

Building to Last:
Painless, Inexpensive Market Transformation and
the Inflation Reduction Act Residential Rebate Programs

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Introduction

The Inflation Reduction Act's HEEHR and HOMES energy efficiency rebate programs represent an unprecedented opportunity – not just a once-in-a-generation, but possibly a once-in-a-lifetime – to achieve market transformation.¹ The billions of public dollars allocated for the programs, their national scale, and the publicity they have already generated, are sufficient to move the market in a way that has never before been possible.

That said, the demands of creating programs that meet statutory requirements for the Inflation Reduction Act (IRA) rebate programs can make market transformation seem like a secondary concern. HOMES and HEEHR are complicated and difficult to design and launch, especially given the accelerated timetable for roll-out. Given the challenges of implementing point-of-sale rebates, developing income qualification methods, and baking BPI-2400 calibration into a home audit, it's easy to see market transformation as tomorrow's problem.

The good news: several of the provisions embedded in the IRA rebate programs have the potential to create new market dynamics. States can lay the foundations for market transformation, in other words, simply through careful design of program elements that are required by statute. None of these design elements should increase program costs significantly.

Another way of saying this is we can bake our market transformation cake now, *and* eat it for years to come, if we pay attention to the recipe.

This paper focuses on two significant market transformation opportunities: home certifications and workforce development that supports new contractor business practices. Other market transformation opportunities exist: broad access to utility bill data should change market dynamics over time (and will support the creation of better home certifications). Unlike some of the other market transformation opportunities, however, certifications and contractors are central to Pearl's work; they are subject areas where we have deep expertise, and have developed innovative solutions that we believe have tremendous transformative potential as public-private partnerships.

¹ The American Council for an Energy-Efficient Economy (ACEEE) defines market transformation as "a process of strategically intervening in a market to create lasting change in market behavior by removing identified barriers or exploiting opportunities to accelerate the adoption of cost-effective energy efficiency as a matter of standard practice."

Creating Market Demand for Efficient Homes

Consumer demand is the heart of market transformation. When homeowners and home buyers are willing to pay a premium for an efficient home, or for an energy upgrade, programs and rebate dollars won't be needed.² While this may sound visionary, it's the market reality for most home features – homeowners don't need a rebate to motivate them to purchase a quartz countertop or a new deck. So energy efficiency programs should have their long-term goal the sort of market change that results in homeowners understanding and valuing air sealing and wall insulation as much as they value countertops, cabinets, and decks.

Available evidence suggests that this demand already exists. National consumer surveys conducted over more than a decade consistently show that consumers want efficient homes and will pay more for them. Pearl's studies show that Pearl Certified homes consistently sold for between 3% and 5.5% more than comparable, non-certified homes in four markets.

These sale premiums have the power to transform real estate and home contracting market dynamics. If homeowners in a market are aware that high-performing homes sell for a premium, they have a powerful new incentive to certify their home (if it is already efficient) or to make energy upgrades (if it isn't). The motivation of increased home value may not drive homeowners to launch an energy upgrade of their home. But it will incentivize them to choose more efficient equipment at time of break-fix, or to be more proactive about solving comfort or high bill problems.

When a critical mass of certified, high-performing homes are sold in a geographic area, the dynamics of the real estate market begin to shift. Home buyers see efficient, certified homes on portals like Zillow and in MLS searches enough that they recognize that buying a certified, energy efficient home is an option. Real estate agents encounter enough certified homes that they have an incentive to build expertise in efficient and high-performing homes into their regular business models. Appraisers and underwriters encounter efficient homes often enough that they develop and use methods to take their special value into account. And the quantity of sales of efficient homes makes it easy to find comparable sales for appraisal purposes.

There are three conditions for these market dynamics to take place. The first condition is that a given market needs a large supply of energy efficient, high-performing homes. But if these homes aren't clearly visible as energy efficient at time of sale, the market transformation still doesn't take place, so the second condition is that buyers also need clear and accessible information about the homes' efficiency features. Third, home owners need to be aware that energy efficient homes sell for a premium so that they have confidence that their investments in efficient features will be translated into home equity.

² Or, more precisely, program dollars won't be needed for the market rate sector, and can be targeted more effectively to lower-income and more vulnerable populations.

The IRA rebate programs have the potential to make each of these conditions possible. The scale of the programs will create approximately 1.64 million energy efficient homes through the HOMES program, and 1.31 million homes with high-quality home features through the HEEHR program. This will create a huge increase in the inventory of efficient homes in most markets across the U.S. The 25C tax credits could create up to an additional 15 million homes.

The HOMES rebate program provides an explicit home certification provision designed to ensure that these homes are visible at time of sale. The HOMES language specifically requires certification design that will enable the buyer to understand and value the home and its efficient features. If a similar approach is taken with the HEEHR rebates, the full potential of the new inventory of high-performing homes can be fully realized.

The design of the home certification will make a big difference in the extent to which the owners of newly efficient homes capture the value of the rebate-funded improvements. Consumer studies show that while homeowners are interested in and value energy efficient homes and home features, they are most receptive when information about these features are communicated in language that addresses their concerns and needs. This subject is discussed more extensively in [Pearl's white paper on certification](#).

The visibility of the IRA rebate programs has created a new consumer awareness that greatly exceeds consumer interest in most utility efficiency offerings or the Obama-era ARRA programs. Public entities will be educating receptive consumers about how the programs work. If this messaging includes information about the way that energy efficient homes can capture a higher resale value, homeowner understanding of how to value these features will shift over time.

In other words, by certifying homes with features incentivized by HOMES and HEEHR, programs can create a supply of efficient homes in the market.

Workforce Development: Supporting New Contractor Business Practices

HVAC, insulation, and home performance contractors are the primary vehicles for improving the efficiency, comfort, and overall performance of U.S. homes. Both consumers and energy efficiency professionals often have mixed feelings about the contracting industry. Professionals have a library's worth of horror stories about bad contracting work – shoddy insulation, unconnected octopus ducts, poorly sized equipment, and other missed opportunities. Consumers have to live with this work and its consequences, and understandably often feel they are being ripped off.

These stories and experiences don't represent the work of *all* contractors, just the poor-quality firms. The best firms train and pay their workers well, and install high-quality equipment according to industry standards like ACCA's QI5 checklist. But good equipment, workers, and work practices come with a higher price tag. The problem these high-quality contractors face is that most consumers don't

recognize the value that they provide – so they make purchase decisions based on price. And there are a lot of poor quality firms out there whose business model involves competing on price. The high-quality contractors face a constant uphill battle to explain to consumers why efficient products and quality installation matters, and they often end up providing lower-cost options so they can remain competitive.

The IRA rebate programs create an opportunity to change these market dynamics, because the rebates give consumers a new incentive to choose efficient products and good installation provided by quality contractors. This consumer demand could drive three major changes in the contracting landscape:

- Increase the number, size, and infrastructure of home performance firms;
- Incentivize large, high-quality HVAC firms to offer more high-efficiency products and a broader set of products and services (e.g. insulation and air sealing);
- Incentivize more solar contractors to incorporate home performance offerings into their business models.

These changes could have a significant, enduring effect on the market for efficient products and services in the U.S., because once contractors have developed new sales processes and incorporated high-efficiency products and services into their standard offering, they are likely to maintain these business practices even when the rebate funding expires – provided that consumer demand for efficient products remains robust.

In other words, consumer demand for efficient homes, discussed in the section above, will be very important in enabling contractors to maintain their new business models in a post-rebate world. When consumers really understand and value energy efficient homes and home features, they will need good contractors to make these improvements. Without this demand, contractors may revert back to the previous business-as-usual over time. The ARRA experience shows how this is possible: many contractors have stories about venturing into home performance during those years, but retiring their blower doors to the back of their warehouses when the air sealing rebates expired.

Ensuring that contractors participate in the rebate programs and change their business models in ways that will change the market permanently won't occur automatically: some program design changes will be needed. These include:

- **Simplicity:** Complexity is the bane of contractors' existence. Salespeople and technicians already have extremely complicated jobs. Requiring them to learn extensive new kitchen-table conversations or complicated modeling software is a non-starter for many firms.
- **Standards:** The high-quality contractors will benefit from reasonable standards that prevent low-bar competition from offering substandard services, such as installing a high-efficiency heat pump in a way that guarantees comfort problems over time. These standards should be designed carefully to push the market – but not beyond the point that it can't reasonably go (see

“Simplicity” above). Quality assurance, which should be part of the standards package, should be transparent and educational, rather than punitive.

- **Accountability:** contractors should be held accountable for delivering all aspects of quality: not only meeting the technical conformance to how they design and install upgrades, but also to their ability to deliver an excellent customer experience and to support their workforce through education and training. Program structure should support, rather than detract from, the contractor’s ability to deliver an excellent experience.³
- **Stability:** Almost every contractor who has participated in a program complains about rule changes, and erratic stops and starts. The consequence for contractors is that they need to change their business processes constantly, which imposes a real cost on their operations. The IRA rebate programs were explicitly designed to ensure over time: the longer they can last, and the more stable they are, the more high-quality contractors will want to participate.

All of these issues are discussed in more detail in Pearl’s white paper: [Contractor Qualifications and QA](#)

Cheap and Painless

Market transformation programs have a reputation for being expensive: the now-retired Home Performance with ENERGY STAR program, for example, typically had high administrative costs. The two market transformation approaches discussed above, however, can both be implemented without significant additional effort. Home certifications, in particular, can be generated inexpensively from data that the IRA programs will be creating anyway. Contractor networks and quality assurance have higher price tags associated with them, but a QA approach that combines a focus on photo documentation with a focus on the contractor’s internal quality management systems (rather than expensive field QA), has the potential to lower costs dramatically – and deliver better results.

³ Some forms of bureaucratic quality assurance, for example, have been shown to create negative impressions among homeowner participants, because they create the perception that the contractor did poor work.

Resources

U.S. Congress. (2022). H.R.5376 - Inflation Reduction Act of 2022, 117th Congress (2021-2022). Retrieved from

<https://www.congress.gov/bill/117th-congress/house-bill/5376/text>