

**Act 47 Building Energy Code Study Committee
Meeting #6 Meeting Notes**

Department of Public Service, GIGA Conference Room, 112 State Street, Montpelier
and

Virtual via [Teams](#)

October 5, 2023

9:30 am – 12:00 pm

1. Welcome and Roll Call – Chair, Senator Chris Bray

a. **Committee Members:**

Chris Bray
Ted Brady
Jim Bradley
Chris Burns
Chris Company
Scott Campbell
Michael Desrochers
Bob Duncan
Kelly Launder
Matt Musgrave
Craig Peltier
Timothy Perrin
Matt Sharpe
Jason Webster
Sandy Vitzthum

Participants:

Andrew Brewer
Tom Bursey
Ben Civiletti
Ellen Czajkowski
Caroline Daniels
Ed Dumas II
Richard Faesy
Michele Farnham
Collin Frisbie
Josh Hanford
Karen Horne
Keith Levenson
Barry Murphy
Stu Slote
Peter Tucker
Scott Versey

b. Schedule of next meetings (9:30 – 12:00)

October 31 (in-person and virtual)

November 16 (likely just virtual, but will be confirmed)

2. Approval of Meetings #4 & #5 Minutes
 - a. Kelly moved to approve Sept 5 minutes
 - i. Approved
 - b. Kelly moved to approve Sept 12 minutes
 - i. Approved

3. "Cost-Effectiveness" Subcommittee Recommendations
 - a. Richard reviewed the recommendations from the 9/22/23 draft ([posted here on PSD website](#)):
 - i. Recommendation #1:
 1. Subcommittee met three times and came up with the proposed recommendations. We came to the consensus that we should continue calculating cost-effectiveness as we have been doing the last number of code update cycles. We look at a number of metrics (return on investment, simple payback) but are primarily driven by a "cash flow analysis". This takes the incremental cost of a package of measures that would meet the proposed code relative to the current code and the savings that would result from those improvements. If the annual savings are greater than the annual mortgage cost, assuming that the improvements are rolled into a 30-year mortgage, then the package of improvements passes. We did have some discussion and came to an agreement that we would use the interest rate and the fuel costs that are in place at the time of the analysis rather than trying to project what those will be at some point in the future. This past code cycle we also included an additional calculation for information only that looked at the social cost of carbon. Since this carbon calculation is called for the Comprehensive Energy Plan, we determined it should be included in the future for information only, but not be the basis for determining cost-effectiveness. We used a representative "typical" Vermont new home for size and areas and priced out each individual code improvement measure, then ran the home through a REM/Rate energy model to determine the savings. The analysis for both incremental costs and savings is between a home built to the current energy code vs. the new proposed code. The costs are adjusted for the new measures and net out the cost for the same measure from the current code. For instance, the 2024 RBES requires a ducted balanced mechanical ventilation system whereas the 2020 RBES requires a less expensive exhaust-only ventilation (EOV) system. The cost included for the 2024 system includes the full cost of the new system less the cost of the EOV system since it is already required under the current code.
 2. Kelly added that we did not include any incentives unless we were sure they would be around for at least three years and available to everyone statewide. Since this wasn't the case, for the recent code updates no incentives were included to reduce measure costs.
 3. Jason - Why include social cost of carbon as additional information that we don't need? His position is that including carbon accounting should not be part of the calculations since it's not used in the analysis. We don't need this information in the cost analysis.

4. Mike D. – He understands Jason’s position. He is running a cost of housing study including code impacts and is looking at it from a cost perspective. Is there an analysis about what energy codes add to housing costs? Are there amendments that go beyond the base code? He would like to include these energy code costs in the DFS housing study.
 - a. Richard to provide information from the LCAR filing to Mike D. (sent 10/7/23)
 5. Colin – Cash flow analysis is complicated and appreciates Jason’s help. People are not buying a house based on what the mortgage payments will be. We need to have real numbers and real values as the basis of decisions. Costs always seem lower in projections than in reality.
 6. Jim Bradley – Not just up-front costs but longer-term costs should also be considered including permitting. Need to look at costs of building science failures. There are more and more of these, so we need to consider the costs of doing things right up front. We should consider cost savings from building more durable, safe, and healthy homes. Insurance companies are watching. There is the chance they may leave the state if there are too many claims due to building science failures. Any cost-effectiveness analysis should include upfront costs that addresses future building failures. EIFS (Exterior Insulation Finishing System like Sto and Dryvit) had insurance issues. We only have two insurance companies in Vermont now.
 7. Senator Bray – We’re not going to sort this out now but can look to the specialized committee under recommendation 2 to help guide this for the next code cycle.
- ii. Recommendation 2:
1. Richard summarized that the subcommittee discussed a number of aspects to cost-effectiveness that should be considered by a group of experts that have expertise beyond energy code. We recommend establishing a new committee of energy, economic, and housing experts to research and address whether and how to best include the cost of carbon and non-energy benefits in building energy codes. Kelly had requested paying for this work in the new DOE grant to EFG. Richard will look into whether there is budget available to make this happen. (EFG will need to discuss with DOE to make work scope and budget adjustments that may be too late in the negotiation process, but will explore.)
 2. Craig and Sandy think that cost of carbon is really important to address and include.
 3. Craig suggests that the costs and benefits of building to higher energy codes need to be addressed in a policy framework discussion that looks at customer costs and savings but also includes the role that utilities and incentives can play in ensuring our homes are built to code.
 4. Sandy – This needs to include existing buildings and figure out the embodied carbon of our existing building stock as part of any future committee addressing cost-effectiveness.

4. Review and Discuss Report Outline and Committee Recommendations
 - a. Staff had circulated a [draft report outline](#) and then Sandy/AIA/VBRA modified that outline and provided a [proposed reformatted report outline](#) as an alternative. The committee reviewed the initial outline but considered Sandy's recommendations as part of that discussion. A revised report outline based on these discussions will be the basis for further committee review and the drafting of the report. The committee would like to see at least the recommendations by October 24 ahead of our next meeting on October 31 where that will be the focus of discussions.
 - b. Sandy reviewed her outline
 - i. The primary issue is that there is a lack of AHJ; this is the problem
 1. Lack of oversight over homes in VT
 2. Because there is no scaffolding, then this is the largest problem
 - a. Problem is lack of authority over buildings and construction
 - b. The harm is to Vermonters
 - c. Kelly is concerned about the phasing and framing of Sandy's version re. the "problem".
 - i. Concern that the causes and effects are not directly connected. The framing and assumptions that one causes the other is problematic.
 - ii. Original outline would be preferable.
 - d. Jason
 - i. The problem is that there is no scaffolding for codes in VT
 - ii. Everything else we talk about is underneath this entity that gets put in charge of single-family housing
 - iii. The legislature needs to get this point in the first two sentences
 - iv. This needs to be the top item
 - v. This is about consumer protection
 - vi. Everything else (training, compliance, code advancement) falls under this agency to oversee the framework
 - vii. The focus for the study should be establishing the AHJ
 - e. Matt M.
 - i. Can't support anecdotal findings
 - ii. We need to point to data and numbers
 - iii. When we get to the legislature, we need source of data supported by evidence
 - iv. Would support a residential study group but needs to have this report reflect the facts
 - v. Keep the report short and simple
 - f. Colin
 - i. We need "unity of command" so that one entity/agency owns it all so they can do the adjudication and interpretation
 - ii. Legislature needs to understand that we have a serious challenge in Vermont
 - iii. We will see more building science failures coming
 - g. Sandy
 - i. Look at examples and images as evidence of building problems
 - ii. AGA and OPR has some examples and data she has pulled together
 - iii. AIA is pulling together stories and examples to use in the report
 - iv. Doesn't feel that we need IRC now, but primarily an AHJ
 - h. Chris Bray
 - i. We need next steps without getting paralyzed

- ii. Address things going forward step by step
- i. Sandy
 - i. Other states have started with the authority
- j. General group discussion
 - i. EFG should consider the elements in Sandy's draft in revising the report outline
 - ii. Remember that the audience is the Legislature, so it needs to be succinct and to the point
 - iii. Refrain from drawing conclusions without evidence and data
 - iv. Consider phased recommendations over time
 - v. Focus on the lack of central authority as the highest level issue
 - vi. Build a scaffolding that might eventually support a building code in addition to an energy code in the shorter term
 - vii. Consider workforce training as a key focus
 - viii. Model this report on OPR's "Sunrise Report"
 - ix. Frame it as "issues" rather than "problems"
- k. Jason
 - i. Make sure to capture the highest level issues in the first two sentences of the report
 - ii. The top issue is that we have no scaffolding to support our codes
 - iii. Everything else (training, interpretation, compliance...) comes in underneath an entity in charge of supporting codes
- l. Chris Bray
 - i. All sources in legislative bills need to be referenced, so keep that in mind
 - ii. Please reach out to other groups who may be interested in follow on discussions about a statewide building code
- m. Collin
 - i. We need unity of command for codes
 - ii. One entity needs to own it and be in charge
 - iii. He thinks we are going to see many building failures coming
- n. Sandy
 - i. OPR has recorded 9 consumer complaints since April, mainly for fraud not compliance
 - ii. AG's office has 270 building complaints noted
 - iii. But there is no central place to record these issues so we don't have good data
 - iv. She is trying to gather case studies
 - v. Naming a central authority does not mean needing to implement the IRC now. That can get phased in over time. The priority is naming the AHJ.
- o. Chris Bray
 - i. Do we need a statewide building code? There was general head nodding.
- p. Matt M.
 - i. Needs more evidence before moving forward. We can't make some of these widespread building failure accusations without evidence to back it up.
 - ii. Needs more discussion with other groups not at the table before determining the need for a building code, but is open to it
 - iii. Would support setting up a study committee to address this question about a statewide building code, but is not prepared to make a decision now

- iv. Builder Registry has not even really gotten started yet
- v. Moving to a building code now feels premature, but would be open to a future study committee
- vi. Keep the report short and simple
- vii. Give the Builder Registry time to roll out and be put into place before saying we need more.
- q. Scott
 - i. Incorporate some of Sandy's reformat structure
 - ii. Move to the "recommendations" starting with #8
- r. Chris Bray
 - i. Need more meetings to move this forward
- s. Scott
 - i. Reviewed section 8 Recommendations
(See outline with comments below)
 - ii.
- t. Jason
 - i. We need to amend the RBES enabling legislation if we don't adopt a building code so that we're not forced to amend RBES with every new IECC version
 - ii. No other state has adopted more than the 2015 IECC without a building code structure in the state
- u. Colin
 - i. We need to prioritize unity of command under a single AHJ
- v. Matt M
 - i. Agrees that we need to name a single AHJ
 - ii. Consider an appropriation as part of the recommendation so that it's not fully dependent on user fees
- w. Jason
 - i. Most banks and towns hand out RBES information now
- x. Richard
 - i. Reminder that our DOE grant includes setting up a builder training certification with OPR for disclosure
- y. Scott
 - i. We are talking about requiring disclosure of having taken a training or not, not requiring the training itself
- z. Jim
 - i. Thinks that we should require builders to take the test to be listed as a minimal investment in meeting state law
- aa. Group discussions reviewing the outline
 - i. Include a check box on the Builder Registry that builders are aware that we have an energy code.
 - 1. We will need to work with OPR on how to include it.
 - ii. Consider an on-line database like New Hampshire's for filing applications up front and certifications upon completion
 - iii. We should try to minimize the filing burden on municipal employees by having a statewide database
 - 1. The PSD is working on updating their database now
 - 2. They would need a funding source if energy codes were required to be in an online database
 - iv. The RBES certificate needs a box that says "complies"

1. Kelly says when you sign the certificate you are attesting the building complies with RBES per the language on the certificate.

bb. AHJ Discussion

i. Mike D

1. This will need to go through the legislative process. There will be lots of details and testimony that will come out and need to be discussed in more detail than we should cover here. Suggests coming up with two or three different strategies and varying degrees of implementation for each one. Build the framework with different swimming lanes for each approach. For instance, if IRC doesn't get adopted, we still need to build a system for energy codes. He's not opposed to adopting the IRC, there just needs to be a study on it. The Vermont construction community is nowhere close to being able to comply with the IRC without a lot of training. There is already an energy efficiency module (2 hours) with all the existing licensure training courses. He feels strongly that regulating the single-family ownership market will be a real challenge. If DFS doesn't end up in this position, we need to consider a backup plan. The DFS is the logical place for the AHJ, but it won't be easy. You'll need to develop some options.
- ii. There was general appreciation for Mike's honesty and recognition that there will need to be some alternatives developed in case codes don't end up at DFS.
- iii. We will need to develop "gold/silver/bronze" options and timeline phasing for each since we need some options for moving forward.
- iv. Sandy had distributed AIA and HBRA charts with phasing over time. The first phase would be to name DFS as the AHJ, then PSD would work with them over time to phase in the details. The difference between gold and silver might be the speed of the transition.
- v. Scott is generally not an incrementalist. If we know where are going, we should plan to go there as soon as we can. But since this is really about scaffolding, we should at least name the AHJ then work to build that out. He is glad everyone has at least acknowledged that DFS is the logical AHJ, so the next task would be to fill out the sub-details.
- vi. Mike added that it has taken 18 months to just set up four positions for the rental housing inspections program, so we need to be aware of that timeline. Codes would be a multi-year build-out.
- vii. Could Efficiency Vermont, HERS raters and subs help in building out the AHJ capacity?
 1. Mike suggests including all the options in the report. He reiterated the Administration's concerns about cost and enforcement. Training of contractors will be key.
 2. Scott feels there could be huge upsides if Efficiency Vermont were positioned to support this effort. He knows they are hesitant about this role, but thinks there could be some real mutual benefits.
 3. Sandy thinks that the trade associations should run the trainings and certifications after DFS approval.

cc. Using third party entities to support code compliance

- i. There were concerns about cost.

- ii. Jason is also concerned about using HERS raters and cautions waiting to see how things are going in Massachusetts before jumping fully into HERS.
 - 1. Jason and Sandy think we should not limit compliance to performance-based HERS.
 - iii. The focus of third-party support should be helping builders comply with an educational focus rather than code enforcement/inspections.
 - iv. Matt M cautions about considering the cost of paying for these experts and the impact on housing costs
 - v. Jason suggests that base code should be state agency administered. Then anything above and beyond could be with the efficiency utilities including incentives.
 - dd. Trainings and the EVT Energy Code Assistance Center (ECAC)
 - i. These could both be rolled under the AHJ to allow for code interpretations that can't be made now at EVT
 - ee. Jason reiterated that we focus just on the base code and leave everything beyond base code to the EEU's and others, including any discussions about social cost of carbon in cost-effectiveness.
 - ff. Chris Company added that having a building code in other states has not closed down affordable housing, so we should figure out how they did it to ensure that we don't negatively impact housing costs here. But it's not all or nothing. We can figure out how to make this work.
 - i. Matt M noted that Act 250 is a primary driver of high land and development costs.
5. Paying for Energy Code Administration
 - a. (This discussion never occurred)
6. Stakeholder/Public comments
 - a. Andrew Brewer, Downs, Rachlin Martin
 - i. Affordability concerns. New RBES would bring \$18k-\$30k to housing costs
 - Note from Meeting #7 – this figure came from the code hearings and is a comparison of the costs of 2015 code built today to the 2023 code built today. Jason Webster can email the cost numbers.
 - b. Josh Hanford – League of Cities and Towns
 - i. Make sure to consider towns
 - ii. Concerned with the folks in the middle
 - iii. Some energy savings is great, but don't stretch too far.
 - iv. Affordable housing projects come with resources that can address energy efficiency and upper end consumers strive for high performance, but it's the folks in the middle we should be concerned about who don't have the means or resources to afford more efficiency.
7. Meeting #7 on 10/31/23
 - a. Will be voting on recommendations, so need full descriptions of recommendations by 10/24
 - b. Sandy would like to check in with EFG week of 10/9 to review progress
 - c. Scott will be away until 10/31
 - d. Final meeting on 11/16 to review complete draft report

- i. The full draft report should be out for review by 11/9
8. Adjourned at 12:02