## GE ecomagination Report 2007

Investing and Delivering on ecomagination

2007



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Ecomagination is a business initiative to help meet customers' demand for more energy-efficient products and to drive reliable growth for GE — growth that delivers for investors long term. Ecomagination also reflects GE's commitment to invest in a future that creates innovative solutions to environmental challenges and delivers valuable products and services to customers while generating profitable growth for the Company. This document is designed to report on GE's growing partnerships with customers, governments, non-governmental organizations and universities to execute on our products and services to help address some of the world's big challenges. In its third full year after the launch of ecomagination in May 2005, GE has made significant progress on each of our four main commitments. In 2008, we are adding a new commitment around the Company's use of water, bringing our total number of commitments to five, while also raising our revenue target:



## Increase revenues from ecomagination products:

GE will grow revenues from products and services that provide significant and measurable environmental performance advantages to customers. Due to our early success, we are raising our annual revenue target from \$20 billion to \$25 billion in 2010.

- GE has increased its ecomagination portfolio—from 17 products in 2005 to more than 60 products today.
- 2007 revenues reached \$14 billion; orders and commitments have increased to \$70 billion.



#### Double investment in R&D:

GE is growing its research in cleaner technologies from \$700 million in 2005 to \$1.5 billion in 2010.

• In 2007, GE invested more than \$1 billion in cleaner technologies.



#### Reduce greenhouse gas (GHG) emissions and improve the energy efficiency of GE's operations:

GE is committed to reducing its GHG emissions 1% by 2012, reducing the intensity of GE's GHG emissions 30% by 2008 and improving energy efficiency 30% by the end of 2012 (all compared to 2004). Without this action, GHG emissions were predicted to rise substantially by 2012 – by approximately 30% – based on GE's projected growth.

• GE is on track to reach its internal commitment. GHG emissions from operations in 2007 have been reduced by about 8% from the 2004 baseline. GHG and energy intensity have been reduced by 34% and 33%, respectively, compared to 2004.



## Reduce water use and improve water reuse:

GE is newly committing to reducing its global water use from 2006 to 2012 by 20%.

• Progress on this new goal will be reported annually in future ecomagination reports.



#### Keep the public informed:

GE's annual ecomagination report, ecomagination Web site, annual citizenship report and advertising are just some of the ways that the Company is engaging the public.

 In addition to this report, GE is keeping the public informed through its ecomagination Web site, dozens of global conferences and stakeholder events, and new public-policy engagements. This year the Company also added new Web vignettes demonstrating how our environmental technology helps people in their everyday lives. These commitments represent ambitious goals for GE and reflect the broader challenges our customers and society face. Drawing on our global capabilities, our strengths in technology and our knowledge of markets around the world gives us the ability to position ourselves to build a broad portfolio of innovative solutions to a range of energy and environmental challenges.

As GE enters its fourth year of this longterm business strategy, we have grown the ecomagination portfolio to more than 60 products and services at the time of publication of this report and have engaged hundreds of customers. This report details GE's progress in meeting its challenges by measuring our 2007 performance against each of the commitments.

While big challenges remain, GE has the necessary technical breadth and credibility, and is building partnerships and capability that position us to secure decades of accelerated growth as well as a brighter future. To Our Investors, Customers and Other Stakeholders,

To help earn the best possible returns for our shareowners, GE invests in strategic themes that can drive the Company's growth to the far horizon. We believe that each of these themes is essential in the development of the world, and that GE investments can help deliver a rewarding future for our investors, our customers and society.

One of these major themes is environmental solutions – what we call ecomagination. Ecomagination originated earlier this decade, the result of a growing view within GE that energy shortages and environmental concerns would challenge our customers and, more generally, society. And while we had investigated other corporate socio-environmental programs, we knew they didn't make cultural sense for GE. Metrics and accountability are major reasons why GE continues to flourish after 130 years, and the building blocks for the initiative could be no different: our strategy needed to be hard-edged, forged in business principles, with solid measurements, customer commitments and deep investment in advanced technology. Simply put: ecomagination had to make money for our investors.



This methodology is working. In 2005, we set an original goal to grow revenues from ecomagination products from \$6 billion in 2004 to \$20 billion in 2010. This year, we reached \$14 billion in revenues and will surpass \$20 billion by 2009—a year early on our forecast. Therefore, we are raising our annual ecomagination revenue goal to \$25 billion by 2010.

We have both been at GE for more than 25 years and we agree that ecomagination is one of the most successful cross-Company business initiatives that we've seen — a massive amplifier of our strong reputation for innovation and execution. Today, every GE business is participating in this burgeoning revenue and technology stream. We have created more than 60 ecomagination products that produce cleaner energy and water or improve efficiency.

This 2007 ecomagination Report is remarkable in that, over three years, we have tripled the size of our cleaner product portfolio ... we have made the initiative truly global ... we are raising our 2010 revenue target 25% from our original forecast ... and we are, as you will see later in this report, setting a clear target on reducing our own water use and demonstrating how the resulting savings benefits our shareowners. You'll hear a lot about GE Water in the coming years — and we think you will be intrigued.

In the future, GE will launch leading-edge technologies ranging from thin-film solar panels to a hybrid locomotive. We are building advanced coal-gasification technology. We are investing \$6 billion to finance renewable energy projects around the world. We have multiple projects under way to enable our global rail, airline and utility customers to outperform in highly regulated global markets.

Ecomagination is now a global brand, emblematic of GE's neverending quest for innovation and the best technology. It is the key that unlocks entirely new collaborations with world governments, projects that support global customers and vital dialogues with critical stakeholders from Washington to Wuxi. And the payoff for investors continues to increase.

Please visit ecomagination.com and let us know your views.

Sincerely,

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Jeffrey R. Immelt Chairman of the Board & Chief Executive Officer

Lorrani Bolunge

Lorraine Bolsinger Vice President ecomagination

COMMITMENT 1

Ecomagination is a hard-edged business initiative, and GE aims to increase revenues from ecomagination products to create a profitable future for our investors, our customers and society.

GE90-115B engine being prepared for test. The engine is assembled at GE's Durham, North Carolina and Peebles, Ohio facilities

In 2005, we launched an environmental solutions program that would produce cleaner energy and water and improve efficiency. After more than 125 years in business, we knew that true environmental sustainability would only be possible if the practice could be sustained economically. Ecomagination was conceived as a business strategy, and just three years into the program it is delivering the commercial potential we envisioned across all GE businesses.

In 2007, GE achieved approximately 15% growth in ecomagination revenues over 2006, from \$12 billion to \$14 billion. This growth

came from providing our customers with products that improve their operating performance and reduce environmental impact. The potential of this mutual benefit is significant. Not only have ecomagination products generated double-digit growth for GE, but they have also become a catalyst for innovation and a new dialogue in business as a whole. As we continue to grow ecomagination, we are excited by the momentum of our products and look forward to the gains that will be added as new products are commercialized.

### Revenues

Due to the success GE has had with ecomagination, we are raising our annual ecomagination revenue target to \$25 billion by 2010. In 2007, revenues grew from \$12 billion in 2006 to \$14 billion, delivering an approximate 15% increase in revenue. Three years into this commitment, GE has experienced tremendous progress that will translate to the Company's bottom line, rewarding investors as shown here:

#### ECOMAGINATION REVENUE

GROWTH ESTIMATES	2004	2005	2006	2007	2008*	2009*	2010*
(In \$ billions)							25
	6	10	12	14	18	20	
*Forecast							

GE's business spans the globe. A number of product areas seen below are illustrative of outstanding ecomagination growth in 2007.



#### **North America**

Duke Energy secured approval to proceed with construction of one of the largest commercial-scale, integrated gasification combined cycle (IGCC) power plants that will use GE's proven IGCC technology to create cleaner electricity.

GE provided more than 2.3 gigawatts of new U.S. wind capacity in 2007, an increase of more than 100% over the prior year, reinforcing GE Energy's position as North America's leading supplier of wind turbines in 2007.

GE Canada and Bordeaux Developments launched Canada's first ecomagination Homebuilder Program near Calgary, Alberta, in a 3,500 home development. GE will provide ecomagination products that will reduce the development's overall environmental footprint.

Canadian Pacific (CP) added GE Evolution Series locomotives to its fleet to improve fuel efficiency and reduce air pollutants compared to its existing fleet. As the Official Freight Services provider for the Vancouver 2010 Olympic and Paralympic Winter Games, CP launched new Olympic Games-branded GE Evolution locomotives that will travel across the country to bring equipment to the Games and the spirit of the Games to Canadians.

GE Energy Financial Services entered into a partnership with Plutonic Power Corporation, working together with Canada's First Nations, to build a 196-megawatt, run-of-river hydroelectric power project in British Columbia. Ontario's second-largest municipality began operating the world's largest membrane ultrafiltration facility. GE's ecomagination ZeeWeed membranes enabled the region's water treatment plant to boost treatment capacity by 96 million gallons per day in half the space required by conventional sand filter technology.

#### South America

GE Transportation is introducing the Evolution series locomotives for the first time in South America — at Vale, the largest Brazilian mining company with operations around the globe. As strategic partner, GE Transportation will support Vale's "Green Railroad" commitment. Starting to run in 2009, these fuel efficient and environmentally compatible locomotives will support Vale operations in the north of Brazil.

#### Europe

GE Energy's agreement with Invenergy LLC to deliver more than \$1 billion in wind turbines marked a major commitment for the delivery of renewable energy. GE will supply Invenergy with 600 megawatts of GE's 1.5-megawatt wind turbines for projects in North America, and 200 megawatts of GE's 2.5xl wind turbines for European applications.

In support of KLM Royal Dutch Airlines' sustainable operations strategy, GE delivered GE90-115B engines for KLM's first Boeing 777-300ER.

GE Energy signed a global agreement with Energias de Portugal (EDP), the world's fourth largest wind project developer, to supply wind turbines totaling more than 500 megawatts of new wind capacity to be developed during 2008 and 2009 in Europe and the United States.

#### Africa

Designed, built, operated and financed by GE, the Hamma Seawater Desalination Plant is helping to ease Algiers' critical, decades-long water shortage by producing up to 200,000 cubic meters (53 million gallons) of fresh water per day.

GE Water & Process Technologies is building a reverse osmosis seawater desalination plant to recover salt from the wastewater stream for use at a chlorine refinery in South Africa. GE's desalination technologies will help create a reliable and locally available supply of high-grade salt for the refining of chlorine as well as a new source of potable water for local citizens.

#### Middle East

The GEnx is the quietest, most energy-efficient and fastest-selling large engine in GE Aviation history, and Emirates Airline is among those GE customers that have chosen both the GE90-115B and the GEnx engines to power their fleets. To date, 37 customers have ordered 1,144 GEnx engines.

#### India

GE is supplying its ecomagination solar energy modules and water filtration technology to increase the availability of clean drinking water in rural areas of India and other developing countries in Southeast Asia and Africa.

GE Water & Process Technologies and Eureka Forbes Limited joined forces to form Infinite Water Solutions Pvt Ltd., a joint venture focused on bringing reliable and affordable water solutions to the Indian residential market.

#### China

GE is helping the Olympic movement address its goals for sustainable building by providing large-scale infrastructure solutions to all 37 official Beijing Olympic venues, 168 commercial buildings and other areas around the city. More than 300 projects feature a wide array of advanced technologies to help organizers achieve their sustainability goals.

#### **Asia Pacific**

GE Energy Jenbacher gas engines power Japan's largest wood gasto-energy plant, an innovative, national renewable energy project generating electricity for communities.

#### Australia

GE Transportation's partner United Group Rail delivered the first 10 of 40 Evolution Series locomotives to Rio Tinto Iron Ore, bringing advanced locomotive technology to an energy-intensive industry.

## Highlights of ecomagination products and services

#### The process behind ecomagination

To ensure that product introduction is met with the highest degree of integrity, GE employs a rigorous qualification process to effectively certify new ecomagination products. GE's process began with establishing a clear standard for ecomagination products based on two criteria. Ecomagination offerings are:

Products that significantly and measurably improve customers':

- 1. Operating performance or value proposition and
- 2. Environmental performance

or services that substantially enable such improvements.

These criteria work in tandem. At the heart of this standard is GE's belief that "green is green"—that by investing in and developing environmentally advanced products and services,

GE will deliver solutions that increase customers' ability to compete and win. GE also created the Ecomagination Product Review (EPR) scorecard that quantifies a product's environmental impacts and benefits relative to other products. To ensure the accuracy of the scorecard, GE receives third-party quantitative environmental analysis and verification for GE's product claims.

GE's portfolio of ecomagination products numbers more than 60 at the time of publication of this year's report (see list) and spans the entire range of GE businesses.

#### **GE Aviation**

- GEnx Aircraft Engine
- GE90-115B Aircraft Engine
- CFM56-3 Advanced Upgrade
- LM2500+ Marine Engine
- CFM56 Tech Insertion

#### GE Consumer & Industrial

- ENERGY STAR<sup>®</sup> Compact Fluorescent Lighting (Screw in)
- High Efficiency Halogen
  Lamps
- High Efficiency Linear Fluorescent Lamps
- High Efficiency Ballasts
- LED Light Sources
- ENERGY STAR<sup>®</sup> qualified Dishwashers
- ENERGY STAR<sup>®</sup> qualified Front-Load Clothes Washers
- ENERGY STAR<sup>®</sup> qualified Top-Load Clothes Washers
- ENERGY STAR<sup>®</sup> qualified Refrigerators
- ENERGY STAR<sup>®</sup> qualified Hot and Cold Water Dispensers
- High Efficiency Motors
- Ecomagination Homebuilder Program
- High-Efficiency Water Heaters

#### GE Energy

- Integrated Gasification Combined Cycle (IGCC)
- Cleaner Coal System
- Wind Turbines
- Solar Electric Power Systems
- H-Turbine Combined
- Cycle System • Jenbacher Coal Mine
- Gas Engine
- Jenbacher Biogas Engine
- Jenbacher Landfill Gas Engine
- LMS100 Gas Turbine System
- PulsePleat<sup>®</sup> Pleated Filters
- DLN 1+ Combustion System
- DLN 2.6+ Combustion System
  - Powerwave+™
- OpFlex<sup>™</sup> Turndown
- Kn3 Optimization Software for Power Plants
- Zonal<sup>™</sup> Combustion Tuning
- for Coal-Fired Boilers
- Economic Simplified Boiling Water Reactor (ESBWR)

## GE Energy Financial

## Services

• Greenhouse Gas Services, LLC, a GE AES Venture

#### **GE Fleet Services**

• Environmental Performance Services with Telematics

#### GE Money

- Earth Rewards Platinum MasterCard
- GEOSmart (Energy Efficient Home Remodel Loan)
- Australia eco MasterCard

#### GE Oil & Gas

- BCL 300 Series Centrifugal Compressor for Sour Gas Reinjection
- Integrated Compressor
  Line (ICL)
- UltraScan Duo
- Hot Gas Expanders for Power Recovery Systems
- DLN-1 IBH Combustion System for GE Frame
   5-2 Gas Turbines
- 5 2 003 TUIDINC

#### **GE Transportation**

- Evolution Series Locomotive
- Hybrid Locomotive
- Kazakhstan Evolution ES44ACi
- China Mainline Evolution
- Russian-Built Locomotive
  Modernization Skids
- Trip Optimizer
- Locotrol
- SmartBurn

### GE Water & Process Technologies

- Desalination
- Advanced Membranes
- Homespring
- ZeeWeed
- EDR (Electro Dialysis Reversal)
- ABMet (Advanced Biological
- Metals Removal)
- DusTreat
- Waste to Value
- Entrapped Air Floatation (EAF)
- PRO/Titan Reverse Osmosis
- Systems
- MetClear

## **Product highlights**

#### Integrated Compressor Line (ICL)

An electrically driven compressor for oil and gas applications that replaces gas-fired compressors. By using electricity rather than gas, the ICL can reduce  $CO_2$  emissions by 60% to 90% depending on the local electric grid's emissions intensity. Because it is sealed, the ICL prevents the leakage of methane, a potent greenhouse gas. It also has magnetic bearings that do not use oil; over the product's lifespan, this may eliminate the consumption of more than 30,000 liters of oil.



Driven by electricity rather than gas, Integrated Compressor Line technology saves energy and avoids associated  $CO_2$  emissions

#### **OpFlex Turndown**

Gas turbine plants that were once operating at base load may now need to operate across a wider load range, while still maintaining NO<sub>x</sub> emission compliance. GE Energy's OpFlex Turndown technology lowers the minimum operating load of GE's 7FA+e gas turbine from 50% to 40%, reducing CO<sub>2</sub> and NO<sub>x</sub> emissions.



OpFlex turndown allows turbine operators to reduce CO<sub>2</sub> emissions while operating across a wider load range

#### Waste to Value

By turning wastewater into usable process water, the Waste to Value solution allows customers to produce their own electricity and thermal energy, while reducing greenhouse gas emissions through the destruction of methane. This product also saves fresh water and significantly reduces the need to dispose of wastewater.

## DLN-1 IBH upgrade kit combustion system for GE Frame 5-2 gas turbines

A modified combustion system for operating GE's Frame 5-2 gas turbines. This Dry Low NO<sub>x</sub> (DLN) system uses an inlet bleed heating system to help customers adhere to NO<sub>x</sub> emissions over a wider operating range. Once modified with this combustion system, the Frame 5-2 NO<sub>x</sub> emission levels remain consistent between 50% and 100% load.



GE's Frame 5-2 gas turbines are typically used for mechanical drive applications in the oil and gas industry

#### DusTreat

The DusTreat process employs wetting and binding agents on mining roads to hold dust particles in place, reducing the water needed for dust suppression in mines and lowering the costs of water-truck operation.

# Delivering on ecomagination products

GE's commitment to investing in ecomagination enables us to introduce new products and evolve existing ones that make smarter use of energy and deliver benefits to customers, the environment and GE.



GE's energy and water monitoring dashboard, a product of the ecomagination Homebuilder Program

#### CROSS-BUSINESS

## Ecomagination Homebuilder Program offers energy-saving solutions

Designed to lower overall household energy consumption, emissions and indoor water consumption compared to industryaccepted average new homes, the ecomagination Homebuilder Program combines building science with high-performance products to help builders and developers create new homes inspired by ecomagination. The program provides innovative ways for builders and developers to build comfortable homes, while reducing the homes' impact on the environment.

As the cost of utilities continues to rise, more people are looking to integrate environmental technologies into new homes. A home built under the GE ecomagination Homebuilder Program is designed to save 20% annually in energy and indoor water consumption with 20% fewer household emissions compared to an industry-accepted average new home. For a 2,500-square-foot home, this program is designed to save homeowners \$600 to \$1,500 on energy and water bills every year. Since the May 2007 launch of the program, builders and developers across the United States and in Canada have signed up to build homes inspired by ecomagination, including Land Tejas Companies, developer of Canyon Gate Communities in Houston, Texas. The first Canyon Gate Community being developed under the ecomagination program is called Discovery at Spring Trails, and is slated to launch in the summer of 2008.

"Through the ecomagination Homebuilder Program ... GE offers us a one-stop shop for the environmental features and innovations—from appliances to solar panels—that homebuyers in Houston are looking for."

Al Brende, Co-Founder of Land Tejas Companies

#### CROSS-BUSINESS

## Canada's first ecomagination Homebuilder Program launches

In September 2007, GE Canada and Bordeaux Developments entered into an agreement to launch Canada's first ecomagination Homebuilder Program in Rocky View, a community just west of Calgary, Alberta. The site, which has been owned by a local ranching family for more than 60 years, has always been a challenging one to use for anything other than limited livestock grazing.

In response to strong regional growth pressure, the family decided to develop the land. When looking at how best to develop the property, the family gave serious consideration on how the land should be treated — family values, appreciation of the environment and a spirit of community were key. GE's ecomagination Homebuilder Program and Bordeaux Developments' approach to environmental sustainability proved a winning combination.

The planned 1,750-acre, mixed-use ecomagination Homebuilder Harmony development will incorporate sustainable development practices including innovative environmental initiatives designed for smart land use. When completed, the development will have 3,500 homes as well as a health center, 27-hole championship golf course, a school and commercial/industrial land use. The unique, sustainable community is a first of its kind for Alberta and is foreseen to help redefine sustainable community development. GE will play a significant role in providing ecomagination products that will reduce the overall environmental footprint of the development.



Top: A blueprint for a home inspired by ecomagination; Bottom: Sketch of ecomagination Homebuilder Development in Rocky View, Alberta

#### AVIATION

### KLM finds a better way to fly

The aviation industry is investing in products that are quieter, cleaner and more efficient — reducing emissions and noise while providing greater capacity, longer range and lower operating costs. And long-time GE Aviation customer KLM Royal Dutch Airlines is convinced that investment is good for the earth, its customers and its continued growth. "Sustainable operations is a conscious, strategic choice for KLM," says the airline's President and CEO, Peter Hartman. "We are committed to striking the right balance between economic growth and ecological development."

To strike that balance, KLM is pursuing three objectives: Reduction—reducing carbon emissions through fleet renewal and other efficient measures, while assisting research and expert dialogue; Control—supporting the European Emissions Trading System and establishment of a "Single European Sky" to better manage  $CO_2$  emissions; and Compensation—joining the Dutch World Wide Fund for Nature to invest in development of renewable energy projects and offering the opportunity for KLM customers to offset flight emissions.

KLM's goal is to compensate all increases in CO<sub>2</sub> emissions with an objective to reduce its emissions 3% by 2012 and 17% by 2020. That commitment was showcased when KLM initiated an expert dialogue about environmental issues in cooperation with GE, Boeing and Netherlands universities. The event brought together leaders from industry and the sciences to discuss topics like "Development of Green Aircraft" and "Inspiring Sustainable Behavior." The dialogue ended with delivery of the airline's first Boeing 777-300ER, powered by GE90-115B engines, a product of ecomagination.

## Funding a legacy of greener electricity in British Columbia

GE Energy Financial Services entered into a partnership with Plutonic Power Corporation, working together with Canada's First Nations, to build a 196-megawatt, run-of-river hydroelectric power project in British Columbia, Canada, marking GE's first renewable energy equity investment in Canada. Unlike traditional hydroelectric facilities, run-of-river projects do not require damming and storage of water. Instead, some of the waterflow is diverted from the river and fed downhill to a generating station. The water leaves the generating station and is returned to the river.

GE joins Plutonic Power in building a project that will have a lasting positive impact on the community and will help meet the power needs of the province. The project, which began in July 2007, will produce electrical energy to power 75,000 homes and ensure that clean or renewable electricity generation continues to account for at least 90% of total generation for the province. Additionally, royalties provide the ability to develop other initiatives in aquaculture and forestry while employment on the project provides long-term jobs and skills development for the community. The project is expected to become operational in 2010.

"We feel strongly about bringing positive economic and social benefits back into this valley and to these communities ... while also ensuring that we bring British Columbia back to a place of electricity self-sufficiency through a legacy of clean, reliable, made-in British Columbia energy."

Donald McInnes, Founder, President and CEO of Plutonic Power



Run-of-river hydroelectric project will produce energy for 75,000 homes



GE reverse osmosis membrane

WATER

## India joint venture to offer safe water solutions

In India, increased industrialization and a rapidly expanding urban population place unprecedented demands on the nation's dwindling water supply. As a result, clean, potable water is needed urgently throughout the country. To address this issue, GE Water & Process Technologies and Eureka Forbes Limited joined forces in March 2008 to form Infinite Water Solutions Pvt Ltd., a joint venture focused on bringing reliable and affordable water solutions to the Indian residential market.

Infinite Water Solutions will manufacture GE's reverse osmosis membranes at a new manufacturing facility in the city of Dehradun. Infinite Water Solutions will manufacture and sell products and technology solutions to Indian residential customers through Eureka Forbes' extensive sales network, the largest direct sales network in Asia. Infinite Water Solutions' Dehradun facility will be the largest manufacturing facility of these high-tech membranes in India, and will be capable of serving other waterpurification companies across the region. Together, the GE Water & Process Technologies and Eureka Forbes collaboration represents cleaner water solutions, globally compliant manufacturing and market-sensitive pricing.

#### AVIATION

## Power and performance: ecomagination's commitment to the customer

GE Aviation works to provide engine solutions to airline customers across the globe that strike a balance between delivering the best possible profile of fuel efficiency and lower noise and emissions, with technology that is reliable and cost-effective to maintain. The GE90-115B and GEnx engines provide that balance, and Emirates Airline is among many GE customers globally that have chosen both GE engines to power its fleets.

"Emirates is an international and regional leader in sustainability and environmental innovation. The GE90-115B and GEnx-2B engines on our 777-300ER and 747-8 aircraft are two powerful examples and are helping us to further reduce fuel consumption and emissions and operate as efficiently as possible... We look forward to continuing to work with GE Aviation as part of the further development of our sustainability and environmental goals."

Adel Al Redha, Executive Vice President, Engineering and Operations, Emirates Airline

GE engines meet customer expectations in a number of ways. The GE90-115B is not only the world's most powerful engine, but also one of the cleanest and quietest per pound of thrust. Selected by 33 customers for more than 475 Boeing longerrange 777-300ER, 777-200LR aircraft and 777 freighters, the engine has low fuel burn and low overall emissions. Emission levels are reduced due in great part to the GE90's improved combustor. Because the engine is so efficient, it uses less fuel to create each pound of thrust compared to previous generations of aircraft engines. And less fuel burned means less carbon dioxide, a greenhouse gas.

Taking valuable lessons from the highly successful GE90 program, the GEnx is the quietest, most energy-efficient and fastest-selling large engine in GE Aviation history. To date, 37 customers have ordered 1,144 GEnx engines, which power the Boeing 787 Dreamliner and 747-8 Intercontinental and Freighter aircraft. When market ready, the GEnx will achieve dramatic gains in fuel efficiency and performance with significantly lower emissions than other engines in its class. The GEnx will produce fewer emissions than the maximum allowed by 2008 international standards.



Top: GE Jenbacher engine; Bottom left: GE wind turbines in Forrest Creek, Texas; Bottom right: Rooftop installation of GE solar panels in San Francisco, California

ENERGY FINANCIAL SERVICES

## Growing GE's renewables portfolio

GE Energy Financial Services has significantly accelerated its renewable energy investing strategy and plans to allocate \$6 billion in capital for various projects by 2010. With broad capabilities to invest equity and debt within and outside the United States — not only in wind but in solar, biomass, hydro and geothermal power — GE Energy Financial Services has become a major player in a \$60-billion annual renewable energy market. Among our investments:

- Invested in a range of wind energy projects with a variety of turbine manufacturers, including three U.S. wind farms in the state of Texas with wind power operator Airtricity, Inc.
- Financed and purchased the 11-megawatt Serpa solar power plant in Portugal, one of the world's largest solar power plants, generating enough electricity for 8,000 homes and avoiding more than 30,000 tons a year in greenhouse gas emissions.
- Provided financing for five California solar power projects totaling approximately 8 megawatts.

- Invested in one of the largest landfill gas-to-energy projects in the United
  States through the acquisition of a 90% interest in a limited partnership that operates the Scholl Canyon
  Landfill gas project in Glendale, California.
- Made debt and equity investments in landfill gas-to-energy projects in three other areas of the United States – New Jersey, Delaware and Rhode Island – and in a company that owns 11 projects in the United Kingdom.

WIND

# Reinforcing leadership in U.S. wind industry

Wind power is firmly established as one of the largest sources of new power generation in the United States, and is becoming a mainstream option for meeting growing electricity demand. Last year, the United States added 5,244 megawatts of wind power more than 25% of the world total. The U.S. installed base of wind power grew 45% in 34 states, accounting for more than 1% of the nation's electricity supply and powering more than 4.5 million homes. The United States is on pace to surpass Germany as having the largest installed base of wind power by the end of 2009.

GE Energy reinforced its position as North America's leading supplier of wind turbines in 2007, providing more than 2.3 gigawatts of new U.S. wind capacity — an increase of more than 100% over the prior year — and helping lead GE Energy to receive the 2007 Frost & Sullivan North American Wind Power Growth Strategy Award. To help GE meet the surging demand for wind turbines, component suppliers have announced plans to build two new U.S. wind turbine blade manufacturing plants. Also during 2007, GE Energy announced the expansion of its Renewables Global Headquarters in Schenectady, New York, to include a new Wind Product Management and Customer Support Center.

Capping a year of record growth for GE Energy's wind business was the Company's agreement with Invenergy LLC to deliver wind turbines valued at more than \$1 billion. The agreement highlights one of the largest commitments for wind turbines to be delivered in a single year in the history of the global wind industry. GE will supply Invenergy with our 1.5-megawatt wind turbines for projects in North America and our 2.5xl wind turbines for European applications. The agreement marks the first time a U.S.-based developer has selected GE's 2.5-megawatt technology for projects in Europe.

GE's 1.5-megawatt wind turbine is among the most popular machines in the global wind industry, with approximately 8,000 units installed around the world. The GE 2.5xl wind turbine is the next evolution of the Company's wind turbine fleet, and builds on the success of the 1.5-megawatt technology. The 2.5xl is the largest GE wind turbine available for onshore applications, and is specifically designed to meet the immediate requirements of the European Union, where lack of available land constrains the size of projects. All of the wind turbines are slated for shipment during 2009.

#### TRANSPORTATION

## Evolution Series locomotives reduce emissions for Australia's Rio Tinto

The northwestern part of Australia is home to Rio Tinto, one of the world's largest mining companies. In 2007, GE Transportation's partner United Group Rail delivered the first 10 of 40 Evolution Series locomotives to Rio Tinto Iron Ore. The Evolution Series locomotive represents a \$400-million investment by GE Transportation in the most advanced locomotive technology to date. The locomotive is powered by GE's latest GEVO-12 cylinder engines, which produce as much horsepower as the preceding 16-cylinder engines. Built-in technology also facilitates easier maintenance and faster repairs. In one application, the locomotive delivers up to a 5% increase in fuel efficiency and up to a 40% reduction in key emissions over our previous locomotives. In addition, the locomotives meet the stringent Tier I and II emissions standards set by the U.S. Environmental Protection Agency.

"The new locomotives add to our increasingly efficient and sustainable mining operations, and are a vital cog in our expansion of Pilbara [region] operations ... We are looking forward to the improvements in fleet maintenance and performance that will flow from this investment."

Richard Cohen, General Manager, Railway Division of Rio Tinto Iron Ore



GE-made Rio Tinto locomotive outside GE's 2008 Annual Meeting of Shareowners in Erie, Pennsylvania



GE solar panel installation

SOLAR

# Helping Spain reach solar power supply goals

Iberdrola Ingeniería y Construcción, one of Spain's largest energy engineering companies, took advantage of government incentives and tapped GE Energy to provide more than 11 megawatts in GEPVp-200-watts solar modules. The company will install the GE modules in ground-mounted arrays for several projects around the cities of Cáceres and Toledo.

#### CAPITAL SOLUTIONS

## Charting a successful route for Akzo Nobel

One of the world's largest chemical companies, Akzo Nobel operates a fleet of 10,000 cars that spans 20 countries. Known for its tough global emissions targets, Akzo Nobel made the decision in 2006 to further reduce the emissions of its European car fleet, while improving its safety. To do this, Akzo Nobel enlisted the help of GE Capital Solutions to develop a "Clear & Safe Solutions" program.

To properly implement the Clear & Safe Solutions program, the joint Akzo Nobel-GE team reviewed an acceptable method of measuring  $CO_2$  emissions, as well as a list of approved vehicles that combined strong environmental credentials without compromising driver satisfaction. The team then developed a safety rating system to objectively evaluate vehicle safety.

The Clear & Safe Solutions program was rolled out to 107 different business units in nine countries. Throughout the development process, the primary objective of the Akzo Nobel-GE team was achieving environmental and safety improvements, rather than cost savings. This program provided both immediate emissions savings, as well as the potential for future emissions savings. Additionally, it improved driver safety and reduced the number of accidents, earning the program extensive recognition, including *Fleet Europe* magazine's Green Fleet Implementation Award.

#### AVIATION

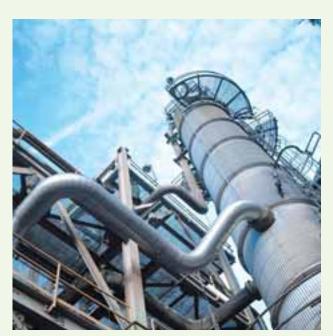
## More efficient aircraft engines

CFM56 Tech Insertion, the infusion of new design technology into current production engines, entered service on the Boeing Next-Generation 737 and Airbus A320 family aircraft in 2007, keeping its promise of more efficient engines that meet worldwide emissions standards with margin to spare. Improved analytic design tools enabled CFM International, a 50/50 joint venture between Snecma (SAFRAN Group) and GE, to improve the Tech Insertion combustor so that it provides on average 25% lower nitrogen oxide (NO<sub>x</sub>) emissions than the engine it replaces.

As a result, Tech Insertion engines meet the new International Civil Aviation Organization Committee on Aviation Environmental Protection emissions standards that took effect in February 2008. In addition, the engine's improved fuel consumption will help lower CO<sub>2</sub>, reducing these emissions by as much as 200 tons per aircraft per year. Over the engine's life, CFM56 Tech Insertion is expected to provide customers with longer time on wing and lower maintenance costs through enhanced durability.



Top: GEnx-1B engine recently received certification from the U.S. Federal Aviation Administration; Bottom: GEnx-1B during ground test at Peebles, Ohio



IGCC Polk Power Plant, Tampa, Florida

#### COAL

## GE IGCC technology gains momentum

GE believes that coal must be part of our energy future. However, as concern about the environment grows globally, companies are turning to GE's Integrated Gasification Combined Cycle (IGCC) System that converts fuels such as coal into a cleanerburning gas energy source. This technology, an ecomagination product, offers an emissions profile approaching natural gas combined cycle power.

IGCC adoption made significant progress in 2007—three major projects using GE's IGCC Reference Plant technology advanced through regulatory approval. In the U.S. states of Indiana (Duke Energy), West Virginia (AEP) and Illinois (Tenaska), cleaner coal power generation will soon be a reality. In late December 2007, Duke Energy secured approval from the Indiana Utility Regulatory Commission to proceed with construction of one of the largest commercial-scale IGCC power plants. Construction on the plant is scheduled to begin in 2008, and when it comes online in 2012, the 632-megawatt facility will use GE's proven IGCC technology and low-cost, local Indiana coal.

#### TRANSPORTATION

## Improving rail and locomotive efficiency

**GE Trip Optimizer:** With ever-rising fuel prices and growing emissions regulations, railroads are looking for ways to improve locomotive efficiency. GE's Evolution Series locomotive is among the most fuel-efficient products in the market. However, inefficient acceleration and braking can reduce engine performance and increase locomotive emissions. GE's Trip Optimizer addresses this problem by determining the optimum speed profile over a trip or route to minimize fuel consumption while maintaining time schedules. The optimization reduces unnecessary braking and helps control speed.

GE's Trip Optimizer provides closed-loop speed regulation, calculated to the optimum speed profile, to adjust for the differences between actual and estimated train performance. The system creates an optimal trip profile and automatically learns and adjusts throttle settings for variations in grade, track conditions, locomotive health, and train length and weight. Using a sophisticated system of sensors, on-board computers and GPS, Trip Optimizer can create an optimal speed profile that can help reduce fuel consumption by approximately 10%. These environmental metrics are achieved without slowing down the network.

**GE LOCOTROL:** GE's LOCOTROL system is designed to reduce locomotive fuel consumption by allowing more efficient train configuration and control of multiple locomotives by distributing locomotive power throughout the entire train. GE's LOCOTROL system is currently installed on more than 9,000 locomotives in North America. Based on customer data from one route, GE's LOCOTROL system can reduce fuel consumption by an estimated 6% to 10% and avoid an estimated 1.5 to 2.3 million metric tons of CO<sub>2</sub> emissions per year.

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"Using GE LOCOTROL distributed power on our locomotives helps Union Pacific to meet our commitment to protect the environment now and for future generations ... LOCOTROL technology helps our engineers move more freight with less horsepower, improving the overall fuel efficiency of our freight movements. That means reduced emissions, which is great for the environment."

Jim Young, President and CEO of Union Pacific Railroad



GE water purification technology

WATER

## Creation of the largest seawater desalination project in North America

Periods of drought, and a reliance on outside water suppliers and unpredictable rainwater have driven San Diego County to find altogether new solutions to its water shortage problems. GE and other partners are working together to create the Carlsbad Seawater Desalination Plant, the largest seawater desalination project in North America. GE Water & Process Technologies, Poseidon Resources Corporation, American Water and Acciona Agua joined in May of 2007 to invest in the final stage of the desalination project to bring a longterm, reliable and affordable supply of drinking water to the water-scarce region.

The Pacific Ocean is one of earth's ultimate water resources, and GE's ecomagination ZeeWeed membrane technology among the most energy-efficient ultrafiltration technologies was selected for the plant that will help make the Pacific potable. The plant's source water will be pretreated by the GE ZeeWeed membranes, then processed through reverse osmosis membranes to produce high-quality drinking water.

The Carlsbad facility is slated to become operational as early as 2010. Once complete, it will provide 50 million gallons of sustainable and cleaner drinking water — enough for 300,000 people. The desalination project will provide the City of Carlsbad and other San Diego County water agencies complete control of a local drinking water supply that is not dependent on rainfall or outside suppliers, helping alleviating chronic demand challenges. OLYMPICS

## Partnering on the Beijing 2008 Olympic Games

GE is the exclusive provider of a wide range of innovative products and services that are integral to staging successful Games. As a Worldwide Olympic Partner, GE is applying environmental resources, business expertise and technology to create solutions to help ensure that the Olympic Games' environmental legacy is a positive one.

As China welcomes the world to one of the most anticipated Olympic Games in history, GE is playing a key role in the preparations by providing large-scale infrastructure solutions to all 37 official Olympic venues, 168 commercial buildings and other areas around the city. These more than 300 projects, which include transportation, security, energy, water, healthcare and lighting, feature many environmentally advanced technologies aimed at helping organizers achieve their sustainability goals.

Specifically, GE is providing multiple technologies for China's first rainwater recycling system. The new system will be located at Beijing's National Stadium, the setting of the Opening and Closing Ceremonies of the Beijing 2008 Olympic Games, and will use underground pools that process up to 100 tons of rainwater per hour, 80 tons of which can be reused for landscaping, firefighting and cleaning — a direct way to lower the stadium's water consumption.

#### Highlights of other key GE projects for the Beijing Games include:

Supplying filtration technology for safe drinking water at the National Stadium – The National Stadium will use GE's water treatment technology during the Games to provide up to 16 tons of purified water per hour. The quality of the water meets the latest national standards. GE's water filtration technologies stand out for their environmentally sound features, energy-efficiency and reliability.

Delivering energy-efficient turbines at the Olympic Central Area – GE is supplying energy-efficient turbines to deliver power, heating and cooling to the Olympic Central Area. These systems successfully convert fuels such as natural gases into a cleanerburning energy source. The process reduces emissions of nitrogen oxides and particulate matter by more than 60%, reduces mercury emissions by more than 50%, and reduces sulfur dioxides by more than 90%, while using less water than traditional pulverized coal plants.

**Implementing solar-powered lighting at Fengtai Softball Field** – GE's solar-powered LED street lighting fixtures and garden lighting are being used at the Fengtai Softball Field.

**Providing filtering technology for Qinghe Wastewater Plant**— To improve Beijing's wastewater treatment capabilities, the wastewater plant in Qinghe has adopted GE technology that will filter more than 80,000 cubic meters of wastewater daily to be recycled and help maintain landscaping during the Games, helping reduce energy use and overall costs.

> GE is playing a vital role in the preparations for the 2008 Olympic Games by providing solutions to 37 official Olympic venues including the National Stadium

#### OLYMPICS

## Vancouver 2010 Olympic Winter Games "Greening of the Games"

The Vancouver Organizing Committee (VANOC) is the first Olympic Organizing Committee to commit to applying sustainability principles to the Games, including integrated delivery of social, economic, and environmental outcomes and benefits. GE's Olympic business team is responding in a number of ways to meet these challenges with a special focus on ecomagination. For instance, the Vancouver Convention Centre, which will be used for Olympic broadcasting, will be installing a GE Water & Process Technologies membrane wastewater management system that cleans water from within the building and reuses it for flush fixtures, and to irrigate a new, six-acre rooftop garden. GE Water & Process Technologies also won the contract to provide on-site water and wastewater treatment plants for the Nordic Centre. The compact, discreet design of the plants, which met the need to minimize the footprint of the system, coupled with their superior treatment capabilities was a winning combination for the venue.

#### NBCU

### **Green is Universal**

In May 2007, NBC Universal (NBCU) announced its "Green is Universal" initiative, dedicated to effecting positive change for the environment by raising awareness and educating consumers as it substantially greens its own operations. As part of this effort, NBCU has publicly pledged to reduce its greenhouse gas emissions at least 1% by 2012.

NBCU launched its first "Green Week" in November, during which 37 units across the television, theme park and film studio divisions participated in green-themed, on-air programming and digital content. NBC Universal's award-winning public service campaign, "The More You Know," debuted with messages about global warming, pollution and recycling. In addition, the NBC Universal Foundation awarded \$100,000 in "green grants" to three environmentally focused nonprofit organizations. Other initiatives included employee volunteer activities with green nonprofits in local communities.

In honor of its hazardous waste collection event, Universal Studios Hollywood was awarded a Green Seal Certificate from the Environmental Media Association. Additionally, Universal was awarded the GE  $eCO_2$  Award in recognition of its first solar energy system, the largest in the industry. NBC Universal has also taken significant steps to green its own facilities, beginning with its corporate headquarters in New York.

NBC Universal has scheduled additional Green Weeks in April (centered around Earth Day) and November 2008. These two weeks will continue to demonstrate NBCU's commitment to producing the highest-quality, environmentally conscious film, television and digital content; creating incentives for local communities to "go green"; and educating employees about sustainability and the environment.



NBC "Green Week" logo



ZeeWeed is an advanced ultrafiltration membrane technology for water and wastewater treatment

#### WATER

## Improving water management in Canada

Developed in Canada and exported around the world, GE's ZeeWeed membranes are helping municipalities and industrial sites upgrade and expand their water and wastewater treatment capabilities to meet rising water demand and increasingly stringent regulations. In June 2007, the Region of Peel, Ontario's second-largest municipality, began operations of the world's largest membrane ultrafiltration facility. Built on a space-constrained site, GE's ecomagination ZeeWeed membranes enabled the region's water treatment plant to boost treatment capacity by 96 million gallons per day in half the space that conventional sand filter technology would require.

Building on the success of this project, the Region of Peel will also use ZeeWeed membranes to replace sand filters at another, 30-year-old water treatment plant. The retrofit will increase treatment capacity by 45% with minimal impact to the waterfront recreational property above the underground plant. The space savings from both projects and robust treatment process mean that the region will be able to meet its water quality and water quantity objectives for years to come and achieve any foreseeable changes to drinking water regulations.

#### ALTERNATIVE ENERGY

# Powering Japan's largest wood gas power plant

Powered by GE Energy Jenbacher gas engines, Japan's largest wood gas-to-energy plant began operations in 2007 in the Yamagata Prefecture, generating 2 megawatts of electricity for local communities. Located about 400 kilometers north of Tokyo on the island of Honshū, in Murayama-shi, Yamagata Prefecture — Japan's largest cherry-producing region — the project is seen as an important specialty gas-to-energy-technology model as the Japanese government is seeking to expand renewable energy production to help meet its emissions reduction goals under the Kyoto Protocol. Unlike other gasified wood plants, Yamagata's Murayama site runs completely on wood gas.



Wood gas-to-energy plant in Japan



Virgin Atlantic plane leaving London's Heathrow airport

AVIATION

## GE powers first-ever biofuel flight

Virgin Atlantic, Boeing and GE made history in February 2008, when the airline flew a GE CF6-powered Boeing 747 jumbo jet from London Heathrow to Amsterdam on biofuel. It was the world's first airline flight on renewable fuel. During the demonstration flight, one of the aircraft's four engines was operated with a 20% blend of Imperium Renewables biofuel.

No modifications were made to either the aircraft or its CF6 engines, but 28 hours of ground-testing alternative fuels on a CFM56 engine at GE's test facility preceded the flight. During ground tests, the biofuel performed as expected, with no negative impact on performance.

This historic event was a perfect match for GE's technical expertise and ecomagination goals. GE has considerable experience testing fuels derived from biomass in its jet engines. GE Aviation uses alternative fuels in its aeroderivative engines for marine and industrial applications, including biodiesel for cruise ships. In fact, Imperium is a major supplier of biodiesel for GE-powered cruise ships for Royal Caribbean Cruises.

#### GE MONEY

## Earth Rewards Card debuts

In 2007, GE Money delivered the first-ever, U.S. credit card with a reward program that provides cardholders with an automatic method to purchase offsets. The credit card's reward program contributes up to 1% of cardholders' net spend to buy carbon offsets. The Earth Rewards card is an additional way for consumers to offset their carbon impact other than responsible travel and reducing home energy use.

In response to consumer feedback, GE Money integrated custom features such as the ability to divide rewards between the environment and cardholder, where the cardholder receives a portion back in their monthly statement. To minimize the environmental impact, the card was launched with no direct mail marketing — and paperless statements come standard. GE Money also launched MyEarthRewards.com to educate consumers on simple ways they can make positive changes to their lifestyles. The site has an advanced carbon calculator and examples of how large an impact a cardholder can have just by using their Earth Rewards card.

Leveraging the U.S. experience, the GE Money eco MasterCard was launched in Australia in January 2008. Like the U.S. product, the eco MasterCard was the first general-purpose credit card in Australia with a rewards program that provides cardholders with an automatic method to purchase greenhouse gas credits. GE Money plans to introduce more products around the world. COMMITMENT 2

GE pledges to double our investment in R&D reflecting a commitment to generate cleaner technologies to change the way we live and work.

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Shield

Today, GE has approximately 36,000 technologists located around the world in our businesses and four global research centers (located in Schenectady/Niskayuna, New York; Shanghai, China; Munich, Germany; and Bangalore, India). They work every day to deliver leading-edge technology and products that drive GE's growth and create a better world. In 2007, GE invested more than \$1 billion on cleaner technology research and development (R&D), drawing closer to our pledge to invest \$1.5 billion on ecomagination R&D by 2010. R&D investment has reached a total of more than \$2.5 billion since the program's inception. GE's commitment to provide meaningful solutions through ecomagination remains on track, as shown here:

#### ECOMAGINATION R&D INVESTMENT

(In \$ billions)

\*Forecast

1.5

### **GE's commitment to R&D**

GE is investing in a broad portfolio of technologies to meet our future energy demands, while also addressing important environmental challenges today. Promoting clean, renewable sources of power like wind and solar, reducing emissions in power generated from fossil fuels, accelerating advancements in hybrid technology to drive cleaner transportation alternatives, and offering more energy-efficient product alternatives are all part of the many solutions GE is driving through ecomagination.

Key ecomagination research includes:

### **Renewable-energy initiatives**

GE is working on a number of fronts to drive the development of clean, renewable sources of power:

#### Wind energy

Researchers are focused on driving new breakthroughs that make wind energy even more cost competitive. Research includes development of advanced blades to maximize wind capture, improved controls and software to enhance reliability, and optimization of the placement of turbines on a wind farm and grid management technologies to more effectively integrate wind into the electric power grid.

#### Solar

GE researchers have a strong portfolio of short- and long-term research programs to make solar energy more affordable and available. GE is managing a three-year, \$46.7-million project as part of the U.S. Department of Energy's Solar America Initiative (SAI), which is looking across the entire value chain from the cell materials to the solar module systems to enable low-cost solar power. Researchers also are exploring a mix of longer-term initiatives, including nano-based materials that hold great potential for one day producing high-efficiency cells with dramatically lower production costs. The SAI program is focused on making solar power cost-competitive with other conventional sources by 2015.

#### Fuel flexibility

GE researchers are working to make GE's power-generation products even more fuel flexible, so that these products can burn a wide variety of biofuels, such as landfill gases, that are more efficient. In addition, researchers are evaluating the properties of bio-based fuels as a potential fuel source in aviation.

#### Geothermal and waste heat

GE scientists at our Munich facility are seeking to develop new waste heat recovery technology that will enable low-temperature heat source utilization, transforming a traditional waste product into a value-add for our customers. GE scientists also are exploring ways to leverage this technology to capture geothermal heat.

### **Cleaner coal**

GE researchers are actively developing advanced technologies for GE's Integrated Gasification Combined Cycle (IGCC) power plants. This research is focused on performance improvement and total plant cost reductions while continuing to deliver the superior environmental performance using coal. The research also includes a growing emphasis on technologies to improve the viability of IGCC's commercially available carbon-capture technologies. GE researchers are working closely with leading technology companies and universities to understand the requirements for geologic storage of  $CO_2$ , in order to optimize the IGCC design for carbon capture and sequestration to secure the long-term viability of coal-based power generation.

### **Carbon capture**

While GE continues to develop technologies to greatly enhance the efficiency of our products, we are building on our power generation and materials expertise to explore efficient, effective and less-costly approaches to  $CO_2$  capture. The goal is to dramatically reduce carbon emissions from electricity generated by fossil-fueled plants.

### **Transportation initiatives**

Today, GE researchers are developing battery and control systems technology to bring the hybrid locomotive to market. GE's hybrid locomotive is being designed to reduce fuel consumption by as much as 15% and emissions by as much as 50% compared to most freight locomotives in use today. The hybrid locomotive improves fuel and emissions performance by capturing energy in the braking process and storing it in batteries to provide a ready supply of clean power to supplement the diesel engine during acceleration.

Beyond the hybrid locomotive, researchers are engaged in other hybrid research activities that will help enable a plug-in hybridvehicle infrastructure. GE has two projects with the U.S. Department of Energy (DOE) and one with the Federal Transit Administration (FTA) within the U.S. Department of Transportation, totaling nearly \$20 million to help accelerate the introduction of plug-in hybrid vehicles to market.

The first of the two DOE projects is a \$5.6-million contract to develop smaller, lower-cost, higher-performing hybrid drivetrain motors for hybrid electric vehicles. The second is a \$1.2-million project to develop advanced high-temperature, high-energy density capacitors. Both technologies are critical to enabling the commercialization of plug-in hybrid vehicles.

On the second project, GE researchers are engaged in a \$13-million project with the FTA and other industrial partners to build a prototype lightweight, battery-dominant, zero-emissions, hybrid-fuel cell bus. It is expected that the prototype bus will have a range of 200 miles and have an improved fuel cell life and cost. A key focus of the project is to reduce fuel cell power requirements and improve energy-storage technologies, which would help increase the commercial viability of the technology. In addition to these projects, GE scientists are undertaking joint research with the battery company A123Systems. This activity will support A123's battery development, including batteries for hybrid electric vehicles.

In Aviation, GE researchers are working on next-generation engine concepts that include open rotor configurations and pulse detonation combustion to improve fuel efficiency. They also continue research in advanced aerodynamics, composite materials, turbine alloys and advanced coatings and combustion systems to achieve further reductions in emissions and fuel burn.

### Water use and purification initiatives

GE scientists are exploring revolutionary new separation principles and improved membrane technologies to lower the cost of water treatment for drinking and industrial water reuse, while also applying technology to improve the process for turning wastewater streams into sources of both cleaner water and energy. GE is pairing its GE Energy Jenbacher engines, which operate on waste gases, with wastewater treatment process from GE Water & Process Technologies to extract cleaner power and cleaner water from wastewater. To make this work, we are taking advantage of anaerobic digestion for the production of methane gas from wastewater. The gas can then be burned through our Jenbacher engine to create electricity. The remaining water is then run through a filtration process to produce water for industrial reuse.

## **R&D** highlights

GE's culture of fostering imagination is supported by one of the world's largest and most diverse networks of research centers. This distinct capability enables GE technologists to share their expertise across disciplines and contribute to developing innovative ecomagination solutions.

## Rolling out efficient, low-cost lighting solutions

In 2008, GE researchers achieved a major milestone in GE's revolutionary organic light emitting diode (OLED) program, demonstrating the world's first roll-to-roll manufactured OLED lighting devices. OLEDs are thin sheets of plastic that light up when an electrical charge is applied. Imagine wallpaper that lights up a room. OLEDs have the potential to deliver dramatically improved levels of efficiency and environmental performance, while achieving the same quality of lighting found in traditional products today.

Today's processes for making high-performance organic electronic devices such as OLEDs are costly. To effectively compete in the marketplace, commercial lighting applications must have low manufacturing costs. GE's demonstration of a roll-to-roll process is nothing short of a remarkable achievement. Researchers have been trying for years to develop such a process for high-performance devices like OLEDs. The roll-to-roll process, which resembles newspaper printing, has the potential to eliminate existing manufacturing hurdles and pave the way to affordable OLED lighting products into the marketplace.

GE's research culminates the successful completion of a four-year, \$13-million research collaboration between GE, Energy Conversion Devices and the U.S. Commerce Department's National Institute of Standards and Technology (NIST). GE researchers provided the organic electronics technology and were responsible for developing the roll-to-roll processes. Energy Conversion Devices provided its unique roll-to-roll equipment-building expertise to build the machine that manufactures the OLED devices. The machine is being used for further manufacturing research at GE's Global Research Center in Niskayuna.



GE researcher holding OLED technology

# Driving efforts to commercialize electric transportation

GE is playing a role in helping to commercialize technology to make electric transportation practical and affordable. Like other early manufacturers of electric-powered vehicles, Norwegian electric car manufacturer Think was challenged with sourcing enough high-capacity batteries to meet its expected needs. At the same time, A123Systems had been working to develop lithium-ion batteries that would deliver the power and range needed by vehicle manufacturers. GE Energy Financial Services joined and made an investment to help A123Systems roll out batteries for Think's vehicles, also investing in Think itself. By investing in both companies as well as lending its research and technology development expertise, GE united three organizations to accelerate the commercialization of electrified transportation.

In addition, GE Transportation is investing in battery technology for a variety of applications. In 2007, GE Transportation purchased Beta Research and Development, a battery design company in the United Kingdom. The GE Transportation team is actively engaged with scientists at the Global Research Center to develop sodium-metal-chloride batteries for the rail, mining and marine industries.



Think electric-powered vehicles

## Lighting the way toward highefficiency incandescent lamps

GE Consumer & Industrial's Lighting unit is working on advancements to the light bulb that potentially will elevate the energy efficiency of this 125-year-old technology to levels comparable to compact fluorescent lamps (CFL), delivering significant environmental benefits. Over the next several years, these advancements are expected to lead to the introduction of high-efficiency incandescent bulbs that provide the same high light quality, brightness and color as current incandescent bulbs while saving energy and curbing greenhouse gas emissions that result from power generation.

The new high-efficiency incandescent (HEI) bulb, which incorporates innovative new materials being developed in partnership by GE's lighting unit and GE's Global Research Center in Niskayuna, New York, would replace traditional 40- and 60-watt household incandescent light bulbs, among the most popular bulb types used by consumers today. The new technology may be expanded to all other incandescent types as well.

The target for these bulbs at initial production is to be nearly twice as efficient as current incandescent bulbs. Adoption of new technology could lead to significant reductions in greenhouse gas emissions from power generation if the entire installed base of traditional incandescent bulbs were replaced with HEI lamps.



# The quest for low-cost photovoltaics technology

Increasing the affordability and availability of solar power is a key part of GE's ecomagination initiative. GE's solar research program is unique in that it involves one of the most comprehensive reviews across the entire solar industry value chain to enable technology solutions to make solar power more economically viable and available around the world. GE researchers also are looking at the next generation and beyond to find innovative ways to reduce the cost of solar power.

Researchers on GE Global Research's Nano Photovoltaics team demonstrated a scalable silicon nanowire-based solar cell, which has the potential to achieve high efficiency and be produced at a dramatically lower cost than conventional solar cells. It's an exciting breakthrough that could break the current cost paradigm of higher-efficiency cells coming with a higher price tag. GE wants to be able to produce better-performing cells, while lowering production costs. Beyond this initiative, GE researchers are working on technologies to convert solar energy into usable power that can be supplied to a house, building or to the electric grid. As renewables like solar and wind achieve a higher penetration into the grid, new technologies will be needed to smooth their transition.



Top: Microscopic view of nano photovoltaics; Bottom: GE solar panel installation

## Worldwide wind technology

Wind technology development is always in motion at GE. At our research headquarters in Niskayuna, New York, GE has teams focused on blade design, the drivetrain and composites. Lighter in weight than the fiberglass used today, composites would enable longer blade designs that allow for greater wind capture. In our Munich lab, researchers are focused on optimizing the operation and management of wind farms, while also driving progress on composites brought about by the formation of a new composites manufacturing laboratory in 2007.



At our Shanghai lab, GE experts in power electronics, controls and systems simulation are developing better controls and software that reduce the cost of the turbine, while finding ways to further maximize the power generated. And in Bangalore, we are applying optimization software tools and modeling to optimize the placement of wind turbines on a wind farm to maximize wind capture. GE also is leveraging its expertise in aerodynamic design tools and bearings to optimize and improve the design of the wind turbine structure.





Top left: GE wind turbines under construction in Hawaii; Top right: GE China Technology Center, Shanghai, China; Right middle: GE 2.5×I wind turbines in The Netherlands; Bottom: GE 1.5-megawatt wind turbines

COMMITMENT 3

GE is taking steps to make a positive environmental impact by reducing greenhouse gas (GHG) emissions and improving the energy efficiency of GE's operations.

To save energy, GE has installed solar panels at a number of its facilities

To make ecomagination truly "sustainable" from a business perspective at its inception, GE set very real, aggressive targets, one of which is to improve the energy efficiency of Company operations and reduce the Company's greenhouse gas emissions. GE's plan to achieve this is called 1-30-30.

The "1" reflects the percentage (versus 2004 levels) by which GE will reduce its absolute greenhouse gas (GHG) emissions worldwide by 2012. This is a major goal, given that GHG emissions would otherwise have grown substantially – by approximately 30% –

based upon current business growth projections. GE also committed to reducing the intensity of its GHG emissions 30% by 2008 and improving energy efficiency 30% by the end of 2012 (also versus 2004 levels). Improving energy efficiency translates into significant energy cost savings for GE—another way ecomagination is rewarding investors.

By making a public commitment and then tracking the results, GE is leading by example and demonstrating how one company can make a difference.

## **Operational GHG Emissions**

In 2007, GE's GHG emissions were 7.02 million metric tons, a reduction of 8% from our 2004 baseline. Our GHG Intensity and Energy Intensity improved by 34% and 33%, respectively, compared to 2004. We have also reduced our total energy use by 7% since 2004.

Each year, GE adjusts its 2004 inventory to account for divestments and acquisitions. With the divestment of its Plastics business in 2007, our adjusted baseline inventory is now approximately 32% lower than its initial 2004 inventory. Although the number of large GE GHG inventory sites is approximately the same as in 2004, about 27% of the sites in its original inventory have been replaced by newly acquired sites and we measure our progress against this adjusted baseline.

#### **Energy Treasure Hunts**

GE's mechanisms to manage GHGs and energy include "energy treasure hunts," a Lean manufacturing-based process originally developed by Toyota. More than 200 treasure hunts have been conducted globally across GE to date, and that process has driven a reduction in GHG emissions of 250,000 metric tons. This process has also created a pipeline for future projects.

#### **Recognizing Our People**

To recognize the hard work of our employees that drives 1-30-30, we started an  $eCO_2$  awards and certification program recognizing those sites that achieve at least a 5% GHG reduction. To be certified, sites must demonstrate that reductions were achieved independently of any changes in production levels. During 2007, 46 sites were certified and 10 sites received  $eCO_2$  awards based on extraordinary results and use of GE technology.

#### Outreach

We have shared our approach to 1-30-30 with GE ecomagination product partners, various customers, and suppliers. GE has also shared its experience with regulatory agencies. GE was one of the contributors to the U.S. Environmental Protection Agency's (EPA) Lean and Energy Toolkit (www.epa.gov/lean) published during 2007. The US EPA Office of Innovation also completed a case study on GE's GHG avoidance work at GE Aviation's outdoor aircraft engine test facility in Peebles, Ohio, where the production team used Lean manufacturing techniques to change its processes to reduce GHG emissions per engine test conducted.

#### **GE Energy Financial Services' Investments**

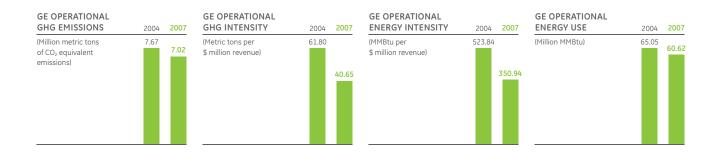
GE is also reporting GHG emissions from investments in power projects through GE Energy Financial Services.

GE Energy Financial Services invests in power projects in a number of ways (equity, lease, debt). We are reporting emissions for investments in which GE Energy Financial Services has an equity interest in the operation of the project based upon GE Energy Financial Services' percentage of equity ownership. In 2007, GE Energy Financial Services' GHG emissions are approximately 9.71 million metric tons from 25 investments, compared to 10.94 million metric tons from 27 investments in 2006.

Last year, GE Energy Financial Services demonstrated leadership by becoming one of the first financial services companies to report GHG emissions associated with power project equity investments. In 2007, GE Energy Financial Services continued this leadership, outlining its guidelines on emissions involving these investments:

- Establish a long-term goal to balance investments in new coalfired power plants with renewable energy, clean technology investing and greenhouse gas emissions cuts. It raised its 2010 renewable energy-investing target 50% to \$6 billion – closing more than \$2 billion of renewable energy transactions in 2007. By 2010, it expects renewable energy investments will comprise 20–25% of its overall energy and water portfolio, up from about 10% in 2006.
- Focus investments in new coal power plants on efficient, supercritical technology, and projects with sequestration potential.
- Price CO<sub>2</sub> for coal and other fossil fuel plants into deal approvals process.
- Engage with non-governmental organizations through USCAP on policy recommendations to ensure that new coal-fired generating units are designed to take into account the future cost of carbon.
- Voluntarily report emissions.
- Explore increasing focus on investments in energy conservation and efficiency.

In addition, the renewable energy projects in which GE Energy Financial Services has purchased equity interests will avoid 6.7 million metric tons of CO<sub>2</sub> per year when fully operational.



# Achieving energy savings

## Applying solar energy at Company locations

In 2007, the Company embarked on its own solar energy initiative. By the end of the year, GE had installed the following energysaving projects at several of our Company locations using only GE technology: Corporate headquarters in Fairfield, Connecticut; Healthcare headquarters in Waukesha, Wisconsin; NBC Universal in Universal City, California; and Energy in Greenville, South Carolina, and Newark, Delaware. At the time it was installed in partnership with the local utility, the Waukesha installation was the largest photovoltaic installation in the state. The use of photovoltaic cells not only provides energy security for each site, but also offers a hedge against the increase of utility prices in the future.



Solar panels atop GE corporate headquarters in Fairfield, Connecticut

# GE solar panels help light New York City tree

During the December 2007 holiday season, GE Energy supplied 363 roof-mounted solar panels on top of 45 Rockefeller Plaza in New York City to help generate electricity for the first solar-powered Rockefeller Center Christmas Tree. The Christmas tree was decorated with 30,000 new energy-efficient LED lights on five miles of wire, helping illuminate the fabled Manhattan complex with a cleaner source of holiday power.



Illuminated Christmas tree in Rockefeller Plaza, New York

## Re-designing GE's John F. Welch Technology Centre in India as a greener building

The John F. Welch Technology Centre, GE's multidisciplinary R&D facility in Bangalore, India, will further reduce energy consumption as the Company adds a new, ultra-efficient 350,000-square-foot building to the campus. The new building addresses the huge growth at the center, where the number of employees has increased to more than 3,500 today. It incorporates plans for efficient use of energy and water, better air quality for occupants and renewable sources of energy – and it uses building materials with high recycled content and low Volatile Organic Compounds (VOC). When completed, the building will be certified by the U.S. Green Building Council under the Leadership in Energy & Environmental Design (LEED) rating system. When compared to a standard building, this new facility will offer a 30% to 40% reduction in operating costs; 25% savings in energy (equivalent to powering close to 550 Indian homes); and 20% reduction in water consumption (equivalent to supplying water for nearly 250 people).

#### COMMITMENT 4

We are expanding our commitments to the environment by setting a clear target to reduce water use and improve water reuse and demonstrating the resulting savings benefits to our shareowners. GE is newly committing to reducing its global water use from 2006 to 2012 by 20%. Progress on this new goal will be reported annually in future ecomagination reports.

Hamma Seawater Desalination Plant in Algiers

### GE water use

Since 2006, we have collected water consumption data for those sites across our businesses meeting a criteria of more than 15 million gallons annually of water consumed. Water consumption data includes waters used for potable, process, and sanitary purposes as well as non-contact cooling waters (NCCWs) from freshwater sources. We adjust the data each year to reflect acquisitions and divestments.

In 2007, total water consumption from these sources decreased by 2% from what was reported for 2006.

#### 2006

Total: 9.74 billion gallons NCCW: 2.26 billion gallons

#### 2007

Total: 9.50 billion gallons NCCW: 2.29 billion gallons

#### The next wave

Forming the newly added goal of GE's ambitious ecomagination commitments, the water reduction targets will be among the most aggressive in the industry and reinforce the Company's objective of helping customers manage their rising water challenges. In 2007, GE facilities used about 10 billion gallons of fresh water — enough to meet the annual needs of almost 400,000 people in the United States. But also in 2007, ecomagination products manufactured by GE Water & Process Technologies helped our customers conserve global water resources and create sustainable new supplies of water. For example, GE's desalination membranes transformed more than two billion gallons of water daily into fresh usable water, while GE's process membranes helped industrial customers reuse water and reduce effluent discharge by more than 21 billion gallons over the year.

By taking advantage of GE's best practices and broad portfolio of water treatment solutions, a number of GE facilities will implement new strategies to further reduce water consumption. For example, at GE's Oakville facility in Canada, ecomaginationcertified ZeeWeed MBR wastewater treatment technology enables the plant reuse up to 25,000 gallons (95 m3) of water per day for landscape irrigation, sanitary purposes and in the fire suppression system. This strategy helps reduce the plant's fresh water consumption by as much as 85% and conserve potable water supplies.

GE is also exploring ways that our Water business can help our facilities achieve further reductions in water use. Our Evendale aircraft engines facility in Ohio — which accounts for about 15% of total water consumption — is currently assessing projects that would use these technologies to achieve water use reductions. Other sites such as our Florence, Italy, compressor manufacturing plant and our Wuxi, China, water and process solutions manufacturing plant will also evaluate the technologies.

## **Global water initiatives**

Not only is GE taking steps to reduce and improve our water use, we are addressing water issues for communities, customers and countries around the world through a variety of initiatives:

## China Technology Center scientists addressing water scarcity

Rapid economic growth is draining China's limited water resources at an alarming rate. At the same time, the accelerated pace of modernization in China has led to more pollution of its lakes and rivers. These trends have prompted tougher government regulations.

To help gain clarity on the challenge, in 2005, scientists and engineers at the GE China Technology Center started "In China for China," an effort to apply local GE expertise to the growing problem.

GE scientists at the GE China Technology Center are leading research efforts focused on source water purification, the efficient use of water in industrial processes, pollution reduction and water reuse. New, low-energy-consuming technologies such as membranes, membrane bioreactors and chemicals are being developed and implemented in systems to further reduce the cost of water for cities and factories.

The key focus areas of these efforts include seawater desalination, improving the number of times that water can circulate through a cooling tower, and wastewater treatment and reuse. As part of the "In China for China" Initiative, the team is developing solutions for some major Chinese industrial companies to use water more efficiently and increase the number of cycles for their water reuse. GE also is helping companies recover wastewater for reuse in a process called "zero liquid discharge." By working together with industry and government, GE's innovative scientists and engineers are helping to find real solutions for China's water challenges and for other water-scarce areas around the globe.



GE water purification facility in Beijing, China



Australia's Sydney Harbour

## Water crisis in Australia

Australia is experiencing one of the worst droughts ever recorded, with most of Australia on stringent water restrictions and the country's traditional sources of water at historical lows. Some areas are relying on water tankers to deliver drinking water because their reservoirs are empty.

Governments and industries at all levels are working on water solutions that range from pipeline infrastructure to recycling and desalination. Almost all state governments have committed to desalination plants in some form, and several billion dollars have been committed by governments to solving the challenge—funding everything from educational programs to water tank rebates and major infrastructure projects.

GE is well positioned to help Australia address this water crisis by developing appropriate and sustainable solutions from our vast global experience and broad portfolio of available technologies. We are working with industry partners and governments to provide advice, solutions and bid submissions for several major projects that will help provide both immediate relief and long-term water security for the nation.

# Using solar power to increase clean water availability in developing countries

Today, an estimated one billion people do not have access to clean, potable water. By 2020, much of the world is expected to confront severe water shortages, particularly countries in Asia, Africa and the Middle East. In response to this global challenge, GE is supplying its ecomagination solar energy modules and water filtration technology to increase the availability of clean drinking water in rural areas of India and other developing countries in Southeast Asia and Africa. Combining two of GE's innovative ecomagination technologies, this system provides a new solution that is inexpensive, low maintenance, and rapidly deployable.

The use of solar energy technology to power water filtration systems will enable governments, non-governmental organizations (NGOs) and philanthropic organizations to install equipment in remote areas that lack direct access to transmission grids. GE's innovative Homespring water filtration systems use ultrafiltration membranes to physically remove minuscule particles and reduce contaminants such as parasites, bacteria and viruses. The versatile systems require no chemicals to purify water.



Homespring water technology in India

# Global educational water awareness initiatives

Increasing population, infrastructure needs, urbanization, industrialization, groundwater contamination and climate change are contributing to the world's growing water crisis. To address this challenge, GE Water & Process Technologies is working with communities, businesses, industries and governments around the world to help alleviate water shortages, reduce contamination, and educate and broaden awareness about the challenges the global water crisis presents. With one of the largest portfolios of water treatment solutions in the world, GE is helping minimize many of the impacts these challenges present.

In Kochi, India, GE Water & Process Technologies teamed with GE Energy's solar business to bring clean water to the Home of Hope, an orphanage with some 80 girls under its care. GE's Solar-Powered Homespring Systems use hollow-fiber ultrafiltration membranes and GE photovoltaic modules to bring approximately 7,500 liters (2,000 gallons) of clean water per day to the orphanage. Previously, the water was not safe for the children to drink.

In 2007, GE Water & Process Technologies undertook a number of educational water awareness initiatives. In Shanghai, the business brought together senior Chinese government officials and water policy experts to discuss best practices and solutions designed to help China meet its growing water demands. GE Water & Process Technologies launched the World Water Tour, a global seminar series designed to educate industrial water users on ways to reduce water consumption while meeting business goals, shrinking environmental footprints and increasing operational productivity.

Working in concert with the Metro Atlanta Chamber of Commerce in the United States, GE Water & Process Technologies also hosted the Georgia Water Solutions Forum, a thought-leadership gathering of leading water experts from the government, municipal, industrial and technology sectors. Attendees explored sustainable approaches to Georgia's unprecedented drought, which has resulted in critically low water levels in many of the state's reservoirs. In 2008, GE Water & Process Technologies is continuing to educate water users at events in Bahrain, Belgium, Brazil, China and Malaysia.



Top left: Aerial view of Algiers, Algeria; Top middle: Inspecting ZeeWeed membranes at the Lakeview Water Treatment Plant in Canada; Top right: Building a water purification facility in Algiers; Bottom left: GE's Homespring system; Bottom right: Lakeview Water Treatment Plant in Canada

# A letter to readers from Nobel Prize recipient Rajendra K Pachauri

#### Corporate leadership in a changing world

After seeing three years of quietly encouraging results, colleagues still ask me: Why would a global company like GE launch and pursue a program like ecomagination? Here is my assessment.

**First:** The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) has dispelled doubts on the scientific reality of climate change and the role of human actions in causing it. The Report has also countered the fallacy that mitigating emissions of greenhouse gases would lead to massive loss of jobs and economic output. Those companies that ignore this reality face the dangers of reputational risk, which would grow over time due to increasing vigilance from civil society and the media.

Second: Any company that develops technologies based on a lower carbon footprint and on the more-efficient use of scarce resources will have greater access to and acceptability in the markets that will develop across the world. Based on expectations of government policy, expanded international trading in carbon and the manifestation of public preferences, it can be projected that higher prices for carbon are 'round the corner. Low carbon technologies will be at a premium. Mahatma Gandhi said, "Speed is irrelevant if you are going in the wrong direction"—and leadership and acclaim will be associated only with companies that make the first move in the right direction. Those that do not, no matter how rapidly they grow today, may be doomed to failure. Third: Relevant macro-trends are expanding — for example, deep into water. The world has several locations and communities that are already in the throes of growing water stress. We also know that, based on scientific evidence, climate change is only exacerbating this condition.

I write from Budapest just as the IPCC has finalized a major document on climate change and water: As early as in 2020, it is projected by the IPCC, that in Africa alone as many as 75 to 250 million people will be exposed to increased water stress due to climate change.

GE's goal for reducing its use of water by 2012 is a laudable exercise in leadership that highlights the importance of business being a part of the solutions that global society needs urgently. It sets an example in corporate strategy and action that can alert others on the need to follow.

Ecomagination is not a case of public charity or corporate social responsibility, but largely a matter of enlightened self-interest for GE. But this is what visionary leadership is all about.

Rajendra K Pachauri, Chairman, Intergovernmental Panel on Climate Change (IPCC), 2007 Nobel Peace Prize recipient



Dr. Rajendra K Pachauri, Chairman of the Intergovernmental Panel on Climate Change, displays the Nobel Peace Prize in Oslo, Norway, on December 9, 2007, joined by co-recipient, former U.S. Vice President Albert Gore. "I am only a symbolic recipient," Pachauri said. "It is the organization which has been awarded." Photo © Sandy Young/WireImage

COMMITMENT 5

PORT

We're keeping the public informed about our ecomagination initiatives — and engaging with others to exchange information, ideas, comments and constructive criticism.

> NBC News's Lester Holt is joined by California Governor Arnold Schwarzenegger and GE Chairman and CEO Jeff Immelt at GE's "Green is Universal" celebration Photo© Vernon T. Williams

To optimize the potential of our ecomagination efforts, GE is engaging the public and our customers in a free exchange of information, ideas, comments and constructive criticism. When we engage diverse stakeholders we're better able to understand our mutual challenges and identify opportunities for improvement. This past year, ecomagination expanded globally as GE increased its engagement with customers and governments around the world, including the launch of new initiatives in Germany and the United States. GE believes in seeking opportunities wherever they present themselves in the world and doing so in a socially responsible way.

As part of GE's overall corporate effort to improve transparency, the Company issues this annual ecomagination report to track environmental goals as well as a separate citizenship report to highlight social responsibility endeavors. External measurements are an important indicator of GE's progress. In the past few years, GE has been selected for several credible, socially responsible investment (SRI) indices, including the Dow Jones Sustainability Index (DJSI), KLD Global Climate 100 Index and Innovest Global 100 "Most Sustainable Corporations in the World" index. The DJSI has long been a benchmark for socially responsible investors to identify companies that have made outstanding contributions to citizenship efforts. The KLD and Innovest ratings were designed to promote investment in companies with the strongest sustainability performance and whose activities demonstrate the greatest potential for mitigating the causes of climate change.

# GE and AES launch Greenhouse Gas Services

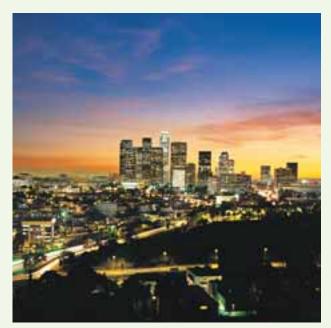
In 2007, GE Energy Financial Services launched a venture with the AES Corporation to help U.S. companies reduce their net contribution to global warming. Greenhouse Gas Services, the GE AES venture, invests in and develops projects that reduce or avoid greenhouse gas (GHG) emissions by capturing or destroying GHG emissions and by reducing fossil-fuel consumption through energy efficiency and renewable energy generation. Through these and third-party projects, the venture provides independently verified GHG credits to companies to help them meet their corporate emissions reduction targets and to offset emissions generated in connection with consumer products and services. Greenhouse Gas Services' GHG credits are intended to complement a customer's own projects, providing a costeffective tool to help achieve emissions reduction goals or to differentiate the company within the market.

During its first year, the venture developed a rigorous Standard of Practice and project methodologies to provide the framework for the environmental and scientific integrity of its GHG credits. The venture also finalized an agreement to provide GHG credits for the GE Money Earth Rewards credit card, which channels up to 1% of credit card purchases toward the offsets.

Greenhouse Gas Services is pursuing a wide range of emissionsreduction projects, including those that capture and destroy methane, a greenhouse gas 21 times more potent than carbon dioxide, at sites that treat agricultural waste and wastewater, and at landfills and coal mines. The venture will also reduce emissions through energy-efficiency projects, power generation from renewable sources, forestry and land management, and industrial gas destruction projects. At times, the venture will also purchase credits from third-party projects that meet its high standards. The company expects to generate an annual production volume of at least 10 million metric tons of GHG credits by the end of 2010.



GE Money Earth Rewards credit card



Clinton Climate Initiative works with major cities such as Los Angeles, California, to reduce greenhouse gas emissions

# GE Real Estate and the Clinton Climate Initiative

GE Real Estate's commitment to assess the environmental performance of the properties in which it invests includes a new partnership with the Clinton Climate Initiative (CCI). Initiated in late 2007, the partnership will allow GE Real Estate to access the elements of the CCI program as appropriate to improve the environmental performance of its properties. CCI, launched in August 2006, is working with major cities and members of the business community to reduce greenhouse gas emissions in large urban areas. GE Real Estate's partnership with CCI was announced by former U.S. President Bill Clinton at the Greenbuild International Conference & Expo in Chicago in November 2007.

# United States Climate Action Partnership (USCAP)

GE was a founding member of the United States Climate Action Partnership, which is a diverse group of business and leading environmental organizations committed to promoting effective and economically sustainable federal legislation to address climate change that primarily relies on market mechanisms, including a cap-and-trade program. Since its launch in January 2007, 20 additional members have joined USCAP, including two leading environmental groups — the National Wildlife Federation and the Nature Conservancy. These new additions bring the group's membership to 33 and make it one of the leading climate advocacy groups in the United States.

USCAP has played a significant role in making climate change a priority issue in both Houses of Congress. In 2007, GE executives spoke at Congressional hearings on the issue – including John G. Rice, GE Vice Chairman and Mark Little, Senior Vice president and Director of GE's Global Research Center.

Mark Little noted, "Placing a monetary value on carbon and adopting rules governing carbon sequestration would go a long way toward ensuring that the nation meets its greenhouse gas emissions goals, and that IGCC (Integrated Gasification Combined Cycle System) technology can be a viable solution in helping us get there. The fact that nearly 50% of the nation's electricity is derived from coal makes IGCC technology a critical part of the technology solutions needed. ...In a world that is searching for carbon-free alternatives, nuclear represents one of the most mature and attractive solutions for bringing more carbon-free power online in a significant way." IGCC technology and the economic simplified boiling water reactor are GE ecomagination products.

"From GE's perspective the key is technology, and we believe that adoption of policies establishing a market price for carbon and other greenhouse gases over the long term will stimulate research, development and deployment of lower-emitting technologies. In our view it is impossible to divorce policy decisions from technology decisions."

John G. Rice, Vice Chairman, GE and President & Chief Executive Officer, GE Infrastructure



USCAP solutions-based report, titled "A Call for Action"

## **Public awareness**

GE's commitment to keeping the public informed is reinforced through its advertising efforts in a variety of media, including print, broadcast and online via the ecomagination Web site. The ecomagination campaigns provide awareness and information for business executives and consumers while also educating them about GE products and services. GE's latest ecomagination advertising highlighted wind and solar energy, water reuse, cleaner coal technology, lower-fuel-burning jet engines and highefficiency Jenbacher gas engines. The "Jar" advertisement tells the story of a boy, a jar and the perfect birthday gift, in an effort to highlight GE's efforts in harnessing the wind to produce energy. The new campaign was well received by the public and garnered numerous industry awards.

## ecomagination Web site

GE's ecomagination Web site (www.ecomagination.com) details the progress of ecomagination, describes the products and services, and highlights the latest news and advertising. It features short videos that show how specific ecomagination technologies impact people's lives around the world. It provides information in multiple languages and has recorded more than 4 million visitors to date.

## **Ecomagination Advisory Council**

For the second consecutive year, GE has convened a group of nine energy and environment thought leaders to serve on our ecomagination advisory board to advise the Company's ecomagination team on critical environmental and business issues. The Council is a venue for thought leaders to hear about what GE is doing. It is also a place for GE to hear from thought leaders on where we should be going. Current members of the council include:

- James Cameron, Climate Change Capital
- Eileen Claussen, Pew Center on Global Climate Change
- Karen de Segundo, Consultant (former CEO, Shell International Renewables)
- Vinod Khosla, Khosla Ventures
- Jonathan Lash, World Resources Institute
- Richard Macrory, University College Londo
- Bill McDonough, William McDonough + Partners
- Ernest Moniz, Massachusetts Institute of Technology
- Dan Reicher, Google Corp.

In addition to regularly scheduled discussions throughout the year, GE holds an annual summit involving all advisory board members and representatives from many different GE business units. At this year's summit, the advisory board provided valuable input on commercial, technical and policy-related opportunities for GE in the key emerging fields of biofuels, carbon capture and storage, and energy efficiency. The advisory board also discussed the value of GE partnering with other organizations to accelerate clean technology innovation and commercialization. Ongoing input from the advisory board will continue to shape the growth of the ecomagination program as GE identifies new opportunities, and is one of the ways GE increases its engagement with the public and leading environmental experts.

## 2008 Sustained Excellence Award

In early 2008, the U.S. Department of Energy and the U.S. Environmental Protection Agency awarded GE the ENERGY STAR<sup>®</sup> Partner of the Year "Sustained Excellence" award, for the third straight year. The Sustained Excellence award recognizes GE's significant efforts to create high-performance household appliance and lighting products, which help reduce energy spending and protect the environment. The year 2008 marks the fifth year GE has been acknowledged as an ENERGY STAR Partner of the Year.

GE has been an active supporter of the ENERGY STAR program and of the promotion of ENERGY STAR products to consumers since 1996. In 2007 alone, GE invested approximately \$47 million to create 215 new ENERGY STAR-qualified appliance models. From 2002 to 2007, GE invested more than \$452 million to develop and bring to market high-efficiency appliance products.

### Extending the GE brand in Germany

In October 2007, GE held a customer event focused on water called "One World. One Environment" in Hamburg, Germany. A straw inscribed with the question, "What's the straw for?" was inserted in the Elbe River before the event to pique the curiosity of Hamburg's citizens. On the day of the event, area executives and representatives, GE customers, and local and national press cruised by boat to the straw installation where GE revealed that the straw symbolized the ability of GE's water technologies to treat water and wastewater for use in drinking and industrial applications.

The morning continued with a presentation on ecomagination by GE executives and featured two keynote speeches by Dr. Rainer Sontowski from the German Ministry for the Environment, Nature Conservation and Nuclear Safety and Hans-Olaf Henkel, former CEO of IBM Germany and former German eco-manager of the year. After an afternoon interactive workshop on membrane water technology, GE presented an ecomagination leadership award for sustainable water solutions to Erftverband, a German water management company that has helped restore the health of a sensitive waterway using GE's membrane bioreactor technology.

# GE at a glance

#### **GE Industrial**

GE Industrial provides a broad range of products and services throughout the world, including appliances, lighting and industrial products; factory automation and embedded computer systems; sensor and non-destructive testing; electrical distribution and power control; and security and life-safety technologies.

#### **GE Infrastructure**

GE Infrastructure is one of the world's leading providers of essential technologies to developed and emerging countries, including aviation, energy, oil and gas, transportation, and water-process technologies and services. GE Infrastructure also provides financing services to aviation, energy and transportation companies.

#### **GE Healthcare**

GE Healthcare is a leader in the development of a new paradigm of patient care. GE Healthcare's expertise — in medical imaging and information technologies; medical diagnostics; patient monitoring systems; disease research; drug discovery and biopharmaceutical manufacturing technologies — is dedicated to detecting disease earlier and to helping physicians tailor treatment for individual patients.

#### **NBC Universal**

NBC Universal is one of the world's leading media and entertainment companies in the development, production and marketing of entertainment, news and information for a global audience.

#### **GE Commercial Finance**

GE Commercial Finance offers an array of services and products aimed at enabling businesses worldwide to grow. GE Commercial Finance provides loans, operating leases, financing programs and other services.

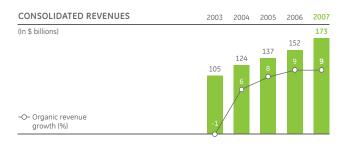
#### **GE Money**

GE Money is a leading provider of credit and banking services to consumers, retailers and auto dealers in countries around the world, offering financial products such as private-label credit cards; personal loans; bank cards; auto loans and leases; mortgages; debt consolidation; home equity loans; credit insurance; deposits and other savings products.

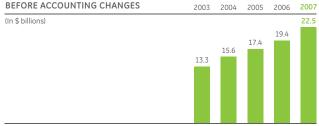
#### **GE financial highlights**

Top Ten 2007 Growth Facts About GE:

- Third straight year of organic revenue growth of 2 to 3 times GDP growth
- Earnings per share (EPS) of \$2.20, an increase of 18%
- Global revenue growth of 22%, more than half of revenues outside the United States
- Orders growth of 18%
- Equipment backlog of \$49 billion, an increase of 54%; service backlog of \$109 billion, an increase of 17%
- Financial services assets growth of 16%
- Free cash flow of \$19 billion; industrial cash from operating activities growth of 15%
- Dividend increase of 11%, 32nd straight annual increase
- \$25.4 billion returned to investors through the dividend and stock buyback
- One of five "Triple-A"-rated U.S. industrial companies



#### EARNINGS FROM CONTINUING OPERATIONS



*Note:* Financial results from continuing operations unless otherwise noted.

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If you'd like to share this with colleagues, refer them to **www.ecomagination.com/report**, where they can download the full report.

