Explanation of Market Barriers

The attached worksheet includes a reproduction of the market barriers tables by sector (C&I and Residential, of income eligible customers) from the 2022-2023 Plan, as well as the planned interventions and program obj To this list, each of the utilities has included a column including an estimate of the cost of the intervention for year 2021, where such estimation is possible. A description of the source of the estimate (e.g., the benefit cos model for 2021 reporting, or the Q4 2021 report) is included in a separate column.

It is important to note that budgeting of expenditures related to the energy efficiency programs has never be explicitly tied to overcoming specific market barriers, nor are the general ledger accounts used by the utilities to track these costs. Therefore, granular estimates of either planned or actual costs to overcome the specific barriers identified in planning are, in most cases, not quantifiable. Rather, throughout the two decades of reg energy efficiency programs in New Hampshire, budgets and expenditures have been organized around energy efficiency *programs* and five budget-related *activities.*

As described in Table 1-13 on Bates 23 of the 2022-2023 Plan, and included in a separate tab of the attached energy efficiency related expenditures are tracked based on one of six cost categories. These cost categories served as the basis of planning and reporting of expenses related to the regulated New Hampshire energy effi programs since at least 2004. They are as follows:

a) internal administration
b) external administration
c) customer rebates and services
d) internal implementation services
e) marketing
f) evaluation

This method of accounting for expenditures associated with the suite of NH Energy Efficiency programs has be audited at each of the utilities and approved by the Commission on a nearly annual basis. This organization of expenditures (by cost category and program) is displayed most clearly in the Cost Table worksheet of each uti model, as well as in Attachment C of each Plan filed with and approved by the Commission. Because program budgets were based on program year 2020 (see PUC Order 26,440 in Docket 17-136), the breakdown of planr by program and budget activity for 2021 is most closely associated with the 2020 Update Plan, Attachment C.

Not all expenditures on the part of the utilities relate to identified market barriers or program interventions. related to other activities are include the following:

EM&V Costs

While the Market Barriers listed in the 2022-2023 Plan do not explicitly include activities related to evaluatior measurement and verification, ("EM&V"), expenditures related to the Evaluation cost category are essential t effective operation and continual improvement of program design and delivery. By reviewing how savings are calculated, how customers are using efficient equipment, and otherwise verifying that savings claims based o available information, independent third party evaluation ensures that reporting to the Commission is accura that offerings continue to be cost-effective. Evaluation activities also lead to continual evolution and improve the design and delivery of programs and help to ensure that customers are well served. Evaluation also suppo participation of utility staff in the EM&V Working Group as well as the cost of retaining a team of expert EM& whose services are competitively procured by the DOE. Finally, the evaluation cost category reflects expendit associated with setting up and maintaining each utility's tracking systems as well as internal and external pers engaged in data tracking activities.

Internal and External Admin Costs

While the Market Barriers listed in the 2022-2023 Plan do not explicitly include activities related to internal ar external administration of programs, expenditures related to that cost category provide essential manageme oversight and administration of programs required to effectively comply with evolving regulatory requiremen NHSaves programs. Docket administration, report preparation, meetings with stakeholder groups such as the Efficiency and Sustainable Energy ("EESE") Board, development of new plans, budgets, bill impacts, lost base r calculations, benefit cost modeling, presentations, and more are covered under this budget category. These expenditures are essential to the smooth administration of programs and ensure that program activity is fully transparent to the Commission, DOE and other stakeholders, and that the programs are responsive to the evo policy and regulatory environment in New Hampshire.

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Line	C&I Market Barrier	Program Interventions
1	Incremental price difference between standard and high efficiency goods and services.	1. Provide rebates to give effective price signals to help cover incremental first cost.
2		2. Offer low-interest or interest-free loans to allow customers to finance their portion of energy efficiency investment.
3		3. Provide information about alternative sources of funding for their high-efficiency investments (state and federal rebates or tax credits).
4		4. Provide information/training about the importance of looking at life-cycle costs on website and in communication.
5	Lack of **customer** awareness related to: • benefits of energy efficiency	1. Promote energy-efficient options in store/online/at point of purchase.
6	• existence of highefficiency alternatives • where to purchase high-efficiency equipment/quality installation	2. Keep information on NHSaves website up to date.
7	* how and when to reduce demand during system peaks.	3. Engage and train contractor network to improve understanding of/familiarity with new, high-efficiency technologies.
8		4. Provide information to target customer audience through case studies, one-on-one contact, technical assistance, and building assessments.
9		5. Co-market with contractors and retailers.
10		6. Refer customers to Program Administrator vetted turnkey service providers.
11	Midstream (retailers/ distributors) fail to stock high-efficiency products. • Lower turnover	1. Include retailer training and recruitment in midstream program offering.
12	* stocking cost * lack of awareness / experience	2. Communicate attributes of emerging or improving high efficiency equipment stock.
13		3. Provide proper price signals to retailers who stock/sell targeted equipment.
14		4. Co-market available incentives to customers.
15	**Building trades** lack sufficient cadre of trained personnel, awareness, experience, or commitment to high-efficiency practices, both for existing building renovations and new construction.	1. No-cost training in best practices provided to builders and trade allies.
16		2. Incentives provided for exceeding commercial building energy efficiency code and appliance standards.

17		3. Case studies developed and promoted to highlight exceptional builders and homes.
18		4. Collaboration with professional associations to promote the program and the benefits of high-efficiency homes.
19		

Program Objectives	Cost of Intervention $2021
Customers consider operating costs and not just price tag when making purchase/investment decisions.	$599,038
Market penetration of high-efficiency equipment and services increases.	$12,509
Customers learn to look for and demand high-efficiency options.	$0
Market sales of high-efficiency equipment and services increases.	$11,957
System peak usage is reduced.	
Customer iCAP charges are reduced.	$156,581
Greater availability/visibility of high-efficiency equipment at point of sale.	$19,309
Engaged and motivated retailers committed and rewarded for selling high-efficiency products.	
Market share of high-efficiency equipment and services increases.	
Build confidence and competence in high-efficiency building practices. 2. Improve the industry standard practice in building design.	$6,874
Improve the industry standard practice in building design.	$152,740

Reward and celebrate builders and other professionals who demonstrate commitment to high-efficiency building design.	
Capture opportunity at time of building/renovation for energy savings over the life of building.	
Increase the industry standard practice for high-efficiency design/build/renovation.	
Total Cost	**$946,499**
Total NPV Costs C&I Sector 2021	**$1,019,652**
Unaccounted for Other Expenses	**$73,153**
	$12,223
	$51,528
	$9,402
	$73,153

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Description of the Cost / Source
C&I Rebates/Services total minus that provided for Education and midstream measures (included elsewhere).
On-bill financing. Please note, this is not from the annual budget, but is from the RLF.
Cost of circuit riders (included in row 1 under rebates/services)
All C&I program marketing and customer engagement initiative expenses
All C&I program implementation services expenses, less education
Midstream C&I rebate/services
Education rebate/services and implementation expenses.
Large and Small C&I new equipment and construction rebate/services expenses

All internal admin, EM&V, and external admin expenses
EM&V Internal Admin External Admin Total

Line	Residential Market Barrier	Program Interventions
1	Incremental price difference between standard and high efficiency goods and services.	1. Provide rebates to give effective price signals to help cover incremental first cost.
2		2. Offer low-interest or interest-free loans to allow customers to finance their portion of larger investments in weatherization and heating systems.
3		3. Provide customers information about alternative sources of funding for their high efficiency investments (state and federal rebates or tax credits).
4		4. Provide information/training about the importance of looking at life-cycle costs on website and in communication.
5	Lack of **customer** awareness related to: • benefits of energy efficiency • existence of highefficiency alternatives. • where to purchase high-efficiency equipment • how and when to reduce demand during system peaks.	1. Promote energy-efficient options in store/online/at point of purchase.
6		2. Use NH Saves/EnergyStar product labeling at point of purchase.
7		3. Keep information on NHSaves website up to date.
8		4. Provide customers access to pre-vetted online marketplace for energy efficiency goods and services.
9		5. Send Home Energy Reports directly to customers though mail and email.
10		6. Provide information to target audience at trade and home shows.
11		7. Co-market with contractors and retailers.
12		8. Directly control thermostat settings to reduce air conditioning use during system peaks.
13	Midstream (retailers/ distributors) fail to stock high efficiency products.	1. Provide retailer training and recruitment in midstream program offering.
14	• Lower turnover	2. Communicate attributes of emerging or improving high-efficiency equipment stock
15	• Stocking cost	3. Provide proper price signals to retailers who stock/ sell targeted equipment.
16	• Lack of awareness/ experience	4. Co-market available incentives to customers.

17	**Building trades** lack sufficient cadre of trained personnel, awareness, experience, or commitment to high efficiency practices.	1. No-cost training in best practices provided to builders and trade allies.
18		2. Incentives provided for meeting Energy Star Homes standards and for other above-energy code practices. 3. Case studies developed and promoted to highlight exceptional builders and homes.
19		3. Case studies developed and promoted to highlight exceptional builders and homes.
20		4. Collaboration with professional associations to promote the program and the benefits of high-efficiency homes.

Program Objectives	Cost of Intervention $2021
Customers consider operating costs and not just price tag when making purchase/investment decisions.	$2,127,317
Market penetration of high-efficiency equipment and services increases, allowing the transition to market-based measure offering.	$21,503
Customers learn to look for and demand high-efficiency options.	$23,001
Market sales of high-efficiency equipment and services increases.	$37,295
System peak usage is reduced.	$239,176
	$0
Greater availability/ visibility of high-efficiency equipment at point of sale • Engaged and motivated retailers committed and rewarded for selling high- efficient products.	$407,714
Market share of high- efficiency equipment and services increases	

Build competence and confidence in high-efficiency building practices	$0
Improve the industry standard practice in building design	$160,993
Reward and celebrate builders and other professionals who demonstrate commitment to high-efficiency building design	
Capture opportunity at time of building/renovation for energy savings over the life of a building or home	
Total Cost	$2,995,496
Total NPV Costs Res Sector 2021	$3,234,210
Unaccounted for Other Expenses	**$238,714**
	$33,770
	$168,181
	$36,763
	$238,714

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Description of the Cost / Source
Total Rebates / Services from Cost Table for Low Income and Res programs, minus behavior, and lighting offers (which are listed below)
Please note: this is not part of the annual budget but is from the RLF. Also, Interest rate buy-downs paid included.
Cost of circuit riders, included in line 1
All residential program marketing and customer engagement initiative expenses
All residential program implementation services expenses
Rebates and services for behavior program (subtracted from row 2 rebate total)
Midstream retail lighting rebate/services

Residential education and training expenses are embedded in the C&I Education expenses for 2021, but are charged to residential beginning in 2022.
ES Homes rebate/services expenses
All internal admin, EM&V, and external admin expenses
EM&V Internal Admin External Admin Total

Energy Efficiency Cost Categories

Tracking Activity	Description
Administration—Internal	Internal utility costs associated with program design, development, regulatory support, and quality assurance. Costs include employee labor, benefits, expenses, materials, and supplies.
Administration—External	External costs associated with program administration. This includes contractors and consultants used in support of program design, development, regulatory support, and quality assurance.
Customer Rebates and Services	Costs associated with incentives that reduce the cost of equipment as well as costs for services to speed adoption. This includes direct rebate dollars paid to distinct participants, as well as indirect incentives for equipment discounts. It also includes services such as technical audits, employee and contractor labor to install measures, expenses, materials, and supplies.
Internal Implementation Services	Tracking of internal utility costs associated with delivering programs to customers, including labor, benefits, expenses, materials, and supplies.
Marketing	Costs for marketing, advertising, trade shows, toll-free numbers, and NHSaves website. Types of expenses include labor, benefits, consultants, contractors, expenses, materials, and supplies.
Evaluation	Costs for EM&V activities including labor, benefits, expenses, materials, supplies, consultants, contractors, and tracking systems.