New Jersey Zero Energy Buildings Meeting Minutes

4.21.2021, 1:00 – 2:00 pm

Attendees

- Kai Palmer Dunning
- Moses Riley
- Darren Port
- Anne-Marie Peracchio, NJ Nat Gas
- Ben Adams, McGrann Associates
- Christine Schell, NJ DEP
- David Hattis, Consultant to Rutgers Center for Green Buildings
- Doug O'Malley, Director Environment NJ
- Edward Clerico, Meritus Natural System Utilities CEO
- Eric Miller, NJ Energy Policy Director NRDC
- Ezra Houseman, Consultant to Rate Payer Council
- Helaine Barr, Department of Env Protection
- Jacob Alder, Rate Payer Council
- Jen Souder, Rutgers Center for Green Building
- Jerry Ryan, EE Tech Manager at NJ Nat Gas
- Karl Hartkopf, DEP
- Kyle Holder, NJ Buildings Association
- Matthew Rivas, DEP
- Myrrh Kaplan, Skanska U.S.
- Paul Orlando, NJ DEP
- Ray Cantor, NJ Business and Industry Association
- Rob Austin, NJ DCA
- Rupa Deshmukh, NJ DEP
- Trina Malik, Nature Conservancy NJ
- Victor Viscomi, PSE&G
- Robin Murray, Architect Private Practice

Welcome and Introductions

- Goals: share initial results of survey, discuss key findings and trends and important takeaways, and determine how these will guide the development of the ZEB roadmap

Overview of Survey Results

- 62 results so far
    - Majority from commercial construction, followed by architect, NJ PAs and Utilities, State Agencies, Environmental Organization, RE/EE Company
- Building Energy Code Measures: Importance
    - EE and Electrification Updates to existing buildings subcode
    - Expanded energy code training opportunities
    - Zero energy code adoption timeline
    - Legislation to expand code adoption opportunities
    - Electronic Permitting/Virtual Inspection Capacity

- Building Decarb Measures Ranked
    - Lifecycle cost analysis for ZEB
    - Expansion of Utility incentives for performance, electrification tech, and weatherization
    - Building Energy Performance Standards (BEPS)
    - Research and analysis of grid impacts from building electrification and electric vehicles
    - Research and analysis on the existing building retrofit market
- Greatest Barriers to Implementation
    - Legislation to expand code adoption opportunities
    - Energy efficiency and electrification updates to the existing buildings subcode
    - Energy efficiency and electrification funding for LMI communities
    - Expansion of utility incentives for whole building performance, building electrification tech, and weatherization
    - Funding for zero energy building pilot programs
- What is most feasible for rapid implementation
    - Expanded energy code training opportunities
    - Electronic permitting/virtual inspections capacity
    - Energy efficiency workforce training programs
    - Market research on building electrification tech
    - Research and analysis on the existing building retrofit market
- Which measures referenced are you least familiar with and want to learn more about? We will weave these into future meetings
    - Code attribution for utilities
    - Grid interactive efficient buildings
    - BEPS
    - Research and analysis of grid impacts
    - Voluntary stretch codes
- Familiarity with Code Adoption in NJ
    - Majority were somewhat familiar
    - Resources needed to gain better understanding:
        - Newsletters, webinars, infographics, best practices in other states
- Stretch Code Adoption Timeline: vast majority want this next code adoption cycle
    - Reasons to NOT adopt a stretch code: no mechanisms for stretch code incentivization, there should be more of a focus on existing homes and buildings
- Top Barriers to Code Adoption/Compliance/Enforcement
    - Adoption barriers: industry resistance and inertia
    - Enforcement: workforce (code officials), not enough training or support
    - Compliance: enforcement mechanisms, workforce training
- Biggest challenges to designing and building to higher standards
    - Industry apprehension

  - Low consumer demand, concerns about upfront costs
  - Lack of product options/availability
  - Knowledgeable contractors, installers, designers
- **Question, Ezra Houseman: have you looked at how different respondants responded to same question?**
  - **Kai: Yes, we have pulled this out and as we finish analyzing more we will share all of the analysis and data with you.**
- Zero energy buildings leverage:
  - Demonstrate lower life cycle cost and better performance through case studies and marketing
  - Environmental impacts
  - Energy and utility savings
  - Promoting non-energy benefits
- Code or building-related education opportunities
  - Awareness of utility and NJCEP incentives
  - Model code webinars and workshops
  - Cost impacts
  - Building electrification technologies
  - Demand response and grid benefit
  - Electric vehicle infrastructure
  - Automated load management systems
- Darren, NEEP, Observations:
  - In the future, breakdown of respondants by type would be interesting, perhaps and equalization between professions given disproportionate number of builders.
  - Regarding stretch code incentives: 8 states in the region have stretch codes, only 2 have statewide incentives (MA through green communities, RI has utility incentives) but other 6 do not outside of additional technical assistance (DC).
  - Kai: local municipalities adopt stretch codes because it helps them achieve their own climate or decarbonization codes
  - **Question about stretch codes: what exactly are we talking about?**
    - **Stretch codes are generally 10-15% more energy efficient than base code. Only 1 zero energy stretch code in the region (DC), though many (MA, ME, NY) are looking into it, and the path taken in NJ (whether zero energy or a stepped approach) will be decided by stakeholders.**

Guided Discussion: Survey Results

- Robin Murray: was just on a webinar, Who's Delaying Climate Action in MA? Some interesting results on what is delaying radical codes forward
- **Comment:** looking at survey now I am interpreting questions differently, so we may be reading more into things than we should be.
  - Later today and in future meetings we will discuss these issues more in depth

- **What are best next steps for this group?**
    - **David Hattis:** last update there were two proposals related to electrification preparedness: EV in comm/res, electrification in res. Both were approved in 2021 energy code, but appeals took them out, the reason; not consistent with stated intent of energy code. Seattle has different intent for their energy code, so perhaps this is something we could consider doing with ICC or in NJ, crafting a broader statement of intent.
    - **Darren Port:** 4 proposals were taken out, electrification measures, EV charging, electrical outlets next to gas connections for future transitions, pilot lights. Withdrawal of water heating provision was preemption issue. Intent of code: do these belong in IRC, electrical code, where?
        - Regarding intent: is decarbonization directly linked to health and safety, and therefore could you say the intent of the UCC or energy code adoption in general is about reduction in carbon?
- **Christine**: is Rob from DCA on the line? I don't fully understand code adoption cycle. Current legislation being considered would require electrification in buildings. What is the cycle, how long would it take DCA to do that, and would it be easier for DCA to also have legislation that also tells you to do a stretch code at the same time?
    - **Rob**: can argue intent all you like, UCC adopts model codes, can fall back to previous standard if we wish, we just can't go making stuff up (this all decided in 1975). There has to be precedent. Scope of energy code states that it is supposed to conserve energy and EV charging increases energy use in building. This isn't in a model code for us to adopt, so we can't adopt it unless legislation changes, which may happen. NJ is a home rule state, having a uniform code creates consistency and was intentional. 2021 IECC will raise efficiencies by 8-14% which will be an engineering construction challenge.

Concluding Remarks and Next Steps

- Please fill out poll if you haven't already: https://www.surveymonkey.com/r/ZEBroadmapsurvey
- May schedule additional meetings if stakeholders are interested, we will follow up
- Roadmap development continues, we will follow up soon!