**Notes from 5/23 Energy Efficiency Recommendation Presentations**

May 28, 2019

1. **Energy Efficiency Everywhere (E3): Increase EE education and career awareness in K-12 and Community Colleges – Jonathan Navarro**

* Franklin School of Innovation & Evergreen Charter School involve similar topics in their programs (Asheville)
* I think informing teachers about available utility programs should be part of the curriculum/training.
* How will EE Everywhere integrate/relate to/leverage the Duke Energy EE in Education program?
* Work with utilities/DOE existing programs
* Check out forthcoming Energy Innovation report from E4 Carolinas and NC Dept. of Commerce
* Hopefully state-funded, not utility-funded
* Ability to generate and keep teachers trained in this field of education
* Interesting curriculum could be water utility curriculum that the San Francisco PUC has created for K-12
* Look to Tennessee Energy Education Initiative, run by TN Dept of Environmental Conservation
* Look to BEST Center for curriculum (based out of California Community College … forgetting acronym!)
* Consider implementing or integrating in job fairs
* Look to industry for input on job skills desired/needed. EE may be better integrated into some existing curricula than stand alone. i.e.) HVAC engineering w/EE courses integrated is more appealing to employers. Don’t specialize TOO much. Add EE as a valuable skillset to employers but don’t know how common just an EE role would be hired (CC-focused)
* Can also be integrated into youth structures (4-H, Girl/Boy Scouts, etc) – Laura Langham
* Who will create curriculum and what does certificate mean?
* How will you ensure inclusion in these programs?
* How would this curriculum fit with the common core?
* NCSimulationStation.com
* Would implementing this for K-12 students involve informing students in specific or all classes?
* Could develop cross-curriculum lessons incorporating K-12 math, English, history & science with EE so that it is received as a resource – Al Ripley
* Please be sure to engage local workforce board in discussion – they have federal funds to help.
* Duke E has an EE Education program. Possibly partner with utilities – Paula Hemmer
* Have you considered a certificate / recognition for kids that complete program? Not sure for teachers?
* Recommendation 1 and 4 are great suggestions. They complement each other with developing training programs (K-12 and CC)
* For CC, need business incentives for newly trained retrofit/rehab to stay in rural communities
* Emphasis on Environmental Justice program
* What is the CC program? Tech training, teacher training, energy manager? Suggest ID the CC courses.

1. **Public education Energy Manager deployment – Brian Callaway**

* [Alesha.Reardon@BCSEmail.com](mailto:Alesha.Reardon@BCSEmail.com) is energy manager at Buncombe County schools – great resource and SME
* Use model schools /systems that have achieved EE as example program to make it easy to roll out – Paula Hemmer
* Provide based on sq.ft/number of students (at least partially). An energy manager serving 20,000,000 sq.ft. can’t do as much outreach as one serving 3,000,000 – Lib McGowan
* Beware existing interests whos primary goal is their own profit vs. a home-built one. There exists two very litigious groups that will try to jump in here – Lib McGowan
* Should DEQ coordinate or should another agency coordinate (i.e. Dept. of Education)?
* Love this idea. Could you pay for program using cost savings from schools?
* Google “EE circuit rider for rural public schools.” I know other state energy offices have done this.
* Look into Efficiency Maine – Community Colleges have workforce energy managers
* Have you considered an internship program to train CC students and others on how to become energy managers?
* Energy Management systems are more effective than people for EE in schools
* Would Districts with energy managers still be eligible to receive the funds for EE Investment?
* Can we make recommendation more specific? State exact # of suggested managers serving # of schools, etc.
* If it is crucial to schools, why haven’t their school boards dedicated funds already?
* How will this be funded? If Tier 3 counties generate most $, they may want $ for future projects.
* Re-invigorate Utility Savings Initiative (USI)
* Could this be an RFP, outsource energy management to a firm that specializes?
* Consider county-based for county K-12 and CC – counties pay for K-12 and CC
* Link with others (especially #21) as opportunity to standardize energy monitoring and reporting statewide.

1. **Online Energy Efficiency Toolkit – Brian Callaway**

* This is the bread and butter of the National Energy Foundation, although I think their service costs money.
* See ACEEE’s state and local policy toolkits and SmarterHomes.org.
* Partner with SC or VA for a regional hub to help with funding – Paula Hemmer
* Could people opt-in to respond to a survey in 6 months, to see if they followed any of the recs in the toolkit?
* Would the hub direct users to utility toolkits?
* My wish list for content: a cute video teaching renters how to set their thermostats at home – Melissa Malkin-Weber
* Does the NC Clean Tech Center make sense to be the “owner” or coordinator of the toolkit (as a quasi-state agency)?
* Is there an example of a hub where state has done this or example website?
* Toolkit can support best recommendations
* Managed by #12 (EE Utility)
* It would be beneficial to allow larger schools/CC’s to upload data and resources to this data hub.
* Review team sift through existing program materials from utilities and DOE
* Isn’t this redundant? DOE and most utilities already have these available
  + No, munis and co-ops struggle with good content
* Evidence is that information alone doesn’t motivate people to take action.
* Test toolkits prior to posting
* Not sure … are you developing a kit or just having links to existing toolkits available?
* I think this type of EE toolkit already exists – need to focus on getting people to use resources already out there.
* Does the kit include assessment tool? Benchmarking where you are to guide the “best fit” toolkit?
* IOUs subscribe to EQuest online (sp?) for their large customers. This seems similar, but lacks ability for us to add info independently? Lib McGowan
* Impactful across many sectors. Low cost and quicker to implement than others.
* Who would “host” the toolkit and keep it updated?
* Suggest linking via toolkit to existing utility programs
* Good idea – who would organize or sponsor? Would probably need to be high profile institution?
* See “NCSimulationStation.com” for emerging virtual education tool that could be used for EE.
* Cost limitations per kit?

1. **Create Energy Efficiency Apprenticeship Programs – Michelle Muir**

* If it’s easy to implement, then why hasn’t it already been introduced/created?
* Could be very valuable, showing cost/benefit (ROI) to companies would be necessary
* Love this! DOE Grant?
  + Yes, contact Megan Berry: [mdcain@ncsu.edu](mailto:mdcain@ncsu.edu)
* Is EE skills equivalent to certified energy manager and other certificate programs?
* What are the EE program components? More specifics would help move recommendation forward.
* Huge need to help trained retrofit/rehab establish local business in mid-size and smaller communities.
* Sounds good, but I’m not sure exactly what the function of an “Energy Efficiency” person is or the training that would be provided. Similar to PEM training, or having hands-on skills for controls, IT upgrades, etc?
  + Note from team: What level? Entry level -> Management level. Need career pathway/ladder
* NCAEE (Association of Energy Engineers) is a resource/partner. Ncaee.org
* NCSimilationStation.com
* Connect with NASEO in developing apprenticeship program
* Great to train people, but will there be enough jobs for them when done?
* How do you find mentors (rec 1 and 4)?
* Build EE into existing construction and HVAC, Electric, other programs. Rank employers in program?
  + Yes!
* Connect recommendation 4 and 1: K-12 and CC curriculum leads to apprenticeship
* Connect to UNC/CC system to offer class credit for time spent in industry (link with rec #1)

1. **Public education workforce data and economic impact study – Michelle Muir**

* As part of economic study, include a supply chain analysis to see where $ is spent – important to determine how much $ is staying in community, local EE jobs vs. workers being brought in, % of contracts minority-owned businesses, etc … Keep $ in state and in local communities with equity perspective.
* No job description / position for Energy Manager in State HR
* NCSEA does a clean energy study – could their report be expanded to EE impact study?
* How is this different than or complementary to NCSEA’s clean energy jobs census?
* Check out E4 Carolina and DOC’s forthcoming energy innovation report.
* Aside from LEAD at Dept. of Commerce, who are the other players? Could be a great public-private partnership.
* May want to look at job roles vs. titles because there are many jobs that serve EE functions for companies but aren’t titled as “EE.” – Caroline Macklin
* Very important. Need to define and show economic impact.
* Like idea of metrics relative to EE jobs – would help support further EE work and impact of ongoing work.

1. **Raising EE awareness on NC Building Code Council – Ryan Miller**

* Does Governor appoint this “energy” person (or is legislature involved)?
  + Legislature creates, Governor appoints
* Does this group change a lot each few years?
  + Every year with 5-year appointments
* This is a fundamental change to gov. Need to approach in steps.
* (might not fit this recommendation exactly): Have you thought about getting EE incorporated on building trade tests given by the state?
  + Code officials part of rec #3, otherwise should be with workforce development
* Can commercial sector help?
  + Yes, very under represented on Building Code Council
* Need to neutralize Home Builder’s Association opposition by demonstrating benefit to home builders
  + Yes, part of education and data needed
* Like education of BCC as an option
* Phil Bisesi at Electricities could be SME: [pbisesi@electricities.org](mailto:pbisesi@electricities.org)

1. **Pathway to net-zero energy-ready new buildings by 2042 – Ryan Miller**

* Can this be broken out into multiple recommendations? Especially revisiting code more often could stand alone.
  + Yes
* Very long term. Think other recommendations would be more impactful. Adjusting code cycle from 6 to 3 years would be actionable.
* Do you have actionable steps that would help make 2042 goal more feasible?
* Any estimates of the cost associated with and impact on building prices?
  + Not for NC. Study is needed.
* If you want to empower NC localities on code updates, see 2019 Colorado bill that does so (HB19-1260). It’s a home rule state.
* Why 2042? Seems like a random number.
  + @ 6 year code cycle, consider 100% RE goals by 2050, etc. that have been proposed for the state.
* Is there something below NZE that just makes buildings as EE as possible, doesn’t require solar?
  + Passive certification program standards
* Require new buildings have meters / submeters for performance verification.
* Model after other states? Separate requirement for low-income (higher or lower?). Schools too.

1. **Improve Stringency and Oversight of NC Legislative Process for Building and Energy Codes – Ryan Miller**

* Difficult, but important!
* Soften blow – recommend cost/benefit analysis to any change in code.
  + Under way!
* ID’s real problem and challenge. Would be good if legislation related to building code goes through Building Code Council.
* Tie NC Building Code to national/international standard – updates automatically.
* This has strong description that might be more successful if it said, instead, that the Code Council should be consulted before adoption.

1. **Establish an Energy Efficiency Advisory Council (EEAC) – Gennelle Wilson**

* Should include members from higher education, community colleges and universities.
* Have you considered the EE Subcommittee of the Energy Policy Council? How is the EEAC different?
* Would the Governor create the EEAC by Executive Order?
* What are the term limits for the EEAC? After EO80 and Clean Energy Plan, what roles do EEAC play?
* How would EEAC work with EPC? Could EPC EE subcommittee play the same role?
* With no GA/NCUC action, how would members be elected/appointed?
* Include business (a. high energy users, b. small business)
* DEQ would need funding and staff
* Would need a public benefit fund or set-aside
* Could be aligned with #5 to capture the EE job metrics. Like idea of continuing process for sharing ideas.
* Consider a Council of Governments representative (determined by NC Association of Regional Councils – NC ARCOG)
* It seems like there are already a lot of collaboratives in NC. How would this be complementary? Additive to Duke Collaborative?
* It would be strategic to include NCUC and utility staff in this working group
* We’ve seen this happen in RI, MA, CT and DE. We could do some advisory on this. David Gelman
* Would the council have any “teeth”?
* Work with EPC EE subcommittee
* Will this replace Energy Policy Council? NEED more authority if meaningful.

1. **Create project management coordination system for delivery of EE, Urgent Repair and Weatherization programs – Gennelle Wilson**

* Are requirements strict enough to prohibit abuse of the funding (free riders)?
* Seems like adding another agency may slow things down as current oversight would have to be ended. Federal Fund requirements won’t go away.
* This should be part of the EE Toolkit for folks to access all resources.
* Is this Residential Sector (state this in title)?
* Yes! Do we need additional funding for urgent repair to make sure more coordination = more efficiency?
* DOE is supporting pilot done in Chatham, etc. – Al Ripley
* NCHFA has an online portal already built for urgent repair.
* Could this recommendation find an app/vendor with a platform that could speed implementation and lower costs? – Brian Callaway
* Issues with national funding silos? WAP vs. CDBG, etc. Statewide uniformity or weatherization providers: e.g. COGs vs. 3rd parties
* Love this! Making government work more efficiently. Focus on hurricane communities and get FEMA $$.
* One touch programs can help. Proven elsewhere. – David Gelman

1. **Create a standardized measurement and evaluation process for evaluating EE, Urgent Repair and Weatherization programs – Gennelle Wilson**

* Energy Vovrade (?) program in Asheville is experiencing these issues if looking to connect pilot programs
* Outcome of tracking could be to encourage social impact investing in NC (See Baltimore pilot, investors see returns from Medicaid savings).
* How differently would this be managed compared to the IOU/Co-ops?
* Not clear if this is just for weatherization funds or all utility EE/DSM programs?
* Can do a version of this for state buildings – coordinate funding sources, R&R, etc.
* “Release” needs to be paired with hammer to make Duke Energy share data rather than stalling and fighting. – Melissa Malkin-Weber
* This is about standardizing data. Similar to Rec #21. Would be great to speak the same language throughout.
* Opportunity to coordinate with public data collection systems?
* Utility program protocols and EM&V would need to be adhered to.
* See strong need to have access to data to evaluate impact of improvements with privacy protections.
* It seems pretty labor-intensive to require sign-off from program participants for data sharing. I’d recommend regulation or legislation that streamlines this process. See ACEEE Data Access toolkit.
* Standardized application will be challenged by differences in requirements and federal grant reporting. To meet all, the application will be too lengthy.
* Does this look at county/municipal COG level work? Or just coordination of state agencies and federal resources?
* Could tie this together with #10
* Need this rec! Need to be able to measure (standardize)

1. **Create an EE “Utility” for NC Municipal Utilities and Electric Cooperatives – Gennelle Wilson**

* Meant to be opt-in (voluntary)
* Would the EEU offer customer-based EE incentive programs (rebates) for munis and co-ops to implement?
* Can assist WAP w/administration
* This type of EE Utility is funded by a systems benefits charge in other states
* Ask Duke E for % break-out of costs for components of EE programs
* Who pays for this resource?
  + Munis and co-ops can help pay/subscribe
* Coordination with Rec #22?
* One intermediate option would be to work with state muni and co-op associations so they have the skills they need to administer EE programs.
* ACEEE interested in helping with this. Mary Shoemaker – [mshoemaker@aceee.org](mailto:mshoemaker@aceee.org)
* This seems like a great opportunity that would benefit lots of consumers in NC – Brian Callaway
* See example of Efficiency Vermont – utility whose product is negawatts
* Why haven’t NCEMC or Electricities already done something like this?
  + Capacity (and they do it piecemeal)
* How are they doing this now? Is it a priority? If not, it should be before deciding an entity should be created. Engage first.
* Would be useful for this entity to help co-ops and munis apply to USDA for funding
* Can support 10, 11, 3, 5, 13, 14, 15, 16, 17, 18, 30, 31, etc.
* Is there support from NC Electric Membership Corps for this idea? Could NCEMC “host” the EE Utility?
* If you’re creating an EE Utility, it should also help IOUs with their programs. Then it’s truly statewide.
* What role does the NCEMC play? PAYS model (On-Bill Financing)
  + PAYS would be supported. Also M&V, marketing, education
* Could Electricities and NC co-op group provide these types of services through their existing structure?
* Munis and Co-ops will fight being put under NCUC
  + This can be a non-profit, not under NCUC
* Include results in REPS goals?
  + Yes!
* Primary target/focus on smaller munis / co-ops that are minimally engaged in EE
* EE programs are already being managed. EM&V is expensive.
* Electricities and NCEMCS already do this.
* How come this isn’t just an extension of Advanced Energy’s role?
* This work could be completed through local COGs if education and training of COG staff occurred.
* The EE Utility could also be a central admin for Pay as You Save programs – Melissa Malkin-Weber
* Look at successful programs reported by IOUs and NCUC
* This sounds like Efficiency Smart programs offered in Ohio
* Is “optional” best strategy? Changing processes to make things standardized is probably costly
* Impact only if required to do it
* We’re very interested in this, and run a program like this for American Municipal Power for municipal utilities from Ohio to Delaware under Efficiency Smart – David Gelman
* We’re running a program like this through a non-profit – David Gelman
* One year to get off ground is highly ambitious
* Need to address funding path. Those might require legislative and/or PUC action for strength.

1. **Match EE opportunities to better address unique sector needs – Terry Albrecht**

* Highly interested in supporting this one – Laura Langham
* Goes great with 10, 11, 12. #12 overlaps with 13 – Laura Langham
* A drawback to existing rebates is that contractors often don’t want the hassle of using them. Therefore, hard to access for building owners – Melissa Malkin-Weber
* Is this a centralized effort? Or it is best practices for each muni/co-op/IOU to implement voluntarily?
* For mobile/manufactured home program, leverage USDA Whole Manufactured Home Replacement Program. $$
* EE Utility could play a key role in streamlining these programs and identifying gaps.
* Could this be a priority for the Rec #9 council? It seems like it should be – Brian Callaway
* Could the utilities commission undertake a review to institute this?
* Was cost-effectiveness considered in this recommendation?
* Tie recs 12 and 13 together – Paula Hemmer
* Very much needed but unclear what process would be. How related to Duke EE collaborative?
* See good opportunity to revisit and develop rebates that better target the identified sectors
* We’re very interested. Think a program review / strategy effort could be useful – David Gelman
* Could look at zero energy modular as mobile home replacement. We’re working on ZEM in several states – David Gelman
* Co-ops and munis are cost based utilities. EE rebates come from other rate-payers.

1. **Evaluate the inclusion of new criteria to EE program approval process at Public Utility Commission – Terry Albrecht**

* This is a key improvement. Does Duke Energy support? Paula Hemmer
* Equity considerations – do they trump existing requirements?
* There may be a down-side to this. New programs may encourage customers to pay for EE (with incentive) and that reduces program cost. Instead of requiring all programs to address income issue, increase in programs targeting low income would mean overall lower cost of EE. Wouldn’t it?
* Is this about cost-effectiveness testing? It’s unclear to me.
* PUC would need some way to measure/give credit for serving under-served markets
* There are already means for intervenors to address issues/concerns with programs at their filing. File comments in the docket.
* NCUC DSM/EE program approval requirements already robust – maybe just change cost-effectiveness tests.
* Could be tied to effort under rec #13
* Many states struggling with this, and it’s time for strong commitment.

1. **Utilize utility demand-side management budgets for low- income EE improvement approaches – Terry Albrecht**

* Biggest impact of DSM dollars probably large commercial / industrial customers.
* Could NCEE Utility (rec 12) help munis and co-ops think of new business models?
* High usage customers who are above average income, would the program benefit them? What are the qualifications (sp?)
* Not sure how current cost-effectiveness tests don’t address this issue? Avoided capacity costs.
* Opportunity to utilize community PV to reduce coincident demand in multi-family housing?
* Co-op and muni DSM and DR programs savings to to end user now.
* Needs outside funding. Co-ops and munis are cost-based so money comes from other rate payers.
* It would help to clarify the focus of this rec. Is it on EE, DR, or both? Sounds like mostly DR.
* Work with #10
* Look at IOU DSM programs and copy?
* DSM could be useful across the board. Why limit to income? Use data to identify best EE return (likely low income)
* Needs a program design effort. We’ve seen that in other states, like FL.– Dave Gelman

1. **Rental program / Heat Pump Water Heaters as a DSM/EE Tool – Al Ripley**

* Great idea!
* Would this be offered when their old electric WH fails or is it marketed for all WHs?
* Opportunity to be fuel-neutral?
* Win-win is good.
* Who would be in charge of servicing these systems under the low-income rental program? Government program? Individual service provider? Housing Trust Fund?
* How about a rent-to-own program option for those who don’t want to rent only?
* How will this be funded? Any calc that shows actual impact?
* Could heat pump recipients opt-in to data tracking pre/post installation energy use?
* What is the cost savings to the customer of this program?
* Can this be viable at a state-wide level? Brian Callaway
* Will renting the units increase the cost to residents over the long term?
* Needs funding
* Useful approach. Program design and implementation commitment needed.
* What states have the HPWH program. IOUs?
* HPWH can also be used to cool a small home. Exhaust is cool air.
* Expand to other appliances – HVAC, etc.

1. **Increase Funding to the NC Housing Trust Fund – Al Ripley**

* Does NCHTF build EE multi- and single-family units now? How many?
* Who runds HTF? Never heard of it! Sounds good.
* This could be tiled to rec #13.
* Need dedicated fee-based funding source for HTF
* Would this cover the Heat Pump Water Heater rental program or would that require another fund?
* Can cities/local govts /non-profits contribute to the fund and draw from it on projects?
* Important to deploy this $ in a complementary way with utility and WAP $ for low-income homes
* This seems to have “major grant donor” written all over it. Or corporate taxes – Brian Callaway
* What are the boundary conditions for evaluating cost/benefit? Health, employment, etc.?
* Can you couple with hurricane issues and $?
* Could look at zero energy modular feasibility study. We’ve looked at this in a number of states – David Gelman
* Funding source? How much money do you need (to start)?

1. **Support creation of a NC-based Clean Energy Fund – Josh Burton**

* Green Banks can make a difference – Dave Gelman
* Agree that non-profit green bank is softest. Need to insulate it from legislative funding override (e.g. as we saw in CT)
* NY Green Bank is offering to seed new green banks!
* Gost impact of estimate new funding mechanism
* Can you get some feedback from banking / investment community?
* Oppose tiered rates that impost bigger costs on industrials
* Like the connectivity of recs #18 and 22. Raises value of both (i.e. moves up the list)
* “Green Bank” would need minimal paperwork or easy application process to attract low income applicants
* Some green banks have been started with settlement funds, usually at direction of counties.
* Any connection to rec #22? #17?
* Prior to creating NC CEF, need to identify demand, and demand creation strategies.

1. **Support expanded access to creative utility financing programs which can work across many sectors – Josh Burton**

* Tie to #18 and #22 – Dave Gelman
* Utilities have experience with on-bill payments and services
* Involve consumer protection advocates related to notice and terms. There have been concerns about home loans where PAYS is misunderstood / inadequate mortgage protections or lack of them.
* I hope to see from PAYS: 1) Evaluation to verify energy savings; 2) consumer protection for LI homes.
* Funding = > energy costs
* Which utility’s bill would house the on-bill charge?
* Connect to #22?
* Can you get feedback from small business?
* Couple with rec #14
* Need legislative / GC message/exception for munis to take up on-bill

1. **Flexible NC Agency Funding for EE Projects – Josh Burton**

* This could be very effective and very easy to implement since process already exists for universities.
* Opt-out privilege? Use opt-out savings?
* Allowing agencies and other institutions to capture these EE money savings and reinvest them would be fantastic!
* HB 1292 has an inherent problem in that utility budgets were not adjusted for price increase. Therefore, reserve fund shrinks as cost increases exceed energy savings. Reorganize / plan for this upfront – Lib McGowan

1. **State building pilot to standardize energy efficiency metrics and reporting practices – Bridget Herring**

* This recommendation and #1 go hand in hand
* Check out forthcoming report from E4 Carolinas and DOC
* How does this relate to recommendation #5?
* No another working group! This seems like a great topic for addressing in an EE Advisory Council (Rec #9)
* Good idea. Please note that DEQ/USI has been weakened in the past year (thru loss of USI Manager position). This needs to be strengthened, not weakened! Lib McGowan
* Are there other states that standardize metrics like the California DEER database?
* Include weather normalization
* Consider meter and submeter needs

1. **Establish fuel-neutral statewide energy efficiency fund to address energy burden and equity concerns – Bridget Herring**

* Like idea of need to capture all energy sources – not just electricity
* Opposed to EE fund
* Opposed to Carbon rider adds > costs
* Start with Natural Gas
* Innovative idea but seems like a political non-starter
* Rider or systems benefit charge?
* Combine with rec #18 (Clean Energy Fund)
* Yes! But ensure design is not regressive

1. **Include valuation of non-energy benefits in EE investments – Bridget Herring**

* How is this distinct from rec #14 to consider new criteria for EE program approval at PUC?
* Why does this require legislative action?
  + Legislation could require NCUC to do, or could be NCUC filing
* Not sure this rec would actually require legislative action
* #23 and #24 – university study / development. If easy, just do it, relevance/priority in roadmap not important.

1. **Cost-effectiveness testing / Utility EE programs – Kimberly Conley**

* Does this restructure RIM and cost/benefit analysis at NCUC?
* Obviously linked to #23. Need to work on standard methods across all of these proposals.
* What other states are doing this?
  + Look at National Standard Practice Manual (NSPM)
* Who pays for the consultant?
* Instead of paying consultants each year or program’s EM&V, setup energy savings like DEER database in California to have benefits for easy C/B analysis.
* Interesting models for pre-docket stakeholder processes by PUC in a PUC ADR Paper (Ari Peskoe, 2019) – Kate Konschnik
* Similar to other recommendation
* NCUC could adopt Nat’l Standard Practice Manual w’out much process (cheapest)
* Roll in with #23

1. **Required / mandatory Energy Efficiency Resource Standard – Cindy Register**

* ACEEE says this is the single most effective policy to drive EE
* Can this be fuel-neutral?
* IOUs and large customers would oppose a mandatory EE standard. Adoption is threatening on many levels – Kevin O’Donnell
* When will IOUs become COUs (customer owned utilities)? Before or after the climate changes? – Brian Callaway
* This will add cost to municipal and co-op rate payers unless outside funding is provided.
* Oppose public benefits fund to support rider > costs
* Oppose mandatory EE standard
* Would baseline be adjusted for opt-out?
* Investor-contributions to EE? Vs. rate-payer rider
* Require opt-outs to report EE and do M&V
* Include Natural Gas (#22)
* Munis are already providing energy audits to C&I and residential customers. So, how do you capture work that has already been done?
* Love the idea of EE targets for co-ops and munis. Important to help them launch program. EE utility or DEQ could do so.
* NC utilities fall behind utilities in other SE states on EE, and REPS EE carve-out has not been an effective policy driver. Separate EE standard is needed.
* Cost effectiveness of mandatory EE
* Makes EE a priority!

1. **Establish minimum EE Goals within current REPS Program – Cindy Register**

* This seems more feasible (than # 25)
* Munis are currently meeting REPS compliance. Additional goals will add costs to muni rate payer.
* Can we soften this to create incentive to meet 40%?
* Details of implementation will be crucial. My experience is that rebate programs are really hard to use, big barriers to contractors and building owners using programs. Bureaucratic, not transparent, doesn’t align with construction timelines – Melissa Malkin-Weber
* Should rec #26 occur before #25 or does just not matter?
* How is total EE savings measured inside muni? Does load growth affect total?
* Dominion is now faced with ramping up EE spending per 2018 state law (thru 2028). Maybe NC could get them to replicate new program models in NC – Mary Shoemaker
* Need muni / co-op inclusion!

1. **Download my Data Functionality – Daniel Brookshire**

* Would like CSV ability as well as XML
* Recommend service provider doing analysis. They are better than average consumer. But provider is likely to be expensive.
* Raw data for 99% of users is probably useless. Could NCUC require utilities to provide analysis too? Brian Callaway
* Easy to implement and could have significant impact for motivated customers – likely limited impact for low-income sector.
* Numerous software companies (NC-based) are working to make data analysis more accessible – Brian Callaway
* Home energy consumption survey in conjunction with home energy report. You could figure out why homes are high and low.
* Doesn’t most large utilities provide utility bill history when customers login to their accounts?
* Working with water and sewer agencies is very tough due to non-standard practices within every community – Brian Callaway
* How does this fit into Duke’s Grid Mod plan? Could fold in IT infrastructure updates alongside AMI rollout in grid mod. These feel complementary.
* Isn’t there technology that allows customers to access info in real time (i.e or with a 15 min delay)? I so, why not have that objective?
* Are there individual privacy issues that would need to be addressed (so 3rd party can look)?
* Water “split out from other)
* How about capturing propane and fuel oil provider data too?
* Can we add improving home energy comparison report currently provided by Duke E? IT’s not useful.
* Opportunity to make aggregated data public? Utility as centralized data bank or third party? Connect to 30, 31 and 32?
* The data should be available in a format that allows consumers to use off-the-shelf devices or apps, etc., that are developed for Green Button-type format NOT NC-specific or utility-specific.
* Data access for customer should come from all utilities.

1. **Establish Database of Rates for all NC Electric, Water, and Natural Gas Utilities – Daniel Brookshire**

* CSV as well as XML
* Utilities should run least cost rate structure choices annually. Currently done by request.
* Will consumers use? What %? Service provider likely a better user, but that will cost $$$
* NCUC Public Staff collects rate schedules – have online library?
* Pairing the database with an interactive calculator tool would be nice.
* This would be greatly beneficial to customers with buildings in multiple locations!
* Hurts rural income, low wealth communities and systems who have higher rates! Must be paired with low-income / wealth equity solutions to avoid GAP increase?
* There are apps in other states that put info together re: rate and usage, right? Is that the approach?
* Seems like a decent private sector business opportunity for an EE API – Brian Callaway

1. **Continue to evaluate the Automatic Energy Data Transfer – Daniel Brookshire**

* Can we quantify “benefit” of data?
* The lack of this capability now is a major problem. This rec is REALLY important – Melissa Malkin-Weber
* Plan for automatic energy data transfer that uses a format that allows consumers to use Apps off the shelf.
* This is especially important to commercial and institutional customers with multiple meters.
* Research what are EDI standards? Duke has some they provide on request? $?
* For all Green Button items, can you use the XML with other providers? I.e., is this proprietary? Connect with 30, 31 and 32.

1. **Collect existing data on energy use, energy savings, and EE measures in NC – Kate Konschnik**

* Universities participating in Appalachian Energy Summit got a start at doing this with help of Remer (?) Hutcheson when she was with DEQ. Needs someone to wrangle the reporting – Lib McGowan
* Needs meters and sub meters in state and local government buildings
* GRITS is a dashboard similar to this, but requires subscription if you want to go beyond minimum free level – Lib McGowan
* This feels the same as rec #21. How are they distinct?
* DEQ’s USI team has been weakened by loss of manager position. It needs to be beefed up to support this (and existing USI customer service) – Lib McGowan
* Indicators for underserved markets – income, household members per sq.ft., size of business
* As stated, there seems to be need for a thorough approach to data. A taskforce on/with the EE council? Brian Callaway
* How is this funded and enforced?
* Combine 27, 28, 29 as part of 30 or comprehensive “data” recommendation
* Should this and other data recommendations come before other recommendations?

1. **Establish an online data repository for energy efficiency metrics – Kate Konschnik**

* This is second data repository being suggested. Need to assess economic value of each, as precise as possible.
* Love this! Think KY’s Commonwealth Energy Management System (CEMS) does this. I know they do extensive data collection, but not positive about public display.
* Third party “host” would be better than state agency – less potential for it being killed when politics change.

1. **Expand the energy savings data repository to include voluntary reporting – Kate Konschnik**

* Commercial building energy disclosure regulations (done in some cities)
* If not Portfolio Manager, statewide XML/database solution for universal third party input and access.
* Opt-in as part of utility-funded improvements?
* Portfolio Manager can be hugely cumbersome for very large organizations with hundreds of buildings. Please don’t require – Lib McGowan
* This should be connected to EEU (Rec #12) to leverage this information
* Lots of ongoing IT and data analytics responsibilities involved in this …. This may make sense at a university.
* To be effective, must be storytelling
* Mention hurdle for anonymous reporting for industry for proprietary info

**Parking Lot**

* Need statewide hotline to direct any NC customer to applicable rebate/incentive programs (>61 programs in the state)
* Major themes:
  + You can manage what you don’t measure
  + Reward utilities for EE/DSM – not all sticks, carrots, too!
  + Put it on the ground – enforcement, education, reporting
* PACE? Need legislative changes (See Ryan Miller)
* Allocate NC Education Lottery $$ to school EE projects