



ACT 151 BUILDING ENERGY
CODE WORKING GROUP
REPORT TO THE
VERMONT LEGISLATURE

November 15, 2024

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Acknowledgements

This report was primarily authored by Zack Tyler and Richard Faesy of Energy Futures Group for the Act 151 Building Energy Code Working Group (BECWG), based on the extensive research, input, discussions, suggestions, and drafting by the engaged BECWG members listed below in addition to those who testified and otherwise shared their expertise and information with the Working Group.

Working Group Members

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Jennifer Colin – Office of Professional Regulation

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List of Acronyms

AGC/VT	Associated General Contractors of Vermont
AIAVT	American Institute of Architects Vermont
BECWG	Building Energy Code Working Group
BECSC	Building Energy Code Study Committee
CBES	Commercial Building Energy Standards
DEC	Department of Environmental Conservation
DOE	Department of Energy
DFS	Division of Fire Safety
EEU	Energy Efficiency Utility
EVT	Efficiency Vermont
IBC	International Building Code
ICC	International Code Council
IRC	International Residential Code
NFIP	National Flood Insurance Program
NFPA	National Fire Protection Association
OPR	Office of Professional Regulation
OSHA	Occupational Safety and Health Administration
PSD	Department of Public Service
RBES	Residential Building Energy Standards
RECI	Residential and Efficient Codes Implementation
VAPDA	Vermont Association of Planning and Development Agencies
VBRA	Vermont Builders and Remodelers Association

Executive Summary

The Act 151 Building Energy Code Working Group (BECWG) was convened by the 2024 Vermont Legislature to address issues related to declining compliance rates with Vermont’s mandatory energy codes, known as the Residential Building Energy Standards (RBES) and Commercial Building Energy Standards (CBES).¹ Specifically, the Working Group was asked to examine three “charges”:

1. Recommend strategies and programs to increase awareness of and compliance with the RBES and CBES, including the use of appropriate certifications for contractors trained on the energy codes.
2. Develop plans and recommendations for a potential transition to a comprehensive program for the RBES and CBES at the Division of Fire Safety, including potential funding sources.
3. Consider whether or not the State should adopt a statewide building code.

The Working Group met five times between August and November of 2024 to address the charges above, review the recommendations in the previous Act 47 report, and compile the following recommendations detailed in. The Working Group voted on each recommendation and is reporting only on those that had a majority vote. Members of the Working Group with dissenting opinions are documented in Table 1; details associated with the rationale for dissenting opinions are provided in the RESPONSE TO LEGISLATIVE DIRECTIVE section of the report. Recommendations with a single asterisk (*) are carryover recommendations from the Act 47 report, recommendations with two asterisks (**) have been updated from the Act 47 report, and recommendations with red shading are those associated with legislative action.

The Working Group will continue its work and submit a final report to the General Assembly in November 2025.

¹ The terms “energy codes”, “energy code”, “RBES” and/or “CBES” are used interchangeably in this document, unless noted otherwise explicitly or in context of a specific discussion. Energy codes are a subset of building codes, which regulate all aspects of construction.

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Table 1: Summary of Act 151 Building Energy Code Working Group Recommendations

Recommendation	Next Steps (Initiate prior to 2025 BECWG)	Responsible Entity	Funding Source	Dissent ers
Charge #1: Recommend strategies and programs to increase awareness of and compliance with RBES and CBES, including the use of appropriate certifications for contractors trained on the energy codes.				
1.1. Establish a role for EEU's to play in supporting energy codes compliance. **	<ul style="list-style-type: none"> Establish a framework for the EEU's to claim savings for energy code compliance support EEU's could leverage available compliance information to focus support activities 	EEUs, PSD	EEUs	
1.2. Support OPR with the rulemaking process to establish voluntary specialty certifications for residential contractors that are registered in the OPR contractor registry.	<ul style="list-style-type: none"> Stand up RBES training and requirements for certification Stand up further training and requirements for certifications in building science and OSHA Respond to inquiries from OPR 	OPR	EFG's DOE Grant	VBRA, AIAVT, AGC
1.3. Support OPR for website improvements	<ul style="list-style-type: none"> Investigate the feasibility of filtering capability (e.g., service territory, specialties, certifications) 	OPR	Identify	
1.4. Work with lenders, attorneys, real estate professionals, and home inspectors to include acknowledgement of RBES in the residential real estate transaction process. **	<ul style="list-style-type: none"> Coordinate with real estate groups to establish a process for integrating RBES into real estate transactions Develop targeted training and education materials for these market actors 	EFG EVT	EFG's DOE Grant	
1.5. Include municipal floodplain administrators in RBES and CBES education and outreach efforts.	<ul style="list-style-type: none"> Ensure floodplain administrators have access to municipal training materials Draft custom training materials for flood plain administrators 	EFG, VAPDA, DEC	EFG's DOE Grant	

Charge #2: Develop plans and recommendations for a potential transition to a comprehensive program for the RBES and CBES at the Division of Fire Safety, including potential funding sources.				
<p>2.1 A) Designate the DFS as the statewide “authority having jurisdiction” over all building construction – public, private, commercial, residential with an appropriation to cover necessary resources. *</p> <p>B) Establish a process to transition away from municipal staff filing RBES and CBES certificates in town records and towards a process where certificates are filed directly with the state. **</p>	<ul style="list-style-type: none"> • Update statute such that the DFS is listed as the AHJ for all building construction • Determine an appropriate timeline to transfer this responsibility from municipal staff to the state • Update statutory language that requires Town Clerks to include RBES certificates in the land records once a timeline and process have been established to file certificates with the state 	Legislature, DFS	DFS & PSD	PSD, DFS, AGC
<p>2.2 Incorporate RBES and CBES certificates, for buildings currently under DFS jurisdiction, into the DFS permit database expansion. **</p>	<ul style="list-style-type: none"> • Provide an opportunity for stakeholder feedback on the database structure 	DFS, EFG, PSD	DFS & PSD	
<p>2.3 Ensure that the detailed inputs from RBES and CBES certificates are logged as unique data points in the database to ensure the data are accessible for future analyses.</p>	<ul style="list-style-type: none"> • Develop an electronic fillable form for RBES and CBES certificates to ease integration into the database 	DFS, EFG, PSD	DFS & PSD	
<p>2.4 Create a comprehensive document detailing the costs and benefits associated with RBES and CBES energy code administration at DFS and calculate the incremental permit fees that would be required to support ongoing energy code administration.</p>	<ul style="list-style-type: none"> • Leverage the work done by the DFS (for buildings currently under DFS jurisdiction) and EFG (for owner-occupied single-family) to put energy code administrative costs into one accessible document 	EFG with input from DFS	EFG’s DOE Grant	

Charge 3: Consider whether or not the State should adopt a statewide building code.				
3.1 Provide the necessary resources to ensure the DFS and the IRC Working Group can answer key questions about the costs, benefits, and impacts (including life safety impacts) associated with adopting the IRC, starting with buildings currently under DFS jurisdiction.	<ul style="list-style-type: none"> • Identify any funding or staffing resource gaps • Source outside consulting services as needed 	DFS	DFS and Legislature	

*Repeat recommendations from Act 47.

** Updated recommendations from Act 47.

Red Shading = Recommendations for legislative action.

Introduction and Background

This report builds on the work completed in 2023 by the Act 47 Building Energy Code Study Committee (BECSC), which met ten times in 2023 and produced a report detailing a variety of recommendations, both legislative and non-legislative, that would help increase awareness of and compliance with the RBES and CBES.² The Act 47 report provides a comprehensive summary of the history associated with Vermont’s energy codes and the relevant actions the State has taken to develop safe and energy-efficient new construction.

Act 151 Legislation

Governor Scott signed Act 151, “An Act relating to building energy codes”, into law on June 3, 2024.³ Section 1 of Act 151 details the General Assembly findings as it pertains to building energy codes. Act 151 states the following:

“The General Assembly finds that:

- (1) According to the 2020 State of Vermont Greenhouse Gas Emissions Inventory Update and Forecast, home and business heating and cooling is the second largest source of greenhouse gas (GHG) emissions in Vermont.
- (2) Under 10 V.S.A. § 578, the State has an obligation to meet named GHG reduction requirements. In order to attain these reductions, GHG emissions from the thermal sector, that is, the heating and cooling of homes and businesses, must be reduced.
- (3) One method of reducing thermal sector emissions is to increase the energy efficiency of Vermont’s homes and businesses through building to an energy-efficient building energy standard.
- (4) Vermont established the Residential Building Energy Standards (RBES) in 1997 and the Commercial Building Energy Standards (CBES) in 2007. The Department of Public Service is responsible for adopting and updating these codes regularly but does not have the capacity to administer or enforce them.
- (5) The RBES and CBES are mandatory, but while municipalities with building departments handle some aspects of review and inspection, there is no State agency or office designated to interpret, administer, and enforce them.
- (6) The Division of Fire Safety in the Department of Public Safety is responsible for development, administration, and enforcement of building codes but does not currently have expertise or capacity to add administration or enforcement of energy codes in buildings.
- (7) Studies in recent years show compliance with the RBES at about 54 percent and CBES at about 87 percent, with both rates declining. Both codes are scheduled to become more stringent with the goal of “net-zero ready” by 2030.”

²<https://publicservice.vermont.gov/sites/dps/files/documents/Act%2047%20Building%20Energy%20Code%20Study%20Committee%20Report%2012-1-23A.pdf>

³ <https://legislature.vermont.gov/Documents/2024/Docs/ACTS/ACT151/ACT151%20As%20Enacted.pdf>

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Section 2 of the Act 151 legislation calls for the creation of a Building Energy Code Working Group to recommend strategies for increasing compliance with the RBES and CBES. The Working Group is directed to provide reports to the Senate Committee on Natural Resources and Energy and the House Committee on Environment and Energy, one by November 15, 2024 and another by November 15, 2025. This document represents the first of these two reports.

Current Applicability of Energy Codes and Building Codes

The CBES requirements apply to commercial construction and multi-family residential projects over three stories in height. The RBES requirements apply to all other residential construction.

The State of Vermont uses provisions of the National Fire Protection Association (NFPA) and International Building Code (IBC) of the International Codes Council (ICC) for commercial and residential projects. See Figure 1 below for a summary of the use of energy codes and building codes in Vermont, and a summation of the requirements and enforcement authority, or lack thereof.

Figure 1: Current Scope of Building and Energy Codes by Building Type



Energy Code	CBES	CBES	RBES	RBES	RBES	RBES
DFS Requirement ¹	Filing and Posting Certificate before Occupancy					None
Municipal Requirement ¹	Filing and Posting Certificate before Occupancy					
On-site Verification	Verification of Energy Code Compliance: None					Verification of EEU program compliance: EEU's - for some projects
Building Code	NFPA + IBC	NFPA + IBC	NFPA + IBC	NFPA	NFPA	Plumbing Only ²
Enforcement Authority (DFS)	Yes					No
On-site Verification	DFS Inspections					None

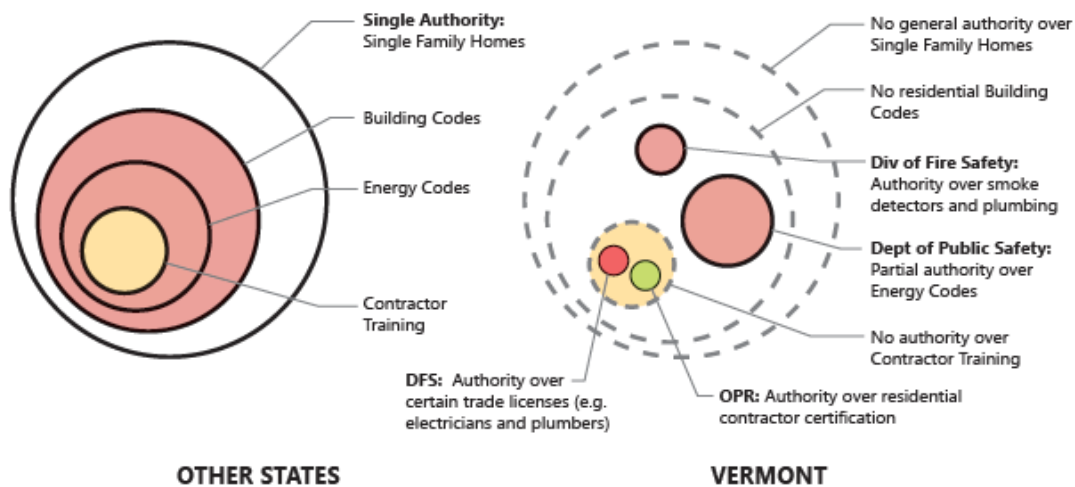
1. While there are no inspections for compliance or penalties for violations, filing the RBES or CBES certificate by builder or energy specialist assuring compliance is required by statute.

2. A plumbing permit is required for homes using public water and/or public sewer. No plumbing permit is required for well or septic systems (besides a Vermont wastewater permit).

Current Administration of the Building and Energy Codes

Vermont’s building energy codes (RBES and CBES) interact with multiple state agencies in different ways. Figure 2 shows how other states are organized under a single authority with jurisdiction over building codes, energy codes, and training. This is compared to Vermont with no statewide authority, no statewide building code, and multiple agencies overseeing different aspects of the energy codes and training.

Figure 2: Vermont vs. Other States’ Building and Energy Code Structures



Progress on Act 47 Recommendations

The BECWG is pleased to report that progress has been made on many of the recommendations from the Act 47 BECS report to the legislature. The list below provides a high-level summary of the key status updates while APPENDIX A: STATUS of Act 47 Recommendations provides a detailed status update for each of the recommendations from the Act 47 report.

- The Office of Professional Regulation (OPR) is actively engaged in promoting increased compliance with the energy codes.
 - OPR has updated the contractor registry so contractors explicitly acknowledge RBES/CBES legal requirements.
 - OPR is in the process of developing voluntary specialty certifications for residential contractors that are registered through the OPR contractor registry; this includes voluntary certifications for RBES, building science, and Occupational Safety and Health Administration (OSHA) standards/residential construction. Rulemaking is expected in the first quarter of 2025.
 - OPR has updated their contract templates for contractors and consumers to reference compliance with RBES and CBES.
- A Department of Energy (DOE) Residential and Efficient Codes Implementation (RECI) grant, being led by Energy Futures Group (EFG), is being used to support energy code education, training, and awareness efforts with multiple stakeholder groups.

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- Activities include remote and in-person presentations, onsite technical assistance with a “circuit rider”, and the development of energy code education materials.
- Stakeholder groups include builders and contractors, architects, energy professionals, municipal staff, real estate professionals, lenders, and attorneys, among others.
- The Department of Public Service (PSD) and the Energy Efficiency Utilities (EEUs) have started conversations regarding the EEUs ability to claim energy savings for supporting energy code compliance.
- The Division of Fire Safety (DFS) has developed a first draft of the costs associated with energy code administration for buildings currently under DFS jurisdiction. Energy Futures Group, through the DOE RECI grant, is developing a comparable set of costs for owner-occupied single-family homes.
- In addition to forming this BECWG, Act 151 also amended the energy code enabling statute to change the energy code update cycle by replacing “shall” update with the Department of Public Service to “may direct the timely and appropriate revision” to allow for flexibility in the timing of subsequent versions of RBES and CBES.
- The Division of Fire Safety (DFS) has established a study committee on adopting a statewide residential building code (e.g., IRC).

Legislative Directive

Act 151 established three charges for the BECWG:

1. Recommend strategies and programs to increase awareness of and compliance with the RBES and CBES, including the use of appropriate certifications for contractors trained on the energy codes.
2. Develop plans and recommendations for a potential transition to a comprehensive program for the RBES and CBES at the Division of Fire Safety, including potential funding sources.
3. Consider whether or not the State should adopt a statewide building code.

The BECWG reviewed and discussed these charges across five separate meetings. The recommendations of the Working Group, organized by “charge”, are presented in the next section.

Response to Legislative Directive

This section presents the BECWG responses to the legislative directive, including recommendations associated with each of the three charges detailed above. Recommendations with a single asterisk (*) are carryover recommendations from the Act 47 report, recommendations with two asterisks (**) have been updated from the Act 47 report, and recommendations with red shading are those that would require legislative action.

Charge #1

Recommend strategies and programs to increase awareness of and compliance with the RBES and CBES, including the use of appropriate certifications for contractors trained on the energy codes.

In many ways, Charge #1 is a continuation of the following charge from Act 47:

“Consider and recommend strategies to increase awareness of and compliance with the

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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 (AHJ) for administration, interpretation, and enforcement, in conjunction with DFS' existing jurisdiction, over building codes."

The Act 47 BECSC provided detailed recommendations regarding potential activities that could be used to increase awareness of and compliance with the RBES and CBES. The detailed progress associated with these recommendations can be found in APPENDIX A: STATUS OF Act 47 Recommendations.

The BECWG recommendations below build upon those provided by the Act 47 BECSC.

Recommendation 1.1

Establish a role for EEs to play in supporting energy codes compliance. **

The BECWG discussed the important role that the EEs could play in supporting RBES and CBES compliance moving forward. The BECWG recommends that the EEs and PSD continue discussions and work to establish a framework under which the EEs could claim savings from energy code compliance support. The BECWG also recommends that the EEs leverage any information regarding specific projects, builders, or contractors lacking RBES certificates to target future code compliance support activities.

Dissenting comments: None.

Recommendation 1.2

Support OPR with the rulemaking process to establish voluntary specialty certifications for residential contractors that are registered in the OPR contractor registry.

OPR provided an update to the BECWG that they are working towards rulemaking for voluntary specialty certifications to begin in the first quarter of 2025. With that in mind, the BECWG recommends that relevant stakeholders provide the necessary support for OPR to fulfill these plans. This includes standing up specific requirements that can be used as part of an RBES specialty certification and providing feedback on existing training and certification programs that OPR might reference for specialty certifications focused on building science principles and OSHA standards, in addition to RBES. To date, this work has been supported by EFG, EVT, ICC, AGC, VBRA, and other construction-based educators.

EVT and EFG should continue to offer feedback and guidance to OPR as they work toward the upcoming rulemaking process; this work can be funded through EFG's DOE RECI grant. The BECWG also recommends that other construction-based educators continue to provide feedback to OPR as needed.

Dissenting comments:

American Institute of Architects Vermont (AIAVT): AIAVT recommends that voluntary contractor certifications be moved to DFS as part of a phased transition to a single, unified authority over building construction in Vermont. The Contractor *registry* should remain with OPR.

Vermont Builders and Remodelers Association (VBRA): VBRA recommends that contractor certifications be moved to DFS as part of a phased transition to a single, unified authority over building construction in Vermont. VBRA notes that OPR is more naturally focused on consumer fraud, while DFS is more naturally focused on competence.

Associated General Contractors of Vermont (AGC/VT): Residential builders can receive training at their

own expense as they do for the rest of their training. Through OPR and other groups builders can identify continuing education opportunities like other licensees/registrants. If they receive a voluntary certification OPR is already positioned to make that data available through their web portal.

Recommendation 1.3

Support OPR for website improvements.

The BECWG discussed adding capabilities to the OPR website that would allow for additional functionality when reviewing the registered contractor list. The OPR website currently includes a map of registered contractors as well as a downloadable list. The BECWG acknowledges that OPR oversees many professions and is not in a position to build out customer-focused materials for each specific profession. That said, within reason, the BECWG recommends that OPR investigate the feasibility of adding filters that would allow consumers to filter contractors by service territory, areas of practice, and specialty certifications.

Dissenting comments: None.

Recommendation 1.4

Work with lenders, attorneys, real estate professionals, and home inspectors to include acknowledgement of RBES in the residential real estate transaction process. **

The BECWG recommends that training and education activities be developed explicitly for lenders, attorneys, real estate professionals, and home inspectors. These materials should focus on the statutory requirements associated with RBES and the benefits of RBES compliant homes. The goal of these efforts is to further integrate RBES compliance and certificates into the real estate process, particularly for new construction.

EFG and EVT should develop training materials for these market actors through EFG's DOE RECI grant. Effort will be made to work with relevant real estate groups to identify the forums that are most appropriate for reaching a wide audience of real estate professionals. The BECWG recommends that EFG monitor any new developments with federal secondary mortgage providers (e.g., FHA, VA, FHFA) associated with minimum energy efficiency standards for new construction mortgages and bring that information back to the Vermont real estate and mortgage markets.

Dissenting comments: None.

Recommendation 1.5

Include municipal floodplain administrators in RBES and CBES education and outreach efforts.

The BECWG identified and discussed the potential overlap of RBES and CBES requirements with the work of municipal floodplain administrators. The BECWG discussed the potential for the National Flood Insurance Program (NFIP) to trigger RBES and CBES requirements as part of flood rehabilitation projects. The BECWG acknowledged that there is potential to align flood resilience and energy efficiency guidance moving forward. For now, the BECWG recommends that municipal floodplain administrators be included in municipal outreach and training activities that are being planned under EFG's DOE RECI grant. EFG should coordinate with VAPDA, who is leading municipal outreach efforts, to ensure that floodplain administrators are captured in municipal activities taking place under the grant.

Dissenting comments: None.

Charge #2

Develop plans and recommendations for a potential transition to a comprehensive program for the RBES and CBES at the Division of Fire Safety, including potential funding sources.

As was the case with Charge #1, Charge #2 has some overlap with the following charge from Act 47:

“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 (AHJ) for administration, interpretation, and enforcement, in conjunction with DFS’ existing jurisdiction, over building codes.”

The BECWG recommendations build upon the work done by Act 47 BECSC as it pertains to considering a comprehensive RBES and CBES program and the DFS.

Recommendation 2.1

A) Designate the DFS as the statewide “authority having jurisdiction” over all building construction – public, private, commercial, residential. *

This recommendation is a repeat of one offered by the Act 47 BECSC. The BECWG believes this recommendation bears repeating as it was the first recommendation coming out of the Act 47 report and it is directly related to the charge of considering whether or not the State should adopt a statewide building code.

As stated in the Act 47 report:

“This would be the most significant immediate structural change that can be made to positively impact Vermont’s energy code environment and a foundational change in Vermont’s code environment but would provide the necessary structure that the state is currently lacking. It would bring Vermont’s practice in line with other states. This expanded role for DFS would require time to plan, develop systems, staff up, and prepare for offering these services. It will be important to phase in the authority over time commensurate with available budgets and staffing, but as quickly as constraints allow.”

The DFS made it clear throughout the BECWG meetings that there are many questions that need to be answered before they are in a position to consider whether or not to adopt the International Residential Code (IRC). However, the BECWG believes there is value in designating the DFS as the statewide authority over all building construction, regardless of whether the IRC is adopted. As needed training, certification, and building code administration evolves, a unified authority overseeing all sectors will help with issues of confusion and will encourage predictability, uniformity, and simplicity. These qualities are essential for a robust construction industry.

The BECWG acknowledges that the scope of the DFS as the authority for all buildings would evolve over time. Designating the DFS as the authority for all buildings now will simplify future discussions as important building code topics are explored, such as the adoption of the IRC.

B) Establish a process to transition away from municipal staff filing RBES and CBES certificates in town records and towards a process where certificates are filed directly with the state. **

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The BECWG recommends that the DFS establish a timeline and process to transition away from the requirement that municipal staff incorporate RBES certificates in the land records. As the permit database is developed (see 2.2 below) and RBES and CBES certificates are tracked in a central database, there will be an opportunity to eliminate the role--and cost--of municipalities in logging certificates. This will only be possible after a process is set up to ensure that certificates are filed directly with the State and incorporated into a central database. This process will require legislative action as Act 89 currently specifies the following:

“The person certifying under this subsection shall provide a copy of each certificate to the Department of Public Service and shall assure that a certificate is recorded and indexed in the town land records.”

The BECWG recommends that the requirement associated with recording certificates in the land records be removed from statute once the alternate process is set up.

The current proposal from the BECWG is that the DFS incorporate RBES and CBES certificates into their database expansion *for buildings currently under the DFS jurisdiction*; this excludes owner-occupied single-family homes. Municipalities will need to record owner-occupied single-family certificates until those projects are incorporated into the statewide database. The BECWG recommends that a timeline be developed to transition owner-occupied single-family homes into the central RBES certification tracking process.

Dissenting comments:

Division of Fire Safety (DFS): The DFS does not have the capacity to extend its authority into single-family owner-occupied dwellings nor does the Division have the capacity to inherit such a massive program. The Division’s mission is protecting human life from fire, carbon monoxide poisoning, electrocution, explosions, hazardous material releases, chemical spills, training emergency responders and insuring safe drinking water and sanitation. The implications are far reaching and the financial impact on the housing market cannot be overstated. The issue at hand is the group is concerned with low Building Energy Standard compliance rates primarily in the residential sector otherwise we would not be here having these conversations. We need to focus on the problem and adding layers of bureaucracy and regulation is not the answer. We need to train and educate our builders because honestly many are not familiar with the energy efficiency codes nor is there a solid understanding of “building science,” a term widely used in the study group. Currently Title 30, Chapter 2 provides very clear direction on the RBES and CBES and provides references directly to certification, rulemaking, adoption of standards, posting of compliance certificates and much more. We feel this statute needs to be part of the group discussion rather than dismissing it. If the existing law has shortfalls, then let us look at ways of enhancing Title 30 without tossing millions of dollars at a problem that cannot be repaired under this approach.

With decades of experience in the code management profession, the approach of building programs with grant funding and building programs with a top-down approach is aimed to fail. Implying because you have codes and standards you have compliance is far from reality. Managing safety programs involves making sure we have the trade professionals that can do the work and more importantly they do the work properly the first time. We all must rely on professionals, and we spend considerable time day in and day out educating and mentoring licensed professionals (engineers, electricians, plumbers, gas technicians and architects) to name just a few. We are two code cycles behind the adoption of the current building code and life safety code. We have four other sets of rules requiring updates (electrical safety rules, plumbing safety rules, elevator safety rules and access rules). It would be a disservice to everyone involved to put more rule making onto us as we cannot complete a timely rule adoption

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process. It is important to recognize Public Safety as an enterprise that is faced with many safety priorities and although energy efficiency is important it is not a public safety priority. We feel this proposal is extremely costly, contains no reliable funding source and will create layers of bureaucracy with numerous unintended consequences.

Department of Public Service (PSD): The PSD concurs with the DFS dissenting comments and would also add that it would be premature to designate the DFS as the “statewide authority having jurisdiction over all building construction – public, private, commercial, residential” when the analysis to determine the costs and benefits of such a designation have not yet been undertaken. Additionally, the potential impacts of adopting a statewide building code are not yet known. The BECWG has recommended that the analysis on the costs and benefits be completed next year. The Department recommends that this work be completed before any further consideration is given to this recommendation.

Associated General Contractors of Vermont (AGC/VT): AGC/VT cannot support an RBES enforcement program at this time due to the highlighted items below. The working group did not spend enough time focusing on the ability and affordability to put an RBES enforcement program in place. AGC/VT is deeply concerned about the return on investment for the average Vermonter and the ability to provide a trained workforce without extreme funding or grant funding to support this. AGC/VT has seen a lack of Vermont construction support for an RBES enforcement program.

This recommendation is based on the legislative requirement of the act which required us to consider and recommend strategies to increase awareness of and compliance with the RBES and CBES including developing plans for a comprehensive program at DFS.

AGC/VT recommendations consider the following:

1. It is unclear how a comprehensive RBES and CBES program would be funded, and it would need to be negotiated in the legislature.⁴
2. No feasibility studies have been completed to consider recommendations that have large budget requirements.
3. Towns/cities are already stretched to their limit in funding and personnel to achieve their basic necessities.
4. To date there has not been enough effort to promote compliance or education, other than grant funding initiatives.
5. A residential contractor registration requirement was created to address the need to communicate with the profession.

AGC/VT continues to recommend a phased approach to achieving the requirements of Act 151.

Recommendation 2.2

Incorporate RBES and CBES certificates, for buildings currently under DFS jurisdiction, into the DFS permit database expansion. **

The BECWG recommends that the current permit database expansion being undertaken by DFS be expanded to incorporate RBES and CBES certificates. DFS acknowledged that they are open to including RBES and CBES certificates in their permit database revisions. DFS has also indicated that they are open to stakeholder feedback as part of the database development process. The BECWG recommends that

⁴ Recommendation 2.4 (next page) addresses assessing funding energy code administration.

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DFS provide a forum for relevant stakeholders to provide feedback on the incorporation of RBES and CBES certificates prior to the database being finalized.

Dissenting comments: None.

Recommendation 2.3

Ensure that the detailed inputs from RBES and CBES certificates are logged as unique data points in the database to ensure the data are accessible for future analyses.

The BECWG discussed the need for any database tracking RBES and CBES certificates to include unique data fields for each entry in the RBES and CBES certificates. This approach will allow the maximum value to be extracted from the certificates on an ongoing basis. By including unique data fields for each entry on the certificates, the permit database will be functional for analyses leveraging key data points such as compliance pathway, fuel type, and efficiency specifications. These data points can be used to refine training and education materials, technical assistance approaches, and policy recommendations moving forward. The BECWG recommends that an electronic form be created for the current RBES and CBES certificates to facilitate integration into the expanded DFS database. The electronic version should be available online and there should be an option for contractors to save and print as a certificate of compliance. Funding for this additional functionality should be included in future database development budgets.

Dissenting comments: None.

Recommendation 2.4

Create a comprehensive document detailing the costs and benefits associated with RBES and CBES energy code administration at DFS and calculate the incremental permit fees that would be required to support ongoing energy code administration.

During the BECWG meetings there were two presentations associated with the costs of energy code administration. The DFS led a presentation on the costs of a comprehensive energy code administration program for buildings currently under DFS jurisdiction; DFS currently requires state construction permits for all buildings outside of owner-occupied single-family.⁵ EFG led a similar presentation, which was developed under the DOE RECI grant, focused on the estimated costs of energy code administration for owner-occupied single-family homes. The BECWG recommends that the costs, benefits, and assumptions associated with these presentations be combined in a single document that covers the estimated energy code administration costs for all buildings. This document will be valuable to the 2025 BECWG as they continue to explore the future of energy code administration in Vermont. The Working Group recommends that EFG lead the development of this document, with funding through EFG's DOE RECI grant, and that they coordinate with DFS to ensure all the details are reasonable and accurate.

Dissenting comments: None.

Charge #3

Consider whether or not the State should adopt a statewide building code.

⁵ https://firesafety.vermont.gov/sites/firesafety/files/documents/dfs_codesheet_state%20permits%20poster.pdf

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The BECWG developed the following recommendations and rationale in response to Charge #3.

Recommendation 3.1

Provide the necessary resources to the DFS to ensure the IRC working group can answer key questions about the costs, benefits, and impacts (including life safety impacts) associated with adopting the IRC, starting with buildings currently under DFS jurisdiction.

The DFS has formed an IRC Working Group to thoroughly evaluate the impact of adopting the IRC. The IRC Working Group will seek to answer the following questions, among others, over the coming months.

- Who is a design professional in the context of the IRC? How does this affect the plan review process?
- What impact would the IRC have on housing affordability?
- IRC and associated efficiency standards do not align with RBES – how is that handled?
- How are conflicts between the ICC and NFPA handled? Vermont uses both.
- Is the entire IRC adopted or just certain chapters?
- Can the industry handle the sprinkler requirements associated with the IRC?
- Can the market build to IRC standards?
- How is the contractor/inspection process managed?
- Is inspection authority extended into single-family jurisdictions?

The BECWG recommends that the DFS be provided with the necessary support and resources to answer these questions in a reasonable and timely fashion. The BECWG anticipates addressing this item in 2025 and would benefit from having these questions answered in the interim. The BECWG acknowledges that there are staff and budgetary restrictions that may make it challenging for the DFS to resolve each of these items absent additional support and outside resources.

Dissenting comments: None.

Topics for 2025 BECWG Consideration

There were a number of items that were raised throughout the 2024 BECWG meetings that the Working Group either did not have time to fully address or agreed to defer to the 2025 Working Group sessions. Below is a list of topics that should be considered by the 2025 BECWG.

1. Discuss a phased approach for transitioning all authority for building energy codes to DFS.
2. Establishing a timeline and process for owner-occupied single-family RBES certificates to be included in the statewide database.
3. Providing clarity for business vs. individual registrations/certifications and determining responsibility for all of the building trades between DFS and OPR.
4. Clarifying the use of OPR's "license" term in registration documents.
5. Discussing the future of a residential building code and permitting process at DFS that includes owner-occupied single-family homes.
6. Review the tables and charts provided by AIA-VT as part of the 2024 BECWG reporting process.
7. Review OPR registered professions for opportunities to include RBES/CBES training as part of licensure, registration, and/or renewal.

8. Consider moving the future contractor certification program to DFS.

Conclusion

The Working Group engaged in a series of productive and respectful meetings while representing a wide range of interests and perspectives. We believe that the recommendations outlined above will help the construction industry evolve along with the importance of energy efficiency and resiliency in our built environment.

The Working Group acknowledges that there is more work to be done and looks forward to reconvening in 2025.

Appendix A: Status of Act 47 Recommendations

TABLE 2 provides a detailed status update for each of the recommendations for Charges 2 and 3 developed by the Act 47 BECSC.⁶

Table 2: Status Update on Act 47 Recommendations

Charge 2: Strategies to increase awareness of and compliance with RBES and CBES including the potential designation of DFS as the statewide AHJ.		
Recommendations for Immediate Legislative Action		
Recommendation	Dissenters	Status
A. Make structural, statutory, policy, and programmatic changes to Vermont’s energy code environment.		
<p>A.1. Designate the DFS as the statewide “authority having jurisdiction” (AHJ) over all building construction – public, private, commercial, residential.</p> <ul style="list-style-type: none"> • A.1.a. Clarify the chain of authority from the General Assembly, through DFS, to municipalities. • A.1.b. Establish an advisory committee to advise on the overall transition to a new AHJ, help with future code revisions and examine building failure cases to improve building science and future codes. • A.1.c. PSD continue in role administering the energy codes in support of the AHJ • A.1.d. Develop a certification designation for contractors trained on the energy codes and include the certification on the OPR Contractor Registry and DFS website 	<p>DFS PSD AGC</p>	<p><u>In progress with exceptions:</u></p> <ul style="list-style-type: none"> • DFS has not been designated as the statewide AHJ, they currently do not have any jurisdiction over owner-occupied single-family homes. • OPR is actively working on a voluntary contractor certification for contractors that have been trained on the residential energy code.
<p>A.2. Amend the energy code update cycle by changing “shall” in the energy code enabling statute to “may”.</p>		<p><u>Complete:</u> This was completed by language included in Act 151 (S.253) of 2024. The language was amended as follows: “...After January 1, 2011, the Commissioner shall ensure that appropriate revisions are made promptly <u>may direct the timely and appropriate revision of the RBES after the issuance of updated standards for</u></p>

⁶ The table details recommendations and status updates for Charge 2 and 3 from the Act 47 report. Charge 1 asked the study committee to ‘Assess how the building energy codes interact with the fire and building safety codes.’ The results of that research are presented in the Act 47 report.

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		residential construction under the IECC...”
A.3. Establish a study committee on adopting a statewide residential building code (e.g., IRC)		<u>In progress:</u> DFS has convened a working group to consider the adoption of a statewide residential building code. This work will continue into 2025.
A.4. Require OPR to update contractor registry (A) so contractors explicitly acknowledge RBES/CBES legal requirements, and (B) to alert consumers to RBES/CBES and provide filtering functionality, e.g., by specialties, location, and certifications.	DFS VBRA	<u>Complete/Under consideration:</u> Part A has been completed and is now part of the contractor certification process. Part B is recommended as part of the Act 151 BECWG report.
A.5. Authorize OPR to update their contract requirements and template for contractor-owner agreements to include a clause acknowledging that energy codes are mandatory.		<u>Complete:</u> The contract template on the OPR website has been updated to include the suggested clause.
A.6. Develop a certification designation for contractors trained on the energy codes and include the certification on the OPR Contractor Registry and DFS website		<u>In progress:</u> OPR is working on developing a contractor certification focused on the Residential Building Energy Standards (RBES) among other voluntary certifications.
B. Improve the process for filing and tracking energy code certificates.		
B.1. Expand DFS’s current database redesign to incorporate a statewide, central, publicly accessible repository for all Vermont buildings (including all residential) that includes energy code data. <ul style="list-style-type: none"> B.1.a. Eliminate filing certificates in town records and the notarization requirement. B.1.b. Establish a certificate application tool for both CBES and RBES that generates an energy code “permit” before construction and a final certificate upon completion that is part of the DFS database. 	DFS PSD	<u>In progress with exceptions:</u> <ul style="list-style-type: none"> As part of the Act 151 BECWG process, DFS has agreed to include RBES and CBES certificates for buildings currently under their jurisdiction (i.e., excluding owner-occupied single-family), in their database redesign. Eliminating the filing of certificates in town records and an application tool are items that continue to be discussed but do not have planned actions associated with them at this point in time.
Non-Legislative and Longer-Term Recommendations		
C. Improve workforce training and support.		
C.1. Coordinate and support energy code trainings and certifications. <ul style="list-style-type: none"> C.1.a. Develop training materials C.1.b. Conduct regular trainings 	DFS AIA-VT	<u>In progress:</u> The DOE RECI grant is supporting the development and delivery of energy code training materials for various market actor groups.

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C.2. Develop “circuit rider” on-site energy code services statewide.		<u>In progress:</u> The DOE RECI grant will temporarily support 1 FTE circuit rider position that will provide technical on-site assistance to residential builders and contractors through the duration of the grant period 12/31/2026.
C.3. Increase training and support for Energy Consultants.		<u>In progress:</u> The DOE RECI grant will include a plan focused on the role of energy professionals. The training materials mentioned above will be available to energy professionals of various types.
C.4. Increase and coordinate building science and energy code trainings including weatherization.		<p><u>In progress:</u></p> <ul style="list-style-type: none"> • The Vermont Office of Economic Opportunity (OEO) has selected a contractor to develop a Vermont-based training center that will provide training on building science and weatherization. • And as part of the DOE RECI grant, EVT is providing trainings to the construction and housing industries on energy codes and building science.
C.5. Coordinate the Energy Code Support Center (call center) with other code support efforts.		<u>In progress:</u> EVT continues to implement the Energy Code Assistance Center services under the direction of the PSD. EVT is in discussion with the PSD to determine an expanded role of the EEU's to support energy code compliance activities while also claiming savings.
D. Increase awareness of building energy codes and requirements.		
D.1. Develop and mail out bill stuffers reminding about energy codes		<u>Not started</u>
D.2. Work with lenders and attorneys to include energy information on loan closing checklists		<u>In progress:</u> The DOE RECI grant will include coordinating with lenders and attorneys to see if energy code information can be included on loan closing checklists.
D.3. Use state, regional, and municipal websites to reinforce energy code requirements.		<u>In progress:</u> Numerous state, regional, and municipal websites reference energy code requirements. This list will continue to

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		evolve as materials are developed and released through the DOE RECI grant.
D.4. Create a radio show on building science and energy codes to educate the public		<u>Not started</u>
E. Establish a plan for funding for base-code and above-base code compliance.		
E.1. Develop a funding plan to pay for start-up and on-going costs to support the AHJ and energy code administration.		<u>In progress:</u> DFS has estimated the costs associated with energy code implementation for buildings under their jurisdiction. EFG, through the DOE RECI grant, has developed estimated costs associated with owner-occupied single-family homes.
E.2. Establish a role for EEU's to play in supporting energy codes compliance and incentives.		<u>In progress:</u> The EEU's and the PSD are in ongoing discussions surrounding the EEU's ability to claim energy savings for supporting energy code compliance.
F. Coordinate code compliance grant efforts in Vermont.		
F.1. Coordinate with the U.S. Department of Energy's (DOE) grant to Energy Futures Group for the "Vermont Energy Code Administration Project" to support these strategies.		<u>In progress:</u> As detailed in other status updates the DOE RECI grant is being used to support residential energy code compliance through training, education, and on-site technical assistance, among other activities.
F.2. Continue the role of the Act 47 Building Energy Code Study Committee as the "Phase 2" Advisory Committee to EFG's DOE grant.		<u>Not started:</u> The DOE RECI grant includes a unique Advisory Committee that includes many of the Act 151 BECWG members, but it also includes regional and national experts and representatives from traditionally underserved community members. EFG is relaying information between the DOE RECI grant Advisory Committee and the BECWG.
Charge 3: Evaluation of cost-effectiveness analysis for RBES and CBES.		
1. Continue calculating energy code "cost effectiveness" as has been done historically.		<u>Resolved:</u> For future updates of the energy codes, energy code cost effectiveness will continue to be calculated as has been done historically.
2. Establish 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 for new and existing buildings.	PSD DFS VBRA	<u>Not started</u>