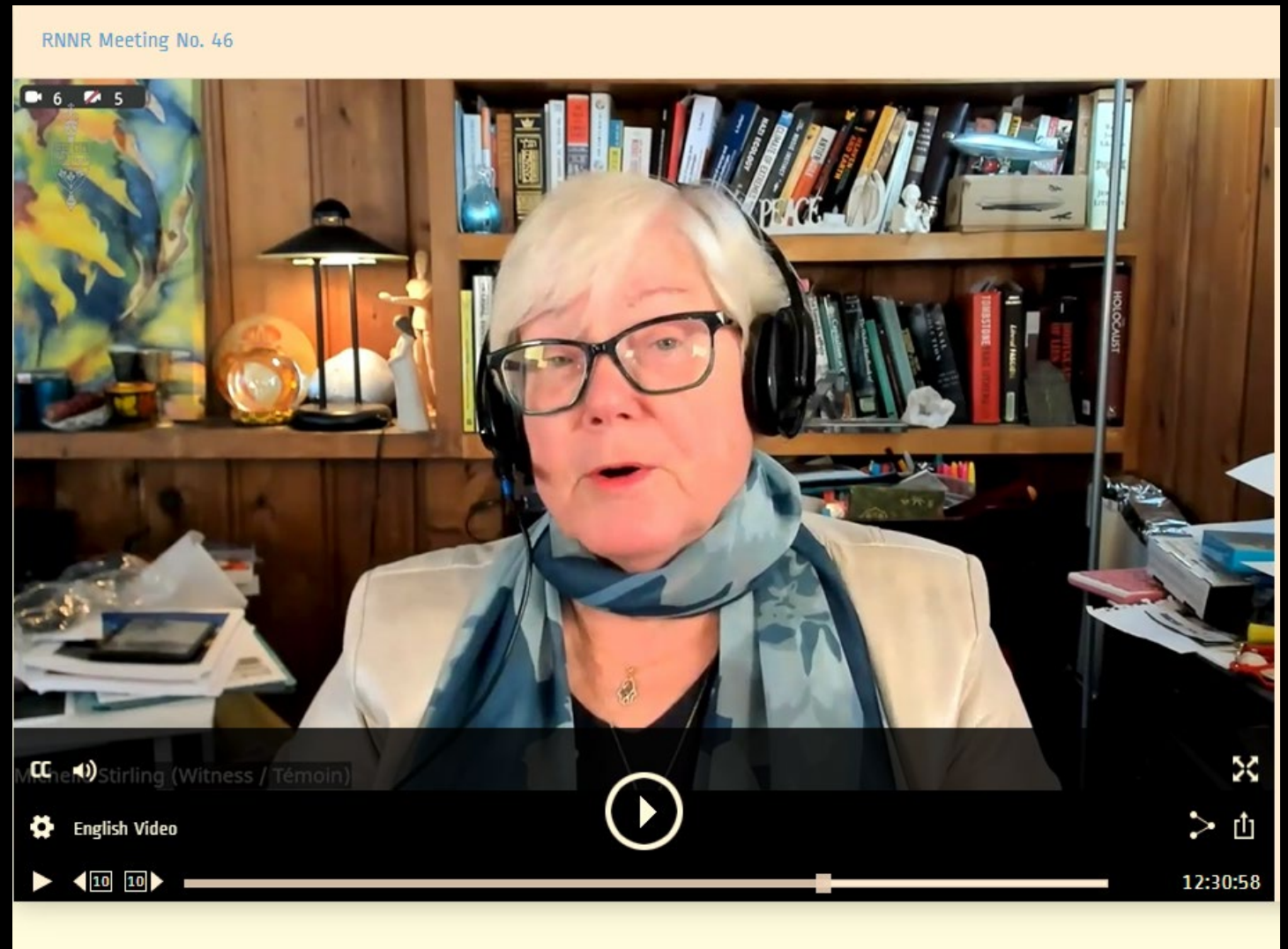


Climate Realist addresses Meeting No. 46
RNNR - Standing Committee on Natural
Resources

Canada's Electrification, Energy Self-
Sufficiency, and Domestic Energy Security

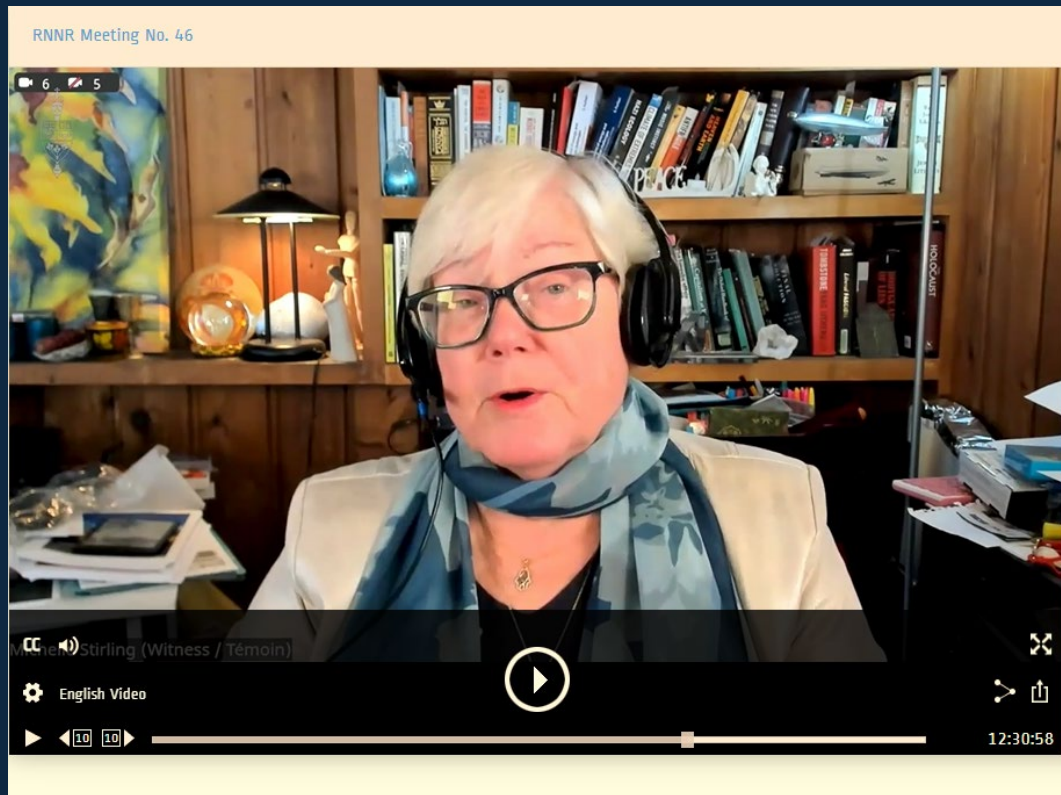
I took down the climate sign at committee..

Friends of Science Society © 2026



<https://parlvu.parl.gc.ca/Harmony/en/PowerBrowser/PowerBrowserV2/20261005/-1/45826>

Unexpectedly Invited.





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RNNR COMMITTEE MEETING

Notices of Meeting include information about the subject matter to be examined by the committee and date, time and place of the meeting, as well as a list of any witnesses scheduled to appear. The **Evidence** is the edited and revised transcript of what is said before a committee. The **Minutes of Proceedings** are the official record of the business conducted by the committee at a sitting.

For an advanced search, use [Publication Search](#) tool.

If you have any questions or comments regarding the accessibility of this publication, please contact us at accessible@parl.gc.ca.

<October 5, 2026>

Notice of MeetingMinutes

Meetings (RNNR)Watch on ParlVU

NOTICE OF MEETING

Standing Committee on Natural Resources (RNNR)
45th Parliament, 1st Session

Meeting 46
Monday, October 5, 2026, 11:00 a.m. to 1:00 p.m.
Room 225-A, West Block
Webcast

<https://www.ourcommons.ca/DocumentViewer/en/45-1/RNNR/meeting-46/notice>

Canada's Electrification, Energy Self-Sufficiency and Domestic Energy Security

Witnesses

11:00 a.m. to 12:00 p.m.

Canadian Association of Petroleum Producers
• Lisa Baiton, President and Chief Executive Officer ([by videoconference](#))

Indigenous Clean Energy
• James Jenkins, Executive Director ([by videoconference](#))

Manitoba Hydro
• Dave Bowen, Vice President, Asset Planning and Delivery ([by videoconference](#))

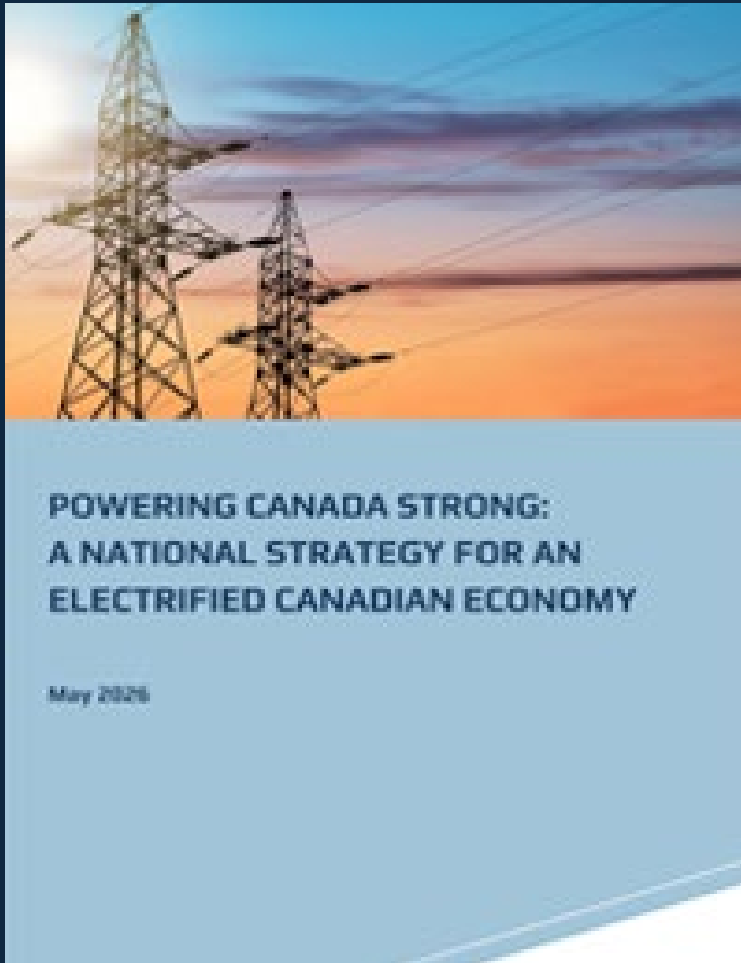
12:00 p.m. to 1:00 p.m.

As an individual
• Thomas Walker, Director, Institute for Sustainable Finance, Professor of Finance, Concordia University ([by videoconference](#))

Environmental Defence Canada
• Emilia Belliveau, Program Manager, Energy Transition ([by videoconference](#))
• Julia Levin, Associate Director, National Climate ([by videoconference](#))

Friends of Science Society
• Michelle Stirling, Communications Manager ([by videoconference](#))

Clerk of the committee
Vicky Sedhya Maurice-Seigny (613-995-0047)



Powering Canada Strong

- policy paper suggests that building transmission lines between provinces will provide:
- energy security,
- reliability and
- affordability.

Look at Europe.



LATEST BLOG | SEARCH BLOG | ABOUT

Decarbonizing electricity in the European Union: A programmed failure demonstrated by the figures

JUNE 16, 2022 / / 1 COMMENT

Contributed by Pierre Kunsch Physicist PhD in Sciences Honorary Professor at Free University of Brussels © 2022

We must stop rambling on about the Green Deal and the carbon neutrality objectives in the European Union (EU) that we are told could be achieved thanks to 100% so-called renewable energies, by massive electrification of the whole of the energy consumption [1]. The symbols of this transition are wind turbines and photovoltaic panels, variable energy sources, depending on the weather conditions.

A full-scale laboratory has existed for about twenty years. It allows you to form an unbiased opinion of what is possible and what is not. All data for electricity in the EU can be downloaded [2] and is presented in summary below.

<https://blog.friendsofscience.org/2022/06/16/decarbonizing-electricity-in-the-european-union-a-programmed-failure-demonstrated-by-the-figures/>

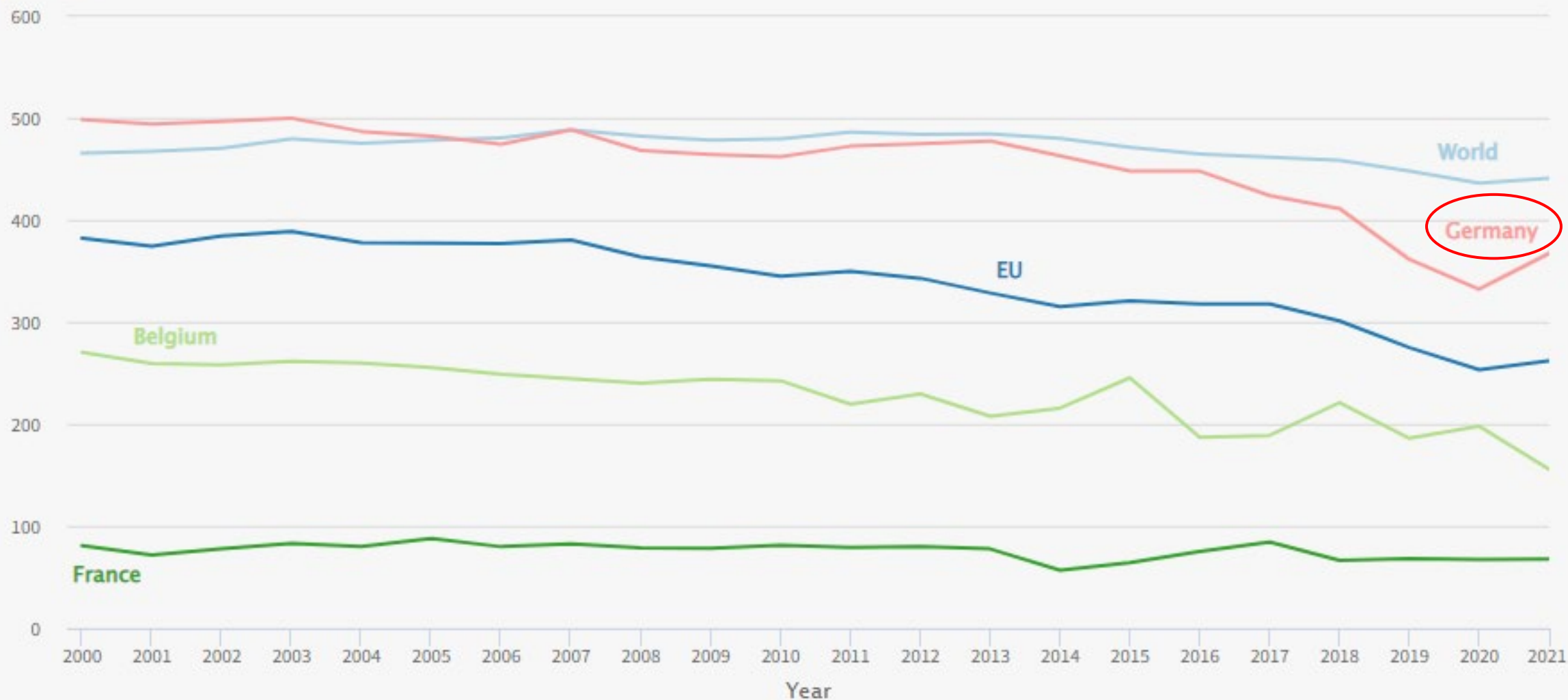
Belgian physicist Pierre Kunsch writes,

- “Decarbonizing electricity in the European Union is a programmed failure demonstrated by the figures. A full-scale laboratory has existed for about twenty years. It allows you to form an unbiased opinion of what is possible and what is not.”

- <https://blog.friendsofscience.org/2022/06/16/decarbonizing-electricity-in-the-european-union-a-programmed-failure-demonstrated-by-the-figures/>
- <https://trends.levif.be/a-la-une/politique-economique/decarboner-lelectricite-dans-lunion-europeenne-un-bilan-chiffre-annonceur-dechec/>

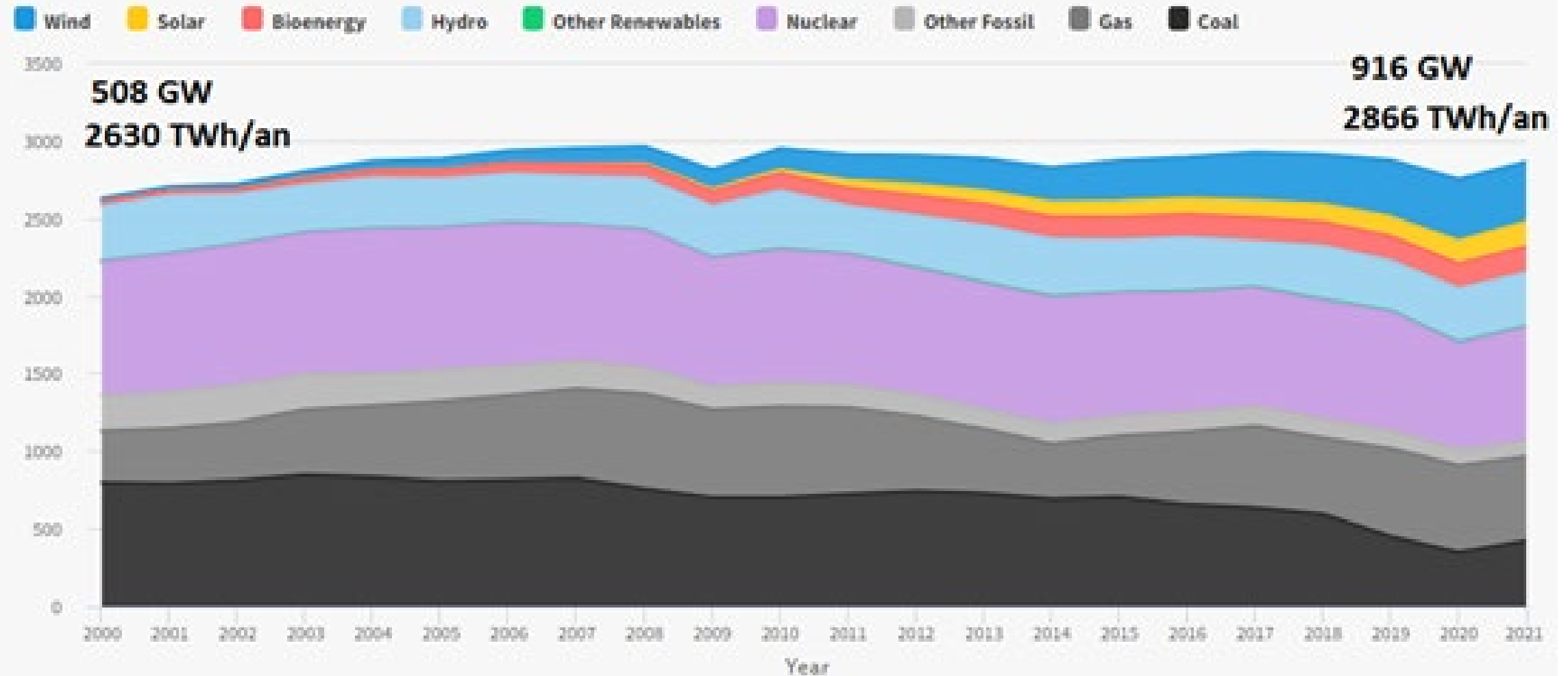
Emissions intensity

gCO₂e per kWh



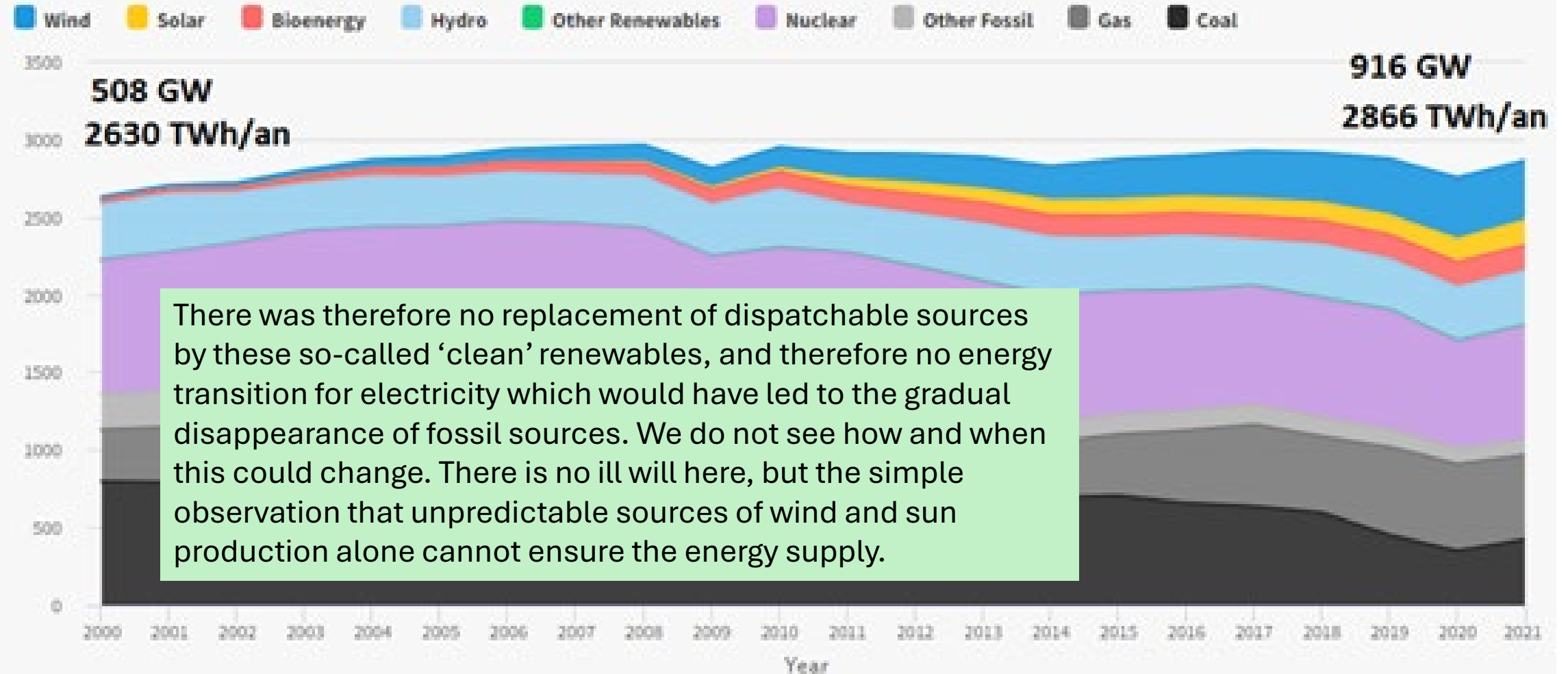
EU electricity generation by source

Terawatt hours



EU electricity generation by source

Terawatt hours



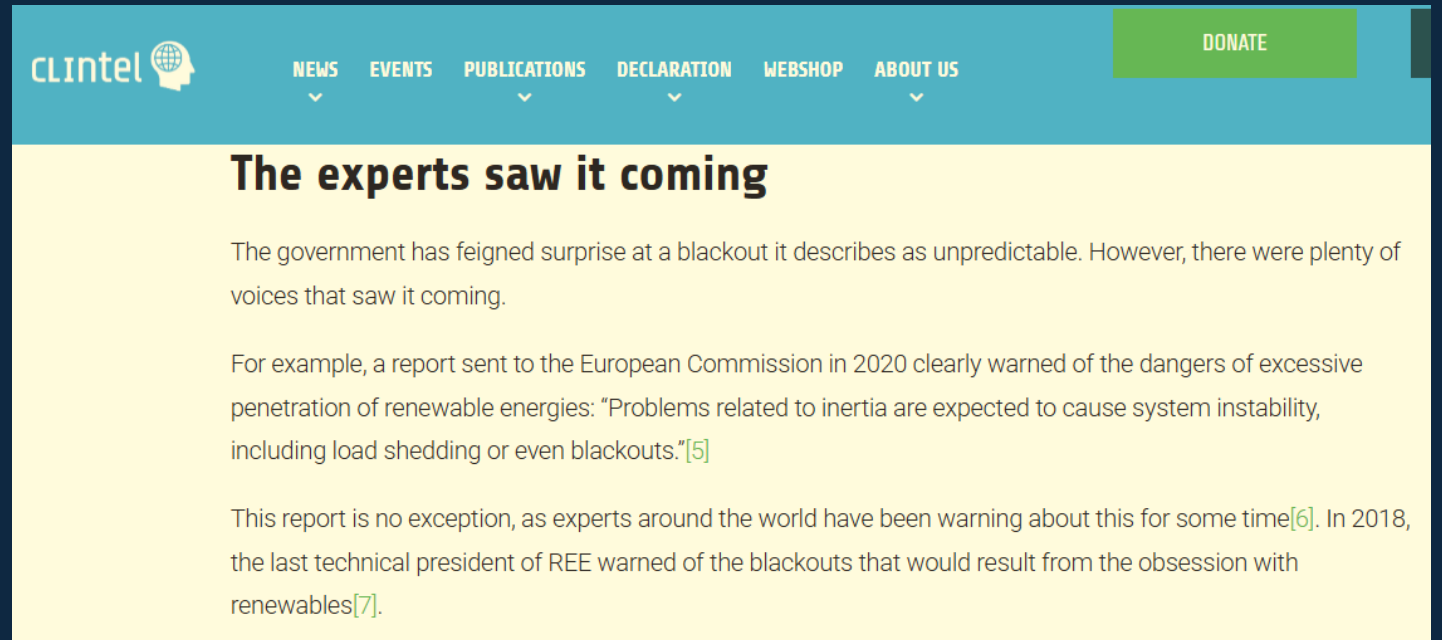
Spain and Portugal experienced national blackouts in April of 2025

- due to grid instability caused by renewables.



The screenshot shows the Mirror website's navigation bar with categories like NEWS, CELEBS, FOOTBALL, LIFESTYLE, and MORE. Below the navigation bar, there are links for INYOURAREA, FUNERAL NOTICES, SHOP, COMPETITIONS, and OFFERS. The main headline reads: "Spain-Portugal power outage map shows major cities hit by blackout as millions without electricity". A sub-headline states: "Spanish power networks said restoring electricity to the country and Portugal could take up to 10 hours., and by mid-afternoon, voltage was progressively being restored".

<https://www.mirror.co.uk/news/world-news/spain-portugal-power-outage-map-35134107>



The screenshot shows the clIntel website's navigation bar with categories like NEWS, EVENTS, PUBLICATIONS, DECLARATION, WEBSHOP, and ABOUT US. A green DONATE button is visible on the right. The main headline reads: "The experts saw it coming". The article text states: "The government has feigned surprise at a blackout it describes as unpredictable. However, there were plenty of voices that saw it coming. For example, a report sent to the European Commission in 2020 clearly warned of the dangers of excessive penetration of renewable energies: 'Problems related to inertia are expected to cause system instability, including load shedding or even blackouts.'[5] This report is no exception, as experts around the world have been warning about this for some time[6]. In 2018, the last technical president of REE warned of the blackouts that would result from the obsession with renewables[7]."

<https://clintel.org/blackout/>

Norway no longer wants to be the hydro battery of Europe.



GREEN BATTERY "A FLAWED IDEA"

In addition to oil and gas, Norway produces a surplus of renewable energy most years from an extensive network of reservoirs and waterways feeding hydroelectric plants, which it has exported to Europe via cross-border power cables.

Norway has previously presented itself as "the green battery" of Europe, but the minister says this idea is now outdated as Norway alone can't balance the European power market.

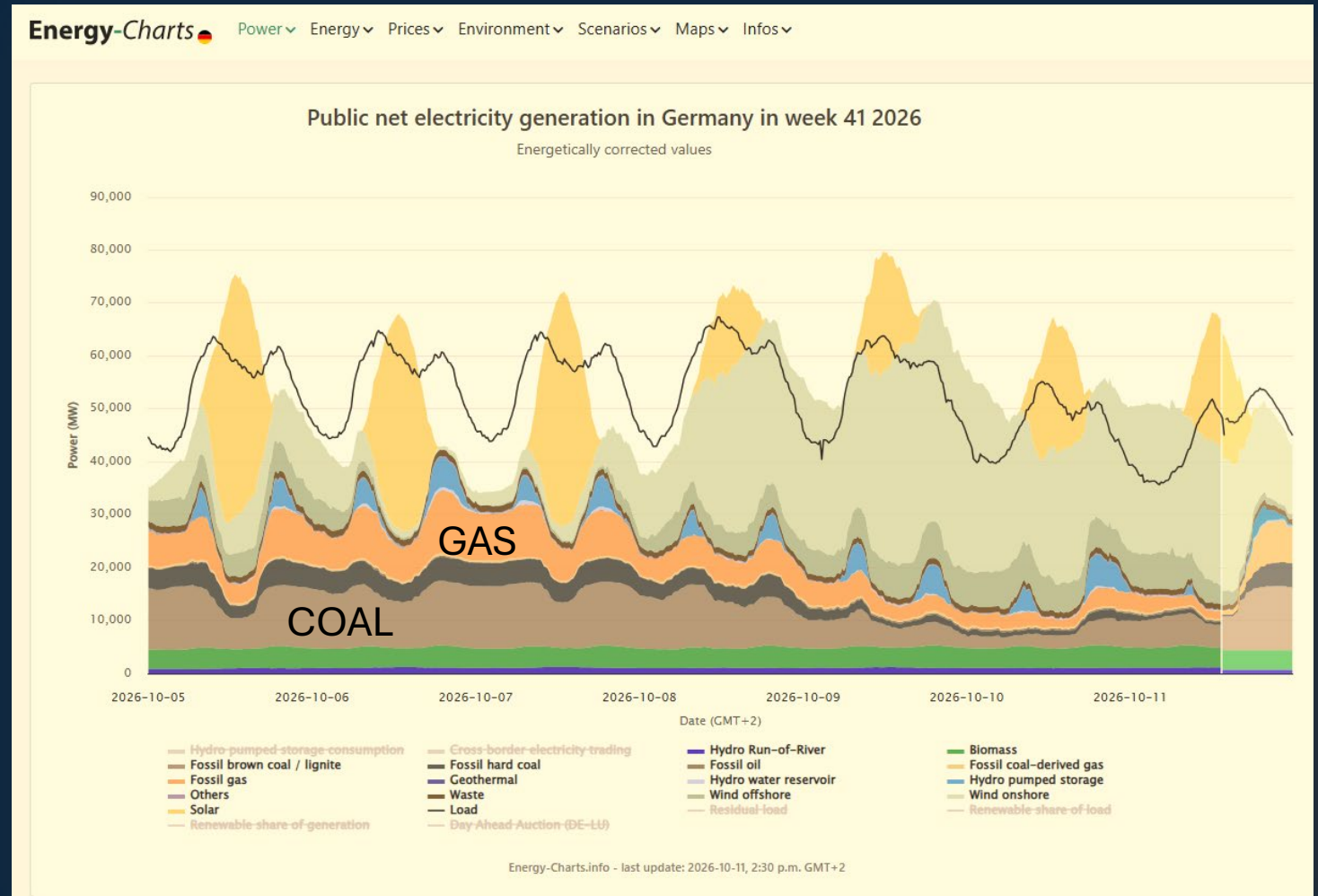
"It was a flawed idea," Aasland said.

<https://www.reuters.com/business/energy/norway-will-drill-arctic-regardless-eus-position-says-energy-minister-2026-08-24/>

Germany has lots of wind and solar

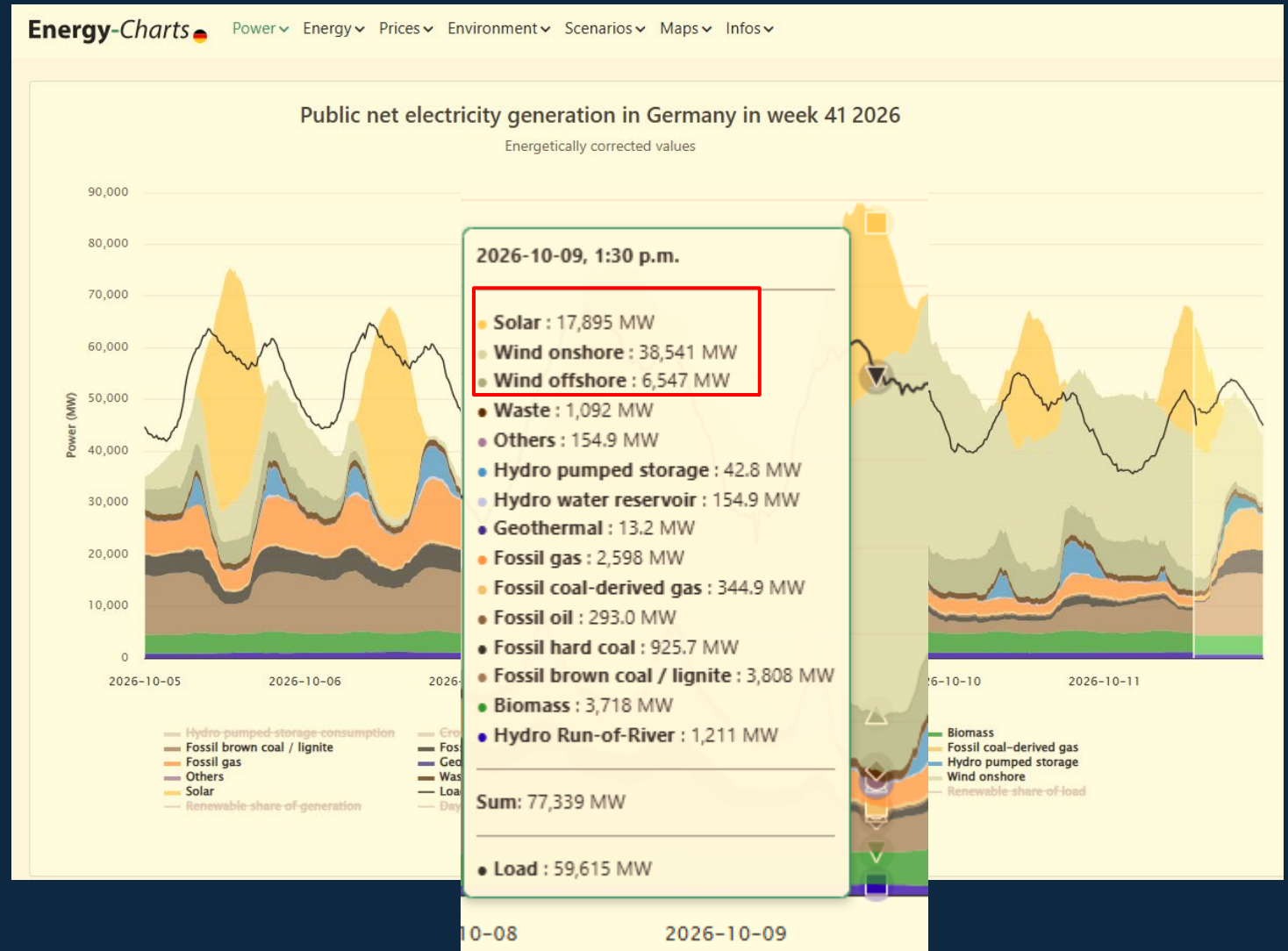
- but powers the country on domestic coal and nuclear from France. Wind, solar and transmission lines have driven up electricity costs.

<https://www.energy-charts.info/charts/power/chart.htm?l=en&c=DE>



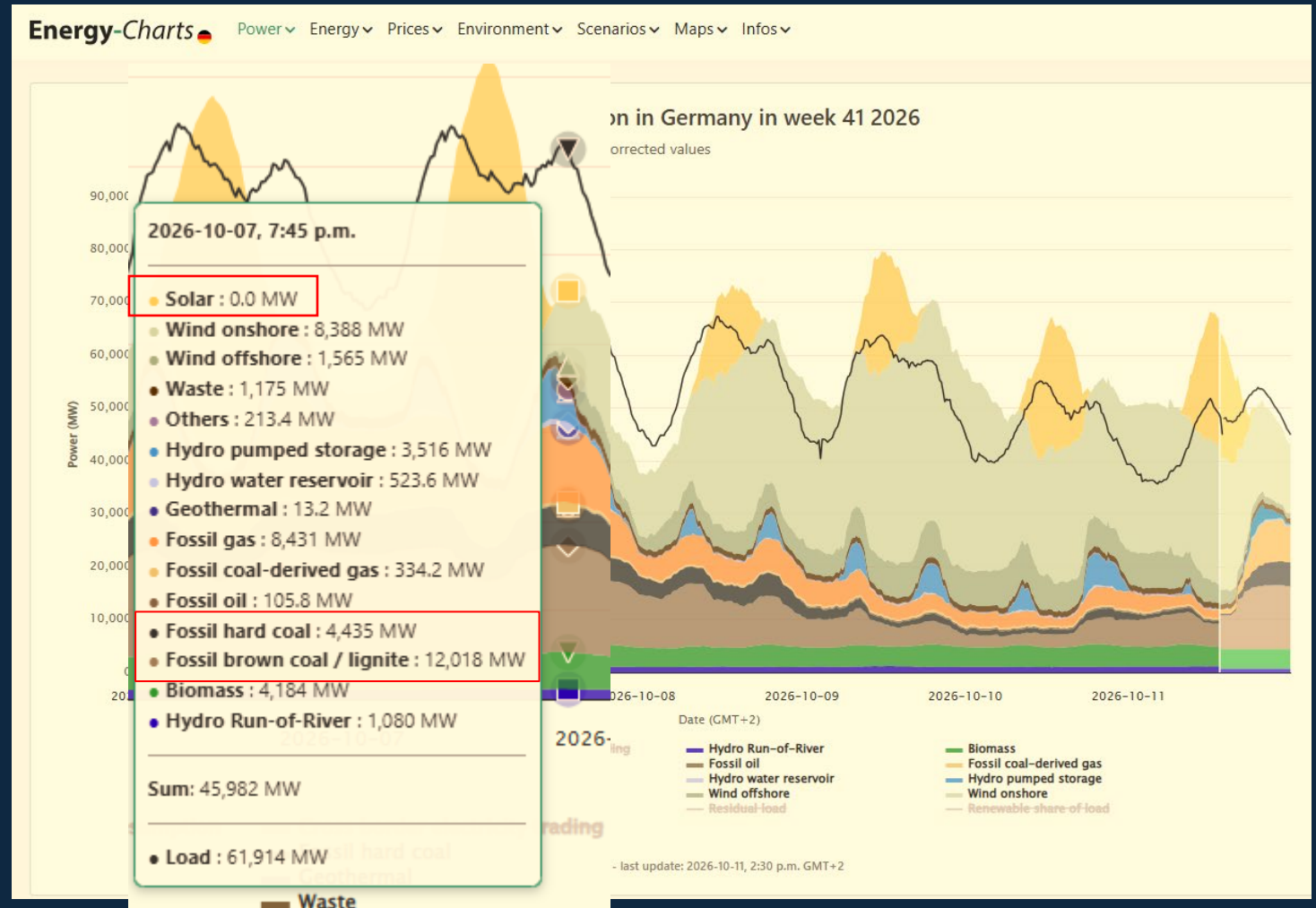
Germany has lots of wind and solar

- but powers the country on domestic coal and nuclear from France. Wind, solar and transmission lines have driven up electricity costs.



Germany has lots of wind and solar

- but powers the country on domestic coal and nuclear from France. Wind, solar and transmission lines have driven up electricity costs.



Germany imports nuclear from France.

✦ AI Overview

Germany imported 15.8 TWh (terawatt-hours) of electricity from France in 2024, making France the largest supplier of power to Germany.  SMARD

- **Monthly Imports (Mid-2026):** In June 2026, Germany imported **1,623,943 MWh** (approx. 1.62 TWh) from France, while exporting 77,866 MWh back, resulting in a net electricity balance of 1,546,077 MWh from France. By July 2026, monthly imports from France stood at **1,363,056 MWh**.  ISI Markets
- **Primary Driver:** These cross-border imports are largely driven by market merit-order pricing and lower French wholesale nuclear generation costs relative to German prices.  自然エネルギー財団 +2

- Due to Germany's expensive electricity and lack of domestic energy,
- industry is collapsing and moving to the US or China.

GIS WHO WE ARE SENIOR EXPERTS PODCAST NEWSLETTER ADVISORY SHOP Search

One important factor has been energy policy. For decades, German industry benefited from reliable and comparatively affordable energy supplies. This advantage gradually weakened as policymakers pursued the *Energiewende*, Germany's ambitious transition to renewable energy sources. While the goal of reducing carbon emissions enjoys broad political support, the transition increased energy costs and created greater uncertainty for energy-intensive industries.

<https://www.gisreportsonline.com/r/germany-industrial-decline/>





The Pursuit of the Impossible

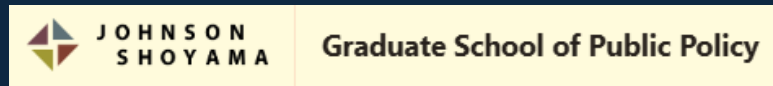
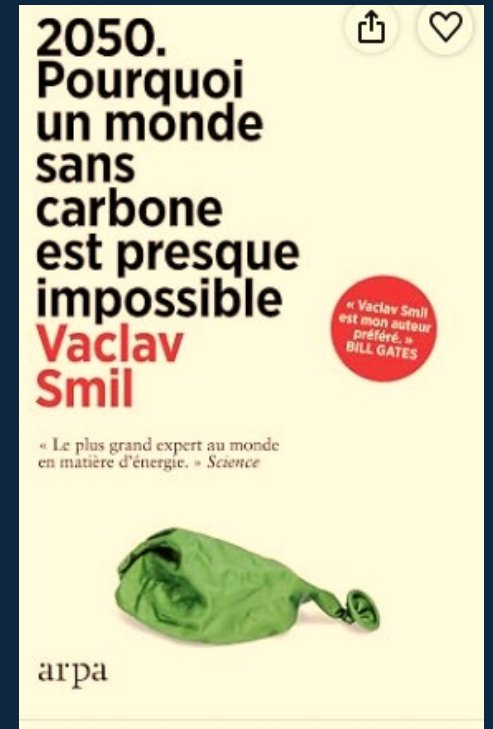
Materials Constraints and Realities for the Net Zero Utopia

Net zero is the “Pursuit of the Impossible.”

- Like Europe, Canada's net-zero emissions targets cannot be met with current technologies by 2030 or 2050...

- as clearly stated by Prof. Emeritus Vaclav Smil. Energy revolution? He calls it a crawl.

- <https://www.schoolofpublicpolicy.sk.ca/research-ideas/publications-and-policy-insight/policy-brief/what-we-need-to-know-about-the-pace-of-decarbonization.php>
- <https://vaclavsmil.com/wp-content/uploads/2024/06/HALEFWAY.pdf>
- <https://a.co/d/0jf3UvNg> 2050 - POURQUOI UN MONDE SANS CARBONE EST PRESQUE IMPOSSIBLE

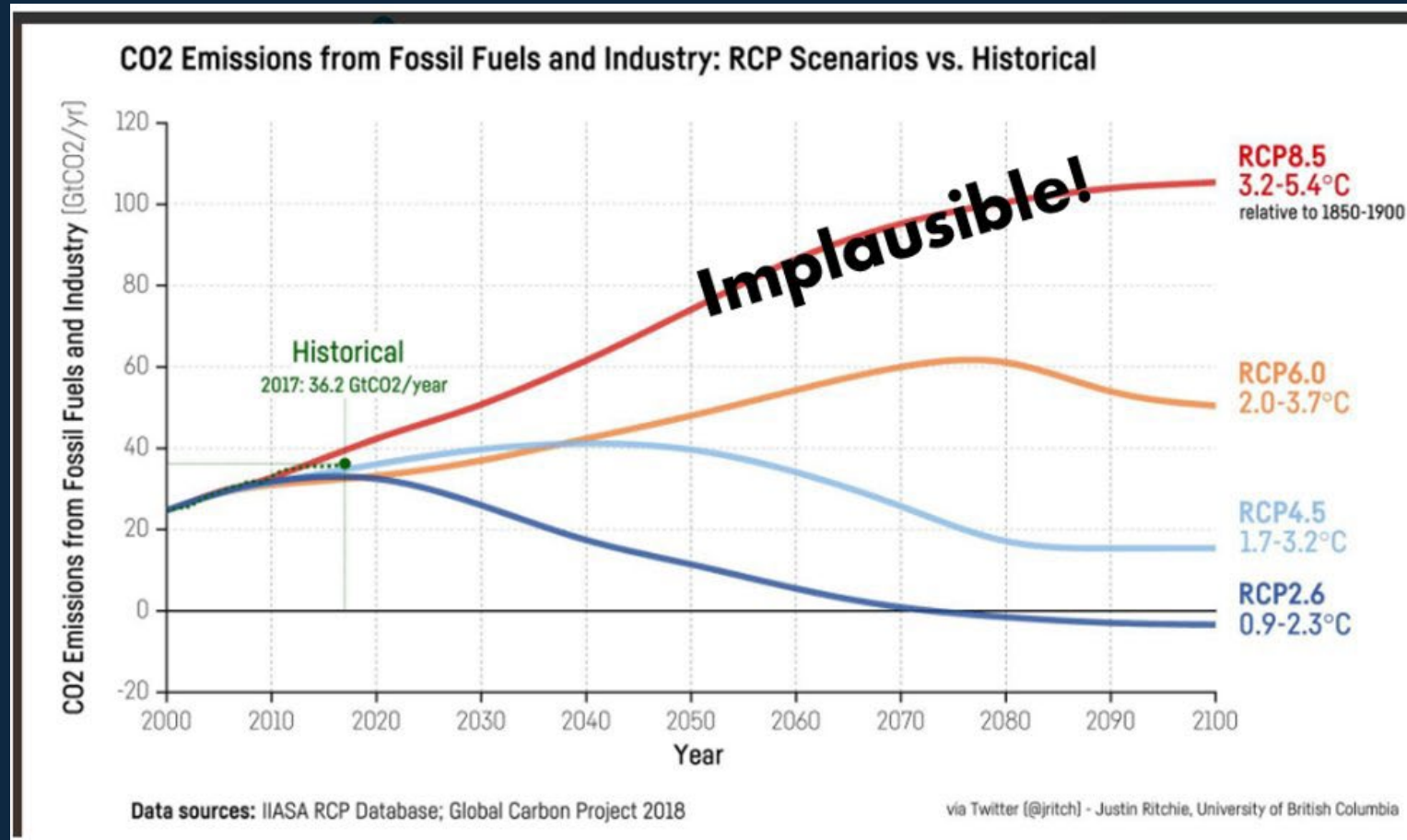


What we need to know about the pace of decarbonization

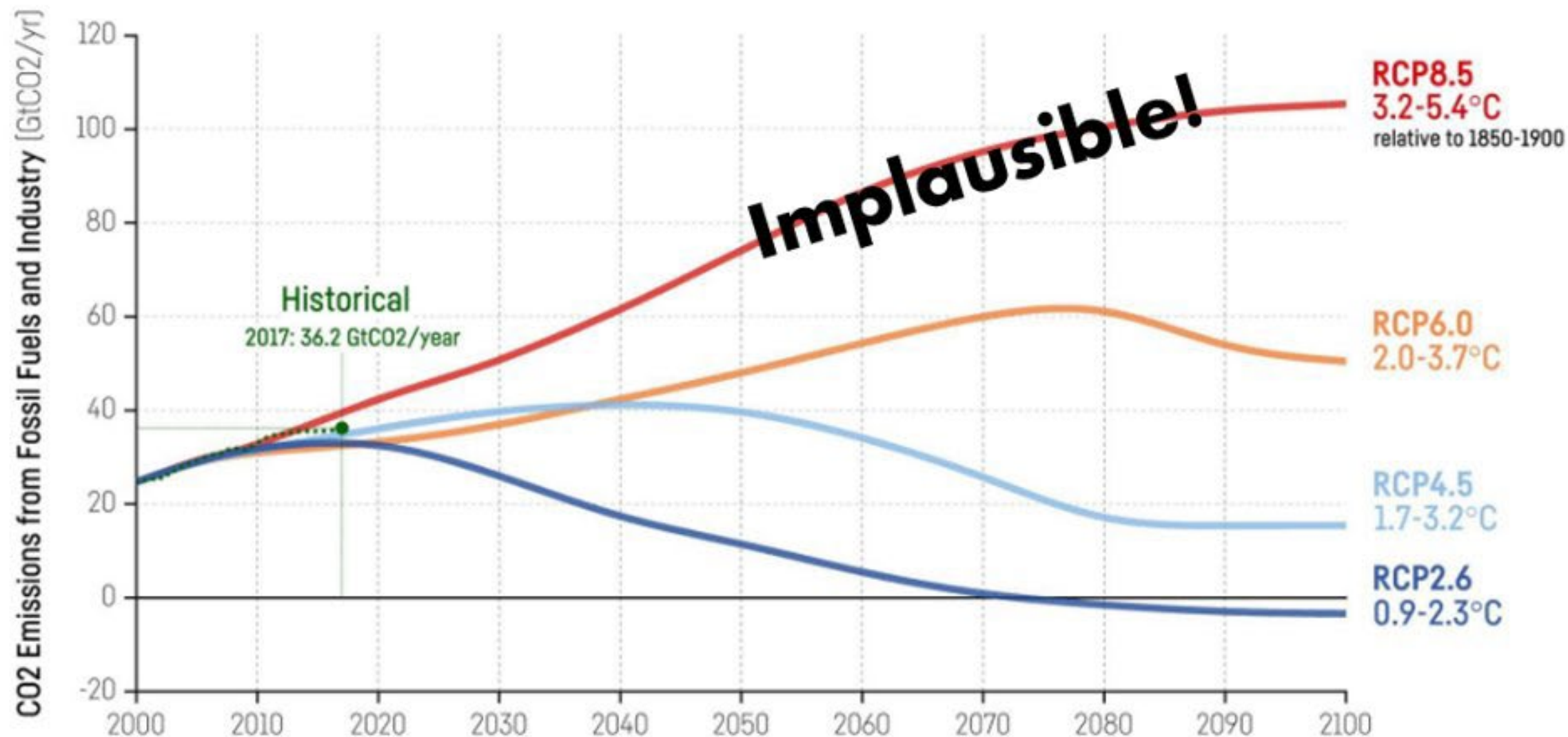
Energy transitions have been among the key defining processes of human evolution.

By VACLAV SMIL, DISTINGUISHED PROFESSOR EMERITUS, FACULTY OF ENVIRONMENT, UNIVERSITY OF MANITOBA

The push for net zero was based on catastrophic climate scenarios - the best known is RCP 8.5



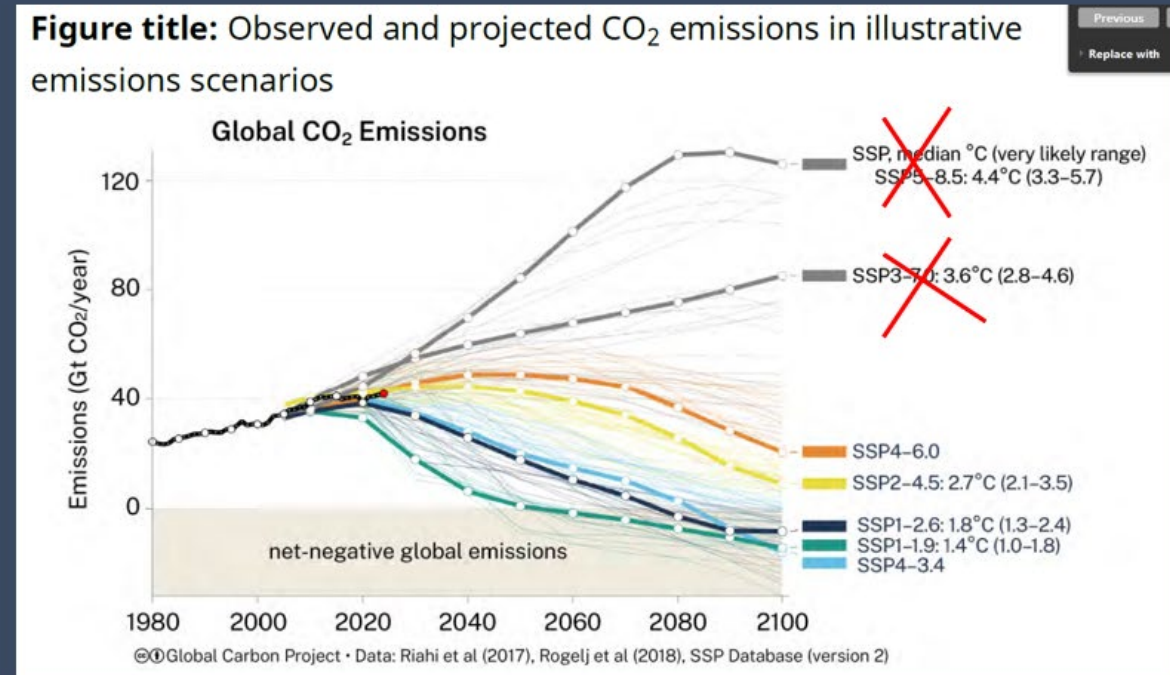
CO2 Emissions from Fossil Fuels and Industry: RCP Scenarios vs. Historical



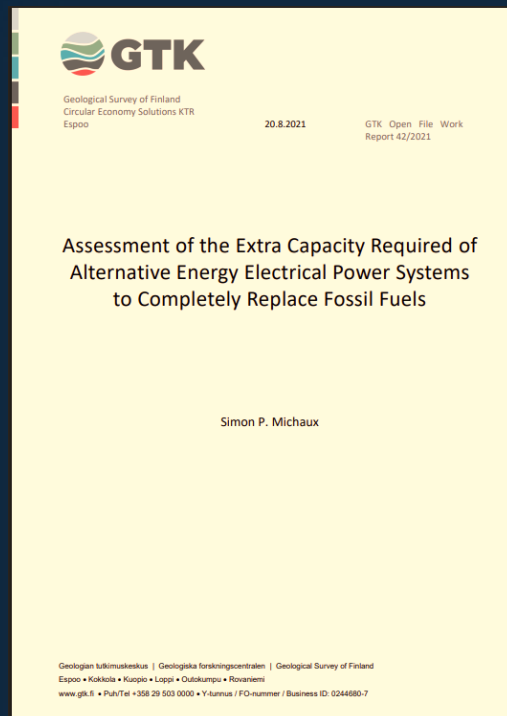
Environment Canada continues to use them in CCCR2026, misleading policy makers. There is no climate emergency.



These high-end scenarios have been retired.



Likewise, there is no material supply chain or capacity to build out critical mineral mines to meet net zero, as shown by Prof. Simon Michaux.



Metal	Element	Total metal required produce one generation of technology units to phase out fossil fuels (tonnes)	Global Metal Production 2019 (tonnes)	Years to produce metal at 2019 rates of production (years)
Copper	Cu	4 575 523 674	24 200 000	189,1
Nickel	Ni	940 578 114	2 350 142	400,2
Lithium	Li	944 150 293	95 170 *	9920,7
Cobalt	Co	218 396 990	126 019	1733,0
Graphite (natural flake)	C	8 973 640 257	1 156 300 ♦	3287,9
Graphite (synthetic)	C		1 573 000 ♦	-
Silicon (Metallurgical)	Si	49 571 460	8 410 000	5,9
Vanadium	V	681 865 986	96 021 *	7101,2
<u>Rare Earth Metals</u>				
Neodymium	Nd	965 183	23 900	40,4
Germanium	Ge	4 163 162	143	29113,0
Lanthanum	La	5 970 738	35 800	166,8
Praseodymium	Pr	235 387	7 500	31,4
Dysprosium	Dy	196 207	1 000	196,2
Terbium	Tb	16 771	280	59,9

https://tupa.gtk.fi/raportti/arkisto/42_2021.pdf

Likewise, there is no material supply chain or capacity to build out critical mineral mines to meet net zero, as shown by Prof. Simon Michaux.

- At 2019 rates of production, it would take 189 years to mine sufficient copper and over 9,000 years to mine sufficient lithium.

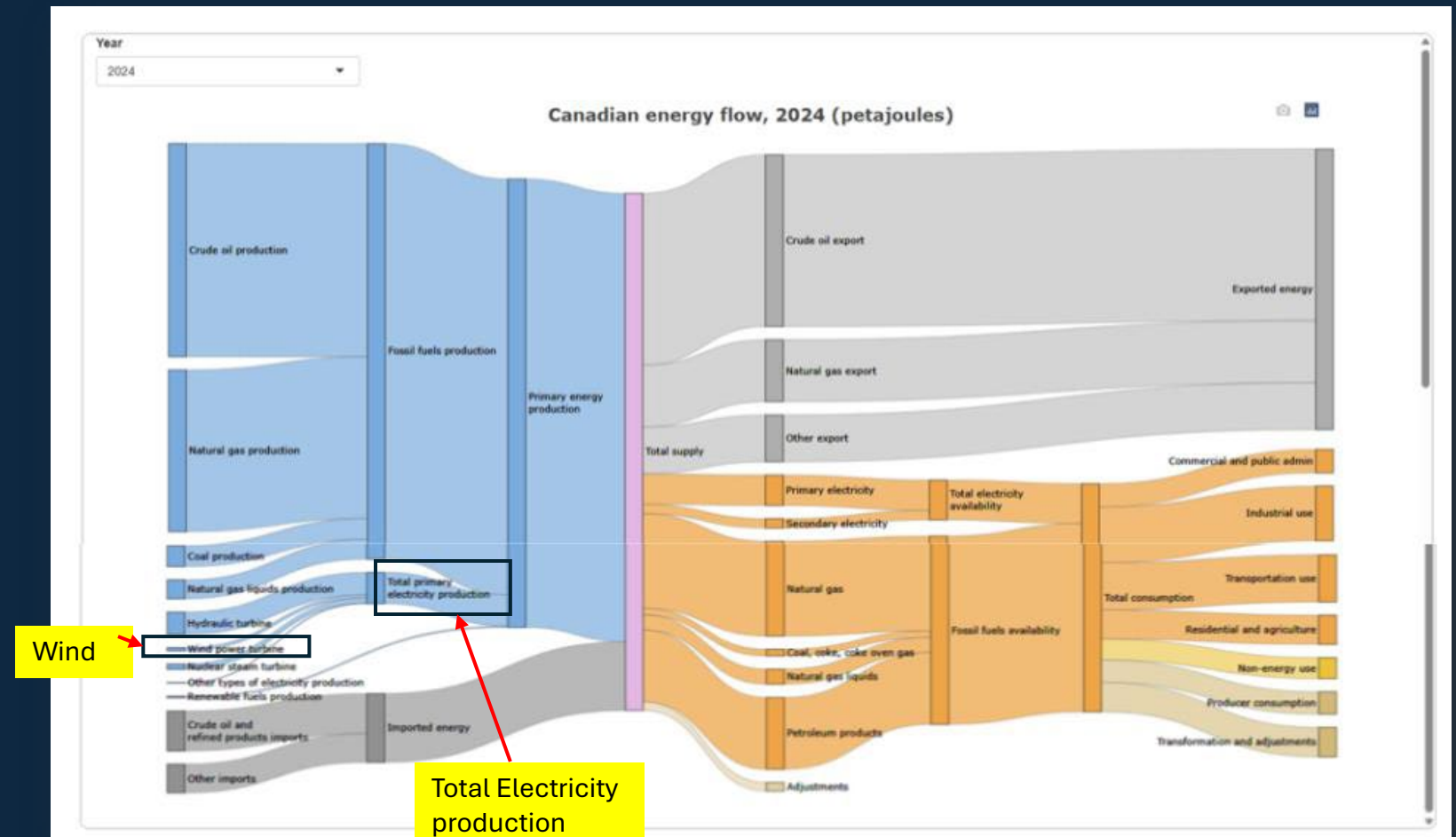
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Terbium	Tb	16 771	280	59,9

A photograph of a nuclear power plant at night. Several large, cylindrical cooling towers are visible, each emitting thick plumes of white steam that rise into the dark sky. The plant's structures, including pipes and smaller buildings, are illuminated by artificial lights, creating a contrast with the dark surroundings. A black rectangular box is overlaid on the left side of the image, containing white text.

Is the solution to
emissions to electrify
everything?

The government's Sankey diagram shows that electricity meets only 18 per cent of Canada's energy demand.

- Fossil fuels constitute 93 per cent of domestic energy supply; renewables only 7 per cent.

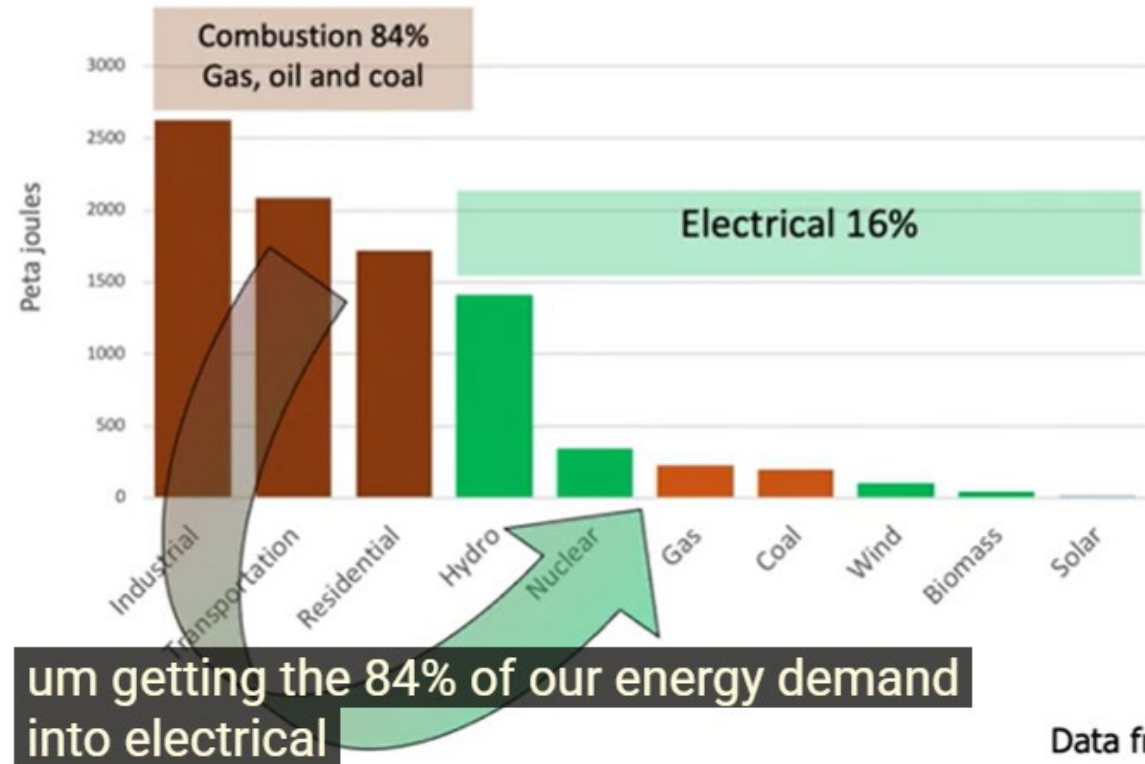


To Visualize this Another Way...

Dr. Ian Clark: A Reality Check on Climate
and Net Zero

https://youtu.be/_N_0kM1DFHs?list=PLZcRTdbkGEnGZmLsQ3o5Dk7UTm3p3H5gy

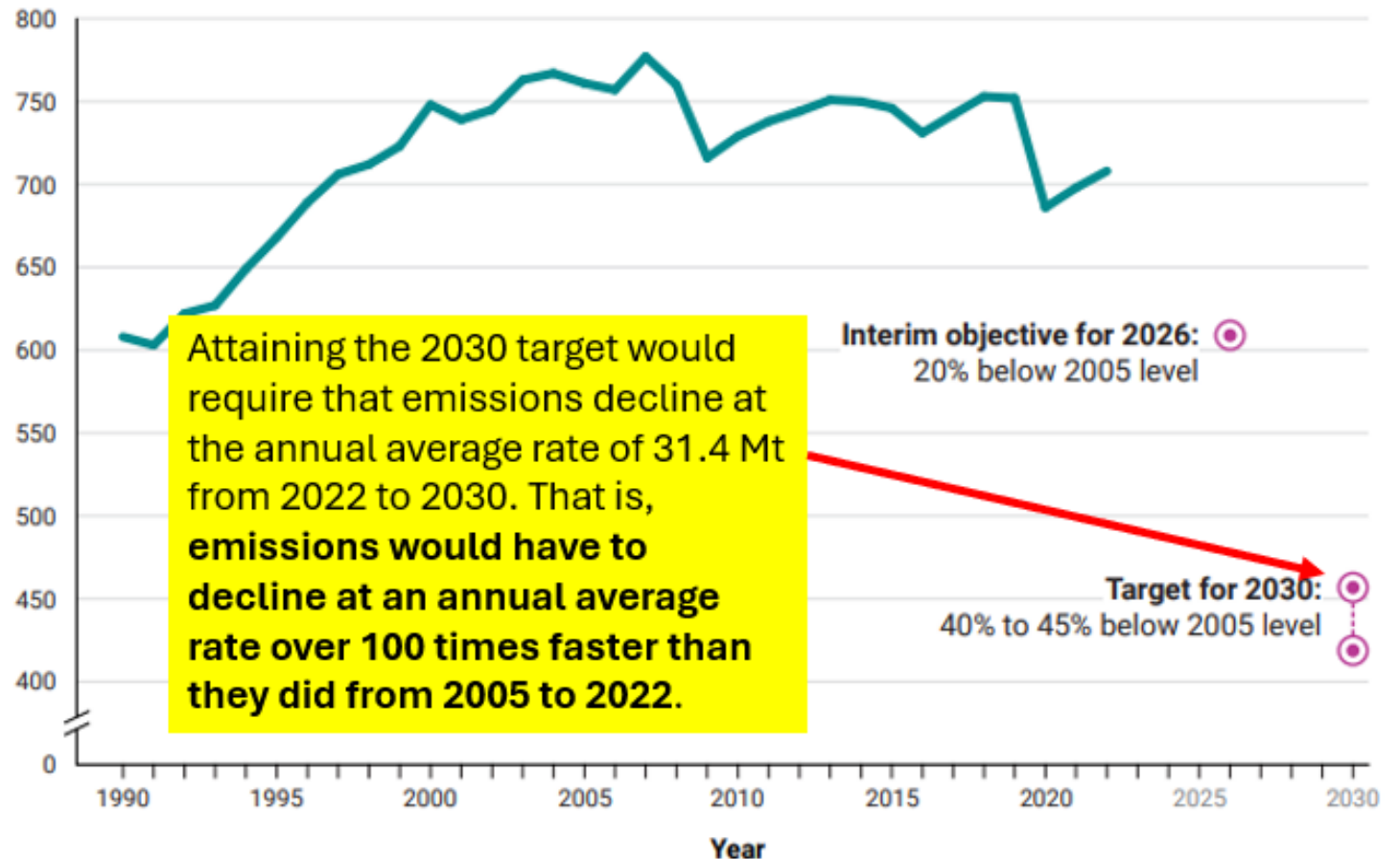
Canada's Net Zero Transition



And to
visualize it
yet another
way...

Exhibit 7.1—Canada's greenhouse gas emissions, projections, objective, and target

Greenhouse gas emissions
(in megatonnes of carbon
dioxide equivalent)



Note: The land use, land-use change, and forestry accounting contributions were not included because those values had not yet been published.

Source: Based on data from the National Inventory Report 1990–2022: Greenhouse Gas Sources and Sinks in Canada, Environment and Climate Change Canada, 2024

The True Cost of Wind and Solar Electricity in Alberta

We are often told that wind and solar are now cheaper than other forms of electricity generation. And at every ribbon-cutting, we are told that the new wind or solar plant can provide emissions-free electricity to so many thousands of homes. Both claims are false because they ignore the fact that wind and solar generators cannot meet consumers' electricity needs when the wind is not blowing or the sun is not shining. They must be fully backed up by electricity sources that work even on dark, windless nights, and when the costs of providing that backup are accounted for, it turns out that wind and solar are very expensive. Batteries are sometimes proposed as solutions to wind and solar generation's variability. However, while batteries can reasonably address the variability over periods from seconds to a few hours, they cannot address the months-long seasonal variability because the associated costs would be in the TRILLIONS of dollars.



© Friends of Science Society 2021

Can wind, solar and grid scale batteries provide reliable, affordable power?

- “At 2021 prices, the batteries needed to ensure a reliable supply of electricity from wind and solar generators **[for Alberta alone]** would cost almost two trillion dollars.”

<https://blog.friendsofscience.org/wp-content/uploads/2021/04/The-True-Cost-of-Wind-and-Solar-in-Alberta-FINAL-Ap-25-2021.pdf>

Canada's seasonal weather extremes mean that solar and wind are often 'dead' when additional power is most needed.

Wind is not always blowing 'somewhere.'

WESTERN Standard

NEWS OPINION WATCH BUSINESS FEATURES DONATE ABOUT

STIRLING: When magical thinking meets a polar vortex cold, hard reality follows



Mohamad Alrefai Wiki Commons

 Michelle Stirling 

Published on: 13 Jan 2024, 9:30 pm

<https://www.westernstandard.news/opinion/stirling-when-magical-thinking-meets-a-polar-vortex-cold-hard-reality-follows/51646>

Wind and solar devices can operate reliably for about 15 to 20 years; grid scale batteries for about 10 years – then they must all be replaced at the same cost or greater.

- The old devices cannot easily be recycled, creating garbage dumps.

[About](#) [Resources](#) [Experience](#) [Wind Power Fraud](#)



STOP THESE THINGS

THE TRUTH ABOUT THE GREAT WIND POWER FRAUD
We're not here to debate the wind industry - we're here to destroy it

200 Million Tonnes of Toxic Solar Panels Destined For Landfills Near You



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WORLD NEWS

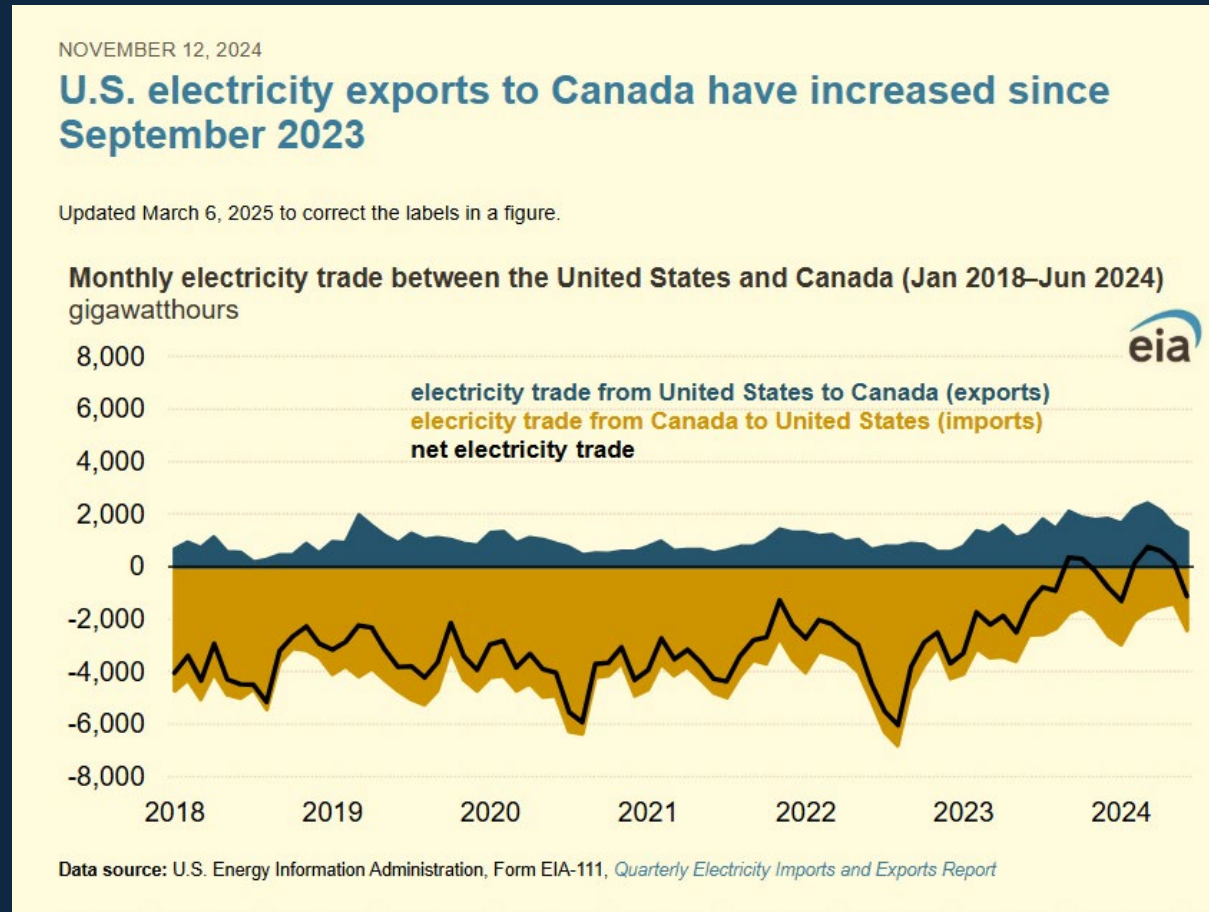
In addition to the landfill in Casper, landfills in Lake Mills, Iowa and Sioux Falls, South Dakota accept the discarded blades – but few other facilities have the kind of open space needed to bury the massive blades.



Conventional power plants can operate for about 60 years, hydro dams and nuclear generators for about 100 years.



Canada and the US rely on each other for north-south exchange of electricity. This provides excellent reliability for both nations.





British Columbia's drought meant it has had to import about 20% of its power from the US.

British Columbia is a net importer of electricity for the third-straight year

The province's power imports are drawing renewed scrutiny as BC Hydro faces rising demand, a growing connection backlog, and reliability warnings heading into 2026.

By Geoff Russ • January 21, 2026 • 5 MIN READ

Warnings that British Columbia's energy grid is losing its independence have been renewed as more electricity was imported into the province this year.

The Energy Futures Institute said in a [news release](#) Tuesday that B.C. has been a net importer of electricity for a third straight year, and that the trend raises questions about whether planning is keeping pace with growing demand and reliability requirements.

"Despite political pronouncements about the importance of 'standing on our own two feet' British Columbia continues to import substantial amounts of electricity from the U.S.," said Barry Penner, the institute's chair and a former B.C. cabinet minister.

"This isn't a one-off," Penner added, arguing the province has now relied on net imports for three consecutive years.

Imports exceed Site C output

According to the new data obtained by the institute, BC Hydro imported another 500 gigawatt hours of electricity last month, bringing total net imports for 2025 to 5,591 gigawatt hours, a figure it said exceeds the expected annual output of the Site C hydroelectric project in a normal water year.

Site C is designed to produce about 5,100 gigawatt hours of electricity [each year](#).

BC Hydro filings [cited](#) by Global News show the utility imported 13,600 gigawatt hours of electricity in fiscal 2024 at a cost of nearly \$1.4 billion.

Due to Quebec electrification of home heating and drought, at times Quebec Hydro has found itself unable to export to US markets.

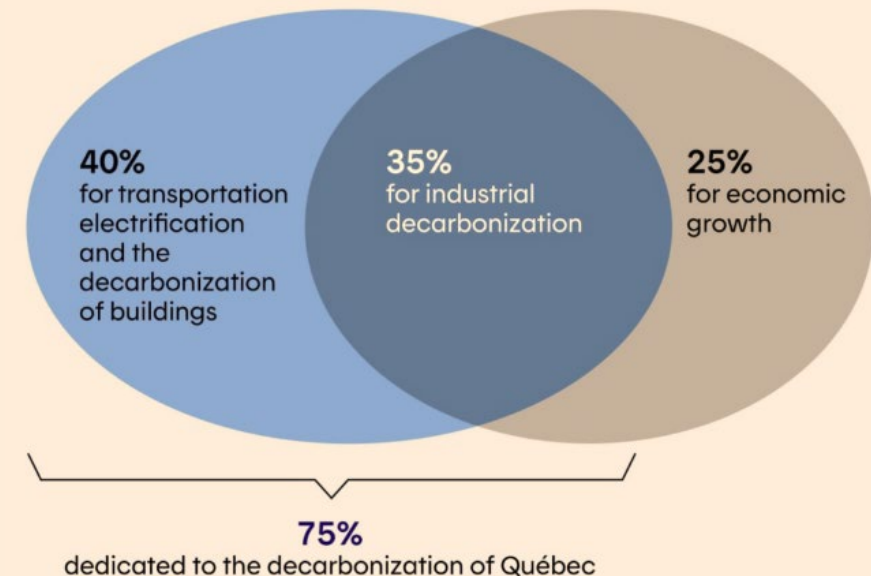


Are we running out of electricity in Québec?

Our energy surpluses have been used up

Realistically, we know that energy surpluses are a thing of the past. Québec has committed to reaching carbon neutrality by 2050. To do so, 75% of new electricity generation must be used to decarbonize all sectors. By 2035, 40% of this additional electricity will be used for transportation electrification and to heat buildings.

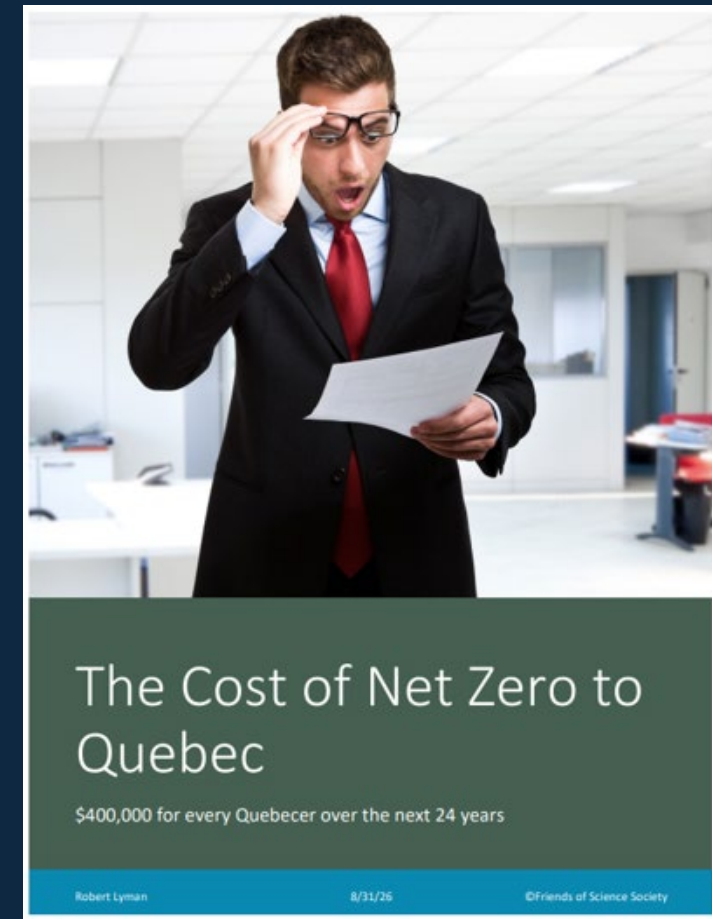
Breakdown of additional electricity use by 2035



The cost of net zero for Quebec would be \$400,000 per citizen over the next 24 years.



<https://blog.friendsofscience.org/2026/09/01/le-cout-de-lobjectif-zero-emissionnette-de-co2-pour-le-quebec/>

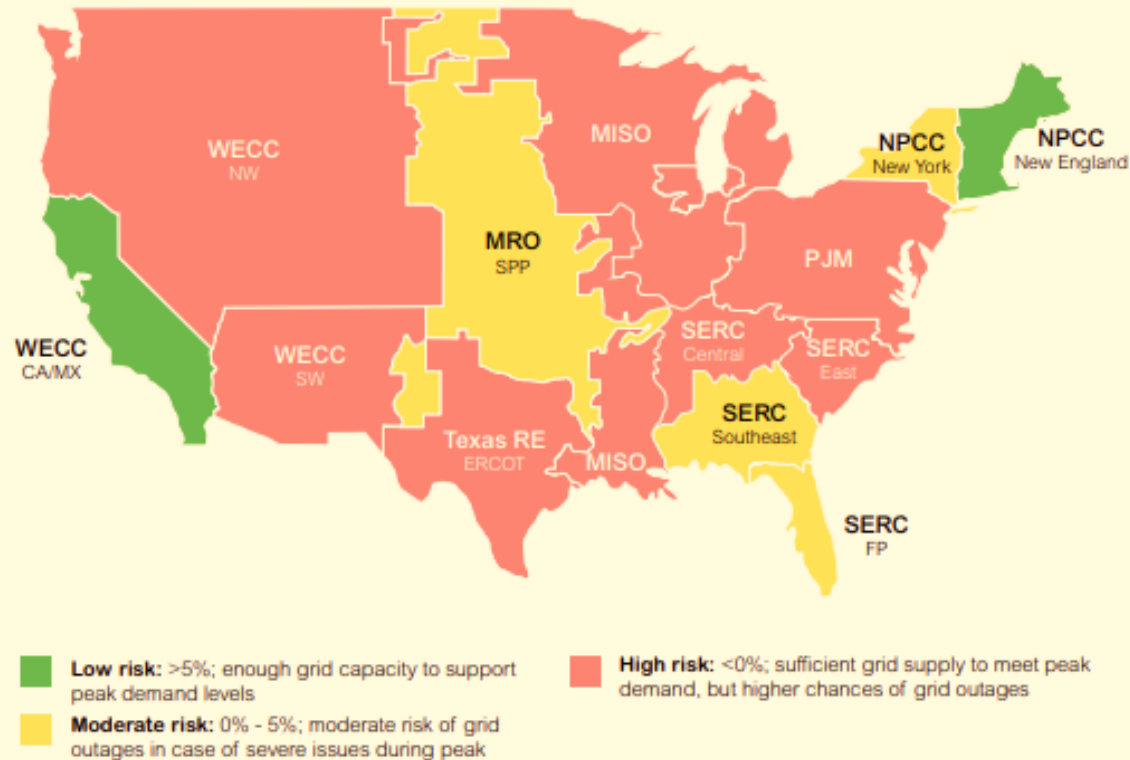


<https://blog.friendsofscience.org/2026/09/01/the-cost-of-net-zero-to-quebec/>

Canada must build more conventional power generation. US is facing power constraints.

Figure 1: U.S. map showing a widespread shortfall of needed reserves (capacity resource sufficiency) in 2030 which puts much of the U.S. at higher risk of outages.

Table 1: Annual percent difference between a given region's anticipated reserve margin and the required reference margin level. Red indicates a shortfall of reserve capacity to deal with emergencies.



https://download.se.com/files?p_Doc_Ref=SPD_EBK2_EN&p_enDocType=Executive+report&p_File_Name=EBK2+-+US+Grid+Capacity+Analysis+VF.pdf

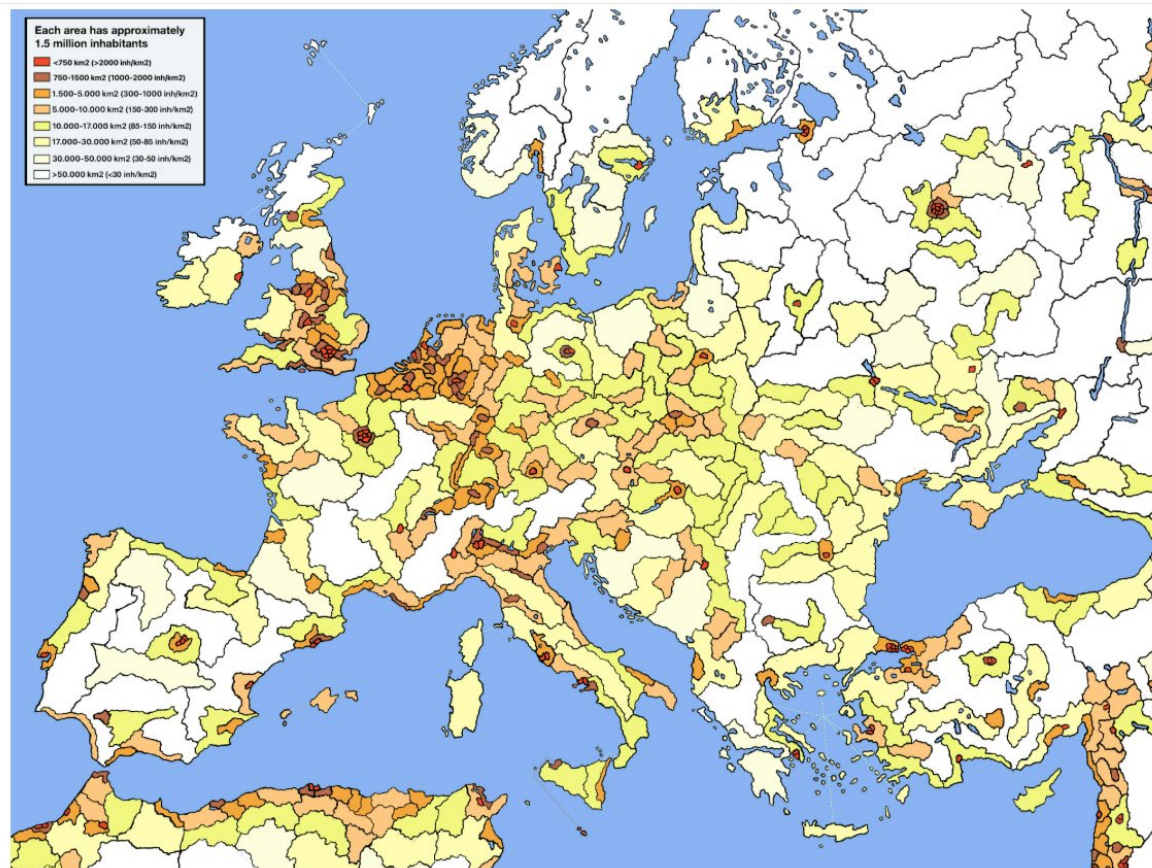
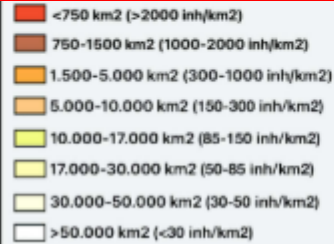
- Transmission lines between provinces does not solve the problem. Interties are useful for limited and specific exchanges of electrical power.



Europe is cited as a highly networked model; it is densely populated.

Population Density Map of Europe – Regional Overview

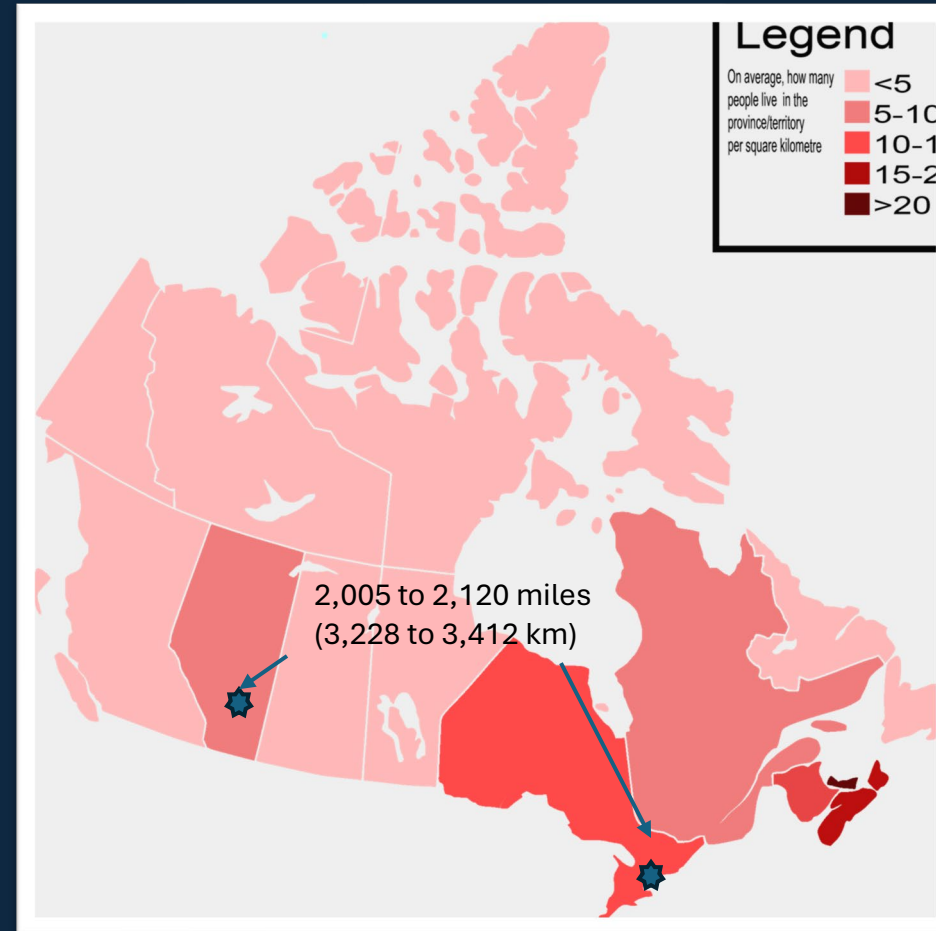
Each area has approximately 1.5 million inhabitants



<https://www.guideoftheworld.com/europe-population-map.html>

Map showing population density across Europe with areas grouped by inhabitants per km².

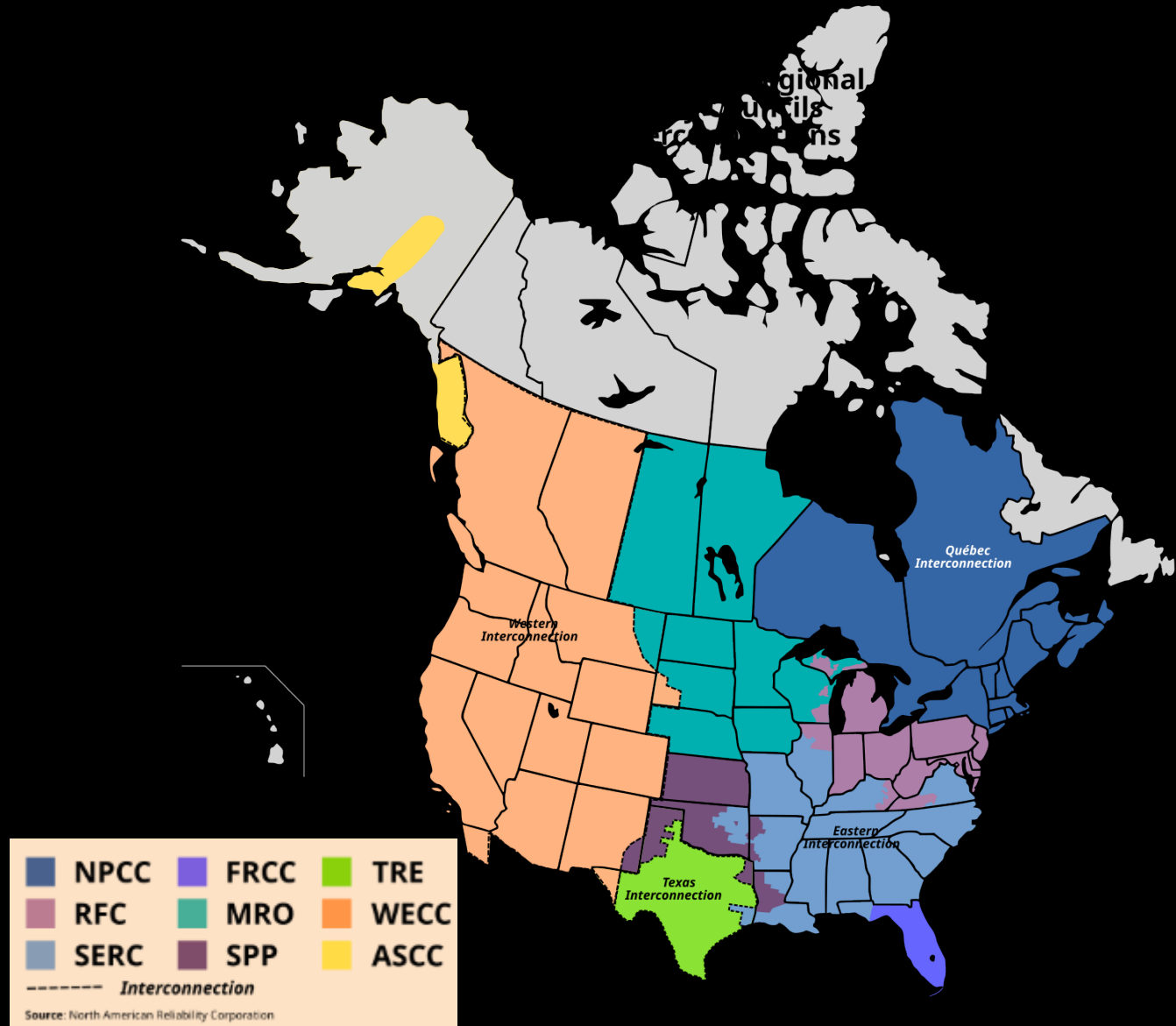
- In Canada, there is no city over 1 million people between Toronto and Calgary to underwrite the cost of transmission lines.



- BBPowe, CC BY-SA 4.0 <<https://creativecommons.org/licenses/by-sa/4.0/>>, via Wikimedia Commons

Electricity
exchanges are north
south due to
economics
(population density)
and geography

By Bouchecl - Own work, CC BY-SA 3.0,
<https://commons.wikimedia.org/w/index.php?curid=6750405>



“Clean” energy is a misnomer. Wind, solar, batteries demand more energy and critical minerals for manufacture –

Runs 2 engines, each 2000hp. Each engine burns approx. 120 gallons per hour, 2880 per 12 hr shift or 2 million gallons per year.

You can't make #GreenEnergy without a lot of diesel fuel.

← Tweet



John Lee Pettimore
@JohnLeePettim13

I get asked this question a lot, "How much fuel does that bad boy burn" The 9800 runs 2 engines, QSK 60s, each 2000hp. Each engine burns approx. 120 gallons per hour, 2880 gallons per 12 hr. shift or 2 million gals per yr. You cant make #GreenEnergy without a lot of diesel fuel.



the emissions
are in China
which runs on
coal.



To Get Wind Power You Need Oil

Each wind turbine embodies a whole lot of petrochemicals and fossil-fuel energy

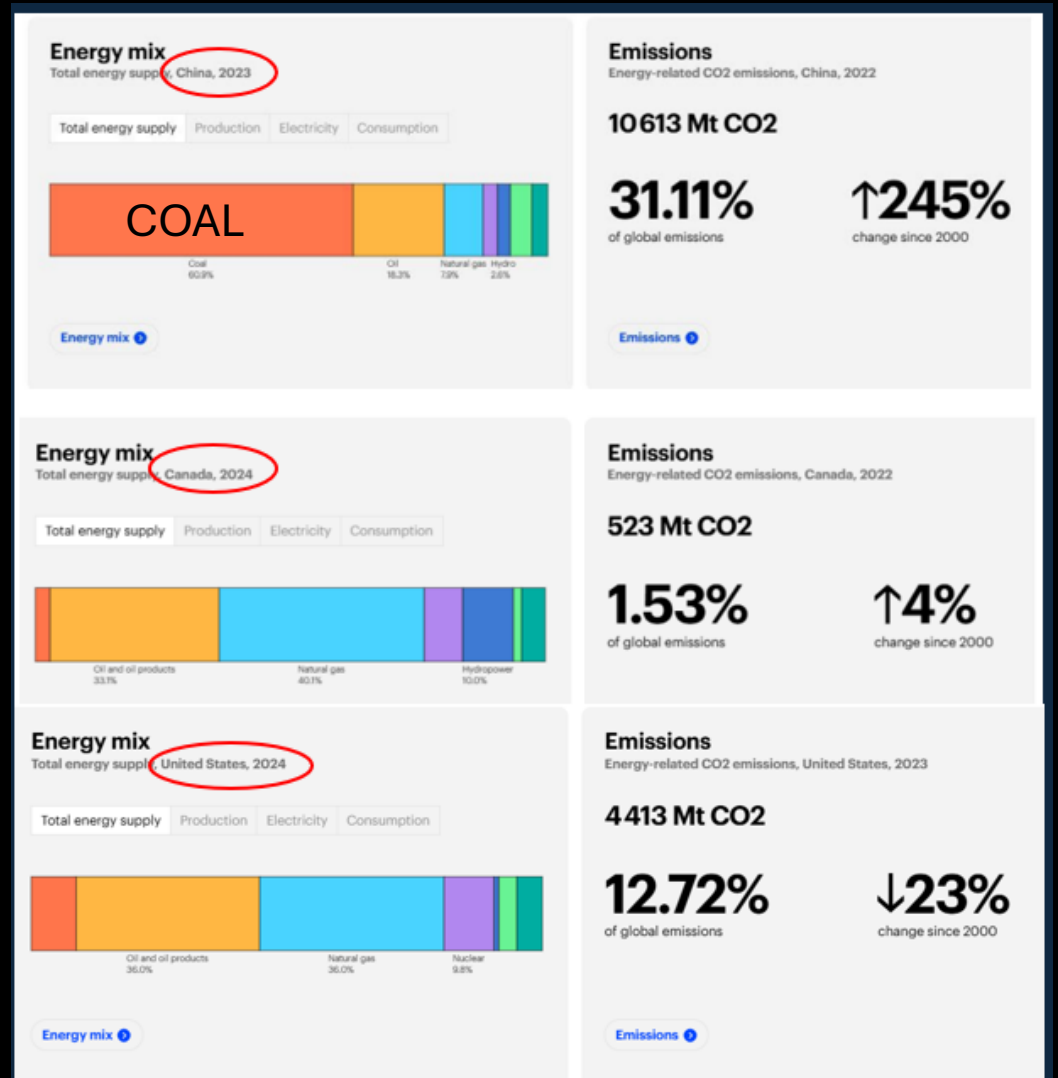
By Vaclav Smil



Illustration: Dan Page

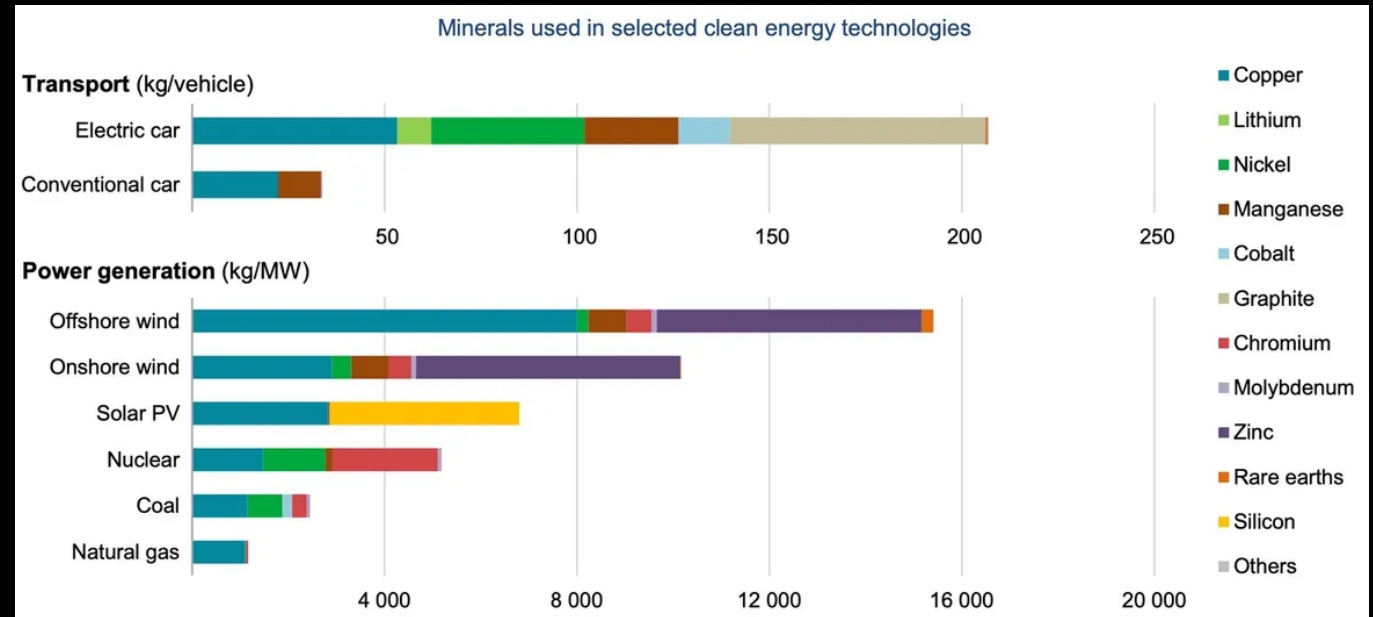
Wind turbines are the most visible symbols of the quest for renewable electricity generation. And yet, although they exploit the wind, which is as free and as green as energy can be, the machines themselves are pure embodiments of fossil fuels.

Large trucks bring steel and other raw materials to the site, earth-moving equipment beats a path to otherwise inaccessible high ground, large cranes erect the structures, and all these machines burn diesel fuel. So do the freight trains and cargo ships that convey the materials needed for the production of cement, steel, and plastics. For a 5-megawatt turbine, the steel alone averages [pdf] 150 metric tons for the reinforced concrete foundations, 250 metric tons for the rotor hubs and nacelles (which house the gearbox and generator), and 500 metric tons for the towers.

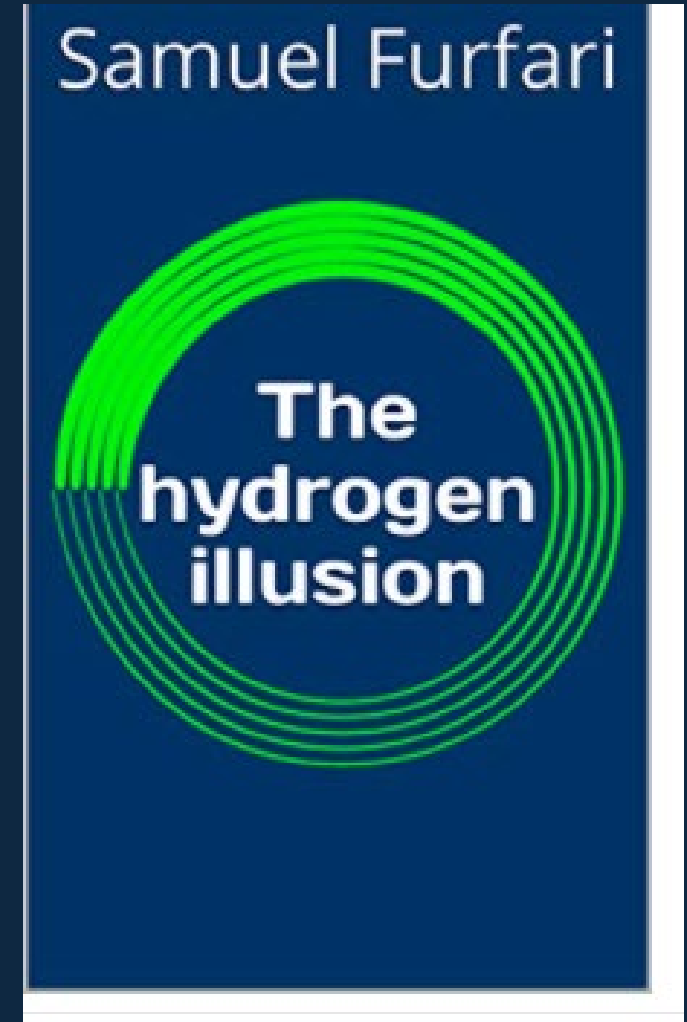


Minerals needed for the “Energy Transition”

- The energy transition relies on critical minerals
- Demand could rise two to six times by 2040, driven by the need for battery storage, electric motors, and extensive grid infrastructure.
- The transition is not happening, as hydrocarbons use continues to increase every year.



Hydrogen is touted as a solution, but the pitfalls, costs and dangers are many.



Geothermal is
limited by
geology.

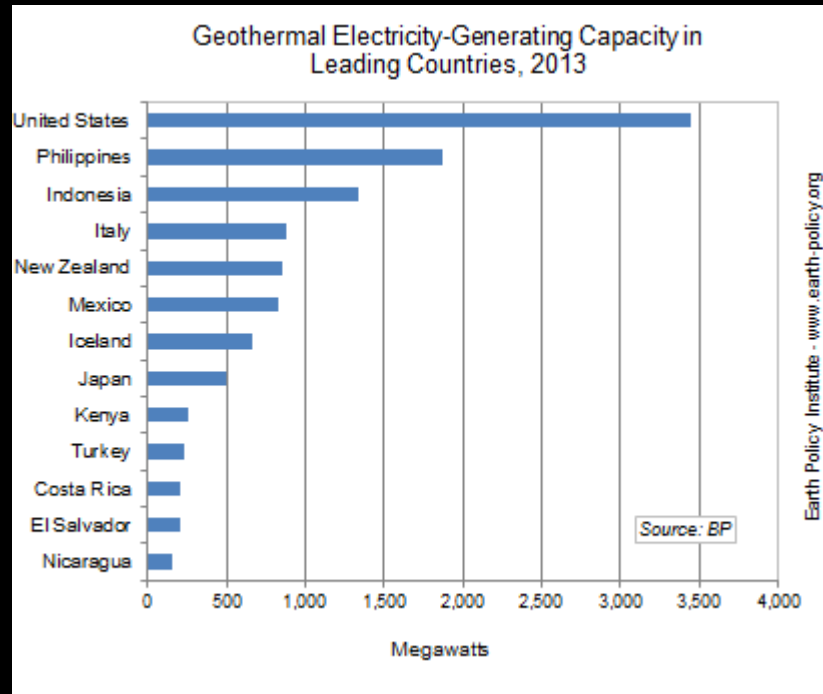
Geothermal for Alberta? A Case for Caution



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The US is the largest Geothermal electricity producer in the world.

It supplies only 0.4% of US power.



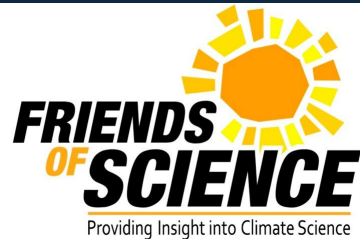
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