**NC ENERGY POLICY TASK FORCE**

Thursday, July 9, 2026 | 1:00 – 3:30 PM

McKimmon Center, North Carolina State University

1101 Gorman St., Raleigh, NC 27606 + WebEx

*Co-Chairs: NC Representative Kyle Hall & DEQ Secretary Reid Wilson*

**Executive Summary**

At the July 9, 2026 meeting of the North Carolina Energy Policy Task Force, members heard from three expert speakers and caught up on subcommittee and working group research progress to develop recommendations for the Task Force's annual report.

*Nina Suetake, NASUCA*

Nina Suetake, Deputy Director of Policy for the National Association of State Utility Consumer Advocates (the national organization representing entities like the Public Staff), presented on the consumer advocacy perspective on large load additions and load growth across the United States. Their key concern is that existing customers should be protected from cost increases due to hyperscale load growth.

Suetake outlined a number of other considerations, including key protections still needed, tariff elements, interconnection reforms, and potential opportunities in consumer protection. The protections include upfront payment for construction costs, assurance against stranded assets, minimum load commitments, and minimum load thresholds. The speaker also noted that cost allocation methodologies need review, explaining that traditional methods may not fully capture costs of hyperscale loads.

NASUCA's recommendation is to first focus on grid-enhancing technologies and battery storage to extract more value from the existing grid before trying to build entirely new infrastructure; this can help reduce costs in the short run by deferring or reducing the need for infrastructure upgrades, and allowing longer timelines over which to finance infrastructure upgrades. The org also recommends defining affordability metrics in the planning process and considering innovative financing tools.

Members asked Suetake about "ring-fencing" for large load customers (i.e., agreements where 100% of costs to serve large loads are attributed to those customers). While many large load tariffs do not include explicit ring-fencing provisions, some "bring your own generation" agreements and mechanisms do explicitly require allocating all additional costs to the large load customers. Another Member asked about other state examples of innovative financing, such as securitizing debts (i.e., pooling and trading debts in order to earn returns); North Carolina, Colorado, and Michigan have all used securitization to fund utility initiatives and infrastructure.

*Darius Weatherford, Toyota*

Following this, Darius Weatherford of Toyota presented on Toyota's North Carolina footprint and business efforts in battery manufacturing and electrification. The Toyota facility in North Carolina

is providing over 3,000 jobs, with batteries currently being shipped out from the facility. Toyota is also placing an emphasis on workforce development through NC's universities and community colleges, with a large presence in Guilford, Randolph, Alamance, Forsyth, and Chatham counties. Toyota also has a set of sustainability goals for 2050: zero lifecycle carbon emissions from vehicles and plants, supporting a circular economy, and reducing water use. Responding to Member questions, Weatherford added that the facility uses no natural gas (all-electric hot water boilers), but they are still establishing energy-use benchmarks since the site is still under construction/ramp-up. As a final note, Weatherford and Don Stewart added that battery manufacturing is newer and less standardized than traditional vehicle production lines, so while hybrid lines are up and running, the full EV lines are expected in a few months.

*Prof. Ben Rachunok, NCSU*

Finally, Professor Ben Rachunok of NCSU presented his work with the NC Collaboratory to understand data center water usage. This project stems from Recommendation 9 of the Task Force's interim report, dated February 15, 2026. Prof. Rachunok was clear that findings so far are preliminary. The work examines both direct water use by data centers and indirect water impacts tied to the electricity needed to power them. To date, the team has spent most of the spring conducting largely unstructured interviews with a broad range of stakeholders. The researchers have not yet interviewed hyperscalers themselves but hope to shortly be connected with water experts working for the hyperscalers. They also conducted a review of relevant policies in other states and a compilation of existing water use and wastewater data from publicly available hyperscaler reports and academic sources.

As a next step, the team plans to build a model that takes data center growth scenarios as inputs and produces downstream environmental and community impacts. Inputs include siting criteria such as grid access, zoning, land costs, and water or wastewater supply, and exclude unsuitable areas. By combining hydrological data with the current electricity grid, they plan to produce siting scenarios and then calculate their downstream effects. This would let them explore how a particular policy paradigm might impact water use.

The team would like to produce recommended data center reporting requirements, statewide water stress forecasts, insights on how siting and incentives from other states have impacted water usage, and a broader survey of state practices. The presenters then sought feedback from the Task Force, asking whether they're asking the right questions, whether members have specific growth scenarios they'd like modeled, what deliverable format would be most useful, and whether other groups are already doing similar work.

Members raised multiple questions and points of feedback. One member suggested modeling a scenario where data centers procure clean energy to see if that reduces indirect water impacts, given the water-intensity of fossil fuel use, and offered to help connect the researchers with substation proximity data. Another raised the concept of "virtual interbasin transfer," the idea that shifting from water-intensive to electricity-intensive cooling moves the water burden from the data center to wherever the associated power is generated. This is exactly the dynamic the

researchers are interested in. A member asked whether the team had approached data center operators directly, citing Google's public pledge to replenish 120% of its water use by 2030; the researchers said they had tried but couldn't make the connection, and welcomed any introductions. Members noted that they would be happy to help connect the researchers with data center operators and other experts as needed. Members raised concerns that the Department of Commerce data underlying the model may be flawed, with suggestions to instead use utility load projections or interconnection request data. The researchers pointed out that they can only work with what's publicly available. Other members clarified or noted additional points or feedback: that SB 730 does not mandate closed-loop cooling and isn't yet law; the idea of "take-or-pay" style water contracts that may not reflect actual usage; the absence of newer water- or electricity-saving cooling technologies from the presentation; and comparing findings against other growing industries like mining or manufacturing, a comparison the researchers said they've considered but hadn't included in their slides.

*Working Group Updates*

Two Members presented on updates from the Large Load Tariffs, Bring Your Own Capacity, and Load Flexibility working groups. The working groups have noted a nationwide trend of a growing number of utilities across the country creating large load tariffs, and many state legislatures and/or utilities commissions are beginning to require such tariffs. These structures commonly include minimum billing demand, minimum load factor, financial assurance against stranded assets, a load ramp period, and exit or change fees. Duke Energy added that many of these terms are already used in its electric service agreements. Members also noted that the work of the working groups is so related that it ought to be combined, and that the work of the Commission and General Assembly are moving so quickly as to potentially leave the Task Force behind; some Members recommended engaging with policymakers before the release of the February 15, 2027 report.

The working groups have also covered Bring Your Own Capacity frameworks. These arrangements require a number of choices, such as whether to make the program mandatory or voluntary, whether to include resources procured in the utility planning process, whether to establish standalone policies, and whether to administer the program through one-off contracts or universal programs. Additionally, the working group has been considering different load flexibility programs, noting that the most important factor is that they are voluntary rather than mandatory, and investigating standard interruptible service tariffs, rebate and incentive programs, and curtailment agreements attached to large load tariffs.

Other Members presented updates from the Interconnection Reform, GETs/ATTs, and Energy Efficiency working groups. Members have looked at Virginia as a model for interconnection policy, pointing out that transparency and NDAs around large load interconnection agreements are a recurring tension. The co-ops are currently facing challenges getting large load interest despite representing significant potential demand. The GETs/ATTs discussion has largely been technical, focusing on terminology, the need for clear definitions, and a reluctance to focus on legislative solutions rather than pilot and prototype deployment. The Members involved in this working group think the most valuable product may be an educational resource for

policymakers. Currently, 17 states have GETs requirements, and Duke Energy has multiple deployment actions ongoing. Finally, the energy efficiency working group has compared funding models across states, investigated 2024 Duke Energy Carolinas and Duke Energy Progress EE savings figures, and attempted to draw a distinction between demand side management, which counts toward the planning reserve margin, and EE which does not.

*Discussion and Adjournment*
Additional discussion focused on whether and how to combine working groups to avoid duplication of effort. Members informally agreed that the Large Load Tariff, Bring Your Own Capacity, Energy Efficiency, Interconnection, and Load Flexibility working groups should be combined, with additional topics being covered separately.

After a review of upcoming meeting dates, the meeting adjourned.

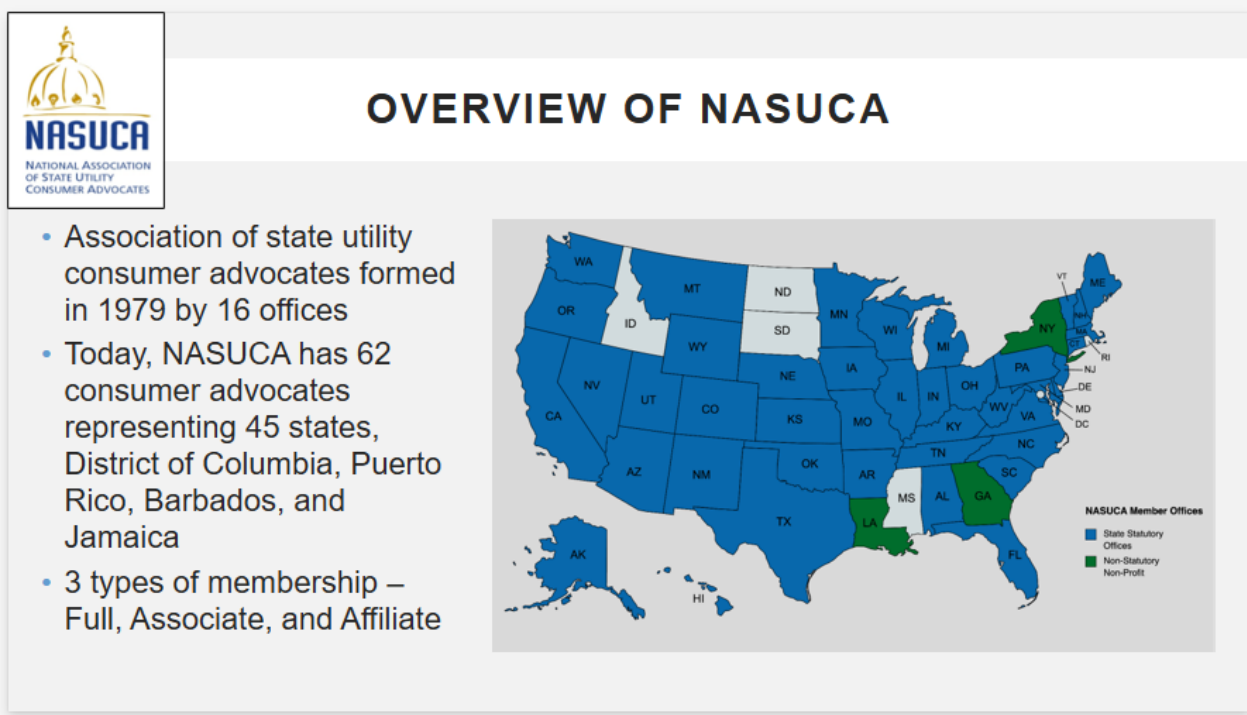
**Call to Order, Greetings, and Conflict of Interest Statement**
*Secretary Reid Wilson, Co-Chair*
*Representative Kyle Hall, Co-Chair*

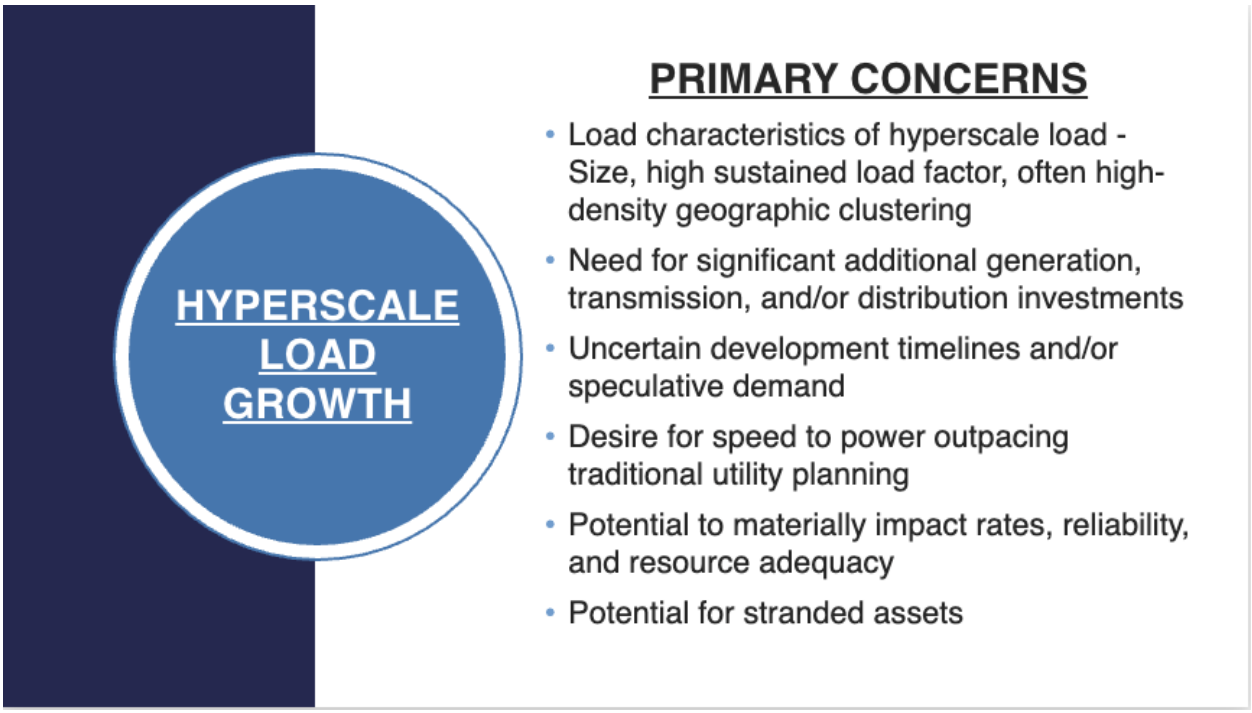
*Roll Call:*

- ~~Reid Wilson~~
- ~~Kyle Hall~~
- ~~Terry M. Brown - virtual*~~
- Allen Chesser
- ~~Pricey Harrison - virtual~~
- Michael Lazzara - virtual
- ~~Julie Mayfield - virtual~~
- Matt Abele - arrived after roll call
- ~~Chris Ayers - virtual~~
- ~~Chris Carmody - virtual~~
- ~~Chris Chung~~
- ~~Peter Ledford (for Christina Cress) by proxy~~
- Ray Fakhoury - virtual
- ~~Katharine Kollins~~
- ~~Steve Levitas~~
- Dana Magliola
- ~~Mark McIntire~~
- ~~Kathy Moyer - virtual~~
- Jennifer Mundt
- ~~David Neal - by proxy~~
- ~~Tim Profeta - virtual*~~
- ~~Dave Rogers - by proxy~~
- Will Scott
- Asher Spiller
- ~~Don Stewart~~
- ~~Winnie Wade - virtual*~~
- ~~Steve Wall~~
- ~~Markus Wilhelm - by proxy~~
- Rachel Wilson - virtual
- ~~Michael Youth - virtual~~

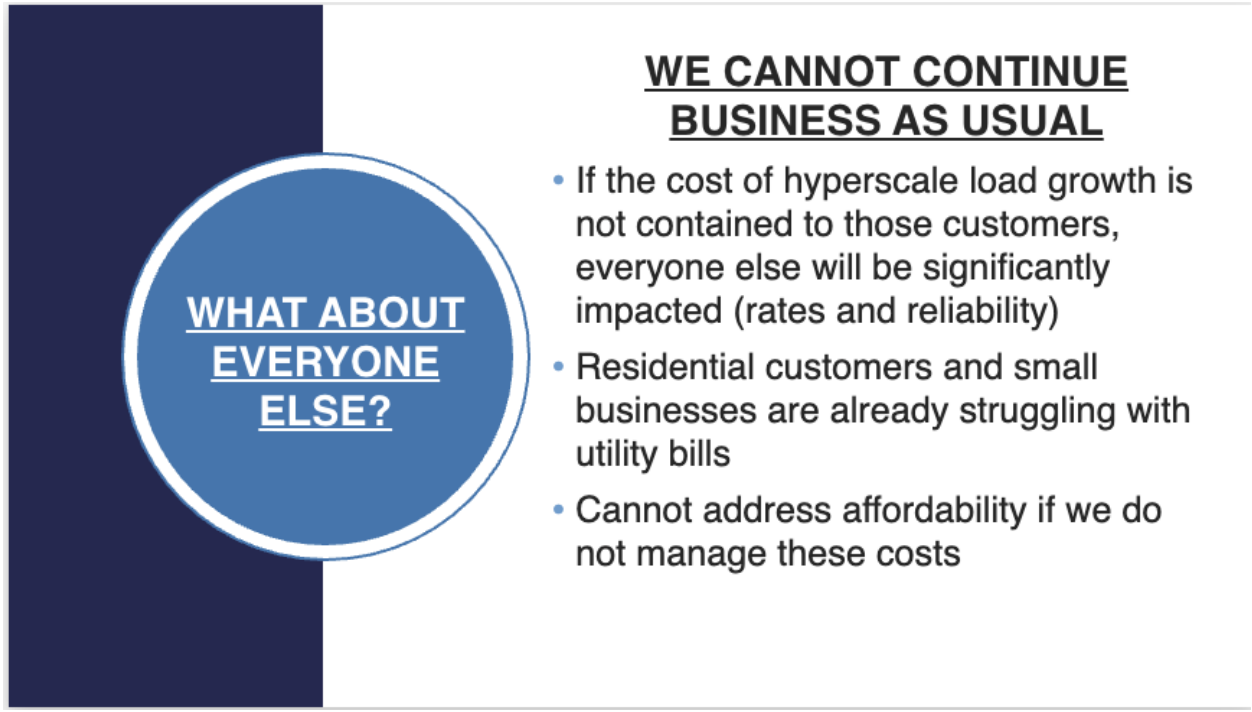
**Presentation: State Consumer Advocate Concerns with Large Load Growth**
*Nina Suetake, Deputy Director of Policy, NASUCA*

- Shout out to Chris Ayers



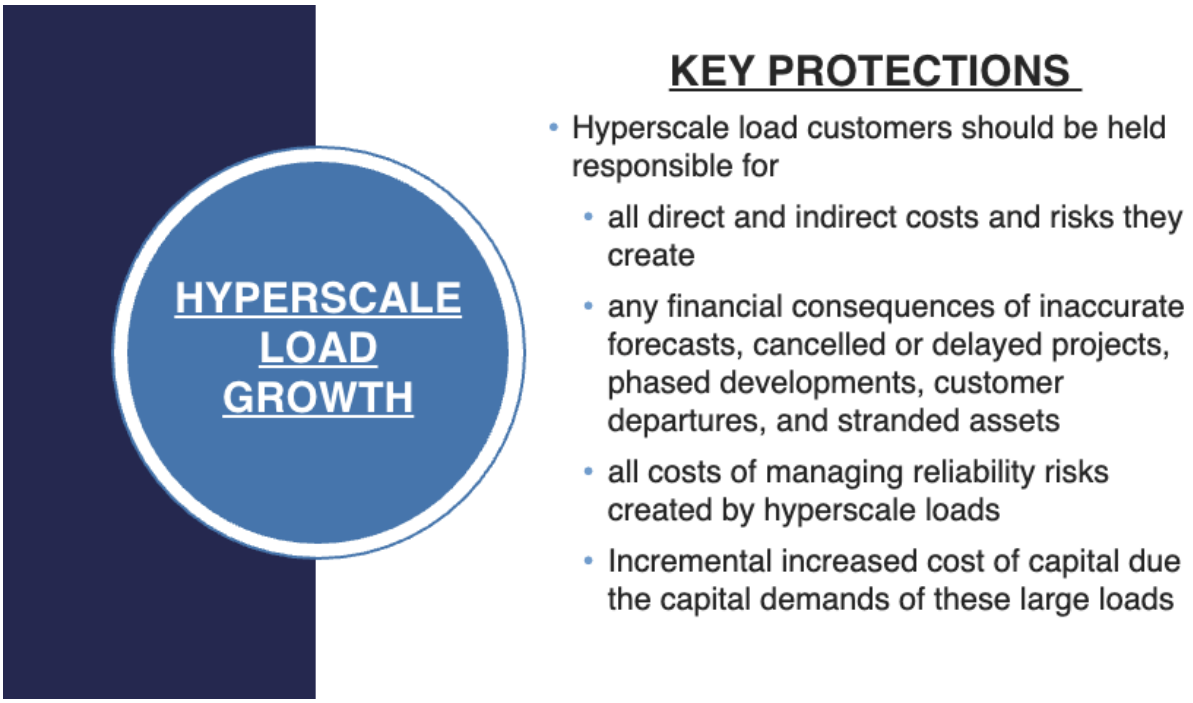



- If hyperscale load causes cost of capital to increase on its own, need to find a way to protect other customers from increased cost of capital

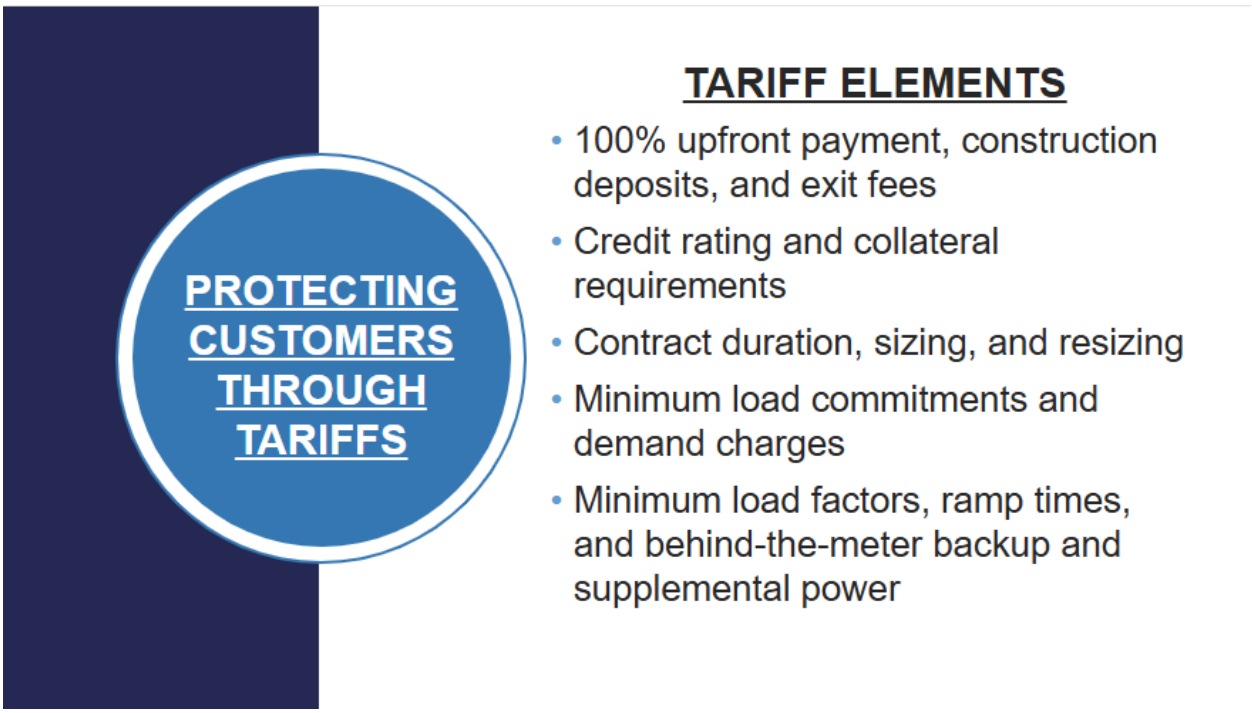



- Affordability is already top of mind in most states
- Key tariffs intended to address some key concerns mentioned up front
- Some of these companies likely to fail in next 5-10 years
- Tariff elements: are you a serious entity who will not fold after a few years
    - Upfront payment, construction costs

- Whether or not other customers are paying for their costs, do they have to pay for stranded assets if the companies exit early
    - Contact requirement, load size requirement, data center size changing, load commitments, load characteristics



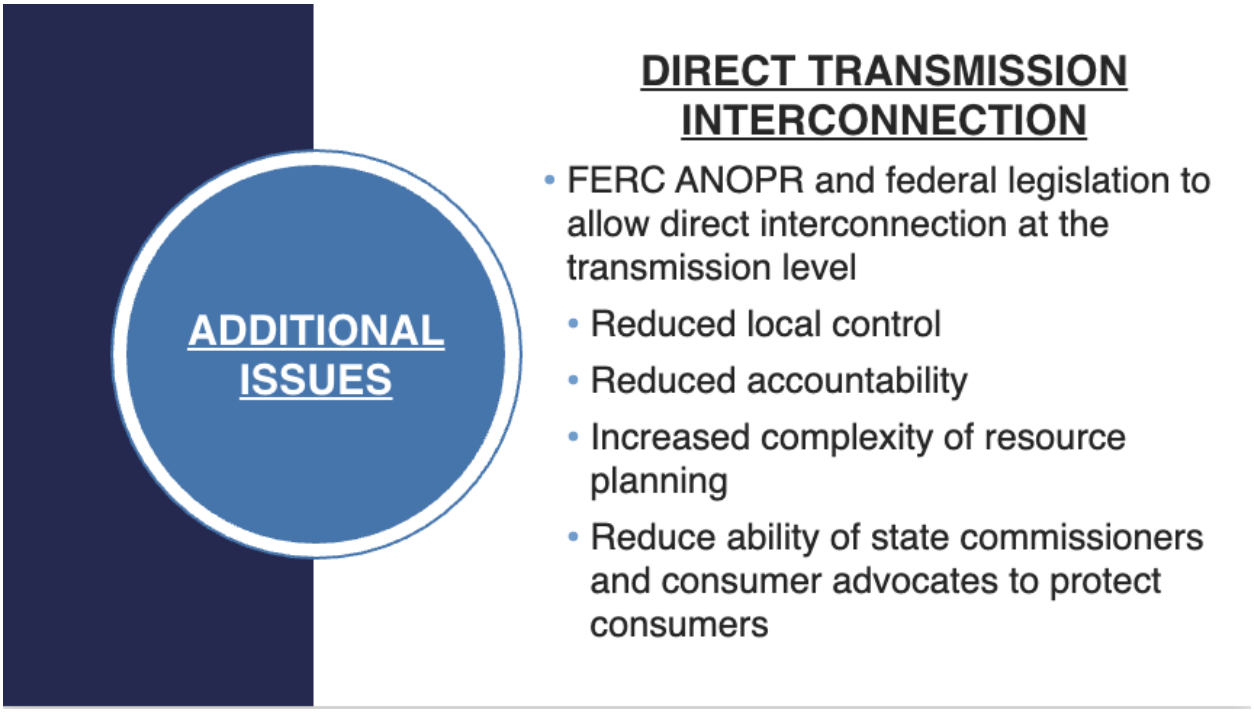

- Some are state policies separate from contract terms
- If utility has to go to the market to pay for infrastructure cost of hyperscale load, even if the customer covers the full cost, the market is already indicates there there is a desire to have a higher rate of return
- Will need to manage incremental cost increases caused by increased market demand




- Many companies are likely to fail in the next 5 - 10 years
    - Are regular customers paying for these costs or will they be stuck paying for stranded assets

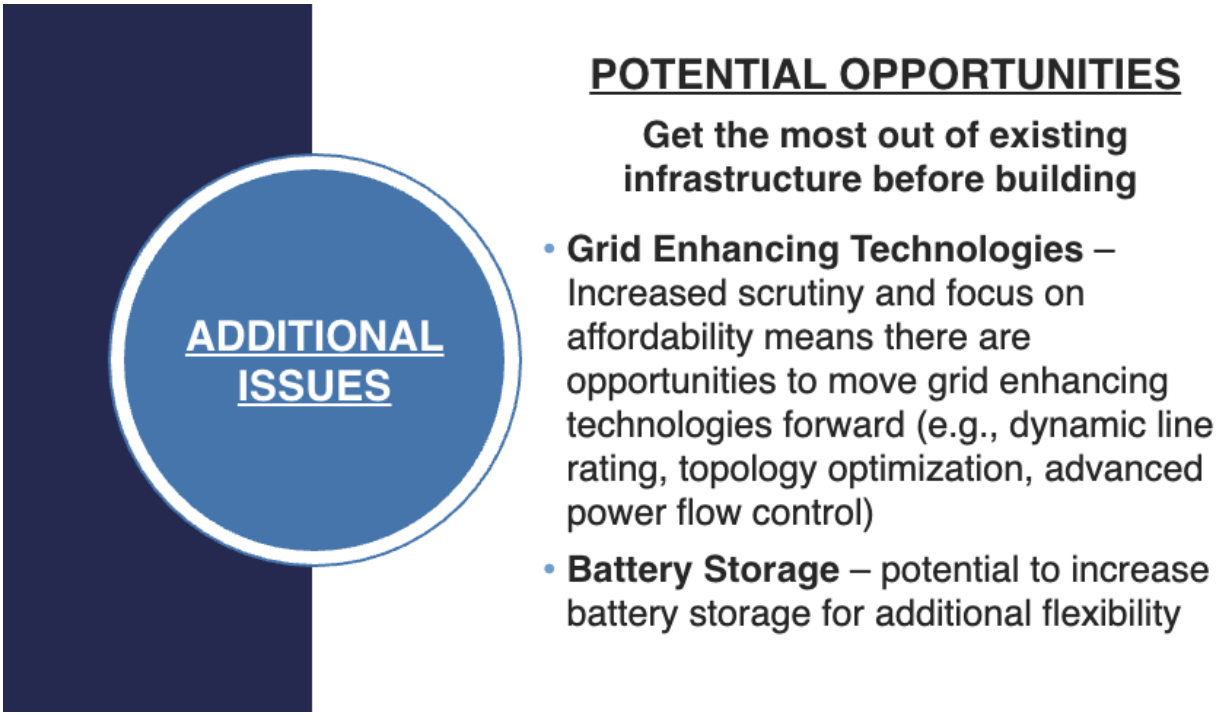

- Load flexibility/curtailment, curtail them to avoid rolling blackouts for residential customers

- Preventing consumer advocates, commission, commission staff may not understand parameters of load agreements → promote transparency; play ball with state regulators and staff
- Review of cost allocation methodology
    - Traditional cost allocation may not fully capture all of the costs of hyperscale load growth even if trying to make customers pay for everything
    - E.g. labor costs might not be pulled out of traditional methodology and placed only on hyperscalers
    - A number of states looking into revamping cost allocation, especially to prevent cost shifting
- Adding new customer protections - clear Commission authority to apply new customer protections to existing hyperscale load customers when they seek expanded service, materially increase demand
    - E.g. when there is increased demand and increased need for infrastructure

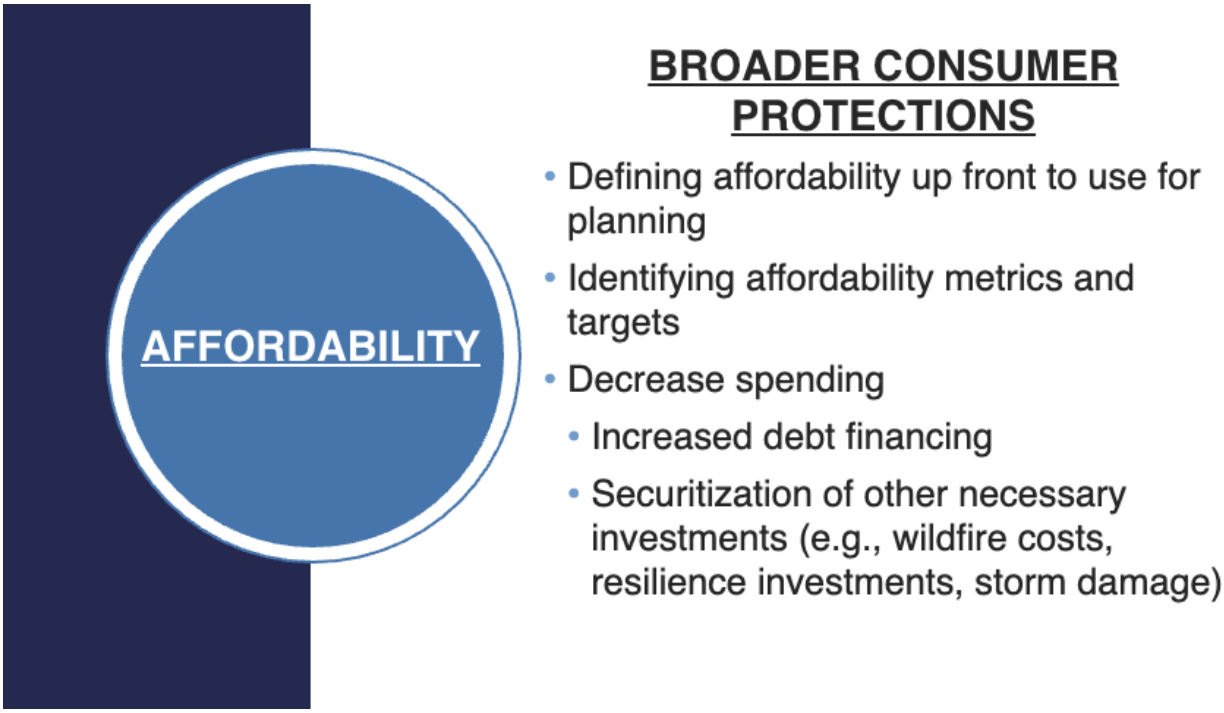



- Vertically integrated versus regional transmission operator (RTO)
    - State level: state regulators could have reduced local control with siting and regulation
    - Reduced accountability at state level
    - Increase complexity of resource planning
        - Integrated resource planning (IRP) becomes very grace-based for who is doing IRP if large load is directly connecting at transmission level

- Consumer and consumer advocated protecting; the protections in state level tariffs might not be included in what happens at transmission level




- Because of desire for speed to power, there is more value getting out of infra we already have
  - Looking more into GETs and battery energy storage
    - Pie in the sky → more valuable; more necessary to implement
    - “Ibuprofen for the grid”



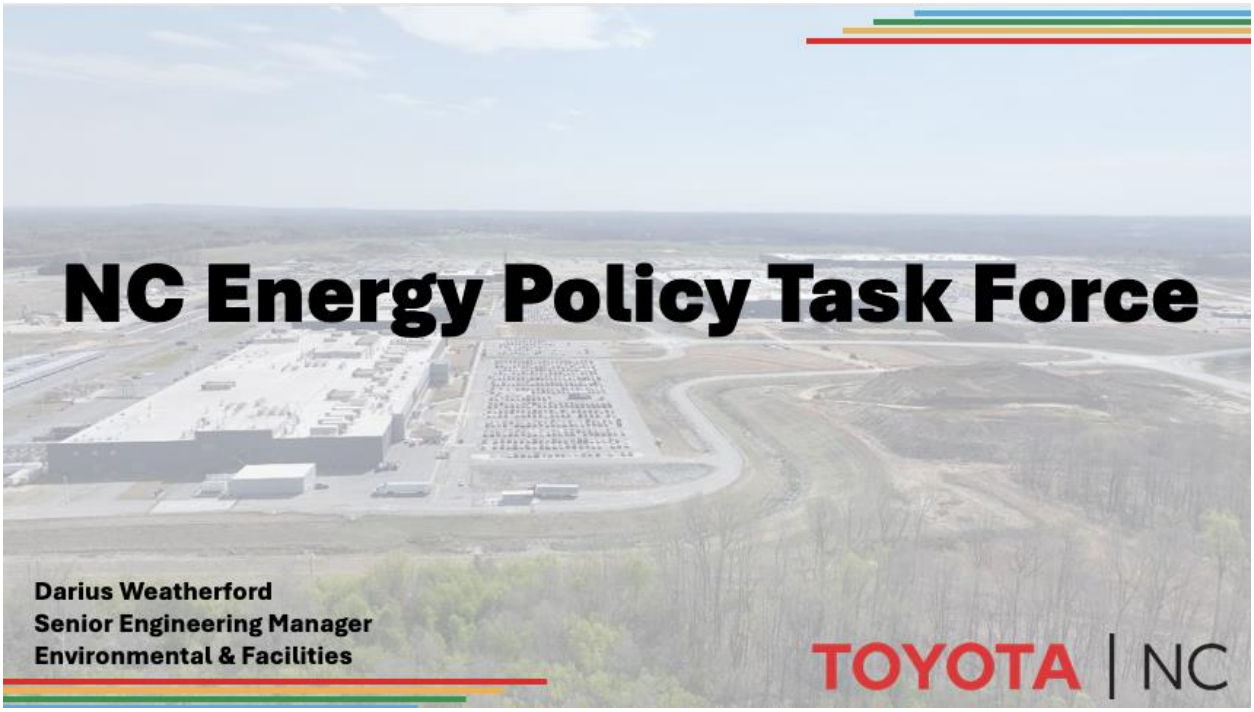
- Broader protections: define affordability up front and think about it in planning, as opposed to the end of a general rate case. by that time it is too late
    - Identify metrics and targets within your state; can vary regionally within your state
- Decrease utility spending
    - Increase the debt financing rather than equity financing, securitization of other necessary investments (e.g. resilience and storm damage costs)
- States need to address affordability alongside hyperscale load customer
- Identify affordability metrics and provisions that can vary within the state

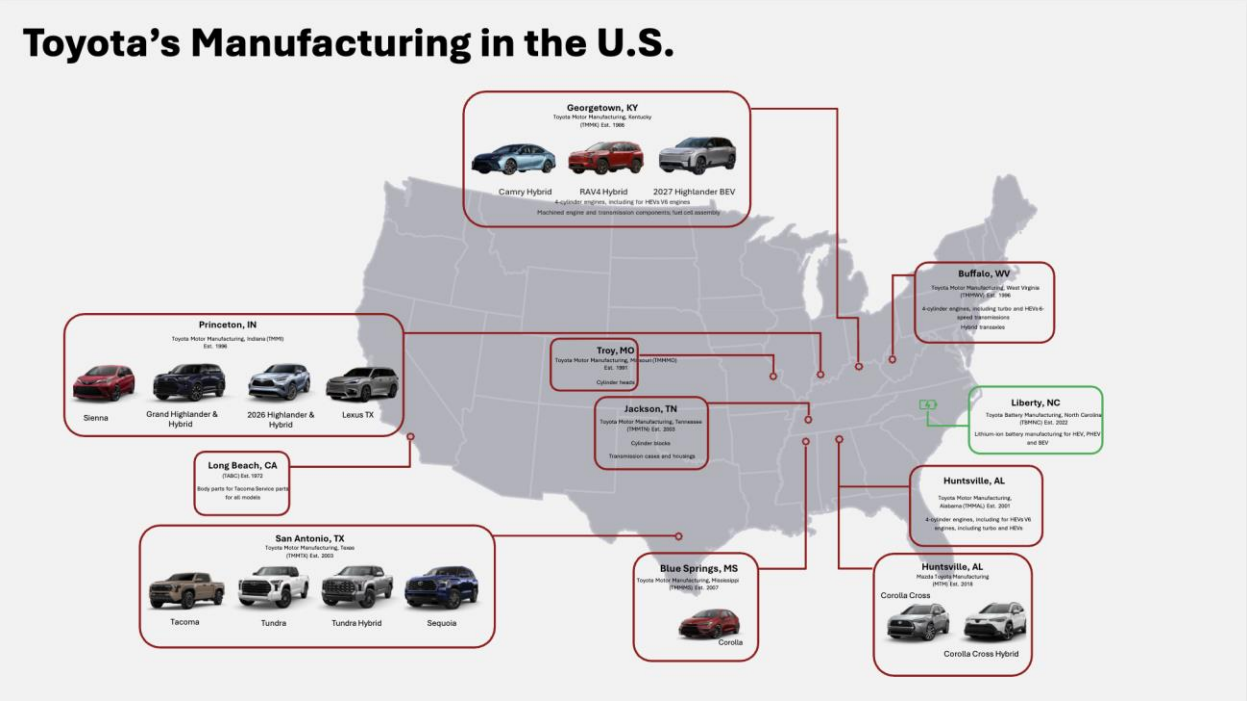

Questions

- Q TFM: Can't continue business as usual; seems that proposals you described do in a sense continue business as usual; maintain paradigm of comparing existing, using generation resources to fill the gap, then after the fact evaluate them in a way to try to protect ratepayers from hyperscalers… thinking that we should ring fence these projects and have them pay for their own generation. They're partial measures. You hope they'll reduce risk. Only way to 100% protect is to have them fully pay for the gen/infrastructure they need to serve them
- A: encompassing that idea with the tariffs
    - 100% upfront payment of costs
    - Can put that into traditional ratemaking like a line extension tariff, or can look to 100% ring fence these utility customers
    - NASUCA doesn't suggest one solution over the other
    - My personal opinion, if you can have them ring fence all of that, i personally would like that
        - But a few issues: is there a way to, if they have additional gen they're not using, system benefits other can benefit from, can there be a connection
            - Believe Microsoft in Nevada is trying to get at this principle

        - They will pay for all, then study if there are benefits to being attached to the system, maybe there is a way to share some of those benefits and some of those costs
- Q TFM: securitization of other assets, are there any examples?
    - A: A lot of states in southeast do storm damage securitization
        - Colorado just passed securitization of resilience costs, states with wildfires moving towards securitization of summer wildfire costs
        - North Carolina has storm costs, coal plant securitization and DTE in Michigan is doing coal securitization

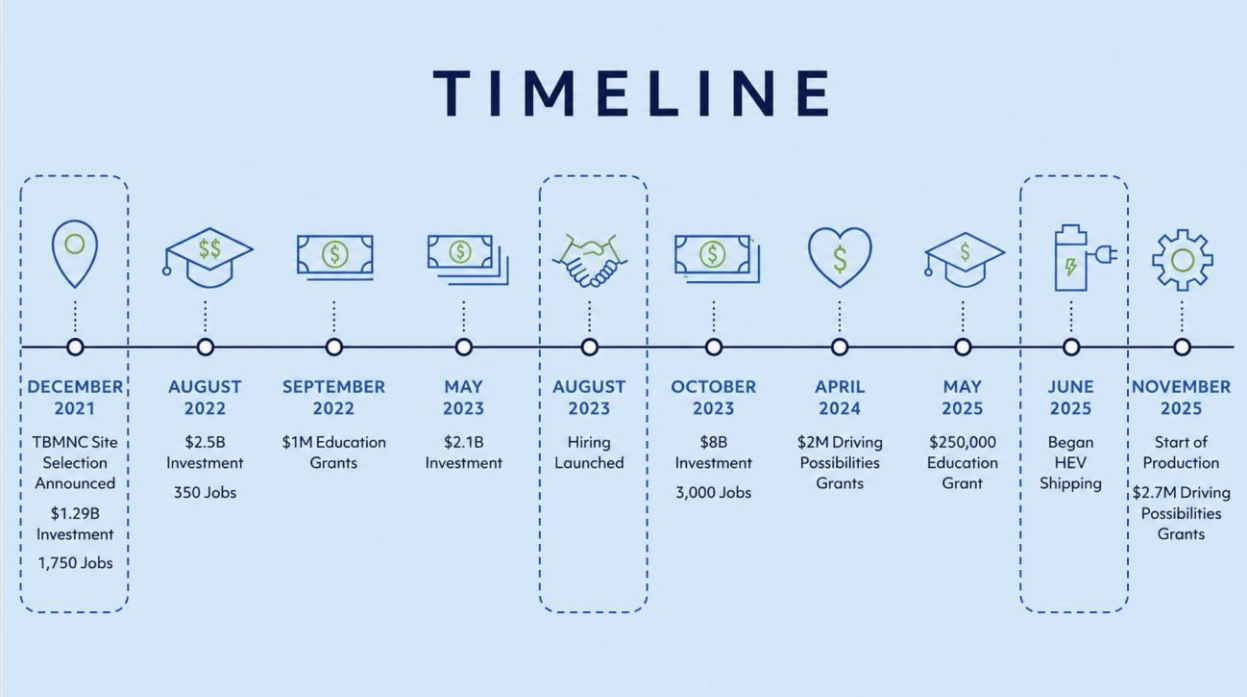
**Presentation: Toyota Overview for the NC Energy Policy Task Force**
*Darius Weatherford, Senior Engineering Manager, Toyota*

- 



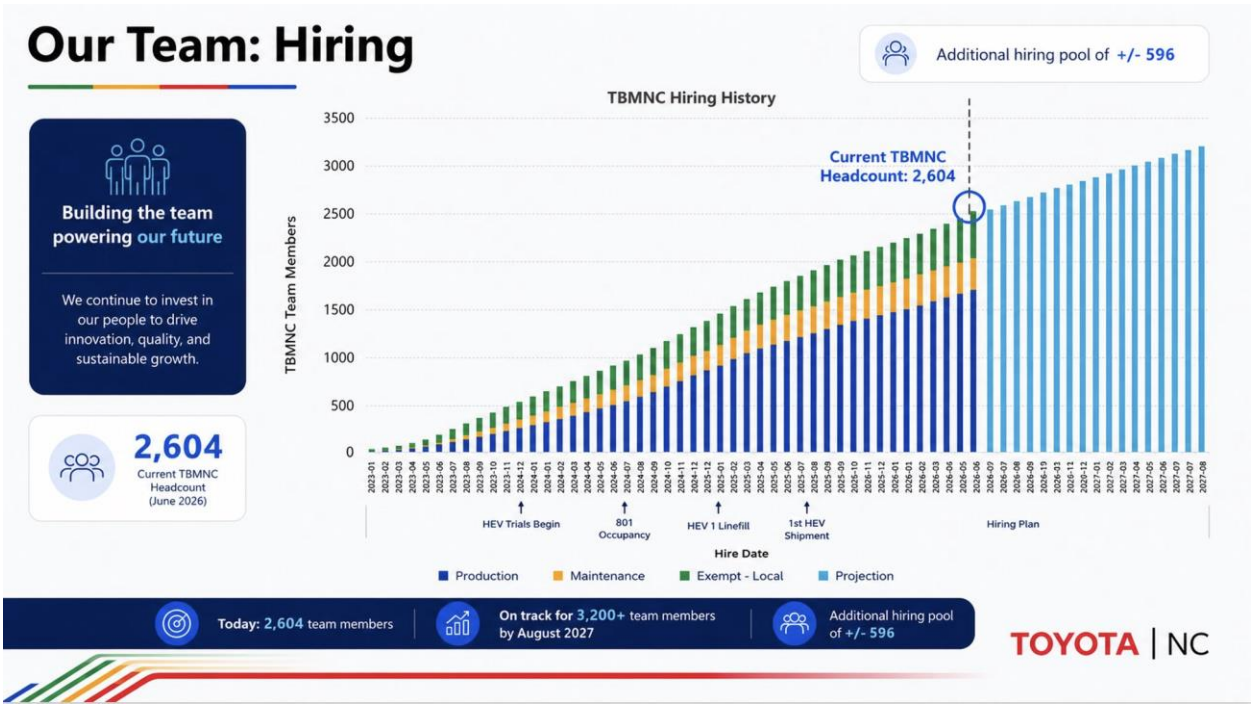


- Electrification
- High safety standards, develop team members, stability, provide value to customers
- Trusted tech, lead future of electrified mobility

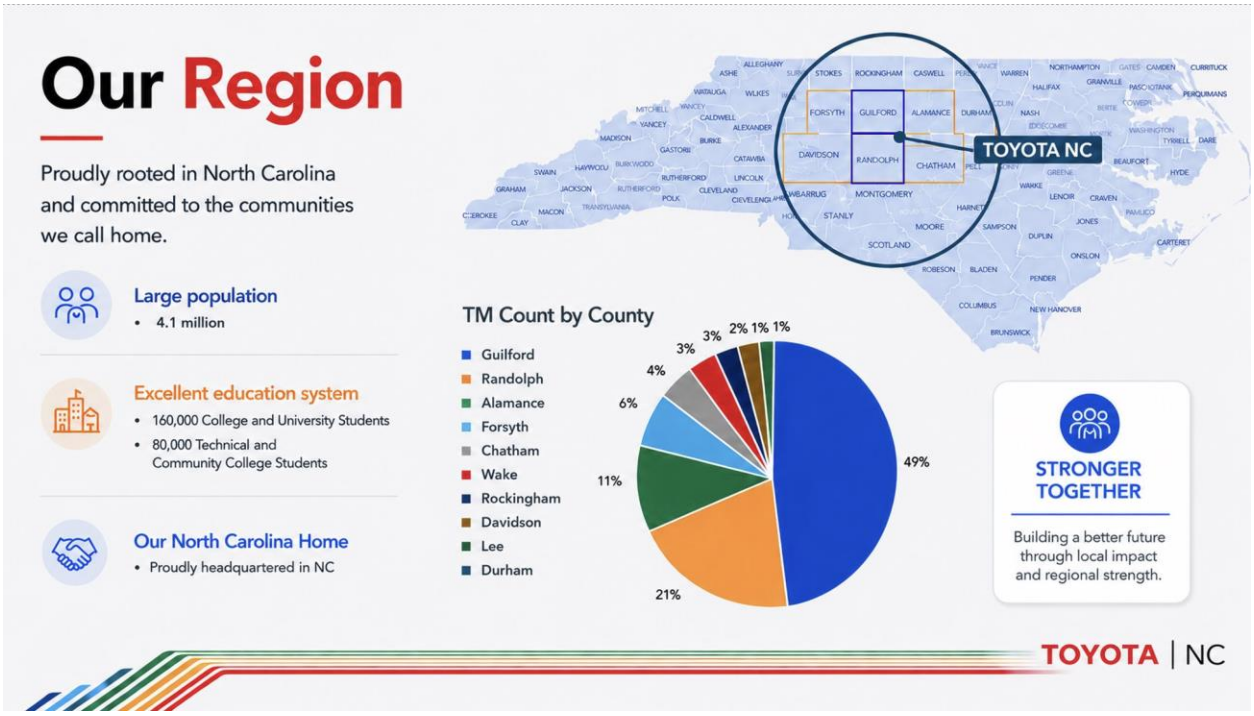



- Began hiring target of 2,200 new hires in August 2023; then announced 3,000 new jobs; last summer announced shipping of batteries
    - Hiring strategy is intentionally designed with long term goals


- Leading universities, community college system, workforce and training, North Carolina ranks as one of the country's one of the most competitive business states, gov and corp cooperation, regulatory environment that supports business



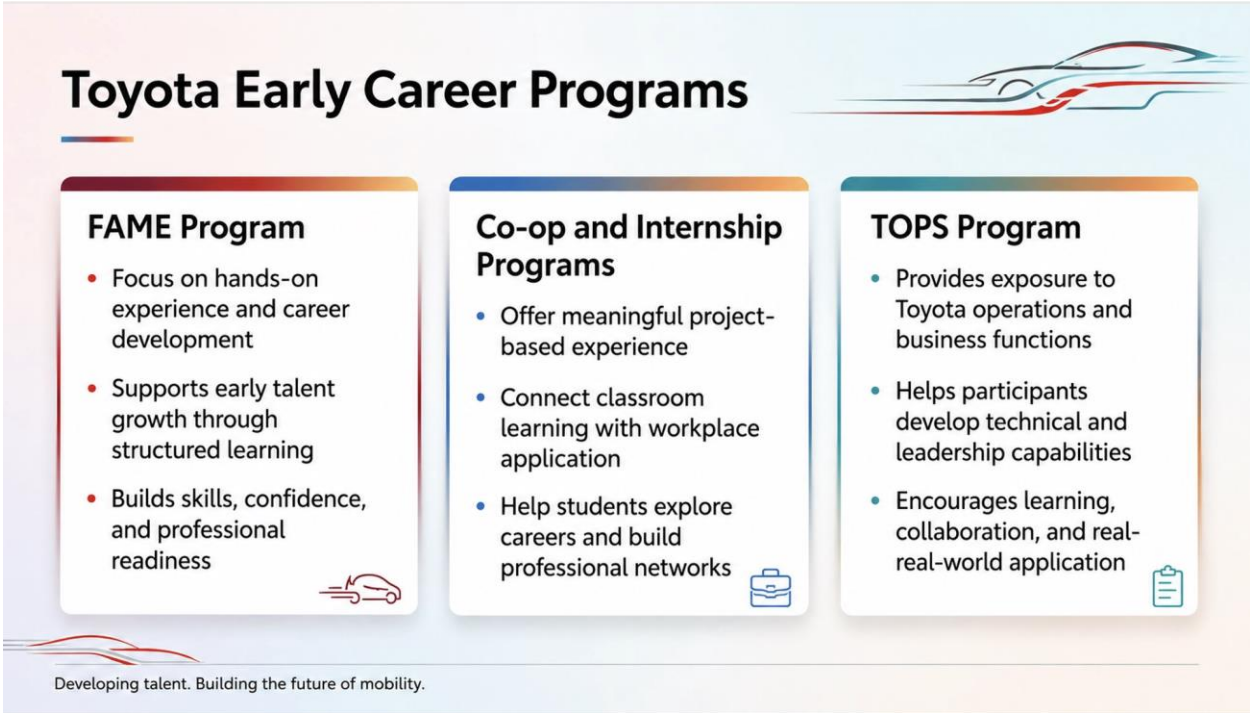

- Increased hiring; right people, right place, right time to support Toyota's growth and success



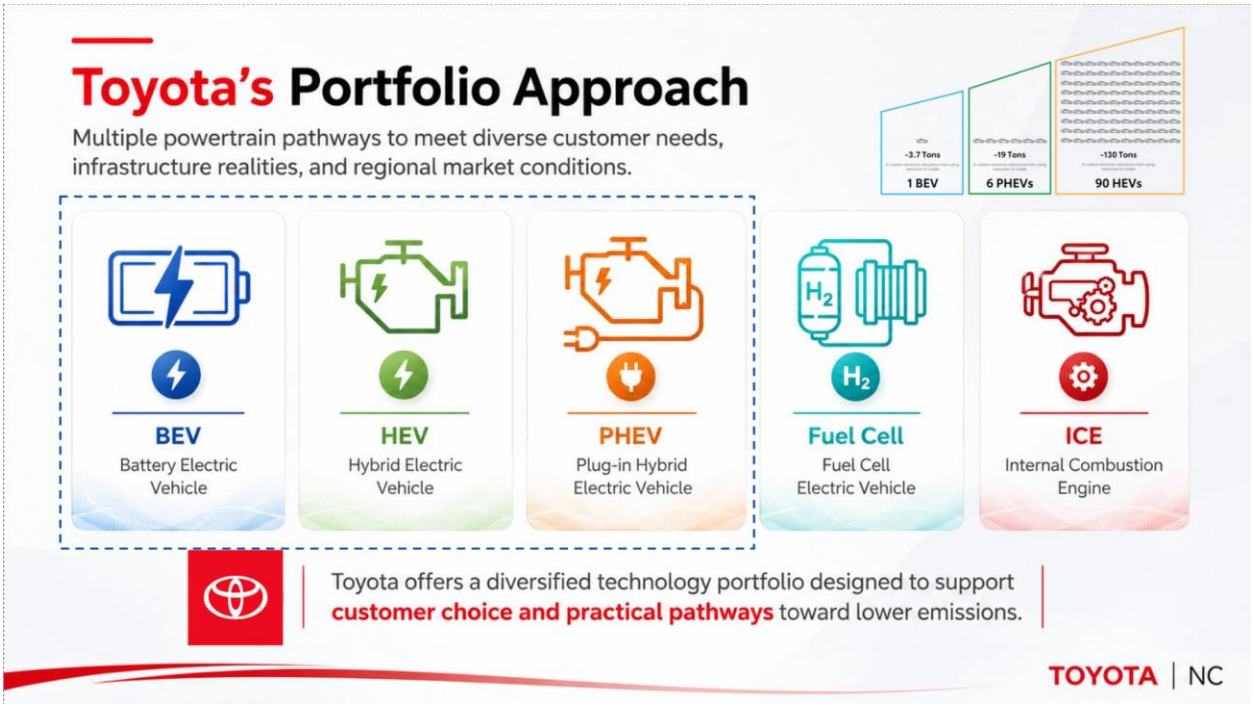

- 4.1 million people
- Strong educational network
    - Technical community college
    - universities
- Largest concentration of presence in Guilford, Randolph, Alamance, Forsyth, and Chatham

- Regional commitment

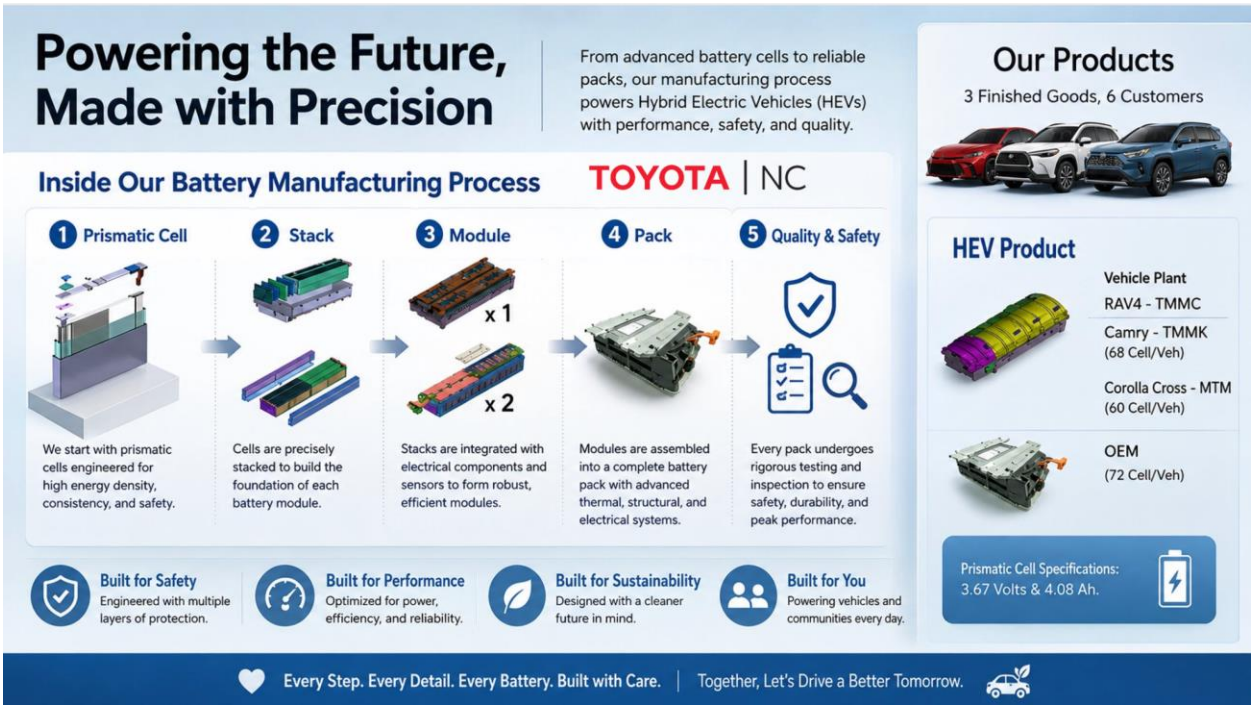

- Wide range of jobs available at toyota plants
- Also hr, finance, business planning




- Providing career training programs to strengthen future workforce

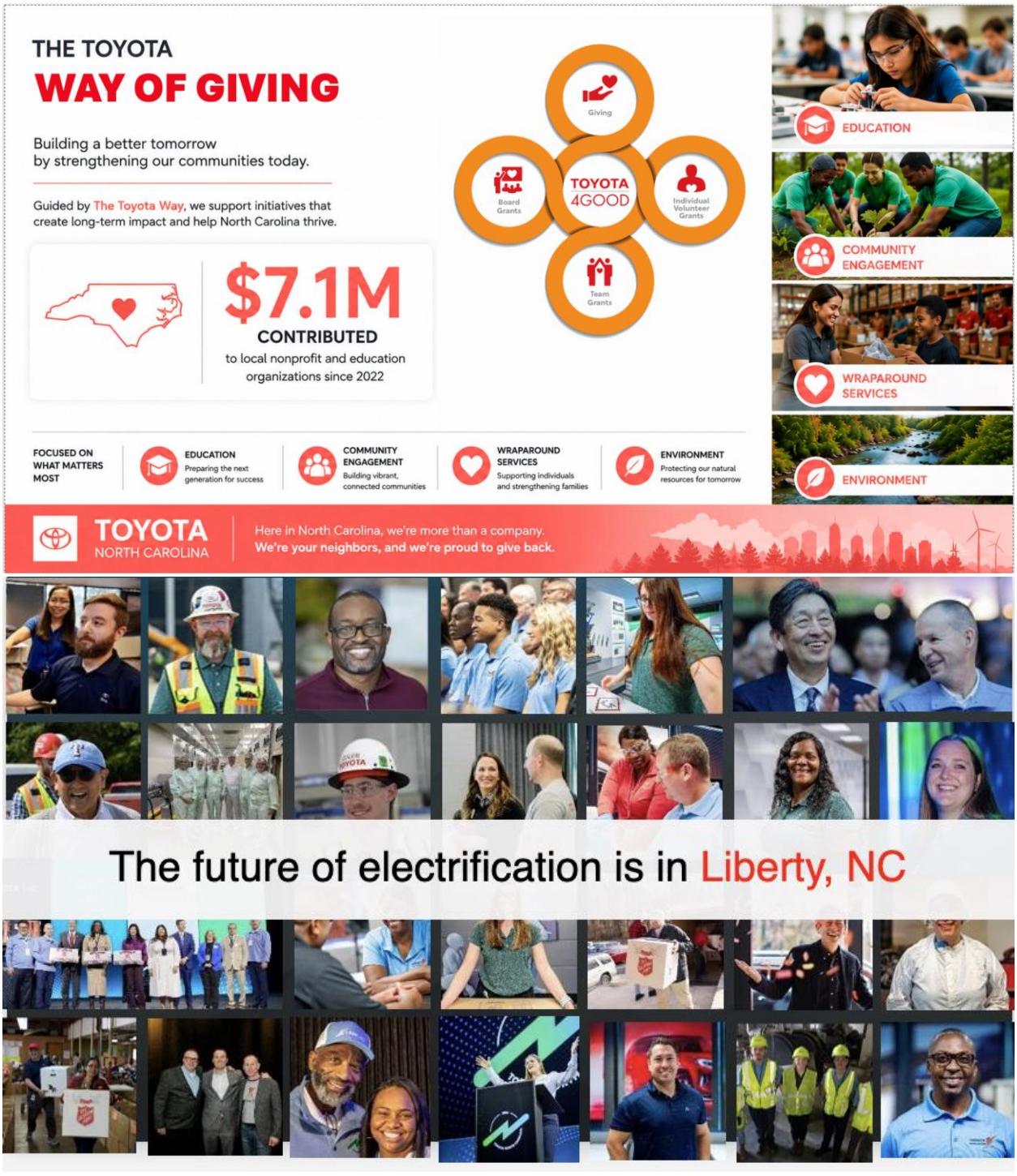



- Diversified mix of products in North Carolina




- Larger scale of packs


- Sustainable goals in vehicles, supply chain, manufacturing

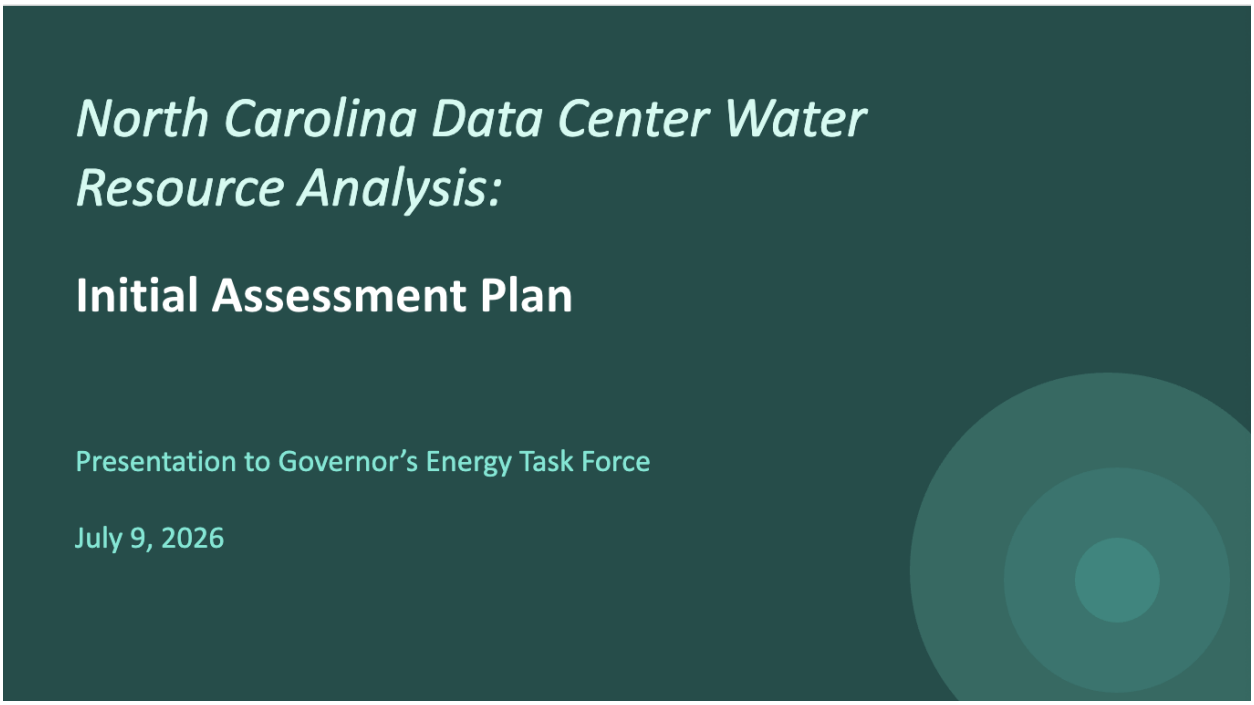



Questions

- Q TFM: I like Toyota's approach to sustainability and EVs; young facility. Anything you discovered along the way, good surprises, that have allowed you to reduce energy use or environmental impact
    - A: As continuously building construction site, difficult to get benchmark complete until we reach site buildout
        - No natural gas on the site

- Still trying to get a benchmark laid out to understand real reductions
- Usually, for vehicle engine transmission ramp up 6-8 weeks to production, battery is continual evolution; battery manufacturing relatively new, still learning the microchemistry part, still trying to get up and running, first four hybrid lines are up and running, first battery electric plug-in hybrid lines are coming on later
- Not natural gas, all hot water boilers, these are new compared to natural gas

**Presentation: Initial Assessment Plan: North Carolina Data Center Water Resource Analysis**
*Professors Jordan Kern and*
*Benjamin Rachunok, NCSU*




- Presenting planned works and some initial results on water impacts

WHO'S INVOLVED

## Project Team

### Faculty Leads

**Ben Rachunok**
Assistant Professor

**Jordan Kern**
Associate Professor

EDWARD P. FITTS DEPARTMENT OF INDUSTRIAL AND SYSTEMS ENGINEERING

NC STATE UNIVERSITY

### Graduate Students

**Md Tanvir Ahmmed Fahim**
PhD Student

NC STATE

**Elizabeth Harris**
PhD Student

NC STATE

**Josh Childers**
Masters Student

NC STATE

### Undergraduate Students

**Juliet Larkin**

**Greta Perez Cobo**

NC STATE

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PROJECT OVERVIEW

## Objective:

Statewide + basin specific assessment of how **data center growth** will impact:

- Surface water availability in rivers and lakes
- Wastewater systems
- Electricity-related water consumption

*...under different future scenarios of:*

- Data center and grid technology choices
- Locations
- Seasons
- Weather and drought conditions

*Today's goal is to get feedback on whether this scope captures the most important concerns and what outputs would be most useful to the Task Force.*

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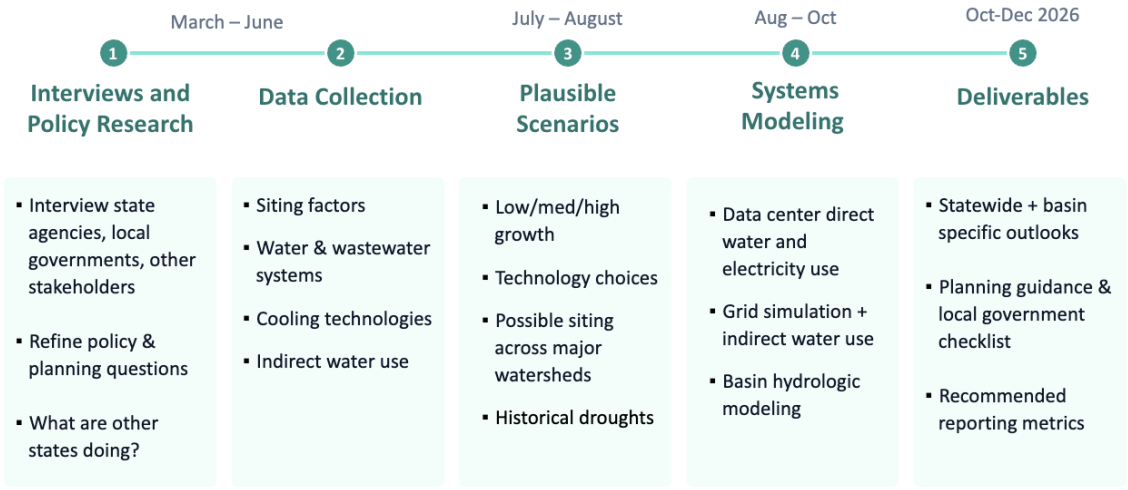
- Study comes out of recommendation 9 from task force earlier this year
- Numerical simulation of data centers coming in, surface water, indirect water impacts from energy usage
- About ⅓ through; not conducted yet; present what we have so far and solicit information on how we can make this most helpful

SCHEDULE

## Project Timeline

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- Majority of the spring has been spent conducting interviews

TASK 1

## Interviews

**Goal:** Refine the project scope, identify key concerns, and ensure the analysis produces useful outputs for state and local decision-makers.

### Who We've Met With So far:

- Governor's Office
- NC Legislators
- NC Public Utilities Commission
- NC Chamber of Commerce
- NC Dept of Commerce
- NC Dept of Environmental Quality
- Environmental non-profits
- Local municipalities
- Other academic researchers

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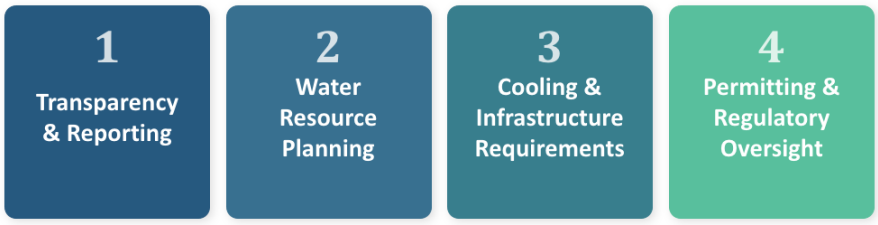
- Talking with about everyone except those who are working with hyperscalers directly; mostly unstructured interviews
- How agreements are negotiated, where they are developed

TASK 1

## Policy Research

**Goal:** Document the current state and local policy landscape across the U.S. when it comes to data centers water impacts, focusing on especially on other states in the Southeastern U.S. and Mid-Atlantic.

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- Policy review of other states

TASK 2

## Characterize Data Center Water Use & Wastewater Generation

**Goal:** Estimate water and electricity consumption for **any data center** for a given: size, cooling technology type, location, and weather condition

**What We'll Estimate:**

- Direct water withdrawals
- Consumptive water use
- Wastewater generation & return flows
- Indirect electricity-related water use

**What We'll Vary:**

- Facility size
- Cooling technology
- Load factor
- Environment (season, temperature, humidity, drought)

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- Water use and wastewater generation, also looking at indirect
- Some reporting put out by hyperscalers, some by academics
- Cooling tech e.g. closed or open, load factor of training or not, what is the environmental impact

TASK 3

## Develop Plausible Statewide Data Center Siting Scenarios

**Goal:** Develop current, planned, and plausible future data center siting scenarios for North Carolina.

**Siting Criteria:**

- Grid access (e.g., proximity to substations and/or lines)
- Land availability and cost
- Proximity to fiber
- Water supply and wastewater "headroom"
- Zoning, permitting, and local development conditions
- Constraints such as protected lands or limited infrastructure

**Note:** *Will build on existing work from NC Department of Commerce*

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- Create a predictive model
    - Feed in on the left; the outcomes are on the right
    - Seeing what amount of data centers; low medium high; magnitude but not locational
        - A lot of this is building on work from department of commerce
    - Identify criteria to help us identify where they could go in the state
        - Good connection to grid, internet, friendly zoning, land at low cost, wastewater and wastewater supply headroom, other constraints i.e., not on the coast and not in protected land

TASK 4

## Systems Analysis (Modeling)

**Goal:** Simulate how increased data center water demands could affect water supply, wastewater systems, and downstream availability (**especially during drought**).

**At the facility scale:**

- Data center water withdrawals at specific locations statewide
- Consumptive water use and return flows
- Wastewater generation
- Indirect, electricity-related water use

**At the system/state scale:**

- Daily operations of Duke Energy Carolinas + Progress grid down to the substation level, including
  - → Extra generation (indirect water consumption) from data center load growth
- Daily water flows, lake levels, municipal, industrial, and agricultural water supply availability for every major basin

**Study period** (weather & hydrology): 1928-present

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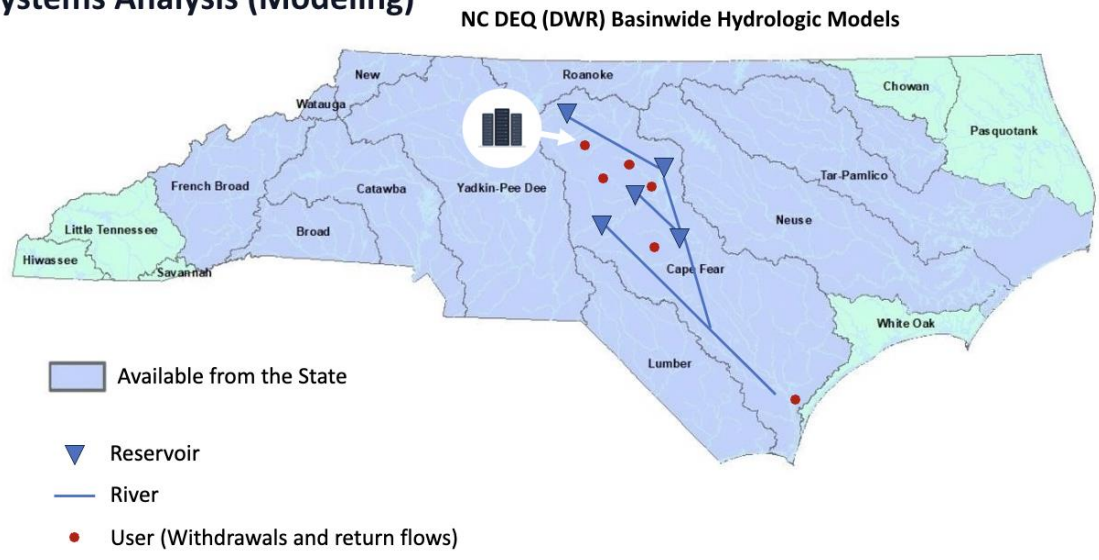
- Once we have low, medium, high, we do systems analysis
- Characteristics of communities who might see undue stress due to data center location
- State level: plausible scenario of where these data centers could go
- Hypothesize them being in these sites, estimate downstream impact
- Will be performed with current electricity grid and historical climate data

TASK 4

## Systems Analysis (Modeling)

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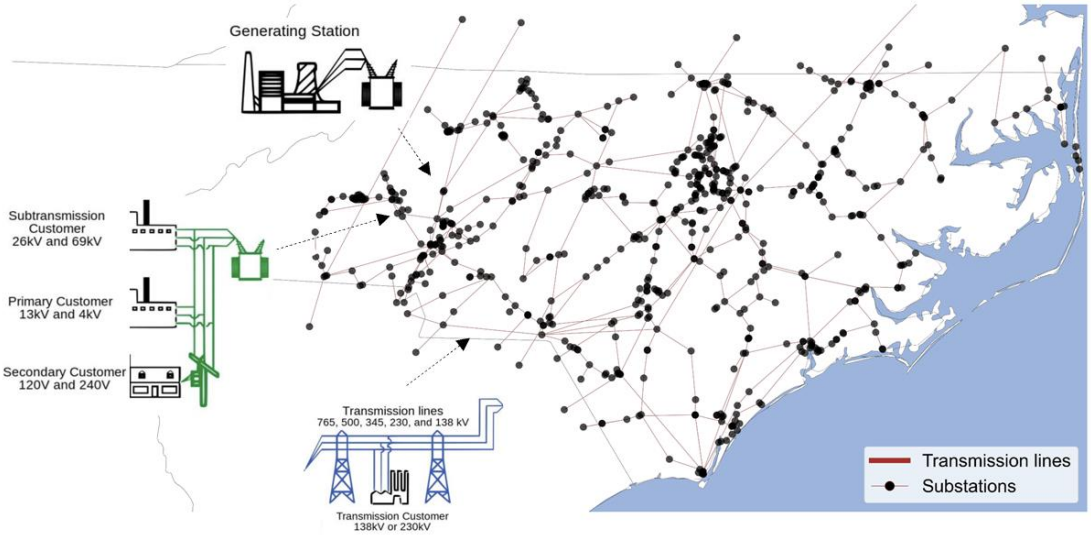
- Historical hydrological models
  - E.g. if i put a data center here in 1935 what would happen

    - Then overlay electricity
- Not a predictive model

TASK 4

## Systems Analysis (Modeling)

**Existing Simulation Model of NC grid and Duke Energy (NC + SC) grid**

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TASK 4

## Systems Analysis (Modeling)

- <u>Not</u> predictive
- Explore what if scenarios
- Example: effect of **SB 730** on river basins
    - Mandates closed loop cooling only (higher electricity use)
    - Water consumption shifts → power plants
    - Potential "virtual" interbasin transfer

**Key assumptions:**

- Current (2026) grid
- Historical climate only

Forward looking analysis would be straightforward but <u>not enough time</u> (report due December 2026)

- If we mandate closed loop, we could hypothesize impact, i.e., direct use is reduced but maybe indirect electricity impact is increased
    - How does this increase the state and nearby communities
        - I.e., those near data center and those near increased gen facility
- Do this using current electricity grid and historical climate

- Not planning to make any projections forward; aim is to do ASAP

TASK 5

## Develop Reporting & Planning Recommendations

**Goal:** Translate scenarios of water use into practical guidance for state agencies, counties, municipalities, utilities, and data center operators.

1. Data reporting requirements for data center water use and wastewater generation
2. Metrics for identifying when and where data centers may create water stress
3. Statewide outlooks for low, moderate, and high data center growth scenarios
4. Potential relevance for siting, permitting, incentives, and infrastructure commitments
5. Recommendations for state-supported resources to help local governments evaluate proposed projects
6. Overview of the policy options other states are exploring

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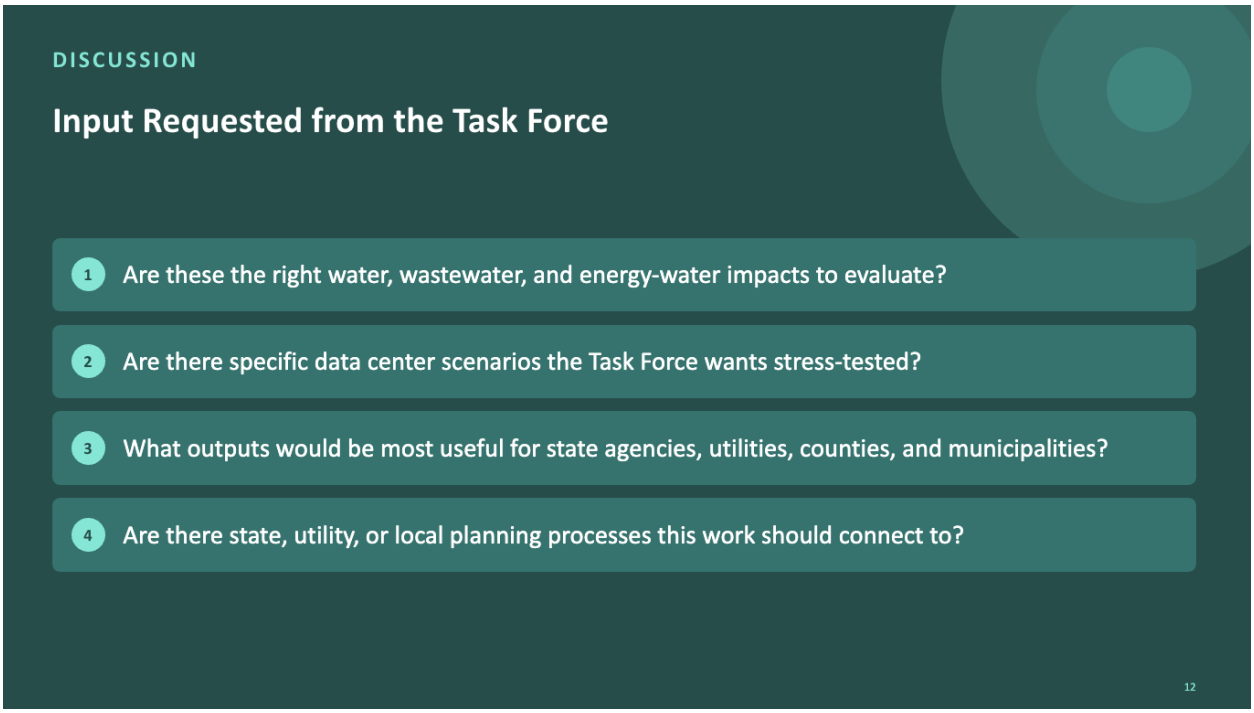
- Would like to put out as a recommendations: the types of reporting requirements that would be useful
  - I.e. if we find that max impact is in the sumer, then have them report max summer usage
- General characteristics of places with water stress
- State forecasts of low med high stress
- Siting and incentives; problems and ways people have dealt in the past
- Future types of support for evaluating
- Survey of what other states have done



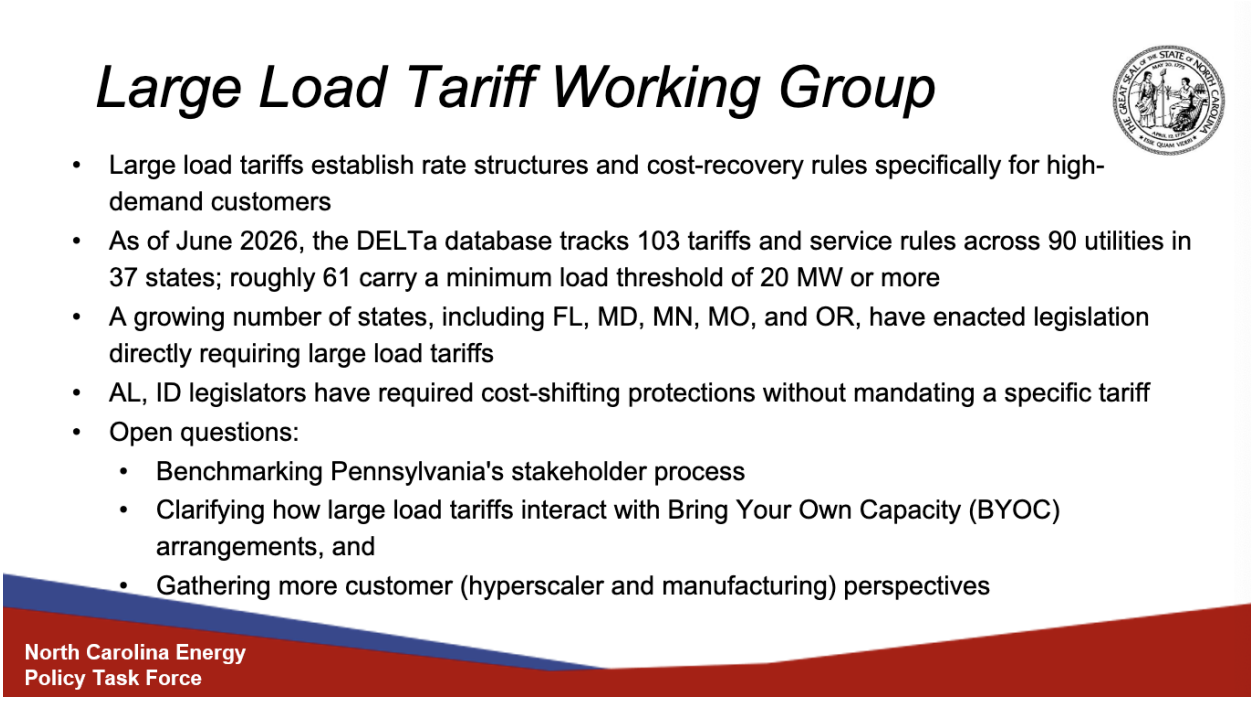

- Is this the right kind of question?
- Specific scenarios of growth and location that would be of interest and concern?
- Clarification of what type of output and deliverable would be useful
- Is anyone else thinking about this?

Questions

- Q TFM: Sounds like great things to investigate. Per question #2, I would be interested in seeing a scenario where a certain number of data centers have been able to procure clean energy. Would this reduce incidental water use from electricity generation?
- TFM: Would like to offer assistance, contact info, anything we can do to help around energy related water impacts, proximity to substations
- Q TFM: Potential virtual interbasin transfer - electricity intensive cooling switches water usage from location of data center to location of energy production
    - A: Hypothesizing, if you want to build in Wilmington, use their water supplies, if you shift from water intensive cooling to electricity intensive cooling… now i am using the water nearby to where the electricity is being generated; using water sources where the electricity is being generated
        - Could be shifted across counties
- Q TFM:
    - Google does have a water pledge from a few weeks ago: replenish 120% of water our facilities will use by 2030. Why not talk to the data center operators? You tried?
        - A: We tried, couldn't connect
            - We're not diverging too much in our types of analysis, but would love input or connections from them
    - Follow up Q: You are using commerce data to inform impact… Google does believe that those projections are pretty flawed, even though they did the best

they could with available information. We don't want projections coming out of flawed data… would you think of other sources? Utility projections, interconnection requests, etc. Relying on Commerce may not be the most accurate data for NC
    - Follow up Q: SB 730 does not mandate closed loop cooling; it just prohibits evaporative cooling. I don't know if that one is to be utilized. It is not law; currently just a bill
    - Follow up Q: Have you gotten into the take or pay variable for data centers?
        - Similar to energy, contract for an amount of water for cooling purposes; contract for a specific amount, don't always use, but always pay for it
        - Worth keeping in mind that what we are contracted to use may not be what we are using. Publicly available data may not align; Google's sustainability report includes our impacts by our facilities
    - Follow up Q: No mention of new cooling, may be cooling technologies that could use less water or electricity
    - A: Would love any information you can have… we will use publicly available data because that is what we can find. If you can help us be more accurate, we would welcome that input and information
- Virtual Q TFM: I would like to see how your findings match up against other industries like mining, new strip mall development, manufacturing
    - A: It is a point of note in our analysis that didn't make it into our slides; will be compared to other industries projected to grow

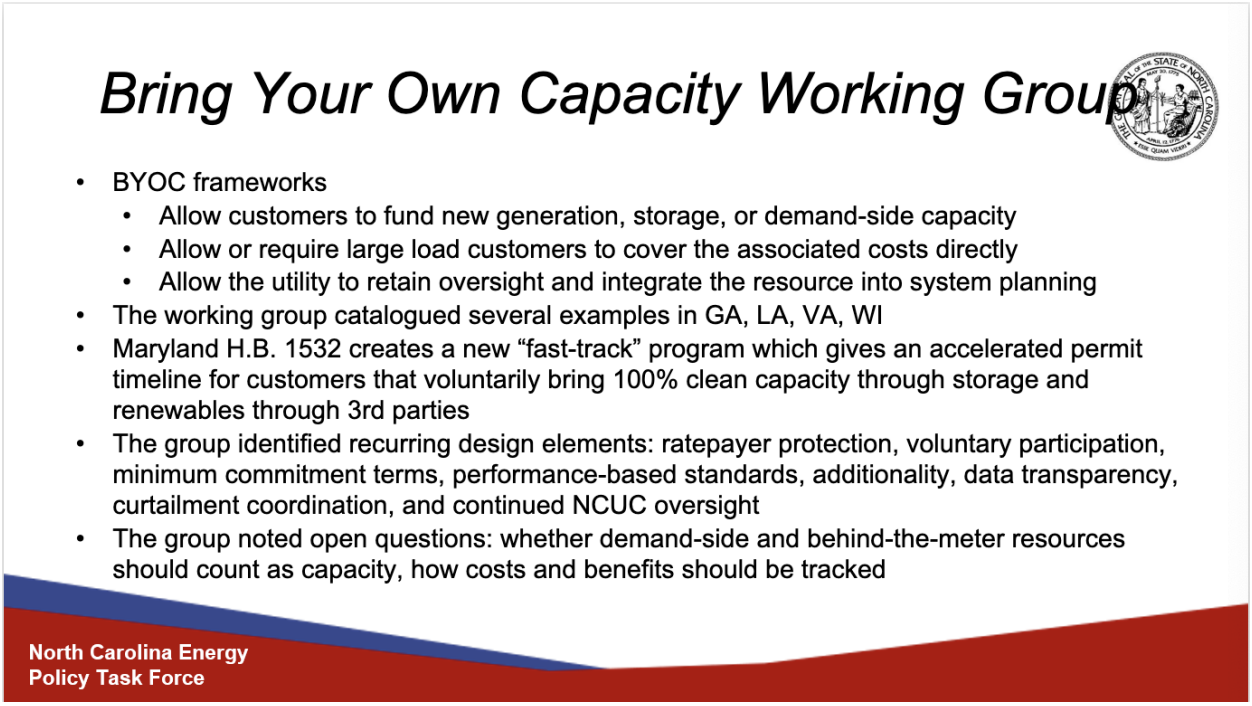
**Working Group Updates: Large Load Tariffs, Bring Your Own Capacity, Load Flexibility**




- Josh Brooks

- Digging into how other states are structuring rates for very large load customers and preventing risk to customers, happening all over the country; ⅔ already approved; about 60 of them threshold of 20 MW or more
- Growing number of states have passed laws requiring a large load tariff
- Team hasn't found a single case where tariff has been rejected outright
- Here at home, a lot going on, commission has opened up a proceeding into this, SB 730 sitting in senate rules - minimum requirements for some large load tariff elements
- Looking to design: levers that show up are the same
    - Min billing demand, min load factor, contractual returns, financial assurance, load ramp-up periods, minimum billing, and exit or change fees,
- Need to
    - Benchmark Pennsylvania stakeholder process
    - Interacting with bring your own capacity
    - More direct input from customers themselves
- Mark McIntire: Elements of a tariff Josh described; generally already in Duke's Electric Service Agreements
    - Would not be surprised to see traction in large load tariffs coming out of rate cases
    - First three recs: flexibility, tariff, bring your own capacity: cannot be considered in a vacuum
        - Flexibility also
        - Think about three things in concert
- TFM: Echo mark about integrating working groups
    - Written materials provided were excellent; important to bring the three groups together
    - Missed opportunity that we are doing so much work while legislation is happening that we are not really engaged in; think leg would need deep dive on what is going on here… we do all this work and then General Assembly passes a bill with the potential to make our work irrelevant… idk if we will make any attempt to engage with them
- TFM: bills that we saw this year were welcome in that the legislature is paying attention; bring your own capacity  working group did talk about trying to engage with legislature about SB 730… legislature can move a lot faster than a body like this
    - Pricey had a lot of influence on that bill behind the scenes, it's certainly better than it was
    - Legislature is mostly done, so would not expect that we would take that up at all this year… maybe in the off season we should try to engage with some of the folks who were involved in this bill
- TFM: did raise the work of the task force during debate, interesting vote, mostly democrats voting against it bc of provision with extending coal and nuclear as the

new baseload… definitely referenced during committee and floor debate; tried to work closely with leadership
    - TFM: Anything we can agree on in terms of specific policy decisions that we'd like to see in leg can be fed in for them to review before the long session begins
        - Not saying complete, but have something for them to chew on




- Set up a number of different presentations from other states, looked at different frameworks, don't need to read the slides for you there but you can review
- What I took away is that there are two frameworks. There are a number of choice points as you are developing a policy. We have not comprehensively gone through the choice points, that's kind of our next step. One of the big threshold choice points is whether you put this into a tariff and/or whether its mandatory, all optional, if bring your own capacity has to get worked into the integrated resource planning process, or whether it's a policy that applies to everyone in this category, OR
    - If it is one-off agreements for companies who want to bring your own capacity
- Agree, we are close to time to bring the working groups back together

Staff Overview:

## *Load Flexibility Working Group*

- Load flexibility explores mechanisms for making large loads interruptible or curtailable
- There are several policy levers:
  - Interruptible service tariffs;
  - Large load tariffs with built-in flexibility provisions, such as in AZ, AR, CO, or SD;
  - Voluntary demand response or curtailment incentive programs, such as in NY, WA;
  - Flexibility terms embedded in bilateral electric service agreements;
  - Legislative flexibility mandates; and
  - Flexible interconnection options that trade faster grid connection for curtailability
- Key design considerations and open questions include whether flexibility is mandatory or voluntary, how load size and equipment requirements are set, what incentive structures apply, and whether behind-the-meter backup resources count toward flexibility credit

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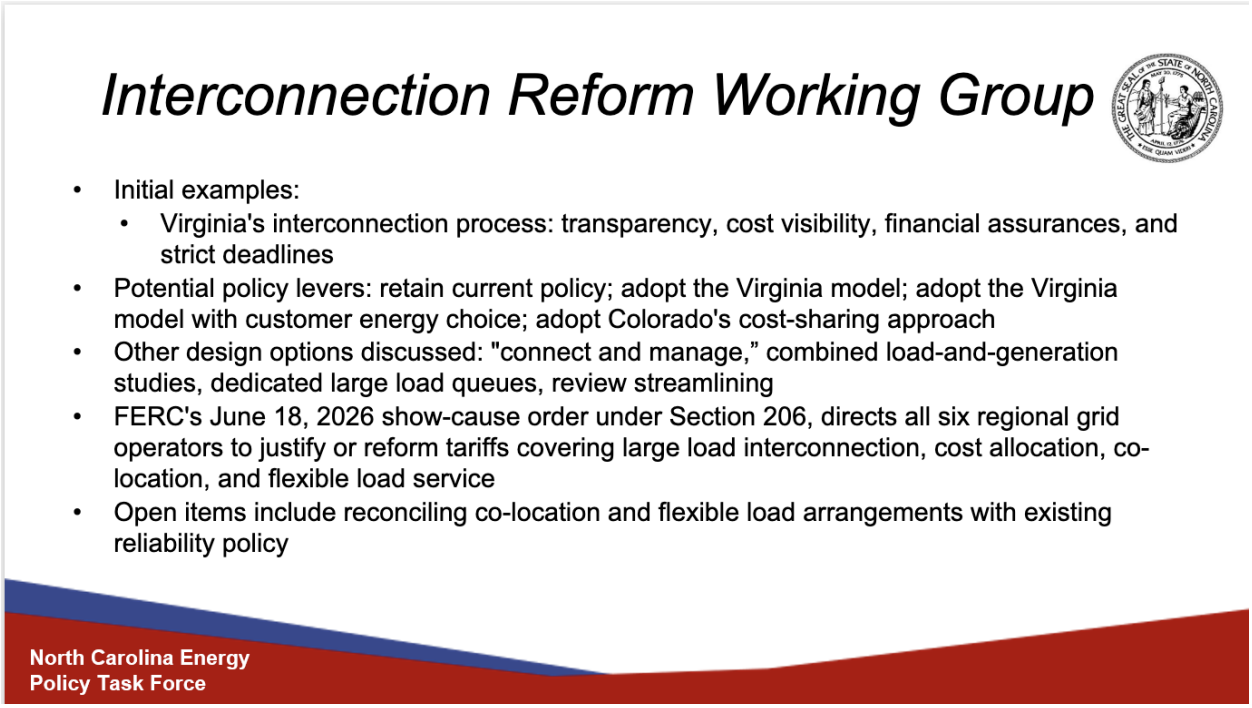
- Quite a few large load tariffs that have included these structures and requirements
- Shape or characteristics of the load can be very specific, often have to be bespoke and set up specifically
- Whether mandatory or voluntary
  - Other programs include optional tariffs, voluntary incentive programs, benefit or carrots to those who have flexibility
- TFM: think it depends on the nature of the business and the industry
  - If you said mandatory interruptible
  - Battery process, etc, work many days, our own product
  - Suddenly those are all shut down
  - Flexibility: thinking of different industries that were worked in
- In high load scenario, there had been just one flexibility scenario
- Load flexibility included in one scenario for Energy Futures Group
- TFMI: issue in carbon plan hearing: Duke did not model mandatory curtailment provisions that they had included in ESAs in their modeling assumptions
- Nina: two scenarios that model flexibility provisions
  - Rosy flexibility provisions, can see either in flexibility only or in clean flexibility cases

**Working Group Updates: Interconnection Reform, Advanced Transmission and Grid Enhancing Technologies, and Energy Efficiency**

**Open Discussion of Working Group Progress**

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  - Looking to Virginia as a model, group has discussed, also discussed in the October technical conference on large load tariffs
  - Looking at FERC orders that have come out; consumer advocate did a good job discussing federal and state tension
  - Unusual role of the utility in economic development
    - Everyone first thinks about costs and reliability; utility has a unique role in whether we will have businesses locate here
      - Important to interconnection as far as speed to power
  - Transparency and non-disclosure agreements come up a lot
  - A lot that can be done between customer and utility on interconnection; more transparency the better bc it allows us all to compare apples to apples
    - A lot of times customers don't want those details to be disclosed; often pushing for invisible agreements
      - Perhaps more transparency
  - Final interesting element to him: coops don't always have enough load coming on to get into studies and yet the coops, i think testified in october, that they had 24-26 interested parties representing 8 GW of potential building
    - If there are counties who want that kind of expansion, they need to be enabled

# *ATTs and GETs Working Group*

- Technological considerations: dynamic line ratings (DLR), advanced power flow control (APFC), topology optimization, high-performance/advanced conductors, superconductors, and storage-as-transmission
- ATTs/GETs goal: expand existing grid capacity without building new infrastructure
- NC currently has no mandates or incentives specific to ATTs/GETs; Duke Energy has a DOE-supported reconductoring project on the Lee-Milburnie line and NCUC-approved DLR prototypes (Docket E-2 Sub 1403)
- Pilots: NY and OH show value of APFC and DLR
- Barriers to adoption: technical details, misaligned incentives or difficulty compensating utilities for efficiency gains, and difficulty quantifying costs and benefits
- States have responded with studies, IRP planning requirements, incentives, and pilot programs
- Follow-up: a plain-language explainer of high priority ATTs and GETs, noting applications, costs, and other design considerations; comparisons of IOU versus cooperative perspectives; and further review of state legislative mandates

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  - Hear many different terms, in a lot of forums used interchangeably, but they mean different things
    - Under acronyms, different technologies in legislation or commission orders can often misinterpret two definitions of the tech and lead to confusion
  - Do we need to make sure that we have good clarification of what they are, what their potential applications are, some practical applications, some cost data
    - Making sure they are used correctly
  - Several definitions out there muddying the waters
    - Providing some clarification that we all agree upon, common definitions, some cost estimates
  - Even though North Carolina doesn't have legislatively mandated evaluation of ATT and GETs, there are commission orders and dockets; references one project up here
    - Required to pursue DOE funding; Lee-Milburnie line: existing right of way, designing to accommodate a second circuit when needed
    - Submitted SPARK NOFOs to DOE utilizing DLR
    - Recently had an NCUC approve request to test DLR across four lines
    - Help us understand if the sensors are accurate, if they need to be recalibrated, give us actual use information
  - Around 16-17 states i believe that have GETS and ATT requirements; 5 different commissions that have dockets where they have directed utilities to study/evaluate the cost of ATTs
  - New York and Ohio pilots
    - Being in an industry group is great for sharing information about applications

        - We are in the EPRI GETs group; get to hear lessons learned and what is or isn't going well
    - Practical applications in transmission study
        - Vermont: phase shifting transformer taking thousands of steps per year and creating frequent failures, replaced with an advanced power flow deceive to take the place of a majority of these steps and only use the phase shifting transformer for the big shifts and that provided a lot of benefits, providing for reliability benefits, out of the box application
    - Barriers to adoption
        - Clarifying technical details, what are the pros of using GETs and ATTs, what are some high level costs
            - Cant have a planner just apply, make sure it is sustainable, reliable, cost effective
    - Studies in response to FERC orders (2023, 1920, requiring planners to study)
        - States also implemented requirements through legislation and commission directives

## *Energy Efficiency Working Group*

- Big questions: can large load customers fund or enable efficiency programs for other ratepayers; can efficiency count as "capacity" under a BYOC framework
- Large-customer-funded programs: Google's partnerships with Roanoke Electric Cooperative and Blue Ridge Energy; Meta's $140 million commitment under its Louisiana Entergy agreement
- MD, MN, OR now tie large load fees directly to efficiency funding
- BYOC: Alliance to Save Energy's "Bring Your Own Distributed Capacity" model and Google/NV Energy's Large Load Customer Offsite Demand Management concept
- Open questions: how North Carolina statutes and Duke Energy's current planning practice define and account for efficiency, cost-effectiveness tests, financing tools, and locational demand-side management, how cooperative wholesale contracts interact with efficiency-driven load reduction, how to accredit efficiency and demand-side management as firm capacity, and what mechanism would best enable this policy option

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    - Key questions
    - First question regarding funding, we have a few examples
    - A few states with efficiency funding
        - Maryland half to EmPOWER low income, Minnesota tiered contributions based on size
    - Bring your own capacity: alliance to save energy model, Google/NV Energy program concept
    - Measurement and verification: 0.2 MW for every GWh saved

        - In 2024, Duke Energy Carolinas reported 683,333 MWh of incremental energy savings and 999.20 MW of energy efficiency peak demand reduction
        - In 2024, Duke Energy Progress reported 305,745 MWh of incremental energy savings and 133.97 MW of energy efficiency peak demand reduction
    - How does Duke actually currently account for this
        - Duke uses this as a load modifier, DSM can count towards planning reserve margins but EE cannot; that distinction matters a lot
        - A lot of existing programs for energy efficiency: small business electricities
    - Tradeoffs between one-off negotiated process versus a standardized tariff contribution versus bring your own capacity structure for ee

Questions

- TFM: in my testimony, asking commission to open new docket on BYONCE, we specifically requested DSM/EE option in there, did give some details of how to set up, offered to contribute a copy of that testimony

**Discussion & Next Steps**

## *Research Plan Discussion*

- What overlap between working groups would you like to focus to better shape policy recommendations?
- Of the topics covered so far, do any future research directions seem particularly interesting to you?
- Are there any gaps in the research process so far, and any major open questions that have not been identified or addressed?

North Carolina Energy Policy Task Force

- TFM; Overlap is very important
    - Focus on different things
        - E.g. manufacturing is looking for clean energy to be available, chris needs available power for economic development; bring your own capacity and timeline considerations
        - That overlap and interrelationship is very important
- TFM: some could be combined at this point; could avoid duplicate conversation

    - Ex. bring your own capacity and interconnection

Any research questions of particular interest

- Staff: given what we have heard, we are leaning to combine the three groups under large load; if anyone disagrees with this structure then raise that now
    - TFM: when you talk about bring your own capacity – do we mean within the existing regulatory framework? Or could this encompass legal or regulatory changes to the business model in North Carolina? I don't think that coops are supportive of combining if the bring your own capacity group encompasses changing legal and regulatory landscape
    - Jonathan: report had not directly addressed that, will think of how to combine
    - TFM: a little confused by your question, it's binary. Making changes to legal and business models or making changes to existing programs… North Carolina already has some bring your own generation programs, idk if it constitutes changing business models, but does constitute a new program from what exists today
    - TFM: I take your point that certain regulatory changes are fair game… if i am understanding the program you are alluding to, it doesn't apply to coops… still need to decide what we are talking about when we talk bring your own capacity… think it is worth having that conversation of what we are talking about
    - Jonathan: looking back at the report: legislation to enable, clean transition tariff in large load tariff or separate, allowing choice in generation, allowing sleeved power purchase agreement
        - Try to figure out a way to combine a portion of that conversation that aligns with your concern but not all of it
- TFM: want to say thanks to task force
- TFM: think we focused quite a bit on the stick rather than the carrot
    - Understand the feeling that these entities need to be contained, on the other hand, need more concrete discussion of what is working and what is trailblazing… had some discussion of it, brief discussion by microsoft for a few minutes then dove into tax abatement, google has done some presentations, some entities are doing really good economic, ratepayer supporting, economic development work; engaging that would be a good next step
    - Not just a matter of keeping companies from doing no harm; there are some very positive models
- TFM: would love to hear from the large load folks - what do you want, your ideal program, their red lines, where is there room for good discussion, would love to hear the same from duke energy and where their red lines are. Not naive enough to think it would come together easily, but we need to hear from those big players – customers and utility about what they want, what is working in other places, what they'd want to see differently
- TFM: Feedback we heard today, certain loads not being willing or able to curtail based on business model and how that overlaps with bring your own capacity; not having ratepayers getting curtailed in exchange for these big customers

Upcoming Meetings

- Full Task Force Meeting
    - October 2026, date and time TBD
- Load Growth Subcommittee
    - July 23, 1:30 PM
- Technical Advisory Subcommittee
    - July 27, 2:00 PM

**Adjournment**

- Adjourned