Welcome everyone, thank you for joining us
We know how busy you are, trying to change the world!
I want to thank my sponsors, Clean AIRE NC and Sierra Club, and also friends and colleagues who helped to make this presentation better
Pulling Back the Curtain

Session 2: The North Carolina Utilities Commission and Regulation
1. Public Utilities Commissions or PUCs
2. The North Carolina Utilities Commission (NCUC)
3. How does the NCUC affect our future?
4. Who influences the decisions at the NCUC?
5. Major “dockets” - what are they?
6. Risk: NC gets 40% of electricity from fossil gas
7. Electricity in the U.S, NC and other states
8. **Bottom line**: lots of opportunities to get involved in affecting energy policy
Every state has a PUC, sometimes called PSC or CC Corporation Commission

Regulate electric, gas, some water utilities; sometimes securities; register corporations

Most Comm’rs are appointed by the Governor; ~25% are elected, i.e. ~11 states

Terms are usually 4-6 years

PUCs must ensure “just and reasonable” rates, which means they oversee rate increases, integrated resource planning (explain), reliability -- reliability often used as a justification to continue burning fossil fuels

PUCs usually regulate all IOUs; munis and coops usually exempt BUT this is changing -- Colorado legislature recently gave CO PUC authority over coops
The NCUC is a state-level agency created by the NC General Assembly. It was created in 1891 to regulate railroads, steam boats, and telegraph companies. The NCUC regulates IOUs, some phone, natural gas, water and other services including ferry boats. NCUC has limited authority over electric membership coops and has authority over natural gas pipeline safety.
NCUC has seven members who serve six-year terms.

Appointed by Governor, subject to confirmation by the General Assembly.

Governor designates a Chairman to serve a four-year term.

The Chairman serves as the chief executive and administrative officer of the Commission.

The standards of judicial conduct provided for judges in Article 30 of Chapter 7A of the General Statutes apply to members of the Commission.

Members of the Commission are prohibited by law from engaging in any other employment, business, profession, or vocation while in office.
What does the NCUC do?

- NCUC administers and enforces NC’s Public Utilities Act
- NCUC must answer to the state legislature, i.e. “General Assembly” or NCGA
- NCUC subject to legislative oversight by NCGA Utility Review Cmte
- NCUC has all the powers and jurisdiction of a court of general jurisdiction in utilities issues
- Responsible for fair regulation
- Act in the public’s interest
- Adequate, reliable, economical utility service
- “Least cost” planning
- “Just and reasonable” rates
- Plan for the future
- NCUC required by law to make and publish annual reports to the Governor regarding its activities
There's actually more detail in this slide than in 6.

June Blotnick, 10/12/2021
The NCUC:

- are The Deciders, i.e. they have the power to force Duke Energy, NC’s IOU, to do all the things we want them to do
- Folks on this call may have called in to make a PUBLIC COMMENT at Duke E’s IRP hearing.
- NOTE the difference between a public comment and an evidentiary hearing, which is much different. A public hearing is a time for the NCUC to hear from people, but whatever folks may request, nothing is binding. There is no requirement that the NCUC evaluate anything said by anyone during public comment. On the other hand, EVIDENTIARY hearings are critical because all participants are UNDER OATH, and questions asked by parties MUST be addressed.
- could tell Duke E that they will have to participate in real evidentiary hearings, where many different people could ask them questions, rather than the current non-existent hearings -- the “technical conference” isn’t nearly as good as a real hearing
- Could require Duke E to provide On Bill Financing for Energy Efficiency, something that advocates have been talking about for
over SEVEN YEARS

- Could require Duke E to participate in programs like GRID Alternatives, which trains people for solar jobs, focusing on communities of color and women
- Could require Duke E to give us more Energy Efficiency programs, especially ones that target low-income households
- Around the country, utilities are stepping up to the plate because REGULATORS are REQUIRING them to -- not usually because the utilities want to reduce their own sales by promoting EE or DER
The Commission has 56 staff members.

The Public Staff of the Commission is a separate agency that appears before the Commission and represents the interests of the using and consuming public. The Public Staff is not subject to the supervision, direction, or control of the Commission.

The Executive Director of the Public Staff is appointed by the Governor, subject to confirmation by the General Assembly, for a term of six years.

Problem is revolving door between industries that are regulated, i.e. utilities, and the Public Staff, or even Commissioners. Former NCUC Chair Ed Finley was a utility attorney for many decades.

Industry has direct access to the NCUC that others don’t have.

Interesting thing about recently passed HB951 is that manufacturers joined with environmentalists, who all agreed that the modeling provided to Public Staff by Duke Energy is low-balling the rate increases to be expected.
Rare alliance of consumer advocates and manufacturers have disputed the Public Staff’s bill impact analysis, concluding that it could raise rates 50% over 10 years, largely due to factors not included in the Public Staff’s analysis.

It’s all about WHAT’s in the BLACK BOX.
Incumbent utilities
CITIES IN NC that buy their own energy are actually RESELLERS
Good time to mention that anti-trust laws were gutted around 2005 that prevented ONE utility from owning the competition, i.e. natural gas companies etc. Now that there are no anti-trust laws, utilities can own the entire supply chain, from the pipeline to the power plant, transmission lines, distribution etc.
*New* Influencers at the NCUC

NEW influencers: the public, youth, climate activists
The anti-pipeline activists really changed the debate
OLD influencers: 500 pound gorilla: IOUs
Others: clean energy advocates like VoteSolar, NC Sustainable Energy Association
Solar companies like Cypress Creek, Strata Solar
Mom and Pop residential solar firms have LESS influence
Energy democracy is a relatively new concept, getting more traction
Public showing up for public comment - APPPL’s Cathy Buckley inspired many online comments - big change in just a few years!

www.ncuc.net
The NCUC regulates utilities. What does that mean?

It means the NCUC has oversight over utility planning processes, which is called Integrated Resource Planning or IRP. This is a complicated way of saying that the NCUC asks Duke Energy “what are your plans for the next 15 years?”

Reviewing applications for power plant permits is a major activity. The utility will submit a filing that says, hey, we are going to build a new natural gas plant. Can you pls give us permission to build this plant? Also, can we can come back later and get your permission to charge customers for the plant?

It’s worth noting that many of the natural gas plants Duke Energy has converted do NOT require a new application, or even a hearing. Duke is able to use the initial permit for the coal plant, and simply convert it to allow a “refurbished” fossil gas plant.

IRPs are particularly important because they show you what the utility wants to do, where it sees the future.

Does the utility see a carbon price? Or maybe that it will have to pay for coal ash clean-up?

What about fuel costs? Does Duke believe that the cost of fuel
will remain flat or increase only slightly over the 30 or 40 year lifespan of the power plant? What about energy efficiency programs, or programs for low-income customers?

- The devil is always in the details.
- **RPS**: The RPS in NC is set by the state legislature, the NCGA, so here the NCUC simply figures out how to implement the standard passed by the NCGA.
- **Energy Efficiency** - NC is unique in that it combines renewable energy and energy efficiency - very confusing to work on together because they use completely different metrics and methods. I don’t believe any other state combines EE and RE.
- **NEW** DER discussions - Distributed Energy Resources such as rooftop solar, batteries and EVs. These rules are critical because they will determine not only how much DER can be added, but also practical matters that make a huge difference such as transparency and process. In other words, how difficult is it for me to get a permit from my utility to put solar on my roof?
- **OF NOTE**: one reason why it’s so much more expensive to do rooftop solar in the US than Germany is that other countries have streamlined the process, while ours is clunky and difficult.
- What is rate design? A fancy way to let you know who pays what - see next slide.
2. Spell out IRP if possible

June Blotnick, 10/12/2021
One key feature of rate design: is it fair?
Do some classes of ratepayers pay more than others?
Story: AZ mine that used huge amounts of electricity, yet paid virtually nothing into REST
Also: sometimes certain classes of users can OPT OUT, such as commercial energy users in NC opting out of EE/DR
Rate Design: “Cost of Service” Regulation

- Applies to regulated, monopoly utilities like Duke Energy
- Utility gets ~10% rate of return on $$ for capital assets
- Amount utility can collect = revenue requirement
- Duke Energy net income and net profit margin up almost 200% in 2021 year over year

Example: utility builds substation for $100 million
Utility gets $100 million back, plus 10% interest on some of the spending (equity portion)
BOTTOM LINE: more $$ spent on assets = more profit
What’s the incentive? It’s for utilities to build expensive, large power plants -- and reduce the threat of losing revenue from rooftoop solar, batteries etc. - Solar Power Could Destroy US Utilities, Say US Utilities
Rate cases aren’t cheap -- for anyone. Duke Energy Carolinas reported on its 2019 FERC Form 1 (page 450.1) that it spent ~$11.5 million on rate cases -- for that year ALONE, for that ONE Duke Energy subsidiary.
Duke Energy Among 55 Companies That Paid No U.S. Taxes Last Year

The report's analysis says Duke had taxable U.S. profits in 2020 of $826 million. If it paid the straight 21% corporate income tax, it would have owed $176 million. But after tax breaks and other adjustments, including a $110 million credit for renewable energy investments, it wound up with a federal tax benefit — or refund — of $281 million.

https://www.wfae.org/business/2021_05_05/duke_energy_among_55_companies_that_paid_no_u_s-taxes-last-year
Session 2

What about HB951, recently passed in NC?
What About HB951?

- HB951, the “super-secret” Energy Solutions for NC bill, passed 10/6/21
- Keeps decision-making within NCUC
- Fulfills Gov Cooper’s goals to reduce CO2 from power plants 70% from 2005 levels by 2030, but not mandated
- “Carbon neutrality” by 2050 ?!
- “Performance based incentives” in the bill, but they are voluntary and depend on Duke Energy
- NC can now join RGGI, which may have some downsides, i.e. offset trading

OK, now the NCUC has to figure out how to implement HB951....

- WHY is it important to keep power in the hands of the NCUC? Because they are the experts…
- EXPLAIN points
- RGGI can’t be prevented now, is 11 states in the NE that put a price on carbon - not perfect, but a start
- Carolina Utility Customers Association -- large energy users -- still opposes
NOTE that the NCUC could still allow Duke E cost recovery for “advanced” nuclear

HB951 - What Happened?

- Although $50 million for a modular nuclear reactor is gone, Duke Energy already lost $500 million for an abandoned reactor
- An estimated 50% rate hike over 10 years? No one knows...
- A continued reliance on natural gas, a source of methane, which accelerates climate change
- No enforcement provision, i.e. if utilities don’t hit benchmarks, there are no financial penalties
- What’s needed? So-called “guardrails” to ensure no double-counting

- NOTE that the NCUC could still allow Duke E cost recovery for “advanced” nuclear
What’s a Multi-Year Rate Increase?

- Multi-year rate increases of up to 4%/year locked in, NO HEARINGS
- Will cost estimated extra $122/year for customers in Year 3
- Less than 20% of eligible low-income customers get assistance - renters not eligible
- 456,752 customers of DEC and DEP are behind on bills
- BIG PROBLEM: cost of fossil gas has doubled in 6 months
- What’s ‘LEAST COST’ mean? PROBLEM: does not include energy justice issues, cost of air and water pollution, damages from coal ash, damages from climate change...

- Groups that opposed: The Sierra Club, Environmental Defense Fund, NC League of Conservation Voters, the Southern Environmental Law Center, Vote Solar and NC WARN all issued statements either expressing reservations about the bill or outright opposing it.
Might be good to provide links/citations for some of these statements so that people can use them as arguments in their own advocacy...

Specifically, the $122/yr rate hike, the 20%, the 456K number...

Joel Porter, 10/12/2021
Utility Nerd Funnies

Types of Electric Utility Applications

Natural Gas is clean energy, right guys?

We failed to plan for that again, oops. We need more money to fix it.

You totally don’t need to fine us for breaking the law again.
Utility Nerd Funnies

WE AIN’T ALLOWED
TO CONSIDER POSITIVE
EXTERNALITIES IN
ROOFTOP SOLAR POLICY

CHECK OUT THE
POSITIVE EXTERNALITIES
OF OUR ECONOMIC
DEVELOPMENT RIDER
FOR COAL MINES

MAYBE IF WE CALL IT
“GRID MODERNIZATION”
REGULATORS WILL
APPROVE IT?
Utility Nerd Funnies

ANNUAL TRANSPARENCY REPORT

YOU WON'T BELIEVE THE SIZE OF THIS RATE INCREASE!

IRP USING 1998 RENEWABLE ENERGY COST ASSUMPTIONS
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~40% of NC’s Electricity Now Fueled by Fossil Gas...Now What?
Cost of fossil gas/natural gas has DOUBLED in ONE year
Session 2

U.S. Electricity Mix: Past, Present, Future?
U.S. Electricity Mix 2020

Annual U.S. electricity generation from all sectors (1950–2020)
billion kilowatthours (kWh)

- **source**
  - natural gas (40%)
  - renewables (21%)
  - nuclear (20%)
  - coal (19%)
  - other (<1%)

2020 total
U.S. Electricity Mix 2020

[Diagram showing energy sources with percentages: Fossil Gas 40.3%, Nuclear 19.7%, Coal 17.3%, Wind 8.4%, Other 2.3%, Total 4009.1 TWh]

Energy consumption by fuel
AEO2021 Reference case
quadrillion British thermal units

2020

history | projections

petroleum and other liquids
natural gas
coal
other renewable energy
nuclear
hydro
liquid biofuels

1990 2000 2010 2020 2030 2040 2050

AEO - Annual Energy Outlook 2021 - EIA www.eia.gov/aeo
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Electricity in the Southeast, NC and SC
Southeastern US Electricity Mix

LOUISIANA
- 70.4% (102.0 TWh)
- 16.6%
- 4.7%
- 3.5%
- 3.4%
- 1.4%

MISSISSIPPI
- 80.4% (65.8 TWh)
- 9.8%
- 6.2%
- 2.9%
- 0.7%

ALABAMA
- 40.4% (135.9 TWh)
- 32.1%
- 16.0%
- 8.8%
- 2.5%
- 0.3%

GEORGIA
- 49.2% (119.3 TWh)
- 27.5%
- 11.7%
- 4.6%
- 3.3%
- 0.2%
• Florida: coal comes in on a barge from South America
• Because NC’s continental shelf is so shallow, coal barges can’t dock
• NC is very susceptible to climate change losses due to low-lying land, hurricanes, already high humidity and summer temperatures
• NC imports all coal and natural gas, and cost of pipelines, transporting coal, health and enviro damages are huge and not counted.
• Clean energy brings far more jobs (79 times more per MWh than coal), increases resiliency, uses free natural resources like wind and sun, very little pollution.
• Duke Energy is THE largest carbon polluter in the U.S.; all electricity comes from Duke Energy right now
https://www.dsireusa.org/resources/detailed-summary-maps/
Energy Efficiency Resource Standards (and Goals)

www.dsireusa.org / September 2021

25 States have mandatory statewide Energy Efficiency Resource Standards (5 States and D.C. have Goals)

- Florida met its efficiency goals and no EERS programs are in place.

Legend:
- States with an Energy Efficiency Resource Standard
- States with an Energy Efficiency Resource Goal
- No State Standard or Goal
Session 2

How Much Clean Energy Do Other States Have?
● This map shows the percentage of ENERGY in each state from wind
● The map is from 2019 so is a bit out of date but the best I could find
● NOTE that Iowa is listed as getting 41.9% of its ENERGY, i.e. ELECTRICITY from wind -- in 2021 that number is a stunning 58-68%, as we will see in the next slides
● REMEMBER, while a state like TX, which is HUGE and has LOTS of power plants, is only 17.% wind in 2019, the CAPACITY, in other words, the total amount of wind power generators -- is far more than Iowa because it is so much larger.
The geographic spread of wind power projects across States is broad, with the exception of the Southeast.

Source: ACP, Berkeley Lab

https://emp.lbl.gov/wind-technologies-market-report
What we have is an electricity system that works for the INCUMBENTS and the FOSSIL FUEL industry, not regular people

Here’s what needs to change:

1. Lack of transparency
2. Lack of meaningful process, so that all voices are included, i.e. low income customers, wind advocates, solar advocates, health and enviro experts, non-profits – anyone who wants to
3. Utilities don’t count the staggering environmental and health damages from fossil fuels; and regulators look the other way
4. Utilities look honestly at future fossil fuel supplies, including oil, fossil gas (fracked and conventional); and regulators look the other way.
● This slide is from Stanford Professor Mark Jacobson, who did an analysis of every state in the U.S.
● NOTE: NC’s clean energy solutions rely heavily on OFFSHORE WIND and UTILITY-SCALE solar, but rooftop -- AKA “distributed” solar - plays a role, so that Commercial/gov’t/rooftop solar could provide ~10% of electricity.
● The value of local, rooftop solar is that it’s close to “load” i.e. CUSTOMERS, and the value is going up as the climate changes.
● CSP, which could provide 5% of NC’s electricity, is an acronym for Concentrating Solar Power, a solar “thermal” solution that heats up a liquid, which then heats water to turn a steam turbine. I won’t get into this technology because it’s primarily used in the Western US, where there is less humidity, i.e. water vapor. One reason why AZ can generate so much more electricity from solar PV or CSP is that the humidity is so low. Water vapor in the atmosphere dissipates the solar intensity. So CSP works in high-solar, low-humidity states like AZ, UT, CA, NV, NM.
● Recent outages in NOLA from Hurricane Ida showed that large
fossil gas power plant did not work as planned, so solar advocates have been trucking in solar panels to provide electricity

- Incumbents benefit from current system, but change is necessary and inevitable - people want FREEDOM of CHOICE, and Polluters must pay!
- Clean energy jobs FAR exceed the number of jobs for large, central station power plants - plus many other jobs, such as in energy efficiency, solar, onshore and OFFSHORE wind, which is just taking off, geothermal,
- Utilities build power plants to accommodate ‘peak power’ needs, so batteries are a threat; peakers run ~1-5% hrs/yr
- More distributed generation = less sales for incumbents; small decrease in sales = big decrease in profit
- Big power plants expected to run 30-40 yrs...or more
- Do what Germany did: allow ANYONE to buy and sell electricity, and make sure clean energy that’s generated is used FIRST
- Many good solutions - we just need to implement them
- Cost of clean energy way way down
- Proven, effective programs for low-income
- Financing of clean energy or energy efficiency upgrades is KEY - and doable
- More transparent and inclusive processes
- Information presented in a way that it makes sense to non-experts
- Ability to print basic information on-demand from utility filings such as rate cases, IRPs, renewable energy and other dockets
- More folks showing up in places like NC Utilities Commission (PUCs), state environmental offices
- Frontline communities, BIPOC, youth, activists, landowners, homeowners and others are demanding change -- change will happen!
- **The electricity system is going through the biggest change since its inception**: moving from large, polluting, fossil fueled central station power plants to clean, distributed electricity. **Electric Vehicles are game-changers** because of the potential to use car battery also as a home battery
THANK YOU

www.cleanAIREnc.org  www.sierraclub.org

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