harry hunt ARCHITECTS LLC

The Right House

Approach, Features & Benefits

Contents

Introduction

Image by Jim Westphalen

"The Right House" is an approach to designing and building homes that is based on core Vermont values—including simplicity, integrity, and environmental stewardship. For centuries Vermonters have understood that humans are not separate from the natural world—but rather are an integral part of it. For green home designers, this awareness allows us to move beyond buildings that simply "do less harm" and go further—to sustainable, residential architecture that enhances and enriches the natural world.

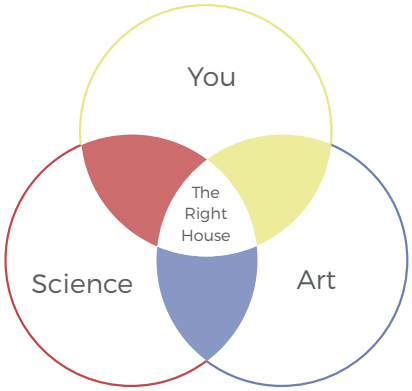
"*...but man is a part of nature, and his war against nature is inevitably a war against himself.*"

- Rachel Carson

"The Right House" concept began with one house—the house I designed and had built for my family in Stowe, Vermont. As I was sketching out ideas for how to make the perfect dwelling for my family, I worked to recollect everything I'd ever learned about eco-conscious design and green building. At the same time, I wanted other attributes in my house. Aesthetic beauty. Comfort. Views of the outside surroundings. A house with the power to inspire clean, mindful living and one that looked and felt like an extension of the family that lived in it. I wanted... The Right House.

If it's true that we're our own worst critics, a project that's uniquely ours should inspire the greatest innovations. It did for me. My pursuit of The Right House earned me a 2015 Honor Award for Excellence in Architecture Design from the American Institute of Architects, Vermont Chapter. More importantly, it resulted in a home for my family and a better green home-building process for my clients.

Today, at Harry Hunt Architects, The Right House refers to an outcome—the Right House for you—but also, a process. Each house we design is one-of-a-kind because you, the client, comes to us with your own set of requirements. Our process overlays the art and science of sustainable residential design onto your requirements.



- **You**—Your requirements, plus your desires and preferences. This includes space needs, budget parameters, building site specifics, tastes regarding design and style, and lifestyle preferences.
- **Science**—State-of-the-art advances in building science allow us to produce homes that are more functional, energy efficient and durable than ever before.
- **Art**—All of us deserve to be in the presence of beautiful, inspiring architecture. By careful consideration of the interplay of form, light, space, color, material, pattern and procession, we design a "work of art" house just for you.

We've learned that within complexity lies great opportunity. The magic of The Right House process is that it nurtures you through complex steps and decisions to achieve a house design that is at once simple and elegant.

"*I would not give a fig for the simplicity this side of complexity; but I would give my life for the simplicity the other side of complexity.*"

- Oliver Wendell Homes

"The Right House" is a residential design process that embraces the full complexity of life in the 21st century while seeking design solutions which, as those found in nature, are both functional and beautiful.

Benefits

Your Right House will offer you the following benefits:

Soul

We'll design an aesthetically pleasing home that draws inspiration from your particular personality and lifestyle. Your design will be a one-of-a-kind reflection of your personal tastes, preferences, and sentiments. We'll listen carefully to your wishes and transform them into meaningful architecture that stirs the imagination. Your house will feel as though it has a "soul" of its own.

Connection

Some people believe that when you're connected to the earth, you'll always know your place in the world. We believe in this concept and apply it to our house designs. Since every Right House is a place where your family will gather in the present and the future, we maximize natural light and views to create rich connections to the natural world. What's more, each Right House is rooted in place through careful consideration of vernacular forms and regional materials.

Image by Jim Westphalen

Image by Jim Westphalen

Efficiency

We design to the Passive House sustainable standard, a standard that can be certified. Whether you choose to have your home Passive House-certified or not, you'll benefit. There's no higher standard of energy-efficiency in the world. That means your house could use as little as 10% of the energy used by a conventionally built home of equal size. And should you want a "net-zero house," one that produces as much or more energy than it uses, getting there is easy.

Comfort

Through the integration of intelligent design and Passive House principles, every Right House achieves outstanding levels of comfort in all seasons, in every climate. For you, this means consistent temperatures throughout the year. You'll no longer experience drafty corners or cold floors during winter months or sticky evenings in summer.

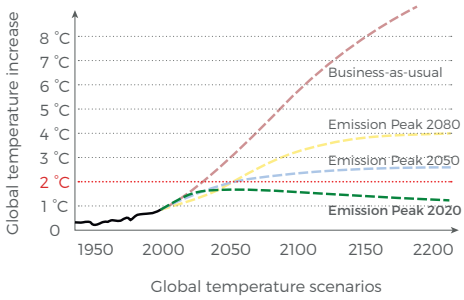
Image by Jim Westphalen

Health

Your family's health is important to us, so our Right Houses' deliver best-in-class indoor air quality through carefully designed ventilation systems. You'll have a home that's mold and mildew free and far healthier than a conventional home.

Peace of Mind

Wouldn't it be nice to know your home contributes, even if in a small way, to the solution of our global climate problems? Since all of our houses achieve net-zero energy or are net-zero-energy-ready (if owners chose to defer the cost of renewable energy systems to a later date), knowing that your home is just as good for the earth as it is for your family is the peace of mind you get with The Right House.



Value

With extensive knowledge in both the art and the science of design, we're well positioned to build beautiful and energy-efficient homes. Among architects, we're specialists. We apply our broad knowledge, refined process, and standardized specifications to design multiple benefits into every Right House, providing high value for your construction expenditures. You continue enjoying your home's value long after we're finished and have a home that will be more attractive at resale time.

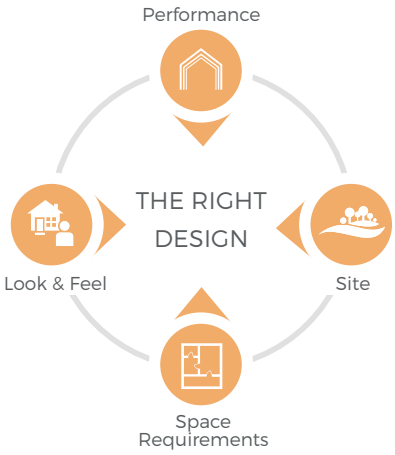
Simplicity

Not only is our design process less complicated and more enjoyable for our clients than traditional processes, but the resulting home designs are simpler and more visually appealing as well. Simple, bright, and beautiful; that's our definition of luxury. We instill the clean, timeless lines of modernism in a way that is in harmony with nature. Life can be too complex at times; your Right House offers you a place of refuge.

Image by Lindsay Selin

Features

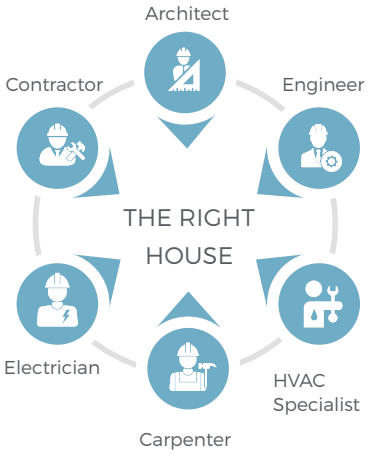
Integration



The Right House design process results in homes that not only look and feel good but also work well. Integrated design is the "secret sauce" behind our design process. It's a comprehensive holistic approach to design that brings together specialisms usually considered separately. With integrated design, everyone benefits. The result is often more efficient, less expensive, and more aesthetically appealing than nonintegrated solutions.

"Most people make the mistake of thinking design is what it looks like. People think it's this veneer – that the designers are handed this box and told - 'Make it look good!' -that's not what we think design is. It's not just what it looks and feels like, it's how it works."

-Steve Jobs



Our approach to integrated design also extends to project delivery. We introduce the contractor and tradespeople into the process as early as possible, allowing you to benefit from their specialized knowledge.


Image by Lindsay Selin

Site-Responsive

The best designed houses feel and look "right," because they relate well to their surroundings. Your Right House will be a site-specific response to best take advantage of your site's particular characteristics. We've found this approach results in homes that are more sustainable, comfortable and energy efficient than traditional homes built without careful consideration of site. Our designs are regularly influenced by these site-related considerations:

- **Sun**—Consideration of the sun's path in all seasons, allowing warmth to enter during winter months, while enhancing natural cooling during summer months.
- **Views**—Enhancement of the site's most appealing views and mitigation of less desirable views.
- **Wind**—Protection from prevailing winter winds and northern exposures.
- **Landscape**—Minimization of disturbances to natural topography, vegetation, and existing water drainage patterns. Landscaping with plants native to the region and site.
- **Context**—Respect for local, vernacular forms and surrounding neighborhood character—resulting in homes that have a "sense of place."


Image by Jim Westphalen

Outdoor Spaces

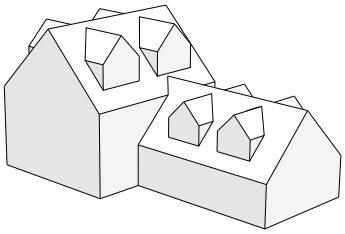
A house feels right when it "connects" its users to the surrounding landscape. Purposeful, quality outdoor spaces—both for gathering with others and for seeking solitude—play an essential role in facilitating this kind of connection. Just as with indoor space, every surface is carefully considered: ceiling, floor, and walls. With the inclusion of well-designed outdoor areas, your Right House will "live" larger and strengthen your ties to the surrounding landscape.


Image by Jim Westphalen

Healthy Materials

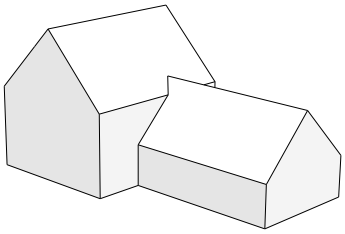
On average, North Americans spends about 90% of their time indoors. Now, with so many of us working from home, this amounts to more time spent in our homes. So it's worrisome that studies show the air inside traditional homes is often significantly unhealthy. Your Right House will be built from healthy materials free of the formaldehyde, volatile organic compounds, and phthalates found in many traditional building selections. Our building material selections will naturally prevent mold, mildew, viruses, and bacteria. Healthy materials, together with a balanced ventilation system, maintain high quality air in our houses.

It's also worth noting that for every material we specify for a house, we consider the full lifecycle of its environmental impact. This "cradle-to-cradle" approach determines how a material was produced, how long it will last, and what will happen to it after it's no longer useful.



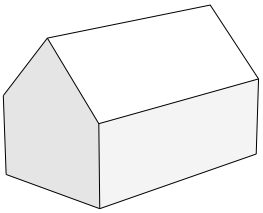
House A

Floor Area:	3000 SF
Surface Area:	9400 SF
Geometric Thermobridging:	1293 LF
Heat Loss:	+41%



House B

Floor Area:	3000 SF
Surface Area:	7920 SF
Geometric Thermobridging:	646 LF
Heat Loss:	+16%



House C

Floor Area:	3000 SF
Surface Area:	6950 SF
Geometric Thermobridging:	466 LF
Heat Loss:	+0%

Simple Building Forms

Building form plays an important role in both energy performance and construction cost. All other things being equal, a simple building form will use less energy and cost less to build than a more complex one. All the house forms shown at left (A-C) are 3,000 sq. ft. Yet, House A will cost more to build than B or C and will also cost more to heat and cool. House C, with its simple form, will cost the least to build, heat and cool.

House A's form employs 35% more surface area to enclose the same floor area as House C. That extra surface area adds both to building and energy costs. Going one step further, each of the many corners on House A's dormers add to building costs and also create a thermal "leak," known in Passive House parlance as a "geometric thermal bridge." Figure A demonstrates how energy leaks from each building corner.

The design of our Right Houses strives to include as few corners and the least surface area as possible. But in no way does that mean every house ends up being as simple as House C. Our process will yield the optimal form to suit your specific needs, preferences and site; we'll also use porches, overhangs, exterior textures and other elements to create compelling aesthetics.

Figure A

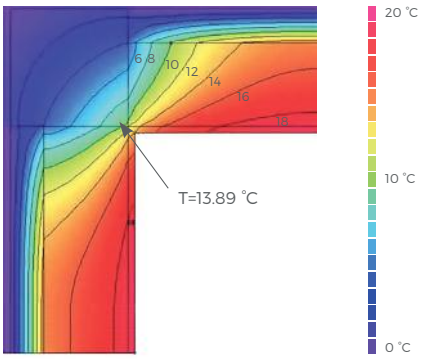


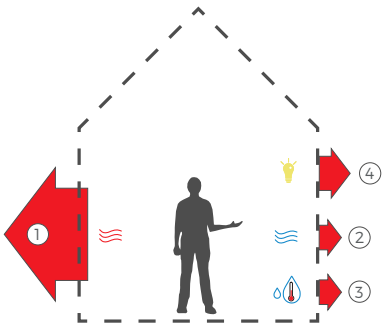
Image by Jim Westphalen

Right-Sized

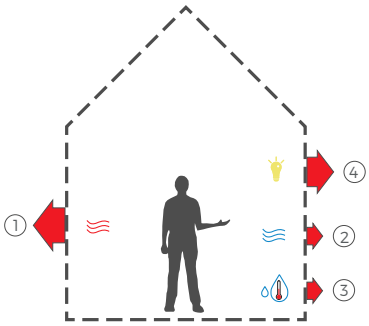
According to the U.S. Census Bureau, the average American home has mushroomed in size between 1950 and present. At the same time, family size has decreased. Some of the reasons for this increase is the tendency among big housing development companies to build larger homes that are not particularly designed to make efficient use of space and can also be sold at a higher price point. Although such larger homes may offer more square footage, a smaller home offers the advantages of being less expensive to heat and cool, furnish, and maintain. Our experienced residential design team will offer many ideas for you to consider that will help allow your Right-Sized House to "live" larger and feel more comfortable than it might otherwise.

Low Maintainance

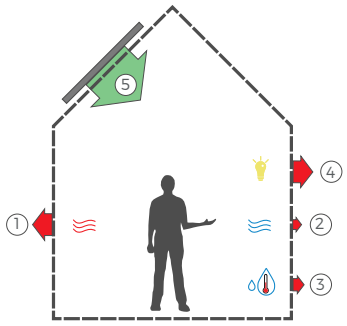
Does your current home keep you tied up with maintenance projects such as painting, replacing window trim, and cleaning the furnace? Whether you're doing these tasks yourself or coordinating with others to perform them, they are limiting your time for your other pursuits and hobbies. If you'd like more time to enjoy life, that's what a Right House can give you. By employing sustainable, durable materials, passive heating and cooling principles (i.e., no need for combustion-type furnaces), mostly or all-electric appliances and long-lasting exterior finishes, we'll keep your annual maintenance projects to a minimum.



Existing House



New House



The Right House

Energy Performance

We design every Right House to achieve state-of-the-art energy performance levels. When compared to existing homes or even new homes built to comply with Vermont's Residential Building Energy Standards (RBES), your Right House will come out way ahead. Both your carbon footprint and your energy costs will be greatly reduced. The diagrams and tables below show annual energy demand, operational cost, and carbon footprint for each house construction type when occupied by a family of four (floor area = 3,500 sf.).

Existing Vermont House (average)

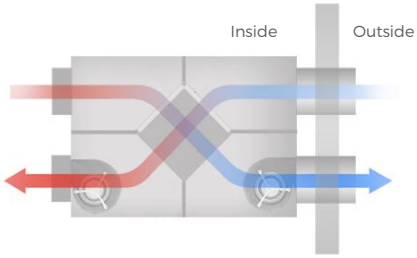
Energy Load:	MMBTU / Year:	Cost / Year:	Carbon Footprint ($KgCO_2e$)
1. Heating	194.4	$5,640	15,800
2. Cooling	0.8	$42	96
3. Water Heating	19.4	$559	2,342
4. Light Appliances	27.4	$1,404	3,309
Total	242	$7,645	21,547

New Vermont House (RBES)

Energy Load:	MMBTU / Year:	Cost / Year:	Carbon Footprint ($KgCO_2e$)
1. Heating	50.4	$2,676	6,087
2. Cooling	1.6	$82	193
3. Water Heating	9.3	$490	1,123
4. Light Appliances	23.2	$1,220	2,801
Total	84.5	$4,468	10,204

The Right House

Energy Load:	MMBTU / Year:	Cost / Year:	Carbon Footprint ($KgCO_2e$)
1. Heating	29.8	$1,571	3,600
2. Cooling	0.6	$28	72
3. Water Heating	2.6	$135	314
4. Light Appliances	20.3	$1,057	2,451
5. Solar Power	-53.3	$-2,791	-6,437
Total	0.0	$0	0



Air-to-air heat exchange

Balanced Ventilation

Every Right House is fitted with a balanced ventilation system, which consists of two fans: one bringing fresh outside air into the building and the other exhausting stale interior air. These systems typically include heat recovery (HRV) or energy recovery (ERV) ventilation equipment that allows the introduction of fresh air without the loss of heat energy. Studies show that homes fitted with these systems offer dramatically improved indoor-air quality with fewer pollutants, viruses and bacteria as well as lower levels of CO2.

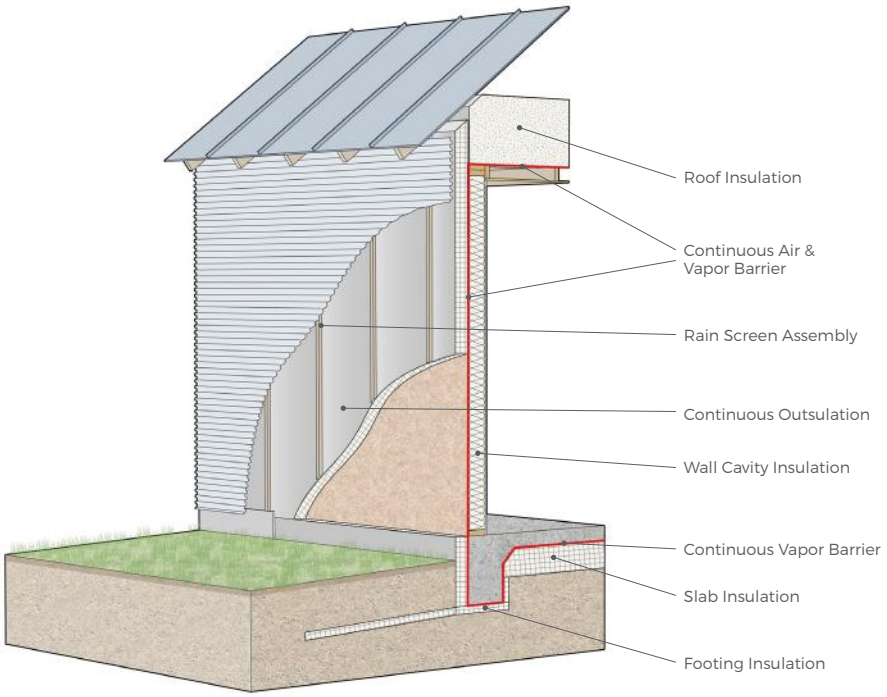

Image by Jim Westphalen

Windows & Doors

Several leading-edge companies have revolutionized window and door fabrication in recent years. The result is new triple-glazed products offering outstanding energy-savings and durability combined with a clean, modern design appeal. These are the window and door types we use in our Right Houses. While these cost slightly more than conventional units, the rewards to the homeowner are worth the expenditure.

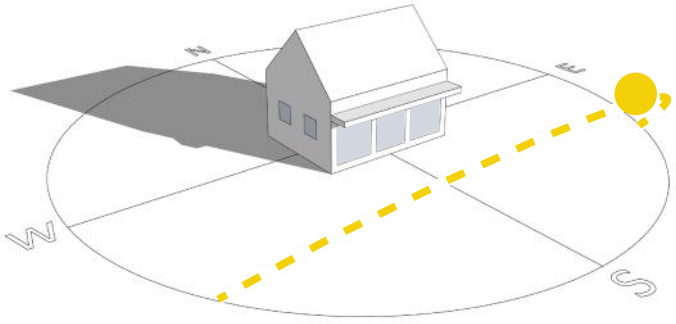
High Performance Shell

We've taken a thorough look at the many ways residential foundations, walls and roofs are assembled and we've arrived at our own method—one that offers a perfect balance of performance, constructability, and cost. It's based on "the perfect wall" principle first developed by Joseph Lstiburek of the Building Science Corporation and includes data compiled by Efficiency Vermont from thousands of recently built Vermont homes.

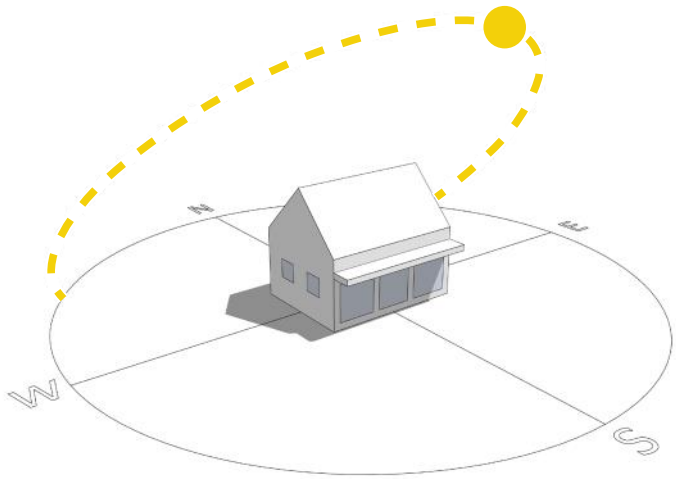


Passive Heating & Cooling

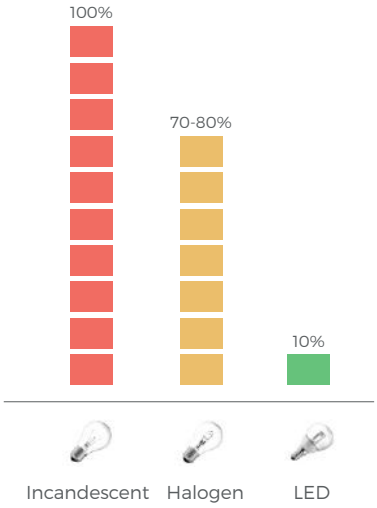
Building orientation plays an essential role in passive heating and cooling. Houses that are oriented with their long axis running in the east-west direction “passively” absorb more of the sun’s warmth during winter months. During summer months, carefully designed roof and window overhangs will reduce homes’ cooling requirements.



Winter



Summer



Energy-Efficient Lighting & Appliances

Your Right House will include Energy Star Certified appliances and lighting designed to reduce your annual energy usage. The ENERGY STAR label was established by the Environmental Protection Agency to:

- Reduce greenhouse gas emissions and other pollutants caused by the inefficient use of energy;
- Make it easy for consumers to identify and purchase energy-efficient products without sacrificing performance, features and comfort.

Image by Jim Westphalen

Daylight & Views

In buildings, thermal efficiency results from separation between the indoors and the outdoors. However, separation from the outdoors runs counter to human nature. As human beings we thrive on connection to the natural world. High-performance windows, strategically placed, allow for extreme thermal protection and visual connection at the same time.

Solar Energy Generation

Generating your own energy on-site is a cost-effective and proven strategy for reducing your home's carbon footprint. Whenever site conditions and a client's budget allow for the inclusion of solar power generation, we're ready to integrate it into a project in an aesthetically appropriate manner. Because our house designs require so little energy, the size of the solar array required to achieve net-zero is typically small and inexpensive.

Water Conservation

To some it may seem that the earth has an abundant supply of water, but in fact less than 1 percent is available for human use. The rest is either salt water found in oceans, fresh water frozen in the polar ice caps or water too inaccessible for practical use. While population and demand on freshwater resources are increasing, supply will always remain constant. And although it's true that the water cycle continuously returns water to Earth, it's not always returned to the same place, or in the same quantity and quality. That's why we recommend installing WaterSense low-flow plumbing fixtures throughout your Right House. The WaterSense label identifies water-efficient products that have been independently certified to meet EPA WaterSense criteria for efficiency and performance.