

Green Business Innovations

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ENVIRONMENTAL DEFENSE FUND

finding the ways that work



Across America, companies are finding innovative ways to turn green technology ideas into greenbacks. Some rely on new and mind-blowing technologies, others on sheer common sense. Here are some innovations worth watching:

BLENDING ENERGY RESOURCES

Meeting power needs is no longer just about paying the utility bill. Forward-looking companies want an optimal energy mix that guarantees reliable power at



Hot idea: Every hour the sun supplies as much energy as all of human civilization uses in one year.

maximum efficiency. For example, the Sierra Nevada Brewing Company blends purchased natural gas with biogas generated at an onsite water treatment plant, then feeds the mixture into fuel-cell-based generators that produce both electricity and heat. This system, coupled with a solar panel installation, provides 80% of the company's power. Sierra Nevada has cut electricity purchases in half and reduced its costs by up to 40% while slashing air pollution. Such solutions could be used by many other mid-sized manufacturing facilities around the country.

GREEN PAYBACK FROM SOLAR FINANCING

Energy from the sun is clean and plentiful, but the up-front costs of installing solar panels can present a barrier for companies. New financing tools such as power purchase agreements are helping remove the barriers to entry. Companies like SunEdison and SunPower are eliminating capital costs for solar installations by funding, installing and maintaining solar systems for their clients. Once the hardware is in place, the providers sell the electricity to the clients, usually on a 15 to 20-year, fixed-rate contract. This helps companies predict their energy costs while cutting global warming pollution and reducing demand on the energy grid.

DRIVING CHANGES IN TRANSPORTATION

The rising cost of fuel is driving changes in transportation. In 2006, Environmental Defense Fund joined with PHH Arval, one of the world's largest fleet management companies, to launch GreenFleet, an innovative program to cut fuel use and greenhouse gas emissions. GreenFleet helps PHH clients such as Abbott Laboratories and Infinity Insurance reduce the climate impacts of their fleets by measuring emissions, improving efficiency and purchasing carbon offsets. The potential environmental benefits are huge, because moving goods and people from place to place accounts for one-third of U.S. global warming pollution.

Along with several other major U.S. companies, PHH Arval is taking advantage of newly developed telematic systems to cut costs and improve service. Telematics can combine diagnostic software, wireless communication and location trackers to enable real-time remote monitoring of vehicle location, fuel efficiency and emissions status. Managers can improve vehicle reliability and slash fuel consumption by eliminating idling and speeding.

LESS TRAVEL, MORE PRODUCTIVITY

Many businesses are making it easier for employees to work at home, enabling office downsizing and a reduction in energy costs. At Sun Microsystems, 55% of employees have chosen to spend at least part of their time working at home, resulting in an estimated 29,000-ton reduction in carbon emissions.

At the same time, more companies are using technology to reduce the need for business trips. Telepresence, the high-definition videoconferencing systems developed by companies like Hewlett-Packard and Cisco Systems, enable virtual face-to-face meetings with natural audio and no delays. Cisco estimates that the use of Cisco Telepresence internally has saved nearly \$80 million in travel costs, with a corresponding increase in productivity, faster decision making and improved quality of life for employees.



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SELLING INSURANCE BY THE MILE

U.S. insurance companies GMAC and Progressive are starting to court environmentally-conscious consumers who as a group tend to drive less and pose fewer risks than other policyholders. Mileage-based car insurance premiums go up or down depending on actual miles driven. This gives drivers a strong financial incentive to get behind the wheel only when it's really necessary, thereby reducing pollution, fuel consumption and traffic congestion. Globally, many companies already provide mileage-based insurance, but many states need to change their laws before it can be offered throughout the United States.

NEW LIFE FOR OLD THREADS

In a "closed-loop" system, worn-out products can provide the raw materials for new manufacturing, reducing the need for virgin components. Outdoor clothing maker Patagonia is doing just that with its Common Threads line. The company collects polyester and cotton garments that its customers have thoroughly worn out, and then breaks them down into fibers to be rewoven. This reduces solid waste, energy consumption and the petroleum needed to grow cotton and manufacture synthetic fabrics. Begun in 2005 and now in early commercialization, Common Threads saves an estimated 76% in energy and 71% in carbon emissions compared to virgin polyester.

***"The secret is out.
Going green is a
profitable business."***

— Environmental Defense Fund president Fred Krupp

Other companies are reducing the pressure on forest lands by switching to post-consumer recycled paper. After spending years to get FDA clearance, Starbucks is now using 10% post-consumer paper for its hot beverage cups, the first time

such paper has been used with food products. Starbucks estimates it will save nearly 16,000 tons of wood annually.

MAKING E-CYCLING EASY

Because computers and other electronic devices become obsolete so quickly, e-trash is an enormous solid waste problem, clogging landfills and leaking toxic substances into the soil and water supplies. Staples is the first national retailer to offer a recycling program for consumers who want to do something about it. The office-supply store invites customers to recycle any equipment — except TVs and floor-model copiers — at any of its 1,400 locations, regardless of brand or where the item was purchased. Staples charges \$10 for large pieces but takes smaller computer parts for free. In the first year, Staples expects to recycle 400,000 tons of tech products.

THE FUTURE IS GREEN

These are just a few of the green innovations currently brightening the corporate horizon. "The secret is out. Going green is a profitable business," says Fred Krupp, Environmental Defense Fund president and coauthor of the new bestseller, *Earth: The Sequel – The Race to Reinvent Energy and Stop Global Warming*. In a world where economic progress and environmental gain can go hand in hand, these breakthroughs will inspire change. We have every reason for hope. ■

About ENVIRONMENTAL DEFENSE FUND: *With offices from Boston to Beijing, Environmental Defense Fund is a globally recognized leader in partnering with business. Using a unique blend of science, economics and advocacy, this independent nonprofit organization works with companies that have the market clout to transform entire industries. Visit edf.org or email partnerships@edf.org*

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Waste Management: Turning Waste Into Opportunity

Where some see waste, Waste Management sees opportunity. The company produces more renewable energy each year than the entire North American solar industry, and 33 of its working landfills are certified wildlife habitat preserves through the Wildlife Habitat Council. By 2020 CEO David Steiner plans to increase WM's waste-based energy production; increase the volume of recyclable materials; invest in clean technologies; and preserve and restore more wildlife habitat. To achieve its ambitious goals, WM has developed an e-cycling program, increased its capacity to capture recyclable construction waste, and plans to invest \$5 billion of capital

spending to increase the fuel efficiency of its fleet by 15% over the next ten years. WM also is investing in next-generation landfill technologies that could produce electricity, create more space in landfills, and actually make diesel from landfill gas. The company plans to certify 100 of its landfills as wildlife habitat preserves through the Wildlife Habitat Council by 2020. It's all good business for WM. As VP of Corporate Communications Lynn Brown points out, "The very nature of what we do makes us an important part of our customers' sustainability chains."



Leaving

no energy

unturned.

The key to energy security is to explore options. So we've invested more than \$28 billion in U.S. energy supplies over the last 5 years, which includes developing low carbon energy solutions from solar, wind, hydrogen and natural gas. We're also exploring the emerging secrets of bioscience, investing \$500 million over ten years to establish the Energy Biosciences Institute to find new sources of clean, renewable energy. It's a start.



beyond petroleum®

LEADING INNOVATORS

Go Green with TANDBERG Telepresence

TANDBERG's enterprise-wide telepresence and high-definition videoconferencing creates a true-to-life, collaborative experience, providing participants with an interactive forum for sharing knowledge and accelerating decision-making, all while reducing an organization's carbon footprint.

For example, Vodafone, the telecommunications giant, has eliminated more than 13,500 flights per year through videoconferencing, reducing carbon emissions by more than 5,000 tons.

Along with reducing unnecessary business travel and supporting customer requirements to become more environmentally responsible, TANDBERG is making sure its internal practices and processes are as environmentally friendly as possible. This is achieved through third-party audits and compliance with government manufacturing directives.



Reach consensus faster with TANDBERG Telepresence – Experia

Beyond offering an eco-friendly proposition, TANDBERG telepresence solutions benefit the bottom line:

Accelerate Decision Making - by having international project teams, German manufacturer BJB customers and suppliers weigh in on product design via video, cutting time to market by four months.

Scaling Knowledge - Statoil, a major oil and gas company, uses video for remote diagnostics and repair, linking people visually from land to oil platforms in the North Sea.

Work/Life Balance - improvements are realized when people don't have to travel—customers like Commerzbank and EADS tell TANDBERG they have an easier time recruiting and retaining employees, who are less stressed and more productive as a result of not having to travel.

TANDBERG, a leading global provider of telepresence, high-definition videoconferencing and mobile video products and services, also offers a business calculator to help organizations identify their carbon footprint, reduce travel costs and improve productivity. For more information: www.seegreenow.com, 888.263.2374

TANDBERG

The Electric Car's Time Has Come

While others talk of one day producing an electric vehicle, Detroit Electric and ZAP are currently producing the nation's only affordable 100% plug-in electric vehicles. In addition to protecting the environment, reducing dependency on foreign oil, and stabilizing transportation costs, ZAP (OTC: ZAAP) electric cars cost only 2 cents per mile to operate, so owners can actually save on direct operating costs. With all-electric sedans, trucks, ATVs, and motorized scooters currently available, these cost-effective alternatives to high gas prices are finding customers worldwide in the fleet, governmental, and consumer markets, as well as in the commercial market with global companies such as Chilectra purchasing ZAP vehicles for employee transportation. Over 50 dealers are now selling ZAP cars throughout the world, and distribution outlets are currently being offered to select organizations. www.zapworld.com, 707.525.8658



Effective Carbon Management

GreenLife CEO Neil Braun and COO Jon May are highly experienced business executives with the insight to utilize carbon offsets in ways that make financial and environmental sense. "We base our business on the best available science, but we also think about opportunities driven by carbon management," explains Braun. "It's not just about doing the right thing, but doing the right thing and turning it into cost savings and new sources of revenue."

Whether a company is just beginning to think about sustainability or has a clear mandate in place, GreenLife helps its clients increase energy efficiency, green up their power, and offset their remaining carbon footprint. GreenLife's strategic partnership with RNK Capital enables it to guarantee price and delivery of high quality, third-party-verified environmental credits. www.greenlife.com, 212.702.7100



DOMANI: Guiding Green Business

William Sarni, CEO of the full-service sustainability consulting firm DOMANI, has seen a shift in green business. "The bar has been raised in terms of what people have to do to credibly distinguish themselves in the green business world," he says.

His firm's work with Cisco is a prime example. Cisco recently enlisted Nobel Laureate Al Gore to co-host a worldwide Telepresence-enabled conversation about technology solutions in a carbon economy. By helping Cisco tally the emissions savings of the Telepresence virtual meeting, DOMANI gave the company solid, credible numbers to back up its claims. From innovative environmental strategies and projects to carbon management, DOMANI is preparing clients such as Alcoa, BASF, Coca-Cola, and Invensys to be competitive in the emerging carbon economy. www.domani.com, 303.232.0193

DOMANI
achieving sustainability