



# POPULAR MECHANICS

HOW TO

HOW YOUR WORLD WORKS

# SURVIVE ON YOUR OWN

Make your own **power**, grow your own **food**,  
and other **secrets** to **the new self-sufficiency.**

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# LIVE



Ecocapsule

## THE SHORTCUT SHACK

Don't want to build your own cabin in the woods? You don't have to. A premade, off-grid-compatible house can function wherever you decide to call home.



### ACRE DESIGNS

- **Best for:** Design enthusiasts
- **Comparable to:** A four-star resort
- **Coollest feature:** It combines all your utilities into a single appliance, the Zero-Box, which includes an electrical panel, a 7.2-kilowatt inverter, an energy recovery ventilator, and a whole-home water-filtration system and emergency shutoff.
- **Cost:** \$400,000 to \$500,000; available at acredesigns.com



### ZEROHOUSE

- **Best for:** People who wish the Jetsons were real
- **Comparable to:** A motel in Japan
- **Coollest feature:** High-efficiency solar panels produce all of the zeroHouse's electrical power, storing it in battery banks that can operate for up to a week without sunlight. A 2,700-gallon cistern collects rainwater from the roof, while a digester unit under the house processes organic waste into dry compost.
- **Cost:** Approximately \$350,000; available at zerohouse.net



### ECOCAPSULE

- **Best for:** People who don't shower much
- **Comparable to:** Wrapping your comforter around yourself like a burrito
- **Coollest feature:** This pod can survive anywhere, without connection to anything, for up to a year. It powers itself through solar cells that cover the roof and a retractable 750-watt wind turbine, and the shape maximizes collected rainwater, which built-in filters make safe for consumption.
- **Cost:** Approximately \$87,600; available at ecocapsule.sk

## HOW TO MAKE YOUR OWN POWER

Set up one of these systems, and then bellow like Zeus every time you turn on the coffeemaker.

### SOLAR

- **Location:** South- or west-facing rooftop or unwooded area
- **Equipment:** At least 24 solar panels, charge controller, breakers, switchgear, inverter, and batteries.
- **Output:** 7.5-kw
- **Cost\*:** \$25,000 to \$30,000, depending on whether it's a rooftop or a ground array.

### GENERATOR

- **Location:** Level ground near the house
- **Equipment:** Generator, panel, breakers, and switchgear. A 100-gallon or larger liquefied petroleum gas tank. Propane.
- **Output:** 7.5-kw
- **Cost:** About \$10,000, but it can vary based on distance to the house, plumbing, and interconnection to a battery.

### SMALL WIND TURBINE

- **Location:** Breezy area, high ground
- **Equipment:** A wind turbine, set atop an 80- to 100-foot tower, turbine disconnect, electronics, inverter, and batteries.
- **Output:** 7.5-kw
- **Cost\*:** \$36,000 to \$40,000 on average. Cost varies based on whether there is road or trail access to tower location and how far the tower is from your home.

### MICRO HYDRO

- **Location:** A water source with a vertical drop and a steady flow measured in gallons per minute
- **Equipment:** An intake gate called a penstock, valves and pressure gauges, turbine, switchgear, inverter, and electronics. Low-output or variable-output systems may require a battery bank.
- **Output:** 7.5-kw
- **Cost\*:** Anywhere from \$8,000 to \$36,000, depending on the length of your penstock, whether there is road or trail access, and how the turbine will be sheltered.

\*Costs do not reflect tax or other incentives or locally required permits.