Building Energy Code Study Committee Report Outline

1. Executive Summary
2. Findings (summary of the problems we are trying to fix)
    a. A systemic problem
        i. RBES is mandatory but compliance has been decreasing
        ii. Lack of residential building code and consequent lack of structure for administering energy codes
    b. Declining compliance while energy codes are getting stricter over time
    c. Improper moisture management leading to rising number of building failures and "sick" buildings
    d. Lack of participation in training[1]
    e. Lack of central administrative authority, with PSD developing and updated energy codes and DFS administering building codes
    f. Municipal authority is not clear
    g. Lack of documentation, with inconsistent filing of RBES certificates, no central database of building permits, and inadequate tracking of investigation and resolution of structural and health and safety problems
3. Introduction
    a. Energy code history and current status
    b. Enabling legislation of RBES/CBES (https://legislature.vermont.gov/statutes/section/30/002/00051)
    c. Past recommendations to promote awareness and compliance[2]
    d. Background on OPR builder registry (fraud adjudication; voluntary certifications)
    e. DOE grant applied for and approved to further this process
4. Explanation of the issues
    a. Effects of lack of awareness of and compliance with RBES and CBES
        i. Declining code compliance as energy code requires higher levels of performance (RBES)
        ii. Not fair to builders that follow energy code (not "level playing field") (RBES)
        iii. Customers, given option to adhere to code at slightly higher cost, often choose not to (RBES)
        iv. Building science failures - Standard practice typically includes more insulation and air sealing than a decade or two ago, which requires sophisticated understanding of moisture management and indoor air quality
    b. Causes of lack awareness of and compliance with the RBES and CBES
        i. Lack of unified authority for residential and commercial
        ii. Lack of residential building code and resulting building science issues. Integration with energy code
        iii. Lack of consistent builder training
        iv. Other

[1]Also, could discuss lack of a requirement for continuing education/training or a lack of general building science training.

[2] Could reference Vermont Energy Code Compliance Report (2012); VT Code Compliance Recent Initiatives 12-5-13.

5. Background on Committee
    a. Act 47
        i. Three stated objectives in Act 47:
            1. Consider and recommend strategies to increase awareness of and compliance with the RBES and CBES, including the potential designation of the Division of Fire Safety (DFS) in the Department of Public Safety as the statewide authority having jurisdiction for administration, interpretation, and enforcement, in conjunction with DFS' existing jurisdiction, over building codes;
            2. Evaluate current cost-effectiveness analyses for the RBES and the CBES, whether they include or should include nonenergy benefits such as public health benefits and the cost of carbon, and how that impacts the affordability of housing projects and provide recommendations; and
            3. Assess how the building energy codes interact with the fire and building safety codes.
            4. Explanation of why we address third charge first below
6. Assess how the building energy codes interact with the fire and building safety codes
    a. Public buildings
        i. Div of Fire Safety directive in statute (description, citation)
    b. Owner occupied single family homes
        i. Lack of residential building code (compare to other States)
        ii. Lack of authority to administer for building code and other impediments to implementing
            1. Impact on owner-built or owner-G.C.'d construction (reference other regs affecting this group: smoke/CO alarms, septic/sewer, other?)
        iii. How energy code interacts with building code (e.g. roof venting vs. highly insulated "hot roof"; combustion air requirements vs. air-tightness standards)
        iv. Effects of lack of unified authority (no ordination, no clear chain of authority, etc)
7. Consider the designation of the Division of Fire Safety (DFS) in the Department of Public Safety as the statewide authority having jurisdiction for administration, interpretation, and enforcement
8. Recommended strategies to increase awareness of and compliance with RBES and CBES
    a. Specify if there is consensus on recommendations
        i. If there's not full Committee agreement, dissenting opinions could be included here
        ii. Will note for each whether a legislative change is needed
    b. 6 strategies for increasing code compliance (if agreed to by a consensus – not necessarily unanimous -- of the committee)
        i. Recognize that energy code is mandatory, and that a mandatory residential energy code without a residential building code is not rational or sustainable long term.
            1. Consider amending CBES/RBES update cycle, recognizing the present compliance gap and that updates beyond net-zero-ready will be technical rather than higher standards.

ii. Use easily available avenues to raise awareness in industry and with consumers.
    1. Design bill stuffers for municipal property tax bills and utility bills.
    2. Update OPR's Contractor and DFS's Trades listing webpages.
iii. Add minimally invasive requirements to increase awareness.
    1. Use other existing state and municipal interfaces, such as zoning permit, septic design and sewer hookup applications, to emphasize RBES/CBES requirements.
    2. Require Contractors (OPR) and Trades (DFS) to disclose at registration and renewal whether they have obtained training and continuing ed in RBES/CBES appropriate to their trade.
iv. Improve bureaucratic supports.
    1. Ensure compliance certificates are easy to understand, include relevant details, and are easy to file in a centralized location.
    2. Identify and update as needed a central database for RBES/CBES compliance certificates, publicly available and searchable.
    3. Identify locus and role for AHJ: code administration including promulgation and single point of contact for interpretation, conflict resolution, variance determination, plan review, site visits, municipal support, etc.
    4. Develop mechanism for EEUs to support energy code compliance in order to justify builder training, support and meaningful incentives.
    5. OPR, DFS design and implement continuing ed program in RBES/CBES and general building science appropriate to their trade.
v. Increase close support of builders.
    1. Engage third-party energy consultants (energy auditors and consultants, HERS raters, Weatherization staff, HEAT Squad, etc.) to provide direct support to builders.
    2. Implement project-level support using energy consultants to —
        a. provide plan review and/or meeting prior to construction;
        b. do site inspection with blower-door test at critical junctures during construction. Initially, new contractors would get touches at close-in prior to insulation, at insulation prior to interior wall cladding, at substantial completion;
        c. assist owner-builders with consultation, advice and filing of compliance certificate.
    3. Integrate existing EVT Energy Code Assistance Center and EEU builder trainings.
    4. Utilize DOE-funded Vermont Energy Code Administration Project grant to EFG to support these efforts, including a full-time “energy code circuit rider” position.
vi. Coordinate with EFG and the DOE grant in support of the Vermont Energy Code Administration Project to develop and implement a longer-term plan.

c. Timeline of recommendations
d. Potential costs of the recommendations

9. Other strategies discussed
    a. Enforcement mechanisms
    b. Title impact
    c. Full builder licensure (credentials or competency testing)
    d. Existing certifications (LEED, NGBS, EnergyStar Home, Passive House)
    e. Certificate of Occupancy (implying state-required building permit)
10. Evaluation of cost-effectiveness analysis for RBES and CBES
    a. Inclusion of nonenergy benefits such as public health benefits and the cost of carbon and impacts the affordability of housing projects
    b. Recommendations of cost-effectiveness analysis methodology for RBES and CBES
11. Appendix
    a. Purpose/ logistics of Committee
        i. Six meetings. The first meeting was convened on July 14, 2023, and the final official meeting shall be held on or before October 31, 2023. Meeting minutes posted on PSD website
    b. Committee members
        i. List of committee members
        ii. List of Act 47 committee member requirements (or in an Appendix)
    c. Link to PSD website for: Committee meetings notes, pitches (could be a matrix of pitches), resources and research on other states, cost effectiveness PowerPoint