JOSEPH BARRIS, PP, AICP, CFM
Director of Planning

WILMA MORRISSEY
Council Chairman

Minutes of a Regular Meeting of the
MONMOUTH COUNTY ENVIRONMENTAL COUNCIL

Thursday, March 4, 2021, 5:00 p.m.
Via Webex

1. **CALL TO ORDER**
Chairwoman Morrissey called the meeting to order at 5:09 p.m.

2. **ROLL CALL – ATTENDANCE**
Members Present: Wilma Morrissey, Paul Johnson, France Karras, David Kostka, Ashley Reese, John Vig
Members Absent: Jennifer DiLorenzo, Scott Thompson
Staff Present: Amber Mallm, Harriet Honigfeld, Sean Pizzio, David Schmetterer, Samantha LaRocca AmeriCorps Watershed Ambassador

3. **PRESENATION WMA 12 AmeriCorps Watershed Ambassador Samantha LaRocca-Stream Health in Monmouth Watersheds**
Ms. LaRocca explained her position. She is hosted by the Monmouth County Division of Planning, AmeriCorps and NJDEP and serves as an informal educator, implements community projects such as rain gardens and rain barrels, and monitors the health of streams. Ms. LaRocca described her findings from 3 stream sites. She described habitat assessments which consist of visual assessments, and biological assessments which entail collecting benthic macroinvertebrates to indicate water quality.

Ms. LaRocca focused on 3 sites where she performed visual and biological assessments this fall. She described her findings at the Manasquan River at Husky Brook. Based on her assessment it scored as marginal for habitat health, some factors included low suboptimal epifaunal substrate, bank instability, and high erosion potential. The biological score was ranked undetermined with primarily pollution tolerant species.

Ms. LaRocca then described her results at Big Brook in Colts Neck and explained the habitat was scored as suboptimal, as there was a marginal level of epifaunal substrate, and the banks were moderately unstable with high erosion potential. The biological assessment returned healthy results as species that are pollution sensitive were found.

She then described her findings at Pine Brook in Tinton Falls which scored the healthiest of all three. The habitat score was suboptimal with optimal epifaunal substrate, optimal bank stability with little evidence of erosion, however the riparian vegetative zone was marginal/poor, Ms. LaRocca noted neared by development, and moderate algae growth in the stream. The biological score returned healthy with predominately pollution

sensitive macro invertebrates. Ms. LaRocca concluded her presentation noting the streams were unhealthy, semi healthy, and healthy. The Council then discussed the potential implications of runoff.

4. REVIEW OF MINUTES

The Council reviewed the December 2020 minutes. Mr. Thompson made a motion to approve the December minutes and Ms. DiLorenzo seconded. With no objections, the December minutes were adopted.

5. REGULAR REPORTS

A. **Chairman-** Ms. Morrissey said she looked online for the Statewide Climate Change Resilience Strategy, Ms. Mallm stated she believes it has not yet been released. Ms. Morrisey presented the article "Solutions Can Protect Coastal Communities" which describes methods to protect against flooding before it occurs. Some of the measures include evaluating land use along coasts, flood insurance, elevating homes, and relocating. Ms. Morrissey discussed NYC seawalls, Ms. France shared her knowledge on the price of seawalls. Ms. Morrissey noted road raisings in Miami, stormwater pumps in Norfolk, wastewater upgrades in Florida to eliminate septic tanks, beach replenishment at Norfolk, creating mangroves and oyster reefs and sea grass habitat in Palm Beach, slowing land sinkage at Hampton Roads, and relocating households due to sea level rise at Isle de Jean Charles, and the importance of protecting coastal navy bases. Ms. Morrissey then offered an article on the Texas blackout titled "Deadly Texas blackout shows our vulnerability to coming climate extremes." Mr. Vig noted that Texas is not connected to other states' grids whereas New Jersey is. The Council then reviewed the article "How the Texas electricity system produced low-cost power but left residents out in the cold" and discussed the costs of the electricity in Texas. Ms. Morrissey discussed NJ's rate of sea level rise, alluding to an addendum under "Solutions Can Protect Coastal Communities." Ms. Morrissey then shared a rule proposal dealing with amendments to the Crab and Lobster Management Rules and suggested members submit independent comments if they so wish. Finally Ms. Morrissey recalled an ANJEC petition to achieve reductions in carbon emissions. See articles attached.

B. **Planning Board-** No report.

C. **Staff-** Ms. Mallm described the March dates to remember. Ms. Mallm provided an update on the Stormwater Technical Advisory Committee, Ms. Morrissey asked if any of the town's need to be reminded about the NJDEP deadline to revise municipal stormwater control ordinances. Ms. Mallm said she has been working with the towns to provide reminders through the STAC.

D. **Legislation-** Ms. Mallm provided an update on recent legislation. She described A3353 which would require all proposed warehouses to be solar ready buildings, and A5343 which would create an inventory of water system pipes to identify pipes containing particles of lead.

OLD BUSINESS

A. **JLUS III-** Ms. Mallm provided an update on the JLUS III study. Ms. Mallm said the portion of the Next Steps for Compatibility Study has moved forward and the Division has spoken to the consultant. Ms. Mallm said they are getting closer to finalizing the site selection process to determine which projects will be the focus of the Coastal Resilience Design study and will revise the RFP accordingly.

B. **2021 Goals-** Ms. Morrissey asked if any members have thought about our 2021 goals. Mr. Johnson asked if the Council's actions had to be approved by the Planning Board. Ms. Morrissey suggested asking the Planning Board for recommendations on what to do. Mr. Vig said if we generate an idea we can present it to the Planning Board. Mr. Vig called back to Mr. Johnson's homemade wren houses. Mr. Johnson said the offer still stands to build wren houses. Ms. Karras recalled the 2017 back dune planting with bayberries and beach plums at Bayshore Waterfront Park. Ms. Mallm said this was performed with an ANJEC grant. Mr. Johnson said nursery's specialize in native plants, perhaps some nurseries would be willing to donate for a project. Ms. Karras said it was a good project and has visited the site since and has seen some plants have survived. The Council also discussed potential tree give ways from tree foundations.

6. NEW BUSINESS

A. **Monmouth County Division of Planning Year in Review-** Ms. Mallm provided an update on the actions of the ESP section including farmland preservation program**,** wastewater and water quality planning, the Amendment Review Committee which processes site specific amendments to the future sewer service area map, stormwater which is facilitated through the stormwater technical advisory committee, participation in partnership meetings such as the sustainable jersey hub, Mr. Johnson asked if Ms. Mallm can forward information on the Monmouth County Sustainable Jersey Hub.

7. MEMBER REPORTS:

- Ms. Reese said she is working on her article on the spotted lanternfly.
- Mr. Kostka said Colts Neck continuing to update its ERI. The Green Team has been looking at activities to qualify for certification, both ongoing activities and potential activities.
- Mr. Vig said they are still learning the rules on how to prove their activities for Sustainable Jersey points. Ms. Morrissey offered to help Mr. Kostka and Mr. Vig with participating in Sustainable Jersey.
- Ms. Karras shared concept drawings for a sculpture proposed by a local artist for the entrance of Lenape Woods in Atlantic Highlands. The sculpture would be of a life size model of Lenape Elder Popamora pointing the way to the trail. The sculpture would be mounted on a steel structure, covered with driftwood, and sealed with varnish. Ms. Karras said there will be public clean up at NATCO Lake in Hazlet and Save Coastal Wildlife is asking the public to report any skate egg cases they find on the beaches from April 12 to 16.

- Mr. Johnson recalled a discussion from the last meeting regarding developers studying environmental impacts then said he saw that Middletown adopted a stormwater ordinance in the paper. Mr. Johnson also discussed piping plover nesting habitat and said he is hoping to inspire more areas for preservation in sea Girt.
- Ms. Morrissey asked Mr. Schmetterer if he would like to offer any comments. Mr. Schmetterer thanked Ms. Morrissey for the moment to speak and thanked Ms. Mallm for her work on the Council and her other duties. Ms. Morrissey also asked Mr. Pizzio if he would like to speak. Mr. Pizzio introduced himself and described his work focused on farmland preservation, acquisition and farmland stewardship concerns at the Division of Planning. He said is looking forward to expanding his efforts and learning more about the Council.

8. PUBLIC COMMENT: Ms. Morrissey opened for public comment; upon seeing no members of the public the public comment was closed.

9. **ADJOURNMENT:** There being no further business, Ms. Karras made the motion to adjourn and Mr. Johnson seconded the motion. The meeting was adjourned at 6:22 p.m.

Solutions Can Protect Coastal Communities

Flooding due to sea level rise is a big challenge, but there are solutions to keep coastal communities safe. Individuals, mayors, governors, and Congress can work together to build protections before flooding, build back stronger after flooding, and create plans that future-proof communities.

INDIVIDUAL
Individuals can take steps to protect their homes and property from flood damage and urge local officials to take action to keep their communities safe.

Local officials can prioritize sea level rise and take action locally to protect the community, as well as coordinate with state and federal officials for practical solutions.

STATE & FEDERAL
State and federal officials must help fund practical community solutions and incentivize smart planning in state and federal programs.

There are four actions that guide solutions

1. **Proactive Protection**

It's important to protect coastal communities before major flooding damage happens, and not wait for a disaster to strike. This is also cheaper – every $1 spent on disaster mitigation saves $6 in disaster relief.[1]

2. **Building Back Stronger**

After flooding and natural disasters, communities need to be rebuilt stronger and more resilient so that they don't face the same problem again and again.

3. **Future-Proofing Communities**

Setting more forward-thinking building codes, evaluating coastal development and planning infrastructure that can withstand higher seas can all help prepare communities for the future.

4. **Conservative Planning**

Taking a hard look at the risks of sea level rise and flooding and can help communities make realistic financial plans—just like how businesses hedge against risk.

INDIVIDUAL SOLUTIONS

What Can Individuals Do to Protect Their Homes?
Individuals can take action to protect against sea level rise flooding including researching and understanding their flood risk, insuring against that risk, and making changes to protect their home.

While these steps are effective, they can also be expensive and time-consuming. Permanent solutions also require action at the local, state and federal levels to keep flood water out of streets and homes.

Individuals can play an important role to inform the local officials of the risks they face from flooding, and support local actions that protect the community and lower flood insurance premiums.

The first and most important step in protecting a home is knowing what the property's flood risk is. Even if a home is not at risk for flooding directly, flooding on nearby streets can impact the community and local residents' ability to get to important infrastructure, like schools and hospitals. Individuals can search their address at FloodiQ.com to find their property or city's flood risk.

Buying flood insurance
Premiums depend on each home's specific risk, with an average premium costing $700 per year[2]
Since typical homeowners insurance does not cover damage from flooding, and the average cost of flood damage is $40,000, it makes buying flood insurance a smart bet for many homeowners—even those who live outside of FEMA's designated flood zones. Flood insurance premiums can be reduced when the community takes action to decrease its overall risk and when individuals take steps to make their homes safer. Click here to read our detailed guide to understanding flood insurance.

Raising the expensive stuff
$6,000 or more to elevate HVAC systems, plumbing, and electric meters[3]
Homeowners experiencing repeated flooding can raise HVAC systems, plumbing, and electric meters currently on their basement or ground level to above flood levels. This can prevent future damage to expensive systems and could reduce flood insurance premiums as well.

Elevating houses
$130,000 (median price)[3]
Houses can be raised above flood levels by using six-foot tall wooden stilts or concrete blocks. Even if a house doesn't flood, the driveway and the roads around it still may. It is easier for a new home to be built higher, but existing homes can also be raised. Often, rebuilding happens when FEMA grants money after a disaster like Hurricane Harvey. These grants can often cover the majority of the cost for rebuilding.

Relocating
Costs will vary
For houses that are in areas of extreme flooding, one option is to relocate to higher ground. To relocate, a house is lifted off its foundation, hauled to a new site, and lowered onto a new foundation.

LOCAL SOLUTIONS

What Can Cities Do to Protect Against Flooding?

Local officials can make a big difference simply by communicating the risks of flooding to their constituents. It's also important for local officials to create a basic plan to protect critical infrastructure. With bold leadership and smart planning, communities can limit the damage from flooding and protect their schools, hospitals, roads, and local economy.
Local action can also lower the cost of homeowners' flood insurance premiums, helping them save hundreds of dollars each year. While local communities are the first line of defense, they need support from the state and federal level to be successful.

Solutions take time to fund and implement, but can protect cities

Across the country, communities are coming together to combat sea level rise and finding innovative and resourceful solutions. However, what works for one city may not work for another. Choosing the right solution will depend on factors like local climate, resources (both natural and economic), and laws.

Because solutions take time to plan and execute, it's important for cities and residents to be proactive. Knowing the issues sea level rise and flooding may pose today and 10–30 years from now will give coastal communities the time to prepare and find solutions that protect property, economy, and quality of life.

Building seawalls
New York City is building a $335 million flood wall in Manhattan[4]
Seawalls are built on the coast to decrease flooding from tides and storms. They are often built to a height of five to six feet above sea level. To reduce flooding, old seawalls will need to be repaired and raised higher as the seas rise. Raising seawalls by 12 inches costs about $60 per foot. New seawalls often cost $600 to $2,000 per linear foot[5]

Raising roads
Miami Beach is raising its roads by two feet at a cost of roughly $2 million per block[6]
Raising roads above sea level can help drain water and reduce tidal flooding. In order to make sure that higher roads don't channel flood waters to homes and stores at lower elevations, cities often use stormwater pumps to remove this excess water.

Building stormwater pumps
Norfolk needs $70 million for pumps and drains by Ohio Creek[7]
With higher seas, water doesn't drain out as easily. Pumps can speed up the process of getting water off the streets by vacuuming up the flood water and releasing it back into the sea.

Upgrading sewage systems
Florida's Broward County has spent over $250 million to eliminate septic tanks[8]
Flooding can disrupt sewage systems and in particular, threaten septic tanks. Since saltwater is corrosive, it can break tanks and cause sewage to spew out, creating a smelly problem as well as a health hazard. Towns can upgrade sewage systems so that storm water doesn't seep into pipes, upgrade septic tanks, or replace them with sewer lines for about $15,000 per replacement.

Using beaches as barriers
Norfolk recently spent $34.5 million to engineer a beach at Ocean View to reduce flooding[9]
Beaches and dunes can act like a natural wall that reduces the impact of storm surges. The bigger the beach, the more water it stops from reaching homes and roads. Towns can add sand to make beaches bigger or to protect them against erosion. Using this type of natural infrastructure can protect against flooding while maintaining beaches for the community to enjoy.

Creating natural infrastructure

Palm Beach County is spending $17 million to create mangroves, oyster reefs, marsh and seagrass habitats on 70 acres of land[10]
Coastal communities can restore and build up natural infrastructure that can act as a buffer against storms and coastal flooding. Natural structures such as barrier islands, oyster and coral reefs, mangroves, seagrass, and salt marshes can work in unison with built infrastructure, such as seawalls, to absorb storm surges.[11] These projects are often cost-effective and can improve the natural environment for the community.

Slowing land sinkage
Hampton Roads Sewage District has planned a $55 million pilot project to inject water underground to slow land sinkage[12]
In places like Hampton Roads, the land is sinking in part because so much groundwater has been pumped out that the land is caving in to fill the empty space. Towns can slow down land sinkage by limiting further groundwater pumping and initiating pilot projects to reverse land sinkage. In Hampton Roads, a pilot project called SWIFT will begin experimenting with injecting a million gallons of purified wastewater in the ground per day, starting in 2018.

Managed retreat
Isle de Jean Charles has a resettlement project underway, which will cost $48 million and relocate 36 households[13]
In some coastal areas, shorelines are being lost to storms, sea level rise, erosion, and subsidence. Though communities are implementing many of the solutions available to mitigate this, some are considering relocation. This option may not be the best fit for all coastal communities facing extreme cases of sea level rise, but for some, it is the best solution to keep residents safe.

STATE & FEDERAL SOLUTIONS

Why Is State and Federal Action Necessary?
Sea level rise flooding is already impacting America's national security, its economy, and citizens up and down the coast. This national challenge must be met with national solutions. State and national action is critical to give coastal communities the tools they need to protect themselves and the military bases, ports, and highways that support the rest of the country.

How state officials can tackle sea level rise and flooding
Increasing funds for local infrastructure

Building infrastructure to reduce flooding saves money and protects citizens, but most towns can't afford to pay for it on their own. It's essential for the federal government to help local communities pay for protections against flooding today, rather than waiting for disasters to strike that cost taxpayers billions of dollars.
Federal and state governments can also get more from the money they are already spending by incentivizing smart planning. They can require projects that receive funding to protect against flooding and provide more funding to help them do so.

Protecting military bases

It's important for the national government to understand the risks to major military bases and fund the projects necessary to protect them from flooding. Sixteen military bases on the East Coast will have flooding 100 times per year by 2050.[14] This puts military readiness and equipment at risk.
Even when military bases take action to remain dry, flooded roads can keep service people from being able to reach the base to deploy. While some bases, like Langley Air Force Base in Virginia, are already taking action to protect against sea level rise, coordinated national action is needed to ensure all military bases are prepared.

Hardwiring flood prevention into federal programs

The government already spends billions of dollars on disaster relief, affordable housing, and other programs that impact communities' flood risk. With those same dollars, the government could protect communities from flooding and reduce spending for disaster relief. Proactive protection pays off—for every $1 spent on pre-disaster mitigation, $6 is saved in disaster relief.[1]
While the Department of Housing and Urban Development finances housing in every coastal state, these dollars could go further if states and developers were required to consider the risk of flooding in their plans. When rebuilding after disasters, infrastructure needs to build back stronger so communities can withstand future flooding.

Giving local communities the tools to plan smart

Many coastal communities are already taking action to combat flooding from sea level rise, but they need tools for better planning. Local communities rely on federal FEMA flood maps to understand their flooding risk and take action. Currently, around 15% of these maps have not been updated since the 1970s or 1980s, and none of the maps include sea level rise.
The federal government needs to update these maps to give local communities accurate data. Without accurate maps, it's like asking local communities to fight sea level rise flooding with one hand tied behind their back. State and federal governments can also play an important role in understanding the country's overall risk and coordinating efforts between communities.

Solutions Can Protect Coastal Communitites
sealevelrise.org

Addendum:

Since 1979, seas have risen faster in **New Jersey** than the global average by 0.1 inches annually. Since 1911, **New Jersey** has experienced a 1.5-foot seal **level rise**, compared to 0.6 feet globally. Subsidence, or the sinking of land, is a primary cause of **New Jersey's** higher rate. Jan 10, 2020

New Jersey's Coastal Zone

New Jersey has more than 1,800 miles of coastline from the New York border to the head of tide along the Delaware River. The coastal zone covers 3,218 square miles and comprises 239 communities. It includes all areas covered under the Coastal Area Facility Review Act, the Waterfront Development Area and the New Jersey Meadowlands District.

Approximately 53 percent of New Jersey's total population resides in the coastal zone, with thousands more visiting cities, towns, beaches, parks and other popular locations every day. The coastal zone features thousands of attractive destinations; indeed, New Jersey's tourism industry is a multi-billion-dollar economic engine, and various other sectors rely on waterfront access as well. The communities in this region are diverse and encompass characteristics of all New Jersey communities from large urbanized cities adjacent to New York City, to shore towns, to tiny hamlets surrounded by undeveloped land.

This rich, diverse area faces significant threats and challenges in the face of a changing climate and rising seas. Areas within the coastal zone are already vulnerable to inundation from tides, coastal storms and rain events. Although there have been various studies to identify the vulnerability of several communities or specific resources within the coastal zone, no study has comprehensively evaluated the potential impacts of sea-level rise and future coastal storm events on the coastal zone.

Deadly Texas blackout shows our vulnerability to coming climate extremes
The event provides a glimpse of a 'hellscape' future if we don't build resilience

By Andrew Freedman Feb. 22, 2021 at 2:57 p.m. EST

The cold snap that gripped the central and southern United States last week has ended, giving way to more seasonable temperatures. However, extensive damage to lives and property has been done, with at least 58 lives lost, the majority in Texas, as a result of the extreme cold, snow and ice.

In a country already reeling from the coronavirus pandemic, the extreme weather served to further heighten the misery and disruption to daily life for millions.

Experts in the insurance industry can't yet say with certainty how much damage this event caused, but it is possible that it will be among the top tier of costliest natural disasters in the United States, and perhaps even globally, for 2021.

'Where is Greg Abbott?' Anger grows at Texas governor in deadly storm's wake
Yet for all that's been written about this event, the key lesson it vividly demonstrates has not been emphasized enough.

While there may be a climate change connection to this cold outbreak, in the form of the potential tie between a wavier jet stream in the Northern Hemisphere and rapid Arctic warming, what makes the blackout in Texas and other states so baffling and foreboding is that the grid failed during an extreme event that was largely within the boundaries of a "normal" climate.

Texas cold snap was not 'unprecedented' and it was inexcusable to be unprepared
This was not a cold event unlike any Texas has experienced before. In fact, in some ways it fell short of past records, but broke some new ground by some other measures.

The cold was notable especially for its duration, with Oklahoma City setting a record of 210 hours for the longest straight run of temperatures at or below 20 degrees, beating its previous record set in 1983. Yet relatively few all-time low temperature records were set during the outbreak, as Texas and the central United States tend to experience these influxes of harsh Arctic air every few decades.

In the Lone Star State, there were similar events in 2011, 1989 and 1983. The previous cold snaps, including the one in 2011, were accompanied by problems with the Texas electrical grid, and investigations into them led to recommendations to weatherize the state's energy infrastructure to prevent a similar situation in the future.

Those recommendations were deemed to be too costly and were largely ignored.
The result is that some of the complex systems our society depends upon for basic necessities and economic growth, such as electricity, are unprepared even for the climate extremes of today, let alone more severe extremes climate scientists warn are coming. The same is true for flood protection, as illustrated by Hurricanes Katrina in New Orleans and Harvey in Houston.
"We're living in a society that's not designed for the weather that we're living with and the weather to come," said Ernst Rauch, chief climate scientist at the reinsurance company Munich Re, in an interview.

He said his firm has documented an increasing trend of instances in which critical infrastructure, such as electrical grids, have failed during extreme weather events.

Climate resilience is not just a mere buzzword in policy and activism circles. It's a necessity to manage the risks associated with a warming world as well as the weather events we already face, Rauch and other experts say. However, building more resilient infrastructure raises thorny questions about funding, considering that the marketplace often leaves it up to customers to pay for costly improvements, rather than companies themselves.

"It's up to Texans to decide how much resilience do they want after shivering in the dark for a week," Rauch said in an interview, pointing out that the costs of weatherizing the electrical grid are likely to be passed to ratepayers because of the way the marketplace is designed.

The likely costs of the Texas blackout demonstrate what economists have been saying for years: It is far cheaper to act now to adapt to climate change and cut greenhouse gas emissions than it is to carry on with business as usual and reap the whirlwind that lies ahead.

Meteorologist for Texas grid operator warned of the winter storm's severity
"The history books are going to look back at the last week of winter weather as one of the most consequential from a humanitarian perspective that we've seen in the United States," Steve Bowen, head of catastrophe insight at the insurance company Aon, said in an email. "There will undoubtedly be a volume of insurance claims filed that will rival some of the bigger hurricane events seen in Texas, and this will translate to direct economic losses well into the billions of dollars."

"It's going to take several weeks of assessments to know how high the tally will go, but unless the rest of the year really goes off the rails, it's safe to say that this will end up as one of 2021's costliest U.S. disasters," he added.

According to Rich Sorkin, founder and chief executive of Jupiter Intelligence, a company that helps governments and companies manage climate change risks, the power industry is not well-prepared for the extremes it faces and therefore has a lot of work to do to be more resilient to what climate change could bring.
The power sector is better prepared for extreme events in parts of Europe, New York, Florida and Hawaii, Sorkin said, "and very, very far behind where it needs to be pretty much everywhere [else]."

"It's the same dynamic whether we're talking about fire in California and Spain, heat in Dubai and Phoenix, flooding in Florida and Tokyo, cold, wind and flooding in Texas, etc., etc. The vast majority of these places are livable with sufficient planning and investment for quite some time," Sorkin said via email.

"Without that planning and investment, a hellscape will be upon us."

How the Texas electricity system produced low-cost power but left residents out in the cold

February 18, 2021 4.41pm EST

Author **Theodore J. Kury** Director of Energy Studies, University of Florida

Disclosure statement Theodore Kury is the Director of Energy Studies at the University of Florida's Public Utility Research Center, which is sponsored in part by the Florida electric and gas utilities and the Florida Public Service Commission, none of which has editorial control of any of the content the Center produces.

Americans often take electricity for granted – until the lights go out. The recent cold wave and storm in Texas have placed considerable focus on the Electric Reliability Council of Texas, or ERCOT, the nonprofit corporation that manages the flow of electricity to more than 26 million Texans. Together, ERCOT and similar organizations manage about 60% of the U.S. power supply.

From my research on the structure of the U.S. electricity industry, I know that rules set by entities like ERCOT have major effects on Americans' energy choices. The current power crunch in Texas and other affected states highlights the delicate balancing act that's involved in providing safe, reliable electricity service at fair, reasonable rates. It also shows how arcane features of energy markets can have big effects at critical moments.

Let there be light

The electric age began in 1882 when the Edison Illuminating Company sent power over wires to 59 customers in lower Manhattan from its Pearl Street Generating Station. Edison was America's first investor-owned electric utility – a company that generated electricity, moved it over transmission lines and delivered it to individual customers.

The scope and scale of electric utilities grew rapidly from those humble beginnings, but this underlying, vertically integrated structure remained intact for more than 100 years. Each utility had a monopoly on serving customers in its area and reported to a public utility commission, which told the company what rates it could charge.

Since the utilities knew more about their costs and abilities than anyone else, the burden was on regulators to decide whether the utility was operating efficiently. Regulators also determined whether the costs that utilities proposed to pass on to customers – such as building new generating plants – were just and reasonable.

The lines get tangled

Things grew complicated in 1996 when the Federal Energy Regulatory Commission issued Order 888, allowing states to restructure their electric power industries to promote more competition. Through the actions, or inaction, of individual state legislatures, the U.S. electricity market fractured.

Some states, primarily in the Southeast and the West, maintained the vertically integrated structure. The rest of the nation moved to a market structure in which generators compete to sell their electricity.

Regions created new independent organizations – known as independent system operators or regional transmission organizations – to regulate the flow of power on the grid. In these regions, generators compete to sell their electricity, and organizations called market monitors make sure that generators follow the rules. This approach created power markets that prioritize generating electricity at the lowest possible price.

An imperative to keep prices low

What do these changes mean for electricity customers in regions with competitive power markets? The companies that deliver power over wires to homes and businesses still have to get their prices approved by regulators, but the system works differently for the businesses that generate that power.
Generators offer their electricity, typically at a particular price each hour, on exchanges run by market operators like ERCOT. Those operators figure out how much electricity is needed across the regions they serve and choose the lowest-cost bidders to supply it.

If a generating company is not selected, it loses the opportunity to sell its electricity during that hour. And selling power is how generators create revenue to pay for things like workers, power plants and fuel. This means that generators have an incentive to bid as low as possible and sell as much electricity as possible.

Generators in Texas are facing criticism now that they weren't prepared to operate in extremely cold temperatures. But consider the challenges facing two Texas generators that are identical in every way, except that one decides to invest in winterization. That company will have higher costs than its competitor and may be forced to submit higher-priced offers in the market, potentially losing out on opportunities to sell its electricity.

In the long run, the company that winterizes may have a more difficult time staying in business. It would be better prepared for the conditions affecting Texas now, but it would operate at a competitive disadvantage under more normal conditions.

An international nonprofit regulator called the North American Reliability Corporation conducts semi-annual reliability assessments for each North American region, but those assessments are only as good as the assumptions they're based on. If the assessment doesn't consider extreme events, then the regulator can't determine whether a power system is ready for them.

After an earlier cold wave in 2011 that led to power shortages, federal regulators identified options for winterizing the Texas power system – but ERCOT did not require energy companies to carry them out. Other regions might value resilience differently. For example, ISO-New England launched a program in 2018 that compensates generators for providing extra capacity when the system is strained.

The power of a competitive generation market is that each generator gets to decide for itself what makes it sustainable in the long run. That's also a weakness of the market.

What's next for Texas?

Once power is restored across Texas, state and federal policymakers will have to address several tough questions in order to make failures like this less likely.

First, does preparing the power system for severe storms represent value for electricity customers? What types of events should people be protected from? Who determines the scenarios that go into reliability assessments? Since consumers will pay the costs, they should also benefit.

Second, how should people pay for this resiliency? Costs could be assessed based on the number of kilowatt hours each household uses or charged as a flat fee per customer – an approach that could benefit heavy electricity users. Or they could be covered through new taxes. How will decision-makers respond a

year from now, when the crisis has passed and people ask, “The weather is great and the system is doing fine, so why am I paying more for my electricity?”

Third, how does that money that consumers pay to improve the system translate into projects? Should it go directly to generators or into a fund that generating companies can draw on? Who would administer the fund? Who is ultimately responsible for implementing changes to the system and accountable if things don’t improve?

Finally, how will these changes affect the market’s central goal: inducing energy companies to provide power at the lowest cost?

Ultimately, the public pays the costs of electricity service, either through higher rates or service interruptions during events like this week’s Texas freeze. In my view, utilities, regulators, government officials and people like me who study them have a responsibility to ensure that people get the best value for their money.

Crab and Lobster Management, N.J.A.C. 7:25-14; Marine Fisheries, N.J.A.C. 7:25-18; Fishery Management in New Jersey, N.J.A.C. 7:25-22

NJ Department of Environmental Protection <njdep@public.govdelivery.com>
3/1/21 12:06 pm
To wilmamorrissey@optonline.net

NJDEP
Rule Proposal Notice

NJ DEPARTMENT of ENVIRONMENTAL PROTECTION
Natural and Historic Resources
Division of Fish and Wildlife
Marine Fisheries Administration

Notice of Rule Proposal
Crab and Lobster Management, N.J.A.C. 7:25-14
Marine Fisheries, N.J.A.C. 7:25-18
Fishery Management in New Jersey, N.J.A.C. 7:25-22

PUBLIC NOTICE
Take notice that the NJ Department of Environmental Protection is proposing new rules and amendments to the Crab and Lobster Management rules, Marine Fisheries rules, and Fishery Management in New Jersey rules.

A statement of the substance of the proposal follows:

The Department is proposing to reduce the number of commercial crab pot/trot line licenses and crab dredge licenses, for both the Delaware Bay and the Atlantic Coast due to a reduction in the number of actively harvesting license holders and allow licensees to transfer those licenses to any person, based upon the number of available licenses.

In addition, the Department is proposing amendments at N.J.A.C. 7:25-14.19 and 18.1, 18.5, and 18.12 to allow the Commissioner of the Department (Commissioner), with the approval of the New Jersey Marine Fisheries Council (Council), to modify certain fishery management measures by notice to remain in compliance with the mandated fishery management plans, as approved by the Atlantic State Marine Fisheries Commission (ASMFC), the Mid-Atlantic Fishery Management

Council (MAFMC), the New England Fishery Management Council, the South Atlantic Fishery Management Council, or the National Marine Fisheries Service.

Furthermore, the Department is proposing amendments to the provisions applicable to the recreational harvest of striped bass at N.J.A.C. 7:25-18.1(h) to require the use of non-offset circle hooks in all New Jersey waters while recreationally fishing for striped bass with bait to maintain compliance with the Striped Bass Interstate Fishery Management Plan.

Lastly, the Department is proposing amendments and new rules at N.J.A.C. 7:25-22 to establish new management measures for the commercial Atlantic menhaden fishery.

The proposal is scheduled to be published in the New Jersey Register dated March 1, 2021. A copy of the proposal is available from: http://www.nj.gov/dep/rules/proposals/20210301b.pdf and LexisNexis free public access to the New Jersey Register at http://www.lexisnexis.com/hottopics/njoal/. Written comments may be submitted electronically by April 30, 2021 at http://www.nj.gov/dep/rules/comments, or in hard copy to:

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