

Why It's Time to Unlock America's Single-Family Green Mortgage Market

National Housing Conference
Webinar Slides

September 22, 2021

Agenda

- 2:00-2:05 Opening remarks & introductions
- 2:05-2:15 (1) Single-family housing market challenges and opportunities
- 2:15-2:25 (2) Fannie Mae & Freddie Mac's role and green products
- 2:25-2:35 (3) Supporting green mortgage market development
- 2:35-2:45 (4) Federal policy opportunities and calls to action
- 2:45-3:00 Q&A and discussion

Panelist introductions



(1) Madeline Salzman
U.S. Department of Energy



(2) Rita Ballesteros
Consultant (formerly
Fannie Mae)



(3) David Heslam
Earth Advantage



(4) Greg Hopkins
Rocky Mountain Institute

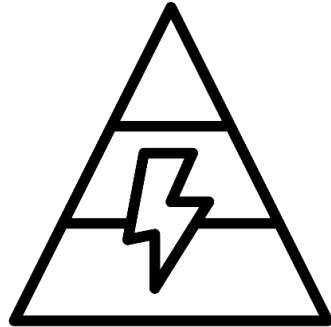
**Why
Now?**

By The Numbers: America's Single Family Housing Market



95%

of U.S. buildings
(98M SF homes)



21%

of U.S. energy use &
emissions



\$95B

Extreme weather
damage in 2020



\$1T+

GSE-backed mortgage
volume annually

Sources: US Census data 2019; Urban Institute 2020; Proceedings of the National Academy of Sciences 2020; New York Times 2021

A Confluence of Crises in Housing

AFFORDABILITY



- » High costs for housing are reducing housing affordability for many
- » Lack of supply in many areas drives housing price inflation
- » Rising homeownership costs, including upfront costs, PITI, and maintenance costs all drive unaffordability

INEQUALITY



- » 30% gap between Black and White homeownership
- » Decades of housing policies contribute to lower home ownership rates among communities of color, and households of color occupying lower quality housing in the US

INFRASTRUCTURE



- » Half of US households are over 40 years old, built prior to energy codes
- » Poorer Americans, especially renters and those in communities of color, tend to live in older homes with less cash available for maintenance

CLIMATE



- » Climate change is driving up costs for repairs to housing from flooding, fires, and bigger storm events
- » Resulting insurance costs are increasing
- » Throughout the century as temperatures rise, homes need to be resilient and safe

The Need for Home Energy Improvements that Drive Resident Benefits

Most of America's single-family housing stock needs upgrades that can improve –

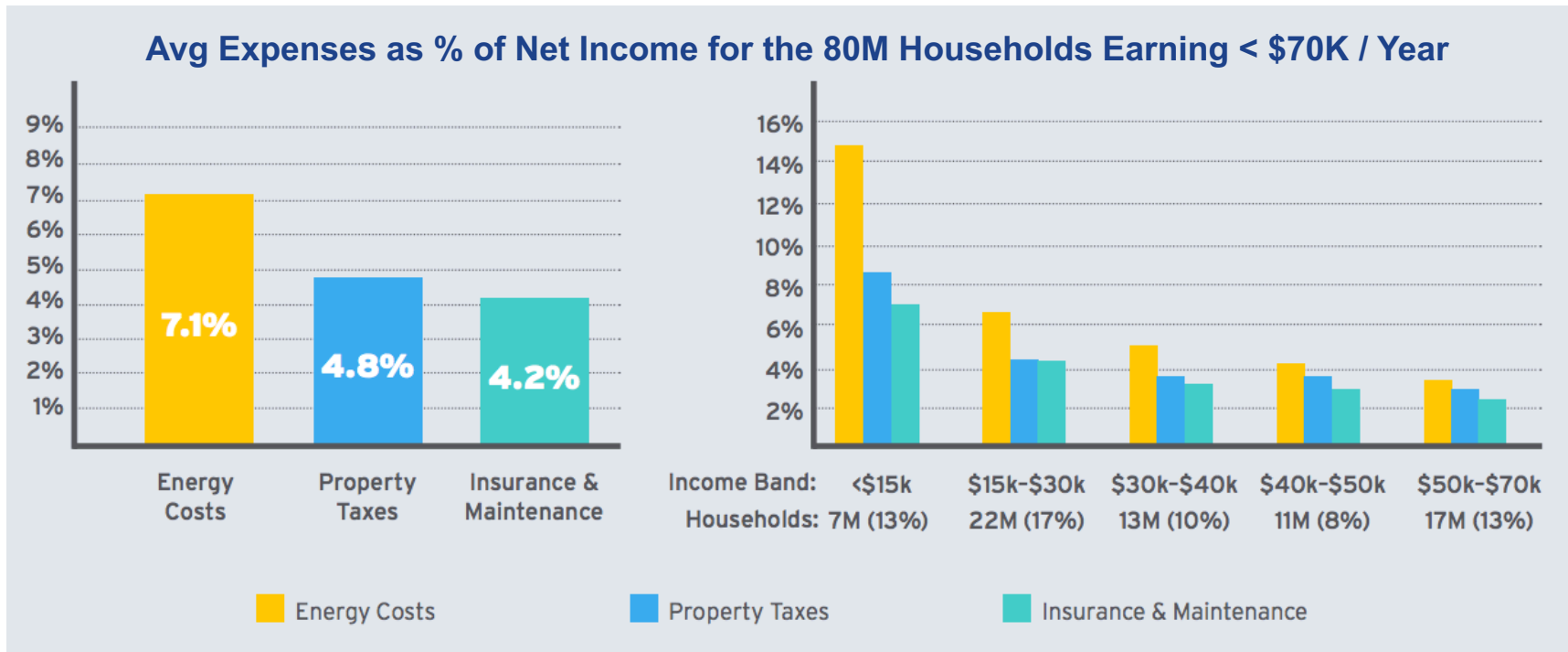
- » Affordability and energy burdens
- » Health & safety risks
- » Carbon pollution
- » Resilience to extreme weather/disasters
- » Racial and wealth inequities



Equitable delivery at scale will require information transparency, market signals & incentives, and convenient, low-cost financing solutions.

How Energy Use Impacts Homeowners & Renters

Most US households spend more on energy costs than property taxes and insurance...



Meanwhile, **energy burdens** are high for many residents –

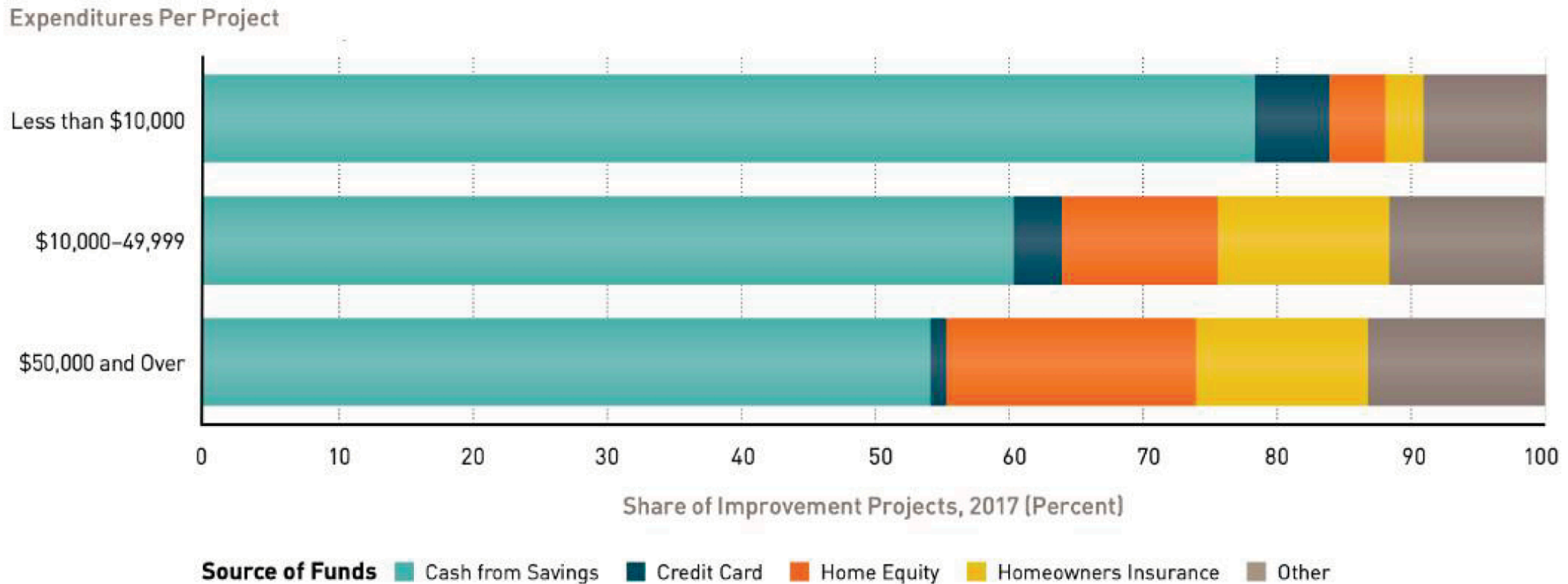
- ✓ Nearly **one-third** of U.S. households reported facing a challenge in paying energy bills or sustaining adequate heating and cooling in their homes
- ✓ About **one in five** households reported reducing or foregoing necessities such as food and medicine to pay an energy bill
- ✓ The **most common reason** reported for individuals seeking payday loan products is to pay their utility bills

...yet home energy costs have been a blind spot in the mortgage process

Sources: EIA 2015, FDIC 2012, US Bureau of Labor Statistics, Consumer Expenditure Survey 2019

Often, Upgrades are Only Accessible to Those Who Can Afford Them Outright

Most homeowners rely on cash from savings to finance improvements



Convenient, low-cost financing options can drive growth in improvements

Sources: Harvard University Joint Center for Housing Studies 2019

Consumer & Housing Needs

- Mounting crises to address housing unaffordability, inequality, aging infrastructure, and climate change
 - High need & demand for home improvements
 - Historically low interest rates
- 

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Institutional Interest

- ESG demand from investors (“greeniums”)
- Financial institution climate alignment
- GSEs recently launched single-family green mortgage-backed-securities (MBS) programs

**Why
Now?**

Unlocking the single-family green mortgage market can create significant ESG benefits

Estimated 10-Year Impacts



\$2.2 trillion

Single-family green mortgage-backed securities market



8.7 million

Homes improved in quality, performance, & resilience nationwide



\$12 billion

Net savings to consumers, after higher loan payments



650,000

Jobs created based on consumer savings and investment



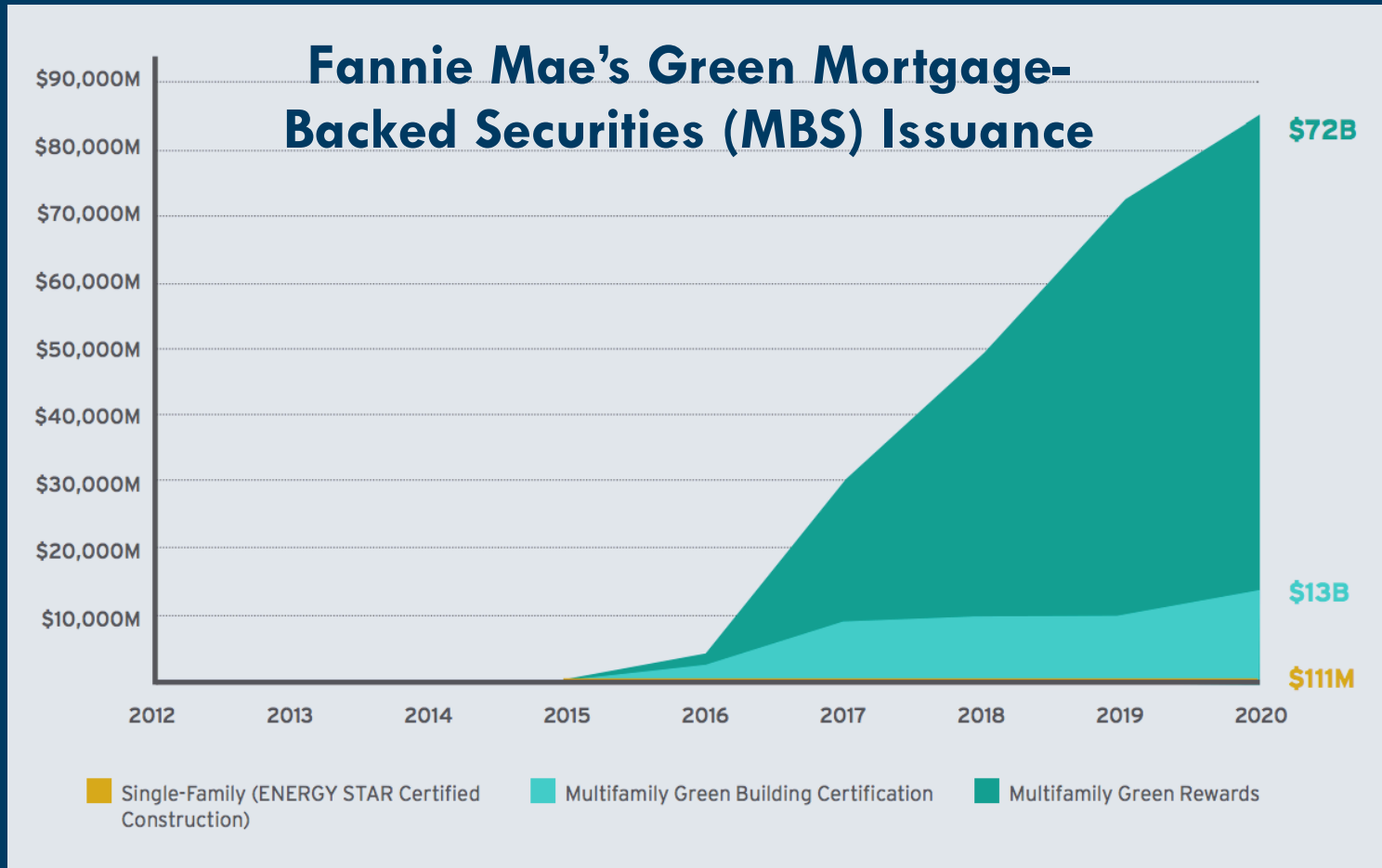
57 million

Metric tons of cumulative carbon emissions avoided

Single-family green mortgages 101

- Fannie Mae's HomeStyle Energy[®] and Freddie Mac's GreenCHOICE[®] mortgage
- Finance green improvements to *existing* homes at purchase/refi
 - Renewable energy
 - Cost-effective energy efficiency measures
 - Resilience upgrades (HomeStyle Energy)
 - Takeout/refinance pre-existing energy debt (e.g. R-PACE, consumer loans)
- Up to 15% of as-completed value; 180 days to complete the work
- Among the lowest cost of capital available for these projects at current rates
- Convenient intervention point for consumers
- Trusted capital source

While the multifamily green mortgage market has scaled, single-family is not on the same path



Fannie Mae has been the world's largest green bond issuer for the past 4 straight years

- 30% of GSE multifamily = green

What's not working for single-family and how can the GSEs fix it?

FROM

- ⚠ Lack of awareness and inability to sell green mortgage products
- ⚠ Burdensome project evaluations and operational requirements for lenders
- ⚠ Limited market of trained green appraisers and lack of comps

TO

- ✓ Leverage **home energy data** to increase visibility and drive demand
 - ✓ Leverage curated regional **eligible measure lists** to simplify for lenders
 - ✓ Leverage **automation and AVMs** to streamline as-completed valuations
- +
- ✓ Make **electrification upgrades** eligible given health/climate benefits
 - ✓ Increase access in **underserved communities**

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Why Now?

Data & Technology Tools

- Uniform Appraisal Dataset redesign
- DOE’s Home Energy Score™ & NREL’s Energy Cost Estimator
- More commonly used data standards

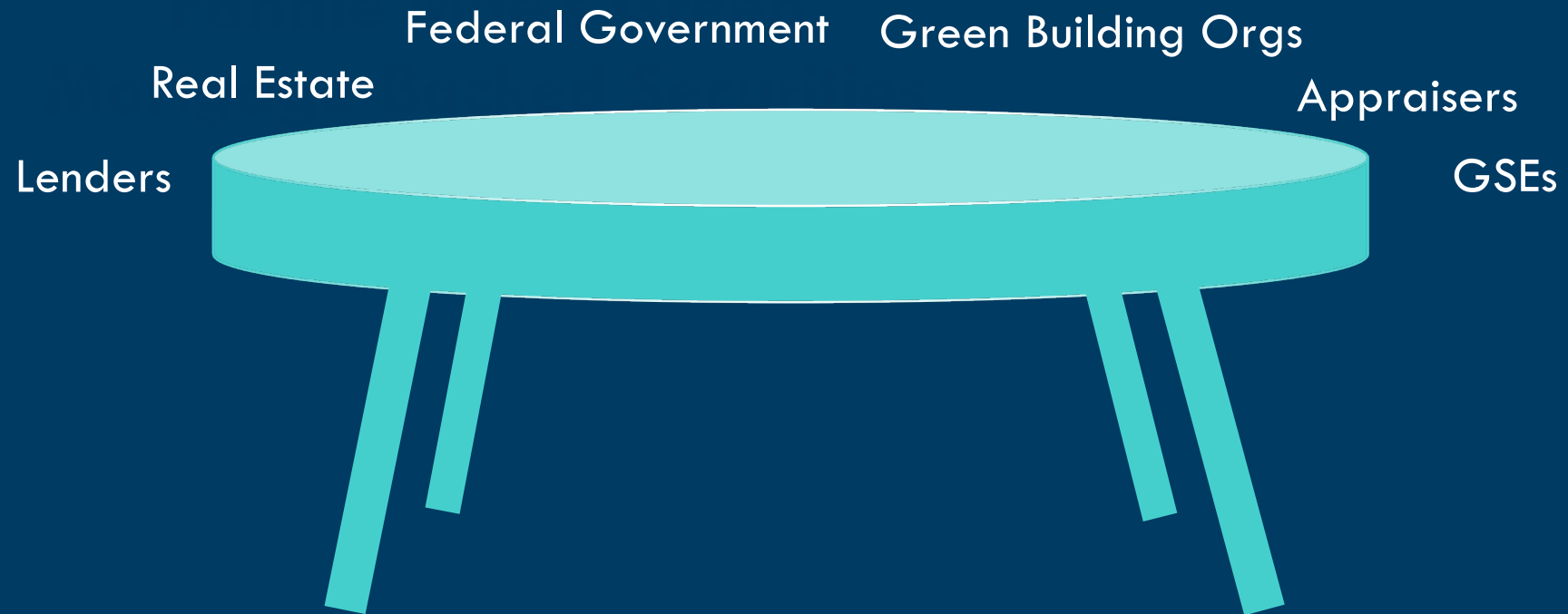


What if mortgages could become a primary vehicle for financing home energy and resilience improvements nationwide?

“Do you want fries with that?”



The Big Table Concept



Individual industry data standards are driving towards commonalities

RESO Real Estate
Data Standards



National Labs generate an
Energy Cost Estimate for
every home



Green Building Orgs
publishing data at GBR



MISMO Lender
Data Standards



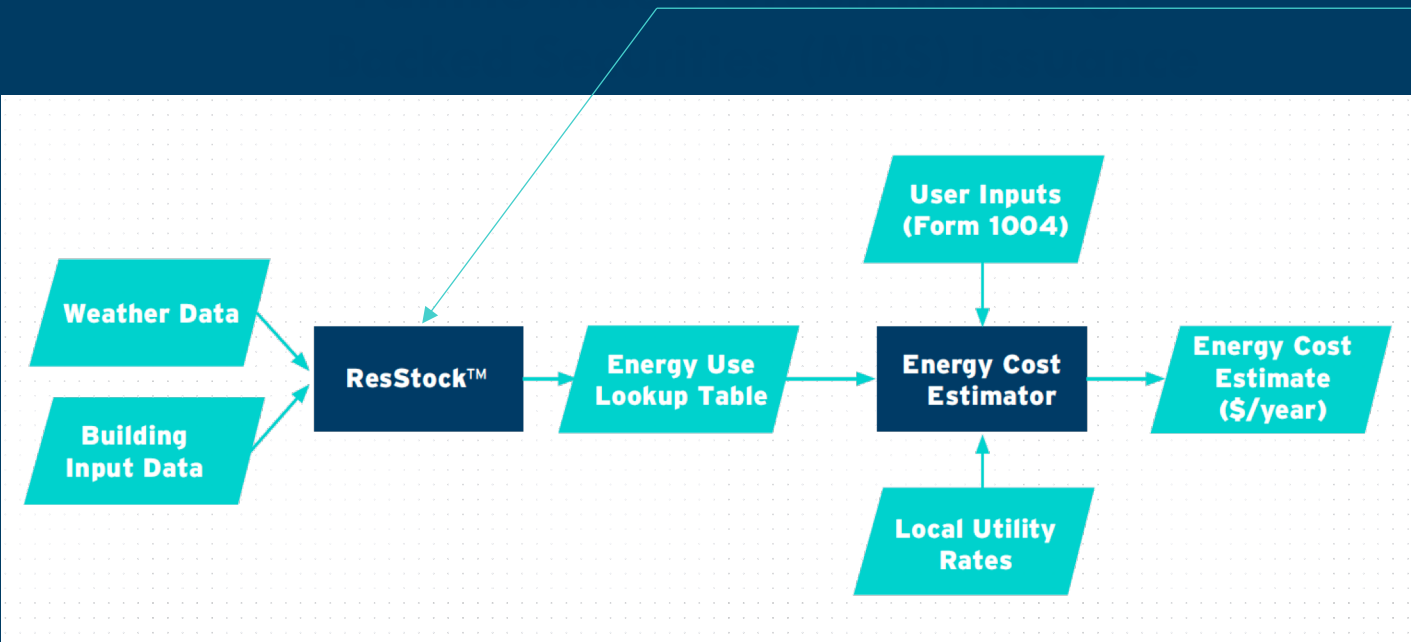
The Appraisal Foundation's
Appraisal Methods



Universal Appraisal Dataset
replacing form 1004



Integrating nationally standardized data into automated GSE systems can streamline adoption



ResStock

NREL
NATIONAL RENEWABLE ENERGY LABORATORY

Data Viewer


State Fact Sheets

Publications

Log In


ResStock

Highly granular modeling of the U.S. housing stock




Housing stock characteristics database

+




Physics-based computer modeling

+



High-performance computing


The ResStock and ComStock analysis tools are helping states, municipalities, utilities, and manufacturers identify which building stock improvements save the most energy and money. [Learn more.](#)



Data Visualization

Explore existing analysis results on ResStock's interactive website. State-level results can be filtered to identify the savings potential in various segments of the housing stock, whether that is homes of a certain vintage, homes with a specific heating fuel type, or homes with a certain type of wall construction type.


Data Viewer →



State Fact Sheets

State audiences can benefit from the series of fact sheets developed for the 48 contiguous U.S. states. Each fact sheet presents the potential for economic energy and utility bill savings for the state. The top ten energy savings home improvements are highlighted.


State Fact Sheets →



Analyze Your Scenario

Use the free and open-source software yourself (or partner with NREL or a third-party consultant). Analyze the scenarios of interest to you, whether you wish to evaluate the potential of a specific technology, define your own cost-effectiveness equations, or plug in hyperlocal data to get a high-granularity picture of the potential in a city or utility service territory. Analysis results can be privately uploaded to the ResStock website for visualization.

Software Releases →



Publications

Gain insights on the methodology and view national- and state-level results in the NREL Technical Report, *Energy Efficiency Potential in the U.S. Single-Family Housing Stock*.
View webinar slides and recording from a *Building America* webinar presented on March 29, 2017.

Publications →

NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.

U.S. DEPARTMENT OF ENERGY

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Political Moment

- Biden Administration’s whole-of-government approach to climate
- FHFA & new appointments
- City & state leadership on climate action

Federal policy can leverage the power of financial markets to decarbonize and strengthen housing nationwide

This is the moment to climate-align federally-supported housing finance

Administration, FHFA, HUD, and VA can build on existing products/mechanisms to support these goals

- ✓ Enable home energy labeling and disclosure nationwide (via HES, HERS)
- ✓ Require all entities to add home energy & climate risk data to their u/w standards
- ✓ Require all entities to streamline and standardize green mortgage offerings
- ✓ Expand access in underserved communities
- ✓ Use public funds to incentivize lenders and subsidize LMI households
- ✓ Measure, disclose, and reduce federal entities' portfolio emissions + climate risk



Opportunities & calls to action for NHC members to consider

- **Amplify:** Talk about this untapped market with your networks/contacts; call for policy interventions from Administration and new FHFA director
 - Support other federal policy actions that advance these goals (e.g. SAVE Act)
 - Potential to coalition-build and further develop recs with NHC working group
- **Engage:** Stay involved in the GSEs' Duty to Serve process (e.g. monitor, comment, support implementation) and respond to FHFA RFIs, calling for climate-alignment
 - Next DTS period (2022-24) can first serve the underserved borrowers most in need
- **Pilot:** Lenders, borrower counselors, and other actors can promote the use of green mortgages and test solutions; reach out to us if interested
- **Other Ideas?**



Build Back Better Homes

How to Unlock America's Single-Family Green Mortgage Market

Report / March 2021

Check out our report
for more detail:

rmi.org/insight/build-back-better-homes/



**Questions?
Comments?
Ideas?**

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