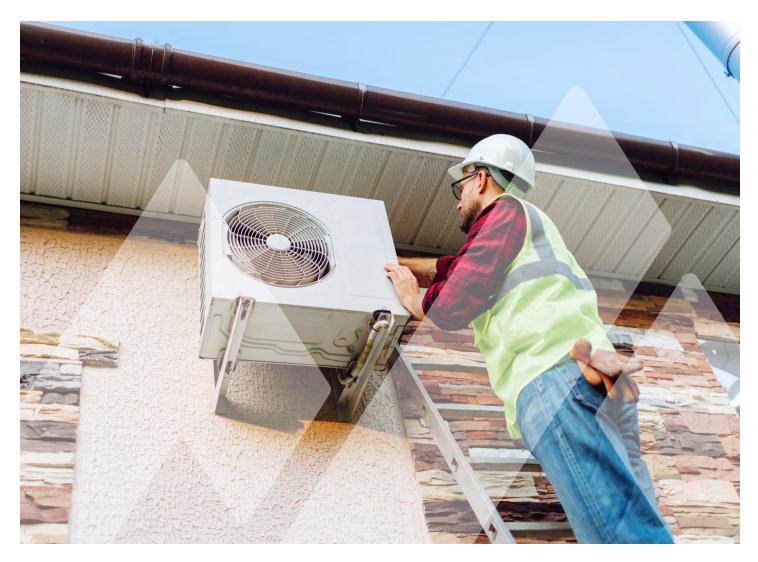


# Making Decarbonization Financing Work for Homeowners and Contractors



Report / September 2024

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# Contents

Executive Summary 4
Introduction
What Options Exist Today
How Decarbonization Financing Can Provide a Better Alternative
to Replacing a Broken Furnace
The Five Key Elements
How Today's Programs Stack Up
Turning the Vision into Reality
Appendix A: Existing HVAC Financing Options
Appendix B: Analysis for Maryland Homeowner Example 15
Endnotes



#### **About RMI**

RMI is an independent nonprofit, founded in 1982 as Rocky Mountain Institute, that transforms global energy systems through market-driven solutions to align with a 1.5°C future and secure a clean, prosperous, zero-carbon future for all. We work in the world's most critical geographies and engage businesses, policymakers, communities, and NGOs to identify and scale energy system interventions that will cut climate pollution at least 50 percent by 2030. RMI has offices in Basalt and Boulder, Colorado; New York City; Oakland, California; Washington, D.C.; Abuja, Nigeria; and Beijing.

# **Executive Summary**

This report explains how decarbonization financing should be presented to homeowners and contractors if it is to achieve broad market uptake. It outlines the shortcomings of existing financing options and describes the key features that financing programs should exhibit.<sup>1</sup> It does not delve into the technical details of how financing programs should be structured, including approaches to due diligence, navigating lower credit scores, and sources of capital. It is informed by market research and interviews with financing advocates, contractors, lenders, and public utility commission staff. This report is intended for decarbonization advocates as well as public and mission-driven private entities that provide or control decarbonization financing.

The key arguments this report lays out are:

- **1.** Existing financing options come up short when it comes to accelerating decarbonization retrofits for single-family homes.
- 2. Financing offerings should feature five key elements:
  - a. No up-front costs and competitive terms
  - b. Simple application process with same-day approval
  - c. Decarbonization-aligned upgrades encouraged over fossil fuel
  - d. Offered by the contractor
  - e. Enhanced consumer protections
- **3.** It will take a landscape of options, ranging from tariffed on-bill (TOB) to market rate loans, to meet the needs of all homeowner (and renter) segments.
- **4.** Policymakers, regulators, and lending institutions should assess and reform existing programs or develop new programs that align with the elements described above.



i

For the purposes of this report, we use the term "financing" as an umbrella for both loan offerings and non-loan offerings (e.g., leasing and utility tariffed on-bill).

## Introduction

There are 85 million single-family homes across the United States, accounting for 58% of building sector emissions. Most of these emissions come from heating and hot water, with about 75% of homes still burning fossil fuels. The market is beginning to shift with rising heat pump sales, increased federal incentives, and ambitious state and local electrification targets.<sup>1</sup> Nonetheless, decarbonization retrofits remain an uphill battle, in large part because of upfront costs.

Electrification has many benefits for homeowners, including better air quality and lower operating costs in much of the country, but significant barriers remain. Contractor wariness is a major one. Another, and the focus of this paper, is the hard fact of up-front cost: it is typically cheaper to replace a gas or oil furnace with the same equipment than to upgrade to an efficient heat pump. As a result, most old furnaces are simply replaced with new ones. To change this dynamic, homeowners need ways to offset the higher costs of decarbonization retrofits.

What is that solution? Financing designed to work for homeowners and contractor business models.

### Wait! Can't we solve the cost problem with rebates?

Rebates and incentives are one piece of the puzzle and for the lowest-income customers, may sometimes cover the full cost of a project. But for the majority of the market, relying on rebates alone is impractical. Incentive levels are not always high enough to close the gap, and rebate programs tend to add friction to the sale process. Historically, incentives have not been equitably distributed.<sup>2</sup>

When it comes time for homeowners to replace their heating, ventilating, and air-conditioning (HVAC) system or water heater, a heat pump should be the most financially attractive and accessible option available.



# What Options Exist Today

Collectively, options to finance decarbonization fall into three categories, described below. For a more detailed breakdown and examples, see *Appendix A*.

- 1. Traditional market rate financing. This includes installment loan financing (regular payments over a fixed term) offered by the contractor, credit card financing through equipment manufacturers and retailers, or personal bank loans. According to industry sources, about 25% of HVAC projects are financed, and about 60% of contractors offer financing through third-party lenders.<sup>3,ii</sup> Although common, traditional financing options are often limited to homeowners with high credit scores, have high interest rates, and do not encourage electrification over like-for-like replacements.
- 2. Innovative or "green" financing. This includes government-supported green bank loans, green loans from mission-driven financial institutions, and financing offered through energy utilities as part of an energy efficiency program. Green financing options often come with significant barriers to participation: many require customers to have energy audits completed and meet certain payback thresholds to qualify. These additional steps are not practical for the majority of customers who do not proactively seek out equipment replacements. The substantial documentation and delayed payments that typically accompany these programs are also a pain point for contractors. Although some green financing programs are designed to reach a more diverse customer base by lowering credit barriers, 90% of green loan uptake is from homeowners with good and great credit scores.<sup>4</sup>
- 3. Non-loan programs. This includes leasing models and tariffed on-bill (TOB) programs. Leasing involves the customer paying a monthly amount for a fixed contract period and typically includes a maintenance agreement but does not result in the customer owning the equipment. Leasing programs appeal to customers who are averse to up-front costs and/or debt, and do not want the hassle of ownership and maintenance. However, they often also come with credit score barriers and higher lifetime costs. TOB programs provide participating customers with upgrades that are paid for by the utility, which recovers its costs through a new charge on the customer's monthly utility bill. Under these programs, a contractor performs an energy audit, identifies energy efficiency upgrades (which may or may not include new HVAC), and performs the installation. TOB programs solve many of the income and homeownership barriers by not requiring credit checks to qualify, but have other drawbacks. Most are not designed for emergency appliance replacements, and requirements for bill neutrality may limit opportunities for electrification in places with high heating loads and unfavorable electric rates.<sup>III</sup> Under bill neutrality, loan payments cannot be higher than the expected energy savings for the homeowner (regardless of homeowner income).

ii Anuj Khanna, founder and CEO of Comfort Connect, estimates that financing is used in 20%-25% of all HVAC jobs, while 40% of jobs handled by larger HVAC firms involve financing.

iii Emerging TOB programs are addressing these two challenges. The Illinois Commerce Commission is finalizing guidelines for the statutorily required Equitable Energy Upgrade program, which may include a pathway for emergency replacements (https://www.icc.illinois.gov/informal-processes/Equitable-Energy-Upgrade-Plan). In addition, Tri-State Generation and Transmission, a Colorado-based electric co-op, recently established the Electrify and Save program, which does not require energy savings to exceed the monthly repayment, though most measures do meet that criterion (https://tristate.coop/on-bill-repayment).

### "Worry-free" programs

Private firms, such as Comfort Connect and HomeServe, offer combined HVAC leasing and maintenance. Under these programs, homeowners make monthly payments for fixed periods and the company takes care of installation, annual maintenance, and service calls. They tend to serve homeowners with high credit scores who don't mind paying more for peace of mind.

The maintenance part of these programs makes them especially appealing to contractors. The maintenance agreement provides contractors with a new, ongoing revenue stream. It also locks in a relationship with the customer so that the contractor will have the first crack at system replacement in the future (because they will be the first to know when that's needed).

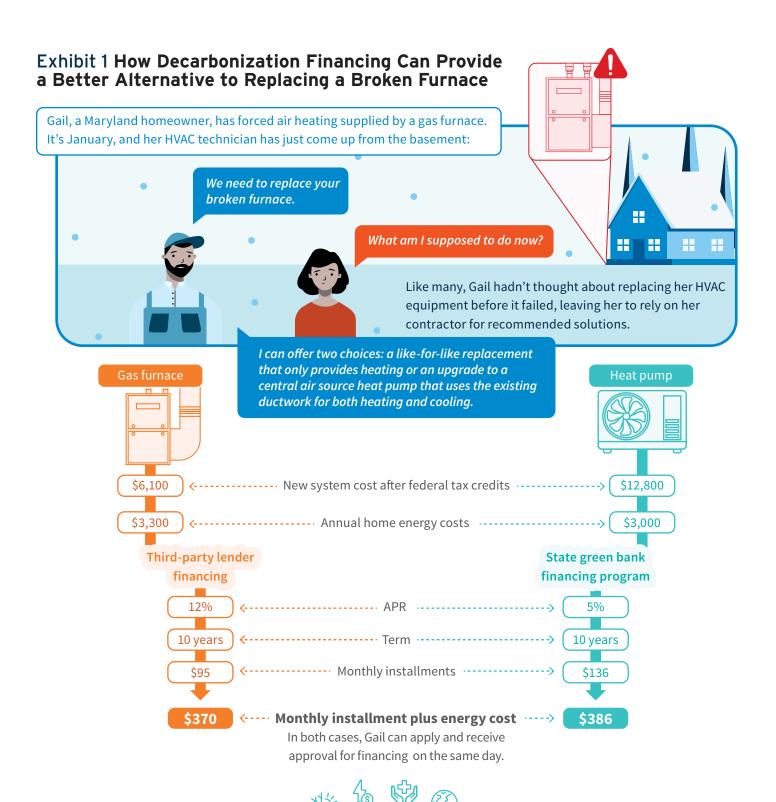
When these programs are offered through utilities, a problem arises if the program administrator doubles as a contractor. This creates a significant disincentive for other contractors to participate because doing so means sharing customer leads with a competitor.



Photo courtesy of Irbis Heating Air Plumbing

In the next section, we consider what success looks like for homeowners and contractors. We begin in Exhibit 1 with the perspective of a hypothetical single-family homeowner: we'll call her Gail.





For similar monthly payments, Gail can swap her old, polluting furnace that only provides heat with a clean, electric heat pump that delivers **year-round comfort.** 

Please see Appendix B for analysis methodology and additional data.

Gail chooses the **heat pump**, appreciating the **manageable payments**, peace of mind with the **state-endorsed** program, and the added bonus of **avoiding a costly AC replacement** down the line. She's also excited about reducing her reliance on gas for a **healthier**, **greener home**.



# **The Five Key Elements**

In Exhibit 1, Gail chose the heat pump despite its higher upfront cost compared to a like-for-like replacement. The main reason was that, after factoring in utility cost savings, the monthly payments were similar. Plus, she was getting two systems in one. All five of these key elements came together to provide a compelling and accessible option:

- 1. No up-front costs and competitive terms
- 2. Simple application process with same-day approval
- **3.** Decarbonization-aligned upgrades encouraged over fossil fuel
- 4. Offered by the contractor
- 5. Enhanced consumer protections

Below, we discuss each element in depth:

#### 1. No up-front costs and competitive terms

Financing options that include no up-front costs are critical, especially for low- and moderate-income (LMI) homeowners who cannot afford costly surprises. In Ontario, Canada, HVAC financing is common, and many homeowners choose to pay over time rather than make a large up-front payment. In Ontario's utility service areas, 98.5% of gas hot water heaters are owned by utilities under leasing programs.<sup>5,iv</sup>

In the United States, only about 25% of homeowners use HVAC financing despite broad availability. This may be due to wariness of contractor-offered financing or lack of awareness — issues that could potentially be addressed by state or utility-endorsed decarbonization programs. For the majority of homeowners comparing out-of-pocket costs, a payment plan — even with conventional interest rates and payback periods — may be compelling.

### What are "competitive" financing terms?

For loans, the key terms are the interest rate and payback period, which together drive monthly payments. Terms that are competitive will bring the monthly payments for a decarbonization upgrade in line with the businessas-usual alternative. Determining these terms depends on the size of the gap that needs to be bridged, which may vary by market and customer segment. For example, a customer replacing their AC with a heat pump faces a much lower cost barrier than one converting from ductless baseboard heating.

In general, lower interest rates and longer payback periods drive greater uptake. This typically requires public funds to subsidize rates directly or indirectly through mechanisms like loan loss reserves.



iv This statistic is from the most recent publicly available, 10-year-old data. The prevalence of HVAC leasing in Ontario is the result of a history of utility-owned service companies, and the near-complete market capture of hot water heaters demonstrates the appeal of simple, no up-front cost financing when encouraged by HVAC contractors. It is also a cautionary tale: there are widespread consumer complaints about the total cost of ownership and high fees to exit the leases. Legislation passed last year in Ontario increases disclosure requirements, adds a 10-day cooling off period for such leases, and enables regulation of the APR charged (https://www.ola.org/en/legislative-business/bills/parliament-43/session-1/bill-142).

### 2. Simple application process with same-day approval

Most existing green financing options are complicated for customers to access and require a separate set of steps independent of the HVAC work, which can delay projects and cause friction with contractors. This is especially problematic in typical, unplanned replacement scenarios. To influence homeowner decisionmaking during replacements, financing needs to be offered within the sale. This means an application that can be completed in real time, with approval and prompt fund disbursement. This is common with conventional HVAC financing, and it should be no different for green financing.

### 3. Decarbonization-aligned upgrades encouraged over fossil fuel

Many green financing programs still fund the installation of fossil fuel equipment meeting certain efficiency levels. For example, at the time of this report, Energize Connecticut's Smart-E Loan program features many of our key elements, but still finances furnace and boiler replacements.<sup>6</sup> Green financing should strongly favor or be limited to decarbonization-aligned projects (e.g., electrifying space or hot water heating appliances).

### 4. Offered by contractor

Homeowners rely on their contractors to guide them through major appliance replacements, so involving contractors is key to achieving scale. To motivate participation, contractors need compelling business incentives, such as expanding their customer base, increasing sales of high-end (and more profitable) equipment, and enhancing customer satisfaction. A successful financing program must avoid adding administrative burden or friction to the sales process.

Because many contractors already partner with third-party lenders to offer installment loans or credit card financing, decarbonization financing programs may be more successful by integrating with these existing platforms. Learning a new platform would create a significant barrier for contractor participation, especially if decarbonization work is the minority of their business. Contractors could be enticed to include decarbonization options through project bonuses, dealer fee reductions for meeting sales targets, and better loan terms for decarbonization measures.

#### 5. Enhanced consumer protections

Federal and state regulations provide consumer protections for lending and contractor practices. Although we have not conducted an exhaustive review of these rules, research indicates there are gaps in guaranteeing that customers truly benefit from a decarbonization financial offering. Below is a nonexhaustive list of protections that may not be present in all states:

- Transparency on any estimated energy savings and costs and on incentives or tax credits within quotes. (Transparency on more standard elements like loan terms and APR is covered by existing regulations.)
- Rules against predatory marketing, for example, to ensure income-eligible customers aren't persuaded to finance measures that could be covered by rebates.
- For TOB programs, protection against the risk of service shutoffs. Some of this risk can be mitigated through standards for vetting customers' ability to pay, assessing bill impacts, or creating options for customers to pay only the portion of their bill that reflects electricity consumption.
- For lease-style offerings, fair requirements around the maintenance agreement and contract termination.



# How Today's Programs Stack Up

Exhibit 2 highlights a selection of existing programs and the extent to which they incorporate the five key elements. It includes examples from traditional, green, leasing, and TOB programs. In addition to assessing these programs against the key elements, we also evaluate whether they are designed to promote equitable access, serving customers who typically are ineligible or uninterested in financing due to credit requirements, interest rates, or concern about debt burden.

### Exhibit 2 How existing programs compare on the key elements and equitable access

		Key Elements				Equitable Access			
	<b>Program Name</b> Type	No Up- Front Costs	Simple Application with Same- Day Approval	Contractor- Offered	Enhanced Consumer Protections	Decarbon- ization- Aligned	Accessible for <640 Credit Score	Subsidized Interest Rate	Loan Forgiveness
Traditional	Contractor Financing	~	~	~	×	×	×	<b>X</b> *	×
	Carrier Credit Card	~	~	×	×	×	×	<b>X</b> *	×
Green Financing	Mosaic Secured green loan	~	v	✓**	×	×	×	×	×
	NEIF EnergyPlus Unsecured green loan	~	×	✓ **	~	~	×	×	~
	MA HEAT Loan Ratepayer subsidized green loan	~	×	×	~	~	×	~	×
Leasing	Comfort Connect	V	v	~	<b>X</b> †	×	~	NA	NA
TOB	Ameren Missouri Pay As You Save	✓ ‡	×	×	~	<b>√</b> §	~	NA	NA

\* May include promotional 0% interest if paid in full during the first 12 months.

<sup>\*\*</sup>Optional, but not commonly the case.

<sup>†</sup> Unlike in Ontario, we have not encountered widespread complaints about HVAC leasing programs in the United States.

<sup>‡</sup> No up-front costs required when program cost-effective requirements are met; optional copayment when they are not.

<sup>§</sup> In most TOB programs, upgrades are focused on energy efficiency and may include fossil HVAC replacements as well as cost-effective heat pumps.

RMI Graphic. Source: RMI analysis based on review of select programs.



As reflected in Exhibit 2, we are not aware of any programs that reflect all five key elements. Traditional programs excel in customer and contractor ease but fall short in aligning with decarbonization and promoting equitable access. Conversely, green financing programs tend to be cumbersome. Given the diverse needs and borrowing capacities of single-family homeowners and residents, a one-size-fits-all financing program is unlikely. Instead, a range of financing solutions is needed to incorporate the five key elements and collectively serve renters, owners, and LMI and market rate customers. Exhibit 3 outlines financing program types and the single-family customer segments they should prioritize.

### Exhibit 3 Financing offering by priority customer segment

Financing Offering Type	Priority Customer Segment(s)	Rationale for Prioritization		
Green loans with subsidized interest rates	LMI homeowners	Publicly supported financing should be reserved for those with greatest need.		
TOB programs	LMI homeowners; renters*	Same as above. Also minimizes the bill impact risk on energy-burdened customers, and the absence of liens makes TOB an option for renters.		
Green market rate loans	Higher-income homeowners	Subsidized interest rates should only be offered to extent necessary to spur market adoption.		
Leasing programs with maintenance agreements	Higher-income homeowners	Greater ability to absorb the higher costs associated with a concierge-type product.		

Note: While LMI customers should be the priority, offering TOB to all customers could improve cost-effectiveness through economies of scale. When designing a program, implementers should aim to balance cost optimization with LMI participation objectives.

RMI Graphic. Source: RMI analysis of financing offerings and customer segments.

# **Turning the Vision into Reality**

Meeting ambitious climate goals requires a monumental shift in how single-family homes heat their space and hot water. However, it is possible to minimize the burden and costs of doing so for individual homeowners. To design effective financing solutions, we must create options that encourage decarbonization, are accessible to all residential customers, and appeal to contractors. This involves meeting the market where it is and creating incentives to guide it in the right direction.

For policymakers, regulators, and public entities that provide financing, this report should serve as a benchmark for evaluating existing programs. As a starting point, we recommend soliciting input from contractors, manufacturers, community organizations, and customers to assess how existing financing options compare against the criteria and vision laid out in this report. Key questions to consider are:



- Are existing programs oriented toward unplanned replacements, or effectively proactive replacements only?
- What types of customers are taking advantage of existing options and are there any gaps in who is being served?
- How does the ease of use of a green program compare with private-sector options?

For advocates, this report can serve as a North Star for advancing financing solutions for building decarbonization. A key opportunity is to engage in regulatory proceedings and other efforts where the creation or reform of a financing initiative is being considered. Advocates can help educate policymakers, regulators, and public lending institutions on what the market is experiencing and needs. In addition, they can collaborate with community-based organizations to help enhance customer outreach, involvement, and education, ensuring that solutions are informed by and reach their intended audience.

# Appendix A: Existing HVAC Financing Options

Existing HVAC financing options can be categorized as follows: traditional (widely available for any type of equipment replacement), green (specifically designed to encourage), and non-loan programs.

Traditional Financing					
Installment loan financing through contractor	Financing offered directly by the contractor who uses a third-party lending institution (e.g., <b>Synchrony</b> ) to offer rates typically around 9.99%–12.99% APR for 120 months. About 20%–30% of HVAC contractors offer financing.				
Credit card financing through manufacturer	Financing structured as a credit card and offered by many manufacturers, with <b>credit card rates as high as 28.99%</b> . <sup>7</sup> These options may include promotional offers such as zero interest if paid in full during a certain time period and provide the customer with a revolving line of credit for future purchases.				
Bank loan	Secured and unsecured personal loans for home upgrades, available through private financial institutions. Most homeowners are not aware of these options and they are only available for homeowners with strong credit scores.				
Home equity loan or line of credit	Options for homeowners, depending on the extent of the project. The viability of this option depends on the amount of equity a homeowner has in their home as well as their credit score.				
Green Financing					
"Green" loans	Secured and unsecured loan products with lower interest rates available specifically for environmentally friendly home upgrades. Can be available through private lending institutions, such as <b>Clean Energy Credit Union</b> , or through a green bank, such as Connecticut Green Bank. <sup>8</sup>				
Utility or third- party financing with on-bill repayment	Programs in which the utility either acts as the lender or as a conduit for a third-party lender, allowing customers to repay loans through their energy bill. These programs, such as PSE&G New Jersey's on-bill repayment option, often include lower interest rates either by leveraging ratepayer funds or the utility company's lower cost of capital. <sup>9</sup>				
Non-Loan Programs					
Tariffed On-Bill	Programs that involve the utility investing in energy efficiency at a customer's home and recovering the cost of investment through a time-limited tariffed charge on the customer's bill. <sup>10</sup> Approval for participation is typically is based on 12 months of payment history rather than credit score, making these programs more accessible to LMI customers, including renters. The payments are designed to be less than the annual energy cost savings, and investments are tied to the meter.				
Leasing and maintenance contracts	Please see the description of worry-free programs on page 7.				



# Appendix B: Analysis for Maryland Homeowner Example

Our analysis of Gail, the hypothetical single-family homeowner in Maryland, was conducted with RMI's Green Upgrade Calculator.

The analysis presumes a 2,200 square foot single-family detached home in zip code 21201 built before 1980. It has ducted central AC and a natural gas furnace.

Exhibit 4 provides further detail on the two financing scenarios (A and B) presented, along with two other scenarios (C and D).

#### Exhibit 4

### Financed cost of green upgrades versus like-for-like replacements

	A. Furnace replacement	B. Whole-home heat pump, better APR	C. Whole-home heat pump, standard APR	D. Furnace + air conditioner replacement
Net up-front costs	\$6,100	\$12,800	\$12,800	\$12,700
Total capital costs	\$6,600	\$14,800	\$14,800	\$13,300
25C federal tax credit	(\$600)	(\$2,000)	(\$2,000)	(\$600)
Loan term	10 years	10 years	10 years	10 years
Interest rate	12%	5%	12%	12%
Annual financing payments	\$1,136	\$1,629	\$2,204	\$2,186
Annual home energy costs	\$3,302	\$3,001	\$3,001	\$3,214

RMI Graphic. Source: RMI analysis using the Green Upgrade Calculator



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