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CLEARPOWER STELLARIS

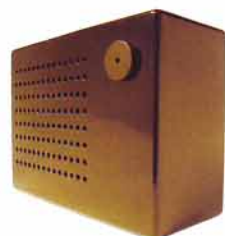
Solar energy may be environmentally friendly, but it hasn't been friendly for cash-strapped homeowners – until now. Stellaris' ClearPower technology uses small lenses in its solar modules to concentrate light, thus reducing by two-thirds the amount of pricey photovoltaic material necessary for good performance. That could knock 40% off the price of a solar module for the enlightened homeowner.



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ELEMENT INTERACTIVE INSTITUTE

Heat from light bulbs is generally thought of as wasted energy, but the designers who made Element thought that was silly. The combination of metal, glass and an array of conventional light bulbs works the same as an electric radiator. And because the brightness of the bulbs is a visual indicator of the energy being used – you'll always know when it's on.



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ERRATIC RADIO INTERACTIVE INSTITUTE

Hairdryer blowing your circuit breakers? Listen to your energy usage with the Erratic Radio – a radio that untunes itself when energy usage runs high. Music fans may cringe at the thought of their favorite artists off-key, but tuning out may be just what we need to tune in to our energy habits. So unplug the coffee maker and turn up the techno on Erratic Radio.



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ESF BIOREFINERY SUNY COLLEGE OF ENVIRONMENTAL SCIENCE AND FORESTRY

Willow plants, hardy fast-growing shrubs that have been cultivated since the Romans for baskets and furniture, are efficient sunlight processors. They convert solar energy into biomass that can then be processed into ethanol fuel. Researchers have been hybridizing willow species in an effort to make it an attractive high-yield crop, and developing first of its kind harvesting equipment. The end result is a sustainable, local source of energy.



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SOLAR CAR XOF1

With a 900-watt-producing solar panel driving a 7-horsepower motor, this one-seater reaches speeds of up to 75 mph. But its most impressive feature may be endurance: It's built to go for miles in below-freezing temperatures. The sleek electric vehicle could set a world distance record in its class by going more than 9.6 miles nonstop. Sun-roof comes standard.



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ARCHITECTURAL WIND AEROVIRONMENT

Forget hillside monoliths. These efficient little wind turbines generate renewable energy within city limits and in an aesthetically pleasing way. The 6.5-foot-tall turbines, which can be lined up side by side, are ideal for flat-roofed buildings. All they require is a 7-mph startup wind to produce 55 kWh a month per unit.



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FLOWER LAMP INTERACTIVE INSTITUTE

Usually it's easy to flip on the lights and crank the stereo without considering how much power you're draining, but the Flower Lamp's design promotes awareness. Its metallic petals won't open unless energy consumption in a household is consistently low. Encourage family members to cut back, and be rewarded by a stunning illuminated bloom.



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LEXAN SLX FILM GE

By infusing plastic with pigment GE's ecomagination product, Lexan SLX, allows manufacturers to remove the paint process from all sorts of products. They can now achieve a high-gloss, sun-, and scratch-resistant finish without the need for paint, thus reducing Volatile Organic Compound (VOC) emissions. Mostly used for the transportation industry, this new lighter-weight material improves vehicles' fuel efficiency. In the ArcHouse, Lexan SLX covers kitchen counters, another enviro-friendly example of its utility.



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POLYMERS FROM GREEN MATERIALS NOVOMER

Oranges and carbon dioxide become plastic via the alchemy of catalysts first discovered at Cornell University. While researchers have worked for years to combine renewable materials like carbon-based limonene found in citrus peels and carbon dioxide into polymers (the building blocks of plastic), these catalysts do the job so well they make the process cheap – paving the way for today's healthy snack to one day become tomorrow's renewable plastic fork.



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THE QUIET REVOLUTION WINDMILL XCO2

Though visually suited for a show at MOMA, this sleek vertical-axis turbine will be seen on future farms – wind farms that is. Indeed, LEDs embedded in the blades can display visual images above the turbines for a real art gallery effect. Virtually noiseless, and with only one moving part, Quiet Revolution is designed for urban use. But don't let its pretty face fool you; depending on the wind speed, one turbine can produce enough juice to power a 20-person office.



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RECYCLED PLASTIC MBA POLYMERS

If it has a cord, MBA Polymers says they'll recycle it. Their patented technology breaks it all down – computers, printers, phones and more – then sorts the non-plastics from the plastics. The separated mixed plastics become tiny pellets which manufacturers can use to create commercial-grade products. It's a new circle of life for the billions of pounds of plastic we consume.



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SUNGRANT BIOFUEL INITIATIVE CORNELL UNIVERSITY

Agriculture is a largely untapped reservoir of energy in a world where demand for fossil fuels has never been greater. Unlocking the fuel potential of plants will require advances in biochemistry. Whole new classes of microbial enzymes will be utilized to efficiently process plant material and turn it into fuel substances like ethanol. While urban centers will remain the primary consumers of energy, rural areas will power the next green revolution.



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RAGBAGS ID-L INSPIRED INNOVATIONS

Ragbag turns garbage into a social and environmentally conscious business that's also fashion forward. Discarded plastic sacks are the basis for a new line of trendy shoulder bags sewn from sheets of colored, pressed-plastic fabric created from recycled materials collected and processed by women in New Delhi. The Netherlands-based company is creating jobs, saving the planet, and selling the ultimate Eurotrash accessory.



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NYSERDA NEW YORK STATE ENERGY RESEARCH & DEVELOPMENT AUTHORITY

As the world's 23rd largest energy consumer (and 16th largest economy), the Empire State needs its juice. For transformative technologies that will keep the lights on and the environment green, the state turns to NYSERDA and its portfolio of innovative partners. Battery Park City Authority has won awards in environmental excellence for the Solaire, the first green residential building in the US. The Saratoga Technology + Energy Park in Malta, NY, is the first business park devoted to environmental technology and clean energy companies. The New York Power Authority uses hydropower to create hydrogen to power buses in the Niagara Falls area. Advanced Energy Technologies' Power Generating Panels are snap-together roofing panels covered with photovoltaic foil. Wires running from the panels take the juice from the roof into your home. Mobion Cord-free Power Packs, fuel cells for portable electronics from MTI Micro, improve on the lithium batteries used in laptops and cell phones. Plug Power's clean-running, cost-effective GenCore hydrogen fuel cell system gives the Internet's bandwidth providers a backup power source that keeps them running 24/7/365. Power to the people.