Identifying and purchasing the most energy efficient appliances at the lowest cost takes some effort as the most energy efficient and cost effective models often vary from model to model year. Similarly, making your residence for success in dealing with the use of energy and phantom plug-loads of their electronics is also challenging. However, both efforts are critically important to the success of a zero energy home where appliances and electronics become the largest category of energy use – greater than the much related space heating and water heating energy use in these homes.

Select Energy Star Appliances

Search for energy efficient appliances on the Energy Star Product page and select the most cost effective models. Smaller appliance usually use less energy, think about right sizing refrigerators, clothes washers and dishwashers. In selecting appliances for a zero energy homes, both cost and energy efficiency should be taken into consideration. Cost and energy features of appliances change frequently so search for the latest information on appliances each time a new home is built.

Induction Stove Tops

An induction coating last 4 times more efficiently than a gas and range about twice more efficiently than an ordinary electric range. Induction cooktops also heat more quickly than regular electric ranges and significantly less than gas ranges. Induction cooktops heat the pan directly, the pan is the only part of the cooking surface. When you use an induction-cooking appliance, the cooktop is usually warm, but not hot because it is only hot to touch and easy to clean. Gas stoves create indoor air pollution that occurs even when the burners are not lit and require some level of cleaning. All burners have heavy casting pieces that use only cold water. In hot water heating systems, it takes longer to raise water temperature to the same level as in the newer appliance.

Microwave Ovens

Microwave ovens are significantly more energy efficient and safer than gas or even gas ovens. Microwaves should be sized so they can be used for most cooking. Recipes and techniques for cooking in a wide variety of foods in a microwave oven are readily available online.

Heat Pump Dryers

If an automatic clothes dryer is needed, consider a heat pump dryer, or heat pump condensing dryer. Using the same technology as refrigerators, space heating heat pumps, and water heating heat pumps, these dryers get more heat from each unit of electricity than a typical electric dryer, typically saving 50 to 60% on energy costs. Heat pump clothes dryers have been used in Europe for many years but are new to the U.S. market. The models currently available are more costly than standard dryers, but may pay for themselves within about 5 years.

Electronics

The biggest energy users in today energy efficient homes are big screen TVs, gaming consoles, computers, and electronics. Electronic energy use does not end; even with electronic lights, electronics, televisions, and almost all electronics have large “phantom loads” due to being energized even when they are turned off – wasting energy 24/7. Encourage buyers to consider purchasing the most energy efficient electronics available, install manual on-off switches, and use power strips for electronics in order to reduce these phantom loads. Install electric outlets in rooms where electronics are likely to be used so they can be turned completely off with a wall switch. Special switches are available for turning off plug loads for entertainment centers without prolonging the start-up time.

Amenity Size

When building a smaller house as part of your zero energy strategy, consider selecting smaller appliances and electronics will use less energy in total. Reducing the size of a dryer or other device is often desired to save space. Although, less energy is consumed during site construction costs. Similarly, a 20 cubic foot refrigerator uses less energy, space footprint, and purchasing power than a 28 cubic foot model. Consider downsizing the washer from the standard 24-inch model to a 20-inch or a drawn-type washer. Of course, appliance size will need to reflect the needs of the household.

Homeowner Education

The way occupants use appliances and select and use electronics has a big impact on overall household energy use. For a zero energy home that has not the energy modeling requirements to be successful, in order to avoid appliances, builders must provide homeowners with the technologies and the education to make the right decisions for their success. Please use our Zero Energy Living guidelines that is share with your homeowners. The Zero Energy Project strives to be a complete resource for homeowners, builders, designers, real estate professionals, and advocates for the zero energy home market.