ENERGY STAR® Design Narrative

Mesa Hangar at Falcon Field: Buildings A, B & C - Mesa, Arizona
Mesa Hangar, LLC (Owner) | ADM Group, Inc. (AOR)

The goal of Mesa Hangar at Falcon Field's (Mesa Hangar) design is to be best in class of the aviation industry buildings, including energy and carbon performance. This commitment to minimizing energy use made the Design to Earn Energy Star certification a perfect alignment. ENERGY STAR design scores over 96 for all three buildings reflect this commitment.

The Mesa Hangar design team used an integrated energy modeling process as well as the ENERGY STAR Target Finder tool to evaluate and refine the design to ensure optimal performance. The ENERGY STAR designation along with other performance metrics is a key part of Mesa Hangar's promotion to prospective tenants.

Energy Efficient Design Strategies

The expected energy and carbon savings of the designs are 75% or higher for all three buildings. This high performance is due to significant investment in both energy efficient building systems and materials as well as photovoltaic (PV) solar panels. Key features include:

- A highly insulated building envelope
- Exceptionally low solar gain glass – key for the high solar gain environment of Mesa (Phoenix area), AZ
- LED lighting with integrated daylighting and occupancy controls
- State-of-the-art variable refrigerant flow (VRF) air-conditioning technology
- An extensive array of rooftop PV panels

Decarbonization and Innovative Design Strategies

While PV systems are quite common in the Phoenix metro area, what stands out about Mesa Hangar's system is both the scale – the PV capacity is intended to cover the majority of the electrical usage of the buildings – as well as the use of the battery storage technology. Batteries in particular are still exceedingly rare in the local market.

This unique renewable energy system will store excess clean, renewable energy the PV system produces. The stored power will allow Mesa Hangar buildings to use renewable energy when traditional PV systems are unavailable and the high emission power plants serving the electric grid would normally be used. It can also be used to shed demand as part of the electric utility's demand response program.

Besides the innovative renewable energy system, the Mesa Hangar property also features a drought tolerant, xeriscape landscape design for water savings and reflective roofing to help reduce heat island effects. All three buildings are also 100% electric to ensure the future clean grid energy can be fully captured.

.

ENERGY STAR Design Score:
A: 97, B: 97, C: 96

Percent Energy and CO_2 Reduction*:
A: 75%, B: 80%, C: 78%

Design Year/Estimated Occupancy Date: **2022**

Space Type: **Non-Refrig Warehouse**

Floor Space [sq ft]:
A: 87,771, B: 15,542, C: 88,838

Estimated Energy Use Intensity [kBTU/sf/yr]: **A: 20, B: 16, C: 18**

Estimated Total Annual Energy Use [MBtu/yr]:
A: 1,824, B: 251, C: 1,608

Estimated Annual Energy Cost [$$]: **A: $53,465, B: $7,342, C: $47,119**

For More Information contact: **David Wakefield (dw@devcondev.com, 909-208-4288)**

**Percent Energy and CO_2 Reductions are based on comparison to a median building of similar type.*