IECC/DGC Energy Committee Hearing Agenda # 10
July 26th, 2022
2 p.m. – 5 p.m.
City and County of Denver (via Zoom)

1. Roll Call – 20/31 Committee Members in attendance– Quorum achieved

<table>
<thead>
<tr>
<th>Committee Member</th>
<th>In Attendance?</th>
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<tbody>
<tr>
<td>Aaron Esselink</td>
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<td>Adam Lyons</td>
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<td>Allen Yanong</td>
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<td>Antonio Navarra</td>
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<td>Bill Rectanus</td>
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<td>Bryan Kazin</td>
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<td>Carol Pafford</td>
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<td>Chuck Kutscher</td>
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<td>Chris Parr</td>
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<td>Curtis Underwood</td>
<td>Cannot attend</td>
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<tr>
<td>Chris Spelke (ONE VOTE)</td>
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<td>Ashleigh Wheeler</td>
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<td>Christy Collins</td>
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<td>Chuck Bartel (Danny Boncich as sub)</td>
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<td>Courtney Anderson</td>
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<td>Elizabeth Gillmor</td>
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<td>Eric Browning</td>
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<td>Jamy Bacchus</td>
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<td>John Burns</td>
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<td>John Dutch</td>
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<td>Jeff Crowe</td>
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<td>Ken Urbanek</td>
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<td>Laura London (ONE VOTE)</td>
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<td>Collin Anderson</td>
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<td>Linda Morrison (ONE VOTE)</td>
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<td>Eric Rader</td>
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<td>Mike Walton</td>
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<td>Mark Rodriguez</td>
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<td>Nathan Kahre</td>
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<td>Nate Huyl er</td>
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<td>Paul Kriescher</td>
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<td>Paul Schaffer (ONE VOTE)</td>
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2. Voting of key proposals for IECC/DGC

Residential

a. #67 Minimum Renewables
   - Public Support:
     - Maggie Thompson: City council and Mayor have made climate change a top priority. We know in order to meet the goals, we need new homes to be highly efficient and electric. Please amend this proposal to have a stronger electrification component to bring to city council.
     - Jonny Kocher: Echoing what Maggie said, RMI has reservations on natural gas still being allowed in new buildings. Please amend this proposal to be stronger on electrification.
   - Public Opposition: N/A
   - Committee Questions:
     - Paul Kriescher: Potential to miss an opportunity here to strongly encourage high efficiency electric heating and water heating. I have drafted an amendment to if a home were to include renewable energy and include all-electric space heating and water heating, should have a lower requirement to include renewable energy on their homes when compared to a natural gas home. If we don’t address this, we are just kicking the can down the road.
       - Robby Schwarz: I don’t disagree with Paul’s comment, but just want to point out the first exception is set up to do what Paul is describing.
     - Mike Walton: Sizing requirement - how would we verify calculations?
       - Robby: Renewable energy no less than 2.4 KW/floor area of the dwelling unit, should be a standard way to create consistency on the construction documents.
       - Mike: How would the designer calculate that?
         - Robby: The system size is the requirement using that formula.
         - Paul: someone doing a energy rating should be able to use that to calculate the renewable energy or use Xcel energy standard tool? Was there a requirement to do modeling?
           - Courtney: It’s not about the size of the system, it is about the output. Could come from a policy clarification. Site constraints need to be considered.
           - Carol: Not familiar with calculating the input, outside our area of expertise.
         - Elizabeth: Change to be a little more residually
friendly. kWh/yr is more complex as you need to work through PVwatts. Suggest conveying 0.7 kWh/year to a specific area that way no one has to do the calc.

- Elizabeth: 0.7 kWh/year- where did that amount come from?
  - Courtney: Aligning with 10% annual energy consumption.
  - Paul: Do you know what was used as the reference?
  - John: For a flat roof, 1500-1800 kWh /year. Just under 1 kW of panel, keeping requirement low, if you’re getting people to do it, they will likely do more like 2-4 kW/hr. Agree with simple sizing PV capacity/sqft.
  - Elizabeth: When the green roof ordinance was converted to the green building ordinance, which now has that your solar needs to cover a certain area. 1400 kWh /kW, Apply the same metrics across the board.
  - Christy: Support aligning the two GBO and IECC.

- Bill: kWh/yr is a relatively simple thing to do, so I don’t think that will be a huge challenge for the building industry. What is going to give the greatest ability to meet the code. There are a lot of people that have their hands in the design and the roof form is something that everyone wants to put their finger on. I think kWh/yr is better so there is the ability to select the correct panel.
  - Christy: We have the square footage requirements and the kwh, so that can be worked out.

- Chuck: PV Watts is easy to use and it’s free. I would caution if we come up with a rule of thumb for placement of the panel. Would encourage electrification first.

- Carol: 25-30% of the PV proposals come from not local, small companies, will likely not be able to use PV watts or know about it

- Mark: Have a lot of experience in CA- they are based on kwh/sqft. It may make sense to stay in alignment. Typically the designer gets a HERS rating. The lang in CA talks about where to place the renewables, may be worth including.
  - John: Mark is right- CA regs are Kwh/sqft as well as snow loads. I don’t think may 2000sqft would put on just 1 kwh. It is a way people to do PV without setting strict capacity requirements.

- Public Rebuttals: N/A
- Committee Discussion:
- Motion to make an amendment:
  - Paul: Proposing if natural gas, then proposing closer to 50% renewables. 10% for all-electric. If you don’t want to electrify then you need to invest in solar.
• Eric: Exception needs clarification on the section references.
• Mike: Prescriptive points are modified, will this disalign the other compliance paths?
  • Paul: Did not think there was much of a los with the ERI score.
• Mike: Substantially changes renewable requirements, what about space requirements?
  • Paul: If using 300 sq ft of roof area on a 600 footprint, there should be substantial room to meet the load.
  • Elizabeth: Still extremely achievable. Will need to work a little harder to keep gas, similar to commercial buildings. I don’t think a project will be able to meeting exception 4.
• Courtney: Still allows gas fireplace. Need to change exception- R408.10.5 and R408.10.4 to treat both space heating and water heating.

• Chuck seconds motion
  • Eric: From a user perspective, there are still too many sections reference with “and” and “or”
  • Elizabeth: are you open to adding square foot of solar array in addition to kWh?
    • Paul: I’d welcome those changes to make it easier for people that this would be new to.
  • Chuck: Strongly support this – I thought the public comments made really good points as it strongly encourages using the all-electric exception. Avoids decades of carbon emissions.
  • Elizabeth: 1400kwh/kw, every 80 sq ft takes 1 kW= 0.12 sq ft of panel per conditioned floor area of dwelling unit. Add as an option.
  • Chuck: I don’t know that we need to put that requirement in there.
  • Eric: Which sub sections are intended to go together here?
    • R408.8.2 and R408.8.3 are together for space heating
    • R408.10.2 – 5 creates options
• Vote: 10 for, 3 opposed, 4 abstaining.
  • Motion Passed to amend.
• Motion to approve as amended.
  • Mark: Would add another exception based on international code level to include shading.
  • Courtney: Should not be an exception, put in the body of R404.4.
  • Elizabeth: Appendix RB- Areas of the roof that are in partial or fully shade for 70% of daylight hours annually should not be required to meet this requirement. – This does set it up to be required to do comply with one of the other exceptions.
• Vote: 13 for, 0 opposed, 4 abstaining.
Commercial
b. #6 C406

- Public Support:
  - Mark Jelinske: Was on the working group. I like where it ended up, just a couple typos.
- Public Opposition: N/A
- Committee Questions:
  - Elizabeth: Did we get in the freeze protect?
    - Ken: Was in regard to section 403, not this section.
    - Elizabeth: I think it makes sense to align those two.
    - Mark: Came to the conclusion that it was not needed since this is space heating. It’s very minimal what is needed for freeze protection.
    - Elizabeth: Plenum is a space and adds redundancy just to cover all
  - Ken: Did we vet out the exception 1 under other systems that can run at that COP level at 5 deg.
    - John: The feedback was that there were less products. With the NEEA database does call out a PTAC unit that can meet that requirement.
    - Ken: Since it’s option, I don’t think it’s too much onerous.
    - Katrina: By 2025, there may be more products available.
  - Motion to amend 406.12 to add exceptions 4 and 5 from 403 (proposal P40)
    - Ken: Keeps it consistent and clarify and add clean up of typos.
  - Vote: 16 for, 0 opposed, 0 Abstaining
- Motion to approve as Amended:
  - Elizabeth: Very happy with where it landed in the quest for electrification.
  - Vote: 16 for, 0 opposed, 0 Abstaining

Meeting Adjourned at 4:05pm