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Focus Report

Goodbye to Analog TVs — the Coming Toxic Tidal Wave

For those of us old enough to remember Howdy Doody, the analog TV, that staple of our childhood, will soon be a thing of the past, residing only in our memories. Less than one year from now, 17 February 2009 will see the demise of the analog box TV — and make way for the next generation High-Def Flat Panel TVs, which will receive strictly digital broadcasts. Unless consumers have their old analog TVs hooked up to a converter box, or are subscribers to a cable or dish network, they will just see a snowy, blank screen. For those consumers with a converter to translate the digital signals to analog, their box TVs will continue to work until it comes time to dispose them. However, many other consumers have already parted with, or will soon be parting with, their old analog TVs and the environmental consequences of their shift to digital are not encouraging.

The Box TV Disposal Conundrum

According to a series of press releases issued by the Electronics TakeBack Coalition (ETBC) in early February 2008, the coming digital TV revolution will unleash a tidal wave of discarded analog TV sets onto the landscape, all of which contain, in varying amounts, lead, cadmium, beryllium, and other toxic substances. These substances may eventually trickle their way into groundwater and surface water after they are discarded in landfills, or worse, along country roadsides. Americans are expected to purchase about 32 million new digital flat panel TVs in 2008, many of which will replace analog TVs. What will happen to these discarded TVs? In many states, consumers hoping to recycle their TVs will be hard-pressed to find free recycling programs that will accept them. Unfortunately, only a handful of states have imposed bans on the disposal of TVs and mandate recycling instead. According to the US Environmental Protection Agency (EPA), nearly 88% of the 2.6 million tons of e-waste generated in the United States each year winds up either in landfills (as waste) or in incinerators, allowing for the release of some of the toxic components into the groundwater or atmosphere.

BATE was fortunate to talk with Barbara Kyle, National Coordinator of the ETBC, who explained how the organization came into being, first as the Computer TakeBack Campaign

in 2002, a coalition of nongovernmental organizations and consumers with a common goal of reducing e-waste. The Campaign started talking with Dell to get the computer manufacturer to take back its old computers. Hewlett-Packard was already doing some of this on its own, but was charging consumers for the service; ETBC's intent was to have Dell take back used computers for free. Kyle noted that Dell currently partners with Goodwill Industries to get back computers in some, but not all, cities around the United States.

BATE asked, "What about expanding the program to other computer manufacturers, like Sun?" Kyle responded, "Typically, if you're a business buying services from Sun, you already have an asset recovery system in place. Plus most businesses already have an arrangement for asset recovery for re-deploy or re-use of the servers. That's really not where the need is, it's under control." For this reason, the Campaign targeted primarily consumers, plus non-profits and small businesses, since each of these groups can legally toss their PCs into the trash in most states.

Now, as the ETBC, their focus is on the TV industry, since people are buying so many new flat-panel digital sets and are getting rid of more old TVs. As Kyle sees it, since the TV manufacturers are selling this product, they need to be more responsible for the product and its consequences after the end of the equipment's useful life. For example, EPA has estimated that each cathode ray tube (CRT) television, most of which are old analog TVs that will soon be replaced, contain between 4 and 8 pounds of lead. Where is all that lead going?

That is the primary premise behind the takeback program, and, to date, only Sony takes back its old products voluntarily. At the other end of the spectrum, Panasonic, Sharp, and Philips have been actively supporting lobbying efforts in several states to block

any proposed legislation that would mandate that manufacturers pick up the tab for consumer electronic waste recycling. They want consumers to be responsible for recycling through a pay-as-you-go system. So far, legislation has sided with consumers, and nine states have enacted producer responsibility laws, with another 13 considering similar legislation this year. One law on the books that ETBC does not like is the California law because it does not make the TV manufacturers responsible for what they make, and does not put the onus on each company to make their TVs more recyclable.

Alternatives to Offset the Toxic Tide

As Kyle explained, some TVs can't be fully recycled back into electronics in their current design because of flame retardants in the plastic. TVs will need to be redesigned to eliminate such issues. "For example," she explained, "the plastics in electronics that still have brominated flame retardants get down cycled into lower grade products, such as decking. The problem arises when the products are shipped to third world countries and get burned — releasing dioxins, furans, and such [and exposing the workers to the toxic fumes]." The plastics get exported as part of the whole unit (TV, monitor, computer). But primitive backyard recycling operations just go after the metals. The plastic parts are disposed of by burning them.

BATE asked, "What about the European Union's (EU's) Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive as one business tool for some of these manufacturers to build in opportunities for more effective recycling of their products in the product design stage?" Kyle explained, "That only works for TVs sold in the EU. RoHS is a good bar, but it wasn't set high enough to cover all materials and we should

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<http://hr.cch.com>

close the loops in RoHS and eliminate the threshold. There are also issues related to production to make the TVs RoHS compliant to sell in the EU, whether manufactured in the United States or in other countries. That's not the case for TVs sold in the United States."

BATE: "Having two separate supply chains for both RoHS-compliant and non-compliant product markets can make the dual-production process more time consuming and probably more costly per unit manufactured. From a purely business standpoint, it would make sense to have one production process only, defaulting to the RoHS-compliant criteria, and incorporate viable recycling options into the product and drastically reduce the e-waste stream. In this manner, the US consumer market would benefit as well as the EU market for which such products would be mandatory requirements."

Kyle: "Besides that, the LCD TVs that use mercury lamps with flat panels are probably the worst poster child for TV e-waste because it's difficult to take the lamps out. If you can't take the lamps out, they go into shredders. This is a good example of how these products have not been designed with recycling at end-of-life in mind."

The E-Waste Briefing Book

Kyle also provided a valuable e-waste primer that the ETBC developed that provides a concise encapsulation of the issues US consumers face with the disposal of old analog TV sets. That book can be downloaded from the ETBC's Web site. Among the points the briefing book makes:

- About 40% of the heavy metals found in landfills come from e-waste. The "toxic soup" includes lead, mercury, and cadmium.
- According to EPA, in 2005, the United States generated 2.63 million tons of e-waste. Of that amount, only 12.5%, or 330,000 tons, were collected for recycling.
- US federal laws allow households and most small businesses to throw most e-waste into a municipal landfill.

- Only 10 states have enacted state laws to ban e-waste from landfills and incinerators.
- Most "recyclers" don't recycle e-waste; they export it to developing countries, such as in Asia and Africa.
- The ETBC's answer: producer responsibility legislation.

However, according to a 27 February 2008 *Wall Street Journal* article, TV sales are expected to slow down this year, following a period beginning in 2006 when excess supply heading into the big holiday buying season triggered steep price cuts that generated huge sales. Demand in 2007 and continuing into 2008 has slowed, owing in part to a possible recession in the United States and the US mortgage mess. According to analyst Collin McGranahan, "Last year was really the banner year for industry sales." He added, "But unit sales in the fourth quarter of 2007 fell 7% ... surprisingly bad." According to his figures, about 56 million, or 42%, of US households had at least one flat-screen TV as of year-end 2007. Industry watchers, such as DisplaySearch, believe gains linked to future TV sales will be smaller for the retailers than in recent years, even if TVs remain important revenue streams for them going forward. That revenue slow-down just might be the "secret ingredient" necessary to coax more electronics manufacturers into seriously evaluating environmental alternatives to allow their products to be more attractive to an increasingly environmentally savvy US consumer market.

For information on the Howdy Doody Show, see www.museum.tv/archives/etv/H/htmlH/howdydoodys/howdydoodys.htm. ■

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Perspectives

The SIRAN Global Study

According to a study of emerging market companies released earlier this year by the Social Investment Research Analyst Network (SIRAN), nearly 9 out of every 10 of

these firms now offer at least some sustainability disclosure. SIRAN is a working group of the Social Investment Forum (SIF). The study was conducted by the investment research firm KLD Research &

Analytics, Inc (see www.kld.com) and the report can be downloaded at www.siran.org/emd.

The study focused on the sustainability reporting of 75 emerging market companies from seven countries: Brazil, China, India, Russia, South Africa, South Korea, and Taiwan. Three industry sectors were evaluated: Energy — Oil and Natural Gas (21 companies), Materials — Metals and Mining (28 companies), and Telecommunications (26 companies). Among the project's goals:

- Investigate the current level of sustainability reporting in a select universe of emerging market companies;
- Identify leading and lagging sectors and countries, and gain insight from such knowledge;
- Develop a benchmark from which future disclosure values could be measured; and
- Develop an advocacy campaign to encourage further improvements in sustainability reporting.

The goal of sustainability reporting is to provide information about an organization's environmental, social, and governance performance, associated impacts, and initiatives undertaken to improve performance in these areas. Companies were judged against the following five criteria:

- Public disclosure of sustainability issues;
 - Separate section of Web site or annual report addressing sustainability issues;
 - Current (last two years) and stand-alone corporate social responsibility (CSR) report;
 - Global Reporting Initiative (GRI) framework for CSR reporting referenced; and
 - Sustainability benchmarking/goals.
- Among the key findings:
- 87% of the companies queried provide some sustainability disclosure;
 - About half of the companies publish a separate sustainability report;
 - Only 27% of the companies made reference to the GRI framework in their reports; and
 - Of the sectors reviewed, Energy provided the best overall disclosure for four of the five disclosure questions.

Of the seven countries surveyed, South Africa came out on top in sustainability reporting. Six South African companies met all five study criteria and accounted for 75% of the country sample. China came in last in sustainability reporting; only 25% of Chinese companies surveyed met the reporting criteria, while three of the Chinese companies did not meet any of the criteria.

Among the companies that rose to the challenge and met all five disclosure criteria were Tata Steel (India), Lukoil (Russia), Gold Fields (South Africa), Petrobras (Brazil), Telkom (South Africa), and KT Corp (South Korea). Among the laggards that met none of the criteria were Jiangxi Copper (China), GS Holdings (South Korea), Idea Cellular (India), Zijin Mining (China), Vimpelcom (Russia), Dongkuk Steel (South Korea), and Tung Ho Steel (China).

With such a disparity in reporting by the companies surveyed, it was not unexpected to see that only 27% of the companies used the GRI reporting framework in their reports, a clear sign that there was considerable room for improvement in reporting by emerging market companies. The GRI reporting framework is widely recognized as the "gold standard" for environmental, social, and governance reporting. More information about the GRI can be found at www.globalreporting.org.

Along with the release of its report, SIRAN, in partnership with the International Working Group of SIF, also announced the launch of a new international coalition of nongovernmental organizations, investment managers, and institutional asset owners to push for improved disclosure in emerging market countries. As a barometer of the importance of this new coalition, it has the support of several like-minded and respected organizations, among them, the GRI, Ceres, and the Association for Sustainable and Responsible Investment in Asia (ASrIA).

GRI announced in a later statement on its Web site that the recently formed investors' coalition has called for increased disclosure in emerging markets, such as those depicted in the SIRAN report. The signatories, as of this writing, now represent US \$650 billion in assets under management, up from the \$199 billion in managed assets previously reported. Their statement plainly asks emerging market companies for improved sustainability disclosure. Explains Sean Gilbert, Head of Strategic Initiatives at GRI, "The increased demand from the investment community for sustainability information, particularly from emerging markets, is a welcome development."

This initiative is further described in an "Investor Statement on Sustainability Reporting in Emerging Markets, February 2008," which can be downloaded from GRI's Web site at www.globalreporting.org/NewsEventsPress/LatestNews/2008/NewsFeb2008InvestorStatement.htm. The push for this initiative is summarized in the compelling concluding

paragraph, “This group of signatories believes that the next generation of leading companies will distinguish themselves through their commitment to sustainability, as demonstrated through robust sustainability reporting”

As SIRAN representative Paul Hilton from Calvert says, “We are encouraged that companies in emerging markets are getting the message — analysts need information about environmental, social and governance performance in order to identify the best companies in which to invest.” He added, “Companies that are transparent will be rewarded by the market.” Sounding a bit cautious, Noel Friedman, from KLD, added, “Although the results are encouraging, it is important to emphasize that a company can produce a high quality sustainability report and still fail to achieve sustainability in the areas relevant to its sector, such as climate change for utilities or human rights and the environment for

mining companies.” He added, “At the same time, a sustainability report provides an important tool for stakeholders to communicate with companies about a range of issues, and allows companies to publicly establish goals and benchmarks for improvement.”

As the SIRAN report describes, “SIRAN will measure progress on www.siran.org and in an updated benchmark report to be conducted in 2009.” As we say here in the United States, “the proof will be in the pudding.” ■

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Corporate Reporting

BT Wins ACCA-lade

BT (British Telecom) won this year’s Association of Chartered Certified Accountants’ (ACCA’s) UK Award for Sustainability Reporting 2007. UNILEVER was runner-up. BT Group Plc was commended for reporting on materiality. Vodafone was commended for transparent disclosures on public policy, lobbying, and taxation. BP was commended for transparency in approach to assurance. Commendations for small and medium size enterprises (SME) reporting were shared jointly by Shared Interest and Traidcraft. BHP Billiton Ltd won the electronic media commendation, while Centrica Plc was awarded runner up. Other companies making the shortlist included Anglo American, Camelot, GSK, Island Waste Services, Royal Dutch Shell Plc, Thames Water, The Body Shop, and Xstrata (see www.accaglobal.com/uk/publicinterest/sustainability/uk_07archive/).

The theme of the 2007 reporting awards focused on sustainability strategy and governance. Last year’s theme was climate change. Since then, the Stern Review was published, the Intergovernmental Panel on Climate Change (IPCC) confirmed the role of humans in climate change, the Carbon Disclosure Project has seen an increasing response rate from investors, carbon labeling schemes are catching on, and Al Gore recommended that “accounting standard-

setters and professional associations should focus their thinking on fuller carbon emission disclosures and the development of methods for fully internalizing carbon-related assets, liabilities, and costs.”

The judges’ report identifies the strengths of the winners and recommends changes to further strengthen the standard of reporting in the United Kingdom. Of particular note, BT’s Web-based report included: forward looking view of the sector addressing customer satisfaction, prevention of misuse of technology, climate change, product accessibility, innovation, operational impacts, and economic growth; detailed description of material issues; detailed business strategy; outline of corporate social responsibility (CSR) business case and identification of key CSR risks; overview of climate change and description of risks and opportunities for BT relative to climate change; disclosure of figures for carbon emissions; stakeholder communications strategies and a critical statement from stakeholders, as well as addressing stakeholder controversial issues, such as abuse on the Internet and offshoring jobs; and external verification using an assurance standard.

Details of four years of ACCA awards can be found at www.acca.co.uk/uk/publicinterest/sustainability/uk_archive.

Earth Charter, GRI Guidelines, and UN Global Compact: Is the Whole More Than the Sum of the Parts?

The Earth Charter has put together a draft guidance paper clarifying relationships among the Earth Charter, Global Reporting Initiative (GRI) Guidelines, and the United Nations (UN) Global Compact. The paper views these developments as complementary. All three emerged from the 1987 Brundtland Commission Report titled “Our Common Future” and the 1992 United Nations Conference on Environment and Development. The 18-page document describes how these developments emerged, how they fit together, and how their strengths can be used to drive change toward a just global society.

Five distinctive core characteristics are shared by all three initiatives: sustainability-oriented, norm-based, globally relevant, partnership-based, and voluntary. The Earth Charter was formulated as an integrated set of the fundamental principles for building a just, sustainable, and peaceful global society. The Global Compact applies many of those principles more explicitly to a business context. And the GRI Guidelines identify indicators that show that a business is applying those principles. Table 1 of the draft shows a comparative overview of how the three initiatives address social and labor, environmental, and economic

issues. In addition, the draft provides a simple framework for a management action plan to implement the three initiatives.

Download and read the draft guidance paper at www.globalreporting.org/NR/rdonlyres/046F1F05-715B-41D3-95A5-B27804DCE06F/0/GRIEarthCharterGCAlliance.pdf. A final version of the document adapted to feedback will be presented at The Amsterdam Global Conference on Sustainability and Transparency this month (see *BATE*, April 2008).

GRI Readers’ Choice Awards

A system of online scoring of sustainability reports enabled readers and stakeholders to express their opinion in the inaugural Global Reporting Initiative (GRI) Readers’ Choice Awards. In total, over 1,700 people in 70 countries cast over 6,000 scores for entered reports. Readers could make use of the Web site in five languages, enabling people from all around the world to express their views.

The field of 800 reports has now been pared down to only 45, which received the highest number of scores relative to the total scores cast (see www.csrwire.com/News/11650.html for the finalists). The winner in each of eight categories will be announced at The Amsterdam Global Conference on Transparency and Sustainability this month (see *BATE*, April 2008).

For more information, see www.globalreporting.org/NewsEventsPress/Conference2008. ■

Corporate Initiatives

Online Information Portal Creates a Positive Environmental Impact

EBSCO Publishing (EBSCO; Ipswich, Massachusetts, USA), seeking to capitalize on its efforts to minimize its own environmental impact (see *BATE*, November 2007, Perspectives), is relying on its unique expertise to make it easier for others to go green as well. In February 2008, EBSCO announced that it had launched *GreenFILE*, a bibliographic information database about environmental concerns, ranging from global warming issues to energy conservation, the use of natural resources, pollution, and other key issues important to the global community. *GreenFILE* makes it easy for anyone accessing the Internet to view this information and more.

EBSCO is the world’s premier database aggregator, offering a suite of more than 200 full-text and

secondary research databases. Through a library of tens of thousands of full-text journals, magazines, books, monographs, reports, and various other publication types, EBSCO serves the content needs of researchers in a wide variety of fields. The company’s product lines include a number of proprietary and licensed databases, all powered by EBSCOhost, the most used “for-fee” electronic resource in libraries around the world.

GreenFILE is also accessed via EBSCOhost. EBSCOhost databases are normally available only by institution-level subscription; however, in an effort to expand the environmental benefit of this function to the global community, EBSCO is making *GreenFILE* freely available at www.greeninfoonline.com to anyone

interested in resources related to the human impact on the environment.

GreenFILE is a database of relevant content that includes material going back to the early 1970s. It includes the backfiles of volume one, issue one of *Bioscience*, *Journal of Environmental Planning & Management*, *Journal of Ecology*, and *Conservation Biology*, all unique to *GreenFILE*. The database also contains bibliographic information on such publications as *E-The Environmental Magazine*, *Natural Life*, and *Mother Earth News*.

GreenFILE was designed to help individuals and organizations interested in reducing their negative impact on the environment, while increasing their positive impact. For example, *GreenFILE* contains information on installing solar panels, recycling, green agriculture, hybrid cars, and waste management, as well as supplemental information related to environmental laws, regulations, and case studies. EBSCO envisions *GreenFILE* as a practical tool for everyday information, as well as a useful resource for academic study and classroom activities.

According to Tim Collins, president of EBSCO Publishing, after taking a series of innovative steps to improve his company's environmental awareness, it was a natural evolution to leverage the company's expertise as a content provider to make this valuable information available to the Internet public. Collins noted, "The hope is that *GreenFILE* will be a resource for people who are concerned about the environment and want well-researched but accessible information about how to reduce their own impact. We are committed to actively adding content to the database to methodically increase its value over time because we want people to have the best information to use when making decisions about their impact on the environment."

To its credit, EBSCO has taken a number of steps to decrease its own carbon footprint, from the installation of two separate photovoltaic solar arrays at its headquarters, to the conversion of its fleet cars to hybrid models, to the creation of its in-house Green Team. The company is also a member of The Green Grid (www.thegreengrid.org).

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Front End of Innovation 08 — Your Catalyst to Break Through

On 19–21 May 2008, the Product Development and Management Association (PDMA), in association with the Institute for International Research (IIR), will host Front End of Innovation (FEI) 08, aimed at the product development and innovation community. The conference, in Boston, Massachusetts, USA, will focus on the discovery portion of the innovation process and the activities that come before the "formal and well structured" new product development process.

PDMA's advisors have identified today's most critical innovation topics to address both existing and future business challenges. The conference will feature the best-in-class movers and shakers from diverse industries and services. To date, over 3,000 people have attended FEI and they continue to come back year after year to learn new techniques focused on the most challenging part of the innovation process.

The conference sponsors hope that attendees will:

- Learn to optimize effective practices in the front end to increase the number of profitable and successful major products and processes;
- Discover tools for understanding unarticulated customer needs;
- Learn best practices that lead to successful front end outcomes; and
- Become well-versed in the fundamentals, the complex, and the future.

Two Pre-Conferences will open FEI. The first, Open Innovation Symposium: How Does It Play Out In The Front End?, will feature presentations by representatives of companies such as The Clorox Company, Kraft Foods, and Hewlett-Packard, speaking about "Building on Traditional Product Competencies with Open Innovation," "It's Not Only the Product ... Opening Up Packaging Innovation," and "When the Product is a Customer Experience: Addressing an Eco-System."

The second Pre-Conference, Corporate Responsibility and Sustainability Symposium, will have a green focus, and will feature a Keynote Address: "What Does Green Business Mean?" by Jeffrey Hollender, Chief Inspired Protagonist, Seventh Generation. Speakers from BT Americas; Dow Corning; Waggner Edstrom Worldwide; Staples, Inc.; and others will discuss "Making Sustainability Sustainable in the Corporation," "Incubating Innovation: Aligning an Innovation Portfolio With

Macro Business Trends/Needs,” “Breakthrough CSR: Innovating For 2050,” and “Sustainability at Staples/ Values That Move Us.”

The main conference tracks, which will run for two days, will cover the following topics:

- An Exploration of the Anatomy of a Breakthrough;
- ... And Now My Company Says “Make it Green;”
- Can Innovation Be Made Predictable?; and
- Enabling Innovation through Workspace Design.

To download the conference brochure, and to register, go to www.frontendofinnovation.com or send an e-mail to register@iirusa.com. For additional information about PDMA, see www.pdma.org.

International Environmental Footprints

An analysis from California (USA) examines the size of ecological footprints of various countries. It appears that “rich nations [are] leaving supersized boot prints of ecological damage on poor countries, adding up to more than those nations’ debt to wealthier nations.” Thara Srinivasan of the Pacific Ecoinformatics and Computational Laboratory (Berkeley, California) and her colleagues estimated that rich countries have imposed up to US \$2.5 trillion of environmental impacts on poor countries in the last four decades. As of 2000, poor countries’ borrowing totaled about \$1.8 trillion. Data on environmental impacts were drawn from the United Nations and the United Kingdom’s Stern Review, and addressed climate change, stratospheric ozone depletion, expanding agriculture, deforestation, overfishing, and the loss of mangrove swamps. Damages resulted from health problems associated with thinning stratospheric ozone, storm damage along coasts where protective mangroves have been removed, and impacts still to come between now and 2100 resulting from actions taken in their 40-year study period.

For more information, see *Science News*, 26 January 2008, Vol. 173.

GE, Toyota, BP Top US Climate Brand Index

Consumers want businesses to take the lead on actions to reduce climate change, but 74% of Americans surveyed can’t identify (unprompted) any brands as taking a lead on climate change. This is

according to the Climate Group’s US Climate Brand Index (CBI), *MarketingCharts.com* reports. The “Climate Conscious Consumer” study, which tracks perceptions of how brands are performing on climate change, was conducted in summer 2007 by The Climate Group, and was jointly funded by Sky and Lippincott. According to the CBI, the top five brands are GE, Toyota, BP, Ford, and Honda.

US consumer perceptions are linked to carbon-related products — automobiles, aircraft engines, turbines, and petroleum. In the United Kingdom, retailers rise to the top, with Tesco, The Co-operative, Marks & Spencer, and Sainsbury’s joining BP in the top five.

US consumers can be divided into six segments by their attitudes. Each segment requires a different approach. The largest group (25%) of US consumers fall into the “confused” segment. They admire sound environmental practices, but are uncertain or uninformed about their individual role. Concerned but pessimistic campaigners make up 18% of the market, while optimists who are upbeat about solving the problem represent 21%. Followers unsure about climate change, but ready to pitch in, account for 8%. The unwilling 10% see climate change as real, but are not prepared to act. Those who confidently reject the reality of climate change are the remaining 18%.

Consumers admire companies that tackle climate change. They want business brands to play a bigger role in tackling climate change than they do today. More people choose a brand for environmental reasons than to avoid a bad brand. Interest extends to low-carbon products and services, as well as household shopping and food. Companies are gaining interest and admiration, but not trust and loyalty.

“It is clear that consumers admire companies that are demonstrating real leadership on climate change,” said Chris Walker, US Director of The Climate Group. “There is an enormous opportunity for mainstream businesses to deliver green solutions to consumers rather than simply ‘greenwash’ them.”

“Climate-friendly consumer choice is here to stay. Marketing initiatives will need to mature to respond to the unique, legitimate reactions of different consumers,” said Simon Glynn, senior partner at Lippincott. “The potential rewards for businesses that understand how these segments are evolving are huge.”

For more information, see www.environmentalleader.com/2007/10/16/ge-toyota-bp-top-us-climate-brand-index/.

Wal-Mart to Track Energy in Products

Wal-Mart Stores Inc., the world's largest retailer, will measure the amount of energy used to create and distribute products it sells. Wal-Mart will work with the Carbon Disclosure Project to determine the environmental impact of making DVDs, toothpaste, soap, milk, beer, vacuum cleaners, and soda. Some of these are part of Wal-Mart's Live Better Index, which measures consumer attitudes and shopping behaviors related to green issues.

Wal-Mart said it chose these seven product categories because they are "ordinary products that customers commonly use." The company said that, after measuring the energy use, it would work with a group of suppliers to look for ways to reduce that energy use. Wal-Mart has already started working with suppliers to reduce packaging.

One supplier, Twentieth Century Fox Home Entertainment, initiated a supply chain analysis of the carbon impact of the production, manufacture, and distribution of its DVDs. More than 20 of its key suppliers delivered detailed data on their energy use and greenhouse gas emissions. Data analysis led to an industry standard to measure the carbon impacts of DVDs, and provided a method that could be used to measure the carbon impacts of other consumer packaged goods.

The Carbon Disclosure Project is supported by 315 institutional investors, including Merrill Lynch, Goldman Sachs, and the California Public Employees'

Retirement System. The 315 investors manage more than US \$41 trillion.

For more details, see <http://michigangreen.org/article-145-thread-0-0.html> and <http://money.cnn.com/2007/09/24/news/companies/bc.apfn.wal.mart.carbonp.ap/index.htm>.

Greener Grows the Hospitality Industry

In January 2008, the Global Green Hospitality Consortium (GGHC) was founded to provide the hospitality industry with the resources needed to implement sustainable standards and practices offered by various green associations, and state and federal programs, such as the US Environmental Protection Agency's Green Partnership and Energy Star and the US Green Building Council's LEED certification. According to Chief Marketing Officer Kim Karch, GGHC services are designed not to duplicate existing green hospitality standards, but rather to facilitate the implementation of sustainable initiatives industry-wide. For example, "Utilities offer comprehensive energy efficiency and conservation programs specific to the hospitality industry that to date are largely untapped," asserts Bob Scammel, Vice President of Business Development, Utilities and Energy Services. "GGHC will work very hard to assist hospitality owners and managers to take advantage of these programs." ■

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Product Stewardship and Takeback

Corporations Step Up Electronics Recycling Efforts

Consumer electronics made up 1.5% of the 250 million tons of US trash in 2006, according to the US Environmental Protection Agency. Meanwhile, 15–20% of electronic waste was recycled in 2006, up from 10–15% in 2003, according to the International Association of Electronics Recyclers.

Many major retailers have started or expanded initiatives to increase electronics recycling. Last year, Best Buy started drop-off events around the country. Last summer, Wal-Mart held a pilot takeback day at 350 of its stores, while Hewlett-Packard announced it had reached one billion pounds of recycling sooner than expected. In October 2007, Office Depot started selling "recycling" boxes for US \$5–\$15. Customers

can fill the boxes with office items, such as laptops and fax machines. Apple and Dell take back old computers. In September 2007, Sony started providing new TV-buyers with a \$100 trade-in credit for an old TV. Osram Sylvania takes back 15 compact fluorescent lights (CFLs) for \$15.

However, in 2007, Americans bought 300 million CFLs, which contain small amounts of mercury. Ace Hardware takes back CFLs; however, overall, only 25% of all CFLs are recycled, noted Paul Abernathy, executive director of the Association of Lighting and Mercury Recyclers (see following article). The United States has barely two dozen licensed facilities for processing mercury waste.

Another problem is that 50–80% of “recycled” electronic waste ends up in poor nations, said Barbara Kyle, national coordinator for the Electronics TakeBack Coalition (see Focus article, this issue). There, the items are often not properly dealt with and workers have high toxics exposure.

For more, see http://online.wsj.com/public/article_print/SB120114002163112121.html.

Mercury Reduced By Recycling CFLs

The US Environmental Protection Agency (EPA) and the California Environmental Protection Agency (Cal EPA) are diverting millions of compact fluorescent light (CFL) bulbs from landfills under the National Partnership for Environmental Priorities (NPEP) program. Cal EPA aims to divert 4.5 million CFLs from landfills in just one year. During 2007, 10 million new CFLs in California replaced incandescent bulbs and prevented the release of almost one million tons of carbon dioxide. However, the CFLs contain trace amounts of mercury.

“Reducing the impact of mercury on human health and the ecosystem is a priority for the EPA,” said Wayne Natri, administrator for EPA’s Pacific Southwest region. The voluntary NPEP hopes to reduce the release of 2,000 tons of toxic chemicals by 2011. EPA launched the NPEP Mercury Challenge in 2004 because mercury is so persistent in the environment, and is very toxic to kidneys and brains even in tiny amounts.

Cal EPA co-ordinates California’s Take-It-Back Partnership, a collaboration of government, private business, and non-profit organizations that provides free, local, and convenient ways for California residents to recycle everyday household wastes, such as batteries, fluorescent lamps, and cell phones.

ISO 14000 Update

Greening the Workplace — Incentives That Work

The dynamics of the workplace, along with the attitudes of workers, have gradually evolved to where some organizations are actively seeking innovative methods to voluntarily green their businesses. In so doing, these organizations are fostering a growing trend toward sustained environmental stewardship across the entire business enterprise — and it’s catching on in more workplaces.

As such, the greening of the supply chain has evolved into a business model whose limits are bounded only

by the imagination and creativity of the proponents moving the concept forward. A number of organizations showcase their accomplishments via company-wide Intranets and newsletters, or on their public Web sites; others provide this information to interested parties and track their progress from year to year. As an added benefit, for those companies that are heavily regulated, voluntary greening initiatives provide opportunities to lessen their regulatory burden. Examples include electronic companies marketing components that are

For more information on the NPEP program, see www.epa.gov/epaoswer/hazwaste/minimize/npep/index.htm.

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Wal-Mart Extends Efforts to Chinese Supply Chain

Last month, *BATE* described Wal-Mart’s efforts to green the supply chain. This month’s twist: Wal-Mart is requiring its Chinese suppliers to meet its environmental standards by the end of this year. Around 1,000 Chinese suppliers will have to reduce emissions and improve waste disposal, energy efficiency, and packaging if they want to keep doing business with Wal-Mart. Wal-Mart’s long-term goal? To generate all the power it needs from renewable sources and create zero waste in the quest for green development. (See China Knowledge Newswire, 14 March 2008, at www6.lexisnexis.com/publisher/EndUser?Action=UserDisplayFullDocument&orgId=2708&topicId=100019774&docId=1:759832345.)

In an interview with the *Financial Times*, Lee Scott, chief executive officer of Wal-Mart since 2000, said, “We’re working with an outside group, Blu Skye, that’s helping to add energy to that [initiative]. And I am very confident that we are going to see in China more progress than any of us has imagined. ... [P]art of it is serendipity, because the Chinese government has just now really gotten on the sustainability process as far as understanding what its going to mean to them in the long term, and they’re being really aggressive.” In his view, synergy of stakeholders (customers, businesses, and government) is likely to accelerate this development (see <http://uk.biz.yahoo.com/06042008/399/transcript-wal-mart-39-s-lee-scott.html>). ■

compliant with the European Union's (EU's) Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive even in non-EU countries; developing devices, like servers, that require less energy to operate; and designing electronics that can be readily recycled upon end-of-useful life.

For other organizations, the push to switch to alternative energy sources is gaining ground, with more companies installing either photovoltaic arrays or small windmills or both to generate non-fossil fuel power, or to lessen their dependence on the power grid. Others are looking more and more to greening their business infrastructure, from retrofitting LEED concepts to greening their buildings to seeking ways to decrease the carbon footprint that their employees make commuting to work.

From a broader perspective, greening initiatives and environmental stewardship are joined at the hip, and benefits can also be found at small companies and cottage industries, not just within large manufacturing companies and other heavy industries that have much at stake should they shirk their fiduciary responsibilities. These large organizations typically provide extensive information related to their greening initiatives on their Web sites, with breakdowns of specific values attained. Smaller organizations are finding that even small greening initiatives add up, and their actions can serve as examples to others.

The ISO Connection

For some organizations, having an environmental management system (EMS) that was designed to follow ISO 14001 can facilitate identifying and tracking an organization's green initiatives, as well as help identify additional opportunities for greening incentive improvements. Taking this further, using specific tools borrowed from the ISO 14001 standards can aid in the layout of related voluntary initiatives, such as participation in the Carbon Disclosure Project (CDP). In turn, those activities that are singled out in the CDP questionnaire can become the next project to go through a green transformation. CDP has acknowledged the relevance of ISO 14001 in future versions of the CDP questionnaire (see *BATE*, November 2007, Focus article).

Interestingly, with greenhouse gas (GHG) emissions and carbon footprint reductions paramount on the minds of many as governments worldwide seek to find commonality in the fight to lessen global climate change, the "battlefield" where war is being waged to combat global warming has also brought in companies and organizations with much smaller carbon footprints

than their industrial cousins. Who are these new players and what are they doing to green their own company's environmental profile?

One example of combining an incentive focus with ISO certification is the Lowell, Massachusetts (USA) Regional Wastewater Utility (see *BATE*, December 2006). Mark Young, the Utility's Executive Director, says, "As part of the City's commitment ... the City Manager decided to offer each Utility employee US \$200 to show how serious the City was about establishing an EMS at the Utility, and sustaining it." He added, "This [EMS] just wasn't seen as a Flavor-of-the-Month, but a model for the City to expand to other City departments." As long as the Utility maintains its ISO 14001 certificate in good standing, the employees are guaranteed an annual cash bonus. "Through contract negotiations between the City and the Utility's workers' union, that bonus was amended about \$100 per year. As of 2007, that bonus is now at \$800," noted Young. What do the employees need to do in return? They need to ensure that they adhere to the Utility's EMS and strive for continual improvement.

Innovative ideas ensure that the Utility continually decreases its own carbon footprint. For example, the ITeam's objectives and targets for 2008 include recycling waste electronics. Plus, the Utility is evaluating building a green roof and installing solar panels as part of its capital improvements over the next several years, with the goal of decreasing the amount of electricity purchased from the local power company, thus decreasing the Utility's carbon footprint. Having an ISO EMS in place helps to ensure such innovative concepts are accounted for and readily tracked once evaluated for suitability and put in place.

Forward-Looking Businesses Doing Their Part

As reported in the *Wall Street Journal* (26 February 2008), some businesses with smaller environmental footprints have also discovered that putting a green "carrot" in front of their employees works wonders in having them buy into the organization's environmental objectives. For example, at Topics Entertainment Inc., a Redmond, Washington DVD and software publisher, CEO Greg James couldn't understand his employees' rationale for using big, gas-guzzling SUVs and wasting all that gasoline. So, in 2005, James rolled out an employee incentive program aimed at curtailing employees' use of SUVs. His solution? He pledged to give each of his employees \$1,000 if they would trade in their vehicles for ones with fewer cylinders. As a further incentive, for each

hybrid or biodiesel vehicle they purchase, they receive a \$2,500 gift, while car pooling at least three days per week earns the car poolers \$300 per year, split equally. To date, 10 Topics Entertainment employees have traded in their gas-guzzlers and received the cash bonus.

In a telephone interview with *BATE*, James added, “It’s not a lot of sacrifice for companies to do. For me, switching from a gas guzzler to a biodiesel [vehicle] was not difficult, and the interesting thing about my car, a Mercedes E300 Blue Tech Diesel, is that it gets 35 miles per gallon, it runs on biodiesel, and it still provides 200 horsepower — so I’m happy all around.” *BATE* asked James how he got his employees to buy into the green incentives he was offering, and his response was, “Basically, it was to see gas being saved and us doing our part to be less dependant on foreign petroleum and having more clean skies.” He added that his employees jumped at his offer of \$1,000. As he remarked, “Who’s going to refuse \$1,000?” Who indeed!

Overall, James’s decision to offer employees incentives to switch to green alternatives has garnered the support of 10 out of 50 employees, “20% so far,” he noted. “They’re driving 40 miles per day times 225 days per year,” he noted, “and, on average, each one is getting 10 miles per gallon better [fuel efficiency] and that translates to about 2,500 gallons per year of gasoline being saved. Now if some of the larger companies could match us that would be a great feat!” *BATE*: How much has this program cost so far? James replied, “Ten employees at \$1,000 — \$10,000 — not a bad return on our investment [annual savings of 2,500 gallons of gasoline].”

Lindsay Collins, DVD Product Manager at Topics Entertainment, sold her six-cylinder VW Jetta and bought a four-cylinder Hyundai Elantra and saw a 50% increase in her gas mileage. She commented, “It just made a world of difference in how often I have to get gas.”

In another example, EBSCO Publishing, Ipswich, Massachusetts, USA (see related article, “Online Information Portal Creates a Positive Environmental

Impact,” in Corporate Initiatives) continues as an environmental trendsetter in its efforts to not only green its own environmental footprint, but those of others. Beth Howell, Vice-President Human Resources at EBSCO, says, “We provide a number of incentives for employees; for instance, we have reusable EBSCO Publishing grocery bags which we gave to employees. This had the added benefit of helping us brand EBSCO as a company committed to the environment within the local community. Since EBSCO is situated right on the commuter rail line, we reimburse up to \$200 per month to employees who use public transportation, at a total annual cost of \$40,000. Significant, as well, was a program put together by the company that installed our solar panels, NexAmp (www.nexamp.com), including a seminar to educate employees about renewable energy options, a free home assessment, and a \$500 discount on solar panels.” Howell added, “EBSCO has discovered that its green initiatives have an added benefit when it comes to recruiting. More and more, people want to work for a company that has its priorities straight.” Howell’s comments underline the fact that such green initiatives can be a key consideration related to branding and company image that forward-looking companies, like EBSCO, have learned to embrace as a leveraging tool to attract and retain talented employees. ■

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Climate Change Update

President Bush Announces New Climate Change Goal

US President Bush, on 16 April 2008, announced a new national goal to stop the growth of US greenhouse gas (GHG) emissions by 2025. To achieve the 2025 goal, Bush said it will be necessary to slow the increase of GHG emissions by the power industry so that it peaks within 10–15 years and declines afterwards, as long as the technology continues to

advance. “There are a number of ways to achieve these reductions, but all responsible approaches depend on accelerating the development and deployment of new technologies,” the President announced. Council of Environmental Quality Chairman John Connaughton, at a White House press briefing, said the 2025 goal could be met through a series of requirements in the

recently enacted energy bill on vehicle fuel efficiency, renewable energy, efficiency of lighting systems, appliance efficiency, and new mandates for the federal government's use of energy and renewable fuels.

Bush asserted that several major US environmental regulations were not set up to address climate change and any decisions to do so should be debated in the US Congress. "Decisions with such far-reaching impact should not be left to unelected regulators and judges," he asserted. Bush specifically pointed out the US Supreme Court decision in 2007 that said that the Clean Air Act is applicable to the regulation of GHG emissions from vehicles (see following article).

The Administration argues that regulating GHG emissions pursuant to the Clean Air Act, the Endangered Species Act, and the National Environmental Policy Act would override other recently adopted programs and force the federal government to regulate increasingly smaller energy users and producers. This would result in a "regulatory train wreck," warned Connaughton. Frances Beinecke, president of the National Resources Defense Council, criticized the president's stance on the Supreme Court decision, contending Bush reversed his earlier position on the US Environmental Protection Agency's authority to regulate GHG emissions under the high court's ruling.

On a mandatory cap-and-trade system, the Administration has "not seen a proposal on an overall approach" that it can support, Connaughton advised. He maintained that mandates already exist in most of the areas that need them, such as corporate fuel economy standards, and that "a one-size-fits-all" system would not be a realistic goal. Any technology incentives should be "carbon-weighted to make lower emission power sources less expensive relative to higher emission sources," Bush stated. Such incentives also should be "technology neutral" so that the federal government does not pick winners or losers in the emerging market, he said.

The Administration maintains that all major economies, including China and India, must make a concerted effort to develop their own national goals to lower GHG emissions. The President announced his GHG emissions reduction goal just before a major economies' meeting in Paris leading up to the G-8 summit in July 2008. The Administration is willing to include the United States' national plan in an international agreement, on the condition that all other major economies are prepared to include their plans.

US Senators Joseph Lieberman (Independent-Connecticut) and John Warner (Republican-Virginia),

co-sponsors of the Climate Security Act, welcomed the President's announcement. Warner said the President's new goal "is recognition that a growing problem faces America — and the world." Lieberman said he did not think Bush's statement would have a negative impact on garnering votes for the Climate Security Act on the Senate floor in June 2008.

US Senator James Sensenbrenner (Republican-Wisconsin) was wary of the plan's impact on states, such as Wisconsin, that are heavily dependent on coal for electricity production. "It's not clear that the President's goal can be met in my state without timely advances in technology, or by increasing electricity costs," he stated.

Environmental Defense Fund President Fred Krupp said that Bush's announcement marks a "significant shift in the debate over national climate legislation." Krupp, however, said the Fund strongly disagrees with the White House position that the United States lacks the technology to make deep near-term emissions cuts and Bush's concern that climate change measures could hurt the US economy.

CCH Washington Bureau, April 2008.

States Seek to Force EPA to Comply With High Court Ruling

Attorneys general from 18 US states have asked the US Court of Appeals for the District of Columbia to order the US Environmental Protection Agency (EPA) to respond to last year's US Supreme Court ruling that required the agency to make a decision on whether to regulate motor vehicle greenhouse gas (GHG) emissions under the Clean Air Act. The states are requesting an order requiring the EPA to act within 60 days.

According to the states' petition, after last year's ruling, EPA publicly made clear its belief that GHGs were in fact endangering public health. It notes that, on multiple occasions, the agency promised it would respond to the Supreme Court's opinion by issuing an endangerment determination and draft motor vehicle emission standards by the end of last year. "Once again the EPA has forced our hand, which has resulted in our taking this extraordinary measure to fight the dangers of climate change," said Massachusetts Attorney General Martha Coakley.

The petition notes that the EPA has declined to issue its proposed endangerment determination, and has said that it will delay responding to the Supreme Court's opinion until after it conducts a lengthy public

comment period later this year to look at issues raised by regulating GHGs under the Clean Air Act.

CCH Washington Bureau, April 2008.

Greenhouse Gas Intensity

The Bush Administration has previously drawn criticism in the scientific community for choosing to set its emissions goals in terms of greenhouse gas (GHG) intensity — the emissions per unit of economic output — rather than the actual decline of GHG emissions. Measuring the emissions decline by GHG intensity, rather than GHG emissions, makes it sound like the White House is tackling the global warming problem more aggressively than it is, contends Andrew Dessler, an associate professor in the Department of Atmospheric Sciences at Texas A&M University (College Station, Texas, USA).

“Historically, US [GHG] intensity has declined all by itself as our economy has evolved from manufacturing — which takes a lot of energy — to services — which take less, and as equipment has become naturally more efficient,” Dessler observed. “Over the past few decades, [GHG] intensity has declined somewhere between 1% to 2% per year. At the same time, the economy has grown more rapidly than this, so total [GHG] emissions have increased,” he noted.

According to Dessler, an average decrease in GHG intensity of about 1.8% per year “represents negligible if any increase in the natural rate of decline.” The Administration has “basically committed the [United States] to maintaining the status quo,” Dessler contended.

Separately, the US National Academy of Sciences (NAS), in its 2001 report “Climate Change Science: An Analysis of Some Key Questions,” stated that the question of whether there exists a “safe” level of GHG concentration is ambiguous because it depends on “both viewpoint and value judgment.” Administration officials frequently cite the 2001 NAS study when questioned about basing its policy on “sound science.”

US National Aeronautics and Space Administration (NASA) scientist, James Hansen, disputed the assertion that identifying “dangerous” climate change is a value judgment. “That assertion would render the Framework Convention on Climate Change, which specifically states that we must avoid GHG emissions that would cause dangerous human-made interference with climate, as a meaningless scrap of paper,” contended Hansen, Director of the NASA Goddard Institute for Space Studies in New York City (New York, USA). Hansen has publicly criticized the White House for its climate change policy. “The public has a right to

expect scientists, especially government scientists, to do their best to identify actions or conditions that will be detrimental and dangerous,” Hansen told CCH in late 2007. Citing several peer-reviewed, published studies by NASA, Hansen said, “Our conclusion is we are on the edge of danger. Additional global warming (above that in 2000) of more than 1°C is clearly dangerous.”

CCH Washington Bureau, January 2008.

Climate Change Refugees May Top 1 Billion

Climate change will create at least 1 billion refugees by 2050, as water shortages and crop failures force people to leave their homes, sparking local wars over access to resources. This is the word from a report titled *Human Tide: The Real Migration Crisis*, published in 2007 to mark Christian Aid Week. The number of people displaced would dwarf the refugee crisis that followed World War II. According to the report, unless urgent action is taken, the added problems from climate changes could spiral out of control.

Christian Aid said that, as the developed world was responsible for most of the climate-changing pollution, it should bear the brunt of the cost of helping those worst hit by it — the poor. “We believe that forced migration is now the most urgent threat facing poor people in the developing world,” said lead author John Davison. “We estimate that, unless strong preventative action is taken, between now and 2050 climate change will push the number of displaced people globally to at least 1 billion.”

The Intergovernmental Panel on Climate Change (IPCC) said that, by 2080, up to 3.2 billion people — one third of the planet’s population — will be short of water, and up to 600 million will be short of food. Security experts fear that the tidal wave of forced migration will not only fuel existing conflicts, but will also create new ones in some of the poorest parts of the world, those least equipped to deal with them. “A world of many more Darfurs is the increasingly likely nightmare scenario,” the report says. In Darfur, 200,000 people have been killed and 2 million forced from their homes. While many climate refugees would cross national borders, many millions more would be unable to leave their countries, and would remain largely invisible to outsiders.

British Chief of the Defence Staff, Sir Jock Stirrup, warned last year: “Climate change and ... [t]he spread of desert regions, a scarcity of water, coastal erosion, declining arable land, damage to infrastructure from extreme weather: all this could undermine security.”

Special adviser to the United Nations Emergency Relief Co-ordinator, Dennis McNamara, said: “Tens of millions of the poorest people in the poorest parts of the world are uprooted and lack basic assistance and protection. Their numbers can destabilize whole regions and may be an obstacle to building peace.”

A similar security problem, but without such a vast number of refugees specified, was found in two other US reports, one authored by 11 retired US generals and admirals in March 2007 (see *BATE*, May 2007), and one by the Center for Strategic and International Studies, whose 11 authors include a former chief of the US Central Intelligence Agency and a former US Presidential Chief of Staff. The latter report, *The Age of Consequences: The Foreign Policy and National Security Implications of Global Climate Change*, is available at www.csis.org/component/option,com_csis_pubs/task,view/id,4154/type,1/.

For more on the Christian Aid report, see www.theage.com.au/news/world/climate-change-exiles-to-top-1-billion/2007/05/14/1178995076889.html.

Global Warming Projections and Hurricane Activity

Hurricanes largely bypassed the United States in 2007. However, for the first time on record, two Category 5 hurricanes (Dean and Felix) made landfall in the same year, in Mexico and Nicaragua. Hurricanes Humberto and Noel rained heavily on the United States, but their wind speeds barely attained hurricane status.

Predicting hurricanes in any particular year is a difficult business. Is predicting them much farther in the future any easier? A study published in *Science* in 2005 (“Changes in Tropical Cyclone Number, Duration, and Intensity in a Warming Environment,” P. J. Webster, et al., 16 September 2005, *Science*, Vol. 309, No. 5742, pp. 1844–1846) showed that strong (Categories 4 and 5) hurricanes have become more frequent over the past 25 years. Moreover, hurricane intensity (total energy, power summed over days and over areas along hurricane tracks) has increased in a way that correlates well with warmer sea surface temperatures (SSTs). (See related articles in *BATE*, October 2005, “More Hurricanes Drive Up Insurance Costs,” and September 2006, “Warming Oceans and Hurricane Activity.”)

However, sea surface temperature is not the only major influence on hurricane formation and intensity. Other influential factors besides SST include upper atmospheric temperature, relative humidity, and wind

shear. Gabriel Vecchi and Brian Soden (“Increased Tropical Atlantic Wind Shear in Model Projections of Global Warming,” *Geophysical Research Letters*, Vol. 34, 18 April 2007) explored changes in these factors using 18 coupled climate model simulations by researchers around the world for the 21st century. The models combine the best understanding of physical processes controlling the climate system. Some uncertainties are due to the models’ difficulty in fully representing certain physical processes. Greater uncertainties come from estimating future greenhouse gas emissions and levels.

A key finding of the Vecchi/Soden study is a projected increase in wind shear over the tropical North Atlantic and eastern Pacific Ocean basins during the 21st century. However, wind shear is projected to decrease over the equatorial Atlantic and the central and western Pacific. Wind shear results from a change in direction or speed of winds between the lower and upper levels of the atmosphere. Wind shear inhibits development and intensification of hurricanes.

Higher wind shear in the north Atlantic and east Pacific shows up across models. It is tied to an overall weakening of the tropical trans-Pacific “Walker circulation,” a vast loop of winds that influences climate across much of the globe. It varies in concert with El Niño and La Niña.

Whether the net effect of increased wind shear, warmer oceans, and other climate changes raises or lowers the number and intensity of hurricanes cannot yet be projected. For hurricanes, greater wind shear effects oppose the effects of warmer oceans. For more information, see www.gfdl.noaa.gov/~gav/ipcc_shears.html.

Meanwhile, another study raised the possibility of examining whether the current upswing in hurricane activity is similar to upswings in prior centuries. The problem is in estimating hurricane activity before modern recordkeeping began. In 2006, researchers led by Dana Miller at the University of Tennessee (Knoxville, Tennessee, USA) published an article, “Tree-Ring Isotope Records of Tropical Cyclone Activity” online in the *Proceedings of the National Academy of Sciences of the United States of America*, available at www.pnas.org/cgi/content/abstract/0606549103v1. The study uses variations in the ratios of oxygen-16 and oxygen-18 in tree rings from an area subject to hurricanes, centered around northern Florida (USA). Their data suggest decadal-scale variations in hurricane activity, which are positively correlated with actual (if fairly sketchy or selective) historical records of hurricane activity.

The role of drought in these variations complicates the picture. Nevertheless, they indicate that the 1770s, the 1800s, 1810s, 1840s, 1850s, and 1870s were periods of significant hurricane activity for their study area. The study did not address whether any of those decades had hurricane activity as significant for the area as the period from 1992 to 2005.

Westar Energy Releases Climate Change Policy

Westar Energy, the largest electric utility in Kansas, USA, released its Energy Climate Change Policy last year. Its seven principles are (1) reduce greenhouse gas (GHG) emissions while continuing to provide safe, reliable, and reasonably priced energy service; (2) base all GHG reductions on sound science, objective engineering, and best available economic information; (3) support science-based education on climate change; and support policies to (4) accelerate use of cost effective strategies for (a) demand-side management and energy efficiency programs, (b) zero- or low-emissions generation technologies (including renewables), and (c) carbon capture and storage; (5) recognize early actions to mitigate GHG emissions; (6) correct for financial penalties from GHG regulations; and (7) make compliance timelines for GHG reductions consistent with commercialization dates of technology solutions.

“We are ready to participate in sound efforts to reduce [GHG] emissions,” said Bill Moore, president and chief executive officer. “We can take action by incorporating, where sensible, proven renewable energy resources and by educating our customers about energy efficiency and its role in reducing environmental impact.”

Westar Energy has energy calculators on its Web site that let customers estimate energy and financial savings from actions they can take at home or in businesses. Westar is unveiling several energy efficiency programs in 2008.

For more details, see [www.westarenergy.com/corp_contentmgt.nsf/resources/2007-09-10/\\$File/2007-09-10.pdf?openelement](http://www.westarenergy.com/corp_contentmgt.nsf/resources/2007-09-10/$File/2007-09-10.pdf?openelement).

World Must Act Quickly on Climate Change

The world must respond to climate change and other environmental challenges now, while the cost is low. Otherwise, we must pay a higher price

later, the 30-nation Organization for Economic Cooperation and Development (OECD) said in March 2008. Its report, *Environmental Outlook to 2030*, looks at global warming, water shortages, energy, biodiversity loss, transportation, agriculture, and fisheries.

According to OECD, “A window of opportunity to act is now open. ... We need forward-looking policies today to avoid high costs of inaction or delayed action over the longer term. ... Without more ambitious policies, increasing pressures on the environment could cause irreversible damage within the next few decades.”

OECD recommends policies like green taxes to encourage environmentally friendly technologies and practices. Rich nations must help poor countries develop without excessive pollution by providing them with technology and expertise. Economic growth would be similar with or without the policies, but the environment would be much healthier if its recommendations are adopted.

For more, see www.oecd.org and <http://abcnews.go.com/Technology/wireStory?id=4390635>.

Baffin Island Ice Caps Shrink by Half in 50 Years

Baffin Island in the Canadian Arctic is 24% as large as Greenland. It lies at the same average latitude. Recent findings on ice melting there are sobering.

Ice caps on Baffin’s northern plateau cover 50% less area than in 1950. Indeed, they are the smallest in at least 1,600 years, perhaps far longer. Shrinkage is due to warming temperatures: 7°F in just 15 years, measured in Greenland. The ice caps are expected to vanish by mid-century, according to researchers from the University of Colorado at Boulder, led by Professor Gifford Miller.

The study also showed two distinct bursts of Baffin Island ice cap growth, beginning about 1280 and 1450 AD. Each coincided with increased stratospheric aerosols from major tropical volcanic eruptions, Miller said. This provides evidence suggesting that the eruptions triggered the Little Ice Age(s). Moreover, analysis of carbon-14 in quartz crystals indicates that, for several thousand years, there was more ice cover on Baffin Island than there is now, he added.

For more, see www.ens-newswire.com/ens/jan2008/2008-01-28-02.asp. ■