

# 2022 Denver Energy Code - Training Q&A

## Commercial Performance 6/7/2023



Question	Answer
In many cases electrification results in higher utility bills for years to come. Are there resources to help offset that added cost as electrification becomes required. This will proportionally impact low income communities and communities of color and could have an impact for decades.	Utility costs for affordable housing are a concern for our under resourced community. Denver prioritizes highly efficient buildings, so the energy load of the building or home is reduced. The Denver Energy Code incentivizes efficient equipment such as cold climate heat pumps because these are 200-300% efficient. Solar garden subscriptions are available for households at 80% AMI or less. These are donated onsite solar with capacity assigned for individual households and administered in Denver by Energy Outreach Colorado. <a href="https://www.energyoutreach.org/community-solar-gardens/">https://www.energyoutreach.org/community-solar-gardens/</a>
What's the link for the all the previous webinars? I believe they said that we can get the recordings for each one?	Hi John, we are working to upload the trainings and the Q&A. These links will be sent out in the next 1-2 weeks.
Would a building that is one story commercial space with two stories of R-4 above it be commercial or residential?	C101.4.1 requires each portion to be separately considered and meet applicable provisions of the commercial or residential provisions.
Would a property that has a gas fired generator to provide power for all-electric comfort heat during a power outage. rather than life safety functions be considered All Electric?	<i>Answered Live (see recording)</i>
Do the Energize Denver EUI targets for multifamily projects have target adjustments available for outdoor pools?	Yes, the Energize Denver EUI targets include adjustments for outdoor pool. See Table 21 for these adjustment of this EUI target reference <a href="https://www.denvergov.org/files/assets/public/climate-action/documents/energize-denver-hub/ed-technical-guidance-nov-2022-with-alt-text.pdf">https://www.denvergov.org/files/assets/public/climate-action/documents/energize-denver-hub/ed-technical-guidance-nov-2022-with-alt-text.pdf</a>
If the actual building performance is worse than modeled target, would the modeler be hold accountable?	The modeling for energy code compliance is specific to demonstrating compliance. All performance paths include some parameters that are defined in the 2022 DEC or other compliance modeling references and may not reflect the actual building use. Therefore, it is not appropriate to hold the modeler accountable for differences of the occupied building and modeling for compliance.
Can a project with a pool that is heated with a gas fired boiler still qualify for All Electric status?	A pool heated with a gas-fired boiler does not qualify as an All-Electric Property
should you use the nameplate capacity or the "performance at altitude" capacity used for determining HVAC Commissioning requirements?	The nameplate capacity should be used in determining HVAC commissioning or economizer requirements.
So ASHRAE 90.1 2019 mandatory requirements are only applicable if the performance path is picked? If the project team chooses prescriptive path, 90.1 would not be applicable?	If a project team uses the prescriptive path, ASHRAE 90.1-2019 is not used. The ASHRAE 90.1-2019 mandatory requirements only apply to performance paths.
There are some significant differences between 90.1 2019 and IECC 2021. What happens when they are different? Like the air leakage test procedure and Cx requirements.	The 2022 Denver Energy Code for all paths use the same Denver-specific / IECC-2021 requirements for air-leakage test procedures and Cx requirements. The provisions that are the same in the performance path and prescriptive path are listed in C407.2. For instance, the C402.5 air leakage testing supercedes ASHRAE 90.1 5.4.3.
For appendix PT compliance, are there occupancy schedules that are required or should the modeler use occupancy to meet intended building operation?	Appendix PT defines occupancy schedule in the Denver Modeling Rules and Procedures. They are basically COMNET reference schedules. See this reference starting on page 5. There may be project reasons to also use schedules that differ as a separate modeling effort like checking Energize Denver Ordinance compliance, but not for Appendix PT compliance  <a href="https://denvergov.org/files/assets/public/community-planning-and-development/documents/ds/other-forms-and-guides/iecc/denver_modeling_rules_and_procedures.pdf">https://denvergov.org/files/assets/public/community-planning-and-development/documents/ds/other-forms-and-guides/iecc/denver_modeling_rules_and_procedures.pdf</a>
Would a building with a gas cooktop stove with a natural gas piping connection be able to be considered all electric building if the stove is not a permanently built in stove?	Assuming that there is permanently installed gas piping and utility connection, no, this does not qualify as All-Electric Property

Hi Linda - I assume the PV arrays can be modeled directly in the energy modeling software, not PV Watts, thus guaranteeing the same weather file is being used?	The PV performance can be modeled in the energy modeling software or a separate tool.
Are pools, outdoor lighting, and other exterior elements required to be modeled for all performance options?	Exterior loads are required to be modeled in performance options.
How do projects with purchased energy (i.e. district steam & chilled water) model offsite heating/cooling energy usage and report the correct site EUI?	The site EUI uses the same definition as the Energize Denver Ordinance and uses energy similar to a meter at the building. Including efficiency from district steam and chilled water gets into a gray area for source energy and is excluded.
How is Denver going to handle energy code compliance for offsite constructed modular projects where the offsite modular portion of construction is reviewed, permitted, and inspected by the State, not Denver?	Denver Commercial Building Code (amended IBC) Section 3116.3 defines the extent of what has to comply with the Denver Building Code, which is essentially any site-built construction. Often there is site-built podium construction that would have to comply with the DBC, but modular units above would not.
how about infrared heaters that are gas? Say like on a patio?	<i>Answered Live (see recording)</i>
Further to the offsite modular construction question, if the project utilizes a central boiler for DHW in the modular units (i.e. above a podium) and that boiler is considered site built (located under the podium for example), how does that boiler get modeled?	<i>Answered Live (see recording)</i>
My understanding is that the PNNL 90.1 Spreadsheet was only to act as a short-term/temporary stop-gap; to be replaced with a PDF'd schema later on, because the spreadsheet is time-intensive (e.g. "add row" in a spreadsheet is not intuitive from an automation perspective). Will you also move your DEC Tool spreadsheet to an automated schema-based PDF, automated directly from BEM Software with some scripting?	Yes, when updates are available they will be adopted. Automation is a modeler's friend! If a software provider would like to develop an automatically generated report following 2022 DEC protocol, please contact <a href="mailto:energy.review@denvergov.org">energy.review@denvergov.org</a> for approval