

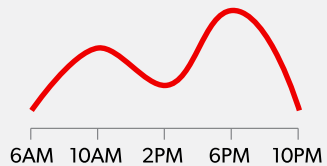
# Practical example: Ali

Ali wants to reduce his carbon footprint and be an early adopter of new technology.



## Profile

**Name:** Ali  
**Location:** Inner urban  
**House type:** 2 bedroom  
**Occupants:** 2 adults  
**Tariff:** Flat  
**Existing solar:** None  
**Daily electricity usage profile:**



**Daily average:** 10 kWh  
**Annual total:** 3,650 kWh

## Overview

Ali is a self-confessed 'greenie' and an early adopter of new technology. He and his partner purchased their townhouse partly because of its passive solar design and energy efficient appliances. He is always looking for opportunities to stretch his sustainability factor and is considering an electric car, solar panels and a battery.

Ali has been hearing a lot of buzz about home solar batteries. With technology changing so fast and batteries becoming more cost-effective, he would like to 'get in the game'. Ali is considering a small, modular battery with the option to add more batteries later as prices fall, and technology continues to improve.

Ali did some calculations and because he will be installing new solar with a new battery, he estimated that the system would pay for itself within ten years, which is less than the warranty period of the battery.

## What did Ali decide?



**Solar:** 4 kW of solar, installed at the same time as a battery.



**Battery:** 2.4 kWh modular battery, with option to add more modules later.



**Appliances:** To get the most out of the small battery at night, Ali needs to be careful to not use too many appliances at once and keep his overall energy use down.

## Summary



➔ **Payback period:**  
Around 10 years  
 ▼ **Battery warranty period:** 10 years

**System cost:** \$9,000  
**Annual savings:** \$870  
**Solar exported:** 57%  
**Self-sufficiency:** 62%

### Assumptions and notes:

- Self-sufficiency refers to the percentage of total energy consumption supplied either directly by homeowner's solar, or by stored solar supplied by the solar battery.
- Payback on the battery component of the system only was found to be 46 years.

## Takeaways

- 1 A new combined solar and battery system will pay for itself quicker than retrofitting a battery to existing solar.
- 2 Small modular batteries cost more per unit of energy, but the lower purchase price means they can be a relatively cheap way to get batteries.
- 3 To benefit the environment, energy efficiency measures or installing more solar panels may be a better option than a battery.