



## PRESS RELEASE

### MASDAR CITY AND GE PARTNER ON A FIRST-OF-ITS-KIND SMART APPLIANCE PILOT PROGRAM

#### *Masdar City Pilot First to Use Smart Appliances That Measure and Transmit Real Time Power Consumption*

**Abu Dhabi/Louisville, KY, October 4, 2009** – Masdar City and GE Consumer & Industrial announced today a landmark pilot program that will investigate the reduction of peak power demand through the use of smart home appliances. Involving some of the first residents of Masdar City – whose goal it is to become the world’s first carbon neutral, zero waste city being built in the UAE capital Abu Dhabi – the program will test how GE smart (or demand response enabled) appliances and Home Energy Manager (HEM) can lower power demand in the home and across the city.

GE specifically designed and manufactured the appliances and networks for this pilot, which leverages Masdar City’s status as a cleantech cluster and one-of-a-kind “living laboratory” for exciting new sustainability technologies. The equipment will be installed in early 2010 in the first building to be completed at Masdar City, the Masdar Institute of Science and Technology.

“The GE smart appliances used in the pilot will be the first in the world to provide two-way communication and built-in advanced energy management functionality that will reduce power demand in response to notification of changing utility prices and energy demand, while also measuring and transmitting real-time power consumption data,” explained GE Consumer & Industrial President and CEO James Campbell. “Participating in such a significant, globally relevant experience by bringing leadership technology to this program is extremely exciting for our business.”

“This is truly a historic venture for both GE and Masdar,” explained Steve Fludder, Vice President of GE’s ecomagination initiative. “We are building on the commitment GE and Masdar announced the first of this year to collaborate on sustainable business solutions and to develop new and innovative technologies. This pilot program will provide a residential technology solution that supports broader GE ecomagination and Masdar goals.”

Ten of the Masdar Institute’s 100 residences will participate in the two-year pilot project. The information developed from the program will not only provide important early feedback in testing consumers’ energy-consumption behavior in the face of Demand-Response technology, but it also

will assist Masdar City in planning and designing its smart power grid in order to achieve its carbon-neutral, zero-waste, 100%-renewable-energy-powered objectives.

“This is a significant milestone in the realisation of our vision to see Masdar City become not only a global centre of research and development in renewable energy and clean technologies but also a unique metropolitan-scale test bed for these new technologies,” said Masdar CEO Dr. Sultan Al Jaber. “Working with industry-leading partners such as GE, Masdar City is creating a community of prominent companies, organisations and academic institutions committed to finding solutions to humankind’s toughest challenges.”

The Masdar City pilot project comes as part of the broader relationship between GE and the Mubudala Development Company, of which Masdar is a wholly owned subsidiary, which extends to a broad range of initiatives in the fields of aviation, commercial finance, industry and corporate learning.

Masdar City, whose first phase of construction is set to finish by 2013, has already attracted a number of leading international entities. In addition to GE – an anchor partner that will build in the city its first ecomagination Center focused on sustainable business solutions – the International Renewable Energy Agency (IRENA) announced in June that it would locate its new global headquarters in Masdar City. As well, the Masdar Institute is cooperating with the Massachusetts Institute of Technology (MIT) to offer courses focused on education and research in advanced energy solutions and sustainable technologies.

## **How the Masdar City Pilot Program Will Work**

The pilot residences in the Masdar Institute building will be equipped with a Home Energy Manager and European-style and size demand response-enabled refrigerators, cooktops and combination clothes washers/dryers that work on 220volt/50HZ platforms. During the pilot, the HEM and appliances will receive signals from the grid, which will simulate peak energy usage periods. In response, the HEM and smart appliances will customize the appliances’ responses to save energy, reducing energy demand on the grid.

For example, the HEM and refrigerator will receive a signal that electricity prices are going up. When the refrigerator gets that signal, it can delay the defrost cycle and raise the temperature inside the refrigerator by a couple of degrees, thereby saving energy and money. When the refrigerator receives a signal that electricity prices have gone down, it will defrost the refrigerator and return the internal temperature to the original setting. The entire process does not require any involvement of the person living in the pilot residence, unless they choose to override the demand response function.

## **GE's Demand Response and Home Energy Manager technology:**

- **Energy Home Manager** – the central nervous system to the home that will enable consumers not only to monitor their energy usage and generation but also manage their energy use in the most cost effective manner. The energy manager can help the consumer determine when they should use energy from the grid, use stored energy, or self generated energy or other sources.
- **Energy Optimization/Demand Response Appliances:** GE will enable consumers to manage their control costs and energy consumption while helping the grid shed load, reducing the need for more power generation. GE plans to be the first manufacturer to offer a full suite of demand response appliances that will work with utility smart meters to help shed load from the grid and consumers save money during peak usage and pricing times. These appliances work with smart meters to delay or reduce energy use without major interruption to consumer's lifestyles by giving them control over their energy use.

## **About GE Consumer & Industrial**

GE Consumer & Industrial spans the globe as an industry leader in major appliances, lighting and integrated industrial equipment, systems and services. Providing solutions for commercial, industrial and residential use in more than 100 countries, GE Consumer & Industrial uses innovative technologies and ecomagination<sup>SM</sup>, a GE initiative to aggressively bring to market new technologies that help customers and consumers meet pressing environmental challenges, to deliver comfort, convenience and electrical protection and control. General Electric (NYSE: GE), imagination at work, sells products under the Monogram®, Profile™, GE®, Hotpoint®, SmartWater™, Reveal® and Energy Smart® consumer brands, and Entellisys®, Tetra®, Vio™ and Immersion® commercial brands. For more information, consumers may visit [www.ge.com](http://www.ge.com).

## **About Masdar City**

Masdar City is the first clean-technology cluster to be located in a carbon-neutral, zero-waste city powered entirely by renewable energy. This US\$22 billion free zone in Abu Dhabi seeks to become a global centre for innovation, research, product development and light manufacturing in the fields of renewable energy and environmental technologies.

Leading multinational companies in the cleantech sector, as well as small- and medium-sized enterprises and entrepreneurial start-ups will locate R&D labs, marketing offices and headquarters in the city, which will be anchored by the Masdar Institute of Science and Technology – a PhD-level, research-driven institution that is cooperating with MIT to offer courses focused entirely on

education and research in advanced energy solutions and sustainable technologies. For more information, please visit [www.masdarcity.ae](http://www.masdarcity.ae).

### **About Masdar**

Masdar is an Abu Dhabi-based renewable energy company that develops low-carbon solutions for a more sustainable future. By establishing a leading education and research institution, financing promising technologies, developing large-scale utilities, and building the world's first carbon-neutral city, Masdar operates across the lifecycle of renewable energy technology at an unprecedented scale. Masdar is a wholly owned subsidiary of the Mubadala Development Company. For more information, please visit [www.masdar.ae](http://www.masdar.ae).

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