

Thousand Home Challenge (THC) – Frequently Asked Questions (FAQs) – V3

PARTICIPATION

What do I have to do to participate in the Thousand Home Challenge?

The first step is to participate in a free 90-minute **Introduction to the Thousand Home Challenge** webinar. After attending the webinar, you'll be able to determine the customized energy performance threshold for your project, and decide if participating makes sense for you and your team. For the schedule of webinars, and to register, visit: <http://thousandhomechallenge.com/join-us>

What information do I need in order to determine my THC energy performance threshold?

At a minimum, you need to provide the home's ZIP code, finished floor area, and number of occupants. If it's an attached home, you also need the percent of surface area that is shared with another home. If you have a year's worth of recent energy use for the same home, you can also provide that information.

Do I have to submit my THC application at any particular point in project planning?

No. As soon as you are willing to commit to a serious attempt to meet the Thousand Home Challenge you can begin the application process. We accept applications at any stage – planning, implementation, monitoring, or completed project. You can also submit an application if your home already meets your THC threshold.

Can my THC project be accomplished in phases over a period of several years?

Yes! However, if you are using OPTION A (75% reduction from previous energy use), it's important that you apply and get accepted as a THC candidate at the beginning of your project, to establish your baseline energy use. Otherwise, you'll have to use your OPTION B threshold.

If I've already reduced my household's energy use, can I still qualify for the Thousand Home Challenge?

Yes. Applications can be received at any stage – planning, implementation, monitoring, or completed project.

If I do not have documentation of prior energy use, can I participate in the Thousand Home Challenge?

Yes, in that case you would use OPTION B to determine your home's customized energy performance threshold.

What homes are eligible to participate in the Thousand Home Challenge?

Any existing single family and multifamily homes in the United States and Canada – all ages and sizes, any style.

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How do you define an existing home?

To participate, a home must have 12 months of energy use. Newer homes are not excluded, but they are not a priority for recruitment.

Is a home that is not occupied full-time able to participate?

Yes, it is critical to accurately convey partial occupancy either as an input to determining the project's threshold, OPTION B, or to include that information at the point of submission of information for approval.

Can I participate without publicly sharing my name and home address or location?

Yes. You can request that ACI and the THC do not publicly share your name and project address.

My home is one of several units in the same building. Can I still participate in the THC?

Yes, you can participate either as a single household or as a building with multiple households.

BENEFITS

Are there any financial incentives for applying for or meeting the Thousand Home Challenge?

Apart from avoided costs of fuel(s), electricity, and possibly more, no, not at this time. However, you may also be eligible for local, state, or federal incentives to improve your home's energy efficiency.

How does a homeowner or project team benefit from participation the THC?

The THC is for households committed to reducing their energy use, carbon footprint, and/or utility bills as much as possible. In addition to your own satisfaction of achievement and leadership, the THC provides (1) tools and resources to help you meet your THC threshold, (2) third party verification of actual home energy performance, and (3) if you like, increased recognition for your project, by posting your case study on the THC website.

What if my application is accepted and I participate in the THC, but don't meet the Challenge?

If you don't meet the Challenge at first you can keep trying, by continuing to monitor and reduce your energy use. Yours might still be a case study, as we learn from projects that don't meet the Challenge.

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DETERMINING YOUR CUSTOMIZED THRESHOLD ALLOWANCE - OPTIONS A & B

How does the THC determine the energy performance threshold(s) for my home?

There are two options. If you have a year's worth of recent utility bills in the home, you can calculate your Option A threshold by simply dividing your previous total annual site energy use by four (4); in other words, the Option A threshold is always 25% of the previous consumption in the same home. Your Option B threshold based on a few simple inputs: ZIP code, house size, number of occupants, and heating. Option B thresholds are customized for each home, and result in approximately a 75% reduction from the average measured use of similar homes.

Our family has already significantly reduced our energy use. Do we get credit for that?

Absolutely. If you're already a low-energy household, you'll want to use your OPTION B threshold, since it would be difficult to reduce your recent energy use by another 75%.

How far back can you go to calculate your baseline energy use for the OPTION A threshold?

JAR - Ideally, OPTION A is based on the last 12 months, but a project may need to go back as far as 18 months. However, you cannot apply your long-term past reductions to achieving an OPTION A 75% reduction.

What if I do not have access to previous energy use data?

Then you cannot use OPTION A and must use OPTION B, for which no past energy use data is needed.

What if I have access to the energy use data, but a different family lived in the home?

No problem, we just need to clarify that in the project summary. You can use OPTION A or B.

Can I use OPTION A if I heated with wood in the previous year?

Not unless you used a manufactured wood product such as pellets or bio-bricks, and have verifiable records.

What if the number of occupants changes after the application or during the monitoring period?

When you are ready to verify that you met the Thousand Home Challenge, you will be asked to confirm that the assumptions for calculating OPTION B have not changed. If they have, you submit the change, and OPTION B is recalculated. If your home's occupancy varies significantly over the course of the year, it's best to keep a log. We give credit for part-time occupants and guests.

Thousand Home Challenge (THC) – Frequently Asked Questions (FAQs) – V3

Is there consideration for the hours of occupancy? Some homes are empty all day, others are occupied 24/7.

No. It is part of telling the story of how you met, or did not meet, the Thousand Home Challenge. In our experience to date, most of the projects that are participating have close to 24/7 occupancy; many have home offices, too.

What if my home includes a home office or other significant energy end uses?

So far, most homes that have met the THC include home offices. However, if your home includes other significant and unavoidable energy end uses, you can document that and request an exception. For example, if you have a home-based pottery business that requires an electric kiln, you could propose an alternate threshold or, better yet, commit to sub-metering that energy use.

Why does the THC OPTION B allow more energy if my home is heated with fossil fuel than with electricity?

Homes heated with electricity almost certainly use a heat pump and/or zonal controls, which are more efficient than combustion (fossil fuel or wood burning) heating systems. Therefore, OPTION B provides a half of the allowance for homes heated by electricity than for those heated with wood or fossil fuels.

This was not done to address site vs. source energy considerations; however, with this adjustment, electrically heated homes are closer to fossil fuel/wood-heated homes in source energy and CO₂ impacts.

MEETING THE THOUSAND HOME CHALLENGE

How does the THC account for electricity generated on site with photovoltaics (PV)?

In the THC, electricity generated by renewables directly offsets your electricity use, kWh for kWh. If you generate more than you consume, you can include the difference to help offset other energy use.

Why does the Thousand Home Challenge use site energy rather than source energy?

Several reasons: (1) Most importantly, we want metrics that can be readily measured and verified; site energy is readily available from utility bills and other reliable documentation, while source energy is not; (2) Households have direct control of their site energy, while source energy depends on many variables beyond a household's control, particularly the mix of generation fuels used by the electric utility; (3) We don't want THC thresholds to vary depending on how local electricity is generated, e.g., by hydro or coal.

If I heat with wood, why and how does the THC account for that? Isn't it a renewable resource?

The THC includes wood and wood products as energy consumed, for several reasons: (1) Wood burning

Thousand Home Challenge (THC) – Frequently Asked Questions (FAQs) – V3

contributes to air pollution (ultra-fine particulates) and CO2 impacts, (2) If wood is used, it should be used efficiently; and (3) We do not want homes to be able to meet the THC simply by converting to wood heat. If you heat with wood and want to meet the THC, you need to weigh and document your wood use based on its density.

What if I use biofuel, especially if it's locally grown or generated?

Great, and even better for the environment since it is produced locally. Plus, it is much easier to track your energy use if you use a product that is sold by weight and is uniform in moisture content. However, we still count it as part of your energy use. If you use the energy value of wood pellets, it will be very close to the Btu/pound heating value

JAR What if my project takes longer to complete and I need to postpone the monitoring period?

Your THC energy monitoring period won't start until your project is ready. Even after your retrofit is complete, it can take a month or two to make sure all the building's systems are working properly. Just keep in touch with the THC and we'll help guide you through that process.

I live in a microclimate. What if the local weather station is not representative of my site?

You can override the THC's default weather station that is automatically selected based on ZIP Code. You need to provide a few sentences of justification to explain the basis for your new weather station. The only inputs used from the weather station in determining your threshold allowance are temperature (for heating) and temperature and humidity (for cooling). Solar insolation is not an input.

How do you account for warmer or colder than expected weather during the monitoring period?

The THC does not normalize energy use by actual weather data for several reasons: (1) Particularly in efficient homes, space conditioning is usually a small percentage of total annual household energy use, and (2) When normalizing energy use based on actual weather, the assumed balance point temperature of a home has a significant impact. As a matter of principle, the Thousand Home Challenge is based on simple, direct measurements. As a result, at any point, the project team or homeowner can look at metered or utility bill information and determine if a project is on track. Weather-normalized adjustments would complicate that process. To date, the weather has not been a factor in any project failing to meet its threshold. However, that is not to say that there are no weather effects, some of which could have a bigger impact than change in heating degree days. Snowfall, ground temperatures, solar insolation (quantity of energy locally available from the sun), summer nighttime temperatures, and summer humidity, could all have impacts, and we do not take them into consideration.