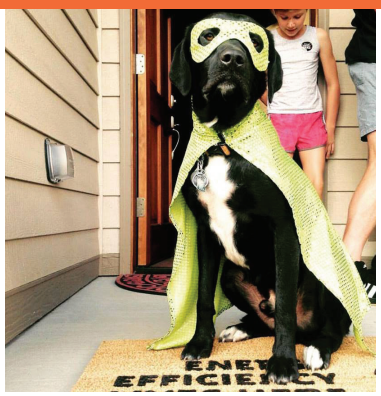

THE BEND ENERGY CHALLENGE WEEK

MON, SEPT 19th – SAT, SEPT 24th

WORKSHOPS TO INFORM AND INSPIRE

16th ANNUAL GREEN TOUR

SAT, SEPT 24th 10:00-5:00

FREE TOUR OF GREEN HOMES AND GREEN LIVING IN BEND

BROUGHT TO YOU BY:

EnergyTrust of Oregon

SMOLICH NISSAN

Call! HOME HEATING & COOLING

bendenergychallenge.org/BECweek

A PROJECT OF THE ENVIRONMENTAL CENTER

Table of Contents

Learn about Energy Efficiency and Renewable Energy

The 16th Annual Green Tour

Hey there, Energy Heroes!

If we haven't had the chance to meet you yet, then we haven't finished our job quite yet because we're trying to help every home in Bend save energy. An ambitious goal, yes. But not unattainable.

We know that Bend is full of energy heroes. Already taking action. Ready to unleash their potential with a little bit of encouragement. Fact is, energy heroes—big, small and everything in between—are already here: in our schools, at our parks, sitting outside coffee shops and pedaling by sleeping volcanoes. They're already taking actions, big *and* small, and making a difference.

We are 2,600 strong and counting. And we're saving A LOT of energy.

Why does this matter? Because we're competing in a national competition to reduce energy use. Oh—and there's a $5 million prize on the line. *Five million bucks!* These winning funds would be used to help our community save energy, go solar, and honor the spectacular environment that made us fall in love with Bend in the first place.

The Bend Energy Challenge Week and the 16th Annual Green Tour is designed to be a week of inspiration and education for the whole family and community. Go and check out the week's schedule of workshops and activities on the next page and see what you can take away to do your part and start saving some energy right now!

The world needs more heroes like you, so come out and join us to learn how you can help Bend win $5 million and make it a better place to live.

Thanks for joining us,

Lindsey Hardy
Project Director
The Bend Energy Challenge

WHAT'S UP WITH THAT $5 MILLION?

Bend is competing against 49 other communities in a national 2-year competition called the Georgetown University Energy Prize—the end of the competition is quickly approaching: December 31st, 2016. The Prize is meant to spur innovation and action that reduces energy use. In 2017, the winner will be awarded the $5 million prize.

Learn more at guep.org

HOW DO WE WIN?

By reducing our energy use! We report Bend's actual energy use—electricity and natural gas by residents and local government agencies—to the Energy Prize. They want to see a measureable reduction in how much energy we use per person by the end of the competition.

Learn more at guep.org

Thanks to Our Green Sponsors!

BEND ENERGY CHALLENGE WEEK SPONSORS

TITLE

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- Central Electric Coop
- Denfeld Miller Paint
- Earth Advantage
- Sunlight Solar Energy
- Neal Huston & Associates Architects, Inc

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CHAMPION

zero energy project

Bend Park & Recreation District

SOURCE WEEKLY

CITY OF BEND

BEND LA PINE Schools

HERO

- Bend Radio Group
- Brooks Resources
- Combined Communications
- Deschutes Brewery
- E2 Solar
- Energy Trust of Oregon
- GreenSavers
- Karnopp Petersen LLP
- Neil Kelly Co
- St Charles Health System
- Sunlight Solar Energy

bendenergychallenge.org

TOUR & SCHEDULE

RSVP for required workshops at bendenergychallenge.org/RSVP

MONDAY, SEPTEMBER 19TH

Zero Energy Living

FOR: Anyone who is interested in saving energy!
WHEN: **5:30pm**, Refreshments provided
WHERE: The Environmental Center
WHO: Bruce Sullivan, BASE Zero, LLC

WHAT TO LEARN: Everyone can reduce consumption and increase health and comfort. From construction projects to daily choices, you'll get new ideas for living large with less. How should you evaluate major efficiency investments? What design elements make homes use less, or even zero, energy? How can you get around town? These questions and more will be answered.

TUESDAY, SEPTEMBER 20TH

Take Control of Your Energy Costs

FOR: Green Teams, Business owners
WHEN: **11:00am** (RSVP required, $5, lunch included)
WHERE: McMenamins, Rambler Room
WHO: Jesse Holland, Energy Trust of Oregon Existing Buildings

WHAT TO LEARN: Learn how the Energy Trust of Oregon can help you reduce energy consumption in your business and help you connect with cash incentives.

Making Sense of Solar

FOR: Green Teams, Business owners
WHEN: **11:45am** (RSVP required, $5, lunch included)
WHERE: McMenamins, Rambler Room
WHO: Jeni Hall, Energy Trust of Oregon Solar

WHAT TO LEARN: Have you ever considered going solar at work and wondered what it takes to actually do it? Come learn what makes your site a good fit for solar and the tax credits and cash incentives that make for a very attractive ROI.

Get your Home on the Path to Saving Energy

FOR: Homeowners (Pacific Power and Cascade Natural Gas customers)
WHEN: **5:30pm** (RSVP preferred, beer & snacks provided)
WHERE: McMenamins, Rambler Room
WHO: Mike McMillan, Energy Trust of Oregon

WHAT TO LEARN: There are simple fixes to make your home more efficient and comfortable. Come learn from the professionals who can help you get on the path to saving energy.

Unleashing Your Home's Solar Power

FOR: Homeowners (Pacific Power and Cascade Natural Gas customers)
WHEN: **6:30pm** (RSVP preferred, beer & snacks provided)
WHERE: McMenamins, Rambler Room
WHO: Jeni Hall, Energy Trust of Oregon Solar; Local solar professionals

WHAT TO LEARN: We live in the beautiful, sunny, high desert--what's more natural than using the power of that sun? Learn how you can get up to 80% off the cost of your solar installation and start harnessing the power the sun right at home.

WEDNESDAY, SEPTEMBER 21ST

Green Homes: What You Should Know

FOR: Realtors and Brokers (1.5 CE available)
WHEN: **9:00am** (RSVP required, $5, lunch included)
WHERE: McMenamins, Rambler Room
WHO: Bruce Sullivan, BASE Zero, LLC

WHAT TO LEARN: Gain an understanding of what green, energy efficient and high performance means in today's building industry by examining the leading regional green home certification and energy efficiency programs available for new and existing homes in the Pacific Northwest.

Realtor Home Tour

FOR: Realtors and Brokers (1 CE available)
WHEN: **11:00am** (RSVP required)
WHERE: Bend, Oregon
WHO: Bruce Sullivan, BASE Zero, LLC

WHAT TO LEARN: Take advantage of this opportunity to get a first-hand look at what features go into these high performance homes, gain helpful resources for customers, and learn the variety of ways that realtors can communicate the benefits of energy efficiency to future clients.

Energy Trust of Oregon New Buildings Overview

FOR: Commercial Designers, Architects, and Builders
WHEN: **11:45pm** (RSVP required, $5, lunch included)
WHERE: McMenamins, Rambler Room
WHO: ML Vidas, Energy Trust of Oregon New Buildings

WHAT TO LEARN: Bring energy savings to your new construction, major renovations and tenant improvement projects with the New Buildings program. This session reviews the enrollment process and various incentive offerings for new commercial construction from the design process to construction and implementation.

E^3- Energy Efficiency Explained

FOR: Central Electric Cooperative Customers
WHEN: **5:30pm**
WHERE: Bridge 99 Brewery
WHO: Ryan Davies, Energy Services Supervisor, Central Electric Cooperative

WHAT TO LEARN: An informational session to learn about the residential programs that CEC offers to its members. Learn what steps to take to put your home on the fast track to efficiency. You'll review everything from low cost/no cost options, to the various residential programs that offer a financial incentive to help pay for improvements.

TOUR & SCHEDULE

RSVP for required workshops at bendenergychallenge.org/RSVP

THURSDAY, SEPTEMBER 22ND

Visualizing the Pathway to Efficiency

FOR: Designers & Architects (AIA credits available)
WHEN: **12:00pm** (RSVP preferred, $5, lunch included)
WHERE: The Environmental Center
WHO: Steve Vinci, Principal, Senior Sustainability and Building Science Specialist, Morrison Hershfield

WHAT TO LEARN: As we move towards higher performance buildings, we require more advanced tools to analyze the information. This session will use data driven guidance and highly visual tools to communicate a more complete picture of whole building energy performance. The frameworks presented will highlight the relationships between multiple performance variables allowing designers to make more informed decisions.

Green Drinks

FOR: Community Event
WHEN: **5:00pm-7:00pm**
WHERE: Armature
WHO: Kôr Community Land Trust

WHAT TO LEARN: Green Drinks is an international event to connect like minded individuals and local businesses. Hosted by Kôr Community Land Trust who will serve the working class in Bend, Oregon by fulfilling the need for permanently affordable housing. Kôr will build homes with a goal of net-zero energy, as well as foster a commitment to sustainable building, living, and diversity in their communities.

FRIDAY, SEPTEMBER 23RD

Community-Scale Biomass: Options for Bend and Central Oregon

FOR: Community Event
WHEN: **12:00pm**
WHERE: The Environmental Center
WHO: Scott Aycock, CED Manager, COIC Andrew Haden, Founder and President, Wisewood

WHAT TO LEARN: What is the potential for community-scale biomass to be a renewable energy solution for Bend and Central Oregon? Hear about examples of community biomass projects in development in other parts of Oregon with plenty of opportunity for Q&A and dialogue.

SATURDAY, SEPTEMBER 24TH

Get Your Ducts in a Row

FOR: Homeowners
WHEN: **11:30 - 12:00, 1:30 - 2:00**
WHERE: Bend High
WHO: Ric Secor, Home Heating

WHAT TO LEARN: The ducts in a typical heating system, lose 25 - 40% of the heating of cooling energy put out by the furnace. Learn how you can make the most of your heating system by getting your ducts in a row and performing at their best with Aeroseal.

What's in your Driving Future?

FOR: Anyone curious about Electric Vehicles
WHEN: **12:00 - 12:30, 2:00 - 2:30**
WHERE: Bend High
WHO: Zach Henkin, Drive Oregon

WHAT TO LEARN: Learn about plug-in vehicle technology and deployment efforts in Oregon to decide if a plug-in hybrid or battery electric car might be in your future. Make sure to test drive a few electric vehicles before or after the presentation at the Ride & Drive event - also at Bend High.

Good Energy Fair and Electric Vechicle Ride & Drive

FOR: Anyone curious about Electric Vehicles
WHEN: **10:00 - 4:00**
WHERE: Bend High

WHAT TO LEARN: Stop by to pick up your tour guide and grab a free cup of coffee from Strictly Organic.
Test drive electric cars from Nissan and BMW and learn more about saving energy from some of our local experts.

TUESDAY, SEPTEMBER 27TH

Building a home or ADU in Bend?

FOR: Homeowners, builders, and designers
WHEN: **5:30pm**
WHERE: The Environmental Center
WHO: Matt Douglas, Senior Green Building Consultant for Earth Advantage and Mike Lillesand, New Homes Program, Energy Trust of Oregon

WHAT TO LEARN: Learn about the importance of the integrated design process, "house as a system", the five pillars of a green home, green certification options, and energy performance scoring with EPS™. This session is designed for the consumer. However, builders and design professionals are welcome. Bring your blueprints. If you are not at the stage yet, all the better. Matt and Mike will be available after the session to answer your questions.

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earth advantage

SUNLIGHT SOLAR energy

GREEN AT A GLANCE
AN OVERVIEW OF THE TOUR HOMES

Green at a Glance	1	2	3	4	5	6	7	8
Retrofit projects		✓		✓				
3rd Party Certified	✓		✓		✓	✓	✓	✓
Building Envelope								
Year Built	2016	1936	2015	2002	2016	2013	2016	2016
Wall R-value	23	40	30		27/44	50	23	23
Ceiling R-value	49	50	52/60		46	72	49	38/49
Floor/ slab R-value	38	30	38		38	50	15	38
Window average U-value	.3	.24	.28		.3	.21	.26	.23
Blower Door Test ACH@50	4		1.98		3	.65	2.3	4
Floor Space square feet	2233	900	2105	1600	2186	2236	1995	1930
ADU Square Footage					564	489/ 815	300	576
Energy Performance Score (EPS)	75		50		73	0	77	57/30
Photovoltaic (PV) System kW or Solar Ready (S/R)			5.13 kW	3.4 kW	SR	14.95 kW		SR
High Efficiency (HE), Heat Pump (HP) or Solar Thermal (ST) heating system	95%	96%	98%	HP	95%	ST/HP	95%	
Ductless Heat Pump		✓						✓
Passive Solar Design			✓		✓	✓		
High Efficiency (HE), Tankless (T), Solar Thermal (ST), or Heat Pump water heater (HP)	HE		T			ST/HP	T	T
LED Lighting (100%)	80%		✓		✓	✓	35%	✓
Designed for Daylighting			✓		✓	✓	✓	
Energy Monitoring System						✓		
ENERGY STAR® Appliances	✓		✓	✓	✓	✓	✓	✓

16th ANNUAL GREEN TOUR

SAT, SEPT 24th
10:00-5:00

Indoor Air Quality & Health	1	2	3	4	5	6	7	8
Ventilation System						✓		
Low/No -VOC products	✓		✓		✓	✓	✓	✓
Hard Surface Flooring	✓		✓		✓	✓	✓	✓
Reduced Formaldehyde Cabinets, Insulation			✓		✓	✓		
Water Conservation								
Low Flow fixtures	✓		✓		✓	✓	✓	
Efficiency Irrigation			✓		✓	✓		
Xeriscaping/No Lawn			✓	✓	✓	✓	✓	
Rainwater Retention/Harvesting			✓	✓	✓	✓		
Tree and Soil preservation			✓			✓		✓
Graywater Treatment						✓		
Blackwater Treatment						✓		
Resource Conservation								
Salvaged / Sustainable Material		✓	✓		✓	✓		
Rapidly Renewable Resources			✓		✓	✓		
FSC Certified Wood					✓	✓		
Construction Waste Reduction		✓	✓		✓	✓		
Building Durability- continuous weather barrier,Vented rain screen		✓	✓		✓	✓	✓	
Community								
Pedestrian friendly	✓	✓	✓	✓	✓	✓	✓	
Infill Development	✓		✓		✓	✓	✓	✓
Financial Incentives / Tax Credit	✓	✓	✓	✓	✓	✓	✓	

GLOSSARY

Accessory Dwelling Unit (ADU) A secondary house or apartment with its own kitchen, living area and separate entrance that shares the lot of the primary, larger house.

Advanced framing Technique that significantly reduces the amount of material used to frame a building. Includes strategies such as studs placed 24 inches on center; fully insulated corners; insulated headers; engineered wood products; and roof or floor trusses.

Annual Fuel Utilization Efficiency (AFUE) Widely-used measure of the fuel efficiency of a heating system. Furnaces sold in the United States must have a minimum AFUE of 78%. High ratings indicate more efficient equipment.

Air Changes per Hour (ACH) The total volume of air in a space that is exchanged over in hour.

Blackwater Household wastewater containing human waste and waste from a dishwasher.

Blower Door Test Used to measure air tightness and identify areas of air infiltration in a home. This multi-part system uses a large fan that fits in your door frame to create negative pressure and pull air through your home.

British thermal unit (BTU) The quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit.

Building envelope A building's shell, including exterior walls, windows, doors, roof and the bottom floor.

Conditioned space An enclosed space supplied with conditioned air from a heating and/or cooling system.

Daylighting Utilizing light from the sun to help illuminate a room.

Double-glazed window A window with two panes of glass separated by an air space. Compared to single-glazed windows, double-glazed windows significantly reduce heat and sound transmission.

ENERGY STAR® A program sponsored jointly by the U.S. Environmental Protection Agency and the U.S. Department of Energy that promotes energy-efficient products, homes and technologies for consumers and businesses. Products and new homes are ten to thirty percent more efficient than their conventional counterparts.

EnergyGuide label A yellow sticker required by U.S. law on common new household appliances. The label provides information on the amount of energy the appliance will use in one year.

Energy Recovery Ventilator (ERV) A ventilator that recovers energy from the exhaust airstream and transfers it to the incoming airstream. Heat is transferred from the warmer to the cooler airstream and moisture is transferred from the wetter to the drier airstream.

Energy Performance Score EPS ™, brought to you by Energy Trust of Oregon, is an energy performance score that helps you assess a home's energy consumption, energy costs and carbon footprint.

FSC Certified Wood The FSC certification from the Forest Stewardship Council tells whether a wood product is from a forest that is sustainably managed, including protecting fragile ecosystems, preventing illegal logging, and restricting clear-cutting.

Graywater Household wastewater that doesn't contain sewage and can be reused for toilet flushing. Graywater typically comes from showers, lavatories, and clothes washing machines.

Heat gain Heat from the sun, people, electric lights or appliances that causes the temperature in a space to rise.

Heat island effect The tendency of large areas of roofs, asphalt, concrete and paved surfaces to absorb the heat, making urban areas considerably hotter than nearby rural areas.

Heat Recovery Ventilation (HRV) system An air-to-air heat exchanger captures heat from indoor air that's about to be vented from a home and transfers that heat to fresh air that's being drawn in from the outside. Exhaust and supply airstreams cross but do not mix.

Hydronic radiant-floor heating system A heating system in which warm water circulates through tubes embedded in a concrete floor slab or attached beneath the subflooring. The floor absorbs heat from the tubes and slowly releases it to the room, providing gentle warmth.

Indoor air quality The level of air pollutants inside a building. Indoor air pollution sources include certain building materials and furnishings; certain cleaning and personal care products; dust mites; pet dander; mold; radon; pesticides; and outdoor air pollution. Inadequate ventilation and high humidity levels can also contribute to indoor air quality problems.

Infill development Building on empty or underutilized lots in cities or older suburban areas, instead of building in a previously undeveloped area.

Infiltration The uncontrolled movement of outdoor air into a building through cracks and other defects around plumbing, floor cavities, soffits, chimneys, ducts. Accompanied by an equal outflow of air from indoors to the outdoors.

Insulated Concrete Form (ICF) Plastic foam shaped into hollow blocks, panels or planks and used as a form to create a concrete wall. After positioning the foam forms, rebar is typically inserted into the cavities to reinforce the walls, and then concrete is poured in. Once the concrete cures, the foam remains in place to insulate the walls.

Insulation A material that has a high resistance to heat flow. Used to keep a home comfortable and reduce the energy needed to heat and cool the home.

Integrated building design A collaborative design process that takes into account the interrelatedness of all parts of a building. It involves designing a building from the outset so that all its components, equipment and systems work together to provide maximum comfort, healthfulness, energy and resource efficiency, and cost effectiveness.

Inverter A device used to convert DC electricity (such as that produced by a photovoltaic system) into AC electricity to power standard household equipment and appliances.

Kilowatt-hour (kWh) A unit of electric energy equal to 3600 kilojoules or 3412 BTUs. This is how your energy use is measured on your utility bill.

LED light bulb LEDs (Light emitting diode) are extremely long-lasting (up to 25 years) and are 85% more efficient than standard bulbs.

Lighting controls System or devices used to manually or automatically dim electric lights, or switch them on or off. These devices, which include dimmers, timers, motion sensors and photocell controls, provide convenience and energy savings.

Low-e (low-emissivity) window A very thin metallic coating on window glazing that allows daylight to enter a building but reduces the flow of heat. The appropriate type of low-e glazing for a home will depend on the climate and the window's orientation.

Net metering This is an agreement with your utility that allows you to feed any electricity that is generated in excess of your demand directly back to the utility grid. You receive a credit for the excess energy that you can use late to offset your electricity demand.

Net Zero or Net Zero Energy (NZE) Building A building that creates at least as much energy as it uses. Homes are designed to take advantage of *passive solar design*, and focus on reducing energy demand with super-insulation and an air-tight envelope. On-site electricity generation, such as photovoltaic (PV or solar) panels, is essential to achieve net-zero energy use.

Pascal A unit of measurement of air pressure – used to measure Air Changes per Hour (ACH).

Passive solar design A building specifically designed to collect and store the sun's heat, and release that heat into the interior spaces to help warm the rooms naturally. Depending on the design and climate, passive solar heating can be the sole source of heat for the building or can be supplemented with a heating system.

Phantom load The small amounts of electricity consumed by many appliances and equipment—such as TVs and stereos with remotes, ovens with digital clocks, cell phone chargers and answering machines—even when they're not in use.

Photovoltaic (PV) cell A material that converts sunlight directly into electricity. Electricity generated from sunlight is known as Solar electricity.

Polyvinyl chloride (PVC) Also known as vinyl. A family of plastics with a wide range of forms and uses. PVC is used extensively in building products, consumer goods and industrial applications. PVC contains or releases many dangerous chemicals and there is no safe way to manufacture, use or dispose of PVC.

Post-consumer recycled content Products that have been used and discarded by a consumer and are then reprocessed as raw material for a new product.

Rainwater harvesting Collecting rainwater from a catchment area, such as a roof, and storing it in cisterns or other containers to use for watering a yard or garden, or for other purposes.

Rapidly Renewable Materials Natural and non-petroleum-based building materials that are made from agricultural products that are typically harvested within a 10-year or shorter cycle.

Reclaimed material A material that's put to a new beneficial use after it's no longer needed for its original use, such as wood removed from an abandoned building and used to construct a new building.

Renewable resource A material that can be replenished in a relatively short period of time after it is harvested or used, i.e. bamboo, cork, wind, sun, biomass.

R-value A measure of a material's resistance to the passage of heat through it. The higher the R-value, the more effective the material is as insulation.

Solar heat gain coefficient (SHGC) An indication of how much of the sun's heat will enter through a window. An SHGC of 0.40, for example, means that forty percent of the sun's heat gets through the window.

Solar thermal or Solar water heating systems The use of concentrated sunlight to heat or preheat water for domestic use and /or space heating. A closed system of Flat-plate or Evacuated-tube solar collector moves hot water from roof to store in a tank in the building.

Stack effect The air flow established in a building from air infiltrating low and exiting high. The pressures created are greatest at the highest and lowest points in the building.

Stormwater retention Generally refers to the collection of stormwater, with no discharge point. Water is collected and then is allowed to percolate into the ground or evaporate.

Stormwater runoff Water that flows off of buildings and paved surfaces and over land during a rainstorm.

Tankless water heater A water heater that saves energy by heating water as it is needed, rather than storing hot water in a tank. Also known as an instantaneous or demand water heater.

Thermal bridge A highly conductive material within a building envelope, such as a steel or wood framing member, that allows heat to bypass the insulation.

Thermal mass The ability of a material to absorb and retain heat. Materials with a high thermal mass, such as rocks, earth and concrete, have the capacity to absorb heat during the day and release it when temperatures cool.

Solatube A circular skylight that's much smaller than typical skylights, designed to illuminate interiors with daylight while keeping out excessive heat. It consists of a small, roof-mounted dome attached to a tube lined with reflective material. Light is reflected down the tube, and is transmitted into the room through a translucent ceiling fixture.

U-factor Indicates how easily heat will pass through a construction assembly, such as a window. The lower the U-factor, the lower the rate of heat flow so the more efficient the material is.

Ventilation The movement of air through an area for the purpose of removing moisture, air pollutants, or unwanted heat.

Volatile organic compound (VOC) A class of organic chemicals that readily release gaseous vapors at room ffltemperature. VOCs occur naturally in many materials, and can also be manufactured and added to materials and products. VOCs are released ("offgassed") into a home by common furnishings and building materials, including many types of particleboard, paint, solvents, carpets and synthetic fabrics.

Whole-house fan A powerful fan mounted in a ceiling opening, used to pull air through the home and exhaust it out of the attic and through the roof vents.

Xeriscape Landscaping design that conserves water by using native or drought-tolerant plants, mulch, and limited or no irrigation.

Glossary adapted from
Good Green Homes: Creating Better Homes for a Healthier Planet,

With permission from the author, **Jennifer Roberts.**
jenniferroberts.com | goodgreenhomes.com

Why I Drive an EV

Zach Henkin,
Drive Oregon

My daily commute car is an Electric Vehicle (EV) that, while small, works for my family including our two young boys who command the back seats. Recently due to a small fender bender (not my fault!), our car was out for repair and a more typical internal combustion sedan resided in our driveway.

Electric vehicles are better cars. While some do not have the range of a 300-mile gas tank, the 90-100 miles we get is more than adequate for daily trips and round trip commutes. Trips to the gas station are unnecessary and refueling is as simple as plugging in the car at the end of the day. Instead of the $30-$40 a week in gasoline, I pay around $10 additional a month on my electric bill. It's simple, and that's just the financial aspect.

Over the course of nearly two weeks in the rental, I suffered through many traffic choked days in and around Portland. It's not fun to be in any car while in traffic, but EVs do it better. What I missed was instant power with no clunks or unnecessary shifting, a much quieter car, and a conveyance that does not use energy while stopped waiting for a light to turn green. I was just plum surprised how much I had missed driving our car once I returned to the driver's seat to sit and wait on 99E.

Instead of the $30-$40 a week in gasoline, I pay around $10 additional a month on my electric bill.

When deciding on a car, choose a vehicle that will perform excellently for the majority of your driving. For my family, this is a car for commuting, errands, and other to-dos. Plug-in cars have extremely low costs of ownership and bring a lot of other positive attributes. Try one out–there are dozens available through local dealerships! For those trips across the state, or into neighboring Washington or California, plug-in hybrids work well, as do rentals. For more information on plug-in cars or charging, visit **driveoregon.org**.

16th ANNUAL GREEN TOUR

SAT, SEPT 24th 10:00 - 5:00

ALL EVENTS ARE FREE AND OPEN TO THE PUBLIC

Get Started at the Good Energy Fair

Bend High 10:00 – 4:00

Come by the Good Energy Fair to pick up your Tour Guide and get fueled for the day with a free cup of coffee provided by Strictly Organic Coffee.

Visit with local experts, including our solar and home performance partners and heating experts, to learn how you can make your home more efficient.

Attend short sessions and learn how to make your heating system more efficient by sealing up your ducts with Home Heating and Cooling (12:30 – 1:00, 2:30 – 3:00).

Test Drive an Electric Vehicle

Bend High 10:00 – 4:00

Nissan Leaf, BMW i3 and BMW X5 40e

Go on Tour

See map for home locations
Homes open from 10:00 – 5:00

Pick up a passport and visit 5 or more sites to pick up a free LED bulb.

The More Bikers the Merrier

See bendenergychallenge.org/bike for a bike route.

Join the bike tour by meeting at Bend High at 11:00 and travel to all the sites with your fellow cyclists.

Come Party!

Sunlight Solar 6:00 – 8:00

Join us and our friends from Solar Oregon at the Green Tour After Party and chat with your community about what you were inspired by—maybe you'll even learn some more. Of course, a little beer and food always helps to get the conversation going. We'll be honoring the favorite house of the Tour with the People's Choice Award, so be sure to cast your vote!

OPEN THE DOOR
TO ENERGY SAVINGS WITH EPS

There's a common theme amongst the newly built homes you'll see throughout the Green Tour. Each is built for quality, comfort and efficiency, and they've all got the EPS™ to prove it. EPS, brought to you by Energy Trust of Oregon, is an energy performance scoring system that gives you an inside look at the energy impact of a home and how much it costs to operate.

With EPS, you can easily compare homes based on efficiency and find those that offer superior comfort and savings. Qualified new homes are built to be at least 10 percent better than code, so when you buy a home with an EPS, you know you're getting a higher level of performance.

"They all have better insulation, they're properly sealed, they have highly efficient HVAC systems and windows, so there's improved efficiency and energy cost savings," says Andrew Shepard, a program manager with Energy Trust. "But there's also a comfort factor to these homes that you don't get otherwise."

The benefits don't stop there. Shepard also notes that EPS qualified homes deliver health advantages as well: "Requiring fresh air systems in EPS homes creates a healthier living environment for everyone in the home."

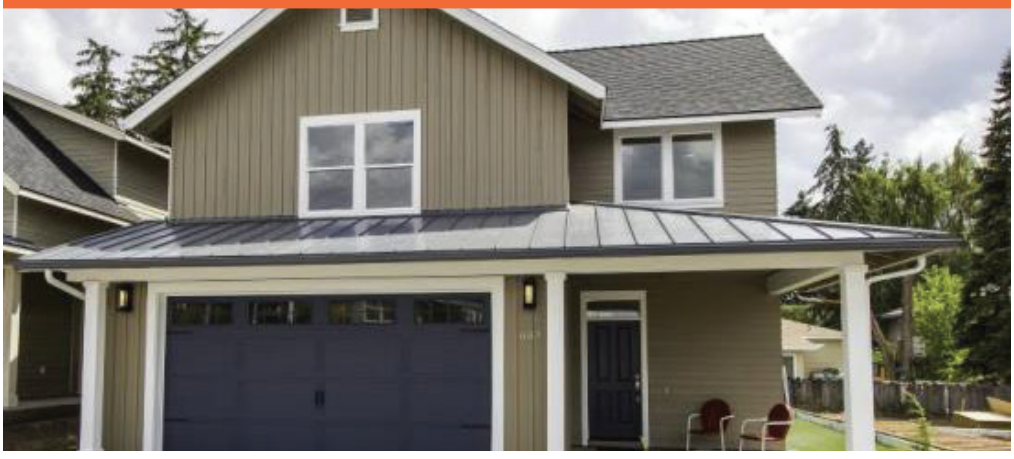
The Green Tour is a great opportunity to learn about the benefits of EPS homes. Here's a closer look at some of the key attributes you can expect to find when you step inside any of the newly built homes on this year's tour:

1. EPS homes are more energy efficient than homes that are just built to code, which sets you up for greater comfort and lower energy costs.
2. EPS allows you to review the home's energy score and estimated utility costs so you know what to expect before you buy.
3. Every newly built EPS home includes energy-saving lighting solutions and efficient built-in appliances such as dishwashers and water heaters.
4. EPS homes feature energy-efficient heating and cooling equipment designed to lower energy bills, enhance comfort and improve indoor air quality.
5. High-performance windows are also included, helping to deflect heat in the summer and retain it in the winter, while well-sealed window frames make for a quieter, cleaner home.
6. Thorough testing ensures that important behind-the-walls details were properly installed and completed.
7. Special framing techniques allow for extra insulation which helps you pay less to stay cool in the summer and warm in the winter.
8. Tight construction comes standard and helps prevent unwanted pollutants and drafts.
9. All ductwork is sealed in order to reduce leaks and minimize potential moisture problems.
10. All EPS homes have mechanical ventilation systems that bring fresh air into the home for healthier indoor air quality.

Be sure to ask about EPS as you explore the featured tour homes, and remember to bring it up with your builder or real estate professional as your home search continues. An EPS home can save you money and energy for years to come. Pick up a Smart Homebuyer Checklist on the tour to get the conversation started, and learn more about EPS at: **www.energytrust.org/smarthomebuyer.**

SITE 1

EPS SCORE 75



Midtown Convenience meets Affordable Efficiency

637 NE Isabella Lane, Bend – *New Construction*

Builder: Palmer Homes
Designer/Architect:
High Performance Contractor: Earth Advantage
Energy Performance Score (EPS): 75
Year Built: 2016
3 Bedroom, 2.5 Baths, 2233 Sq Ft, For Sale

This Midtown home in Orchard Hill offers walkability, convenience and nearby park access for easy living. But there is more to this home than just curb appeal. With a price point similar to many homes on the east side, this home offers efficiency features that will help its occupants save on monthly utility costs for decades to come - showing that the average home buyer doesn't have to sacrifice other features for efficiency.

Energy efficiency features include above code insulation, air sealing, high performance windows, ENERGY STAR appliances, high efficiency HVAC, and 80% LED lighting. Sound insulation in interior walls and between floors ensures quiet privacy. All this helps the home gain Earth Advantage certification.

The great room offers built-in bookcases and a cozy gas fireplace. The large kitchen with island features quartz counters, farmhouse sink, and extra large walk-in pantry. The spacious main floor master bedroom suite has private patio, walk-in closet with sliding barn door entrance, walk-in tiled shower and skylight. Upstairs bedrooms have large walk-in closets, and the large loft/bonus room provides room for entertaining and family fun with a sliding barn door entrance.

Miller Lumber

SITE 2

Cozy West Side Bungalow upgraded to be as green as can be

1615 NW Awbrey Rd, Bend – *Energy Retrofit*

Home Performance Contractor: GreenSavers
Year built: 1936
900 Sq Ft

For many homes, charm comes with age and with that age, efficiency goes right out the window. Literally.

Old Bungalows, even those that are 80 years old, don't have to be cold and drafty! Simple upgrades can make a home more energy efficient AND comfortable.

This small home has a conditioned basement, which means that it is inside the heating and cooling envelope of the home and is intended to be a living space. Utilizing this space maximizes use of existing materials in a small footprint, and requires a lot less energy. Comfort was achieved by adding insulation in the floors and attic up to Energy Star levels. There was also a lot of air sealing around windows and doors.

A new high efficiency natural gas furnace was installed with ducts inside conditioned space. Putting ducts inside the conditioned space is a major energy saver—this way, if any air leaks out as it's being circulated around the home, it's not being wasted in an attic or basement that isn't being used. A Honeywell Pro 8000 wifi programmable thermostat makes controlling the climate inside even easier, and further increases the efficiency of the HVAC system.

The biggest challenge of this energy retrofit was removing the old Volkswagen-sized, inefficient furnace out of the basement, which required much disassembling. Adding to the challenge, old ductwork was wrapped in asbestos, and had to be removed carefully.

The end result? This old Bungalow is now comfy and cozy and a safer place to live.

SITE 3

EPS SCORE 50

Efficient new construction? This is your neighborhood!

1639 NW Scott Henry Place, Bend – *New Construction*

Builder: Jim Guild Construction
Designer: Neal Huston & Associates Architects Inc
Solar Contractor: E2 Solar
Energy Performance Score (EPS): 50
Year built: 2015
2+ Bedroom, 2.5 Baths, 2105 Sq Ft, For Sale

EPS EnergyPerformanceScore

CERTIFIED BY earth advantage.

This model home in the Saginaw Sunset subdivision is the first of what will be a 20-home development of high-performance custom homes. Each home will meet at least Earth Advantage Platinum standards and include features such as staggered stud framing, super-efficient HVAC systems, Energy Star appliances, extra insulation, solar power production, and water conservation. This home's power is supplemented by a grid-tied solar system that is also backed up with batteries – meaning that the home will still have electricity when the power goes out.

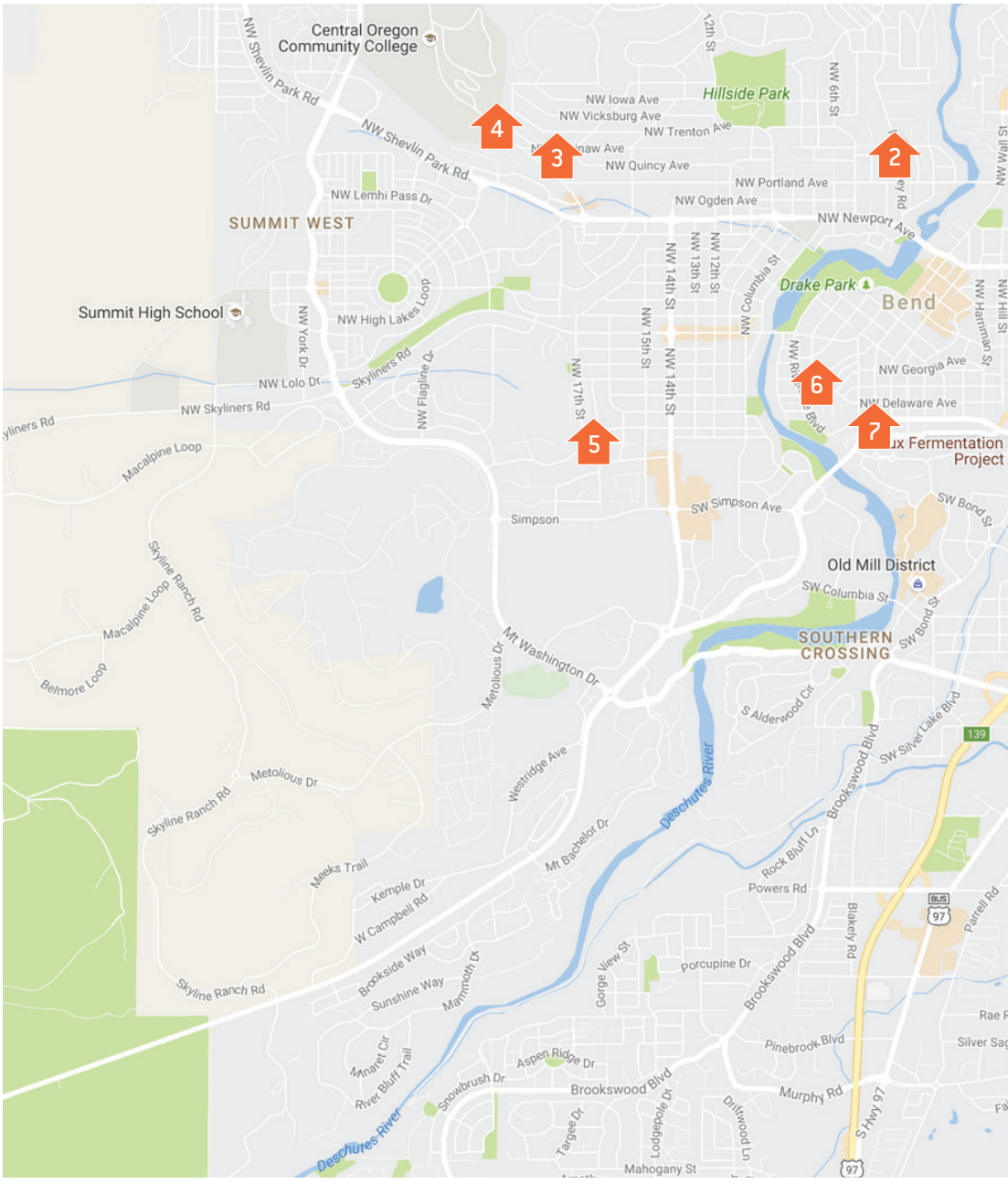
The finishes in this home include beautiful local EcoCrush countertops throughout, renewable cork flooring, and long-lasting Italian tiles. The custom white oak cabinets were milled in the house and make the most of tricky storage spaces in the kitchen and laundry room.

Set amid native Ponderosa pines, this home sits on an extremely steep lot with limited access for construction, showcasing the developers' commitment to filling in vacant urban property and is landscaped with deer and drought in mind. The vision for these properties is that homeowners will be able to age in place which is why this split-level home features an elevator.

19 more lots are available awaiting their transformation to your custom, efficient home!

16th ANNUAL GREEN TOUR

PRESENTING 9 SITES PACKED WITH GREEN AND SOLAR FEATURES



Good Energy Fair

Bend High- 230 NE 6th St 10:00am – 4:00pm

- Tour guide pick up
- Free coffee
- Electric Vehicle Ride & Drive
- Electric Vehicle workshops
- Duct Sealing workshops

SITE 1: 273 NE Isabella Ln

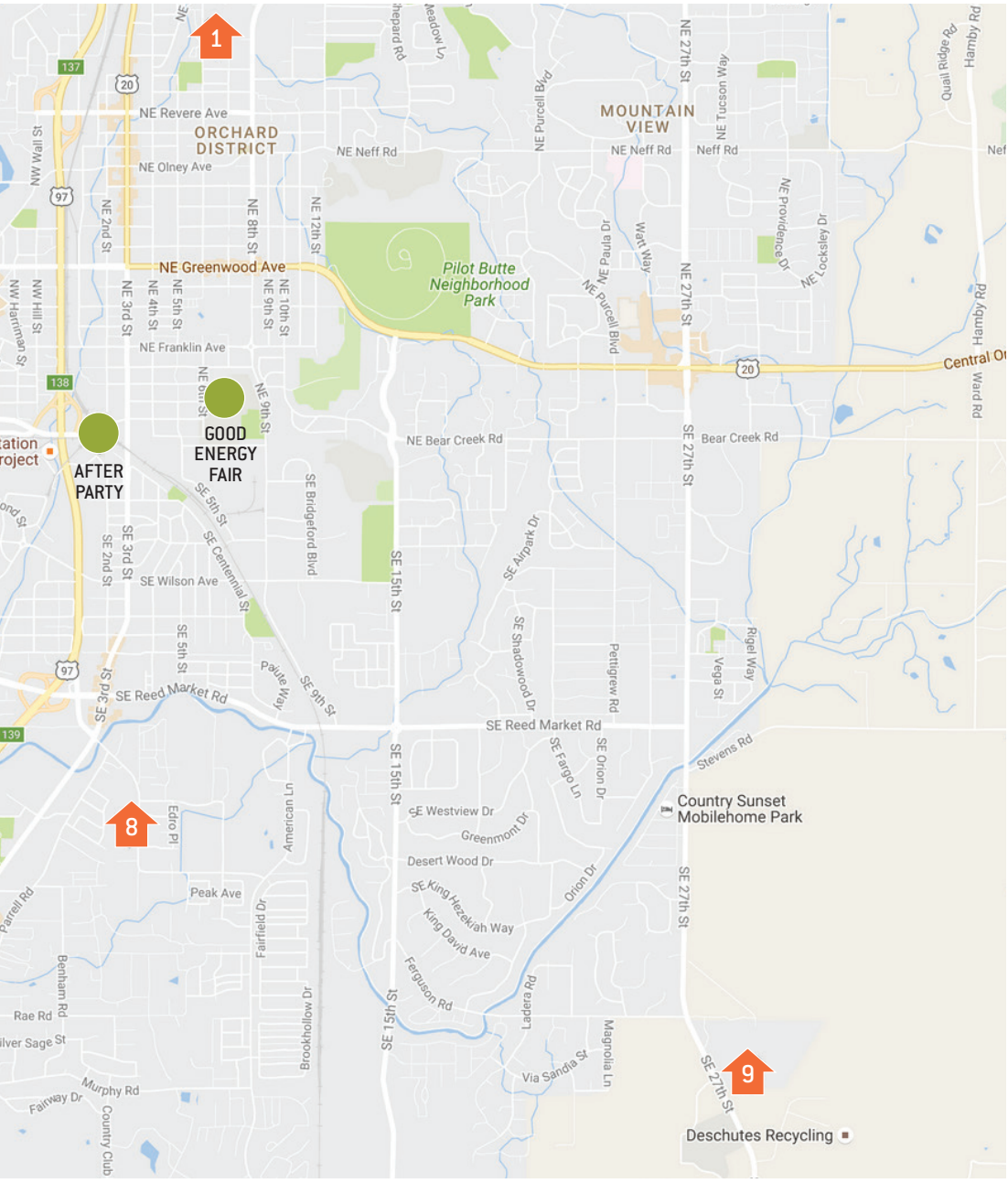
SITE 2: 1615 NW Awbrey Rd

SITE 3: 1649 NW Scott Henry Place

SITE 4: 2112 NW Black Pines Rd

SAT, SEPT 24th 10:00-5:00

bendenergychallenge.org/tour



SITE 5: 1696 SW Knoll Ave

SITE 6: 22 NW Shasta Place

SITE 7: 55 SW Wall St Unit 4

SITE 8: 61435 NE Brosterhous Road

SITE 9: 61090 SE 27th St

Green Tour After Party and Solar Drinks

Sunlight Solar Energy
50 SE Scott St, Bend
6:00pm– 8:00pm

You Don't Need a New Home to Go Green and Solar

Getting on the path to using less energy (or even no energy) doesn't have to start with a new home. It can start with *your* home. And it can start right now.

The first step is to get an energy assessment. Just think of this as a house call from the doctor—this time it's literally for your house. After gathering more than 100 points of data and performing diagnostic tests such as air leakage testing and thermal imaging, your home performance contractor is going to identify what improvements will give you the biggest bang for your buck.

Don't worry if this list is extensive—there is still hope! You can move at your own pace and budget when deciding to make these improvements. Your contractor will also outline utility rebates and tax credits that might be available to help you pay for the upgrades. Equally as important, they will look at safety considerations such as gas leakage, ventilation, combustion safety, and organic growth in crawl spaces and attics.

The goal of an energy assessment is just to understand how your home is using and losing energy. Moving forward, this allows you to make educated decisions about home improvements so that you can make the best decisions for your family's health and comfort.

Make sure to stop by Site #2 on the Green Tour to talk to Green Savers and Cindy to learn how she made her home more comfortable and is saving energy.

Once you button up your home, the next step is to check out solar options for your home. Now that you're using less electricity, it will be a lot easier to offset an even bigger chunk of your electricity use.

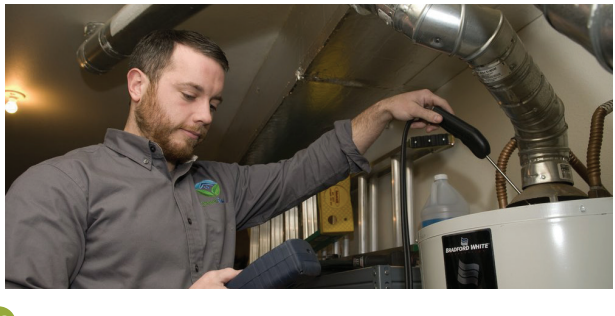
Before you dismiss solar, it's important to understand the full financial picture. There are great incentives to help you go solar—and right now is the perfect balance of low prices and great incentives.

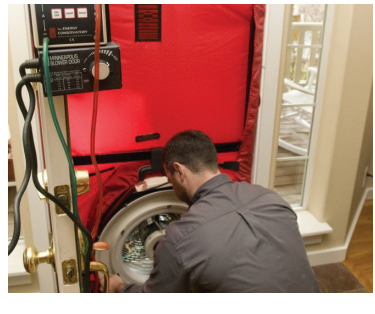
Did you know that there are cash incentives and utility rebates that can help you cover up to 75% of the cost of your solar installation? You can view all of the available incentives and see how you qualify at bendenergychallenge.org/gosolar.

Make sure to stop by Site #4 to talk to Carolyn about going solar and how she now pays $0 for electricity!

Now that you've seen the light and realize that it's possible to produce your own energy, the next step is to find out if solar is a good fit for your home. You can sign up to get a free solar assessment and a local professional will help you assess the solar potential of your home. They will provide you with a bid including estimated energy production, utility bill savings, and which incentives you might be eligible for.

Learn more or sign up for assessments at: bendenergychallenge.org





SITE 4

Good energy really is the key to using no energy!

2112 NW Black Pines Dr, Bend – *Solar and Energy Retrofit*

Solar Contractor: Sunlight Solar Energy
Year built: 2002
3 Bedroom, 2 Baths, 1600 Sq Ft

Electric bills with zero kilowatts used! This solar house produces more energy than it uses, even with an electric vehicle charging in the garage. A great example of how improving a built-to-code home – coupled with energy saving behavior by the occupant - can make a huge difference!

Part of the extremely low utility costs for this house (very small natural gas bills, too) is achieved through the owner's efficient behaviors – hanging clothes to dry (she hasn't used her clothes dryer in 15 years!)and saving water for her xeriscaped yard through rainwater collection.

Working with a home performance contractor, extra insulation was added and a furnace was converted to an electric heat pump to heat the home. The washer and refrigerator are ENERGY STAR models. Carolyn uses her Smart car to get around town and charges after about 8 short trips and when she's ready, plugs it in to charge up in her garage.

A huge factor in lowering utility bills is the 3.4 kW solar installation on the roof. Twelve panels manufactured by Oregon-based Solar World and installed by Sunlight Solar produce more energy than used by the house – this extra energy goes back into the grid.

Carolyn is excited to show you her electric bills and show that she hasn't paid for electricity since her solar panels were installed. Stop by to be inspired by her good energy and take away a few tips to use at your own home.

SITE 5

EPS SCORE 73

Living like the Jetsons

1696 SW Knoll Ave, Bend – *New Construction*

Builder: Alcove Homes
Designer/Architect: Nick Holdeman/ Steve Puckett
Preliminary Energy Performance Score (EPS): *73*
Year built: 2016
Main: 4 Bedroom, 2.5 Baths, 2186 Sq Ft • **ADU:** 1 Bedroom, 1 Bath, 564 Sq Ft

A 3-story Modern Home, inspired by the "Jetson's Apartment," takes creative advantage of a challenging small, sloped lot. A 1-bedroom ADU on the first floor allows for multi-family usage.

This house passively harnesses the sun's energy through southern windows, large overhangs, and daylighting provided by four big skylights. The Exterior tower is reflective on the inside, with skylights open from the 3rd floor down to the 2nd story - flooding the home with natural light. Water conservation is a priority with onsite water retention using rain collection barrels and native plant xeriscaping.

Earth Advantage Platinum-certified, this home features staggered stud framing, Energy Star appliances, high efficiency HVAC, 100% LED lighting, and extra insulation in the stylish, leaning exterior walls. High density foam insulation creates efficiency as well as quiet comfort. The interior finishes are all natural materials, including low-VOC paints and formaldehyde-free insulation.

This home was built "solar ready" which means that it was designed with a future solar installation in mind. A roof with a great sun exposure will eventually hold a 5,000 Watt solar installation. Room was left in the electrical panel for an easy tie-in to pass off the energy produced on the roof to the house.

THE RACE TO THE FINISH IS ON!

4 more months to win the $5 million Energy Prize

How can you get involved and make a difference?

Starting small can mean big things for us all. You don't have to break world records to make an impact. In fact, doing one little thing can mean a world of difference.

Ashton Eaton
Olympic Gold Medalist, Decathlon + Energy Hero

So come on, let's do your thing.

SEPTEMBER | Get inspired. Go on Tour.

Bring your groupies and check out 8 homes packed with green and solar features. Education is the first step. The more you know, the more you can do! You'll see, saving energy is easier than you might think.

OCTOBER | Get Enlightened.

Lighting Emitting Diodes or LEDs are the wave of the future and they can save you up to 80% on your lighting costs. Better yet, right now you can get them for free! Sign up at bendenergychallenge.org/freebulbs.

NOVEMBER | Get Pumped!

Yes—again! Ductless heat pumps are also powerful ways to heat your home, as well as cool. On top of that, heat pump technology can also be used to heat your water extremely efficiently with heat pump water heaters. This fall, heat pumps are the champs of the season. Find out all about heat pumps and their incentives at bendenergychallenge.org/dojust1thing.

DECEMBER | Get Smart.

Dial in your heating and cooling savings with a robot. OK—not actually a robot, but pretty close. A smart thermostat will learn your schedule and occupancy behaviors to help you find a heating schedule that will help you save energy. Learn more and find out about Smart thermostat incentives at bendenergychallenge.org/dojust1thing.

LIVING BUILDING CHALLENGE℠

The Living Building Challenge is a certification program that defines the most advanced measure of sustainability in the built environment possible today and acts to diminish the gap between current limits and ideal solutions. It is comprised of seven performance areas, or 'Petals', sub-divided into a total of twenty imperatives.

PLACE – limits to growth, urban agriculture, habitat exchange, Human Powered Living.

The intent of the Place Petal is to clearly articulate where it is acceptable for people to build, how to protect and restore a place once it has been developed, and to encourage the creation of communities that are once again based on the pedestrian rather than the automobile.

WATER – Net Positive Water, ecological water flow.

The intent of the Water Petal is to realign how people use water and redefine 'waste' in the built environment, so that water is respected as a precious resource.

ENERGY – net zero energy.

The intent of the Energy Petal is to signal a new age of design, wherein the built environment relies solely on renewable forms of energy and operates year round in a pollution-free manner.

HEALTH & HAPPINESS – civilized environment, healthy interior environment, biophilic environment.

The intent of the Health Petal is to focus on the major conditions that must be present to create robust, healthy spaces, rather than to address all of the potential ways that an interior environment could be compromised.

MATERIALS – RED list, embodied carbon footprint, responsible industry, living economy sourcing, net positive waste.

The intent of the Materials Petal is to induce a successful materials economy that is non-toxic, transparent and socially equitable. Throughout their lifecycle, materials are responsible for many adverse environmental issues including illness, squandered embodied energy, pollution, and resource depletion. The Imperatives in this section aim to remove the worst known offending materials and practices.

EQUITY – human scale+humane places, universal access to nature & place, Equitable Investment, Just Organizations

The intent of the Equity Petal is to correlate the impacts of design and development to its ability to foster a true sense of community. A society that embraces all sectors of humanity and allows the dignity of equal access is a civilization in the best position to make decisions that protect and restore the natural environment.

BEAUTY – beauty + spirit, inspiration + education.

The intent of the Beauty Petal is to recognize the need for beauty as a precursor to caring enough to preserve, conserve and serve the greater good. As a society, we are often surrounded by ugly and inhumane physical environments. If we do not care for our homes, streets, offices and neighborhoods then why should we extend care outward to our farms, forests and fields?

SITE 6

EPS SCORE 0

The Peak of Environmental Mindfulness

22 NW Shasta Place, Bend

Builder: Timberline Construction
Architect/Designer: Tozer Design
Home Performance Contractor: Earth Advantage
Solar Contractor: E2 Solar
Energy Performance Score (EPS): 0
Year built: 2013
Main: 2 Bedroom, 2 Baths, 2236 Sq Ft • **ADU:** Studio, 1 Bath, 489 Sq Ft
Desert Lookout Apartment: 1 Bedroom, 1 Bath, 815 Sq Ft

Desert Rain is the first residential property to qualify for certification under the international Living Building Challenge (LBC) - a program that defines the most advanced measure of sustainability in the built environment possible today - with stringent requirements in 7 performance areas. Desert Rain is in the final audit period required for full certification.

This residential compound, comprised of three living units and related outbuildings, is also Earth Advantage Platinum-certified, and goes far beyond the normal energy efficiency measures of LED lighting, energy efficient appliances, and extra insulation. Vacuum toilets, reclaimed lumber from the two original homes on the site as well as a potato barn near Prineville, recycled glass formed into bathroom tile, and triple-paned windows are some of the unique features of this property.

Desert Rain is designed to produce all the energy it uses in a year — a standard known as net zero — from on-site renewable sources. A 14.95-kilowatt solar-electric system generates electricity for the home's appliances and lighting — and powers two electric vehicles. Solar-thermal heating systems heat the floors and domestic water.

The orientation of the home on the property, along with design features — nearly floor-to-ceiling glass doors and windows in the south side of the home, no glass on the north side, roof overhangs and other elements — are part of the passive solar design.

To meet the challenge's water standards, the property captures and processes rain and snowmelt on-site for drinking and other household needs. There is a 35,000-gallon cistern to store rainwater tucked under the two-car garage. Both graywater and blackwater are treated and returned back to the site.

This project models a new level of energy efficiency and sustainability that the owners hope will serve as a learning tool for others, in a design that is warm and welcoming for all. Open, artfully aesthetic, and practical in how the spaces are used, the Desert Rain home intimately engages with its environment and calls all that enter to be mindful of how they engage as well.

SITE 7

EPS SCORE 77

Modern design meets walkability in Urban Infill project

55 SW Wall Street Unit 4, Bend – *New Construction*

Builder: Walsh Construction
Designer/Architect: Corey Martin, Hacker Architect
Home Performance Contractor: Earth Advantage
Preliminary Energy Performance Score (EPS): *77*
Year built: 2016
Main: 3 Bedrooms, 3 Baths, 1995 Sq Ft • **ADU:** Studio, 1 Bath, 300 Sq Ft

Basecamp is an urban infill townhome development based on modern design and walkability. Large windows and skylights give natural light in all interior spaces. Efficient floorplans, attached ADUs, and shared amenities (central outdoor area with dining area and fire pit) bring density to a central Bend neighborhood.

The idea behind Basecamp is simple: 25 graciously conceived townhomes, born of the natural wonder and beauty of Central Oregon, brought to a walkable location close to downtown. One block from the Deschutes River, and minutes on foot to Downtown Bend or the Old Mill.

Earth Advantage Platinum-certified, this home features above code insulation, continuous weather barrier, high performance windows, tankless hot water heaters, Energy Star appliances, high efficiency HVAC, LED lighting, low flow water fixtures, and bathroom lighting/fan controls. A beautiful covered deck expands the living space.

The 300 square foot ADU with separate street entrance features a full size gas range, ample kitchen cabinetry, spacious bathroom, and concrete floors.

Out with the Old, in with the New

WRAP YOUR 2016 BRAIN AROUND THIS:

Incandescent light bulbs were invented by Thomas Edison in 1879.

Even though it has been a long journey to come up with new technology to replace the light bulb of the 19th century, the last few years have certainly showed that the world was waiting for a more efficient form of lighting.

Light Emitting Diodes (LEDs) are on track to save U.S. consumers and businesses billions of dollars. According to a recent report by Goldman Sachs, "the rapid adoption of LEDs in lighting marks one of the fastest technology shifts in human history."

A Revolution is Coming for your Light Bulbs

What's driving this energy revolution? The sharp decrease in cost and increase in performance improvements. Not to mention the massive energy savings. LEDs save 80% more energy than your standard incandescent light bulb and can last up to 20 years.

This incredible performance was awarded a Nobel Prize in 2014 because it was viewed as an "invention of greatest benefit to mankind." Reducing the energy consumption for illumination around the world is going to have a significant role to play as we address climate change.

These little light bulbs will have a huge impact not only on climate change, but on a more personal level, your utility bill. Looking at the energy consumption of our community as a whole, if every home in Bend were to replace just 8 light bulbs with LEDs, we could cumulatively save $2.6 million. How's that for a big bang for your buck?

What are you waiting for?

100% FREE
16 LED BULBS

AS IN NO STRINGS ATTACHED, NO HIDDEN AGENDA, NO SECRET HANDSHAKE, NO BAIT AND SWITCH. IT'S THE *REAL* KIND OF FREE.

Schedule your appointment for FREE installation of up to 16 long-lasting FREE LED light bulbs – a move that could save you up to $100 per year.

bendenergychallenge.org/freebulbs
541.385.6908 x 26

Available within Bend city limits. Our team must install the bulbs and can only replace incandescent bulbs.

THE BEND ENERGY CHALLENGE

This offer made possible through a collaboration with Energy Trust of Oregon and Central Electric Cooperative.

SITE 8

EPS SCORE 57

Country cottages nestled into compact, urban lot

61435 SE Brosterhous Road, Bend – *New Construction*

Builder: Rundle Construction and Development
Designer/Architect: Adam Peterson, Muddy River Design
Home Performance Contractor: Earth Advantage
Preliminary Energy Performance Score (EPS): 57 (house), 30 (ADU)
Year built: 2016
Main: 3 Bedrooms, 3 Baths, 1930 Sq Ft • **ADU:** 1 Bedroom, 1 Bath, 576 Sq Ft

This urban compound highlights some of the issues of building on a single, urban lot - all utilities had to be brought to the site, including water, sewer, power and natural gas. The property had existing trees and a rock outcropping at the rear of the lot, but the builder managed to retain 90% of existing trees on the property.

ENERGY STAR and Earth Advantage certified, this home features above code insulation, high performance windows, ductless heat pump, tankless water heater, and 100% LED lighting. Indoor air quality is improved with 100% hard surface flooring, and low-VOC paints and finishes. Plans for a future detached garage will retain this high indoor air quality.

Living is easy with a Great Room concept and simple footprint. The home has an east/west orientation to make it easier for future solar panels. The detached Accessory Dwelling Unit (ADU) offers accommodation for higher density living.

SITE 9

Bringing Solar to the Masses

CEC Community Solar Project

61090 SE 27th St, Bend

Renewable energy from the sun is expanding in Central Oregon! Come check out the Central Electric Cooperative community solar project as part of the Green Tour, AND also view the solar car built by local high school students!

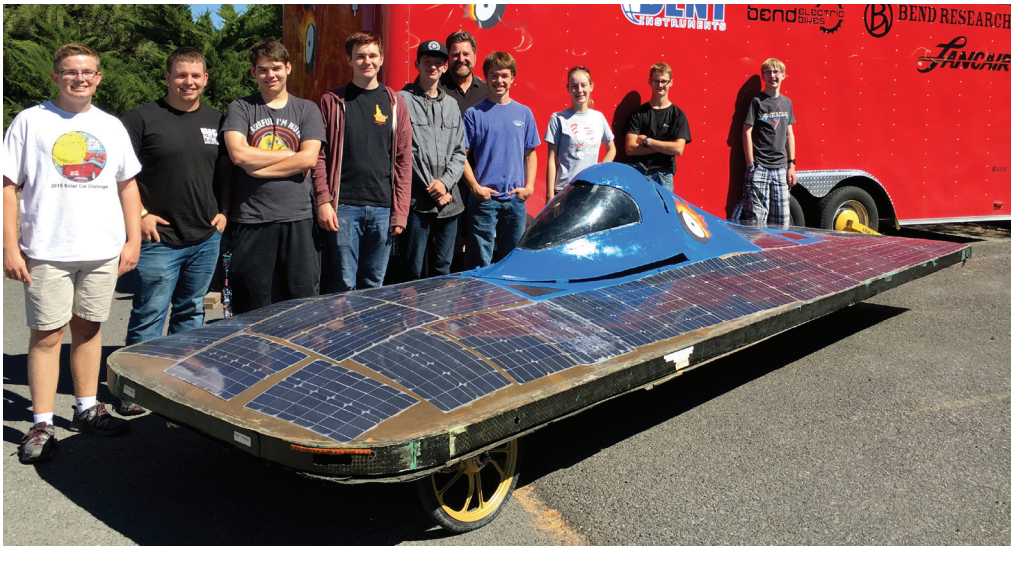
The 200,000-watt solar array is centrally located at the CEC local office and service center, and is connected directly to the nearby CEC distribution grid. It is designed to expand to 500,000-watts in increments of 100,000 watts. Installed by local solar contractor Sunlight Solar Energy, Inc., the system is built with American-made equipment and materials, including 700 Solar World 285-watt panels.

The community solar project, created through the voluntary support of CEC members, reflects community values towards increasing renewable energy in Central Oregon. Grants were received from the Oregon Department of Energy, Bonneville Environmental Foundation, and U.S. Department of Agriculture's Rural Energy for America Program (REAP).

Members can subscribe to the energy produced by individual panels, or half or quarter panels. They receive an energy credit on their monthly bill that reflects the amount of electricity produced by their subscription that month. The Shared Solar program appeals to members who cannot install a rooftop solar system because they don't own their home, their rooftop is not ideally oriented to the sun's path, or systems are cost prohibitive.

The Oregon High School Solar Car Team, made up of local high school students, has built two solar-powered cars since 2007. Their goal is to build a car that is strong, fast, light, energy efficient, and powered by the sun. These cars have raced on the Texas Motor Speedway for the national High School Solar Challenge.

With the help from Oregon State University's Solar Vehicle Team and Lancair, the team has been able to create an all-composite car, Heliocentric II. This is the first car in The Solar Challenge to build not only its body, but also frame of the car, out of composite materials such as carbon fiber and fiberglass.



There's More Than Meets the Eye When it Comes to Your Ductwork

Did you know you can save energy and improve health by having well-maintained ducts?

According to the US Department of Energy, "Typical duct systems lose 25 to 40 percent of the heating or cooling energy put out by the central furnace, heat pump or air conditioner. Duct repairs could be the most important energy improvement measure you can do." Often in the Bend area, the older the home, the higher the leakage numbers.

According to the EPA, some signs that your home may have leaky, poorly insulated, or inefficient ducts are:

- ✕ You have high summer and winter utility bills.
- ✕ You have rooms that are difficult to heat and cool.
- ✕ You have stuffy rooms that never seem to feel comfortable.
- ✕ Your ducts are located in an attic, unfinished basement, crawlspace, or the garage.
- ✕ You find tangled or kinked flexible ducts in your system.

The EPA suggests working with a contractor that will:

- ☑ Inspect the whole duct system, including the attic, crawlspace, garage and basement as needed.
- ☑ Evaluate the system's supply and return air balance. Many systems have air return ducts that are too small.
- ☑ Repair damaged and disconnected ducts and straighten out flexible ducts that are tangled or crushed.
- ☑ Seal all leaks and connections with mastic, metal tape, or an aerosol-based sealant.
- ☑ Seal all registers and grills tightly to the ducts.
- ☑ Insulate ducts in unconditioned areas with duct insulation that carries an R-value of 6 or higher.
- ☑ Include a new filter as part of any duct system improvement.
- ☑ Evaluate air flow after repairs are completed.
- ☑ Ensure there is no backdrafting of gas or oil-burning appliances, and conduct a combustion safety test after ducts are sealed.

GREEN BUILDING DIRECTORY

ENERGY EFFICIENCY AND HOME PERFORMANCE

BASE Zero, LLC

Phone: 541.701.9883
Contact: Bruce Sullivan
Email: bruce@basezero.biz
Web: **basezero.biz**

30 years experience in building science, energy efficiency and green building gives BASE Zero the knowledge and experience to support your success through sustainability. We offer consulting and training services as well as residential energy verifications and home energy ratings.

Central Electric Cooperative

Phone: 541.312.7742
Contact: Ryan Davies
Email: rdavies@cec.coop
Web: **cec.coop**

2016 marks Central Electric Cooperative's 75th Anniversary serving over 31,000 accounts in Central Oregon. CEC has over 8 programs specific to residential energy efficiency. We promote, educate and assist our members in meeting their energy efficiency goals and saving Kilowatt-hours.

Earth Advantage

Phone: 503.968.7160 ext. 46
Contact: Matt Douglas
Email: mdouglas@earthadvantage.org
Web: **earthadvantage.org**

Earth Advantage is a nonprofit whose mission is to accelerate the creation of better buildings. We provide knowledge to building professionals and information to consumers through certification, research, education, and product development to move the building industry towards more sustainable practices.

Energy Trust of Oregon

Phone: 1.866.368.7878
Web: **energytrust.org**

Energy Trust of Oregon is an independent nonprofit organization dedicated to providing utility customers with low-cost, clean energy solutions. Our on-the-ground outreach, technical services, cash-back incentives and connections to local contractors have helped participating customers of Portland General Electric, Pacific Power, NW Natural and Cascade Natural Gas save $2.3 billion on their energy bills, so far. Our work helps keep energy costs as low as possible, and accelerates economic and environmental benefits throughout Oregon.

GreenSavers

Phone: 541.330.8767
Contact: Kendra Van Note
Email: info@greensaversusa.com
Web: **greensaversusa.com**

GreenSavers guarantees a fair price for the best home performance in Oregon. We take a whole-home perspective to find and fix the issues that matter most. We do all the work ourselves, from installing windows/ insulation to upgrading equipment/ appliances.

Home Heating and Cooling

Phone: 541.389.HOME
Contact: Ric & Cecilia Secor
Email: ric@homeheatingbend.com
Web: **homeheatingbend.com**

Home Heating and Cooling, family owned and operated, provides maintenance, service, repairs, replacement of heating and air conditioning systems, gas & electric furnaces, duct testing, cleaning & sealing, ductless heat pumps, dryer vent/range venting, humidifiers, air purification systems and indoor air quality testing.

Neil Kelly

Phone: 541.382.7580
Contact: Steve Coughran
Email: Steve.Coughran@neilkelly.com
Web: **neilkellyenergy.com**

Neil Kelly Company, a certified B corporation, is an innovative design-build remodeling firm with locations in Portland, Lake Oswego, Eugene, Bend and Seattle. Services include award-winning design-build remodeling, custom homes, energy upgrades, solar energy systems, and home repairs big and small.

Oregon Department of Energy

Phone: 800.221.8035
Email: askenergy@oregon.gov
Web: **oregon.gov/energy**

The Oregon Department of Energy is helping shape Oregon's energy future. ODOE is dedicated to keeping Oregon on the leading edge of renewable energy and energy efficiency while supporting innovation, investment, and resilience.

GREEN BUILDING DIRECTORY

ELECTRIC VEHICLES

Smolich Nissan

Phone: 541.389.1178
Contact: Jason Bradley
Email: jbradley@smolichmotors.com
Web: **smolichnissan.com**

Smolich Nissan is a family owned business and has been serving the Bend community since 1968. We feature best in class fuel efficiency vehicles and the 100% Electric Nissan LEAF Plug in. Now available with a 30kw battery.

Drive Oregon

Phone: 503.724.8670
Contact: Zach Henkin
Email: zach@driveoregon.org
Web: **driveoregon.org**

Drive Oregon is the epicenter for innovation in electric mobility: connecting leaders in industry, government, and advocacy groups to advance the industry and strengthen our economy. Drive Oregon's mission is to grow the electric vehicle industry and promote electric transportation in Oregon.

SOLAR

E2 Solar

Phone: 541.388.1151
Contact: Kelli Hewitt
Email: khewitt@e2solar.com
Web: **e2solar.com**

At E2 Solar we work to exceed expectations with custom-tailored energy solutions while comfortably meeting your goals. Whatever size of solar system, we adhere to the industry's highest standard of excellence as we work to make every project superior in performance, aesthetics and longevity.

Neil Kelly

Phone: 541.382.7580
Contact: Steve Coughran
Email: Steve.Coughran@neilkelly.com
Web: **neilkellyenergy.com**

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Sunlight Solar

Phone: 541 322-1910 ext. 306
Contact: Kelly Riley
Email: Kelly.Riley@sunlightsolar.com
Web: **sunlightsolar.com**

With over 25 years of solar installation experience, and as one of Oregon's oldest, grid-tied solar installers, we bring you high quality turn-key installations. We have homegrown roots right here in Oregon and take pride in supporting our communities.

INTERIOR & MATERIALS

Denfeld Miller Paint

Phone: 541.382.4171
Email: bend@millerpaint.com
Web: **millerpaint.com**

Denfeld Miller Paints, stirring up the perfect colors for you since 1975, is a full service, employee-owned and operated business with 3 convenient locations in the Bend/Redmond area. Denfeld Miller Paints is staffed with trained professionals to help make your next painting project a success.

Energy Conservation Insulation

Phone: 541.678.5566
Contact: Will Lebeda
Email: eci@bendbroadband.com
Web: **eciinsulation.com**

Energy Conservation Insulation prides itself in being a leader in eco-friendly insulation techniques and applications. With over 40 years of combined insulation experience, we provide solutions for all sizes of projects while providing World Class Service to our clients.

Miller Lumber

Phone: 541.382.4301
Web: **mlumber.com**

The Miller Lumber Company, supplying lumber and building materials to all of Central Oregon since 1911.

INTERIOR & MATERIALS

Solar Light

Phone: 541.306.4141
Contact: Brennan & Melody Morrow
Email: melody@solarlight.me
Web: **solarllght.me**

Family-owned Solar Light has over 5000 Solatubes installed in Central Oregon - thousands of tunnels to the sun to provide daylighting in your home! Solar-powered attic fans keep your attic cool.

DESIGNERS AND BUILDINGS

Alcove Homes

Phone: 541.977.3233
Contact: Nick Holdeman / Steve Puckett
Email: alcoveinc@bendbroadband.com
Web: **alcovehomes.net**

With an eye (and heart) for Beauty and Originality, Nick Holdeman of Alcove Homes is a Sustainable Homes Professional (SHP) Builder that specializes in Interior Finish Work. Live in a Work of Art!

Dream Home Building and Design

Phone: 541.788.7851
Contact: Peter Grube
Email: peter@dreamhomebend.com
Web: **dreamhomebuildinganddesign.com**

Design, Craftsmanship, Performance. Offering unique in-house design and build services with expertise in superior home performance, Dream Home visualizes homes from plan to completion, ensuring your custom home reflects all of your personality and values.

Neal Huston & Associates Architects Inc.

Phone: 541.389.0991
Contact: Neal Huston
Email: ngh@nealhuston.com
Web: **nealhuston.com**

NHA creates high quality designs which meet or exceed client expectations and functional requirements while executing a broad range of architectural styles. NHA provides full-service architectural design, space planning, interior design, master planning, 3D modeling and sustainable design expertise.

The Shelter Studio

Phone: 541.306.4270
Contact: Jason Offutt
Email: jason@theshelterstudio.com
Web: **theshelterstudio.com**

Founded in 2007 in Oregon, The Shelter Studio, Inc., a design firm, set out with a vision of capturing the client's dreams and cultivating them into an innovative, functional, and well detailed home.

GREEN REALTORS

Angie Cox

Phone: 541.213.9950
Contact: Angie Cox
Email: angie.bend@gmail.com
Web: **livinbend.com**
Agency: John L. Scott

I specialize in helping green builders, developers, buyers and sellers with their real estate needs. I strive to create healthier, more sustainable homes and neighborhoods. If you're looking for a passionate expert on green building and real estate, contact me anytime.

Mike Tucker

Phone: 503.939.6155
Contact: Mike Tucker
Email: mike@highdesertdwelling.com
Web: **highdesertdwelling.com**
Agency: Windermere Real Estate

I specialize in GREEN real estate, home technology, great design and unique spaces. I delight in helping my clients find value and those hard to find special homes.

In Efficiency Town, every newly built home comes with an EPS™ and built-in energy savings.

Brought to you by Energy Trust of Oregon, EPS is a scoring system that rates homes based on energy use. The lower the score, the better. EPS helps smart homebuyers like you find homes that offer lower energy costs and superior comfort.

USE EPS TO FIND A HOME THAT SAVES

Talk to your builder or real estate professional about EPS, and download our Smart Homebuyer Checklist at **www.energytrust.org/smarthomebuyer**.

Serving customers of Portland General Electric, Pacific Power, NW Natural and Cascade Natural Gas.

EPS
EnergyPerformanceScore

EnergyTrust of Oregon