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MEMORANDUM:

DATE: November 17, 2021

TO: Business and Labor Interim Committee
Public Utilities, Energy, and Technology Interim Committee

FROM: Thom Carter
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SUBJECT: Voluntary Home Energy Information Pilot Program Act

In the 2020 General Session the Utah Legislature passed [H.B. 235](#), the “Voluntary Home Energy Information Pilot Program Act”. The Utah Office of Energy Development (OED) was tasked with administering, or contracting for the administration of, a home energy information advisory committee (79-6-805) to consult on the development of this program. OED contracted with the National Association of State Energy Officials (NASEO) to facilitate Advisory Committee Meetings, as well as to compile the main points of these meetings into a final report that includes model rules for a voluntary home energy information pilot program (79-6-803) and a home energy performance score system (79-6-804). \$50,000 was appropriated to OED in the fiscal year beginning July 1, 2020 for the purpose of developing model rules.

A report was originally due to the Business and Labor Interim Committee and the Public Utilities, Energy, and Technology Interim Committee by Nov 30, 2020. The report was not complete when I was appointed in January 2021, and the reporting requirement was subsequently deleted in the 2021 General Session by H.B. 346. Although there was some delay due to difficulties related to COVID-19 as well as turnover within our office, NASEO has now completed the written report based on feedback gathered from the advisory committee. The report, Model Rules for a Voluntary Home Energy Information Pilot Program in Utah, is included with this cover letter.

The recommendations included in this report are recommendations of a third party based on input from the advisory committee. We wish to address two discrepancies within the report:

1. Thom Carter, Utah Office of Energy Development is listed as a participant of the advisory committee. I was formerly on the advisory committee in my role as Executive Director of the Utah Clean Air Partnership (UCAIR). However, upon being appointed to my current role in January of this year, I ceased serving on the advisory committee. Kim Frost, the current UCAIR Executive Director reviewed the report in its final iteration.
2. The advisory committee strongly recommended that, for homes older than 5 years old, if the home energy label includes air-leakage reduction measures for energy efficiency, those measures must be accompanied by increased mechanical ventilation to avoid trapping unhealthy air within the home.

I am available to answer any questions about the report or the process through which it was written.



MODEL RULES

for a Voluntary Home Energy
Information Pilot Program in Utah



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Disclaimer

This material is based upon work funded by the Utah Office of Energy Development under Contract 210490.

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Acknowledgements

This report was prepared for the Utah Office of Energy Development by the National Association of State Energy Officials. Maddie Koewler, NASEO Program Manager, is the primary author, and Emma Tobin designed the Utah Home Energy Label and the report.

NASEO is grateful to the participants of the advisory committee that contributed to the development of this report and the model rules herein:

- > Thom Carter, Utah Office of Energy Development
- > Rulon Dutson, Builders
- > Kevin Emerson, Utah Clean Energy
- > Ross Ford, Utah Home Builders Association
- > Ryan Kirkham, Summit Sotheby's International Realty
- > Warren Lloyd, Lloyd Architects
- > Clay Monroe, Rocky Mountain Power
- > Mike Orton, Dominion Energy
- > Jared Preisler, J Leland and Company
- > Mitch Richardson, Building Science West
- > Brent Ursenbach, West Coast Code Consultants

The author also thanks Ed Carley and Cassie Powers of NASEO; Madeline Salzman, U.S. Department of Energy; Glenn Dickey, Boston Government Services; Patty Kappaz, Allegheny Science and Technology; and Matt Anderson, Spencer Wright, Alair Emory, Alyssa Kay, and Claire Baer of the Utah Office of Energy Development for their input and review of the report.

Introduction

The Utah 2020 *Voluntary Home Energy Information Pilot Program Act* (Utah Code) directs the Utah Office of Energy Development (OED) to create model rules for a voluntary home energy information pilot program. In 2020 OED initiated work to implement this act, including tasking the National Association of State Energy Officials (NASEO) with conducting research, facilitating meetings of an advisory committee¹, and preparing recommendations of the model rules. The model rule recommendations are based on analysis of legislative goals and the Utah residential energy efficiency landscape, along with guidance from the advisory committee and home energy labeling research. Per the legislation, the model rule recommendations address the home performance score system, workforce training requirements, home energy label design, and reimbursement requirements.

The model rules will create a program, as directed by the enabling legislation, that informs home buyers and sellers about a home's energy efficiency, energy costs, and air quality impacts. The program's intent is to increase demand for energy efficiency using a home energy label.² Home energy labels provide brief, easy-to-understand analysis of a home's energy efficiency. Software tools generate home energy labels with information from home energy assets such as water heaters, heating and cooling systems, and the building envelope. Labels include a rating that communicates the level of energy efficiency on a numerical scale and information about energy use, energy costs, and energy saving improvement recommendations.

Home sellers can use this information to highlight efficient systems to potential buyers. Home buyers can use home energy labels to compare features, performance, and the potential cost of ownership. Efficient houses may use less energy, have lower energy costs, and emit fewer pollutants. Widespread home energy labeling enables comparisons across homes and can increase market demand for homes that are more efficient and better for the environment.

1 The legislation identified members of the committee: an expert in residential real estate recommended by the Utah Association of REALTORS, an expert in residential construction recommended by the Utah Home Builders Association, an expert in land development, a nonprofit energy efficiency or air quality advocate, an expert in residential home energy assessments, an expert in residential home inspections, an expert in public education and marketing, an expert in residential appraisals recommended by the Utah Association of Appraisers, an expert in electric utility energy efficiency programs, an expert in natural gas utility energy efficiency programs, an expert in residential architecture recommended by the Utah Chapter of the American Institute of Architects, and a representative from OED. The ultimate participants are available in the Acknowledgments section. The Advisory Committee disbanded with the conclusion of this report.

2 The complete text of the *Voluntary Home Energy Information Pilot Program Act* is available in Appendix A.

Model Rules

NASEO's development of the model rule recommendations was informed by the legislative goals, existing residential energy efficiency programs in Utah, expertise from the Advisory Committee and two foundational documents. The foundational documents were *Energy Metrics to Promote Residential Energy Scorecards in States (EMPRESS) Guidebook* and *Making the Value Visible: A Blueprint for Transforming the High-Performing Home Market by Showcasing Clean and Efficient Energy Improvements*.³ The EMPRESS project was a collaboration between State Energy Offices and others to develop a home energy label program framework.⁴ EMPRESS identifies six critical elements for a successful home energy labeling program:

1. A start-up and implementation plan;
2. Defined label components;
3. A software and IT path;
4. Trained professionals;
5. Education for real estate professionals;
6. Linked home energy labels with multiple listing services (MLSs).

Making the Value Visible identifies actions energy efficiency programs can take to make high-performing homes visible in the real estate market and appealing to buyers and real estate agents. The model rules are also informed by the experiences of cities and states that implement home energy labeling policies and programs.

Summary of model rule recommendations

For the *home energy performance score system* use the Home Energy Score and the Home Energy Rating System (HERS) Index to create the Utah Home Energy Label. *Workforce training requirements* will include using existing RESNET and U.S. DOE training and credentialing requirements and additional training relevant to the software selected for the Utah Home Energy Label. The *home energy label design* will be based on ones used by other governments customized to include air quality impact. The *reimbursement requirements* will be minimal; all participants are eligible for a reimbursement after the creation of the home energy label.

³ The document, by Pamela Brookstein (Elevate Energy) and Julie Caracino (Building Performance Association), is available at <https://www.elevatenp.org/wp-content/uploads/Visible-Value-Blueprint-Final.pdf>.

⁴ The project team included the Rhode Island Office of Energy Resources, the Massachusetts Department of Energy Resources, the Missouri Division of Energy, the Arkansas Energy Office, the Oregon Department of Energy, the National Association of State Energy Officials, Earth Advantage, Energy Futures Group, and VEIC.

Home energy performance score system

Model rule recommendation

Use the Home Energy Score and the Home Energy Rating System (HERS) Index to create the Utah Home Energy Label. Use Table 2 to address calculation differences between the two.

Background

The Voluntary Home Energy Information Pilot Program Act requires that the energy label use the methodology from the U.S. Department of Energy's (U.S. DOE) Home Energy Score, the Residential Energy Services Network's (RESNET) HERS Index, or a combination of both. Each has a distinct approach to assessing energy assets and unique ways of presenting energy efficiency information.

The Home Energy Score rates the energy efficiency of single-family homes, townhomes, and duplexes on a 1-to-10 scale. 10 denotes a home modeled to use less energy than 90 percent of U.S. homes. Home Energy Scores are calculated from an in-home assessment of the home's envelope (foundation, roof, walls, insulation, windows) and heating, cooling, and hot water systems. Home Energy Scores can be completed in less than an hour and are traditionally used in existing homes. U.S. DOE maintains the Home Energy Score modeling tool.ⁱ

The Home Energy Score also includes:

1. A total energy use estimate;
2. Fuel use estimates by fuel type;
3. Estimated annual energy costs (including a reference for appraisal use cases);
4. Recommendations for cost-effective improvements and associated cost savings;
5. "Score with Improvements" that communicates the home's 1-to-10 rating if the recommended improvements are made.

The HERS Index from RESNET assesses a home's energy efficiency using a 0-to-150+ scale. It is a comparison of the rated home to a reference house built to the 2006 International Energy Conservation Code.ⁱⁱ A score of 100 indicates the home was built to the 2006 International Energy Conservation Code, zero indicates net zero energy consumption, and a higher than 100 score indicates a home that does not perform as well as 2006 code.ⁱⁱⁱ In addition to the envelope, heating, cooling, and hot water systems, HERS calculations include kitchen appliances, the washer and dryer, and lighting.^{iv} HERS Indexes are traditionally used for new homes.

The Advisory Committee determined that both the Home Energy Score and HERS Index may be used to calculate a Utah Home Energy Label. Both can provide information to home buyers and sellers about energy efficiency, energy costs, and air quality impacts. Allowing both also creates as many opportunities as possible for participation, something that was important to the Advisory Committee.

There is precedent for creating a state-level energy scorecard using either the Home Energy Score or a HERS Index: the Missouri Home Energy Scorecard. The state collaborates with Green Building Registry⁵ from Earth Advantage to produce the label using inputs from the RESNET Registry⁶ or the U.S. DOE database of Home Energy Scores.⁷ Home energy data is pulled from the RESNET Registry and U.S. DOE to create the Missouri Home Energy Scorecard. This is available in conjunction with the Missouri Home Energy Certification Program, which assesses and certifies home energy performance and generates energy-related information for the Missouri Home Energy Scorecard.

Utah Code requires certain facts be communicated on the Home Energy Label: energy use estimates, an energy rating, recommendations for energy improvements, energy cost estimates, and an emissions estimate. Home Energy Score and HERS Index generate these outputs using difference assumptions and methodologies. Table 1 illustrates the key features of Home Energy Scores and the HERS Index that meet the goals of the legislation. Table 2 provides recommendations for addressing the calculation differences between the Home Energy Score and HERS Index. In some cases, it is recommended that differences remain in place because the alteration would fundamentally change the way the tool works.

5 An introduction to the Green Building Registry is available at <https://www.greenbuildingregistry.com/home/about/>.

6 The RESNET Registry is a database of HERS Indexes.

7 Additional information on the Missouri Home Energy Scorecard is available at <https://energy.mo.gov/GreenBuildingRegistryMO>.

Table 1. Key features of the Home Energy Score and HERS Index

Feature necessary to meet legislative goals	Home Energy Score	HERS Index
Energy use and energy rating	Compares a home's modeled source energy ⁸ use to regional energy use data derived from Energy Information Agency (EIA). ^v	Compares a home's modeled energy use to a reference house constructed to the 2006 International Energy Conservation Code. ^{vi}
Energy efficiency improvement recommendations	Provides a list of efficiency upgrades that are modeled to be cost-effective with paybacks of 10 years or less. ^{vii}	The HERS Index does not include recommendations for energy efficiency improvements.
Energy costs	Uses state average utility rates derived from EIA to estimate energy costs. ^{viii}	Provides state-level price information using EIA data to estimate energy costs. ^{ix}
Emissions	Calculates a home's carbon footprint by multiplying annual energy use by an emissions factor. Electricity emissions factors are from the U.S. Environmental Protection Agency (EPA) Emissions & Generation Resource Integrated Database (eGRID). Fossil fuel factors are also provided. ^x	Refers to eGRID for electricity use and provides emissions factors for fossil fuel use. CO ₂ , NO _x , and SO ₂ emissions are calculated by comparing the as-built home to the reference home. ^{xi}

⁸ Source energy is the total amount of energy required to operate the home. It incorporates all transmission, delivery, and production losses.

Table 2. Recommendations to address Home Energy Score and HERS Index calculation differences

Calculation Difference	Recommendation
Energy use and energy rating	The energy use and energy rating methodologies are fundamentally different. No changes are recommended to these calculations.
Energy efficiency improvement recommendations	<p>For reports that are generated with the Home Energy Score, provide the recommendations that are automatically produced. For reports that are generated with a HERS Index, include a list of typical energy efficient upgrades for consideration. Local energy efficiency experts can provide insights on which recommendations would be appropriate. Data tools such as ResStock can assist in identifying likely needed upgrades.</p> <p>A future iteration of the program can provide custom recommendations for homes with a HERS Index. This would require establishing software connections with the modeling engines that generate HERS Indexes. The software connections would send HERS Index inputs through the Home Energy Score model to generate recommendations.</p>
Energy costs	No changes are recommended. The processes for generating energy costs are similar.
Emissions	<p>Include information on CO₂, NO_x, and SO₂ emissions on the label as a combined air quality impact metric on the label. CO₂, NO_x, and SO₂ are automatically generated in the HERS Index and can be created from Home Energy Score outputs with RESNET calculations. The Advisory Committee determined that CO₂ as represented by Home Energy Score was not comprehensive enough to address air quality. During the identification and implementation of the software tool, the context (how to convey if the result is considered “good” and “bad”) will need to be determined.</p> <p>The Advisory Committee was also interested in developing an air-quality metric based on actual data collected for the Utah Home Energy Label. To that end, it is recommended that OED refines the metric after enough data is available to develop comparisons.</p>

The process of identifying necessary metrics and a software tool conforms with the EMPRESS project's recommendation to determine a software and IT path.

Workforce training requirements

Model rule recommendation

Use existing RESNET and U.S. DOE training and credentialing requirements, identify and establish additional training relevant to the software selected for the Utah Home Energy Label.

Background

Specifying workforce training requirements is required by the Voluntary Home Energy Information Pilot Program Act and is one of the Six Critical Elements of Successful Home Energy Labeling. The U.S. DOE and RESNET have established training and testing requirements that must be completed before using the Home Energy Score or HERS Rating Index software. Home Energy Score trainees must have eligible prerequisite credentials.⁹ The Home Energy Score training includes virtual home assessments that, when combined with the related exam, require 8–12 hours on average.^{xiii} RESNET training is more comprehensive; it includes building science and culminates in a series of exams.¹⁰ ^{xiii} Each of the trainings provide the procedures and requirements for conducting an assessment and entering data accurately in the applicable tool. Because the OED will not have the authority to change the requirements for accessing these tools, the training and testing will be required of the energy assessors to participate in the Voluntary Home Energy Information Pilot Program. Additional training requirements will depend on the software tool selected to produce the Utah Home Energy Label.

Both Home Energy Score and RESNET have mentoring and quality assurance requirements that must be accounted for and implemented at the state level. The RESNET network producing HERS Ratings has existing quality assurance infrastructure that could be leveraged for the Voluntary Home Energy Information Pilot Program Act. The U.S. DOE has quality assurance requirements for the Home Energy Score that will need to be addressed by the program administrator.¹¹

⁹ The list of accepted prerequisites is available at <https://betterbuildingsolutioncenter.energy.gov/home-energy-score/become-assessor>.

¹⁰ RESNET exams include the National Rater Exam, the RESNET Combustion Appliance Simulation Test, and the RESNET Rater Simulation Practical Test. More information on RESNET training and testing is available at <https://www.resnet.us/raters/hers-raters/become-rater/>.

¹¹ Home Energy Score quality assurance requirements are available at <https://betterbuildingsolutioncenter.energy.gov/sites/default/files/attachments/Updated%20Quality%20Assurance%20and%20Mentoring%20Protocols%20for%20Home%20Energy%20Score.pdf>.

Home energy label design

Model rule recommendation

Adopt the Utah Home Energy Label design in Appendix B.

Background

The Voluntary Home Energy Information Pilot Program Act requires that the home energy label design include:

1. A home performance score (either the Home Energy Score or the HERS Index);
2. An explanation of the score;
3. An estimate of total energy used in the home by fuel type;
4. An estimate of the annual energy costs;
5. An estimate of annual emissions resulting from energy used in the home;
6. A list of recommended energy efficiency improvements.

It also allows for additional information to be included as determined by OED in consultation with the Advisory Committee.

The EMPRESS report explores the value of using the design of existing energy labels versus creating a new design in one of the Six Critical Elements for Successful Home Energy Labeling: defined label components. There are benefits and burdens to each approach. Unique labels are more responsive to local interests but they are more complicated to execute because of the time and effort required for the customization.^{xiv} The Utah Home Energy Information Advisory Committee agreed that use of an established design would be appropriate with the addition of fields that are important in Utah: air quality impact and local energy efficiency improvement resources. A similar design is successfully used by the Missouri Division of Energy and the Oregon Department of Energy. The design is consistent with one developed by U.S. DOE and used throughout the country. The Oregon Department of Energy customized the label to fit local interests by including information on carbon emissions. Samples of the Missouri and Oregon scorecards are in Figure 1 and Figure 2, respectively. A draft design of the Utah Home Energy Label is in Appendix B. It reflects the layout chosen by the Advisory Committee, the additional requested fields, and uses the OED color palette.

The Advisory Committee raised the possibility of including a star rating to indicate the efficiency level. It is an indicator consumers are familiar with and would provide a way to compare the results of a Home Energy Score and a HERS Index, which have different numerical scales. The group concluded that real estate professionals and other stakeholders should provide feedback on the concept before it is included in the design.

Figure 1. Image of Missouri Scorecard

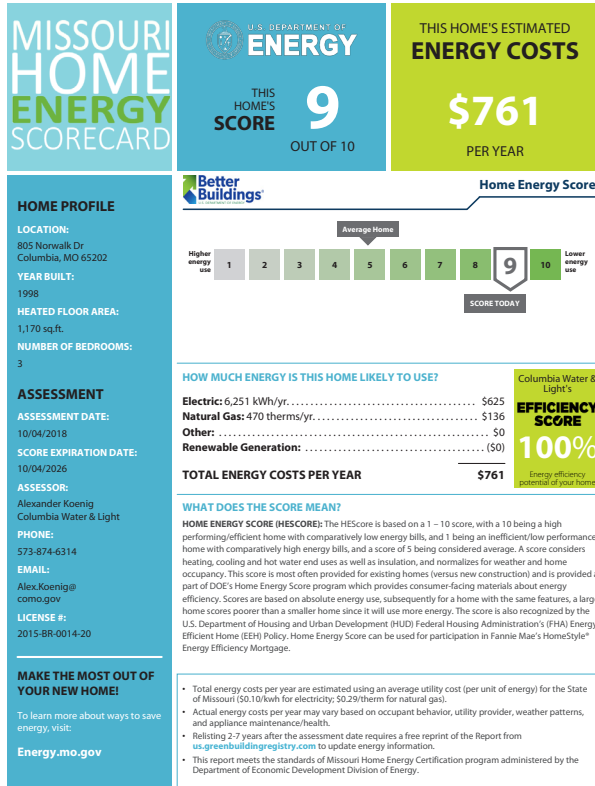
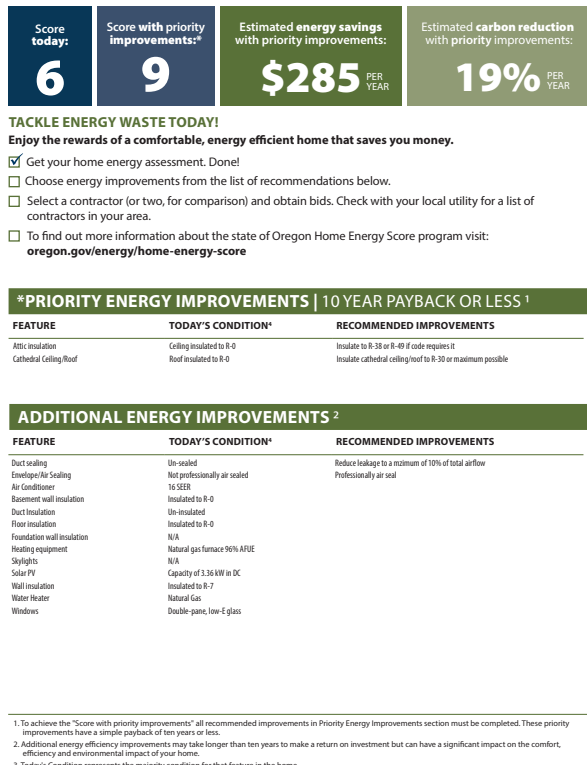
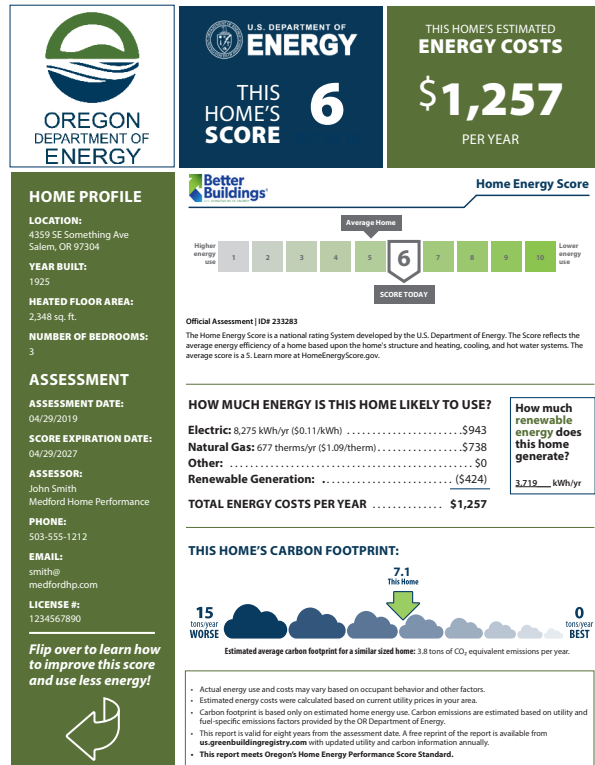


Figure 2. Image of Oregon Home Energy Score



Reimbursement requirements

Model rule recommendation

All participants are eligible for a reimbursement after the creation of the home energy label.

Background

Legislative language includes the opportunity to propose criteria for approving a reimbursement, criteria to determine the amount of a reimbursement, and any reporting required in the reimbursement application. The Advisory Committee agreed that all program participants should be eligible for the maximum amount and that there is no need to distinguish between the results of the home energy label for the purposes of the reimbursement. The Committee also agreed that the process should be as streamlined as possible, and that the creation of the home performance label provides enough information to generate a rebate.

Implementation Plan

One of the Six Critical Elements for Successful Home Energy Labeling is an implementation plan. This section outlines elements of an implementation plan for the model rule recommendations above. It also includes interests from the Advisory Committee and key topics that will need to be addressed outside of the model rules. The discussion in this section is not comprehensive but offers a high-level getting-started guide.

Implementation Steps

Conduct community engagement

The program administrator can present a draft program to the community and provide opportunities for feedback. Build relationships with housing and energy non-profits and advocacy groups for sources of feedback and collaboration. Each stakeholder group will need targeted outreach. Real estate professionals and the integration of home energy labels with MLSs are two of the Six Critical Elements of Successful Home Energy Labeling and represent several of the *Making the Value Visible* actions. Based on experiences of governments attempting similar programs, a strong relationship with real estate professionals is useful for success. Real estate professionals will likely face questions from their clients on the content of the report. According to *Making the Value Visible*, the key is to make high-performing homes appealing: marketing materials for high performing homes that convey energy features and explain the experience of living in the home (more comfort, lower energy bills, fewer emissions) will be valuable.^{xviii}

These will need to be paired with educational resources that communicate the value of home energy information regardless of how well the home performs; the Utah Home Energy Label will be available to any home, not just homes that perform well. To engage a MLS, draft a plan for introducing new data in the MLS that includes where the data is available, what fields are necessary, and why the change is valuable. According to the Advisory Committee, it is important for agents the field be searchable.

Become a Home Energy Score Partner

The administrator of the Voluntary Home Energy Information Pilot Program will need to establish a formal relationship with the Home Energy Score Program. The onboarding process includes describing how the program will be executed and how mentoring and quality assurance requirements will be met.

Connect with RESNET

A relationship with RESNET will provide an opportunity to share goals and align messaging. It will also be necessary to secure the usage of the RESNET images like the HERS Index scale on the Utah Home Energy Label and how to utilize existing quality assurance networks.¹²

Determine improvement recommendations

Utilize local experts to create a list of recommended improvements for homes that receive a Utah Home Energy Label generated by a HERS Index. Data tools such as ResStock can assist in identifying likely needed improvements.

Identify software provider

Identify the budget and release a Request for Proposals (RFP) for a software tool that can produce a Utah Home Energy Label, maintain a repository of Utah Home Energy Labels, and provide Utah Home Energy Labels via a public online portal and to MLSs. Some of the decisions made in the following steps may need to be included in the RFP language but establishing a relationship early in the process allows for collaboration. There are at least two existing software solutions with the potential to provide what is necessary: Green Building Registry by Earth Advantage and Home Energy Labeling Information Exchange by Northeast Energy Efficiency Partnerships.

Refine air quality metric

Collaborating with the Utah Department of Environmental Quality and other air quality experts can provide insight on what would be considered “good” or “bad” locally. Insights can be used to determine how the result is conveyed on the Utah Home Energy Label. This methodology may need to be included in the requirements for a software provider, depending on the language of the RFP. This is also an opportunity to explore ways to measure and communicate indoor air quality.

¹² NASEO can facilitate introductions as needed.

Develop a resource network

The Advisory Committee requested that the Home Energy Label include information to complete energy efficiency improvements. A vetted list of contractors provides a straightforward path forward for program participants. Meet with local energy efficiency non-profits, energy efficiency non-profits, program administrators, and contractors to establish the baseline criteria for inclusion in a list for the public. The program administrator will then need to recruit contractors that meet the criteria and are interested in receiving referrals from the program. This information could be presented on the home energy label directly but referring readers to a website will allow a way to provide the most up-to-date information. The website can provide financing opportunities and other resources as well.

Coordinate with other efficiency programs

Before launching the pilot, the administrator can meet with potential collaborators. This could include utilities, contractor associations, equipment manufactures, and cities that want to implement the Utah Home Energy Label in their jurisdiction. This is an opportunity to align messaging, identify opportunities for collaboration, and establish formal relationships to make the home energy label part of their offerings. Theoretically, other entities can develop programs with the Utah Home Energy Label and the systems designed and maintained at the state level. It will also be important to understand how builders currently use HERS Indexes in their work. HERS Indexes are regularly produced in Utah and an ideal program will not detract from that. A relationship with RESNET may facilitate this. Additionally, connect with trusted sources in the community for housing and energy needs. They may be willing to communicate with value of the Utah Home Energy Label with their communities and may also have insight to what would be valuable to the community.

Determine reimbursement specifics

Confirm rebate availability and eligibility. The Advisory Committee recommended that all participants be eligible for the maximum rebate amount.

Use existing data sources to create Utah Home Energy Labels

More than 13,000 homes in Utah already have a HERS Index^{xv} and 10 percent of new homes in 2020 received one.^{xvi} This data can be used to create Utah Home Energy Labels and establish an inventory of home energy reports. Conduct outreach to receive homeowner permission to create a label. Homes with above average HERS Indexes can be targeted with messaging that encourages them to highlight their assets but all HERS Index recipients should receive encouragement to participate. The legislative goal is to make energy efficiency information available, not necessarily to only highlight homes that are performing well.

Develop and promote Utah Home Energy Label Map

The Advisory Committee proposed a website where real estate professionals, home buyers, and home sellers can review home energy labels. It can also be used as a marketing tool for the pilot program. This map will be developed by the RFP selectee.

Workforce recruitment and training

When homeowners are interested in a Utah Home Energy Label outside of the HERS Indexes that are already being generated, a network of trained professionals will be needed to generate labels. There are two opportunities for creating a network of trained professionals:

1. Identify existing HERS Raters.
2. Create a network of individuals qualified to create the U.S. DOE Home Energy Score. Identify individuals who hold the prerequisite credentials and introduce them to the Home Energy Score training. It is unlikely that creating Home Energy Scores will be a full-time opportunity, so identify individuals willing to add a Home Energy Score to existing offerings.

Once the network is established, provide opportunities for members of the workforce to give feedback on the structure of the program and convey homeowner comments. Members of the workforce will have important insights on how the program operates in practice. Regular meetings between OED and the pilot program workforce are recommended to understand and address emerging issues, ensure program goals are met, and build relationships that will strengthen the program in the long-run.

When Utah Home Energy Labels are created on site – as opposed to pulling HERS Index information from the RESNET Registry – training that introduces the design of the label, how to communicate the content, and other pertinent information will be necessary. When the Utah Home Energy Label is created after the in-home assessment and provided separately, the existing HERS Raters, home performance trades, and related industries will need to be aware of the Voluntary Home Energy Information Pilot Program and how it intersects with their work.

Quality assurance and mentoring

Both Home Energy Score and RESNET have mentoring and quality assurance requirements that must be accounted for and implemented at the state level. There are networks in Utah that provide quality assurance for ongoing HERS Index creation that could be leveraged. Connect with providers to understand the opportunity.

Home Energy Score requires a separate set of quality assurance requirements that will need to be managed by OED. New users of the Home Energy Score Tool need to be mentored before they can create Home Energy Scores independently and five percent of homes with a Home Energy Score need to be rescored. There are approved organizations that can fulfill these requirements remotely. The remote option will be valuable when Home Energy Scores are created across the state – it prevents sending an individual around the state to conduct quality assurance. CLEAResult, Earth Advantage, and ID Energy are currently approved by U.S. DOE to provide remote quality assurance and mentoring services.¹³

¹³ For additional information visit <https://betterbuildingsolutioncenter.energy.gov/home-energy-score/home-energy-score-partners-partner-resources> .

Conclusion

In response to Utah Code Voluntary Home Energy Information Pilot Program Act, this document provides model rules for a Voluntary Home Energy Information Pilot. Per the legislation, the model rules determine a home energy performance score system, workforce training requirements, home energy label design, and rebate requirements. An implementation plan is also included to convey what the model rules could look like in practice.

Appendix A: Voluntary Home Energy Information Pilot Program Act Text

79-6-801. Title.

This part is known as the “Voluntary Home Energy Information Pilot Program Act.”

79-6-802. Definitions.

As used in this part:

- (1) “Advisory committee” means the committee created in Subsection 79-6-805(1).
- (2) “Asset rating” means a representation of a residential building’s energy efficiency or energy use generated by modeling under standardized weather and occupancy conditions.
- (3) “Home” means a single-family detached or single-family attached enclosed structure created for permanent use as a residence.
- (4) “Home energy assessment” means the evaluation or testing of components or systems in a residential building for the purpose of identifying options for increasing energy conservation and energy efficiency.
- (5) “Home energy assessor” means a qualified person who:
 - (a) conducts home energy assessments on residential buildings;
 - (b) assigns residential buildings a home energy performance score; and
- (c) prepares a home energy performance report for residential buildings.
- (6) “Home energy performance report” means a report prepared by a home energy assessor that identifies a residential building’s home energy performance score, an explanation of the score, an estimate of the total energy used in the home, and other information required to be included in the report under Section 79-6-804.
- (7) “Home energy performance score” means a score assigned to a residential building using the home energy performance score system created by the office pursuant to Section 79-6-804.
- (8) “Home energy performance score system” means a technical and administrative framework for producing and reporting metrics that describe the energy consumption, generation, and efficiency of a building.
- (9) “Program” means the voluntary home energy information pilot program for which model rules are created in Section 79-6-803.
- (10) “Residential building” means a home.

79-6-803. Voluntary Home Energy Information Pilot Program.

- (1) The office shall develop model rules for a voluntary home energy information pilot program.
- (2) The model rules shall be designed to:

- (a) provide widespread information to home buyers and sellers about a home's energy efficiency, cost savings, and air quality impacts; and
- (b) empower consumers to ask about the energy efficiency performance of homes and increase market demand for energy efficient homes and home energy efficiency upgrades.
- (3) The office may use appropriated funds to develop model rules for a home energy performance score system described in Section 79-6-804 for homes.
- (4) Model rules to implement the program may include:
 - (a) proposed application procedures to receive a reimbursement from the program for a home energy assessment and home energy performance report;
 - (b) the criteria used by the office to determine whether a reimbursement request is approved;
 - (c) the administratively best method and form for making a reimbursement;
 - (d) the criteria used by the office to determine the amount of a reimbursement;
 - (e) the information that an applicant or applicant's designee will be required to report to the office to receive a reimbursement;
 - (f) specifications for the procedures and requirements for conducting a home energy assessment;
 - (g) the requirements for a home energy performance report; and
 - (h) the qualifications for home energy assessors.
- (5) The office shall administer or contract for the administration of the advisory committee and the development of model rules.

79-6-804. Home energy performance score system.

- (1) In consultation with the advisory committee, the office shall create a home energy performance score system that shall:
 - (a) have the capability to generate a home energy performance score that meets the requirements of Subsection (2);
 - (b) have the capability to generate a home energy performance report that meets the requirements of Subsection (3);
 - (c) have the capability to incorporate building energy assessment software, the output of which is to be used to derive the information presented on the home energy performance report; and
 - (d) specify training requirements for home energy assessors.
- (2) A home energy performance score under Subsection (1)(a) shall:
 - (a) be an asset rating that is based on physical inspection of the home or design documents used for the home's construction; and

- (b) use one or a combination of the following approaches for home energy scoring:
 - (i) the issuance of a home energy score by the United States Department of Energy; or
 - (ii) the issuance of a home energy rating system by the Residential Energy Services Network.
- (3) A home energy performance report described in Subsection (1)(b) shall include:
 - (a) the home energy performance score described in Subsection (1)(a) and an explanation of the score;
 - (b) an estimate of the total energy used in the home in retail units of energy, by fuel type;
 - (c) an estimate of the annual energy costs for operating the home;
 - (d) an estimate of the annual emissions resulting from energy used in the home;
 - (e) a list of recommended home improvements to reduce energy use in the home; and
 - (f) other information the office, in consultation with the advisory committee, determines is appropriate to include in the model rules.

76-6-805. Home energy information advisory committee.

- (1) There is created a home energy information advisory committee.
- (2) The advisory committee shall be composed of the following 12 members:
 - (a) an individual who is an expert in residential real estate, as recommended by the Utah Association of Realtors;
 - (b) an individual who is an expert in residential construction as recommended by the Utah Home Builders Association;
 - (c) an individual who is an expert in land development for residential communities but is not a home builder;
 - (d) an individual who is a nonprofit energy efficiency or air quality advocate;
 - (e) an individual who is an expert in residential home energy assessments;
 - (f) an individual who is an expert in residential home inspections;
 - (g) an individual who is an expert in public education and marketing;
 - (h) an individual who is an expert in residential appraisals, as recommended by the Utah Association of Appraisers;
 - (i) an individual who is an expert in electric utility energy efficiency programs;
 - (j) an individual who is an expert in natural gas utility energy efficiency programs;

- (k) an individual who is an expert in residential architecture, as recommended by the Utah Chapter of the American Institute of Architects; and
- (l) the director of the Office of Energy Development or the director's designee.
- (3) The director of the office shall appoint the members of the advisory committee which shall assist the director in developing model rules for a home energy performance score system described in Section 79-6-804.
- (4) The director of the office, or the director's designee, shall act as chair of the advisory committee.
- (5) An advisory committee member may not receive compensation or benefits for the member's service on the advisory committee.

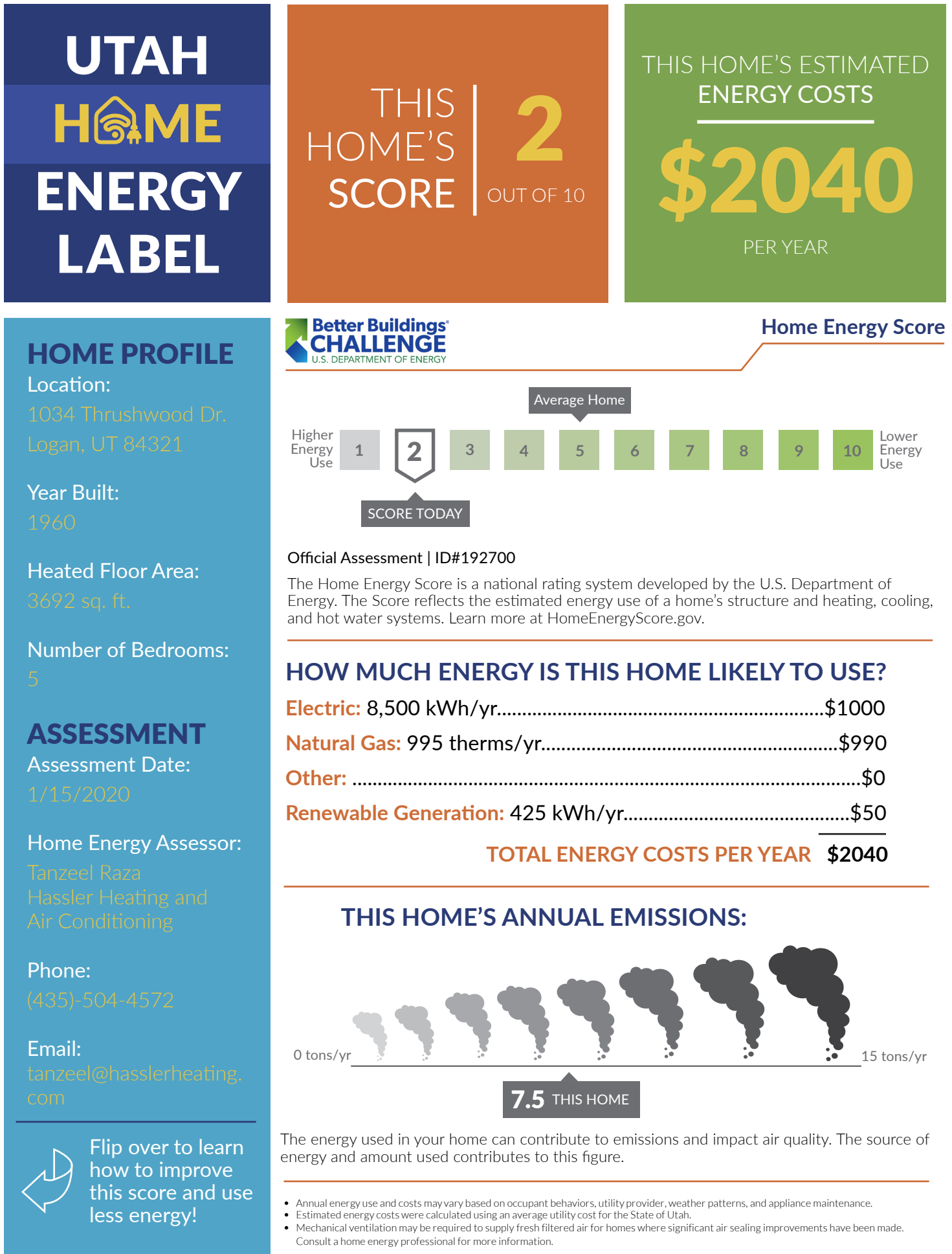
Renumbered and Amended by Chapter 280, 2021 General Session

Appendix B: Utah Home Energy Label Design

Examples

These images depict examples of the Utah Home Energy Label complete with information from a fictitious house. Figure 3 demonstrates an example generated with a Home Energy Score and Figure 4 contains an example Utah Home Energy Label generated with a HERS Index.

Figure 3. Image of Utah Home Energy Label example generated with a Home Energy Score



TACKLE ENERGY WASTE

Improve your score by completing recommended energy efficiency improvements.

REPAIR NOW

These improvements will pay back in 10 years or less.

Feature	Today's Condition	Recommended Improvements
Attic insulation	Attics insulated to R-9 and R-25	Insulate to R-19 at least
Duct system	Not professionally air sealed	Professionally air seal
Air tightness	Variable	Have a professional seal all the gaps and cracks that leak air
Unconditioned spaces	Not all professionally sealed	Add insulation around ducts in unconditioned spaces to at least R-6

REPLACE LATER

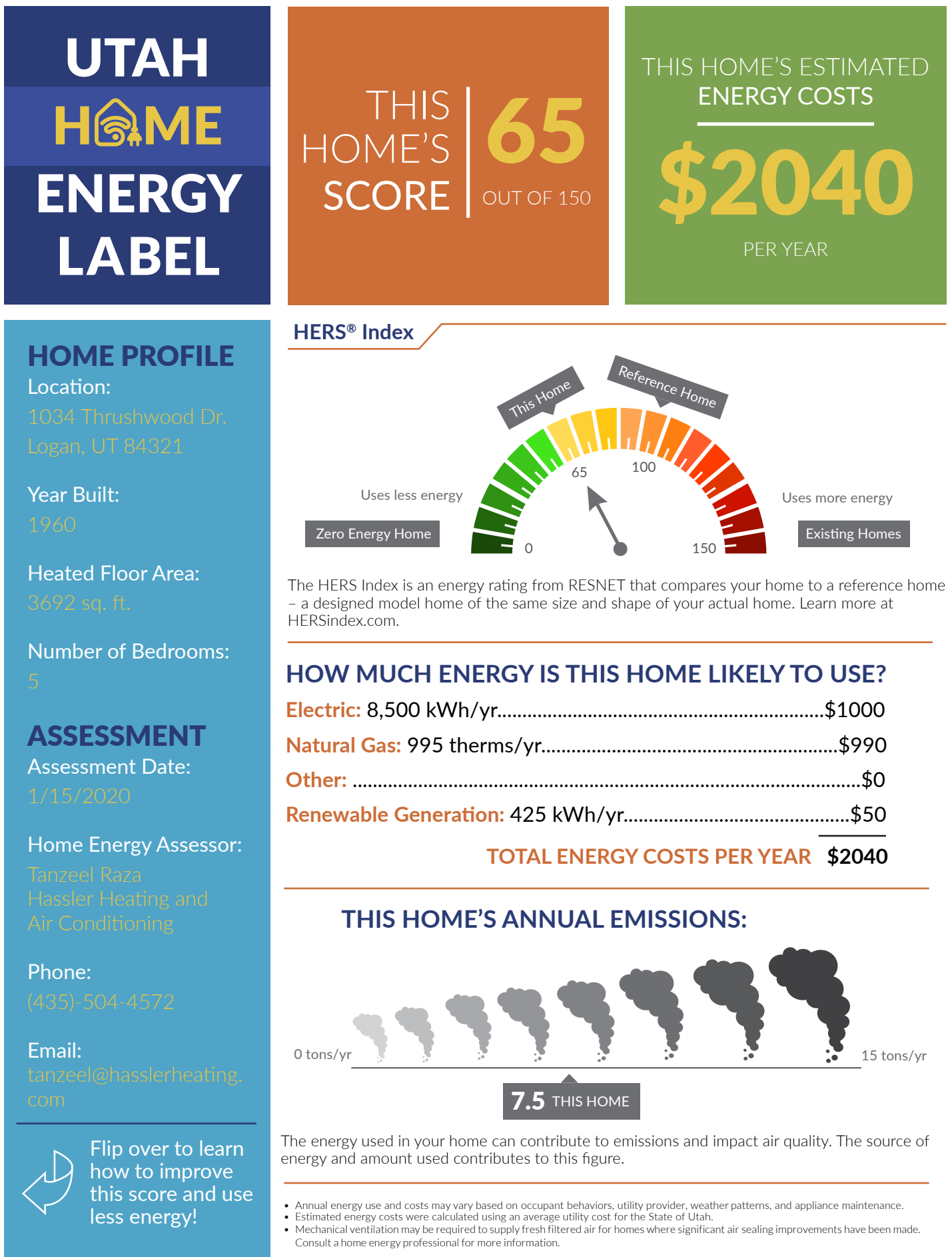
These will help you save energy when it is time to replace or upgrade.

- **Windows:** Choose those with an ENERGY STAR label to save \$61/year.
- **Water Heater:** Choose one with an ENERGY STAR label to save \$159/year.
- **Electric Heat Pump:** Choose one with an ENERGY STAR label to save \$32/year.

GET STARTED TODAY!

Visit [website] for resources on finding a contractor and financing upgrades.

Figure 4. Image of Utah Home Energy Label example generated with a HERS Index



HOME PROFILE

Location:
1034 Thrushwood Dr.
Logan, UT 84321

Year Built:
1960

Heated Floor Area:
3692 sq. ft.

Number of Bedrooms:
5

ASSESSMENT

Assessment Date:
1/15/2020

Home Energy Assessor:
Tanzeel Raza
Hassler Heating and
Air Conditioning

Phone:
(435)-504-4572

Email:
tanzeel@hasslerheating.
com



Flip over to learn
how to improve
this score and use
less energy!

TACKLE ENERGY WASTE

Consider the following energy upgrades. Before you get started consult a home energy professional for recommendations that are unique to your home.



-
-
-
-
-
-
-
-

GET STARTED TODAY!

Visit [\[website\]](#) for resources on finding a contractor and financing upgrades.

TEMPLATES

These images depict examples of the Utah Home Energy Label without house-specific information. Figure 5 is one with the Home Energy Score and Figure 6 is one with the HERS Index.

Figure 5. Image of Utah Home Energy Label template generated with a Home Energy Score

UTAH

HOME ENERGY LABEL

THIS HOME'S SCORE

X

OUT OF 10

THIS HOME'S ESTIMATED ENERGY COSTS

\$XXXX

PER YEAR

HOME PROFILE

Location:

Year Built:

Heated Floor Area:

Number of Bedrooms:

ASSESSMENT

Assessment Date:

Home Energy Assessor:

Phone:

Email:

Home Energy Score

Average Home

Official Assessment | ID#XXXXXX

The Home Energy Score is a national rating system developed by the U.S. Department of Energy. The Score reflects the estimated energy use of a home's structure and heating, cooling, and hot water systems. Learn more at HomeEnergyScore.gov.

HOW MUCH ENERGY IS THIS HOME LIKELY TO USE?

Electric: XXXX kWh/yr.....\$XXXX

Natural Gas: XXX therms/yr.....\$XXX

Other:\$X

Renewable Generation: XX kWh/yr.....\$XX

TOTAL ENERGY COSTS PER YEAR \$XXX

THIS HOME'S ANNUAL EMISSIONS:

The energy used in your home can contribute to emissions and impact air quality. The source of energy and amount used contributes to this figure.

- Annual energy use and costs may vary based on occupant behaviors, utility provider, weather patterns, and appliance maintenance.
- Estimated energy costs were calculated using an average utility cost for the State of Utah.
- Mechanical ventilation may be required to supply fresh filtered air for homes where significant air sealing improvements have been made. Consult a home energy professional for more information.

↩

Flip over to learn how to improve this score and use less energy!

TACKLE ENERGY WASTE

Improve your score by completing recommended energy efficiency improvements.

REPAIR NOW

These improvements will pay back in 10 years or less.

Feature	Today's Condition	Recommended Improvements

REPLACE LATER

These will help you save energy when it is time to replace or upgrade.

--

GET STARTED TODAY!

Visit [website] for resources on finding a contractor and financing upgrades.

Figure 6. Image of Utah Home Energy Label template generated with a HERS Index

UTAH

HOME ENERGY LABEL

THIS HOME'S SCORE

X

OUT OF 150

THIS HOME'S ESTIMATED ENERGY COSTS

\$XXX

PER YEAR

HOME PROFILE

Location:

Year Built:

Heated Floor Area:

Number of Bedrooms:

ASSESSMENT

Assessment Date:

Home Energy Assessor:

Phone:

Email:

Flip over to learn how to improve this score and use less energy!

HERS® Index

The HERS Index is an energy rating from RESNET that compares your home to a reference home – a designed model home of the same size and shape of your actual home. Learn more at HERSindex.com.

HOW MUCH ENERGY IS THIS HOME LIKELY TO USE?

Electric: XXXX kWh/yr.....\$XXXX

Natural Gas: XXX therms/yr.....\$XXX

Other:\$X

Renewable Generation: XX kWh/yr.....\$XX

TOTAL ENERGY COSTS PER YEAR \$XXX

THIS HOME'S ANNUAL EMISSIONS:

The energy used in your home can contribute to emissions and impact air quality. The source of energy and amount used contributes to this figure.

- Annual energy use and costs may vary based on occupant behaviors, utility provider, weather patterns, and appliance maintenance.
- Estimated energy costs were calculated using an average utility cost for the State of Utah.
- Mechanical ventilation may be required to supply fresh filtered air for homes where significant air sealing improvements have been made. Consult a home energy professional for more information.

TACKLE ENERGY WASTE

Consider the following energy upgrades. Before you get started consult a home energy professional for recommendations that are unique to your home.

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GET STARTED TODAY!

Visit [\[website\]](#) for resources on finding a contractor and financing upgrades.

Endnotes

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