

Vermont Building Energy Code & Ordinance Compliance Project

Bipartisan Infrastructure Law: Resilient and Efficient Codes Implementation

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Energy Futures Group (EFG)¹ will lead this project in partnership with the Vermont Secretary of State, the listed Project Team Members below, and committed Project Supporters on page 6. As a Vermont-based firm with a mission “to transform our energy system to one that is clean, efficient, renewable, safe, affordable and equitable” and strong Vermont relationships, EFG is uniquely positioned to lead this team and manage this project.

Project Team Members

Energy Futures Group (EFG) (Project Lead)
Vermont Secretary of State (including their Office of Professional Regulation (OPR)) (SOS)
International Code Council (ICC)
Efficiency Vermont (EVT)
Burlington Electric Department (BED)
Vermont Gas Systems (VGS)
Vermont Association of Planning and Development Agencies (VAPDA)

Project Location: State of Vermont

There are no confidential materials included in this submission.

¹ <https://energyfuturesgroup.com/>

Project Description

Vermont has long been a leading state in energy efficiency policies, programs, and energy code *adoption*. However, the same cannot be said about building energy code *enforcement* and *compliance*. There is currently no statute in Vermont designating authority to enforce its energy codes, and no statewide system for administering its codes, tracking, reporting, or ensuring compliance. While Vermont is small in population and financial resources, we are similar to many other rural states. We have collective motivation to identify an authority and implement a system, but we lack resources. If funded, Vermont can aid the nation by serving as a model for other rural states while addressing the equitable, clean energy transitions in buildings.

Vermont's lack of - 1) a designated Authority Having Jurisdiction (AHJ), 2) any statewide energy code review, inspection, testing, certification, reporting, and enforcement infrastructure, and 3) a market-based support system of energy professionals to support these efforts – will prevent the state's ability to achieve its compliance target of "net-zero ready construction for all newly constructed buildings by 2030"². Recent studies³ show only 54% compliance with Vermont's older 2015 Residential Building Energy Standards (RBES) and 87% compliance with the 2015 Commercial Building Energy Standards (CBES). As compliance rates drop with each subsequent version of the code, it is unlikely that the state will be able to meet its 2030 goal.

To address energy burden, equity and emissions, Vermont cities have also recently adopted innovative approaches to address upgrading existing buildings through building performance standards and transparency ordinances – particularly for rental properties⁴. As other Vermont cities adopt similar and new ordinances, the lack of an AHJ, infrastructure, and ordinance support systems will debilitate their ability to achieve these goals.

Vermont's "Building Energy Code & Ordinance Compliance Project" would address this. Energy Futures Group (EFG)⁵ has assembled an impactful and diverse group of partners and stakeholders including the Vermont Secretary of State / Office of Professional Regulation, legislators, cities, energy efficiency utilities (EUs), building and contractor trade associations, planning commissions, advocates, builders, architects, and others committed to solving Vermont's lack of a code compliance infrastructure. If funded, the anticipated community benefits would be new systems to ensure compliance with Vermont's energy codes and ordinances to aid in alleviating energy insecurity and energy burdens, including these tasks:

1. Code Compliance Development Plan - Convene a "summer study"-like process in collaboration with all the key state agencies, state legislators, builders, architects, and other stakeholders to design and develop an energy code compliance infrastructure for Vermont that will examine multiple options including designating an AHJ and innovative compliance and enforcement approaches. Work with state legislators and agencies to implement that plan, build out the process and procedures, positions, advisory committees, mechanisms, data systems, filing and builder registries, etc. Hire and fund

² <https://publicservice.vermont.gov/document/2022-comprehensive-energy-plan>, p. 180

³ <https://publicservice.vermont.gov/efficiency/evaluations-and-studies>

⁴ <https://www.burlingtonelectric.com/weatherization-ordinance/> and <https://www.montpelier-vt.org/1299/Home-Energy-Information-Ordinance> are recent examples, with additional ordinances on the way.

⁵ <https://energyfuturesgroup.com/>

staff and related expenses for a limited time. Develop the requisite long-term funding mechanisms to ensure infrastructure and staffing for sustainability post-grant.

2. Energy Professionals Workforce – Investigate innovative options such as a market-based network of certified energy professionals⁶ who could provide project review, offer performance testing, and verify energy code and ordinance compliance. Assist with the network's growth and offer business planning guidance and support to ensure business sustainability for the workforce if deemed a viable compliance solution. Listen to and work with organizations and individuals embedded within disadvantaged communities to ensure equitable recruitment and economic development opportunities.
3. Compliance Tools - Investigate innovative energy code and ordinance compliance approaches for field-based measurements, documentation, generation of energy code certificates, and filing. Consider providing a DOE Home Energy Score, Vermont Home Energy Profile⁷ (energy label), or an ENERGY STAR Portfolio Manager score.
4. Training and Support - Develop and provide RBES and CBES trainings, materials, and offer technical assistance to AHJ staff, energy professionals, builders, designers, and the construction industry in support of Vermont's energy codes, sound building practices and code and ordinance compliance while focusing on training and recruiting a diversity of candidates. Provide a training circuit rider to support both the energy codes and the existing building energy ordinances to construction and real estate groups, cities and towns, planning commissions, building suppliers, trade associations and others to ensure increased awareness of the new 2023 energy codes, the new code compliance infrastructure, available technical trainings and resources, and other support for professionals and towns interested in considering energy ordinances.
5. Project Advisory Committee - Create and support an advisory committee made up of Vermont, regional, and national experts and stakeholders to provide input and guidance to the Project Team, making sure to represent the interests of energy, equity, and environmental justice (EEEJ) communities and LMI households.

Developing and implementing these elements would fill in the missing gaps in Vermont's energy efficiency ecosystem and help ensure achievement of the state's 2030 new construction goals while addressing climate impacts, affordability challenges, energy insecurity, and ensuring housing that is energy efficient, comfortable, safe, healthy, and resilient. Without this effort, Vermont will most likely continue down a path of decreasing compliance and risks significant opposition to adopting more stringent energy codes in the future. Some prominent Vermont builders and their trade associations that support a level playing field through code enforcement already oppose any further energy code advances until such an enforcement structure is put in place.

For existing buildings, expansion of municipal energy performance ordinances will be much slower without funding to develop the energy professionals network and provide training and other support. However, if Vermont is funded under this FOA, cities may be more likely to adopt building energy performance ordinances and expand the ones in place if there are

⁶ Home Energy Rating System (HERS) Energy Raters and Building Performance Institute (BPI) certified professionals

⁷ <https://www.encyvermont.com/services/energy-assessments/vermont-home-energy-profile>

available energy professionals, resources, and other assistance to support these policies. With a focus on rental properties, these policies support an equity and low-income emphasis.

The primary effort will be to work with all Vermont stakeholders to consider code compliance and enforcement options, map out a plan, and then put in place the infrastructure to support it. Without this infrastructure, Vermont faces opposition to adoption of the 2023 energy codes, which are pushing performance above IECC 2024. Builders and others have been raising the enforcement issue for the last few code cycles. While many of Vermont's leading builders pride themselves in considering building science and following code, they are concerned that a lack of enforcement results in their competition building to lower energy performance levels with a competitive price advantage knowing that no one will ever inspect their lower cost inferior homes. These leading builders support this project's goals.

At the same time, the Department of Public Service (PSD) develops and updates RBES and CBES every three years by statute, and their studies show decreasing in-field compliance rates. Public comments submitted during the rule adoption show that some builders oppose adopting higher efficiency codes until their competitive field is leveled through enforcement. If the "summer study" outlined in Task 1 above identifies the best entity to become Vermont's AHJ, and sufficient multi-year funding and support were made available to help plan and develop a code compliance infrastructure, then code opposition would decrease, and Vermont's successful model could be recognized as an approach other rural states might also take.

If funded, this FOA would enable all of the interested Vermont parties to sit down over the course of months and hammer out the elements of a plan, budget, required legislation, and sustainable funding system. This new energy code compliance infrastructure would then need to be built, incorporated into any existing systems, staffed up, trained and coordinated with the energy professionals network being developed at the same time by the EEU's. Concurrently, we will be seeking additional state, federal, and foundation funding to continue this work.

All these efforts would need to be managed and coordinated closely. EFG staff have successfully managed other large DOE projects and have been intimately involved in Vermont's energy code development process since its inception in 1995. We have strong working relationships with all the Project Team members and Vermont stakeholders and a track record of building consensus and driving successful results. EFG would coordinate, convene, staff, and manage this project until Vermont develops its energy code compliance infrastructure. While the risk would be failing to develop a workable and effective code compliance system for Vermont, we would not be able to make measurable progress without a significant infusion of funding, which this DOE FOA could provide.

The total impact of the Building Energy Code & Ordinance Compliance Project is estimated to save Vermont 551,454 MMBtu and \$15,304,600 through 2033.

Addendum

All Project Team Members listed in the table below except for ICC have physical offices located in Vermont and virtual platforms for maximum collaboration.

Project Team Member	Skills/Area of Expertise	Qualifications	Has worked with other teaming partners?
Energy Futures Group (EFG) (Project Lead)	<ul style="list-style-type: none"> *Energy code updates *Workforce development *HERS and BPI certifications *Multiple state energy efficiency program consulting 	<ul style="list-style-type: none"> *Principal Investigator Richard Faesy has 30 years’ experience working on VT codes *Lead the VT energy code updates for multiple cycles *Co-chair of the VT Climate Workforce Coalition *Developing national BPI certificate program for contractors 	<ul style="list-style-type: none"> *Work collaboratively with all partners *VT energy code updates, code collaborative and market characterizations with PSD, EVT and all stakeholders *Weatherization at Scale initiative with BED, EVT, state agencies, VGS, others
VT Secretary of State (including Office of Professional Regulation) (OPR)	<ul style="list-style-type: none"> *Professional regulation including Office of Professional Regulation * Business services *Municipal support 	<p>State agency with responsibility over Office of Professional Regulation, including Builder Registry which is poised for builder code training certifications and promotion</p>	<ul style="list-style-type: none"> *Secretary of State has worked with project staff on climate, energy, labeling and workforce issues *Collaborated on builder registry
International Code Council (ICC)	<p>Resilience, offsite construction, fire safety, and water conservation</p>	<ul style="list-style-type: none"> *Developed International Energy Conservation Code, and 14 other International Codes (of which Vermont adopts four) *Provides comprehensive energy code implementation support through education; training and certification of code officials, contractors, and other stakeholders; consulting and technical assistance; digital code access; custom code publishing; checklists; protocols; plan review; evaluation services; accreditation; electronic permitting; and virtual inspection resources. 	<p>Worked with the Building Safety Association of Vermont (BSAVT), an ICC chapter and collaborator with EFG and other stakeholders</p>
Efficiency Vermont (EVT)	<p>Extensive technical knowledge of both RBES, CBES, City of Burlington Rental Weatherization and Decarbonization ordinances. Energy efficiency program design and implementation.</p>	<p>Energy Code technical support to the design and builder communities and to Burlington’s Department Permitting and Inspections. Delivery of joint efficiency programs with VGS and EVT.</p>	<p>PSD and PUC on regulatory issues, EVT and VGs- numerous MF affordable housing projects, EAN on energy policy, PSD and EFG on code update work.</p>

Project Team Member	Skills/Area of Expertise	Qualifications	Has worked with other teaming partners?
Burlington Electric Department (BED)	*Extensive technical knowledge of RBES, CBES, City of Burlington Rental Weatherization ordinance. *Energy efficiency program design and implementation.	Energy Code technical support to the design and builder communities and to Burlington’s Department Permitting and Inspections. Delivery of joint efficiency programs with VGS and EVT.	State agencies on regulatory issues; EVT and VGS on numerous MF affordable housing projects; EAN on energy policy; EFG on code update work.
Vermont Gas Systems	Technical knowledge of both RBES and CBES through direct engagement with builders, architects, designers, developers, and homeowners	RBES and CBES energy code technical support for new construction programs; builder & HVAC community outreach; energy efficient / ENERGY STAR product rebates; weatherization programs	State agencies on regulatory issues; developers, builders, HVAC contractors & affordable housing providers; EVT & BED on energy efficiency program implementation; EFG on code update work; legislators, municipal officials, CCRPC & EAN on energy policy;
Vermont Association of Planning and Development Agencies (VAPDA)	*Regional and municipal enhanced energy planning *State and local permitting (zoning, building, environmental, etc.) *Outreach and education to municipalities	*Organization is composed of all regional planning commissions (11) that serve all VT municipalities *Developed enhanced energy plan for 11 regional planning commissions and over 90 municipalities *Routinely participate as parties in state regulatory processes	*Regional and municipal enhanced energy planning with state agencies, EVT, BED, and VGS.

The following organizations are committed Project Supporters:

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| <p>American Institute of Architects (AIA) – Vermont Chapter
 Association of General Contractors of Vermont
 Burlington Department of Permitting and Inspections
 Chittenden County Regional Planning Commission
 City of South Burlington
 City of Montpelier
 ClearlyEnergy
 Eco Houses of Vermont
 Energy Action Network
 Evernorth (affordable housing non-profit)
 Hayward Design Build</p> | <p>Huntington Homes
 New Buildings Institute (NBI)
 Snyder Homes
 Vermont Representatives Campbell, Pouech, Stebbins, Watson
 Vermont Senators Bray, Perchlik, Ram Hinsdale, Illuzzi (former)
 Vermont Business for Social Responsibility
 Vermont Builders and Remodelers Association
 Vermont Housing Finance Agency
 Vermont Office of Economic Opportunity, Weatherization Assistance Program</p> |
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