

CASE STUDY



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AT-A-GLANCE

HOME PROFILE

- Irvine, CA
- Two-story, built in 1969
- 2,100 square feet

CHALLENGE

- Upstairs unbearably hot in the summer
- House drafty and cold in the winter
- High utility bills

AUDIT RESULTS

- Air leaks in the attic, ceiling, skylights, canned lights
- Missing and insufficient insulation
- Leaking ductwork
- Exposed asbestos
- Natural gas leak in hot water heater
- Faulty electrical wiring

SOLUTION

- Cellulose insulation in the attic
- Comprehensive air sealing in the attic
- Removed asbestos
- Replaced ducts
- Upgraded lighting
- Fixed natural gas leak and faulty wiring
- Programmable thermostat

BENEFITS

- More comfortable, draft-free home
- Safer, healthier environment for baby
- 25% utility bill savings
- Increased sustainability
- Improved indoor air quality
- \$1,500 in Federal Tax Credits
- Reduced carbon footprint by 3,294 lbs/year
- Increased home resale value

MATT AND CLARE VENEGAS

Orange County, CA



When Matt and Clare Venegas bought their home in suburban Irvine four years ago, they knew it was a “fixer-upper. Built in 1969 and still possessing a lot of its original features, the couple immediately began renovating the place.

So when they noticed a dramatic decline in comfort during the summer and winter months, they were baffled. “We thought we had done everything we could to make our home as comfortable as possible,” said Matt.

What the couple didn’t know was that the renovations they did were purely cosmetic, and did absolutely nothing to address critical construction deficiencies that impact indoor comfort — including missing insulation, leaks, and drafts — and are inherent in most existing homes.

PROBLEM

According to the Matt and Clare, the second floor was unbearable in the summer. With the strong afternoon sun heating it up like an oven, the air conditioning barely worked upstairs. And heat as they might, during the winter it stayed drafty and cold.

“It was like we were living in the Midwest, not Southern California!” said Clare.

But as a busy working couple, they didn’t have time to worry about the comfort level of their home. While annoying, they learned to accept the discomfort, to the point of sleeping downstairs on the hottest summer nights.

“We just assumed this was the way the house was and we had to live with it,” said Matt. “We dreaded going upstairs, and spent as little time as possible there during the summer months.”

That was until Clare found out she was pregnant. Once baby Derek was in the picture, everything changed.

“With the baby coming and the nursery upstairs, we knew it was time to do something,” said Clare. “We could be miserable, but he couldn’t. We didn’t want to move, but we didn’t know what to do or who to call.”

GREENHOMES ASSESSMENT

Matt had heard about GreenHomes, a leading provider of home performance contracting, from working in the building services industry. The company was well known on the east coast for its comprehensive home energy assessments and “whole home” approach to comfort and energy improvements.

“As soon as I heard GreenHomes had opened an office in Southern California, I wanted a home energy audit ASAP,” said Matt. “The weather was just starting to heat up and Derek was six months old. The timing was perfect.”

GreenHomes is unique because it treats a home as a completely integrated system. Components that are not performing well and are negatively impacting comfort, energy efficiency, health, and safety are quickly pinpointed through diagnostic testing.

The GreenHomes process began with a home energy audit by a Building Performance Institute (BPI)-certified Advisor. First they analyzed a year’s worth of utility bills to determine energy patterns. Then they depressurized the house with a blower door and used state-of-the-art tools to identify the problems in the Venegas home.

“Using an infrared camera the Advisor spotted the main problem right away. He said ‘you have no insulation; this house is like Swiss cheese,’” said Matt. “Then using a smoke stick, he also showed me holes in our ducting and leaks. He explained that meant the air we were cooling and heating was just shooting up into the attic and escaping out the walls. It was very informative, and I was excited to finally learn what the problem was and relieved to know it could be fixed.”



Once the energy audit was complete, the Advisor came back to the Venegases with a comprehensive report and a complete set of recommendations that GreenHomes guaranteed would not only improve the comfort of their home, but increase energy efficiency and lower utility costs as well.

"The report was detailed but very easy to understand," said Clare. "It was nice because there wasn't a lot of fluff in it, just photos and very concise information that was specific to the house. There was also information on how the improvements would reduce our carbon footprint and lower our utility bills. They even told us how much in federal tax credits we could claim."

GREENHOMES SOLUTION

Matt and Clare decided to move forward with the recommended improvements that included insulation, air sealing, lighting upgrades, and new ducting. "Our motivation was the baby and comfort, but when we found out we would save money and energy as well, it was a no brainer!" they said.

As a single-source provider, GreenHomes handled the entire scope of the project from start to finish. For Clare, who was at home with the baby, working with only one contact was key. "Sometimes dealing with contractors and their schedules can be a pain," she said. "But the GreenHomes crew was always on time, efficient, and courteous. They were respectful of my time and there was minimal disruption to our daily routine. They even cleaned up every day before they left."

With work underway on the Venegas home, the experienced GreenHomes crew soon

made a potentially dangerous discovery. As they were preparing the attic for cellulose insulation, one of the workers realized that the broken "pieces of concrete" they had found were actually asbestos.

"The crew lead stopped all work immediately to prevent asbestos being exposed. Within 15 minutes they had quotes from several reputable asbestos abatement companies," said Clare. "Within two hours, all the asbestos was gone and we were back on track! GreenHomes handled it all, seamlessly, and got us a great deal."

That wasn't the only safety issue GreenHomes uncovered in the Venegas house. During the assessment they also found a natural gas leak in the water heater and faulty electrical wiring. "We are so grateful that they discovered the asbestos and the other issues. We feel much safer now," said Clare.

When the project was done, Matt was amazed to find out that they did not need a bigger HVAC system after all. The old system was perfectly fine; it was just being overworked because of all the holes and leaks in the attic and insufficient insulation. GreenHomes also replaced the original thermostat with a new energy-efficient programmable one that turns on and off automatically.

HOMEOWNER BENEFITS

GreenHomes was in and out in just a few days, even with the asbestos and duct replacement set-back. According to Clare and Matt, they noticed an immediate improvement in comfort.

"We can now go upstairs and it's comfortable!" exclaimed Matt. "I'd say it's at least 6 to 7 degrees cooler up there, just from the attic improvements alone. We haven't had to run the A/C that much and we've noticed a big difference. When we do run the A/C, we can feel it working stronger and faster."

The couple has already seen their electricity bill drop 25 percent from July to August and anticipates savings in the winter as well. "I think we'll see a huge difference come winter," said Matt. "Now we won't have to run our heater nearly as much so we expect the utility bills to be a lot lower."

The fact that they were able to take advantage of the Federal Tax Credit for energy

saving home improvements was an added bonus. "The tax credits, the long-term utility bill savings, being green, and the health and safety improvements were all icing on the cake" said Matt.

An unexpected benefit was improved indoor air quality. Clare suffers from allergies. Now that the ducts have been replaced and the holes sealed, less allergens and dirt enter the house and she's noticed an improvement in her symptoms.

Also, removing the asbestos and having GreenHomes certify the home for guaranteed energy savings has added value to their home, which will help them when and if they ever want to sell.

"This small investment in GreenHomes turned out to save us a lot of future headaches when it comes to selling the house," said Matt. "Not knowing about the asbestos and all the safety issues would have put us in a really bad position. We will proudly hang our GreenHomes Certified certificate for all potential buyers to see."

BOTTOM LINE

Beyond the tangible benefits, Matt and Clare have peace of mind that baby Derek is safe and comfortable, and the house is clean and healthy. They can also feel good about doing their part for the environment by saving energy and reducing their carbon footprint.

"We are very happy with the results of our GreenHomes improvements. Their whole-home approach really works and we will gladly recommend them to everyone we know. We look forward to enjoying the baby and the house in total comfort now that it is working at maximum comfort and efficiency," said Matt.



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