

Geoff Farrell of Mandalay Homes took some time to answer questions that we were not able to get to on-air for the July 18, 2019 “New Zero Energy Homes Inventory Shows Continuing Strong Growth” webinar session.

Please reference the presentation and on demand recording for more information and Geoff’s original presentation: [newbuildings.org/webinar/zero-energy-homes-show-continuing-strong-growth/](http://newbuildings.org/webinar/zero-energy-homes-show-continuing-strong-growth/).

**What is the cost for energy during peak time in AZ if off peak is 4 cent/KW?**

The cost per kWh is actually the same. APS uses a demand charge as the rate mechanism. Any usage during peak incur both the cost per kWh and a demand charge per KW used in that period. \$20.25 per kW if energy is used.

**What was VPP acronym?**

VPP stands for Virtual Power Plant. It is a blanket term used to describe management of distributed energy resources or remote assets.

**What AZ utility has this rate schedule and where can I get the details?**

Mandalay Homes is rolling out the iON platform in Arizona Public Service (APS) service territory. The rate plan can be found in their residential rate plans and is called the “Saver Choice Tech” plan.

**With the Jasper project, do the homeowners own the PV and storage systems and, if so, are those costs included in the home purchase price?**

Our model is to include the solar and storage in the price of the home and give the owners the benefits of the tax incentives. They can realize more value from the system by owning the system.

**I see that you use Sonnen Batteries, what is the solar panel system that you find most efficient and cost effective?**

Yes. sonnen is our partner vendor for the ESS. It is an all in one solution that helps us simplify the implantation and control costs. The solar we are using right now are the Qcell Duo 315 watt panels. We find they have some great features, low start up voltage and great warranty. We buy in bulk to save cost per watt.

**What is the typical cost of construction for the homes and SF of the homes, including battery and solar?**

The cost per square foot varies widely depending on the community. In terms of the solar and storage included, by making this system an owned asset and part of the home, we are only about \$5 more per square foot before the owner collects the tax rebates and incentives.

**What will they sell for?**

Pricing at Jasper has not yet been established, but you can go to [Mandalayhomes.com](http://Mandalayhomes.com) and look at pricing for our Mountain Gate or Foothills project. This will be very similar to the Jasper offering.

**Who is the developer in Utah?**

Wasatch Group

**How are disaster resistance Sonnen batteries protected in a disaster?**

Sonnen and Pearl Homes have developed the specification for this purpose. I would have to defer to them for specifics.

**Discussed Electric Energy Storage, but have not addressed thermal storage (such as geothermal). Using high SEER air conditioning in Arizona when OAT is 110 deg F. Is Mandalay considering geothermal heat pumps? IF not, why?**

Mandalay uses slab on grade for most of our construction. By using a slab edge insulation detail that is very effective in our climate zone, the slab becomes a great thermal mass asset for our EE objectives.

All iON homes are Trane 18 SEER, 10 HSPF units. Yes using high quality, high efficiency components is a key detail in these types of homes. We have looked at, but have not implemented ground source heat pumps at this time. It is mostly due to the first costs to drill and install the piping as well and very limited areas where a proper loop could be installed. Our lot sizes in most communities are somewhat limited.