV models, incentives that support buying electric cars and buses, and high (95¢/kWh and 11¢/kWh) prices. This positive shift towards the electrification of transportation creates a new problem: a strain on the minerals, metals, and materials for the batteries that power those vehicles.

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This means an increase in demand for raw materials like cobalt, lithium, and nickel among a slew of other necessary ingredients required in the recipe of new mobility.

Mining for those materials—just like mining of any kind—involves a lot of pollution. Mining produces substantial greenhouse gas emissions (GHGs), along with landscape devastation, and a high volume of waste and tailings ponds. Some pollutants can even find their way into water tables and drinking water.

Already today, with tens of thousands of EVs being purchased in Canada annually, there are strains in the marketplace—not enough cheap batteries to go around. The University of Toronto has recently documented that any growth in EV demand will add to the strain, including metal requirements like lithium and cobalt.

On their own, EVs cannot save humanity from climate catastrophe. They are important. But reduced consumption—in part through the use of public transit—is much more important over the long term. Decarbonizing transportation will require fewer cars, not more. Our mobility shift must include limited use of single passenger cars and trucks, including EVs.

Those EVs that are allowed on the roads must come packed with a recycling plan—a predetermined pathway for the repurposing or recycling of the battery pack and component parts. Minerals that create pollution to be mined in the first instance need to be reharvested and reused to reduce mining over time.

EV batteries have a life span of seven to 10 years, and the potential volume of end-of-life batteries will cause enormous waste management problems. According to a study (https://www.transportenvironment.org/wp-content/uploads/2021/07/2019_06_Element_Energy_Batteries_on_wheels_Public_report.pdf) in Europe, around 125,000 electric vehicles will retire by 2030, generating almost 2,800 tonnes of valuable metals.

The European Union has already introduced mandatory recycling targets for battery manufacturers by 2030. If Canada aims to focus on mining rare earth minerals for economic and geopolitical necessity, it must also mandate stricter recycling and reuse standards for EVs.

The federal budget commitment of \$1.5-billion for critical mineral mining projects should integrate a life cycle view of EV batteries and focus on optimized processing and manufacturing to limit energy consumption along this critical pathway.

Canada is a top global producer of many critical minerals and has the potential to increase its production. A sustainable supply of essential minerals in the future is necessary for security and prosperity, but a measured approach is needed now more than ever. The Critical Minerals Centre of Excellence (CMCE) has a vital role in ensuring a just transition towards a cleaner, prosperous economy.

Meanwhile, as we shift more people into shared mobility and out of their cars, buses and trains need to be electrified, too. According to Canadian Urban Transit Research and Innovation Consortium modelling, a typical electric bus in Ontario can save up to 100 tonnes of carbon emissions each year. A fleet like the Toronto Transit Commission can save more than 200,000 tonnes of carbon emissions per year through electrification.

We are at a delicate time in our generation where electrification of transportation has significant potential to reduce polluting emissions if natural resources are used prudently and single passenger cars and personal vehicles are devalued, priced out of the market over time and replaced with zero-emissions public transit systems that are fast and efficient.

Polluting the Earth was easy. Cleaning it up will be hard. A sustainable society that lets us live long lives that are not destroyed prematurely by climate emergencies requires we minimize battery consumption, maximize their reuse to conserve critical minerals, and shift the bulk of our nation into shared mobility.

Dr. Josipa Petrunić is president and CEO of the Canadian Urban Transit Research and Innovation Consortium.

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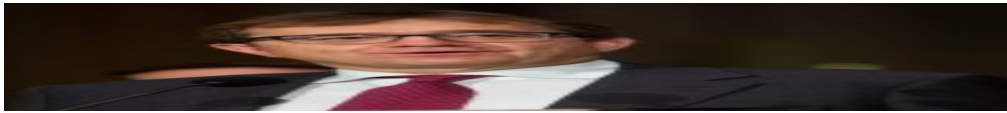


(<https://www.hilltimes.com/2022/06/08/trade-committee-explores-boons-and-perils-of-increased-indo-pacific-ties-as-wait-for-feds-strategy-grows/365988>) Industry representatives told the House Trade Committee that the government needs to spotlight stronger ties in the Indo-Pacific as it is set to be one of the fastest-growing economic areas in the world.

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(<https://www.hilltimes.com/2022/06/08/ndp-policy-experts-urge-focus-on-renewable-energy-clean-tech-to-address-europes-energy-crisis/366128>)

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(<https://www.hilltimes.com/2022/06/08/ndp-policy-experts-urge-focus-on-renewable-energy-clean-tech-to-address-europes-energy-crisis/366128>) Canada is not in a position to do much about Europe's energy crisis, but can invest in renewable energy to provide an alternative to high oil prices, argues NDP MP Charlie Angus.



Federal spending up 6.2 per cent so far this year, with another \$9.7-billion requested
<https://www.hilltimes.com/2022/06/07/federal-spending-up-6-2-per-cent-so-far-this-year-with-another-9-7-billion-requested/365539>

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<https://www.hilltimes.com/2022/06/07/federal-spending-up-6-2-per-cent-so-far-this-year-with-another-9-7-billion-requested/365539>Parliamentarians will be asked to approve roughly \$8.8-billion of the overall spending requested through the first supplementary estimates of the year.

'The rift is getting bigger and bigger': some Conservatives worried about party unity once 'pretty nasty' leadership campaign ends
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<https://www.hilltimes.com/2022/06/06/the-rift-is-getting-bigger-and-bigger-some-conservatives-worried-about-party-unity-once-pretty-nasty-leadership-campaign-ends/365292>Keith Beardsley, former deputy chief of staff to Stephen Harper, said that whoever becomes the next party leader should use the Mulroney and Harper models for bringing the party together.

Five House harassment complaints filed against MPs in 2021-22
<https://www.hilltimes.com/2022/06/06/five-house-harassment-complaints-filed-against-mps-in-2021-22/365765>

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<https://www.hilltimes.com/2022/06/06/five-house-harassment-complaints-filed-against-mps-in-2021-22/365765>Plus, the Board of Internal Economy has extended two temporary financial measures related to COVID-19 until March 31, 2023.

Federal Conservatives should look to Ford's Ontario campaign for a more pragmatic, open-minded approach, say strategists
<https://www.hilltimes.com/2022/06/06/federal-conservatives-should-look-to-fords-ontario-campaign-for-a-more-pragmatic-open-minded-approach-say-strategists/365836>

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<https://www.hilltimes.com/2022/06/06/federal-conservatives-should-look-to-fords-ontario-campaign-for-a-more-pragmatic-open-minded-approach-say-strategists/365836>Ontario's election results show that 'a relatively moderate form of progressive conservatism can lead to victory,' says Carleton political science professor Jonathan Malloy.

Border phone search bill creates 'wishy-washy' threshold: Sen. Simons
<https://www.hilltimes.com/2022/06/06/border-phone-search-bill-creates-wishy-washy-threshold-sen-simons/365310>

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<https://www.hilltimes.com/2022/06/06/border-phone-search-bill-creates-wishy-washy-threshold-sen-simons/365310>Independent Senator Paula Simons says Bill S-7's use of 'reasonable general concern' as the threshold giving agents the power to search travellers' devices at the border is 'too untested' and needs amendments.



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