



ENERGY FUTURES GROUP

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BECWG Meeting #2

DOE RECI GRANT – PRELIMINARY FUNDING MODEL

September 10, 2024

Funding Model Overview

- EFG is working on a funding model for energy code administration through the DOE RECI grant
- This is a living document, and all inputs are subject to review
- There are a variety of potential funding mechanisms
 - Permit fees
 - Training and certification fees
 - Energy code support programs
- Starting with a look at the potential costs of one and two-family inspections and potential permit revenues

Funding Model Factors

- Cost factors
 - # of homes built per year
 - Scope of inspection services (e.g., plan review, site visits)
 - Labor source, time, and costs (e.g., state/municipal staff, third-party energy professionals)
 - Other/fixed costs (e.g., permit database, administrative staff, transportation, continuing education)
- Permit revenue factors
 - # of homes built per year
 - Permit fee structure
 - Home prices

Funding Model Inputs

- **Housing growth**
 - Business as usual (BAU): based on U.S. Census permit counts
 - Moderate growth: Average of BAU and aggressive growth
 - Aggressive growth: VT Housing and Finance Agency (VHFA) projections
- **Permit fees**
 - Secondary research of New England cities and towns
 - VT DFS permit fees
- **New home prices**
 - Informed by VHFA 2023 new home sales
- **Labor time and costs**
 - American Council for an Energy Efficiency Economy (ACEEE) study on the cost of enforcing building energy codes
 - Secondary research on code inspector salaries and third-party fees
- **Can look at many different combinations of inputs – examples are illustrative**

BAU Growth/Low-Cost Scenario

Energy Code Permit Review Labor Costs - State/Municipal Staff	
Input	Value
Growth Scenario	BAU
Scope Scenario	Low
Wage Scenario	Low
Year	2025
# of new homes: 1 and 2-unit	1,412
Hours per project (including travel)	2.5
Labor rate (\$/hr)	\$26.04
Labor Cost	\$91,945.35
Direct Cost - Ongoing	\$149,000.00
Upfront Cost	\$310,000.00
Total Cost	\$550,945.35

Energy Code Permit Review Labor Costs - Energy Professionals	
Input	Value
Growth Scenario	BAU
Scope Scenario	Low
Rater Cost Scenario	Low
Year	2025
# of new homes: 1 and 2-unit	1,412
Cost per Inspection	\$750.00
Labor rate (\$/hr)	n/a
Labor Cost	\$1,059,210.49
Direct Cost - Ongoing	\$122,500.00
Upfront Cost	\$300,000.00
Total Cost	\$1,481,710.49

Energy Code Permit Revenue Generation	
Input	Value
Growth Scenario	BAU
Permit Fee Scenario	Low
Home Price Scenario	Low
Year	2025
# of new homes: 1 and 2-unit	1,412
Median new home price	\$300,000.00
Permit fee (\$/\$1,000 construction cost)	\$5.00
Permit Revenue	\$2,118,420.97
Permit Revenue/home	\$1,500.00

Moderate Growth/Moderate Cost Scenario

Energy Code Permit Review Labor Costs - State/Municipal Staff	
<u>Input</u>	<u>Value</u>
Growth Scenario	Moderate Growth
Scope Scenario	Moderate
Wage Scenario	Moderate
Year	2025
# of new homes: 1 and 2-unit	1,949
Hours per project (including travel)	3.25
Labor rate (\$/hr)	\$36.46
Labor Cost	\$230,973.24
Direct Cost - Ongoing	\$149,000.00
Upfront Cost	\$310,000.00
Total Cost	\$689,973.24

Energy Code Permit Review Labor Costs - Energy Professionals	
<u>Input</u>	<u>Value</u>
Growth Scenario	Moderate Growth
Scope Scenario	Moderate
Rater Cost Scenario	Moderate
Year	2025
# of new homes: 1 and 2-unit	1,949
Cost per Inspection	\$1,000.00
Labor rate (\$/hr)	n/a
Labor Cost	\$1,949,312.59
Direct Cost - Ongoing	\$122,500.00
Upfront Cost	\$300,000.00
Total Cost	\$2,371,812.59

Energy Code Permit Revenue Generation	
<u>Input</u>	<u>Value</u>
Growth Scenario	Moderate Growth
Permit Fee Scenario	Moderate
Home Price Scenario	Moderate
Year	2025
# of new homes: 1 and 2-unit	1,949
Median new home price	\$500,000.00
Permit fee (\$/\$1,000 construction cost)	\$8.00
Permit Revenue	\$7,797,250.37
Permit Revenue/home	\$4,000.00

Aggressive Growth/Aggressive Cost Scenario

Energy Code Permit Review Labor Costs - State/Municipal Staff	
Input	Value
Growth Scenario	Aggressive Growth
Scope Scenario	High
Wage Scenario	High
Year	2025
# of new homes: 1 and 2-unit	2,486
Hours per project (including travel)	4
Labor rate (\$/hr)	\$46.88
Labor Cost	\$466,189.60
Direct Cost - Ongoing	\$149,000.00
Upfront Cost	\$310,000.00
Total Cost	\$925,189.60

Energy Code Permit Review Labor Costs - Energy Professionals	
Input	Value
Growth Scenario	Aggressive Growth
Scope Scenario	High
Rater Cost Scenario	High
Year	2025
# of new homes: 1 and 2-unit	2,486
Cost per Inspection	\$1,250.00
Labor rate (\$/hr)	n/a
Labor Cost	\$3,107,930.67
Direct Cost - Ongoing	\$122,500.00
Upfront Cost	\$300,000.00
Total Cost	\$3,530,430.67

Energy Code Permit Revenue Generation	
Input	Value
Growth Scenario	Aggressive Growth
Permit Fee Scenario	High
Home Price Scenario	High
Year	2025
# of new homes: 1 and 2-unit	2,486
Median new home price	\$700,000.00
Permit fee (\$/\$1,000 construction cost)	\$10.00
Permit Revenue	\$17,404,411.76
Permit Revenue/home	\$7,000.00