



Save Rhode Island from Offshore Wind Industrialization



Outline

- Who we are
- What is being built and where
- Impact on Rhode Island
- Details about Offshore Wind
- Cost of offshore wind electricity
- Legal remedies to stop the development (State and Federal)
- Funding Needs and Urgency





Our Mission

We strive to protect the ocean by informing the public about imminent threats, including the impact of offshore wind on the marine ecosystem.

Protecting the ocean and biodiversity ensures our own survival.
A healthy ocean is one of our best defenses against climate change.

What are we fighting against?

- The industrialization of the last unspoiled area on earth...our oceans
- The government subsidized eco-destruction of our marine habitats
- The despoiling of our unique marine vistas and open ocean views
- Destruction of RI's coastline – a national treasure that should be protected

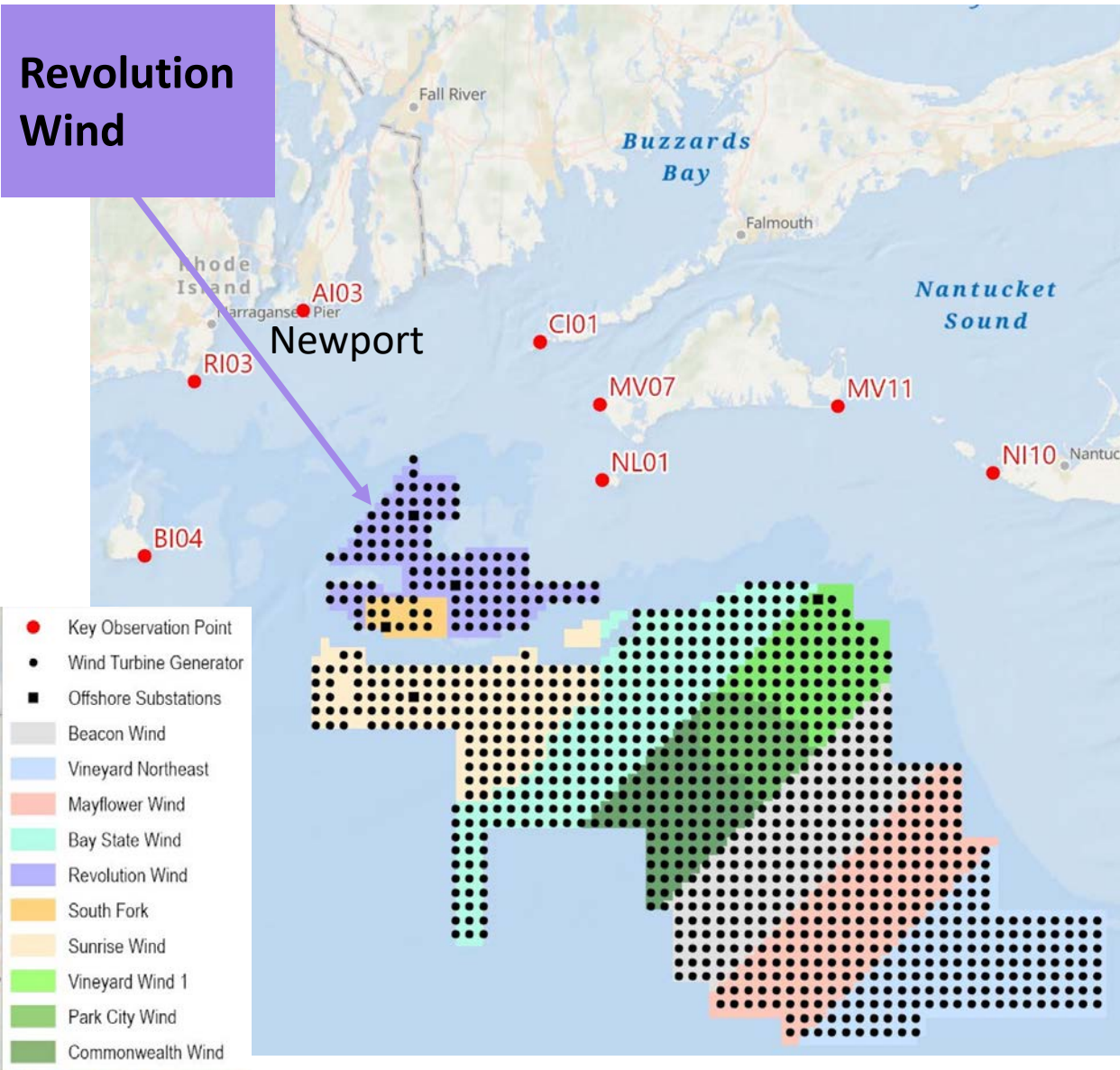
Focused effort to stop Revolution Wind, sited on environmentally sensitive Coxes Ledge, and the project closest to RI

Offshore Wind plans off RI

- Up to 1000 turbines
- 850+ feet tall
- 12.9 nautical miles off RI coast
- Politically driven by urgent mandates from Washington, DC



One Million Acres of Wind Turbines

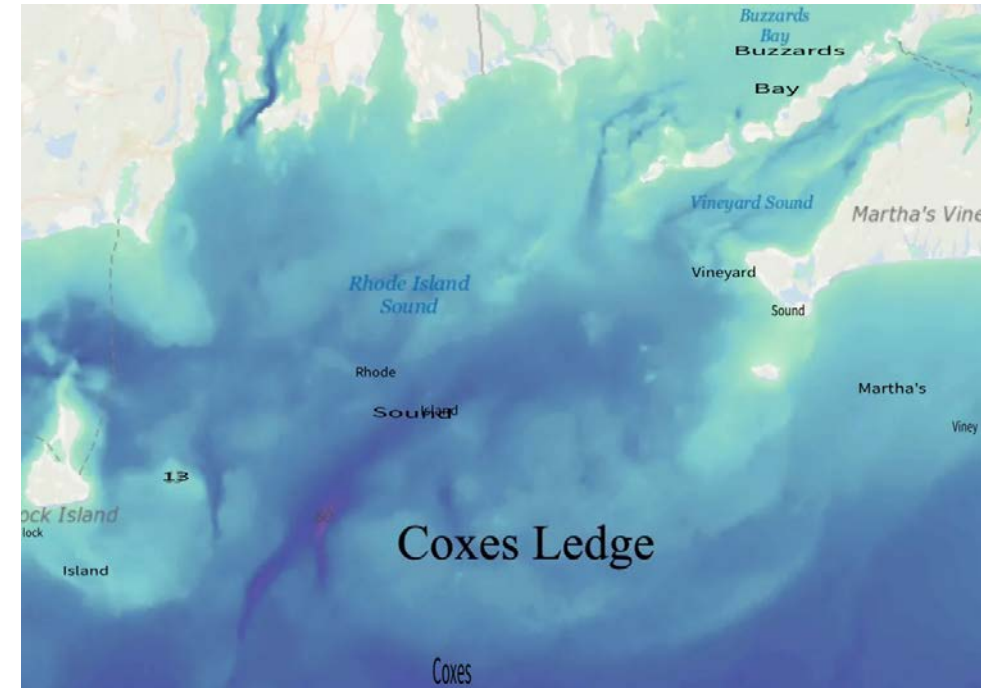


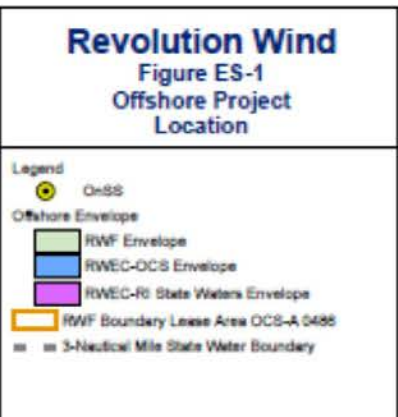
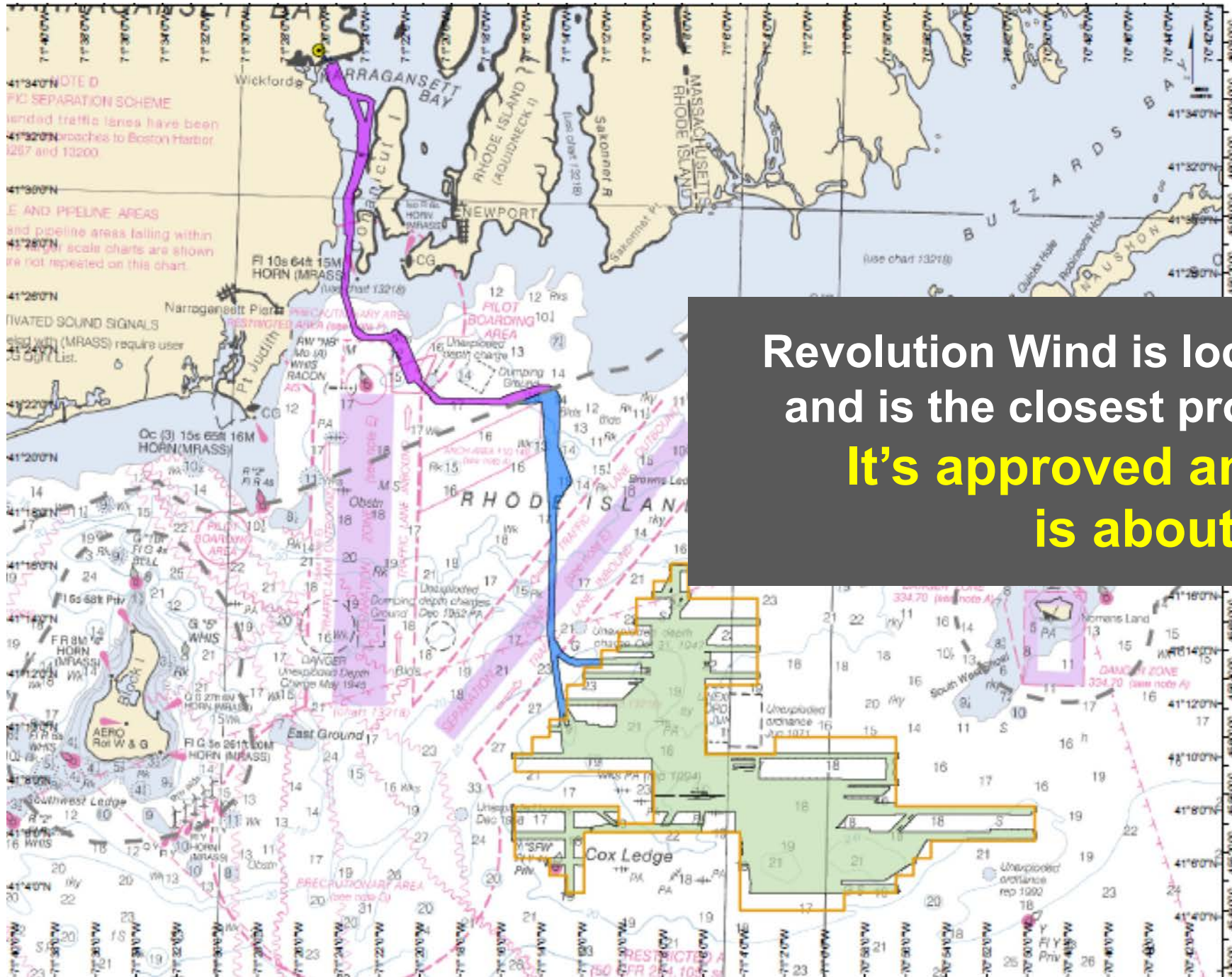
- Largest turbines ever built
- Greatest number in one location anywhere on earth
- One of the largest offshore marine construction projects in the history of the world
- Cumulative Area is 50% larger than the **Entire State** of Rhode Island
- Only 7% of the power is for RI

Why does Coxes Ledge matter?

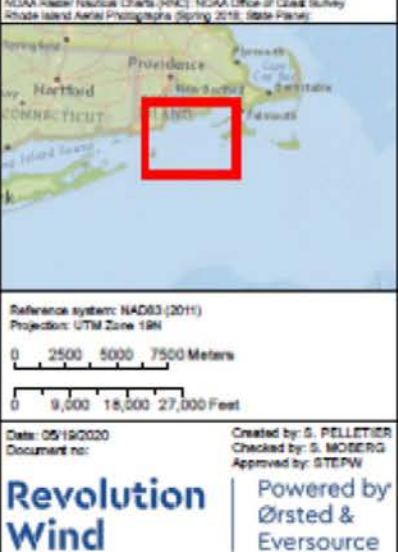
Biodiversity

- Coxes Ledge is a glacial moraine, a geological formation that supports a diversity of marine species
- Teeming with life, it hosts the endangered North Atlantic Right Whale and is one of the most productive fisheries in New England
- Coxes Ledge is one of the only remaining spawning grounds for Southern New England Cod





Revolution Wind is located on Coxes Ledge and is the closest project to Rhode Island
It's approved and construction is about to start





Each dot is a turbine –
connected via cable to an offshore
sub-station, then high voltage cables run up
Narragansett Bay



Each cable is buried using jet ploughs

- Hundreds of miles of cables will be installed
- Sediment plumes will cover critical spawning and breeding grounds
- Hundreds of years of toxic lead, heavy metals and “forever chemicals” (PFAs) from RI industries & U.S. Navy will be dredged up threatening contamination of our waters and sea life



Each of 10+ high-voltage substations is a power plant

Almost identical in appearance to an offshore oil rig



Offshore Substation Dimensions

Total Height: 220 ft

Total Width: 217 ft

Total Length: 322 ft

Size and scale of turbines is unprecedented

Each turbine blade is over 100 yards long



Monopile Foundations



Note Person for Scale

“Giant hammers ram the turbine’s upright steel tube called a monopile that weighs 2,000 tons, into the seabed”

--GE Turbine Website

- Monopile is 40 ft in diameter with walls 5 inches thick

Revolution Wind Turbine

Shown to scale compared to
Newport Bridge

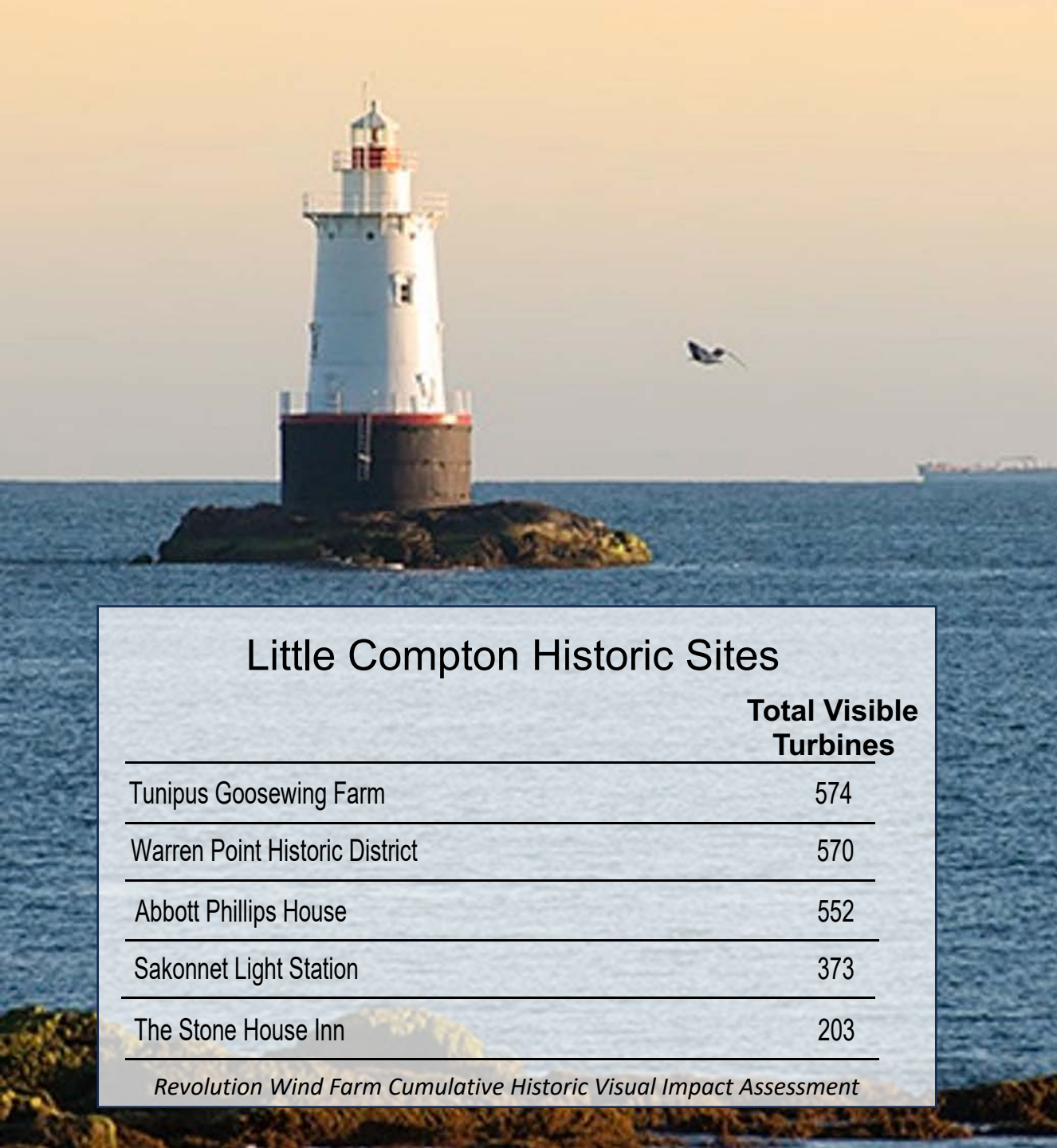


85 stories high – taller than every building in Boston

There are only 28 building in all
of New York City that are as tall

Off our coast there will be
1,000 turbines turning the
ocean into an Industrial zone





**Sakonnet Lighthouse
in scale to
Revolution Wind
turbine**

**Siemens Wind Turbine
Height: 853 ft**

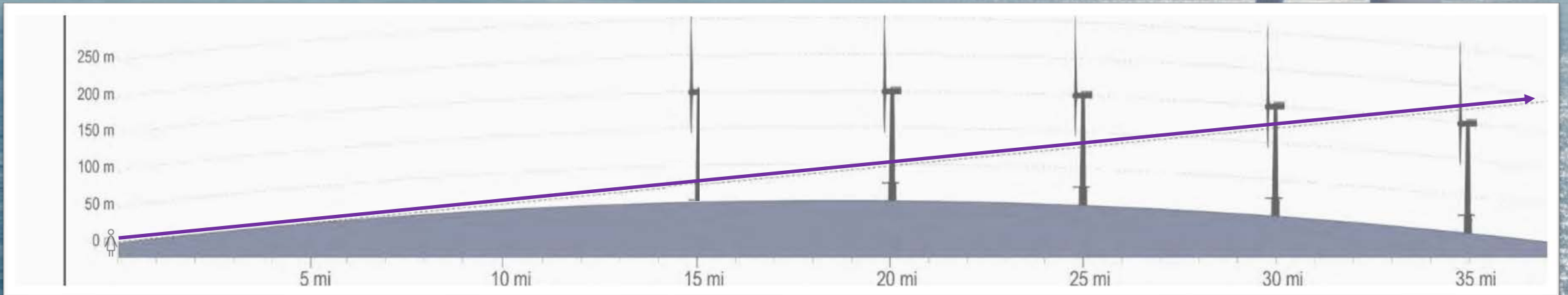
**Sakonnet Lighthouse
Height: 70 ft**

Little Compton Historic Sites

	Total Visible Turbines
Tunipus Goosewing Farm	574
Warren Point Historic District	570
Abbott Phillips House	552
Sakonnet Light Station	373
The Stone House Inn	203

Revolution Wind Farm Cumulative Historic Visual Impact Assessment

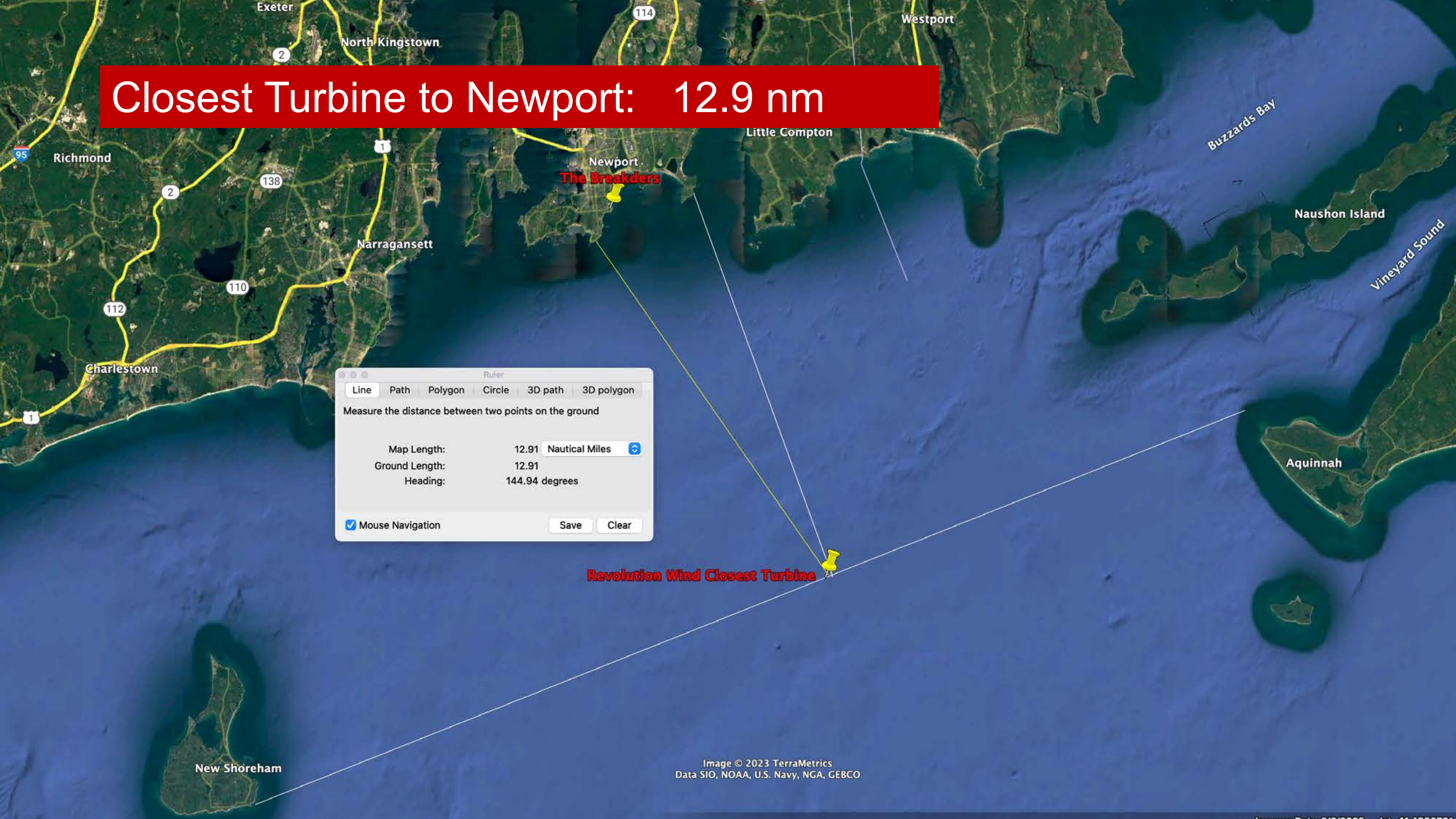
Immense height means visible for 30+ miles *despite* curvature of the Earth





Official Government Simulation of View from The Breakers at Cliff Walk

Closest Turbine to Newport: 12.9 nm



Ruler

Line Path Polygon Circle 3D path 3D polygon

Measure the distance between two points on the ground

Map Length:	12.91	Nautical Miles
Ground Length:	12.91	
Heading:	144.94	degrees

Mouse Navigation

Revolution Wind Closest Turbine

Newport and Middletown Views



	Total Visible Turbines
Paradise Rocks Historic District	605
Ocean Drive Historic District NHL	562
Bellevue Avenue Historic District NHL	543
Ochre Point – Cliffs Historic District	536
The Breakers NHL	504
Clambake Club of Newport	499

–Revolution Wind Farm Cumulative Historic Visual Impact Assessment



Center for Environmental and Resource Economic Policy:

“There is a substantial portion of the survey population that would change their vacation destination if wind farms were placed within visual range of the beach.”

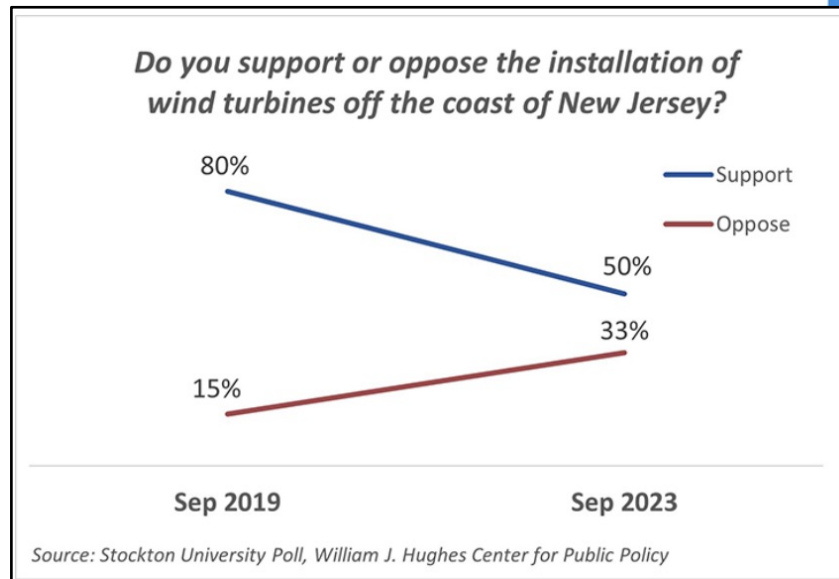
As facts come out, support plummets along the East Coast

There has been a rapid increase in opposition to offshore turbines and public opinion is now turning against them as people start to realize what is about to happen to Rhode Island.

Poll finds whale strandings drive down New Jersey support for offshore wind

by Kirk Moore in Mid-Atlantic, Northeast, News

SHARE    



A dead humpback whale is removed from the beach at Manasquan, N.J., before a Feb. 14 necropsy at the Monmouth County Landfill. Michael McKenna/Marine Mammal Stranding Center photo.

In the last year, 78 large whales have died on the East Coast near offshore wind survey and construction sites

NOAA declared these deaths an “Unusual Mortality Event”



NOAA is investigating whale deaths...

..but study won't be finished until after the project is done

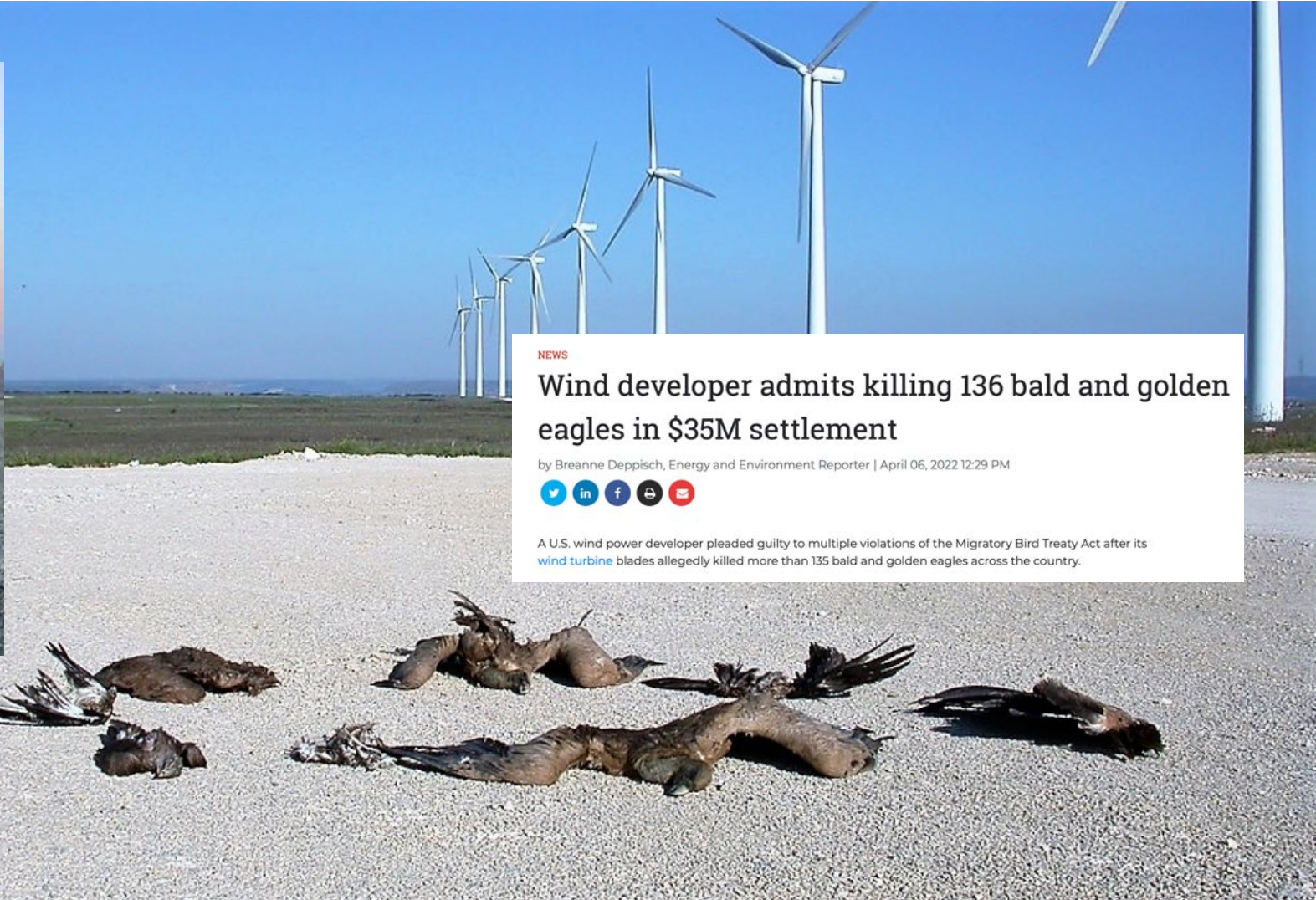
One theory is that the seismic surveys and pile driving are making them deaf which is why they collide with ships or get disoriented.



Whales and dolphins, use echolocation or "bio-sonar" systems to locate prey.

High power seismic sonar surveying could confuse these animals and interfere with basic biological functions such as feeding and mating.

Giant blades traveling over 200 mph kill birds



NEWS

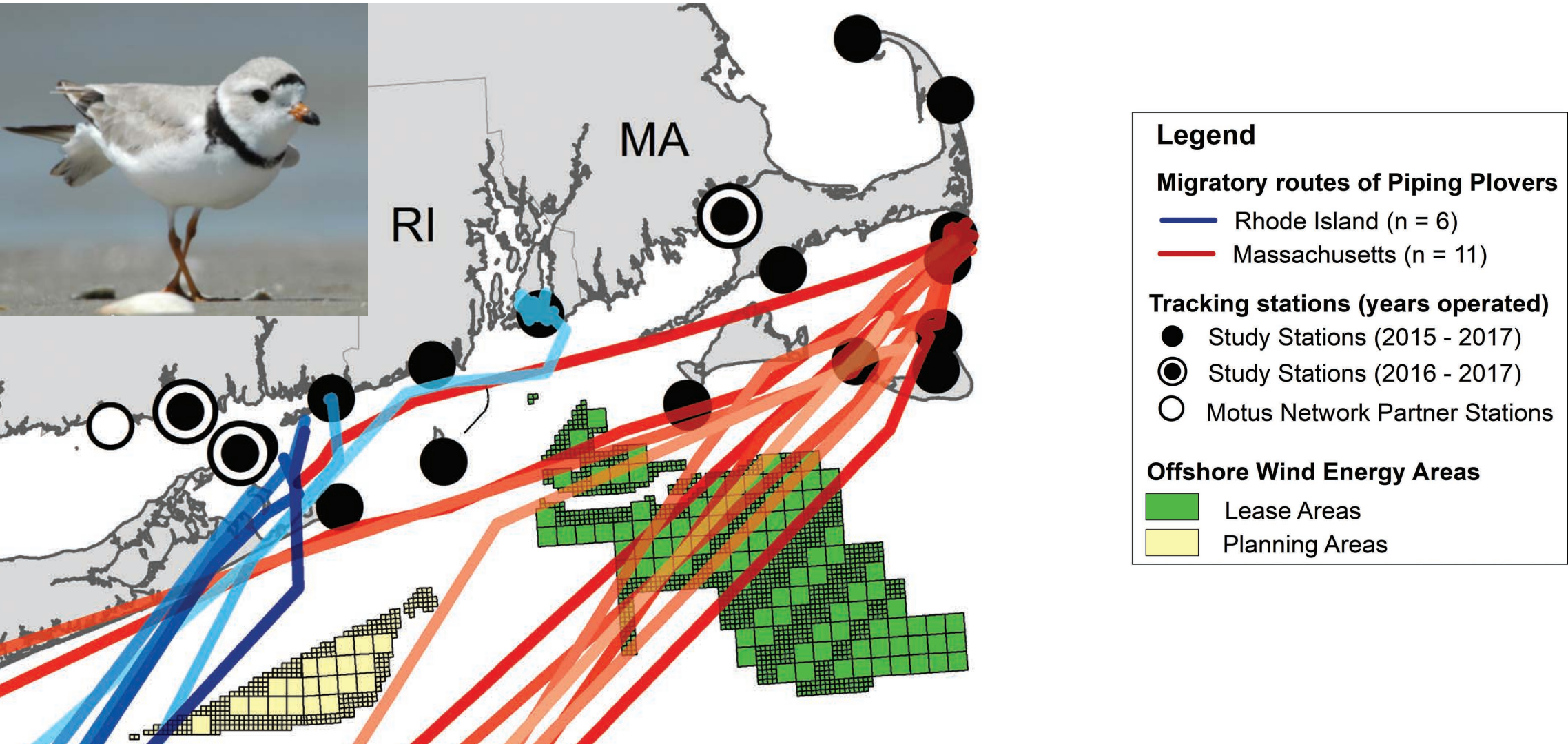
Wind developer admits killing 136 bald and golden eagles in \$35M settlement

by Breanne Deppisch, Energy and Environment Reporter | April 06, 2022 12:29 PM



A U.S. wind power developer pleaded guilty to multiple violations of the Migratory Bird Treaty Act after its [wind turbine](#) blades allegedly killed more than 135 bald and golden eagles across the country.

Revolution sited in migratory path of endangered bird species



You shouldn't need a million acres...

- Wind uses **367 times more** land/sea area than other sources...wasting precious natural resources
- Natural Gas or Nuclear has a much smaller environmental footprint



Offshore Wind uses 15x the material per MWh vs. natural gas

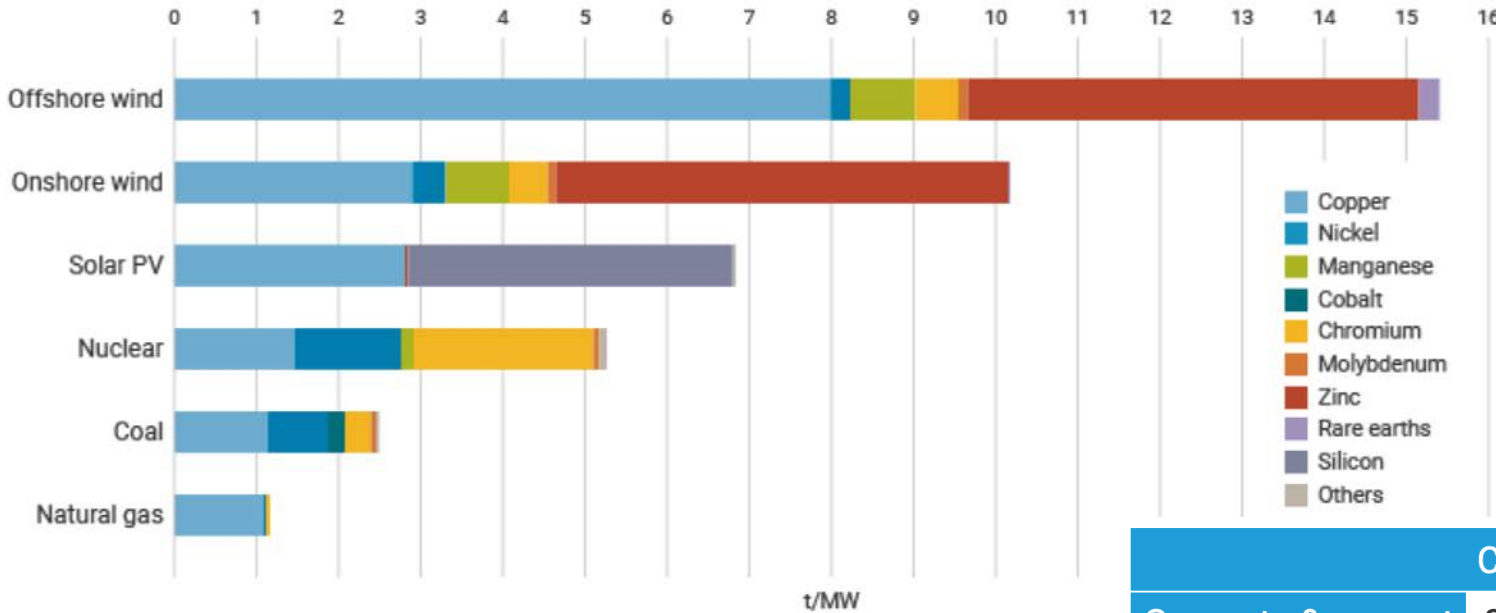


Figure 2: Critical minerals required for different generating technologies (source: IEA)

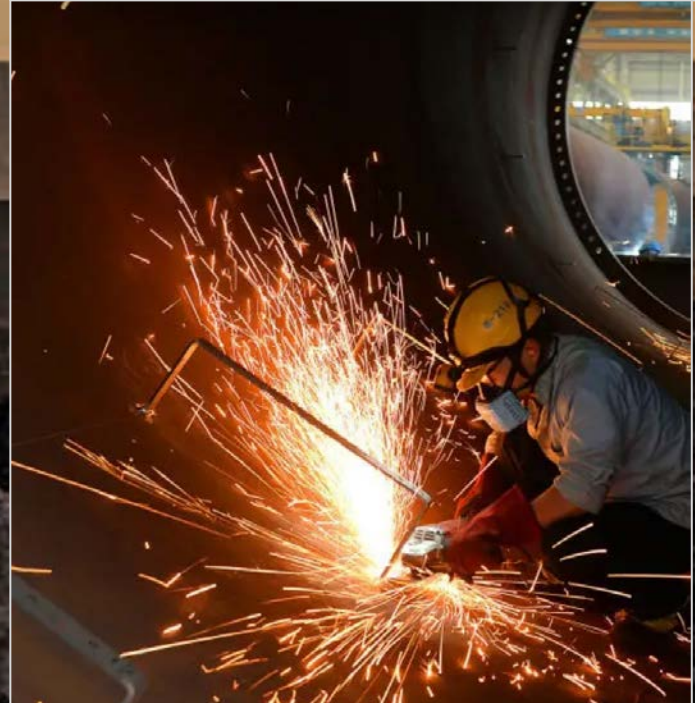
Environmental concerns about resource intensity

Table 3: Materials requirement for electricity generation technologies, tonnes per TWh (source: US DOE)

	Coal	Gas CC	Nuclear PWR	Hydro	Wind	Solar PV
Concrete & cement	870	400	760	14,000	8000	4050
Iron/steel	310	170	165	67	1920	7900
Copper	1	0	3	1	23	850
Aluminium	3	1	0	0	35	680
Glass	0	0	0	0	92	2700
Silicon	0	0	0	0	0	57
Total metals	314	171	168	67	1978	9430

Not so clean...

- Steel, cement and rare earth metals predominately come from China and other countries with poor environmental records
- Each 2,000 ton steel monopile is shipped 4,000 miles



Not so green...

- Cobalt is a vital element for wind power – an important component in the required permanent magnets for the turbine
- 70% of the world's Cobalt comes from the Congo where it is hand-mined under deplorable conditions
- Most of the balsa wood needed for the blades is coming from the S. American rainforests



Wind turbine blades cannot be recycled

In less than 20 years, all 200 linear miles of giant fiberglass blades from this project will be put in landfills



Wind farms slow wind by 40% downstream, create sediment plumes, and *raise* temperatures in areas nearby by mixing warm air from high above



Reduced wind speeds can extend over 45 miles

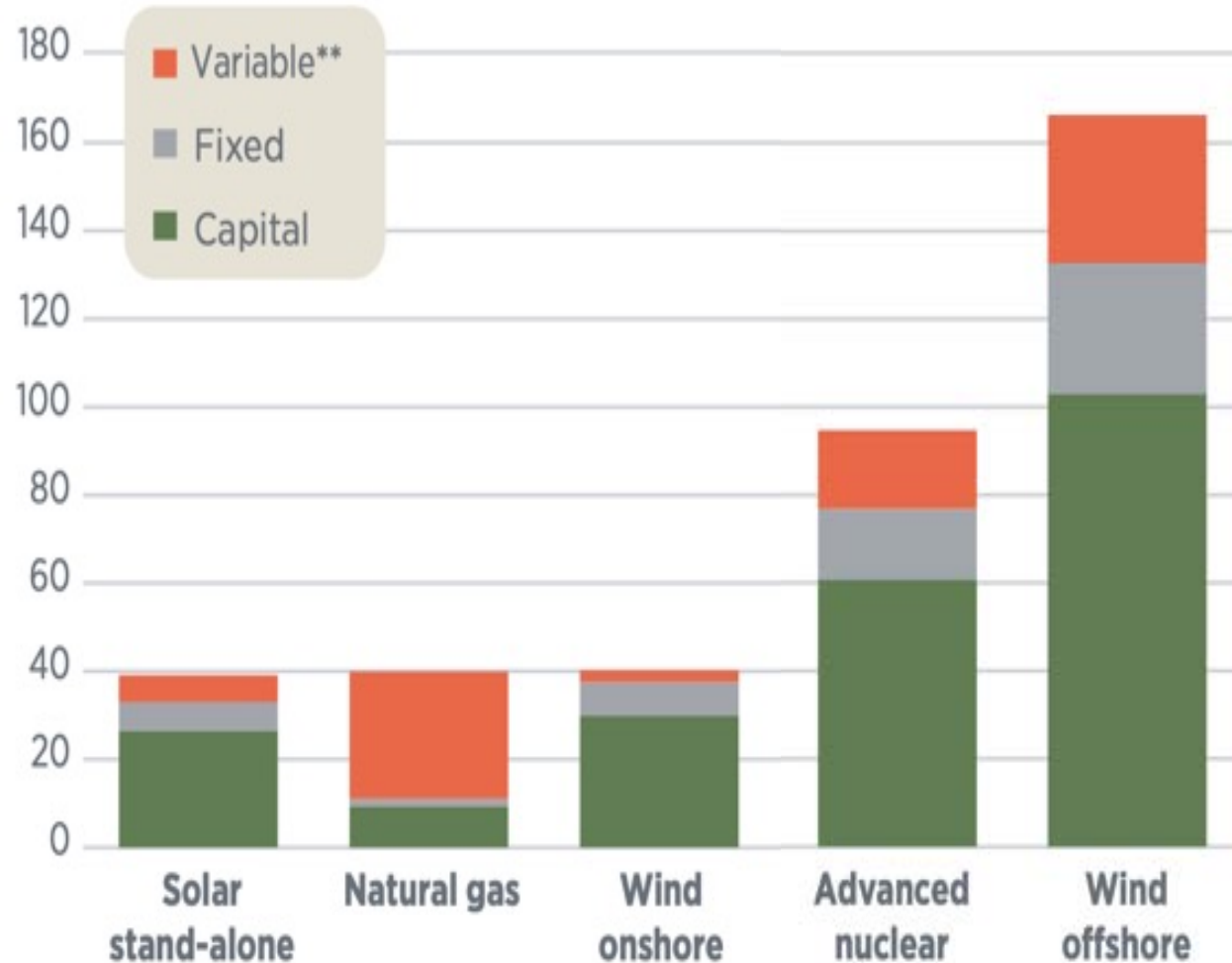


Ocean Currents Interact with Monopile Foundations

Revolution Wind Energy Project Output

- 704MW theoretical output at 100% max wind 24/7
- 400MW to Rhode Island and 304MW to Connecticut
- 40% capacity factor typical for offshore wind (Block Island is slightly less)
- Thus, Rhode Island would get 160MW from Revolution Wind
- R.I. currently has 6 gas-fired powerplants with a capacity of 2,200MW
- Revolution Wind would **add only 7% power generation capacity**

Offshore Wind is the most expensive form of electricity



Revolution Wind Contract Price

- Rhode Island signed a power purchase agreement (PPA) requiring the purchase of 100% of the available power at a fixed price
- Under the PPA, RI Energy will purchase 100% of the electricity for 20 years
- The price is \$98.4 per MWh
- Natural Gas generated electricity costs \$40/MWh
- Orsted expects 40% tax credits from Inflation Reduction Act for construction
- Orsted asked for 71% increases in other projects to \$167/MWh

Fishing is an important segment of the Rhode Island economy

- Seafood produces over \$500 million of gross sales and over 3,147 jobs
- Both NOAA and the CRMC's Fisherman's Advisory Board (FAB) have documented warnings which went unheeded

“The overall cumulative impact to commercial fisheries and for-hire recreational fishing would be **major adverse**.”

minor adverse

moderate adverse

major adverse

Revolution Wind, Environmental Impact Study Table 2.3-1

RI CRMC Fisherman's Advisory Board resigns en masse



The trawler Virginia Marise from Point Judith, R.I., near the Block Island Wind Farm. Deepwater Wind photo.

“It has become abundantly clear that the Rhode Island CRMC has made deference to offshore wind developers its top priority regardless of the requirements of the Ocean SAMP, the cost to the environment, or the impacts to Rhode Island’s fishing industry...”

– Resignation letter signed by all 9 members of CRMC Fisherman Advisory Board



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930

“The proposed project:

1. Poses a high risk of **population-level** impacts to Southern New England Atlantic cod, *and*
2. Would result in significant alterations of the Coxes Ledge ecosystem...”

–Letter from Louis Chiarella of NOAA to BOEM, June 16, 2023

How do offshore wind turbines harm fishing grounds?

- Despite the monopile being pounded 200 feet into the sea bed, ocean currents can undermine the foundation
- So, an enormous area of rock and cement called **scour protection** is placed around the monopile to protect the foundation
- In open areas, it's not an issue, but is incredibly harmful to fish breeding grounds



Even “Green” Energy should be sited responsibly



Even if you support solar power, you should still oppose cutting down the Amazon rainforest to install solar panels

Big Oil *is* Big Wind.

- All companies developing wind energy off Rhode Island ***are*** fossil fuel related companies
- Yet accusations from critics always imply that those who oppose offshore wind ***must*** be funded by big oil...



Danish Oil and Natural Gas (DONG) rebrands itself as Orsted and is behind Revolution Wind in Rhode Island



Bloomberg

Green

Wind Farm Developer Gets Profit Boost from Burning Coal

- Orsted raised its 2022 outlook thanks to coal-burning plants

According to the federal government's report on Revolution Wind:

- Major impact on tourism
- Major impact on jobs
- Major impact on commercial fishing
- Major adverse impact on North Atlantic Right Whale
- The government has studied and documented all these harms in their final report but has approved the project anyway
- Major impact on property values? (not analyzed)

Takeaway: It's bad for Rhode Island

But at least it's good for the planet... right?

“BOEM anticipates that the Proposed Action would have *no measurable influence on climate change...*”

*Revolution Wind Farm,
Environmental Impact Study, p. 3.8-9*

Doesn't it at least reduce CO₂?

Unfortunately, NO, because:

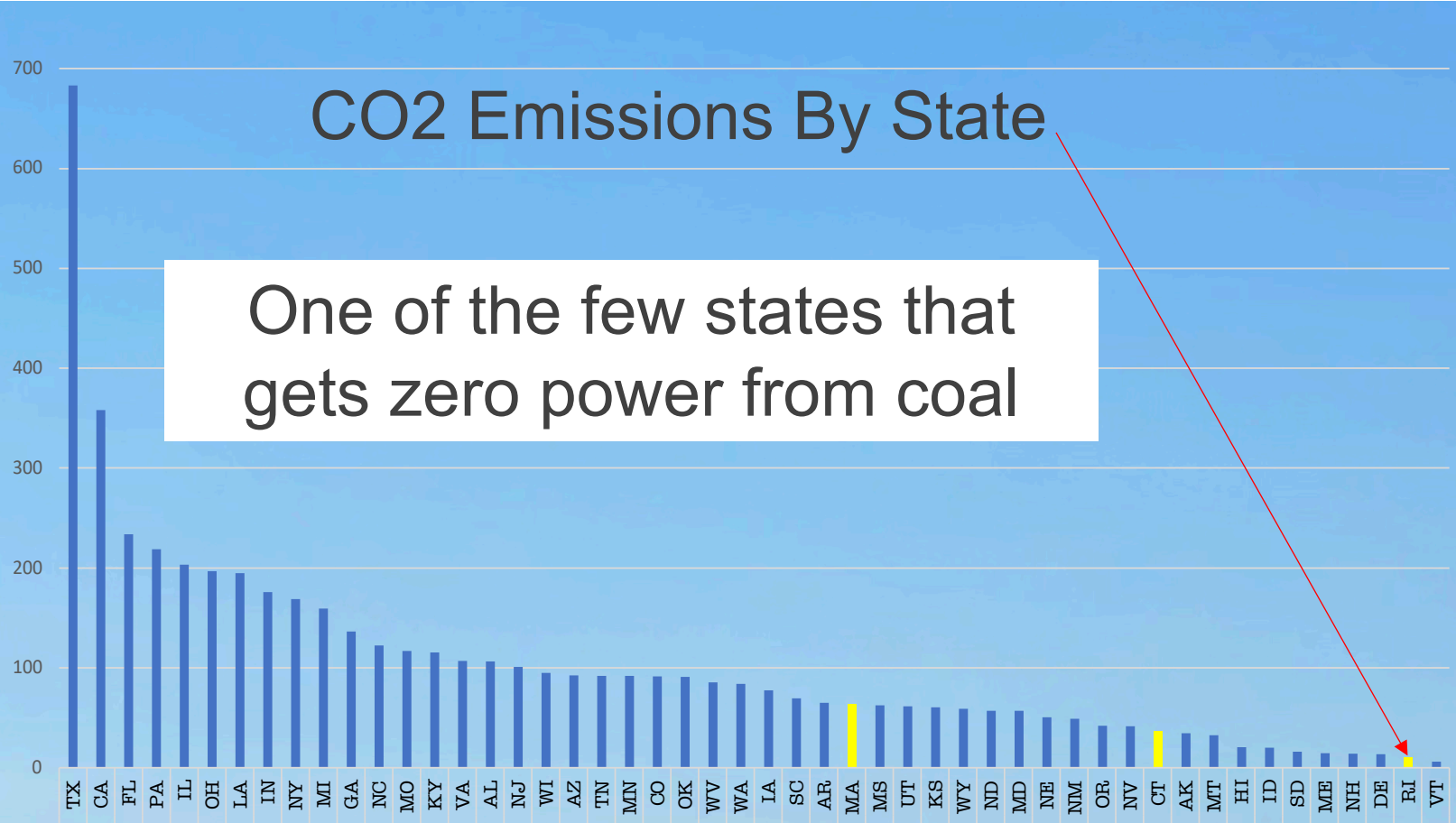
- **Short term:** front loads many years of CO₂not prudent if we are at a tipping point
 - Construction generates a huge amount of CO₂: manufacture of millions of tons of steel, fiberglass, cement, and diesel fuel for transport and installation
- **Long term:** heavy industry, manufacturing, computer server farms, will locate to countries like India and China where electricity is cheap
 - China is building one new coal plant per week!
 - Starting and stopping natural gas powerplants to balance intermittent wind reduces their efficiency so they produce more CO₂
- Net result will be an increase in **global** CO₂, despite a small potential long-term reduction **here**

Meanwhile in Europe...



Germany begins dismantling windfarm for coal mine

RI already has 2nd lowest CO₂ emissions in U.S.



The myth of affordable green energy is over

Progress is stalled around the world as nobody wants to admit the real costs

The Telegraph

\$4.3M in Donations to Enviro Groups From Wind Industry Raises Questions About Conflicts, Says Report

The Green Electric Power Grid Isn't Coming

The International Energy Agency says it would require millions of miles of transmission lines. WSJ

OPINION EDITORIAL

The wheels are coming off New York's insane alternate-energy plans

By Post Editorial Board
Published Oct. 15, 2023, 6:42 p.m. ET

OPINION | BUSINESS WORLD

Why Are Carbon Emissions Up?

Green subsidies aren't working when CO2 is growing faster than energy consumption. WSJ

The New York Times

Offshore Wind Firm Cancels N.J. Projects, as Industry's Prospects Dim

Denmark's Orsted said it would be forced to write off as much as \$5.6 billion as wind developers in the U.S. faced wrenching financing costs.

The New York Times

The Energy Transition

U.S. Bets on Small Nuclear Reactors to Help Fix a Huge Climate Problem

Green | Energy & Science

Wind Turbine Blades Can't Be Recycled, So They're Piling Up in Landfills

Bloomberg

The Washington Post

Democracy Dies in Darkness

CLIMATE AND ENVIRONMENT

Turns out wind and solar have a secret friend: Natural gas

CNBC MARKETS BUSINESS INVESTING TECH POLITICS CNBC TV INVESTING CLUB PRO NEW

Wind power industry in moment of reckoning as stocks fall and earnings crumble

PUBLISHED MON, NOV 13 2023 1:14 AM EST

Elliot Smith
@ELLIOTSMITHCNBC

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Offshore Wind Farms Reduce Value of Recreational Boating Experience, Says New Survey

INTERMITTENT WIND AND SOLAR

Europe's Largest Wind Farm Facing Bankruptcy

Germany turns to coal for a third of its electricity FINANCIAL TIMES

10 New Reactors Discussed as Sweden Looks to Expand Nuclear Power

Does not make economic sense

- Wind has low energy density, so you need thousands of turbines
- Offshore Wind is uneconomical and exists only because of government subsidies (40% tax incentives for Revolution wind)
- Power is 2x-3x the cost of natural gas. A regressive tax on the poor and middle-class producing energy inequity
- On average wind produces ZERO electricity 7 hours per day (30%)
- Disincentivizes businesses to operate in Rhode Island

Summary

- Revolution Wind is sited in “the worst possible spot on Rhode Island Sound”
—*Save the Bay*
- Intermittent expensive energy that isn't green, clean or sustainable
- Risks irreparable damage to the ocean and its inhabitants
- Will harm the local economy, local homeowners, and rate payers
- Political pressure, subsidies and environmental/process shortcuts rushed the process to approve Revolution Wind
- Opens up many avenues for legal challenge
- Despite failures in NJ, Revolution Wind is pushing ahead in Rhode Island

What can we do? Last Call!

- We assumed our government and our environmental groups would never let this happen
- Now we need to file litigation to stop these things
- We need your help now to get an injunction
- We **need you to join** our effort to fund litigation to stop this

Legal Strategy

- Rhode Island: Green Oceans vs CRMC

- Attorney [Robert Stetson](#)
- Filed suit against Coastal Resources Management Council (CRMC)
- Arguing the CRMC should not have given a concurrence option to BOEM
- Champlin's marina tried for 20 years to convince the CRMC to let them extend their dock in Block Island but it was denied (bad for the environment)
- Yet, the largest offshore marine construction projects in the history of the world were approved by CRMC

- Federal Court: Green Oceans vs US Gov't (BOEM, NMFS, and the Army Corp of Engineers)

- Attorney [Roger Marzulla](#)
- Same firm filed suit against Orsted in NJ (Ocean Wind)
- Anticipate filing complaint in 60 days
- Will issue press release announcing Intent to File suit
- Case will use the Administrative Procedures Act to expose violations of:
- The Marine Mammal Protection Act, the Endangered Species Act, the Migratory Birds Act, the Clean Water Act, the Rivers and Harbors Act, and the Outer Continental Shelf Lands Use Act.



Funding Requirements

- State Case Legal Expenses: \$350,000.
- Federal Case Legal Expenses: \$450,000
- P.R. and local awareness building for political support: \$150K
- Funds raised to date: \$400,000
- Additional Funds Required: \$600,000

Donation link: [Donate](#)

Wire Transfer info:

Green Oceans

Bank: JP Morgan Chase

Address: 660 Brachland Blvd. Suite 102 Vero Beach, FL 32963

Account: 929788229

Routing: 021000021

A scenic sunset over a beach. The sky is filled with large, dramatic clouds, some of which are illuminated from below by the setting sun, creating a golden glow. The sun is low on the horizon, casting a warm light across the scene. The ocean is visible in the middle ground, with gentle waves washing onto the sandy beach. The beach is in the foreground, and the overall atmosphere is peaceful and serene.

**Thank you for helping
to protect our future!**



Elizabeth Quattrocki Knight, M.D., Ph.D.

Cofounder & President

As the president of Green Oceans, [Dr. Elizabeth \(Lisa\) Quattrocki Knight](#) brings scientific expertise and dedication to the organization.

Dr. Quattrocki Knight's background enables her to recognize the crucial role that a healthy environment plays in promoting mental health and overall societal well-being. She employs her expertise to develop evidence-based strategies to address the current tension between climate advocacy and marine conservation.

Bill Thompson

Cofounder

As an internationally renowned artist, Bill Thompson brings a unique and profound vision to Green Oceans. His commitment, dedication, and passion have advanced the mission to advocate for responsible, safe, collaborative solutions to climate change.

Deeply respectful of the power and beauty of nature, he works tirelessly to help protect our oceans for future generations.