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# Ranch-Style Teaching in MONTANA

BY KATHY PRICE-ROBINSON

**H**alfway through her five-day BPI certification course, Stevie Moe, a 25-year-old college graduate, arrives in class at 8 am looking beat. “I think I’m getting sick,” she tells instructor Tamasin Sterner, owner of the Pure Energy Center in central Montana, where this all-women course is under way

We all know what’s going on. Stevie’s friend, a young woman, died in a car crash and the memorial was the previous night. Stevie is emotionally exhausted. She lies on the carpeted floor while Tamasin gathers up a pillow and a blanket.

And thus the day’s instruction begins.

Before long, Stevie feels better and is back at her desk and back in the classroom groove, thanks to her teacher’s patience.

With her signature blend of intensity, quirkiness, wisdom, and joyfulness, veteran home analyst Tamasin leads her students in this unique course through the BPI standards and hands-on practice with a combination of laughter, hugs, clapping, compassion, encouragement (“You’ve got this!”), and serious study, all punctuated by audits at local ranch houses, walks through this property’s 212 acres of meadows and trails, and the comforts of home-cooked meals.

The teaching style Tamasin employs here is certainly not conventional; yet it appears effective. Both young women who

have come to this inaugural course at the ranch easily pass their certification test at the end of the week.

And the group of local women who stop by for a preview of the course, with Tamasin showing off her cool diagnostic tools, seems eager to return for the full class.

According to Tamasin, “Women learn differently than men.” And, she explains, the ranch provides a “distraction-free, deep-learning environment.”

## Nontraditional Teaching Style Geared Toward Women

As home energy experts know, most BPI certification classes have a certain tone: logical, sequential, and serious. You could call it left-brain learning with a focus on the parts.

Tamasin’s all-women classes take on a distinctively different character—intuitive, holistic, and more flowing, yet equally rooted in science and diagnostics. It’s more right brain, with a focus on the whole.

It’s not that Tamasin doesn’t train men. She has trained thousands, passing along the knowledge she has gained by analyzing more than 40,000 homes over her career. Indeed, a course set for next year at the center is open to all; titled



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“Introduction to Home Performance for Remodelers and Home Improvement Contractors,” it will be cotaught by Larry Armanda of Therma-View Infrared and Energy Consultants, Tamasin’s teaching partner.

In this case, though, Tamasin allows the passion that women might hold in check during courses back in Pennsylvania, her home base, to flower here. She cares most about the well-being of single mothers—or any women, for that matter—who are charged with creating a healthy home for themselves and their families, but who have virtually no knowledge of building science. Tamasin aims to change all that, and this new training facility lies at the heart of her plan.

## How the Pure Energy Center Came to Be

For the past two decades, while running her successful home-auditing business, Tamasin attended meditation retreats at this ranch. A year ago, when the ranch came up for sale, Tamasin jumped at the opportunity to further develop it into a training, conference, event, and retreat center.

The main house is an old but well-maintained manufactured home with a two-story addition. Tamasin transformed the living room into the classroom and computer lab. Students who

wish to do so can use the large kitchen to cook their own meals. A cook comes in for the larger classes.

Besides the master suite, there are four bedrooms and three bathrooms in the main building, all decorated by Tamasin, who made frequent trips to second-hand stores 45 miles south in Billings. The rooms are pretty and nurturing, with high-thread-count sheets and nice towels in the bathrooms. Several cabins and outbuildings across the ranch provide lodging for dozens more attendees at larger events than the one described here.

The centerpieces on the lower ranch are a \$125,000 commercial kitchen that Tamasin built, and a pole barn she converted into a large conference facility. With numerous high-performance windows and three \$10,000 glass roll-up garage-type doors, the space floods with natural light, and the building offers views of hillsides sloping down to a river and grazing cattle.

Tamasin plans to insulate the conference center with two-part foam, to add a sophisticated HVAC system, and to add bathrooms. Achieving these goals will make possible year-round trainings and events. Tamasin sees this as a teaching opportunity; she wants the conference center to serve as a model for creating conference venues that are comfortable, durable, healthy, safe, and resource efficient. To get support for the conference center, and to raise the project’s profile in the home performance and energy efficiency industries, Tamasin is contacting potential sponsors for products and technical expertise.

## Day to Day in a Ranch-Style BPI Course

In mid-October, four of us arrive for the course from four time zones: Tamasin from her home base in Lancaster, Pennsylvania; me, a housing journalist and videographer from New Orleans wanting to deepen my home performance knowledge; Jennifer Weedn, my stepdaughter from Northern California, a single mother of two young children who is looking for a new career; and Stevie, who works for a weatherization program in Billings.

Jennifer and I choose our bedrooms the evening before the course begins. We prepare some dinner together and get to know Tamasin, whom we have never met. (Stevie will commute from Billings for the first four days, and then decide to stay overnight before the final testing day on Friday.) Tamasin is funny and loose and intense, all at the same time. She famously consulted President Barack Obama on the need for weatherization and the “sexiness” of insulation.

### Day 1: Theory, Then Practice

We begin class on Monday at 8 am, and Tamasin asks each participant to explain why she is here. Stevie wants to do good in the world, and likes the science-based BPI approach, which might



**Table 1. Left-Brain and Right-Brain Ways of Teaching and Learning**

| Typical BPI Certification Course             | Pure Energy Center Women's BPI Certification Course                                  |
|--|--|
| Classroom setting with fluorescent lights    | Home setting with natural light  |
| Students commute to class                    | Students have option to stay on-site in bed-and-breakfast-type rooms                 |
| Class size of 10 to 20 or more               | No more than 8 in each class   |
| Boxed or catered meals                       | Home-cooked meals, plus group cooking  |
| Firm schedule                                | Flexible schedule, based on students' needs and grasp of subjects                    |
| Hands-on practice in labs and mock buildings | Hands-on practice in ranch buildings and cabins, and in homes on neighboring ranches |
| Focus on science of building performance     | Focus on human consequences of building performance, along with science              |
| Instruction ends daily around 5 pm           | Class continues into the evening with discussions of career plans                    |

help her operate in conservative Billings “without being thought of as being the crazy environmentalist.”

For her part, Jennifer has time now that her kids are in school to develop a career. “I like improving things,” she says. “I like telling people what to do.”

Plus, she has life experience; “I’ve been in some crappy houses”; and she has wondered how to fix those houses. And at 5 feet and not-that-many pounds, she is physically built for jobs that take place in attics and under floors. “I can crawl into small places.”

My current assignments are making videos for DOE and other clients to help explain home performance, and gaining a solid knowledge of the subject. This time to learn is an exquisite luxury for a journalist.

“To pass the test, you need to know a lot,” Tamasin tells the BPI aspirants. “But you need to know a hell of a lot more to be an energy auditor.” It takes about 30 audits before you feel set to go, she tells them. “I’m giving you a perspective that took me 30 years to understand.”

The classroom, with a mountain view, is painted taupe with wood trim and dark blue carpeting. A canvas poster on the wall says: “The Heart Should Do Things Without the Brain’s Permission.” Our desks are wooden tables a friend of Tamasin’s made and trucked out from Pennsylvania. The chairs are office swivel types but covered in faux animal skin prints. Tamasin has her own station at the front of the class, with her laptop computer and a giant-screen TV, where she rolls out slides from her vast library to illustrate whatever diagnostic principle needs explaining.

On one table we find stacks of learning materials—forms used by Tamasin’s home-auditing company, Pure Energy Coach; copies of Residential Energy and The Contractor Guide to Home Energy and Saturn Field Guide to Energy Auditing; as well as guides to the BPI test.

Tamasin explains her deep concern for struggling single mothers living in unhealthy homes. She believes that many low-income people are so sickened and impoverished by their homes—by CO, mold, discomfort, high energy bills, and so on—that it drains them of the time and the get-up-and-go they need to dig themselves out of poverty.

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We start out at the beginning with a slide entitled, What is Home Performance? It is, the slide says, “The systematic approach to improving people’s comfort, health, and safety, and the energy efficiency and durability of existing homes.”

We study a graph on annual residential energy bills of average and high-performing homes. The facts in a DOE video on weatherization seem to bear out Tamasin’s theory: Low-income people spend a much higher percentage of their budget on utilities than do well-to-do people.

We learn about uninsulated or unsealed knee walls, leaky recessed lighting fixtures, ice dams, leaks, condensation, and other problems. And then it’s time to get up and check out the house we’re in.

Tamasin teaches the students how to set up a blower door and gets them familiar with the infrared camera and thermometer. But first, she demonstrates how to turn the home’s two gas water heaters to pilot and gives the students a tip: Leave your car keys there during an audit to remind you to turn the water heater back on and avoid the 2 am call from a frantic homeowner with no hot water.

We find that the house is pretty leaky, at 3,600 CFM<sub>50</sub>, and we set out to discover why. The biggest culprit is the marriage wall, where the two parts of the doublewide mobile home connect, probably with no top plates inside the walls. Moving room to room, we discover all kinds of anomalies in temperature and airflow, thanks to the duct pressure pan, and Tamasin turns each instance into a spontaneous learning module. For students seeking a linear learning experience by the book, this on-the-fly style could be disorienting. For me, it was stimulating.

Later in the day, more than a dozen local women drop by for a short primer on the course and the tools. They seem fascinated, and this jibes with Tamasin’s earlier assertion that even without the goal of BPI certification, women need to know about houses.

Knowledge of building science “is family security,” she says. “If the shit hits the fan and the power goes down, you can take care of your family. You won’t poison them with carbon monoxide. You won’t poison them with mold.”

## Day 2: Steps to a Good Audit and a Ranch House Audit

After the first day of class, Stevie decides the ranch is a safe enough place for her black Labrador, Moxie, and brings her along, which improves my life about 1,000%, since I lost my own beloved dog just five months ago.

We awaken to breakfast on the stove. Over the days, Tamasin discovers who is vegetarian, who likes bacon, and who drinks a lot of coffee.

We begin the day in the classroom with more slides and theory about buildings and energy use, and the three parts of home performance. They are

- building science;
- stuff in buildings; and
- people in buildings.

“The science is nature’s law,” Tamasin says. “It’s God’s law. Once you learn the science, you’ve got it.”

But the way people use energy is also important. In Tamasin’s auditing business, she asks clients to produce 12 months of bills prior to the audit so that the auditor can determine base load and analyze the potential for savings. If clients can’t or won’t produce the year’s worth of bills, they are told, “We’re not right energy auditor for you.”

Setting up the blower door again, the students investigate this house a little more fully and find an extra-cold corner in the dining room. Since Tamasin has not yet fully audited this house or made any energy improvements, she discovers, along with the students, the reason for the airflow: a 4-inch dryer vent running through the wall and down into the crawl space through a 10-inch opening. This leads to another spontaneous lesson—safe use of the spray foam gun—along with anecdotes about plumbing leaks and flooded houses.

To illustrate the movement of air via the stack effect, Tamasin uses a manometer and a Plexiglas tower with vertical holes variously covered and uncovered with tape. The message we have been receiving via slides and books comes alive: Air sealing the attic will slow airflow more than sealing the floor.

Inspector  
Tools  
AD

Tiger Foam  
AD



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After lunch, we review slides on Steps to a Good Audit. Then the class loads up the blower door and other tools into the ranch van and heads off to do an audit at a fairly new house on a neighboring ranch. There, we find around 1,700 CFM<sub>50</sub>, which is pretty good. Using the pressure pan, we find an air leak in a bathroom fan, which generates another teaching opportunity.

In the basement, we check out the geothermal unit. Nothing much is wrong with this house, other than sewer smells coming from a basement drain that has been allowed to dry out, and Tamasin tells the owner to keep it moist.

Back in the classroom, we watch a highly regarded video, *The House as a System*, by energy expert David Keefe.

### Day 3: Hard-Core Class Time

We begin the day watching a moving video on the importance of weatherization improvements for poor people. After the video, Tamasin fights back tears and says, “That’s what I’ve devoted my whole life to.”

Today revolves around the classroom, digging deep into BPI certifications and standards, including insulation and electrical and mechanical codes. As usual, Tamasin relates the technical lessons to human health. One slide tells the story of a family of four killed in an Aspen vacation home in 2008 by CO poisoning. According to the surviving family members, the house had seven different flaws related to deadly CO leaks from a snow-melt device in the basement. At the time of the class, a building inspector and an HVAC contractor faced imminent trials on four charges each of criminally negligent homicide. A judge has since dismissed those charges, along with a civil case against the county.

For a little study relief, Tamasin demonstrates in the kitchen how to measure water flow and water temperature.

During breaks, Roxie and I play fetch in the quiet country air. I wish we had a tennis ball, but she seems OK with an assortment of pinecones.

### Day 4: Auditing an Architecturally Interesting House

The day begins with breakfast and a visit from a colorful friend of Tamasin’s. She brings treats and hand-painted greeting cards for everyone, acknowledging this inaugural course at the ranch and the manifestation of the vision Tamasin worked hard to create.

Today’s big event will be a full audit on an architect-built house on a neighboring ranch. Loading up the gear and the dog, we stop by an outbuilding and study a collection of used heaters and furnaces, both smart ones with sensors and dumb ones that fire no matter what.

At the architect’s house, we walk around the building, looking for protrusions, complicated rooflines, and potential leak sites, and we find many. Each becomes a teaching event. Moxie is happy to discover that the resident canine, a Rhodesian ridgeback, is a lively playmate.

Inside, Tamasin demonstrates how to talk to the client, to explain what will be happening in the next few hours. Setting up the blower presents a challenge, and the door is determined to be too narrow. “Lesson learned,” Tamasin states, and the students move to a wider exterior door. With so many complicated angles and numerous recessed lights, we suspect the house will be leaky, and I initiate a contest, soliciting guesses from our team. We guess 4,500, 3,300, 3,301, and 2,000 CFM<sub>50</sub>. The actual reading: 1,750 CFM<sub>50</sub>. It’s a better-built house than we thought.

The major air leaks come from the can lights, as expected, and cold air seeping from a porch overhang into the upstairs bathroom floor. Down in the basement, the students get excited when they discover a gas leak and a drafting problem in the water heater, as well as a moisture leak on the furnace exhaust pipe that is causing rust.

At the end, they sit down with the homeowner to discuss the results and make their recommendations. Leaving the house, Jennifer says, “Actually, that was awesome.”

In the evening, Tamasin discusses career plans with each of the students.

### Day 5: Testing and Takeaways

The day begins, and remains, serious, with a review of BPI standards and calculations. When discussing how to determine base loads, I pull up my own energy account from New Orleans, and we discover that my household is about average, using 5,000 kWh per year; and that someone in the house really likes air conditioning during the summer months. That would be me.

On the computer, orally and using the tools, the students take their certification tests. The feeling is that they both passed (they did) and it makes sense. Stevie works in the industry, a remodeling contractor raised Jennifer, and both have a firm grasp of the laws of nature.

Walking the fields that last evening, I felt both satisfied with all I had learned (mostly as an observer and reporter), and sort

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training

of sad to be leaving this place. It's hard to imagine the impact of a distraction-free deep-learning environment until you've experienced it.

My takeaways: At the risk of sounding sexist, I fully approve of all-women classes for building science instruction. In mixed classes, women can tend to step back and let the men take over in scientific arenas, as they have done for thousands of years. The flexible, tolerant, yet learned spirit of Tamasin's class totally worked for me and, it seems, for the students.

Reviewing some video I shot on day 3 in the classroom, I see Tamasin and Stevie, relaxed yet engaged, wearing sweatshirts, and Jennifer leaning forward, cross-legged on her chair and wearing a backwards ball cap, as they discuss BPI standards. On the left side of the video, I see my stocking-covered foot, resting on the table as I hold the camera.

Looking at the video now, weeks after returning to my life in the city, I think: Did I, a professional journalist of some distinction, really have my foot up on the desk while I videotaped that class? It seems odd now, and disrespectful. But in the relaxed, easygoing mood that settled onto the ranch, in the accepting and noncritical atmosphere, my every move seemed right. And for me, that made this inaugural energy-auditing course at the Pure Energy Center an unqualified success.

**Kathy Price-Robinson** is a writer and videographer with a specialty in home improvement and home performance. Her web site is [www.kathyprice.com](http://www.kathyprice.com).

### >> learn more

~~Another Women's Energy Auditing course is scheduled for June 29 to July 2, 2012. Costs are \$650 for the class; optional \$200 for food and lodging; optional \$75 for food only for commuters; and optional \$750 for BPI testing and certification. For those already BPI certified, the course earns 7.5 BPI CEUs.~~

~~A course titled Introduction to Home Performance for Remodelers and Home Improvement Contractors, is scheduled for 2012; the exact date is yet to be determined. This course, which is open to both men and women, will earn 16.5 BPI CEUs. It will be cotaught by Tamasin Sterner and Larry Armanda~~

~~For more information on the Pure Energy Center, go to [www.pureenergycoach.com](http://www.pureenergycoach.com).~~

Another Women's Energy Auditing course is scheduled for September 10-14, 2012, in Lancaster, Pennsylvania. For information about the course and a registration form, go to [www.pureenergycoach.com/docs/Energy\\_Auditing\\_Women\\_2012\\_PA.pdf](http://www.pureenergycoach.com/docs/Energy_Auditing_Women_2012_PA.pdf).

For more on the Pure Energy Center and all its home performance training and mentoring opportunities, go to [www.pureenergycoach.com](http://www.pureenergycoach.com).

ACI recently founded a new organization, Women In Home Performance, that aims to promote women in the industry as well as leverage the strengths women bring to the market. Visit [www.affordablecomfort.org/women](http://www.affordablecomfort.org/women) for more information.