

HOW IT WORKS

BACKYARD AIR POWER

An easy-to-install windmill lets you quietly generate juice at home

ENERGY FROM THE WIND isn't just for utility companies, wood-cabin survivalists and the Dutch anymore. The first plug-and-play windmill, the Skystream 3.7, from Southwest Windpower in Arizona, installs in a day—a fifth of the time of other home-based systems—by integrating once-separate electrical components into the turbine body. Four simple wires connect the generator directly to your circuit-breaker box (although, like any 35-foot tower, it must be planted in concrete). To make the Skystream even friendlier to home users, it's built to run quietly and to take advantage of the light breezes common in most livable locales. Depending on your usage—and local wind speed—the Skystream will supply 30 to 90 percent of your energy. Produce more juice than you need, and you can sell extra watts back to your utility company.—ADAM M. BRIGHT

GET IT: Around \$10,000; windmonkey.com

BLADES Extra-wide 12-foot-long blades start cranking out maximum power at 325 rpm—one fifth that of other home units. Contoured edges keep sound down to 45 decibels, equivalent to office background noise.

ANTENNA An optional on-board monitor wirelessly sends your computer live updates on wind speed, rpm and electrical output. You can even create graphs to analyze the power—and profit—you're churning out.

SOUND ISOLATOR Any noise transmitted down the steel tower passes through eight sound isolators that are made of hardened neoprene rubber. They absorb most vibrations before they reach ground level.

VOLTAGE CONVERTER Electricity created by wind power needs to be groomed into standard 60-hertz AC pulses before it's fed to your home. The Skystream is the first to cram all the parts that do this inside its turbine body.

ALTERNATOR Forty-two neodymium magnets spin inside a wire-wrapped iron ring to produce current. By eliminating the grooves that secure the wires, engineers minimized start-up resistance and noise.

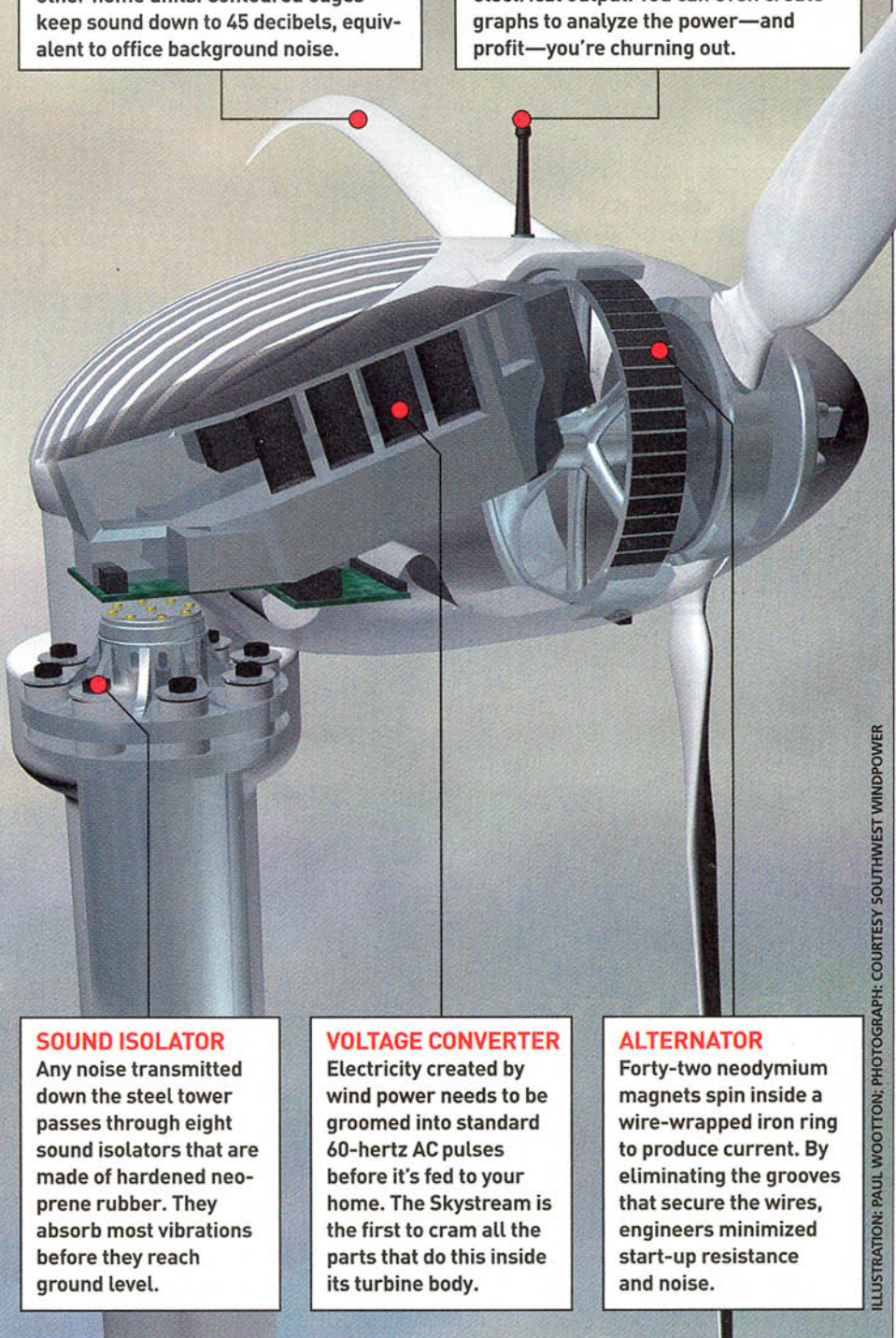


ILLUSTRATION: PAUL WOOTTON; PHOTOGRAPH: COURTESY SOUTHWEST WINDPOWER

