

Addenda #85 – August 2025

Re: Ch. 8, 2050 Net-Zero Emissions; Impossible!!

SDG 7 – Ensure access to affordable, reliable, sustainable and modern energy for all

Over 100 GW of U.S. solar, wind projects no longer pencil out, says FTI Consulting

Tax credit cuts from the Republican Congressional budget bill have made more than 320 proposed solar and wind projects no longer economically viable, said the business consultancy.

pv magazine; July 23, 2025

The early end of federal tax credits for solar and wind projects may lead to many canceled proposed projects as the economic viability has come under question.

“We conservatively estimate that more than 320 proposed wind and solar projects with a total capacity of over 100 GW would no longer be economically viable, making it significantly harder, if not impossible, to attract capital and meet key development milestones,” said a report from FTI Consulting.

I’ve written several Addenda’s about offshore wind projects where developers had realized the cost of the project would not allow them to be profitable, and the developer cancelled the project outright or backed out of contracts awarded and rebid the same project at higher rates for the electricity they would produce. In October 2023, Ørsted, Equinor and BP petitioned the New York State Public Service commission to make contract adjustments for three offshore wind projects that were bid in 2018. The developers claimed that due to increased costs, the projects were no longer “viable investments.” The PSC refused to grant the \$12 billion rate increase, so in January 2024, the developers terminated the agreements and backed away from the projects. The termination did not last, however. The projects were “re-bid” in January 2024 at “more favorable terms” and the projects moved forward.

Ref: Addenda #30 – January 2024, Addenda #40 – February 2024

Under the Inflation Reduction Act of 2022, developers received a 30% tax credit for investments in zero-emission energy projects, and a production credit of up to \$0.0275 for every kilowatt-hour of “clean electricity” generated by the projects. While the tax credits enabled expensive renewable energy projects to be profitable for developers, these two credits were estimated to cost the federal government \$62 billion in lost tax revenue over ten years. Overall, the IRA would result in a reduction of long-term U.S. economic growth by about 0.2 percent and eliminate about 29,000 full-time equivalent jobs in the United States.

Source: Breaking Down the Inflation Reduction Act’s Green Energy Tax Credits; Tax Foundation, September 14, 2022

Source: Details & Analysis of the Inflation Reduction Act Tax Provisions; Tax Foundation, August 10, 2022

When the *One Big Beautiful Bill Act* passed Congress in May, tax credits that developers relied on to help make renewable energy projects profitable were terminated for projects not starting construction by July 4, 2026. Projects already under construction will be allowed tax credits if a “substantial portion” of the project is built by the July 2026 deadline. The Institute for Energy Research reported that tax breaks on renewable energy projects cost \$31.4 billion in 2024 alone and were expected to cost taxpayers \$421 billion more between 2025 and 2034.

FTI Consulting estimated that 54 GW, or 11% of all solar and wind capacity for renewable projects planned in years *after* the deadlines, are likely “no longer financially viable” and developers will scrap those projects unless they can receive considerably “more favorable terms” from local governments to develop them. “Utilities will need to seek alternatives less affected by H.R. 1 [OBBBA] to bridge capacity shortfalls. Without coordinated policy and regulatory support, however, the risk remains high that the U.S. power grid will not be able to support the next wave of technological and industrial expansion.”

Twenty-four states, plus the District of Columbia and Puerto Rico, have 100% carbon-free electricity mandates, with target dates of 2030 to 2050. These states represent 53% of the population of the United States. In its *U.S. State Renewables Portfolio & Clean Electricity Standards: 2024 Status Update*, the Lawrence Berkeley National Laboratory notes that the demand for electricity from renewable power sources will grow 240%, from roughly 500 TWh today to 1700 TWh by 2050, in order to meet emissions and electrification mandates. That is a rate of growth that is three times what has been achieved in recent years.

Ref: Addenda #47 – June 2024 & Update June 2024, Addenda #78 – March 2025

Whether or not states can meet these mandates is debatable. The NYISO *2025 Power Trends* report showed that in 2024, New York generated 131,052 GWh of electricity for consumers; 34,451 GWh (26.3%) generated by “true renewable” sources (hydro, wind & solar) with another 27,936 GWh (21.3%) generated by nuclear power. In just five years, New York will need to more than double its current level of clean energy production, an unrealistic goal that cannot be achieved in that timeframe, but the state is failing to increase renewable power production at the rate needed to meet increased demand. Add in the challenge of ever increasing costs of materials and labor, developers financial problems leading to project terminations, insufficient progress in upgrading the nations electrical grid and now ending the clean energy tax credits from the Inflation Reduction Act. These combined, all but assure that states will be unable to meet renewable energy mandates.

Regardless of the challenges, Progressive Democrat leaders are still pushing emissions reductions and electrification goals while development of renewable power sources slow and forced closures of fossil fuel power plants continue. The outcome is predictable, but climate alarmists refuse to acknowledge it...

More than half of North America faces a risk of energy shortfalls in the next five to 10 years as data centers and electrification drive electricity demand higher and generator retirements threaten resource adequacy... North American Electric Reliability Corp, June 17, 2025

With just five years to reach the Sustainable Development Goals, we need to shift into overdrive. António Guterres Secretary-General, United Nations, July 14, 2025

“The interesting thing about the Green New Deal, is it wasn’t originally a climate thing at all.... Do you guys think of it as a climate thing?” Because we really think of it as a how-do-you-change-the-entire-economy thing.”

Saikat Chakrabarti, chief of staff for Representative Alexandria Ocasio-Cortez, Washington Post, 2019

“It doesn't matter what is true, it only matters what people believe is true.”
Paul Watson, Co-founder of Greenpeace

Addenda #86 – August 2025

Re: Ch. 16, U.N. 30x30 plan

SDG 14 – Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Re: Ch. 8, 2050 Net-Zero Emissions; Impossible!!

SDG 7 – Ensure access to affordable, reliable, sustainable and modern energy for all

Ref: Addenda #35 – January 2024, Addenda #41 – February 2024

Proposed wind farms 'devastating' for fishers

BBC; September 23, 2024

Proposals to expand planned wind farm sites off the Devon and Cornwall coast could devastate the fishing industry, fishermen have warned. Dave Stevens, who has fished off Newlyn for 30 years, said new offshore wind development would not be good for the industry. It would be a devastating blow if that went ahead.

The Crown Estate said "offshore wind has a critical role to play in supporting the UK's energy transition". It said the sector created "countless new opportunities within communities for skills and jobs, both onshore and at sea".

Cornwall fishermen fear for livelihoods as offshore wind farms pose 'greatest change' the industry has faced

Sky News (UK), January 1, 2025

Fishermen in Cornwall fear proposals for mass offshore wind farms could destroy their businesses and pose the "greatest change" the fishing industry has ever faced.

The Crown Estate - which owns much of the country's seabed - has published plans for what it calls "areas of opportunity" for offshore wind farms in waters off the North East and the Celtic Sea around South Wales, Devon and Cornwall.

David Stevens from the Cornwall Fish Producers Organisation told Sky News fishermen fear they will be squeezed out of already busy waters... "This is probably the greatest change to our fishing patterns and businesses we're ever going to encounter, we're going to be squeezed out of the way... by all these wind farms all of a sudden taking up ground that we traditionally fish."

He added: "I've looked at the proposals to the south where I work and it would completely close down around about 60% to 70% of the area I work. So my business plan - it's gone out of the window."

The offshore wind turbines destroying Britain's fishing trade

The Telegraph; August 9, 2025

"We can't go into the areas between the turbines," Ken Bagley [former Lincolnshire fisherman] says. "If we towed our fishing gear through a wind farm, we'd be snagging on something in no time. And with the tidal currents and winds we get round there it'd get really dangerous."

Around Britain's coast other fishermen tell similar stories of exclusion from fishing grounds where they and their forebears once reaped rich harvests.

The area Ken Bagley is referring to is the Lincs Wind Farm, a 14 square mile wind farm located 5 miles off the coast of Skegness on the eastern coast of England. Lincs Wind Farm consists of 75, 330-foot-tall turbines mounted on 16-foot diameter, 400-ton steel monopile foundations anchored to the seabed. Two underground high voltage cables partially buried under the seabed connect the turbines to an offshore substation.

The Environmental Study prepared by Centrica Energy in 2007, emphasized the “need for renewable energy” due to the UK governments energy policy, which mandates ‘net-zero emissions’ by 2050 and 100% “Clean Power” generation by 2030. The study predicted that there would be habitat loss and disruption resulting in “minor adverse impacts” on organisms and fish due to installation of the turbines and cables but claimed that the spawning and nursery area for fish would not be affected. The report said nothing about the effect the wind farm would have on the fishermen, the fishing industry or the food supply for local communities, because, of course, nothing else matters besides achieving climate goals!

As the Prime Minister has made clear, clean power is an urgent priority for our country. The clean power sprint is the national security, economic security, and climate justice fight of our time – and this plan gives us the tools we need to win this fight for the British people.
Edward Miliband, Secretary of State for Energy Security and Net Zero, U.K., April 15, 2025

The fishermen are still allowed to fish in the areas between the turbines, which are spaced 500-feet apart. But the threats of the tidal currents and collision with the monopiles or other vessels and potentially snagging the high voltage cables buried just 3-feet below the seafloor, means that few fishermen will actually fish there. Fishermen used to profit from once rich harvests of cod, sole, whiting and mussels. They are still there in the waters of the wind farm but are no longer available to the fishermen.

There are 3,000 wind turbines installed across 45 wind farms, covering thousands of square kilometers of ocean. Developers are planning even more offshore wind farms, much larger than Lincs. *Dogger Bank* is being built across a shallow area of the North Sea once among Europe’s richest fishing grounds. It will cover around 1,300 square kilometers [808 square miles] once complete. The UK’s existing offshore turbines have a capacity of about 16 gigawatts – but last week Ed Miliband, the Energy Secretary, confirmed plans to *triple* that capacity by 2030 to meet the U.K.’s 100% Clean Energy production target.



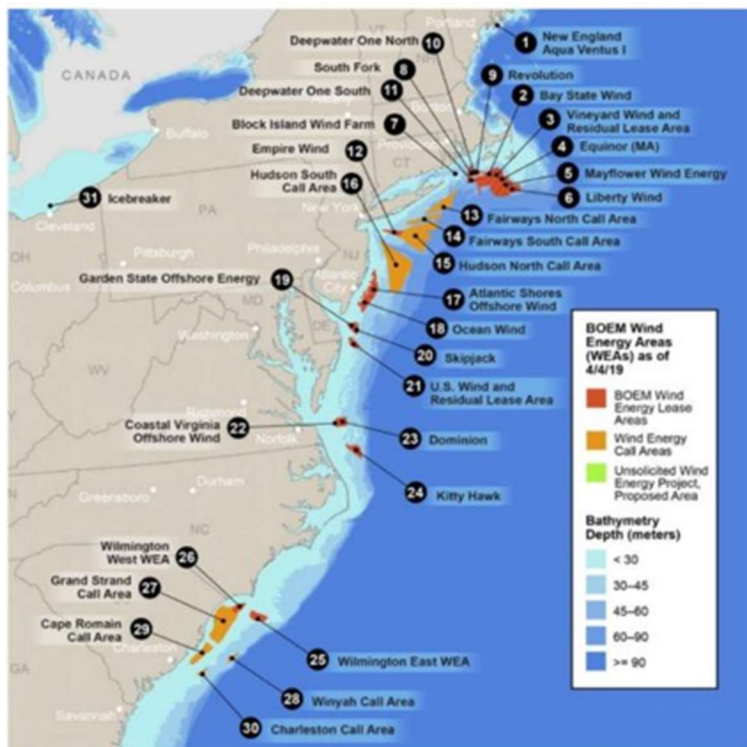
Map of UK operational and planned offshore wind projects
Source: RenewableUK, Energy Pulse

The United Nations 30 x 30 plan calls for the “appropriation” of 30% of all the oceans, making them off limits for human use by the year 2030, to “conserve” and “protect” them. Of course, none of the area owned by the Crown Estate will be “appropriated” to achieve this plan...

President Biden promoted his own version of the U.N. plan in the United States, calling it the America the Beautiful initiative in May 2021. His plan outlined a “locally led and voluntary” nationwide goal to conserve 30 percent of U.S. lands and waters by 2030.

The 2022 *Inflation Reduction Act* set aside \$18 billion for United States Department of Agriculture (“USDA”) conservation programs, to take farmlands out of use, cutting emissions from agricultural use. The Inflation Reduction Act also set aside \$122.5 million for the *America the Beautiful Freshwater Challenge*, which set the goal to protect, restore, and reconnect 8 million acres of wetlands and 100,000 miles of our nation’s river and streams by 2030.

The president declared many historical sites as national parks, to ensure land conservation of those areas. He also canceled multiple mineral leases for copper mines that would have aided the push for renewable energy and electric vehicles, essentially conserving those lands to appease environmental groups and work toward his own 30 x 30 plan goals. The Biden administration also banned oil and natural gas drilling leases for more than 625 million acres of U.S. ocean waters, including the entire East Coast and Eastern Gulf of Mexico.



Instead issuing leases for oil and natural gas production, the Biden administration continued to issue leases offshore wind farm development.

As of July 2025, there are three operational offshore wind farms on the eastern coast of the U.S. with a combined generation capacity of 174 MW.

Lease areas #7, #8 and #22.

Three additional wind farms are currently under construction, with a combined generation capacity of 4,150 MW.

Lease areas #3, #9 and expansion of #22.

Twelve additional wind farms off the eastern coast have received operations approval from the Bureau of Ocean Energy Management and are in various stages of development. Their combined generation capacity is 14,428 MW. Five additional leases totaling 373,267 acres off the coast of California were mapped out, but no development has been done on these yet.

I'm sure that every environmental study done during the process of receiving permitting approvals from the National Oceanic and Atmospheric Administration (NOAA) had claims similar to the Lincs Wind Farm study. The Block Island Wind Farm (lease area #7 on the BOEM lease map) was the first commercial offshore wind farm in the United States, located 3.8 mi from Block Island, Rhode Island in the Atlantic Ocean. The five turbine, 30 MW project has been providing electricity to Rhode Island residents since December 2016, so there is a definite timeframe over which to understand the effects of offshore wind projects on the environment, versus the claims made in the original permitting documents, below.

1.1.2. Marine Mammals in the Action Area

The proposed activities could adversely affect the following marine mammal species under our jurisdiction: Atlantic white-sided dolphins (*Lagenorhynchus acutus*), short-beaked common dolphins (*Delphinus delphis*), harbor porpoises (*Phocoena phocoena*), minke whales (*Balaenoptera acutorostrata*), fin whales (*Balaenoptera physalus*), humpback whales (*Megaptera novaeangliae*), North Atlantic right whales (*Eubalaena glacialis*), gray seals (*Halichoerus grypus*), and harbor seals (*Phoca vitulina*).

1.2. Purpose and Need

The MMPA prohibits “takes” of marine mammals, with a number of specific exceptions. The applicable exception in this case is an authorization for incidental take of marine mammals in Section 101(a)(5)(D) of the MMPA.

Section 101(a)(5)(D) of the MMPA directs the Secretary of Commerce (Secretary) to authorize, upon request, the incidental, but not intentional, taking of small numbers of marine mammals of a species or population stock, by United States citizens who engage in a specified activity...

Purpose: The primary purpose of our proposed action—the issuance of Authorizations to Deepwater Wind—is to authorize (pursuant to the MMPA) the take of marine mammals incidental to Deepwater Wind’s proposed activities.

Source: Final Environmental Assessment on the Issuance of Incidental Harassment Authorizations to Deepwater Wind for the Take of Marine Mammals Incidental to Construction of the Block Island Wind Farm and Block Island Transmission System; National Oceanic and Atmosphere Administration, August 2014

Fact #1: The NOAA determined that several marine mammal species “could” be adversely affected during construction of (and possibly the operation of) the Block Island Wind Farm.

Fact #2: All marine mammals listed above, fall under the Marine Mammals Protection Act, to protect them from declining populations due to human activities. It prohibits the hunting, capturing, and harassment of marine mammals in U.S. waters. In addition, most of the species that “could” be adversely affected, are on the *Endangered Species* list.

Critically Endangered - North Atlantic right whale; fewer than 500 in existence, 400 of them in the North Atlantic

Endangered/Depleted – fin whale

Endangered/Recovering – humpback whale

Special Concern – harbor porpoise

Secure/Stable – grey seals, harbor seals

Fact #3: The NOAA approved permits presented by the Block Island Wind Farm developer to allow the “harassment” of marine mammals on the endangered species list during the yearlong construction of the wind farm, which would result in the “temporary modification” of those protected and endangered mammals but “no injury or mortality” is *anticipated*. **

Fact #4: There are multiple threats to marine mammals during the construction of any wind farm. These mammals can be injured or killed by strikes from ships moving or installing foundations and turbines, and underwater noise levels from construction can cause irreparable hearing damage, considered as “harassment” by the NOAA.

After construction is complete, the electromagnetic field produced by underwater cables transmitting the high voltage to substations on shore, has been shown to adversely impact various underwater species.

Source: Final Environmental Assessment on the Issuance of Incidental Harassment Authorizations to Deepwater Wind for the Take of Marine Mammals Incidental to Construction of the Block Island Wind Farm and Block Island Transmission System; Office of Protected Resources/National Marine Fisheries Service/National Oceanic and Atmospheric Administration, August 2014

Opponents say Block Island wind farms are causing problems across prime fishing grounds
National Wind Watch; March 17, 2018

“It’s true that the area where the turbines are, have created a habitat that attracts fish, which is good; but in the area where the cable lines extend to the mainland, it’s completely devoid of fish,” said Michael Pierdinock, chairman of the Massachusetts Recreational Alliance, which represents about 50,000 recreational fishermen. “These used to be fruitful fishing grounds.” The fishermen also raised questions about the impact of electromagnetic waves pulsing across the seafloor on species such as sharks, which navigate and hunt in part by sensing electrical currents, and how rotating turbine blades could impede their ability to navigate with radar.

Wind power companies have dismissed most of their concerns, and fishermen have become increasingly frustrated, saying that they’re being ignored... “There’s zero scientific evidence for that,” said Aileen Kenney, vice president of permitting and environmental affairs at Deepwater Wind. “We’ve heard of no decline of fishing activity around the project.”

There has been an increasing “back and forth” argument between opponents and supporters of wind farms regarding increasing numbers of dead whales washing up onto coastal beaches. In 2022 alone, there were more than 60 recorded whale deaths of all species on the eastern coast, a number which has increased markedly ever since the offshore wind industry started to ramp up in 2016.



Wind farm supporters claim there is no *scientific evidence* (where have we heard *that phrase* before???) that offshore wind turbines are responsible. Wind farm opponents, including environmental activist groups, claim whale deaths are *strongly correlated* with wind industry activity.

Acoustical surveying of the ocean floor, pile driving to install the 400-ton monopile turbine supports and cable laying ship ‘thrusters’ can cause deafness which can lead to the deaths of mammals in the construction areas. Or it can drive mammals into areas that have higher shipping traffic, leading to deadly collisions; ship strikes, and entanglement are the two leading causes of whale deaths. Environmentalists have said the solution to these accidents and deaths is to restrict the number of harassment authorizations developers apply for. After all, power generating plants have restrictions on the amount of greenhouse gases they can emit. But this would make the building of wind farms more expensive and lengthen the time it takes to complete them.

While the BOEM and NOAA may refuse to approve “incidental take” permits, the routinely approve “harassment permits.” The Block Island wind farm developers requested authorization for the “incidental, but not intentional, taking of “small numbers of marine mammals” in the form of harassment, in their permit applications.

Table 8. Deepwater Wind’s estimated take for the BIWF project.

Common Species Name	Maximum Seasonal Density (per 100 km ²)	Estimated Take by Level B Harassment	Maximum Seasonal Density (per 100 km ²)	Estimated Take by Level B Harassment	Total Estimated Take
Atlantic white-sided dolphin	7.46	201	1.23	13	214
Short-beaked common dolphin	8.21	221	2.59	28	249
Harbor porpoise	0.47	13	0.74	8	21
Minke whale	0.44	12	0.14	2	14
Fin whale	1.92	52	2.15	23	75
Humpback whale	0.11	3	0.11	2	5
North Atlantic right whale	0.04	2	0.06	1	3
Gray seal	14.16	77	14.16	30	107
Harbor seal	9.74	53	9.74	21	74

Block Island wind farm developer, Deepwater Wind, estimated that 484 dolphins and porpoises, 181 seals and 97 whales would suffer “temporary modification” of their behavior as the NOAA described it.

Deepwater Wind’s numbers don’t distinguish between 97 whales being harassed once, or 1 whale being harassed 97 times, leading to hearing loss and deafness.

The difference could be fatal for the whales affected long-term, which rely on hearing for navigation, communication and feeding.

Four whales die in 4 days: Wind farms creating ‘death zone’ at sea says ex-Greenpeace boss
New York Post; May 8, 2023

The four-day run of death began in Eastham, on Cape Cod, Mass., on Thursday, with a second minke found at York, Maine, on Friday, and the final corpse at Gloucester, Mass. on Sunday.

At least 36 “large” whales have washed up along the East Coast since Dec. 1, according to data from the National Oceanic and Atmospheric Administration.

This year’s mortalities are on pace to shatter 2017’s tally of 34, federal data shows.

2017–2025 North Atlantic Right Whale Unusual Mortality Event

Since 2017, dead, seriously injured, or sublethally injured or ill North Atlantic right whales have been documented, necessitating an Unusual Mortality Event declaration and investigation.

Marine Life in Distress; NOAA Fisheries website

The NOAA article noted 41 “confirmed deaths”, 39 serious injuries and 77 injuries or illnesses of North Atlantic right whales between 2017 and 2025. Coincidentally, this is the time period in which wind farm projects were under construction from Maine to Virginia.

2016–2025 Humpback Whale Unusual Mortality Event Along the Atlantic Coast

Since January 2016, elevated humpback whale mortalities have occurred along the Atlantic coast from Maine through Florida.

Marine Life in Distress; NOAA Fisheries website

This NOAA article noted 257 “confirmed deaths” of humpback whales between 2016 and 2025, 149 of them occurring in waters where active construction of wind farms was taking place. Only 8 of the deaths were south of the lease areas shown on the BOEM map.

Study finds human-caused North Atlantic right whale deaths are being undercounted

A study co-authored by scientists at the New England Aquarium has found that known deaths of critically endangered North Atlantic right whales represent a fraction of the true death toll. This comes as the death of a calf and recent sightings of entangled right whales off the southeastern United States raise alarm.

New England Aquarium; Press Release, February 24, 2021

The New England Aquarium study found that 83% of right whales entangled or injured initially survive, but their health becomes compromised, and they eventually die and sink so their carcass is never found or counted. Granted, all this “scientific evidence” cannot be directly linked to offshore wind farm construction, but the numbers of deaths and timeframe would indicate there is a connection between them.

In 2022, nine Atlantic coast states began working to establish the *Regional Fisheries Compensatory Mitigation Fund*, to “provide financial compensation for economic loss created by offshore wind development off the Atlantic Coast.

With a growing investment in renewable energy and the development of offshore wind energy systems, there is a recognizable need to offset potential losses and/or costs incurred by the surrounding fishing industries with mitigation measures, including financial compensation.

“Scientific evidence” cited by the wind industry claims that construction and operation of wind farms will not have long-term “adverse effects” on marine mammals or the fishing industry. But coastal states were finally admitted this was *not* true and agreed to provide financial compensation to the fishing industry and communities affected by wind farms. Developers of offshore wind projects will be assessed fines for the damage their projects have done, and consumers of that “clean energy” will be assessed additional “System Benefit Charges” so the developers can recover that money and continue with those projects. After all, net-zero emissions and “affordable, reliable, sustainable and modern energy for all” is a non-negotiable goal of Agenda 2030. It MUST be achieved at all cost!!

Are there any effects on the environment other than to birds, fish and mammals? Of course there are, but you will never hear about them in the mainstream media or from supporters of “clean, green” sustainable and renewable energy.

See also Addenda #63 – September 2024; *Protecting the Environment, Protecting and Halting Biodiversity Loss??* For examples of approved “takes” and habitat destruction in the construction of solar farms.

Special Investigation: Toxic wind turbines

National Wind Watch; March 23, 2014

Damning evidence of wind farms polluting the Scottish countryside can today be revealed by The Sunday Post.

Scotland’s environmental watchdog has probed more than 100 incidents involving turbines in just six years, including diesel spills, dirty rivers, blocked drains and excessive noise.

Alarming, they also include the contamination of drinking water and the indiscriminate dumping of waste, with warning notices issued to a handful of energy giants.

Lubricant leaks from Essex wind turbines; raises concerns over maintenance, accountability
CTV News (Canada); April 16, 2025

Wind turbines in the Town of Essex are drawing fresh scrutiny from local officials after reports of lubricant leaks, with municipal leaders raising concerns about long-term maintenance and the future of aging infrastructure.

Mayor Sherry Bondy said residents have been reporting issues with turbines for years, but more questions are surfacing now about what happens as the structures age and contracts begin to expire.

The AIM Harrow Wind Farm, which has 24 turbines in operation, is one of the wind energy facilities in the area. Its CEO, Denny Richard, confirmed lubricant staining was identified on 11 turbines over the past couple of years... “The cause of the staining has been investigated by the manufacturer and maintenance service provider of the turbines, who identified a loss of a limited amount of lubricant, which is commonly used in turbines, as the cause,”

Windmill Aflame: Why Wind Turbine Fires Happen, How Often and What Can Be Done About it

Interesting Engineering (scientific news publisher); November 21, 2015

According to an article published by Fire Safety Science, the peer-reviewed publication of the International Association of Fire Safety Science, one of the major challenges faced by the global wind energy industry is the tendency of wind turbines to catch fire, a problem that the article claims is not being fully reported... The research team found that ten times the number of fires are occurring worldwide than are actually being reported....

“Wind turbines are viable sources of renewable energy that can assist the world to reduce emissions and help wean us off fossil fuels. However, fires are a problem for the industry, impacting on energy production, economic output and emitting toxic fumes. This could cast a shadow over the industry’s green credentials.

There are hundreds of thousands of wind turbines that have been installed in a global effort to reduce carbon emissions, and there will be hundreds of thousands more installed in coming years, as we get closer to those 2030 – 2050 climate alarmist dates. I’ve already detailed some of the issues with wind turbines, which include decommissioning and recycling and blade failures. But perhaps the most disturbing environmental problem created by wind turbines is pollution from the fossil fuels that these turbines use to create that “clean green” sustainable energy.

Ironical, isn’t it, that in the effort to destroy the oil industry and replace fossil fuels, no one will admit they are an integral part of wind turbines? The fact is that each wind turbine contains as much as 370 gallons of oil for lubrication, hydraulics and gear box operation, and there is the potential for leaks despite all safety precautions. The U.S. Department of the Interior published a 2013 report titled, *Environmental Risks, Fate, and Effects of Chemicals Associated with Wind Turbines on the Atlantic Outer Continental Shelf*. The report identified the volumes and types of chemicals present in offshore wind turbines and calculated the environmental impacts of potential “catastrophic spill” scenarios.

Besides the hundreds of gallons of lubricants in the turbine itself, offshore electrical service platforms which transmit power to an onshore substation or power grid contain tens of thousands of gallons of other contaminants including electrical insulating oil and diesel fuel. The report calculated multiple “spill-causing events”, including normal operation, maintenance and transfer of fluids, spills from vessels transporting fluids to and from the wind farm, collisions, hurricanes, earthquakes and other natural disasters. The report stated that “under an extremely unlikely spill scenario, a total of 68,000 gallons of oil in the entire complex could be released into the environment.”

Another study published in 2025 by the Bureau of Ocean Management titled, *Assessment of Oils and Chemicals Associated with Offshore Wind Facilities and Potential Environmental Impacts on the Atlantic Outer Continental Shelf*, concluded “The MMPD (maximum most-probable discharge) for Mixture 1 oils (hydraulic oil, synthetic ester oil, and diesel) could contaminate tens to hundreds of kilometers of shorelines above thresholds.” As the design of wind turbines advances, more turbines are being built with greater generating capacity. By the mid-2030s, offshore wind turbines are projected to grow to 500-feet in height and generate as much as 17 MW, requiring even more lubricants and potentially more spills...

Addenda #87 – August 2025

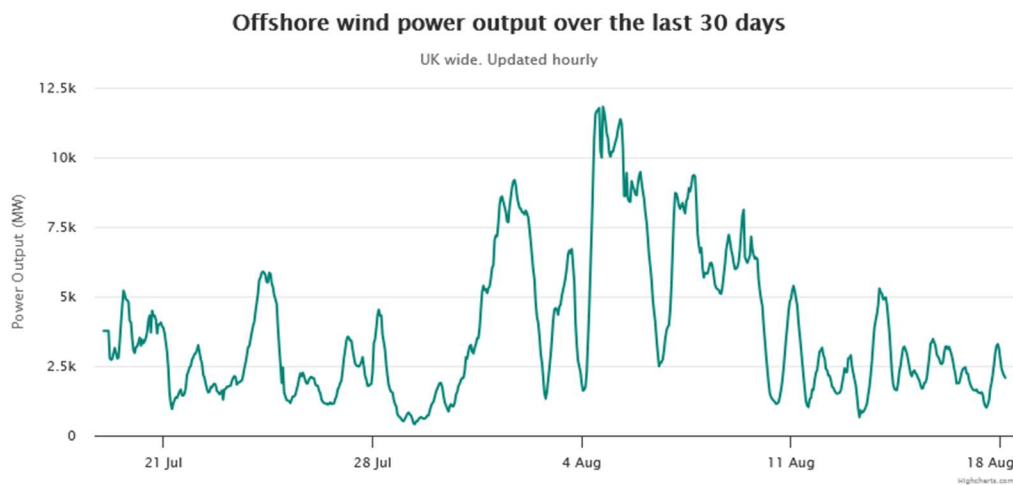
Re: Ch. 8, 2050 Net-Zero Emissions; Impossible!!

SDG 7 – Ensure access to affordable, reliable, sustainable and modern energy for all

In Addenda #31 – January 2024, I explained that electricity produced by wind farms is measured in two ways; rated or installed capacity (what all wind turbines are rated to produce at full output) and average capacity factor. According to The Crown Estate Offshore Wind Report 2024, the UK has an installed capacity of 15.9 GW, capable of powering more than half of all UK homes.

GW = 1 gigawatt = 1 billion watts / MW = 1 megawatt = 1 million watts / 15.9 GW = 15,900 MW

But “clean green” wind power is not a *reliable* source of energy; it must be supplemented with reliable energy sources that can be brought online almost instantaneously. The graph below shows the total electricity generated by all of the UK's offshore wind turbines over a 30-day period from July 19 to August 18. Remember, the total installed *capacity* of all offshore wind turbines in the UK is 15.9 GW, or 15,900 MW. On Monday, August 4th at 5 pm, total *output* reached a peak of 11,822 MW or 11.822 GW. This output equals 74% of total installed capacity, so the wind was blowing pretty strongly to produce this much energy. Six days prior to this peak, at 9 am on July 29th, total output was just 412 MW. That's just 3% of installed capacity. Eight days after the peak, at 7 am on August 12, total output was 622 MW, just 4% of installed capacity.



Source:
The Crown Estate
Our business:
Marine
Offshore wind

Consider; The installed capacity of all offshore wind turbines is capable of powering “more than half” of all UK homes (lets assume more than half means 52%) The other 48% of homes are powered by fossil fuel sources in this “best case” scenario.

I don't know of any better way to prove that renewable energy is not a reliable power source, and cannot fulfill Sustainable Development Goal #7, *Ensure access to affordable, reliable, sustainable and modern energy for all*, than to look at this graph.

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SDG 7 – Ensure access to affordable, reliable, sustainable and modern energy for all

North Atlantic wind farms face critical fatigue risk, report warns

TGS | 4C Offshore; July 14, 2025

Offshore wind turbines in the North Atlantic are at risk of failing years before the end of their expected lifespan, a new report has warned.

The findings, published by London-based Lloyd's Register, showed that the joints of some support structures, such as jacket foundations, can experience enough wear to reduce their service life by as much as a third.

The case study evaluated a North Atlantic offshore wind farm comprising 60 to 70 turbines, typically designed for 25 years of commissioning with a fatigue design factor of three, equating to a 75-year minimum fatigue life.

The study found that a critical joint in the jacket foundation would reach its fatigue limit after just 52 years.

Wind turbines are ageing – what happens next?

Power-technology.com; March 18, 2024

With an average lifespan of 25 years, a high proportion of wind turbines across the world are approaching retirement.

Wind turbines are not always decommissioned immediately after their working life. Depending on their condition and functionality, they are sometimes refurbished or allowed to continue operating (albeit less efficiently) until they become economically unfeasible.

How sustainable are offshore wind turbines to build, and how long do they last?

North Coast Offshore Wind;

The expected life expectancy of an offshore wind turbine is approximately 20 to 30 years. In 2016, the British company Vattenfall successfully decommissioned (2) some of the first offshore wind turbines ever installed after two decades of operation. Once a turbine is decommissioned, the site can either be “repowered,” in which a new turbine is placed there, or infrastructure can be fully removed, or allowed to remain in place to act as artificial reefs, and the site abandoned.

The 20-Year Lifespan of Wind Turbines: What It Means for Sustainability

Green Fingers; March 7, 2025

Wind turbines, a central component of the global push for renewable energy, have an operational lifespan of approximately 20 years. As these turbines age, questions regarding their future loom large. Are they destined for landfills, or can they be refurbished, repowered, or recycled? This challenge has significant implications for the sustainability of renewable energy infrastructure worldwide.

These concerns have become more pressing as wind farms across Europe, the United States, and other regions approach or exceed the 20-year mark. Studies indicate that if no recycling measures are implemented, millions of tonnes of turbine waste could end up in landfills by 2050.

Fact #1: Wind farms, especially those built in the ocean, don't last forever.

Fact #2: As wind turbines age, their output decreases, just as solar panels do.

Fact #3: When wind farms are no longer "economically feasible", developers have 2 choices
decommission and deconstruct = loss of power to the grid, recycling challenges
repower (replace) = a *very* expensive process

Wind speed is the critical factor in determining the output of an offshore wind farm. This was demonstrated in Addenda #85 – August 2025, where the output of all UK wind farms combined fluctuated between 74% and 3% of installed capacity (rated output). Offshore wind projects tend to have higher capacity factors, often exceeding 45%, compared to onshore projects averaging around 35-40%. The Empire Wind 1 wind farm currently under construction 15 miles off Long Island, NY, will provide electricity directly to the New York City electrical grid. This project has an *installed* capacity rating of 816 MW and has been promoted as being capable of powering 500,000 New York homes...

That's *if* all 54 wind turbines are running at their full 15 MW capacity, at all times.

If Empire Wind 1 was operational and running at a 45% capacity factor, then it would only be capable of fully powering 225,000 New York homes, not the 500,000 promoted. Or it would only be capable of providing *less than half* the electricity needed to power all of those 500,000 homes... To provide less than half the lighting you need to see in the dark, to power the appliances needed to cook and heat your food, to keep your food from spoiling and your drinks cold, to charge your phones and electronics so you can communicate with others, to heat your house in the winter or cool it in the summer...

As Empire Wind 1 ages, its output will decrease by about 12% over its 20-year life span, providing even less electricity to power increasing loads required to meet New York's 'electrification' mandates. At the end of that 20-year lifespan, Empire Wind 1 will face decommission or repowering. The cost to purchase, transport and install an offshore wind turbine runs between \$2,000 and \$3,000 per kW. Replacing the 15-MW wind turbine generators installed in Empire Wind 1 would cost between \$30 million and \$45 million *each*, before figuring any bulk purchase discounts or financing. Both options will cost ratepayers hundreds of millions in additional costs, requiring double digit rate hikes every three years, without end, to continually maintain and replace those turbines.

In contrast to the short lifespan of wind turbines, nuclear and natural gas power plants can operate for more than 50 years. The Nine Mile Point nuclear power plant in Scriba, New York, is America's oldest working nuclear power plant. Reactor Unit #1 has been operational since December 1969, 56 years ago. There are 61 power plants in New York that burn natural gas as their primary, or only fuel source to generate electricity. More than half of them were built before 1996 and the oldest was built in 1952.

So in answer to the question *How sustainable are offshore wind turbines...* not very. They're expensive to build and maintain, they have a short life span and they have to be replaced at even higher costs.

Addenda #89 – August 2025

Re: Ch. 17, S.D.G. Enforcement by Global Organizations

SDG 10.7 – U.N. Migration Policies

State Road 91, also known as the Florida Turnpike, is a six lane highway that begins in North Miami Beach and ends near Wildwood in Central Florida, approximately 460 miles to the north. The Florida Turnpike is one of the busiest toll roads in the country, with more than 3 million drivers using this route every day. The turnpike is also a key route for semi-trucks and freight carrying vehicles heading between Fort Lauderdale, Miami, Orlando, and other key cities. The turnpike is also the site of tens of thousands of accidents each year, and with a posted speed limit of 70mph (which most drivers ignore) many of them are fatal.

On August 12, a minivan carrying five South Florida residents travelling on the turnpike hit a commercial tractor trailer broadside in Fort Pierce. Two occupants of the van were killed instantly, likely decapitated as the minivan crashed into the side of the trailer at highway speeds and became wedged under it. A third person was taken by helicopter to the hospital where they died a couple hours later. The two other occupants of the van were not *physically* injured. The reason that the minivan hit the side of the trailer, is because the driver attempted to make a sudden, illegal U-turn, across three lanes of traffic. The minivan traveling in the inside lane could not stop in time to avoid the accident.



Singh looking over his shoulder, sees the minivan heading for his trailer, as he makes an illegal U-turn.



The minivan now wedged under the trailer, is visible from the in-cab camera footage.

The driver, Harjinder Singh, has been charged with three counts of vehicular homicide. Investigators who questioned Singh two days after the accident, said he failed the English Language Proficiency assessment, providing correct responses to just 2 of 12 verbal questions and only accurately identifying 1 of 4 highway traffic signs. They also found out that Singh was in the U.S. illegally, having crossed the southern border in 2018.

Obtaining a commercial driver's license (CDL) in most states requires passing several steps including medical testing, verbal and written testing, a motor vehicle background check and proof of residency. Since Singh barely spoke English, couldn't identify traffic signs and was not in the U.S. legally, he shouldn't have been issued a CDL. But Washington state gave it to him anyway in 2023. In 2024, California issued Singh a limited-term/non-domiciled commercial driver's license, and he began driving for White Hawk Carriers, a trucking company with a history of safety violations and drivers working with suspended licenses. Singh was delivering a load in Florida for White Hawk when the accident occurred.

Both outrage over the accident, and pushback by pro-illegal immigration supporters was almost immediate. Tricia McLaughlin, Homeland Security assistant secretary for public affairs noted that the Trump administration rejected a work authorization for Singh in September 2020 because he was an illegal immigrant and was being processed for deportation. McLaughlin also noted that Singh's work permit was approved by the Biden administration in June 2021. California Governor Gavin Newsom claimed that it was the Trump administration that issued Singh a work permit for his CDL, a claim that was immediately disputed by McLaughlin; "The state of California issues Commercial Drivers Licenses. There is no national CDL." In fact, President Trump signed an Executive Order in April directing enforcement of a Department of Transportation rule requiring commercial drivers in the U.S. to meet English-proficiency standards, something the Gavin Newsom's California never bothered to enforce.

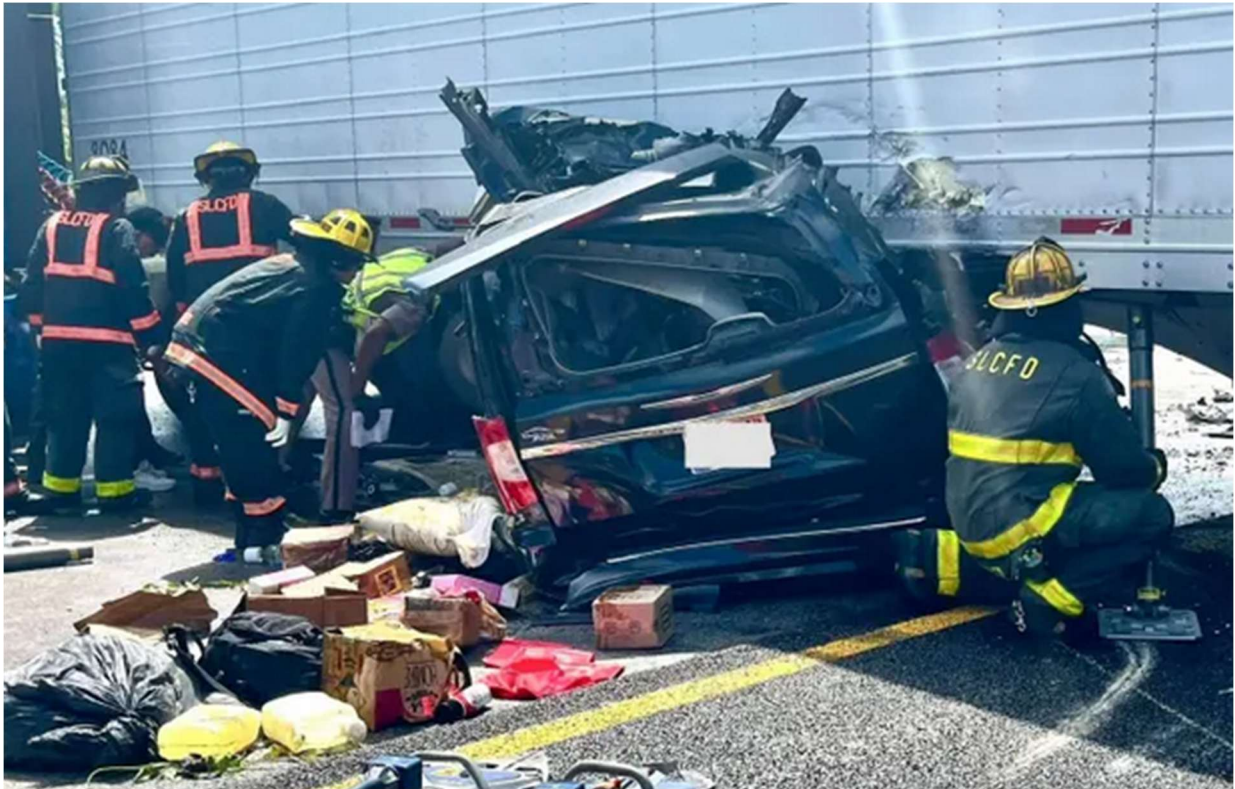
Millions sign petition demanding MERCY for Indian illegal migrant trucker who killed three in Florida with forbidden U-turn

Daily Mail; August 25, 2025

More than 2.6 million people [worldwide] have signed a petition urging Florida Gov. Ron DeSantis to show leniency towards an illegal migrant truck driver who allegedly killed three people in a horrific highway crash.

The petition was created and circulated by *Change.org*, a left-wing website that hosts petitions generally related to politics or public policy, most noted for its "Justice for George Floyd" petition, which gathered 11 million signatures in 2020. The multiple petitions ask for leniency and a reduced or commuted sentence for Singh. *Advocate for leniency in Harjinder Singh's sentencing* has gathered more than 77,000 signatures, while multiple petitions to reduce the potential 45-year sentence if convicted, have gathered more than 9,000 signatures and describe Singh as a hard working family man, the same language used to describe accused human trafficker and illegal immigrant Abrego Garcia. Petitions call for "fair and compassionate" sentencing to a man involved in "a regrettable accident." Except that Singh has yet to show any signs of regret or remorse for the accident that claimed three victims. "Punishing Mr. Singh with such severity does not serve justice nor does it bring closure or healing to the victims' families" states one of the petitions.

Commute Sentence for Harjinder Singh, a Sikh victim of circumstance, has almost 12,000 signatures.



Firefighters and Paramedics attempting to aid five individuals in the minivan after the crash

Singh was arrested on a fugitive warrant by U.S. Marshals in California, where he fled to the day after the crash. He was extradited to Florida, charged with three counts of vehicular homicide and immigration violations and law enforcement officials have denied him bond. Singh is being held in the St. Lucie County Jail, while he waits for his trial. ICE has issued a detainer for Singh, which Florida will cooperate with. By Florida state law, vehicular homicide is a second degree felony, punishable by up to fifteen years in prison and a \$10,000 maximum fine. If Singh, who is 28-years old, is found guilty of all three charges, he could be facing up to 45 years in prison and a \$30,000 fine.

A petition created by *Collective Punjabi youth*, has gathered nearly 3 million signatures. The petition asks Governor Ron DeSantis and the Florida Board of Executive Clemency to “re-examine and reduce the sentence” of Singh. The reasoning given in the petition is that the accident was tragic, but not a deliberate act. The group claims that there is no “criminal intent or history”, and therefore Singh should receive a much reduced sentence if convicted. To back up their request, the group cites a 2019 case in which a 23-year old U.S. resident from Cuba, Rogel Lazaro Aguilera-Mederos, crashed into 12 cars and three other semi-trailer trucks, after he lost control of his semi-trailer truck on a downhill grade. The crashes resulted in multiple fires and explosions, killing four people. Prior to losing control of his vehicle, Aguilera-Mederos was observed speeding and forcing a pickup truck off the road. Police reports showed that the truck was travelling nearly 80 mph just before the accident happened, causing the driver to lose control of his vehicle.

Despite there being several emergency runaway truck ramps on the downhill grade, witnesses said the driver never attempted to use them. Aguilera-Mederos was found guilty on 4 counts of vehicular manslaughter and sentenced to 110-years in prison. The ACLU and the League of United Latin American Citizens led the charge to have the sentencing reduced and almost 5 million people signed a Change.org petition to have the sentence commuted or granted clemency. Colorado Governor Jared Polis, a wealthy Democrat and the first openly gay man elected as governor, bent to the wishes of minority lobbying and commuted the sentence to just 10-years. This, is what the *Collective Punjabi youth* wants to see happen in the Harjinder Singh case in Florida.

Let's look at the facts uncovered so far in the case against Singh...

Singh violated U.S. Immigration Law by entering into the United States illegally in 2018. In seven years living here Singh never bothered to learn how to read, write or speak English. Singh was issued a commercial driver's license (CDL) by the state of Washington in 2023, even though he failed to meet federal requirements of residency, knowledge and skills. Singh was issued a CDL by the state of California in July 2024, even though he still could not meet Department of Transportation requirements.

Even though he was issued a CDL from multiple states, Singh never bothered to learn basic traffic signs. Singh didn't know or didn't care to follow the "No U-turn Sign", causing the deaths of three people.

Even though Singh has no prior criminal history (if you ignore willful violation of federal immigration law) or criminal intent when causing the accident, he made no attempt to assimilate into the cultural traditions of the country he lived in for seven years. He didn't bother to learn to proficiently read, write or speak English and he didn't bother to learn the rules of the road while driving a 70-foot long, 80,000 pound commercial vehicle. If this doesn't fit the definition of reckless or negligent behavior, I don't know what does.

Singh has obviously benefited from his status as a minority person of color and the policies of progressive blue states he lived and/or worked in. His acceptance of these conditions apparently led Singh to believe he is deserving of certain privileges the rest of us are not entitled to. The victims that Singh is responsible for killing were 30-year-old Herby Dufresne, of Florida City, 54-year-old Rodrigue Dor, of Miami, and 37-year-old Faniloa Joseph, of Pompano Beach. They most likely leave behind parents, siblings, spouses or partners, and children whose lives will be forever changed by the accident Singh caused. The only thing *they* did wrong, was to be on the Florida Turnpike at the same time Singh decided to disregard a posted traffic sign and create the situation that led to their deaths.

Singh is just a symptom of our culture today, and an acknowledgement that policies of progressive politicians and the U.N. Global Compact for Migration may help migrants, but they end up affecting residents of the countries those migrants go to. Singh is now another statistic to add to that continually growing ICE National Docket for criminal Noncitizens, under the categories of homicide and traffic offenses. The three victims are another statistic to add to that continually growing list of U.S. citizens affected by illegal immigrant crimes.