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# Modular Lifestyles

## OFF-GRID CASE STUDY

| SYSTEM SPECIFICATIONS | |
|---|---|
| **Location** | Irvine, California |
| **System Power** | 7.2kW |
| **Components** | FLEXpower TWO (2 inverter/chargers, FLEXmax 60 charge controllers and MATE3 system display and controller) |

## OVERVIEW

**Modular Lifestyles, based in Irvine, California, and founded in 1988, operates as a full-service manufactured home dealer and builder.** Parent company Newport Pacific Capital owns five communities in California and manages another 65 parks nationwide, representing more than 14,000 home sites. The manufactured home communities vary in size from 26 to 1,000 units including marinas, RV resorts and apartments. In 2006, sister company Cirus Development built Oak Haven, a senior community in Ojai, California. Modular Lifestyles began developing green, solar-powered homes for Oak Haven to promote it as a green community project. These grid-tied homes have received press coverage and won several awards for proven home efficiency improvements and achieving annual $0 electricity bills.

**The challenge for Modular Lifestyles' award-winning, grid-tied homes is their location.** It is difficult for prospective homeowners to tour a manufactured home and see how efficiently it operates, especially when homeowners live in them. However, the Modular Lifestyles Quest off-grid home is mobile, and therefore available to many visitors in different locations and climate conditions. The home can be located in high elevations where low temperatures and desert environmental conditions exist, and it should perform well in primitive locations where it is either too expensive or even impossible to connect to utility power. In addition to sustainability, green energy sources can offer reliability by keeping the backup battery bank fully charged.

## CHALLENGE

- Create a super-efficient green home using solar power and additional green technologies
- Design a home to be powered independently from the grid
- Offer housing with low manufacturing and operation costs
- Provide housing that is elder-accessible, can be placed in primitive locations, and is movable for use in emergencies

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## SOLUTION

**For maximum energy efficiency, Modular Lifestyles uses OutBack products in addition to other green technologies including cork floors, LED lighting, greywater (wastewater generated from domestic activities) recycling systems, recycled glass composite countertops, tankless hot water systems, incinerator toilets and water-saving toilets (depending on the application).**

Modular Lifestyles homes are located in many different climates, so the design requires a reliable charging power source for the batteries and appropriate insulation to maintain indoor temperatures during the winter and summer.

Modular Lifestyles uses the OutBack Power FLEXmax 60 charge controllers, which stand up to extreme variations of climate and solar radiance. The solar energy from OutBack equipment is used to recharge the batteries, which have approximately a four-day charge, onboard the mobile homes. Because of their highly efficient design and off-grid power system, the homes operate with low energy requirements year round. This opened up possibilities for Modular Lifestyles to provide affordable housing in retirement communities to seniors living on fixed incomes. In addition, new homeowners see a significantly increased home value since a resident would potentially only need to pay for propane fuel over the life of the structure with off-grid electricity available.

## OUTCOME

- Homes can now be built in areas without access to utility power
- Residents of efficient, net-zero green housing can use solar power for heating and air conditioning
- Modular homes can use reliable off-grid power in extreme environments and remote locations
- Residents enjoy greater mobility and flexibility in location due to modular efficient design
- Residents can save between $5,000 and $10,000 per year in energy costs

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