

Appendix B:

	Total 8/7	Total 8/8	Total 8/9	Total 8/10	Total 8/11	Total 8/12	Total 8/13	Total 8/14
Solar	6,712	5,314	5,935	5,588	6,114	5,472	4,916	5,426
Wind	17,994	12,514	12,881	13,229	17,201	19,394	19,076	19,557
Nuclear	11,313	11,330	11,329	11,323	11,325	11,337	11,336	11,335
Geothermal	4,547	4,484	4,533	4,491	4,499	4,504	4,521	4,486
Large hydro	14,009	18,233	16,889	17,121	17,366	15,748	17,416	16,473
Batteries	6,455	7,072	7,142	6,829	6,638	4,821	5,023	5,311
Imports	31,372	25,851	32,955	33,527	27,016	37,281	36,371	37,095
Natural gas	79,181	100,615	94,819	95,104	95,169	84,147	81,047	81,129
Coal	75	69	63	63	66	70	69	68
Total	171,657	185,481	186,546	187,275	185,393	182,774	179,774	180,879

	Total 8/15	Total 8/16	Total 8/17	Total 8/18	Total 8/19	Total 8/20	Total 8/21	Total 8/22
Solar	5,121	4,662	4,451	4,666	5,152	4,862	5,763	5,028
Wind	16,209	7,372	18,344	20,784	18,024	18,369	20,722	21,836
Nuclear	11,314	11,299	11,293	11,307	11,313	11,275	11,255	11,296
Geothermal	4,473	4,495	4,397	4,537	4,495	4,522	4,511	4,504
Large hydro	18,339	17,390	18,001	18,513	18,413	15,700	15,303	17,857
Batteries	6,197	6,555	5,747	6,944	5,485	8,183	7,537	7,423
Imports	34,927	36,585	28,192	29,997	39,478	40,090	39,034	32,777
Natural gas	100,520	115,401	102,961	89,280	80,305	75,393	64,901	84,333
Coal	67	67	66	67	69	73	67	67
Total	197,166	203,825	193,452	186,096	182,733	178,467	169,092	185,122

	Total 8/23	Total 8/24	Total 8/25	Total 8/26	Total 8/27	Total 8/28	Total 8/29	Total 8/30
Solar	4,773	3,001	3,822	3,657	4,111	3,657	4,165	3,872
Wind	12,351	13,161	19,932	14,085	18,108	14,085	11,044	11,768
Nuclear	11,298	11,270	11,267	11,230	11,282	11,230	11,258	11,296
Geothermal	4,495	4,535	4,534	4,542	4,292	4,542	4,548	4,586
Large hydro	17,824	18,119	19,029	15,215	13,497	15,215	16,309	16,847
Batteries	6,271	5,038	6,441	5,735	6,007	5,735	6,775	6,038
Imports	35,180	33,091	31,852	36,034	39,604	36,034	24,643	20,764
Natural gas	98,984	100,377	90,944	73,004	70,069	73,004	99,340	113,475
Coal	69	67	70	74	78	74	68	67
Total	191,245	188,657	187,891	163,576	167,048	163,576	178,150	188,712

	Total 8/31	Total 9/1	Total 9/2	Total 9/3	Total 9/4	Total 9/5	Total 9/6
Solar	3,041	3,961	3,382	2,732	2,672	3,062	2,480
Wind	13,235	14,010	20,866	7,792	13,007	5,427	9,985
Nuclear	11,307	11,307	11,304	11,293	11,248	11,236	11,229
Geothermal	4,558	4,323	4,308	4,288	4,291	4,086	4,179
Large hydro	18,513	17,074	17,391	20,134	19,039	20,438	20,755
Batteries	5,596	6,827	6,650	6,933	6,644	8,860	5,648
Imports	32,660	35,171	34,329	40,654	40,424	40,568	40,063
Natural gas	114,134	117,681	107,826	106,016	105,886	126,357	128,384
Coal	74	7	8	11	8	13	11
Total	203,117	210,362	206,062	199,854	203,220	220,048	222,734

	Total 9/7	Total 9/8	Standard Deviation	Daily Average	Monthly Total MWh	Percentage
Solar	2,578	1,606	1,226	4,296	141,756	2.25%
Wind	10,905	12,304	4,316	15,017	495,569	7.87%
Nuclear	11,242	11,230	35	11,288	372,506	5.92%
Geothermal	4,226	4,283	128	4,443	146,613	2.33%
Large hydro	20,596	20,150	1,819	17,543	578,914	9.20%
Batteries	5,396	5,378	918	6,343	209,329	3.33%
Imports	41,845	44,927	5,406	34,860	1,150,390	18.28%
Natural gas	124,657	122,903	17,574	96,889	3,197,345	50.80%
Coal	9	11	26	55	1,805	0.03%
Total	221,453	222,791			6,294,227	100.00%

Time	Current Demand, MW	Statewide LMP	Product	Notes
12:55	45,983			
15:15	50,610	\$ 801.29	\$ 40,553,287	Normal
16:15	50,845	\$ 1,119.54	\$ 56,923,011	EEA2
17:00	51,967	\$ 957.45	\$ 49,755,804	EEA2
17:45	50,612	\$ 1,734.05	\$ 87,763,739	EEA3
18:20	47,787	\$ 1,767.30	\$ 84,453,965	EEA3
18:30		\$ 1,701.79		EEA3
18:40		\$ 1,697.41		EEA3
19:05		\$ 1,593.54		EEA3
19:16	46,558	\$ 1,704.45	\$ 79,355,783	EEA3
19:35		\$ 1,376.78		EEA3
19:40	46,344	\$ 1,376.88	\$ 63,810,127	EEA3
19:50	46,265	\$ 1,353.26	\$ 62,608,574	EEA3
19:55		\$ 1,353.26		EEA3
20:00	46,084	\$ 1,266.34	\$ 58,358,013	EEA3
21:40		\$ 176.17		RMO, TE
22:05	41,528	\$ 203.93	\$ 8,468,805	Normal

On Tuesday, Spetember 6, 2022

EEA 3 Cancelled at 20:00

EEA 3 Declared at 17:17

Duration: 2 hours and 43 minutes

Estimated cost of Electric Power During EEA 3

17:17 to 18:00	\$ 60,000,000
18:00 to 19:00	\$ 80,000,000
19:00 to 20:00	\$ 70,000,000
Total Cost	\$ 210,000,000

Appendix D:

eamonnmallie.com “She was fine when she left here” – Dispelling the Titanic myth

By **MATTHEW SYMINGTON** April 18, 2012 Updated: August 22, 2012 [No Comments](#) 3 Mins Read
<https://eamonnmallie.com/2012/04/she-was-fine-when-she-left-here-dispelling-the-titanic-myth/>



To those who dare to point out to the people of Belfast that the Titanic was a ship that sank and little more, there is a standard refrain: “She was fine when she left here.”

But there are some conspiracy theorists who propagate the argument that it was cost-cutting at Harland & Wolff that led to the ship’s hull buckling so completely upon collision with the iceberg, and ultimately to her sinking.

The theory goes that some of the rivets used in Titanic’s construction were cheaper and less reliable than others available at the time. I put this theory to Dr John Lynch, author of the new maritime dictionary *Belfast Built Ships*, and this is what he had to say:

“The origins of this claim can be found in an article published in Journal of Metals in January 1998, which suggested that the steel plating used in Titanic was more brittle than material produced to modern standards. Subsequently this has been developed further and it is now suggested that a large number of iron rather than steel rivets were deployed in the ship’s construction.

This was blamed on shortages of materials and skilled labour in British shipyards at this time, and a desire by J.P. Morgan, who through International Mercantile Marine controlled White Star Line, to save money. In reality most observers, including the authors of the original article, note that the steel used was the best quality available at the time and that comparison to modern products is potentially misleading.

The question of deliberate cost cutting is more worrying. Why, however, despite the considerable influence of J.P. Morgan, should Harland and Wolff risk their reputation as shipbuilders in such a manner? White Star Line may have been important, but they were not the only customer. Could Harland and Wolff have afforded to compromise standards on such a prestigious vessel?

In addition there was no logical reason for Harland and Wolff to cut costs, Titanic was built on a ‘cost-plus’ system. All materials and labour expended during the construction of Titanic were separately

accounted for, and the yard charged five per cent of the final figure as their profit. Not only would the shipyard have made no savings by using inferior materials, they would actually have cut their profit on the vessel.

If quality of construction in Belfast's shipyards was adversely affected by labour and material shortages at this time then this would be evident among other contemporary ships. Of the nineteen other ships launched that year four were sunk during World War One, five in World War Two (aged 30 to 32 years), nine were broken up between 1933 and 1956 (aged 22 to 45 years), and one, Nomadic, is still in existence (it turned 100 on 25 May 2011). I would suggest that such longevity does not support the suggestion that shoddy workmanship was a feature of Belfast shipyards in 1911."

Our defence stands...

Matthew Symington

Matthew is a journalist based in Dungannon who blogs in his spare time. Educated at the Royal School Dungannon and the University of Cambridge, he recently completed his NCTJ Diploma at Belfast Metropolitan College. All views expressed in this column are those of Matthew alone.

Keep Diablo Canyon Running



Diablo Canyon Power Plant | Josh Ernstrom

By **Gene Nelson, President, Californians for Green Nuclear Power**

Email: government@CGNP.org Cell: (805) 363 - 4697 Fri Jul 21, 2023 | 6:37pm

<https://www.independent.com/2023/07/21/keep-diablo-canyon-running/>

Diablo Canyon Power Plant (DCPP) near San Luis Obispo is like the “Energizer Bunny” – it just keeps running. California’s huge economy now consumes about a billion kilowatt-hours each day. California’s daily power needs are highest in the late summer. Most Californians away from the coast now depend on air conditioning to keep cool.

DCPP is California’s largest generator by far. According the U.S. Energy Information Administration, DCPP ran 24/7 at full power during the summer of 2021. The plant typically generates the equivalent of five Hoover Dams each year. DCPP usually undercuts the cost of running a California power plant with natural gas.

The emission-free plant is incredibly rugged. DCPP ran at full power during the San Simeon Earthquake on December 22, 2003. This earthquake had a magnitude of 6.6. The earthquake killed two in Paso Robles. DCPP was about 40 miles from the epicenter.

Scientific and engineering advances are the basis for DCPP’s impressive performance. Nuclear power generation began in 1961 at the small Yankee Rowe plant. Yankee Rowe was less than 1/12 the size of DCPP. Yankee Rowe ceased operations on October 1, 1991. The plant operators could not justify the cost

of the tests for embrittlement the Nuclear Regulatory Commission (NRC) ordered. [1] Yankee Rowe was the first and only US nuclear power plant shut down because of embrittlement concerns. The president of the consortium running Yankee Rowe was Professor Andrew Kadak. Kadak became an expert on embrittlement and decommissioning. During the September, 2022 meeting of the Diablo Canyon Independent Safety Committee (DCISC,) they agreed to retain Kadak as a consultant. The DCISC agenda shows he will, “assist in the Review of Spent fuel, Decommissioning and Regulatory Issues.” DCISC has retained a knowledgeable consultant.

The cost of natural gas appeared in the second paragraph. Sempra, as a natural gas wholesaler usually desires increased sales volumes. Since nuclear power plants decrease the demand for huge volumes of natural gas, those firms have a business rationale for closing nuclear power plants. Sempra holds a 20 percent ownership stake in the San Onofre Nuclear Generating Station (SONGS.) SONGS was a similar size as DCP. Californians for Green Nuclear Power (CGNP) raised many objections to the unnecessary SONGS closure in January 2012. One of CGNP’s concerns was Sempra’s conflict of interest. CGNP established that big fossil energy firms oppose keeping Diablo Canyon running. [2] In CGNP’s testimony since 2017, we raised conflict of interest concerns regarding a big fossil energy firm and a nonprofit, the Center for Energy Efficiency and Renewable Technologies (CEERT.) Unfortunately, this indirection pattern is widespread.

Third party nonprofits may receive direct or indirect donations from fossil energy firms. One recent example is the Sierra Club receiving \$26 million from people associated with a natural gas company. [3] Other fossil interests followed Chesapeake Energy’s example, donating bigger sums to the Sierra Club. [4]

Some nonprofits have exaggerated or falsified nuclear power’s risks. As an example, SLO Mothers for Peace (SLO MFP) recently late-filed lengthy testimony with the California Public Utility Commission (CPUC.) SLO MFP sent excerpts to the *Santa Barbara Independent*. Digby MacDonald, Ph.D. claimed on page 193 of 218 that, “a similar and more-well know (sic) example of such an embrittlement failure mode is what sank the *Titanic*.” A passage in a 2000 textbook rebuts MacDonald’s claim. The passage concludes, “If the *Titanic* had not collided with the iceberg, it could have had a career of more than twenty years, as the *Olympic* had. It was built of similar steel in the same shipyard and from the same design. The only difference was a big iceberg.” [5]

As a science and engineering professor, I see the Diablo Canyon controversy as an example of why decision – makers and the public need critical thinking skills. Keep Diablo Canyon running.

[1] “Yankee Rowe Nuclear Plant, oldest in the nation will close,” Thomas W. Lippman, February 27, 1992, *The Washington Post*. <https://tinyurl.com/Yankee-Rowe>

[2] “Closing Diablo Canyon spurs fears over replacement power,” Gene Nelson, Ph.D., April 5, 2022, *Capitol Weekly*. <https://Tinyurl.com/DCPP-VERSUS-COAL>

[3] “Answering for Taking a Driller’s Cash,” By Felicity Barringer, February 13, 2012, *The New York Times*. <https://tinyurl.com/Chesapeake-Fracking>

[4] “The Anti-Industry Industry – What the media won’t tell you about the \$4.5 billion-per-year NGO-corporate-industrial-climate complex,” Robert Bryce, Feb 18, 2023, <https://tinyurl.com/Anti-Industry>

[5] Structure: In Science and Art – Page 143, Wendy Pullan, Harshad Bhadeshia, editors, 2000. <https://tinyurl.com/Titanic-Myth>

and “‘She was fine when she left here’ – Dispelling the Titanic myth,” by Matthew Symington, April 18, 2012 Updated: August 22, 2012, eamonnmallie.com. <https://tinyurl.com/Titanic-Myth2>

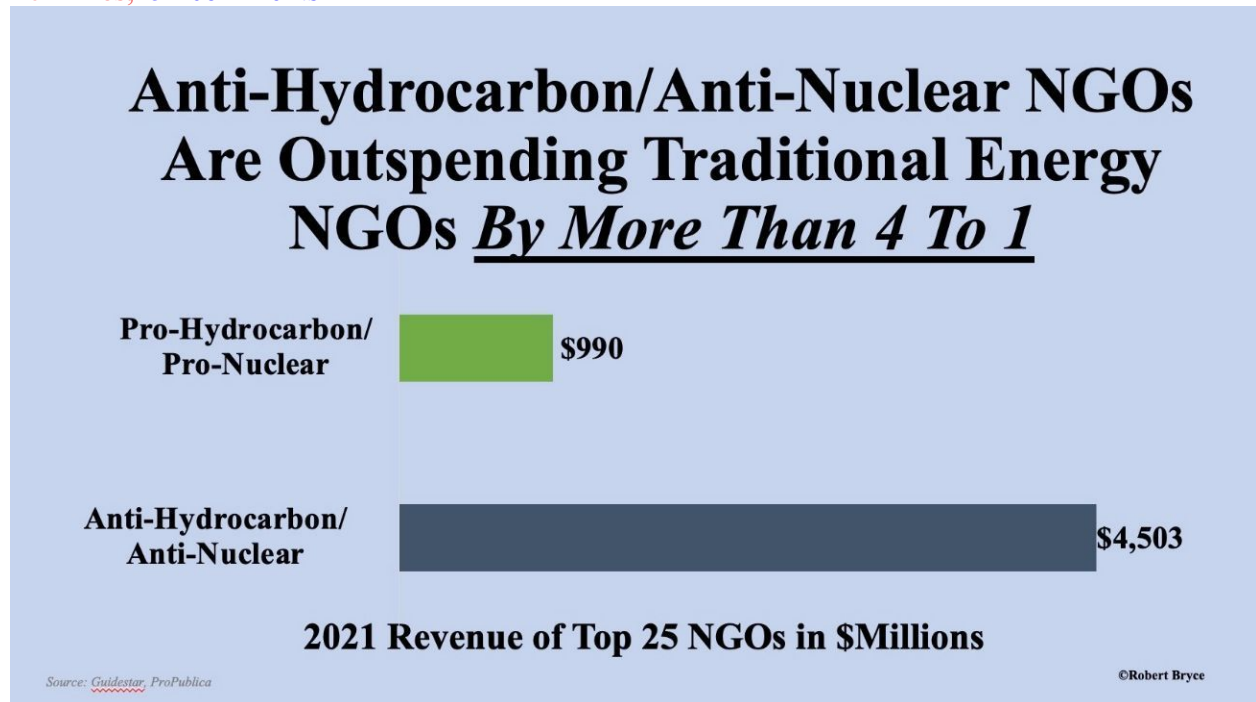
Appendix F: Robert Bryce **The Anti-Industry Industry**

What the media won't tell you about the \$4.5 billion-per-year NGO-corporate-industrial-climate complex.

Feb 18, 2023 <https://robertbryce.substack.com/p/the-anti-industry-industry>

<https://tinyurl.com/Anti-Industry>

102 likes, 54 comments



The overwhelming majority of the money involved in the energy and climate debate in the U.S. today is not on the side of traditional energy producers. Instead, the money, the media, and the momentum are clearly on the side of the NGO-corporate-industrial-climate complex.

In 2021, the revenue for the top 25 NGOs in the anti-industry industry was more than four times the amount collected by NGOs that support the traditional energy sector. Those 25 anti-hydrocarbon/anti-nuclear NGOs had total revenue of about \$4.5 billion which they used to fund campaigns on climate change, as well as efforts to promote renewable energy, stop the production of hydrocarbons, halt construction of new hydrocarbon infrastructure, prohibit the use of natural gas, oppose nuclear energy, and electrify everything, a move that would require massive increases in electricity production and the size of the electric grid.

The Anti-Industry Industry Is A \$4.5 Billion-Per-Year Business

Climate Imperative Foundation	\$221	ClimateWorks Foundation	\$425
Natural Resources Defense Council	\$415	League of Conservation Voters	\$117
NRDC Action Fund	\$33	The Energy Foundation	\$199
Sierra Club	\$180	Greenpeace	\$32
Sierra Club Foundation	\$130	National Audubon	\$118
Rocky Mountain Institute	\$140	Rockefeller Brothers Fund	\$838
Environmental Defense Fund	\$524	Solar Energy Industries Association	\$21
EDF Action Fund	\$21	Center for American Progress	\$50
World Resources Institute	\$440	American Clean Power Association	\$40
EarthJustice	\$124	Public Citizen	\$8
Friends of the Earth	\$23	Solutions Project	\$7
350.org	\$25	Windward Fund	\$304
Union of Concerned Scientists	\$68	Total	\$4,503

2021 Revenue of Top 25 NGOs in \$Millions

Source: [Guidestar](#), [ProPublica](#)

©Robert Bryce

The \$4.5 billion sum, which I tallied over the past few weeks by compiling data from Guidestar and ProPublica, is more than four times the amount being raised by the top 25 NGOs that are either pro-hydrocarbon or pro-nuclear. In 2021, the top 25 non-profit associations that represent hydrocarbon producers, the nuclear energy industry—along with their allies in the think tank sector—took in about \$990 million, or less than one-fourth of the amount garnered by the top anti-hydrocarbon/anti-nuclear NGOs. As can be seen in the graphic above, 14 of the anti-hydrocarbon/anti-nuclear NGOs have annual revenues of more than \$100 million. By comparison, as can be seen in the graphic below, only three of the NGOs on the other side of the policy divide have revenues of more than \$100 million.

Furthermore, the amount of money being collected by the top anti-hydrocarbon/anti-nuclear NGOs is soaring. Between 2017 and 2021, the amount of cash being collected by the 25 top NGOs—which includes entities like the Sierra Club and Environmental Defense Fund—has jumped by 155%, going from about \$1.8 billion to \$4.5 billion.

Don't expect to read about this vast funding disparity in legacy media outlets. Some of the biggest news organizations in America are peddling a manufactured narrative that the growth of renewable energy is being hindered by “front groups” that are getting money from hydrocarbon producers. In December, [in *The New Yorker*, climate activist Bill McKibben](#) claimed “front groups sponsored by the fossil-fuel industry have begun sponsoring efforts to spread misinformation about wind and solar energy.” But McKibben didn't bother to name a single such group. Also in December, the *New York Times* published [an article that claimed](#) the opposition to wind projects in Michigan included “anti-wind activists with ties to groups backed by Koch Industries.” But the reporter who wrote the article, David Gelles, didn't provide any names or any proof of any Koch connections. (Gelles did not reply to two emails asking him for proof of his claim.)

Pro-Hydrocarbon/Pro-Nuclear NGOs Have Revenue Of About \$1B/Year

Heritage Foundation	\$106	Western States Petroleum Association	\$43
Manhattan Institute	\$19	Society of Petroleum Engineers	\$37
Breakthrough Institute	\$5	National Mining Association	\$60
Competitive Enterprise Institute	\$7	Southern Gas Association	\$8
Third Way	\$31	Propane Education and Research Council	\$48
Empire Center	\$2	National Propane Gas Association	\$12
ClearPath	\$9	Interstate Natural Gas Association of America	\$8
Texas Public Policy Foundation	\$26	Independent Petroleum Association of America	\$8
Clean Air Task Force	\$20	American Association of Petroleum Geologists	\$11
Center of the American Experiment	\$6	American Fuel and Petrochemical Manufacturers	\$45
American Petroleum Institute	\$265	Clean Fuels Alliance America	\$12
Nuclear Energy Institute	\$143	Northeast Gas Association	\$18
American Gas Association	\$41	Total	\$990

2021 Revenue of Top 25 NGOs in \$Millions

Source: [Guidestar](#), [ProPublica](#)

©Robert Bryce

National Public Radio has published several articles claiming that rural opposition to renewables is being fostered by opponents who are using “misinformation.” Last year, a San Francisco-based reporter, [Julia Simon, published an article that claimed](#): “some of the misinformation comes from groups with ties to the fossil fuel industry, like the Texas Public Policy Foundation.” (2021 revenue: \$26 million). But Simon didn’t provide an example to back up her claim.

Why won’t McKibben and NPR report honestly about the rural backlash to the landscape-destroying sprawl of renewable energy or the funding that drives the NGO-corporate-industrial-climate complex? The answer may be about funding. Since 2019, 350.org, the climate-activist group that McKibben co-founded, ([and has about 160 staffers](#)) has received [more than \\$400,000 from the Rockefeller Brothers Fund](#).

NPR is feeding at the same trough as the other NGOs. NPR is a non-profit. According to Guidestar, its 2021 revenues totaled \$456 million. Last September, NPR announced that it was opening a new “climate desk” that was being funded by “the Chan Zuckerberg Initiative, [whose funding is helping NPR to add a new Climate Solutions reporter, as well as The Rockefeller Foundation](#).”

My interest in the anti-industry industry is a continuation of the work I did for my January 26 article, “[The Billionaires Behind The Gas Bans](#),” which is the most popular piece I’ve published on Substack. The numbers presented here are my best effort at collecting accurate data.

Before going further, let me be clear: I am not claiming that my lists of the top 25 NGOs on either side of the energy policy divide are the definitive ones. Some of the NGOs that are pro-hydrocarbon are not pro-nuclear. This week, a prominent pro-nuclear activist reminded me that over the past decade, some pro-hydrocarbon NGOs fought policies that would have helped save nuclear plants from premature closure. Selecting the anti-industry NGOs was also complicated. A keyword search for “climate change” [turned up more than 7,500 entries](#) in ProPublica’s

Nonprofit Explorer database. For my top 25 lists, I chose the NGOs that I knew about or had the highest profiles.

Let me also be clear about the revenue figures. The numbers are mostly from 2021 and come primarily from [Guidestar's](#) free search feature. I also used ProPublica's free database. ([A full subscription to Guidestar costs \\$2,000.](#)) The numbers are what Guidestar calls "[gross receipts.](#)" Those figures may differ from the revenue numbers shown on the Form 990s filed by the NGOs. Thus, the revenue tallies may be somewhat higher, or somewhat lower, than what is shown here.

But even with those caveats, the results are undeniable: the anti-industry industry in America is enormous, its revenues are soaring, and its success in getting local and state governments to adopt anti-hydrocarbon policies is obvious. Indeed, the pro-hydrocarbon and pro-nuclear entities in America are outgunned and outmanned. And when it comes to policymaking, they are getting their collective butts kicked.

Efforts to ban gas stoves are only a small part of a broader agenda that aims to change the fuels we use, where we live, and what we drive. The anti-industry industry has already succeeded in banning the direct use of natural gas in homes and businesses in communities across the country. According to the Sierra Club, 74 communities in California have "[adopted gas-free buildings commitments or electrification building codes.](#)" That's a significant increase over what I reported last month. On January 26, when I published "[The Billionaires Behind The Gas Bans,](#)" that number was 69. In September, the California Air Resources Board voted to [ban the sale of all natural gas-fired space heaters and water-heating appliances](#) in the state by 2030. In addition, New York City and Seattle, have [banned the use of gas in new construction.](#) Massachusetts is rolling out a [measure that will allow up to 10 communities to ban gas.](#) But these efforts are only part of what can only be called a radical agenda.

What is that agenda? Consider this statement from the Natural Resources Defense Council, which according to Guidestar has annual revenue of about \$415 million. [In 2020, it said it would use a \\$100 million grant from the Bezos Earth Fund](#) to "advance climate solutions and legislation at the state level, [and] *move the needle on policies and programs focused on reducing oil and gas production.*" Or consider EarthJustice, (2021 budget: \$124 million) which says its goals include "[End the extraction and burning of fossil fuels](#)...power everything with 100% clean energy...[and] cultivating a zero carbon emissions pollution-free electricity grid by phasing out fossil fuel power generation, eliminating barriers to renewable energy, and more."

In 2020, Anti-Industry Groups Got \$418 Million From The Bezos Earth Fund

Solutions Project	\$43
Natural Resources Defense Council	\$100
Rocky Mountain Institute	\$10
Union of Concerned Scientists	\$15
World Resources Institute	\$100
Environmental Defense Fund	\$100
Climate Works Foundation	\$50
Total	\$418

Sources: <https://vault.sierraclub.org/foundation-annual-report-2018/grants.html>; <https://www.instagram.com/p/CHpwxvHufz/>; <https://www.vox.com/recode/2020/11/16/21569469/efj-bezos-earth-fund-climate-change-philanthropy-grants>; <https://www.climateworks.org/press-release/bezos-earth-fund-grants-50-million-to-climateworks-foundation/>; <https://www.wri.org/news/2020/11/release-gift-bezos-earth-fund-will-support-two-major-climate-initiatives-wri>; <https://rmi.org/press-release/rmi-awarded-10-million-from-the-bezos-earth-fund-to-accelerate-decarbonization-of-buildings-and-industry/>; <https://www.edf.org/media/environmental-defense-fund-receive-bezos-earth-fund-grant>; <https://thesolutionsproject.org/bezos-earth-fund/>; <https://www.instagram.com/p/CHpwxvHufz/>

© Robert Bryce

In short, while their activism is couched in language about climate change and climate justice, the goal of the “[climate aristocracy](#)” (a term coined by Decouple podcast host and pro-nuclear activist Chris Keefer) is to shut down the hydrocarbon sector. If the climate aristocracy succeeds in doing so, the results will be staggering increases in energy costs and dangerous decreases in the reliability and resilience of our electric grid.

Indeed, the surge in the size and funding of the anti-industry industry represents a threat to the long-term prosperity of the United States. Its policies are already imposing regressive energy taxes on the poor and the middle class. The anti-industry industry is yet [another sign of America’s decadence](#). It’s an unaccountable parasitic force that employs thousands of lawyers, strategists, pollsters, and fundraisers, many of whom will spend their careers trading the revolving door between academia, media, government, and the NGOs. It relies on technocrats who went to exclusive universities, live in heavily Democratic coastal cities, have never been to Branson, and don’t give a fuck about the people who live in flyover country, wear name tags at work, or turn wrenches for a living.

Demographer and author Joel Kotkin calls these elites the “clerisy.” And they are influencing energy policy at the local, state, and federal levels with budgets that are unprecedented in scope, and in many cases, purposely hidden from public scrutiny.

“This is a class issue on a lot of levels,” Kotkin told me. “Climate change is to neo-feudalism what Catholic dogma was in the Middle Ages. It’s a justification for autocracy...[We now have] a class of people with a lot of money who have no connection to the real economy. The price of gasoline and electricity doesn’t matter to them.”

“This is a class issue on a lot of levels,” Kotkin told me during a recent phone interview. “Climate change is to neo-feudalism what Catholic dogma was in the Middle Ages. It’s a justification for autocracy. The climate agenda plays the same roles today as Catholic dogma did back then. There are things you can’t say because it questions the dogma.”

Kotkin also underscored the fact that hundreds of millions of dollars in funding for the anti-industry industry is coming from some of the world’s richest people (a point that I made in “[The Billionaires Behind The Gas Bans](#)”) and that these billionaires—and the groups they are funding—do not represent the broader society. Kotkin said these outcomes were predicted by Daniel Bell in his landmark 1973 book, [The Coming of Post-Industrial Society: A Venture in Social Forecasting](#), which warned that as societies became detached from industrial production, a new group of elites would become detached from the general population. “This is what Bell talked about,” he said. We now have “A class of people with a lot of money who have no connection to the real economy. The price of gasoline and electricity doesn’t matter to them.”

One of the biggest funders of the anti-industry industry is Jeff Bezos. In 2020, the Bezos Earth Fund gave more than \$400 million to seven of the groups that are on my list of the top 25 anti-hydrocarbon/anti-nuclear NGOs in America.

The NGO with the biggest climate-related budget is the Rockefeller Brothers Fund, which according to Guidestar had revenue of \$823 million in 2021. On its website, the fund states, “In 2023, climate-related grants—including the full Sustainable Development, Democratic Practice–Global Challenges, and China grantmaking programs, as well as portions of our Central America and Western Balkans grantmaking—[will constitute just under 50 percent of the Fund’s total grantmaking budget](#).” It continues, “In November 2022, the RBF board of trustees adopted a plan to spend an additional \$100 million to address the climate crisis over the next ten years.”

Also, from the RBF website: “In the 1970s, the Fund began supporting the environmental law [movement through grants to the Natural Resources Defense Council \(NRDC\)](#). Laurance’s son, attorney Laurance Rockefeller, Jr., worked at NRDC for over 25 years and continues to serve as an NRDC trustee in 2016.”

It’s critical to note that the NRDC has been one of the most vocal anti-nuclear NGOs in America and was a critical player in the premature closure of New York’s Indian Point nuclear plant, a closure that immediately resulted in huge increases in New York consumers’ electric bills and a dramatic increase in the state’s greenhouse gas emissions. Rockefeller entities have also been key [funders of the litigation against the oil industry](#).

Compared To US NGOs, Canada's Anti-Industry Industry Is Lilliputian

David Suzuki Foundation		\$14
Sierra Club Canada		\$1
Greenpeace Canada		\$12
Toronto Atmospheric Fund		\$3
Environmental Defence Canada		\$3
Total		\$33

2021 Revenue of Top 5 Canadian NGOs in \$CDNMillions

Source: Websites of each NGO

©Robert Bryce

A few more points are relevant here. First, the size of the NGO-corporate-industrial-climate complex in the United States dwarfs the size of similar entities in Canada, where climate-focused entities are tiny. As can be seen in the chart above, the top five Canadian climate groups have total combined budgets of about C\$33 million, which is about \$25 million in U.S. currency. Thus, all of those Canadian climate NGOs combined would only amount to a relatively small member of the anti-industry industry in the U.S.

In addition to their advantages in money and media sympathy, the anti-industry industry has other key advantages over the traditional energy sector, and those advantages help explain why it has been so successful in promulgating policies like gas bans. **First, the climate clerisy continually sells fear: fear of catastrophic climate change, fear of radiation, and fear of fracking.** On that last fear, consider this line from a press release issued by the NRDC in 2020: “We banned fracking in New York and it’s time long past time [sic] to block its waste [from poisoning communities.](#)”

The other key advantage held by the anti-industry industry is that it has a far easier chore than what has to be done by traditional energy providers. Electric utilities, cooperatives, drillers, refiners, natural gas producers, gas distributors, and pipeline companies have to deliver molecules and electrons to their customers. And they have to do it every minute of the day, every day of the year, and they have to keep doing it regardless of the policy hurdles that may be put in their way. On the other side, groups like the Sierra Club and Rocky Mountain Institute only have to get their policies adopted by governments.

In short, it’s a lot easier to convince the [Berkeley City Council to adopt a ban on natural gas](#) than it is to deliver that fuel and do so reliably and affordably to thousands (or millions) of homes and businesses. **Put another way, the NGO-corporate-industrial-climate complex has launched an asymmetric war against the hydrocarbon and nuclear-energy sectors.** And so far it is having undeniable success. The climate aristocracy—from its strongholds in New York City, Washington D.C., San Francisco, and Boston—only has to get policies passed. When it does so, it can return to its deep-pocketed funders and ask for yet more money. The climate aristocrats

don't have to deliver anything of tangible value (tankers of diesel fuel, decatherms of gas, or kilowatt-hours) in the physical world. That helps explain why the traditional energy sector is getting its collective butt kicked in the policy arena.

There is far more to be written about the NGO-corporate-industrial-climate complex and its influence on American energy policy. In a future post, I will focus on the anti-industry industry's dark money machine.

Appendix G: Cheat Codes

DOOMBERG

Energy, finance, and the economy-at-large. JULY 20, 2023

<https://doomberg.substack.com/p/cheat-codes>

“There’s a lot of clarity in hindsight.” – Julia Hartz

In 2009, the Legislative Assembly of Ontario passed the *Green Energy Act* (GEA), a bill that was meant to transform the province into a global leader in climate change. Championed by the ruling Liberal Party, the GEA was openly modeled after Germany’s *Energiewende* strategy. Like Germany, Ontario operated a fleet of nuclear power plants with a track record of providing reliable, safe, and carbon-free electricity for decades. The province also leveraged ready access to renewable hydroelectric power, making it home to one of the least carbon-intense electricity grids in the world. Despite these enviable energetic anchors, the Liberals were hellbent on shifting the province to wind, solar, batteries, and biomass.



Who could be against kids?

Although the Liberals had [promised](#) 50,000 “green jobs,” expanded economic activity, and a healthier environmental future for generations to come, the GEA ultimately [devolved](#) into one of the greatest political scandals in Canadian history. Against the advice of its own expert advisors, the government entered into a series of one-sided and ironclad feed-in tariff agreements (FITs), enriching all manner of insider cronies at the expense of the public. As electricity rates soared, the howls of protest grew along with evidence that the GEA was nothing more than an expensive cocktail of grift and mismanagement. Hoping to obfuscate the negative impacts of the bill, the government [moved](#) billions of annual expenses from the ratepayers’ electricity statements to the province’s general budget in the form of “price mitigation subsidies.” All told, the boondoggle will [cost](#) Ontarian taxpayers more than \$60 billion CAD over the life of these FITs. On a per-capita basis, this is the equivalent of the US wasting over a trillion.

By 2018, the citizens of Ontario [revolted](#), handing the Liberal Party the most comprehensive defeat a government has ever experienced in the province. The Progressive Conservatives—led

by former Toronto City Councillor **Doug Ford**—swept into office, winning 76 of the Assembly’s 124 seats. The Liberals secured just seven seats, the worst result in its 161-year history. Among the new leadership’s first [acts](#) was a total repeal of the GEA (emphasis added throughout):

“Ontario’s Government for the People is delivering on its promise to repeal the Green Energy Act, 2009, that led to the disastrous feed-in-tariff program and skyrocketing electricity rates for Ontario families.

‘The Green Energy Repeal Act eliminates a piece of legislation that introduced disastrous changes to Ontario’s energy system that led to rising electricity rates for families and businesses,’ said Minister of Energy, Northern Development and Mines, Greg Rickford. ‘By repealing this act, we’re restoring planning decisions to municipalities that were stripped by previous government and ensuring local voices have the final say on energy projects in their communities.’”



Sanity restored | Toronto Star

In the intervening years, the province's leadership embarked on a remarkable reconciliation with physics, culminating in a series of historic announcements in the past few weeks that detail their commitment to a full-blown nuclear renaissance. The moves represent a huge victory for our [friends](#) at Canadians for Nuclear Energy (C4NE) and offer a blueprint the US can follow to substantially decarbonize without sacrificing the standard of living of its citizens. The details couldn't be more encouraging.

We begin with the Pickering Nuclear Generating Station in Pickering, Ontario. Last August, we [profiled](#) C4NE's advocacy mission to save four of the six reactors at the facility. Weeks later, news [broke](#) that Ontario was planning to keep the plant operational long enough to hold open the possibility of gaining approval for full refurbishment. In an opinion piece published in the *Financial Post* last week, C4NE President Dr. Chris Keefer [shared](#) even more good news:

“In a move likely unnoticed by most Ontarians, the province has inched closer toward a decade-defining victory of energy policy. Last week, Ontario Power Generation submitted an application to the Canadian Nuclear Safety Commission (CNSC) to extend the life of the Pickering nuclear generating station until the fall of 2026.

*The plan had been for the plant to close at the end of 2025. But an extra nine months of affordable, low-carbon electricity from the station will benefit Ontarians. **And the bigger news is that the reprieve could pave the way to a full refurbishment that would protect Ontario's domestic supply of clean electricity and high-quality jobs for decades to come.***



Advocacy in action | C4NE

The Pickering news came on the heels of a truly historic announcement made at the Bruce Nuclear Generating Station days earlier. Weeks after Bruce Power reached a [new](#) three-year contract with its 1,200-member union, Ontario Minister of Energy Todd Smith was on hand to declare the province’s intent to invest in expanding what is already the [largest](#) nuclear power facility currently in operation globally. Amazingly, the Bruce power plant [supplies](#) 30% of Ontario’s electricity while occupying less than 1,000 hectares of land—testimony to the unparalleled energy density of nuclear power. If Ford’s government gets its way, the site’s [output](#) will soar:

“Canadian power company Bruce Power has commenced pre-development work to expand its nuclear-generating station on the shores of Lake Huron in Ontario. The expansion, driven by soaring demand for clean energy, will mark the country’s first new large-scale nuclear plant construction in 30 years. It will add 4.8GW of capacity, doubling the site’s output, with the

power generated sufficient to meet the needs of 4.8 million households. The move is expected to help Ontario reach its net-zero target.

Bruce Power president and CEO Mike Rencheck stated: ‘Nuclear power has been the stable backbone of Ontario’s clean electricity system for decades and Bruce Power is ready to play an integral role in **addressing the province’s clean energy needs, while supporting good jobs and economic prosperity for the future.**’”

Completing a hat trick of good news, the Ontario government also recently revealed plans to quadruple the number of small modular reactors (SMRs) to be installed at the Darlington New Nuclear Site. We turn to *Reuters* for the exciting [details](#):

“Ontario plans to build three new small modular reactors (SMRs) to help meet rising electricity demand, the provincial government said on Friday, increasing its bet on the new nuclear technology Canada is counting on to help reduce emissions. The Ontario government is working with utility Ontario Power Generation (OPG) to start planning and licensing the reactors at the Darlington nuclear site, where Canada’s first grid-scale SMR is already under construction.

‘A fleet of SMRs at the Darlington New Nuclear Site is key to meeting growing electricity demands and net zero goals,’ OPG CEO Ken Hartwick said in a statement.”

These developments are foundational to the province’s newly released long-term energy strategy. In a comprehensive 86-page [document](#) titled “Powering Ontario’s Growth: Ontario’s Plan for a Clean Energy Future,” Ford’s government lays out a plan that simultaneously secures the province’s energy needs in the short-, medium-, and long-term while outlining a holistic approach to minimizing its carbon emissions. Columnist and former politician Randall Denley, in a commentary [published](#) in the *National Post*, made a fascinating observation:

“What’s remarkable about the nuclear announcements of the last week is *how uncontroversial they have been.* Nuclear has gone from completely out of fashion to the most practical way to provide large quantities of predictable, emissions-free power.”

A constant and cynical argument deployed by anti-nuclear activists is to claim the technology takes too long to bring online, all while doing everything in their political power to delay and obstruct meaningful progress in the sector. For the past several years, Ontario Power Generation

has embarked on massive project to [refurbish](#) the Darlington Nuclear Generation Station, extending the lifetime of the facility by several decades. Earlier this week, we learned just how [fast](#) major nuclear projects can proceed when the government fully supports the industry:

*“Ontario Power Generation (OPG) has achieved a major milestone by successfully connecting Darlington Nuclear Generating Station’s Unit 3 to Ontario’s electricity grid, **169 days ahead of schedule**. This world-class project performance demonstrates OPG’s expertise and commitment to **completing the station’s four-unit refurbishment safely, with quality and on budget, by the end of 2026**.*

***Unit 3 is now the second Darlington unit to undergo complete refurbishment and is operating at 100 percent capacity**, providing clean, reliable energy for Ontarians during these peak summer months. The early return of Unit 3 will produce an extra 3 terawatt-hours of energy, enough to power 350,000 homes for an entire year. It will also reduce up to 1 megatonne of greenhouse gas emissions, or the equivalent of taking 300,000 cars off the road for an entire year.”*

We close by lamenting the similarities between Ontario’s bungled *Green Energy Act of 2009* and the US *Inflation Reduction Act of 2022* (IRA). (The main difference between the two pieces of legislation may simply be that the former predates the latter by more than a decade.) Despite glaring evidence of Ontario’s prior failed approach, the US is on a path to repeat those mistakes. Does anybody reading this doubt that the hundreds of billions of public funds earmarked in the IRA will be vaporized in an inferno of corruption? That the future US grid will be less stable, less green, and more expensive? That a generation’s worth of energy investments will have been squandered in tithes to the Church of Carbon™?

Nothing about the physics of energy changed in Ontario. Only their politics did. The cheat codes are there for all to see. It’s up to us to use them.

Doombergians for nuclear energy “♥ Like” this piece!



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Appendix H: Frame of Reference

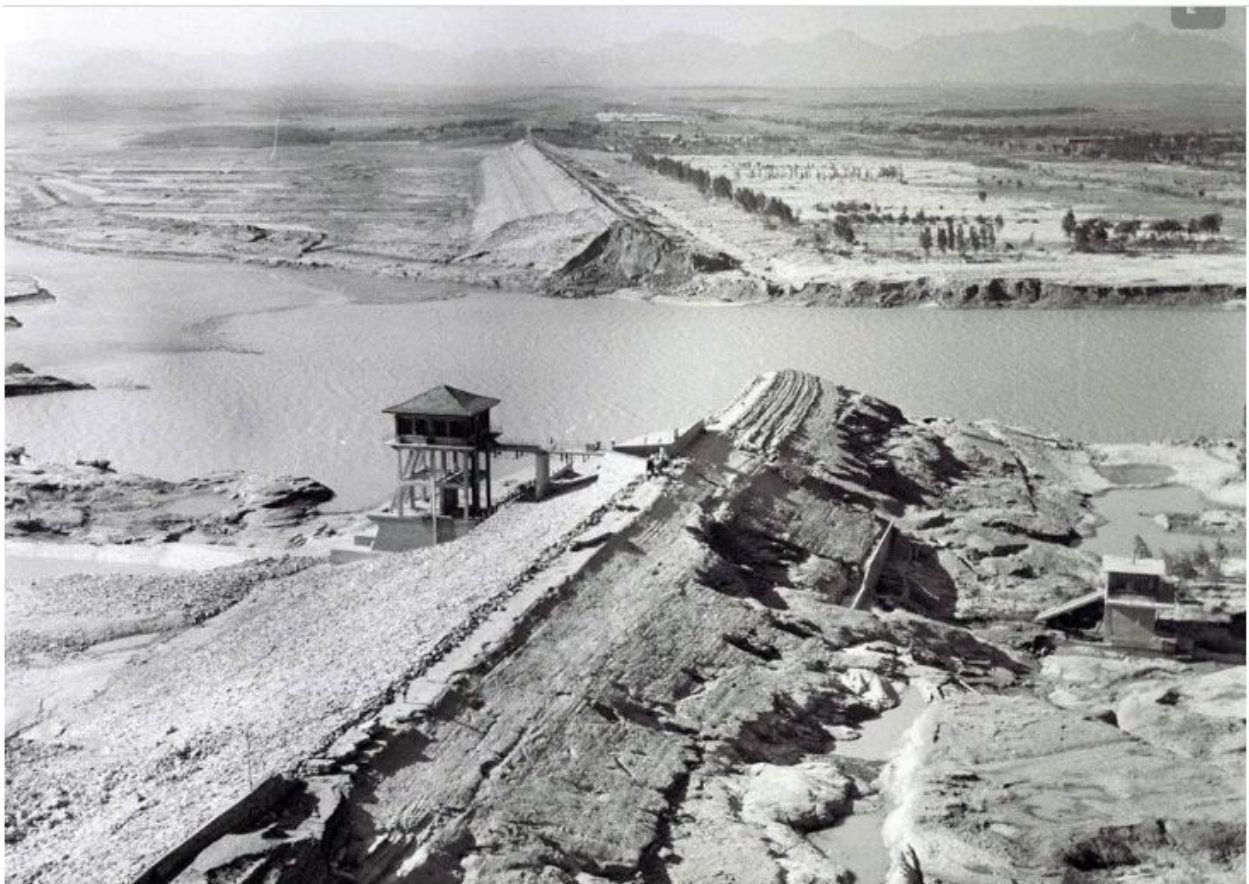
DOOMBERG

Energy, finance, and the economy-at-large. JULY 25, 2023

<https://doomberg.substack.com/p/frame-of-reference>

“Tell us your phobias and we will tell you what you are afraid of.” – Robert Benchley

In early August of 1975, [Typhoon Nina](#) came crashing over Taiwan as a Category 3 storm. Heavy rainfall triggered massive flooding, resulting in the deaths of 29 people. As the storm crossed the Taiwan Strait into mainland China, biblical levels of precipitation fell over vast swaths of the Chinese countryside, ultimately causing the total [collapse](#) of the giant Banqiao Dam in Henan Province. Dozens of other hydroelectric dams fell like deadly dominoes, swamping millions of homes downstream and devastating entire communities. Although the scale of the catastrophe was initially covered up by the Communist Party of China (CCP), it is now estimated that at least 26,000 and as many as 240,000 people were killed.



Dam collapse | Wikipedia

On July 6, 2013, a 73-car freight train operated by Montreal, Maine, and Atlantic Railway (MMA) derailed in the heart of the small town of Lac-Mégantic in the Province of Québec. The train was carrying Bakken crude and several cars exploded. The horrific [inferno](#) destroyed over 30 buildings, taking the lives of 47 innocent souls. The blast radius was estimated to be over a half-mile wide, and the blaze required approximately 150 firefighters to be extinguished. The tight-knit community of 6,000 people has been forever [scarred](#) by the incident.



Horrific fire | Sûreté du Québec

That same year, two young mechanics [died](#) while servicing a wind turbine in Ooltgensplaat, The Netherlands. The pair were trapped on high as the fire approached them, and a gut-wrenching photograph of the two embracing moments before their tragic passing was widely circulated on the internet. One chose to [leap](#) nearly 260 feet to his death while the other succumbed to the smoke and flames. They are among the [dozens](#) of workers who have died while installing or servicing wind energy projects.

These deadly events occurred as a consequence of humanity's unrelenting pursuit of energy. Harnessing, storing, and transporting energy across long distances is inherently risky business, no matter the energy source. Society generally responds to these tragedies—and the hundreds of other similar examples we could have selected—in reasonable and measured ways. The world did not abandon hydroelectric power because of the possibility of freak occurrences like Typhoon Nina. On the contrary, millions of people still actively choose to live within the flood radius of a potential dam failure. Huge volumes of oil are still shipped by rail each day despite the deadly incident in Lac-Mégantic, and executive actions like scuttling the Keystone Pipeline only serve to fortify demand for such services for decades to come. Despite the horrific death of those two young mechanics, government support for wind energy continues to grow exponentially. In all circumstances, risks were measured, tradeoffs were made, and society moved forward.

Why is nuclear energy treated so differently?

Unique among the primary energy providers, the civilian nuclear power industry has been the subject of a decades-long propaganda campaign whose aim is to stoke irrational fear to the point that the general population loses faith in the technology altogether. No risk is too small to amplify beyond all plausible proportion, no benefit too large to minimize into irrelevancy. As a result, much of the industrialized world is effectively being robbed of the true and full potential benefits of this nearly inexhaustible source of clean, safe, and reliable energy.

What are the genuine risks of nuclear technology, and how do they compare to other aspects of our everyday lives? What are the most common rhetorical sleights-of-hand used by the industry's opponents and how can its supporters counter them? Let's analyze the numbers, point out the logical fallacies, and reclaim the scientific high ground.

Attention Pro Tier Members

Our July *Doom Zoom* session, ***Doom Scrolling: Searching the Globe for Things to Worry About***, is this Thursday at 9am Eastern. The link to connect live can be found on our [dedicated Pro page](#).

Intrigued? *Pro* members get an early glimpse into *Doomberg*'s read of global events and the patterns they're forming.

[Bring it on! I'm ready to upgrade.](#)

We begin with a bedrock axiom of the science of toxicology: risk is a function of both the underlying toxicity of the substance and its dose level—the former being an inherent aspect of the natural world, and the latter a highly variable measure that depends on several factors usually well within our control. In many instances, exposure to a small dose of a “highly toxic” substance can even save lives, as countless cancer survivors will attest. The same life-saving drug administered at scientifically validated dose levels can result in death by poisoning if consumed recklessly. The entire point of Phase I clinical trials is to determine the concentration at which the ratio of benefit-to-risk reaches its apex. Outside of the medical setting, we make such tradeoffs all the time, even if the underlying calculations are performed subconsciously. (This is why we find it acceptable to catch a whiff of chlorine bleach but few would be willing to drink it.)

Consider something as simple as the common campfire. A full toxicological workup of the molecular composition of wood smoke would reveal scores of known carcinogens, significant levels of dangerous fine particulate matter, and the deadly gas carbon monoxide. The US Environmental Protection Agency (EPA) [estimates](#) “*that wood smoke is 12 times more carcinogenic than equal amounts of tobacco smoke, and that it stays active in the body up to 40 times longer.*” Moreover, campfires are the root cause of countless accidental forest fires, which have led to innumerable deaths and immeasurable property damage worldwide. Where is the campaign against roasting marshmallows over an open flame? Why haven't we banned such activities? Shouldn't the EPA establish a “safe seating radius,” scaled to campfire size and stratified by age or pre-existing medical conditions? Perhaps we should wear masks while fireside? Or simply observe summer bonfires by the lake through the lens of a telescope? One can't be too safe, or can we?



How dare you | Shutterstock

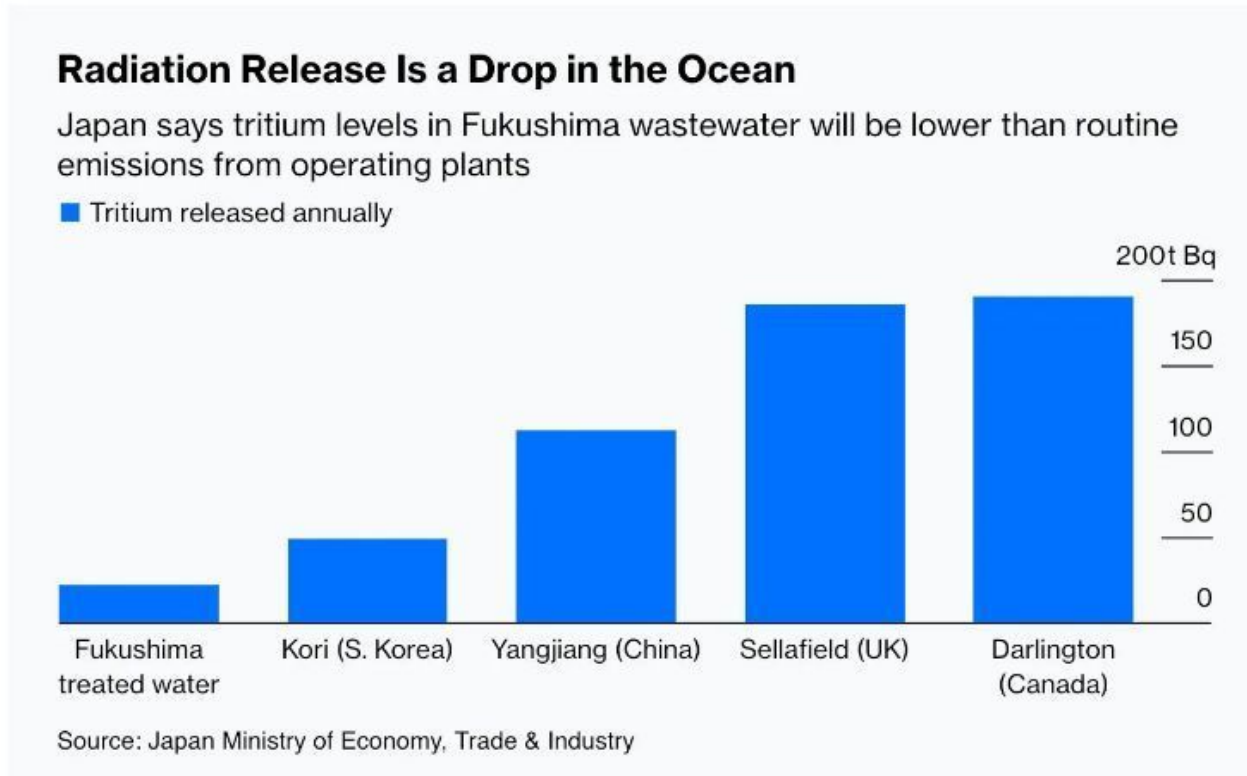
By comparison, contemplate society's wholly unjustified fear of radiation, despite its frequent beneficial use in many aspects of our everyday lives. Certain atomic nuclei are unstable and known to decay at fixed rates, releasing highly energetic particles of radiation in the process. Like all potential toxins, some forms of radiation are more dangerous than others, and the hazard is heavily dependent on the dose. We are capable of distinguishing between the radiation exposures received while eating a banana, getting an X-ray, or flying on a plane as being more manageable than dealing with the fallout of a full exchange of thermonuclear weapons by military superpowers. But for some reason, radiation associated with the civil nuclear energy sector is routinely conflated with the same risks presented by weapons of war. Here, we are led to believe that all radiation—real and imagined—is the functional equivalent of an existential threat to humanity itself, and no amount of prudently engineered redundancy suffices to assuage these radically unfounded fears. Sadly, this is all by design.

Nowhere are the ugliest tricks of the anti-nuclear propagandists on fuller display than in their cynically opportunistic response to the flooding of the Fukushima Daiichi Nuclear Power Plant in 2011. Like the collapse of the Banqiao hydroelectric dam, the accident at Fukushima was caused by a once-in-a-generation natural catastrophe—a tsunami struck Japan shortly after a giant earthquake shook the island nation—but in contrast to what happened in China decades prior, ***nobody died from radiation*** in the immediate aftermath. The official death toll directly tied to Fukushima now stands at one. (A [singular](#) fatality from cancer that occurred four years later has been officially ruled to have arisen from exposure to radiation stemming from the incident.) You could be forgiven if this information surprises you since countless newspaper articles place references to “Fukushima” and “radiation release” conspicuously near the total deaths and injuries from the ***tsunami itself***.

For peak absurdity, consider the fabricated international uproar over Japan’s proposal to safely discharge back into the environment some of the 1.3 million cubic meters of seawater that have been sprayed onto Fukushima’s damaged cores to keep them from overheating. After 12 years of careful [processing](#), authorities have eliminated “*enough of 62 of the 64 radionuclides to bring their concentration below Japan’s 2022 regulatory limits for water to be discharged into the environment.*” All that remains are moderate concentrations of relatively benign carbon-14 and tritium, and the release plan calls for a further 100:1 dilution with seawater as the material is slowly dispersed into the Pacific Ocean ***over a period of 30 years***. Despite these herculean and wholly unnecessary measures, Hong Kong—acting at the behest of those in Beijing who would have undoubtedly dumped this water into the sea without telling anybody many years ago—recently announced its opposition to Japan’s plan. This “Fukushima Water” apparently carries the risk of poisoning the entire Pacific Ocean, a volume of water that [measures 714 quadrillion cubic meters](#). Even the climate extremists at *Bloomberg* saw through the [cynicism](#) on display:

“As understandable as such concerns might be, we must stick to the facts. The release is ‘consistent with relevant international safety standards,’ concluded the IAEA, and ‘will have a negligible radiological impact on people and the environment.’ The science at question here is settled: Tritium poses very little risk to human health in the quantities being discussed, which will be lower than before the accident even occurred. It’s why tritium is routinely released from nuclear plants as part of normal operations, including those much nearer Hong Kong. Given how little the public knows about this, or how nuclear power works in general, there seems a need for a comprehensive campaign to boost awareness.”

For all the concern back in 2011, the United Nations Scientific Committee on the Effects of Atomic Radiation in 2015 [concluded](#) that the main effect on the Japanese public from the Fukushima disaster was on mental health. Presenting nuclear as a uniquely dangerous option, at a time when it has never been more important to combat climate change, only leaves us more dependent on burning coal and gas, as Japan has been forced to do to make up for its nuclear shortfall.”



Tritium levels | Bloomberg

This fear-fueled contrivance plagues the entire perception of nuclear waste. The very term “waste” represents a failure of branding on the part of the sector, as partially spent nuclear fuel (PSNF) can be [recycled](#) into “*high-value, simple, safe energy products. Every atom. From new fuel to batteries.*” The comparatively tiny amount of PSNF sitting in secured locations around the world is indeed a rich source of potential energy—a gift to the next generation of scientists and engineers—not a condemnation of our grandchildren to mountains of deadly toxic solid waste.

[According](#) to the US Department of Energy (DOE), the entire fleet of US commercial reactors “*have generated about 90,000 metric tons of spent fuel since the 1950s. If all of it were able to be stacked together, it could fit on a single football field at a depth of less than 10*

yards.” Despite all the hysteria, to the best of our knowledge, not a single human being has ever been injured by exposure to these materials. If the industry were to be ordered to dispose of PSNF, safely doing so requires no technical inventions. As we described in a [piece](#) last year:

“For long-term storage, the industry has proposed to sequester these containers hundreds of meters underground in deep geologic disposal facilities. This plan has met steep resistance from radical environmentalists at every step of the way. Selected for their geological stability (among other safety criteria), the facilities designed for handling nuclear waste in this way are the ultimate ‘set it and forget it’ trade. The odds of a piece of solid ceramic encased in a tomb of concrete and steel finding its way out of a subterranean prison in a manner that injures a living person are indistinguishable from zero. We’ll give you better odds of finding an actual angel at the head of a pin.”



Wasted opportunity | Sandia National Labs

The civilian nuclear energy industry has done more to advance human flourishing than virtually any other sector. Day after day, it cranks out valuable, reliable, and carbon-free baseload power

with predictable capacity factors. The industry has a near-perfect safety record, and [data](#) compiled by the U.S. Bureau of Labor Statistics proves “*that it is safer to work at a nuclear power plant than in the manufacturing sector, real estate, health care, leisure and hospitality industries, and financial sectors.*” [Death rates](#) per terawatt hour of electricity produced show that burning brown coal is at least a thousand times more risky than harnessing power from nuclear fission, and yet the world continues to burn record levels of the dirtiest of fossil fuels, all while denigrating the obvious solution.

Compared to the allegedly certain and catastrophic risks of climate change, nuclear power represents virtually no hazard whatsoever. It’s high time we demand a stop to this pretension.

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[29 Restacks](#)