

Solutions for the World's Toughest Challenges

ecomagination

2010 Annual Report



imagination at work

Our Mission

In 2005, GE launched ecomagination to address critical challenges, including the need for **cleaner and more-efficient sources of energy**, **reduced emissions** and **abundant sources of clean water**. Since then, we've been using our unique energy, technology, manufacturing and infrastructure capabilities to develop solutions.

More than
\$85 billion
generated
from ecomagination
products and services
through 2010



Our Products

To qualify for the ecomagination portfolio, offerings must significantly and measurably improve customers' **operating performance or value proposition** and **environmental performance**. These offerings also provide value to our investors:



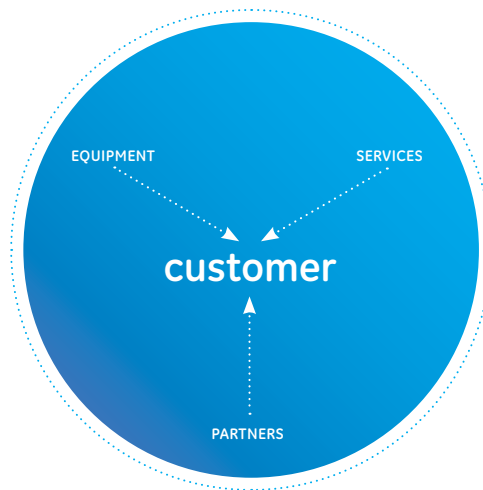
Our Strategy

To bring exceptional value to our investors and other stakeholders, our strategy includes: partnering with local organizations around the globe to meet local needs; creating full-service solutions; and going beyond our four walls to find and fund the best ideas.



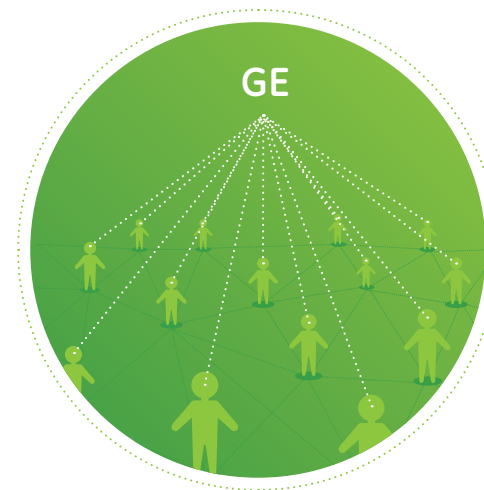
THINK MULTI-LOCAL

We expect ecomagination sales to grow two times faster than the rest of the company, and for GE's efforts to be **more external and more global**. Customers in emerging countries are demanding affordable, efficient and environmentally responsible products. To identify and understand local needs, we must partner with local organizations and institutions.



THINK FULL-SERVICE

To increase sales, GE is creating **full-service solutions** through a network of partners. We are in a **unique position to create product ecosystems**, such as finding partners to supply power infrastructure, batteries and financing to support electric vehicle development and use.

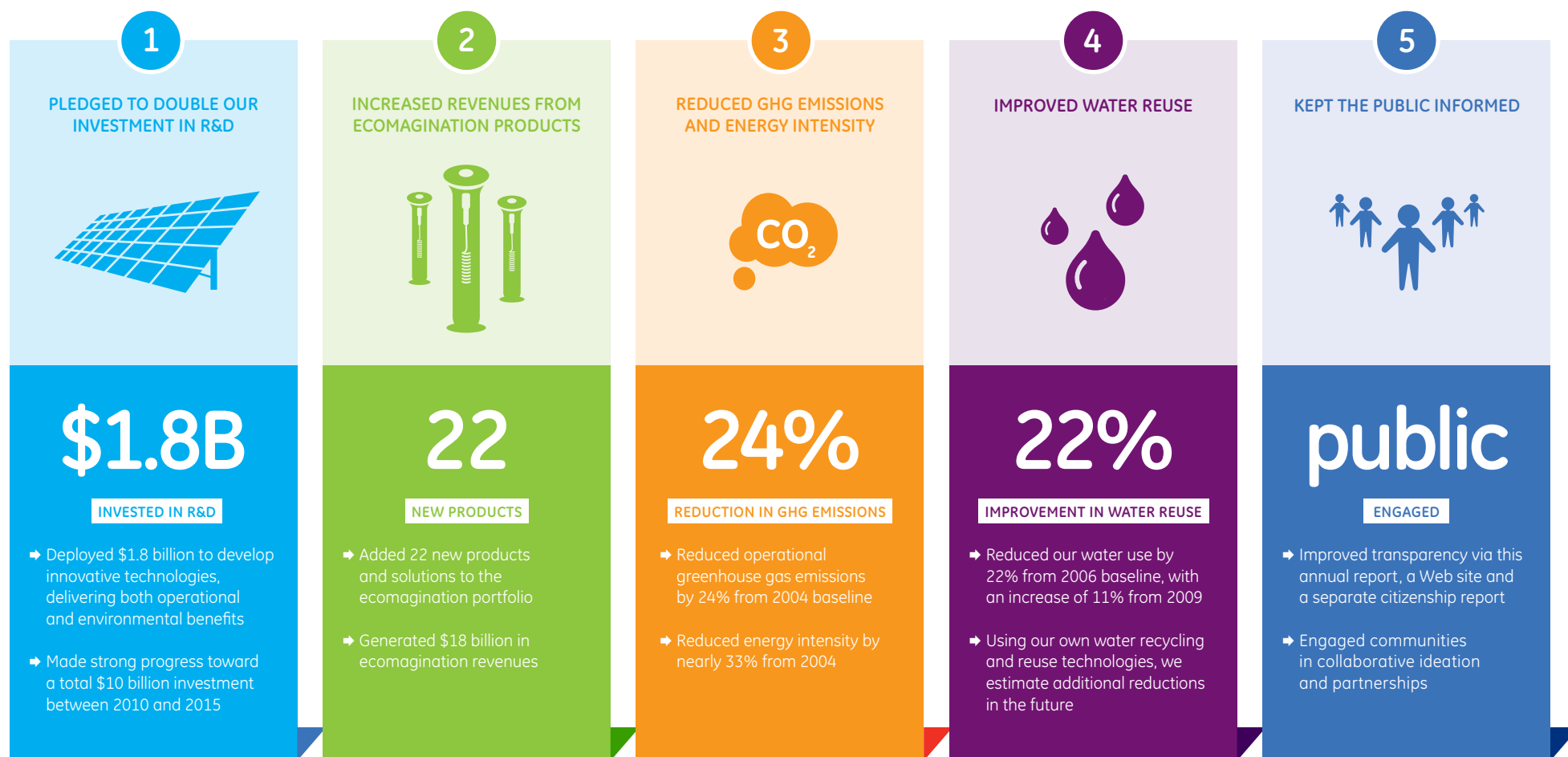


THINK BEYOND OUR FOUR WALLS

GE is reaching beyond our four walls to **find the best ideas, and is funding them** through GE Capital and our venture capital partners. In 2010, we started the ecomagination challenge through a Web-based platform to crowdsource ideas for a smarter electric grid. In 10 weeks, we received nearly **4,000 ideas** and created a community of **74,000 people** across **150 countries**.

Our Progress

Since the launch of ecomagination in May 2005, GE has **made significant progress** on our commitments. In 2010, we:



To our investors, customers and other stakeholders:

A new global industrial revolution is transforming how we create, connect to and use power and water.



Mark L. Vachon
Vice President,
ecomagination

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

At GE, we are well positioned to take on the world's most important problems.

Through the company's business strategy, ecomagination, we are answering the important question—how will we grow the economy and GE, and manage finite resources while improving life for an expanding global population?

Ecomagination is GE's business strategy to create new value for customers, investors and society by solving energy, efficiency and water challenges—today. It is the belief and commitment that we have been presented

with a false choice—great economics or great environmental performance...the real answer is that through innovation we can design and deliver both. And as a result, GE will grow faster and win. And it's working.

We believe we can lead in this era. We have deep and practical technical knowledge honed by more than a century of experience; expertise across the entire energy and water value chain; capital to invest; and strong channels to market.

In 2010, we both looked back over the five years of ecomagination and looked ahead.

Since our launch, ecomagination has met or exceeded every goal we set:

- ➔ \$5 billion of clean-tech research and development
- ➔ \$85 billion in revenue from ecomagination products and solutions
- ➔ 22 percent reduction in greenhouse gas emissions
- ➔ 30 percent reduction in water use
- ➔ \$130 million in energy efficiency savings

"Ecomagination is GE's business strategy to create new value for customers, investors and society by solving energy, efficiency and water challenges—today."



View this story online:
[http://www.ecomagination.com/
progress/overview/letter/](http://www.ecomagination.com/progress/overview/letter/)

In 2010, we paused, and although we had every opportunity to set modest goals given the global recession, we accelerated our ambitions for the next five years:

- ➔ Double clean-tech research and development to \$10 billion
- ➔ Grow ecomagination revenue at twice the rate of overall GE revenues
- ➔ Reduce energy intensity by 50 percent and greenhouse gas (GHG) emissions by 25 percent
- ➔ Reduce water use by 25 percent

But we also committed to a greater role for partnerships in this global transformation with the view that partnerships are an accelerator.

In 2010 specifically, we:

- ➔ Continued to lead in clean-tech innovation by committing nearly \$2 billion to research and development and by launching the ecomagination Challenge, a record-breaking \$200 million partnership with top venture capital firms to drive and fund open innovation for clean tech
- ➔ Helped drive adoption of electric vehicles (EVs) by purchasing 25,000 EVs, the largest single commitment ever; launching the user-friendly WattStation charging solution; and building total EV systems for customers, from the battery to the grid

- ➔ Kept our ecomagination portfolio focused on only GE's most innovative technologies, such as: the first FAA-approved Required Navigation Performance (RNP) solution, which helps reduce fuel costs and emissions for flights, and Nucleus, a smart meter technology that helps homeowners manage energy use

- ➔ Launched 22 new ecomagination products and solutions, bringing the total portfolio to 110

- ➔ Reduced GHG emissions by 24 percent compared to 2004, ahead of our goal, and water use by 22 percent compared to 2006

In 2011, we'll drive innovations that increase profitability, create new markets and deliver greater competitiveness to GE, customers, investors and consumers.

We will deploy the most efficient and flexible gas turbines on the market, allowing power plant operators to deliver cleaner energy to homes and businesses. We'll make solar energy more affordable and accessible with the most efficient thin film solar panel of its kind, to be produced at the largest solar panel plant in the United States.

Our 300,000 employees are proud to build this reliable and affordable energy future with the strongest pipeline of total clean energy solutions since the launch of ecomagination. Through our efforts to drive open innovation, we are propelling this vision

with more partners in more countries than ever before—turning global challenges into business opportunities that contribute to a more prosperous world. This is ecomagination. Join us.

Sincerely,

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

Mark Vachon
Vice President,
ecomagination

June 20, 2011

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ECOMAGINATION ADVISORY BOARD

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Thomas Kuhn

President,
Edison Electric Institute

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Professor of Physics,
MIT

Orville Schell

Arthur Ross Director of Asia Society's
Center on U.S.-China Relations

Engaging Stakeholders for a Better World

Richard Edelman
President & CEO,
Edelman

Over the last decade, companies have experienced a seismic shift in how and where they engage. The marketplace has shifted from a shareholder to a stakeholder model, with new societal expectations of business. The media now operates in a four-leaf clover of Mainstream, New, Social and Owned. Finally, we are in the center of a global economic transformation, where the defining challenge of our time will be to do more with less.

As an Advisory Board member, I have seen how GE is creating innovative technologies that are efficient, reliable and cost-effective. One way GE is accomplishing this is by engaging innovators through an open model of collaboration.

Through the ecomagination Challenge, GE asked for new ideas to solve our global energy problems. GE engaged various stakeholders, from GE's investment partners like Foundation Capital to thought leaders like *Wired*'s Chris Anderson to a group of students in India, ultimately generating nearly 4,000 ideas from 150 nations, 80,000 comments and hundreds of media hits.

By embracing the complexity of collaborative ideation, companies like GE are working with ecosystems of innovators to introduce more clean technologies that are helping to create a better, more prosperous world.

Innovating Energy Despite Political Uncertainty

Eileen Claussen
President,
Pew Center on Global Climate Change

Energy is essential to human progress. Societies depend on it to maintain and improve quality of life, keep industries competitive and create jobs. But despite energy's importance, we are not moving fast enough to make sure we can meet our future energy needs in ways that are affordable, sustainable and secure.

The status quo is not the answer. We need to move past the policy disputes of today and take bold action to build a clean energy economy for tomorrow.

Fortunately, a handful of leading companies such as GE have committed themselves to doing their part to achieve this goal. But these businesses need more certainty from government. They need to know that their investments are aligned with public policies that influence and shape domestic and world energy markets over time.

I am proud to see GE taking action on these issues despite today's uncertainty and the mixed signals business is receiving from governments around the world. GE knows that transforming how we generate and consume energy is essential to protecting both the environment and our economic competitiveness. It's time for others to follow GE's lead so we can see dramatic growth in new clean energy technologies in the years to come.

Electrifying Adaptation

Thomas Kuhn
President,
Edison Electric Institute

Electric transportation has progressed further in the last decade than it has in the last century. Innovation in design, advanced battery technologies and greater consumer interest and education are all making clean technologies an increasingly desirable choice for consumers.

Working closely with manufacturers, technical partners and communities, electric utility companies nationwide are adapting electric vehicles for their own fleets and supporting the development and deployment of infrastructure to put more electric vehicles on the road.

At Edison Electric Institute, we are helping to educate constituents about the need to invest in new generation, transmission and distribution infrastructure enhancements, and we are optimistic about what the future holds.

Like GE, we see electric vehicles as having the potential to redefine transportation, reducing CO₂ emissions significantly as well as our dependence on foreign oil. Even better, they are fun to drive; I, like many of GE's fleet operators, proudly drive an electric vehicle.

These are among some of the most exciting times to be in our industry. The transformation of the way the world thinks about energy will not be a quick or an easy task. But it already has begun.

Innovation



WattStation

ELECTRIC VEHICLES

In 2010, GE introduced the WattStation electric vehicle charging station. With WattStation, complementary grid technologies, better EV batteries and financing solutions, GE is providing a clear road map for the large-scale deployment of EVs.



RNP Services

EFFICIENCY

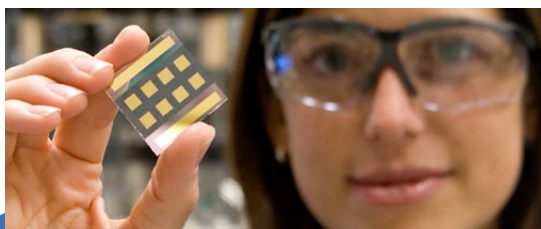
When Qantas Airlines needed to reduce fuel use and carbon emissions, GE helped by implementing its Required Navigation Performance (RNP) systems, allowing the airline to reduce flying times, fuel and emissions. Qantas has carried millions of passengers on RNP flights and estimates potential savings of \$20 million per year, expanding on significant environmental benefits.



RailEdge Movement Planner

EFFICIENCY

GE's RailEdge Movement Planner software enables trains to move more freight more efficiently, acting like the railroad equivalent of an air traffic control system. Norfolk Southern has implemented Movement Planner and seen dramatic improvements in cost savings, and plans to run it on all 21,000 miles of its track.



Thin Film Solar Panel

RENEWABLES

In December 2010, GE researchers set a world record for thin film solar panel efficiency of 12.8 percent. This achievement was made possible in a short time by our global team of technologists, working around the clock across three continents.



Proficy Software

EFFICIENCY

GE Intelligent Platform's Proficy Software measures manufacturing efficiency, enabling companies to reduce operating costs and waste. Cliffstar, a large private-label juice producer, implemented Proficy software in 2010 and rapidly experienced benefits in operations. They fine-tuned equipment, made procedural changes and added training to address the inefficiencies Proficy revealed.



Smart City San Diego

ELECTRIC VEHICLES

GE has joined its Smart City San Diego partners to solve issues of energy efficiency, reliability and sustainability for their community. Smart City will oversee one of the largest early deployments of electric vehicles in the United States, and expects the program will be an economic boon for the city.

Innovation



Homes Inspired by ecomagination

GRID

GE and Land Tejas Companies created more than 1,000 energy-efficient homes. Land Tejas estimates their homes use 40 percent less energy compared to similar new homes. With GE's "Homes Inspired by ecomagination" initiative, these homes also have lower emissions.



Nucleus Energy Manager

GRID

The community of Martha's Vineyard wants to use 100 percent renewable energy during the off-season, purchasing supplementary power in the summer. In a pilot program to improve home energy conservation, GE outfitted dozens of households with Nucleus Energy Manager and GE Profile appliances equipped with Brillion technology.



Grid IQ Experience Center

GRID

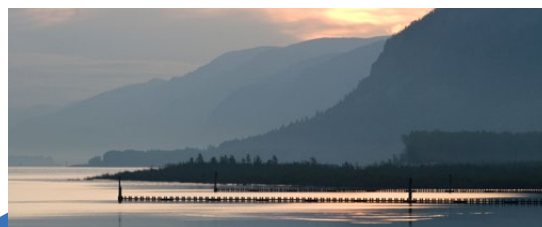
GE's new Grid IQ Experience Center in Atlanta introduces visitors to new technologies that can modernize our electrical grid, and educates them on how to make good decisions about energy use. The Center also features technical demonstrations for utility engineers to learn about GE's energy solutions for increasing efficiency and reliability.



GE Evolve LED Area Lights

APPLIANCES

For years, Walmart has engaged with GE for LED lighting systems—ranging from refrigerated display cases to outdoor signage. Most recently in Puerto Rico, Walmart made an island-wide move to GE Evolve LED Area Lights for its parking lots, and expects to use 48 percent less electricity for those lots.



ZeeWeed 500

WATER

GE worked with Clackamas County, Oregon, to design a new water treatment facility using the ZeeWeed 500 Hollow-fiber Membrane. With this and other advanced technologies, GE is helping communities achieve consistently high-quality water, reduce the physical and environmental footprints of water treatment facilities and operate more economically.



GenGard 8000

WATER

A U.S. company relying on clarified river water to cool its process equipment experienced difficulties with water quality, so GE upgraded the plant's water treatment program with GE's GenGard 8000 alkaline technology. By reducing acid use and enabling lower-quality water use, GE provided substantial savings in both water consumption and operating costs.

Innovation



LM6000 Gas Turbines Modified for Ethanol GAS ENGINE

Brazil's Petrobras created the world's first sugarcane-based ethanol power plant, powered by GE's LM6000 PC gas turbines. Petrobras selected the LM6000 for this project because of its demonstrated reliability and high efficiency and its ability to accommodate many alternative fuels. The Juiz de Fora Power Plant serves 150,000 people in Brazil.



FuelEx NGL Recovery System GAS ENGINE

Alliance Pipelines, a natural gas transporter, asked GE for help with high-value natural gas liquids (NGLs) that were being burned off in Alliance processes. GE filtered the NGLs and made them available for sale, creating significant financial opportunities while reducing GHG emissions. The result was GE's FuelEx NGL Recovery System.



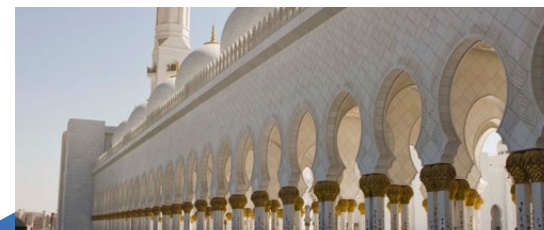
Jenbacher JM620 Gas Engines GAS ENGINE

Great Northern Hydroponics, a 55-acre tomato greenhouse, installed a 12-MW cogeneration power plant, with four GE Jenbacher JM620 units. As a result, the plant is expected to cut greenhouse energy costs by at least 50 percent over time, and divert 15,000 tons of CO₂ from the atmosphere to crop fertilization.



Caithness RENEWABLES

Caithness Energy and GE are developing the world's largest wind farm, the 845-MW Shepherds Flat project in Oregon, utilizing 338 top-line GE wind turbines. The project will generate enough energy for 235,000 average U.S. homes and avoid 1.5 million tons of carbon dioxide per year—roughly equivalent to emissions from 260,000 cars.



GASCO Partners with GE GAS ENGINE

Abu Dhabi Gas Industries (GASCO), which manages gas processing and transportation, partnered with GE Oil & Gas on an initiative to meet rising energy demand. Launched in 2010, its key activities include technology-sharing and evaluating new technologies to improve efficiency and reduce CO₂ emissions.

To learn more about GE's ecomagination strategy and get updates on progress as it relates to products, services and our overall commitment, please visit www.ecomagination.com.

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