PLANET FIXERS

CLEVER INNOVATIONS FOR A GREENER FUTURE

CATCH SOME RAYS Balloons boost power production 350 times, for an eighth the cost.

SUN BALLOONS

Imagine a UFO parking lot: silver orbs as far as the eye can see. Cool Earth Solar's power plants will look like that. The company's design features inexpensive balloons—plastic film with an aluminum lining—each with a photovoltaic cell at its center. The eight-foot-wide balloons concentrate the sun's rays onto the solar cell to generate a kilowatt of electricity, 350 times as much as the cell without the balloon. No worries of hailstorms or BB guns popping the plant; field tests confirm that these merely create slow, patchable leaks. Cool Earth plans to build a one-megawatt power plant near its Livermore, California, headquarters this summer and a 10,000-balloon, 10-megawatt plant—enough to power 3,500 homes—next year.

IT'S A WRAP This car's spotted wrap emulates golf balls' aerodynamic dimples to cut your fuel bills by 20 percent, according to manufacturer SkinzWraps.

DRIVABLE GOLF BALLS

Golfers can't take all the credit for their long drives—the ball's dimples make it aerodynamic so it cuts through air more easily and travels farther. SkinzWraps, which makes low-wind-resistance vinyl stickers for Nascar, is applying the same strategy to cars. In January, the Dallas-based company introduced MPG-Plus, a dimpled adhesive wrap that can improve an everyday car's fuel efficiency by up to 20 percent. As with golf balls, the indentations increase turbulence, making air hug the vehicle tighter, which reduces pressure drag on the car. If you don't mind the polka-dot pattern, you can wrap a car for about $1,800, saving as much as $250 a year on gas. But CEO Peter Salaverry aims for a bigger market: tractor-trailers, which consume 16 percent of fuel used for transportation in the U.S. SkinzWraps is working with shipping companies to test the wrap on rigs, and although Salaverry doesn't yet have data for trucks, he says he'll be happy with even an 8 percent increase in fuel efficiency, which could save the trucking industry $3 billion of diesel a year.—EMILY STONE

TREE-HUGGING TURBINE

Wind power is an attractive source of energy, but five-story turbines are an eyesore. So mechanical engineer Sridhar Condoor of St. Louis University designed VayuWind, the first hollow wind turbine, which can wrap around a chimney, utility pole or tall tree. Condoor has tested a smaller prototype and plans to have six-by-six-foot, one-kilowatt windmills ready next year. Under average winds of 9 mph, the one-kilowatt model could supply up to three quarters of an average home's energy needs.

EASY BREEZY This turbine captures breezes from any direction.

CLOCKWISE FROM TOP: COURTESY COOL EARTH SOLAR; COURTESY VAYUWIND; COURTESY FASTSIGNZ