



**MEMORANDUM OF UNDERSTANDING**  
**Between**  
**THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**And**  
**LG ELECTRONICS USA, INC.**

**I. Purpose**

The purpose of this Memorandum of Understanding (MOU) is to create a mutually beneficial working relationship between the United States Environmental Protection Agency (EPA) and LG Electronics USA, Inc. (LGEUS), a Delaware corporation, with regard to environmental sustainability and energy conservation in the operations and activities of LGEUS as described herein.

**II. Background**

The mission for the Environmental Protection Agency (EPA) is to protect human health and the environment. EPA works to develop and enforce regulations that implement environmental laws enacted by Congress. In recent years, between 40 and 50 percent of EPA's enacted budgets have provided direct support through grants to State environmental programs. The Agency works through its headquarters and regional offices partnering with over 10,000 industries, businesses, non-profit organizations, and state and local governments, on over 40 voluntary pollution prevention programs and energy conservation efforts. EPA advances efforts to develop an environmentally conscious and responsible public, and to inspire personal responsibility in caring for the environment.

LGEUS is the principal North American subsidiary of LG Electronics, Inc., a \$49 billion global innovator in home appliances, consumer electronics and mobile communications. LG Electronics, whose portfolio also includes renewable energy technologies such as solar panels, is the flagship company within the \$120 billion LG Corp., which comprises 44 companies such as LG Chem, which is a leader in battery technologies for electric vehicles.

Consistent with the EPA's mission, LG Electronics, a 2012 ENERGY STAR Partner of the Year, is pursuing a broad array of sustainability initiatives including: energy efficiency and greenhouse gas reductions in manufacturing and the supply chain; consumer education aimed at reducing the environmental footprint of product use; producer

responsibility through consumer take back/recycling programs; reduction in the use of hazardous substances; deployment and promotion of renewable energy technologies; and development of innovative green life cycle product designs.

The plans and efforts of LGEUS towards environmental sustainability and energy conservation are very apparent in a major new project under way in Englewood Cliffs, New Jersey. LGEUS is planning to construct a 493,167 square foot, eight story state-of-art office building on a 27.01 acre lot at 111 Sylvan Avenue to serve as LG Electronics' North American headquarters. This design ensures that the site's development covers only 9.53 acres of the lot and includes substantial open space and green buffers along its borders to the south and north to provide a large physical separation from nearby residences and other structures.

LGEUS recognizes the significant impact of the commercial real estate sector on the environment. Energy consumption in commercial buildings accounts for approximately 17 percent of U.S. greenhouse gas emissions. In addition, such buildings draw significantly on freshwater resources and raw materials, and generate large amounts of waste. The proposed design is highly responsive to the environment and includes a number of environmentally enhanced elements that are designed to achieve at least a Gold LEED (Leadership in Energy and Environmental Design) certification from the U.S. Green Building Council.

More than 15 office buildings in the LGEUS portfolio are being reviewed for operating and energy efficiency enhancements as well. Supporting the key elements of this MOU, the company has committed to an industry-leading 50 percent reduction in greenhouse gas emissions for its U.S. operations by 2020, compared with a 2007 baseline. To help accomplish this goal, LGEUS has been providing its employees with regular sustainability messaging through a "Live Green at LG" campaign. Areas of education and corporate action include energy efficiency in the office, waste reduction, recycling including e-waste, addressing food waste, and water conservation. These messages promote the activities addressed in this MOU and are being delivered regularly to LGEUS employees.

### **III. Memorandum of Understanding (MOU) Objectives**

The Parties recognize the importance of collaboration to address environmental and energy management issues in the construction of a proposed building. Consequently, the Parties hereby establish a working relationship to collaborate on those goals in the manner stated in this MOU. Under this MOU, LGEUS sets forth its plans to implement environmental and energy management best practices in the construction and management of its new North American headquarters as well as its U.S. sales, marketing, research and distribution operations.

LGEUS will incorporate the objectives outlined below into other LGEUS buildings and office behavior protocols and within the control of LGEUS. These include LEED certifications; energy management and the EPA's ENERGY STAR program; water management; waste minimization, recycling, purchasing recycled products and the EPA WasteWise Program; and green operations & maintenance practices.

#### **A. Projects Pursuing Leadership in Energy and Environmental Design (LEED) Certifications**

As discussed above, the new North American LGEUS Headquarters will meet LEED Gold requirements at a minimum. To be LEED-certified, such a project must satisfy all prerequisites and earn a minimum number of points. LEED has six categories of credits: (1) Energy Conservation and Atmosphere Protection, (2) Indoor Environmental Quality, (3) Materials & Resources, (4) Innovation in Design, (5) Water Efficiency, and (6) Regional Priority Credits. These credits are distributed and weighted to reflect their potential environmental impacts. LGEUS's proposed design includes a number of environmentally enhanced elements designed to achieve LEED Gold certification.

#### **B. Energy Management and the EPA ENERGY STAR® Program**

##### Green Building Technology Initiatives

LGEUS will incorporate green building designs into the North American Headquarters and any future construction and renovation activities under the MOU such as a green roof, use of green building materials such as particular façade material tuned to solar orientation, high performance materials including glass, shading and insulation, the use of photo-voltaic arrays to capture sunlight and turn it into energy in order to supply some of the energy needed to light, heat and air-condition the building, maximizing and enhancing green space, and reducing run-off and improving storm water management.

##### Energy Management

LGEUS will promote energy efficiency and reduce its carbon footprint under the MOU by implementing environmental best practices including, but not limited to:

- Lighting management (e.g., motion sensors, use of LED light bulbs, or turning off lights when space not in use)
- Plug load reduction of office equipment (e.g., enabling power save mode or shutting equipment off during non-working hours)

##### EPA ENERGY STAR Program

LGEUS is an ENERGY STAR Partner and an industry leader in sales of ENERGY STAR qualified products, from refrigerators and washing machines to flat-panel TVs and computer monitors, including many earning the EPA's new ENERGY STAR "Most Efficient" designation.

LGEUS was named a 2012 ENERGY STAR Partner of the Year for leadership in energy efficient products. LGEUS has been committed to improving the environment by

selling hundreds of ENERGY STAR qualified models, resulting in a 30 percent increase in sales of ENERGY STAR products in 2011 from 2010. New product categories, such as the LG “Smart ThinQ” line of smart appliances will continue the company’s strong focus on product leadership in energy efficiency.

LGEUS’s involvement with the ENERGY STAR program extends to implementing nationwide public education campaigns and training employees. Under the MOU, LGEUS plans to continue its support of the ENERGY STAR program with both products and support of EPA education programs nationwide, such as the Team ENERGY STAR and Energy Stars Across America campaigns.

LGEUS will join the EPA ENERGY STAR Commercial Building Program, which offers technical assistance for conducting energy audits, benchmarking energy use and establishing an energy reduction plan, for its new headquarters building. LGEUS will enter other office building spaces into ENERGY STAR’s Portfolio Manager Energy Management tool to track and assess energy and water consumption across other U.S. locations as practical.

LGEUS plans to work with the EPA ENERGY STAR team to incorporate the “Bring your Green to Work with ENERGY STAR” campaign at various U.S. offices. Employees will learn how to make green choices in the office with the help of tips such as shutting down all non-essential power strips at the end of the day and the environmental benefits of using ENERGY STAR products.

### **C. Green Energy and the EPA Green Power Partnership Program**

LGEUS is a member of EPA’s GreenPower Partnership (GPP), and is purchasing 100 percent green energy for its current New Jersey headquarters and intends to increase green power in its energy portfolio. Under the MOU, the company is in the process of reviewing green power purchase options for other locations in the U.S. For the new building, LGEUS will evaluate opportunities to purchase green power in the form of renewable energy certificates as well as extending its GPP membership to this new location.

LGEUS will also construct and operate a company owned 84,977 square feet photovoltaic solar array system at its new Headquarters facility, which will generate an annual amount of 1,047 MWH. LGEUS also plans to further investigate opportunities to install similar solar arrays wind and biomass (non-incineration) renewable energy systems at other locations throughout the US.

### **D. Water Management**

LGEUS will implement a water efficiency program that will result in water and energy savings. These goals will be furthered by LGEUS’ use of the ENERGY STAR Portfolio Manager tool as outlined above.

For its new North American headquarters campus, LGEUS will approach water conservation by using water conserving fixtures (including use of EPA's WaterSense labeled fixtures) and landscaping practices such as irrigation systems to achieve potable water savings of 30% in accordance with the LEED rating system. LGEUS recognizes that use of WaterSense products ensures that LGEUS will be helping to conserve drinking water sources. As retrofit opportunities at other LGEUS office buildings arise and are within LGEUS' control, a preference for WaterSense products will be made.

#### **E. Waste Minimization, Recycling, Purchasing Recycled Products and the EPA Waste Wise Program**

LGEUS recognizes that solid waste management programs can result in operational cost savings through reduced purchasing and disposal costs, while reducing greenhouse gases by conserving raw materials. The firm will join EPA's WasteWise Program as a Partner to enhance waste prevention programs, recycling practices and sustainable purchasing at all U.S. facilities. LGEUS will reduce its solid waste stream by reducing paper invoices and other paper documents by replacing those documents with electronic versions wherever feasible. Further, it will recycle material for which a market exists, including but not limited to: paper, cardboard, news print, metal, glass, plastic and electronics.

As part of the WasteWise Program, LGEUS will initiate an assessment of current waste reduction activities and document all sustainable purchases. Additional office policies will be developed. LGEUS will provide an annual estimate on the amount of waste reduction and recycling at its US facilities where such data is available.

Under the MOU, LGEUS will enhance its building operations by developing a set of green practices for property management. These would include but not be limited to: pest management, purchasing, cleaning and solid waste management, such as electronic waste recycling. Such policies will be outlined using the LEED Operations & Maintenance rating system as a framework.

#### **Sustainable Materials Management (SMM) Electronics and Food Waste Challenges**

Under the MOU, LGEUS will join the Sustainable Materials Management (SMM) Electronics and Food Waste challenges. LGEUS will send 100% by weight of the total amount of used electronics collected from all streams for recycling and reuse to third-party certified recycling vendors within one year of registration to the SMM Electronics Challenge. LGEUS will increase the total amount of used electronics collected for reuse and recycling in states without take back laws and to provide consumer education and outreach programs to raise public awareness of the safe management of used electronics. Under the Food Waste Challenge, LGEUS will review its food ordering, preparation and waste practices and investigate opportunities to reduce the generation of food waste as well as increasing food donation and composting.

## **F. Product Stewardship**

LGEUS encourages the use of recycled materials in order to reduce the amount of waste generated during the product development and manufacturing, and to minimize the waste of resources. In order to excel in its product stewardship, LGEUS has been implementing individual take back programs for used electronics and also participating in state governments' electronic waste collection programs. LGEUS significantly expanded collection programs covering 26 states since the inception of the programs and will continue to increase our support for voluntary and mandatory collection programs, which responsibly recycled more than 15 million pounds of electronics in 2011.

Under this MOU, LGEUS will report the amount of electronics taken back and recycled as well as any future products such as appliances, once product stewardship programs are in place.

## **G. Environmentally Preferable Purchasing**

LGEUS is committed to purchasing environmentally preferable products consistent with the requirements of LGEUS' procurement programs. Under the MOU, LGEUS will utilize the EPA's Environmentally Preferable Purchasing tools to improve existing carbon footprint reduction programs.

During construction operations, LGEUS will give preference to utilizing green and sustainable materials items such as green concrete, compost socks in place of mylar silt fencing, etc.

## **H. Green Infrastructure, Landscaping, Operations and Maintenance Practices**

### Green Infrastructure and EPA's GreenScapes Program

The firm will utilize EPA's GreenScapes Tip Sheets to implement green landscaping practices.

### Green Infrastructure and Green Roofs

The proposed landscape plan for the new North American headquarters campus includes a broad variety of plant material, with extensive use of foundation plantings, perimeter plantings, and the placement of trees and shrubs throughout the central portions of the property and buffer material. The firm will also use permeable parking, porous jogging paths, and walkways with permeable pavers, where appropriate, in the construction and renovations of properties.

LGEUS will conserve potable water used for irrigation and will install stormwater collection and filtration system for watering needs and ensure conservation of drinking water. The large amount of native vegetation and green roofs (761,390 sf) provide a substantial on-site stormwater management system that will collect, store and utilize stormwater and avoid run-off.

## **I. Green Transportation and SmartWay Transporters**

LGEUS will purchase or lease alternative fuel vehicles throughout its operations. The number and type of alternative fuel vehicles will be reported under the MOU. EPA will calculate the amount of GHG reduced from the vehicles and include that in the carbon footprint reductions.

For the new headquarters campus, LGEUS will make an effort to reduce conventional, single occupancy vehicle trips by encouraging multiple modes of sustainable transportation on the site including bicycle, public transit, car pooling, and alternative vehicle infrastructure through corporate incentive programs. Ample bicycle parking will be provided for cyclists along with shower facilities at the employee gym. LGEUS is also considering the installation of several electric vehicle recharging stations.

LGEUS will also extend green transportation activities to our transporters. The firm will give preference to EPA SmartWay Transporters. SmartWay Transporters reduce CO2 emissions by employing a number of green and sustainable practices to save fuel and reduce vehicle emissions.

## **J. Clean Construction USA**

LGEUS will adopt the EPA's Clean Construction USA recommendations to cooperatively promote and implement measures to effectively reduce emissions from vehicles and other internal combustion engines used in construction and operation of its operationally controlled, corporate owned and leased home office properties within the United States, with a focus on diesel engine emission reductions. Clean construction equipment reduces pollution from conventional diesel fuel-powered construction vehicles and equipment by requiring the use of Ultra-Low Sulfur Diesel (ULSD) fuel and best available pollution control retrofit technologies.

LGEUS will include the use of clean construction equipment and clean fuel use in its specifications for contractors working on future facility construction projects. Clean construction equipment includes retrofit technologies for construction vehicles such as Diesel Particulate Filters (DPFs). In combination with the use of cleaner ULSD fuel, this practice will greatly reduce construction vehicle emissions.

### Enhanced Idling Reduction

Enhanced idling reduction measures reduce fuel consumption and pollution by setting a reasonable time limit for idling and actively encouraging that this limit be followed. LGEUS will review implementing idling reduction measures in its own fleet and encourage its service vendors, contractors, and staff to exceed existing regulations.

## **K. Environmental Education**

LGEUS strives to contribute to community development through a variety of educational programs. As per this effort, LGEUS will construct a science center that offers hands-on learning experiences for community youths to enhance and supplement science education. Through this science center, LGEUS will include environmental

education on such topics as climate change, renewable energy, alternative vehicles, conservation, and carbon footprint analysis and reduction. The center will incorporate interactive learning experiences to inspire the next generation.

#### **L. Measurement and Reporting**

In addition to the reporting items associated with EPA Partnership Programs, LGEUS will submit a status report to EPA once per year starting six months after the mutual execution of this MOU. Subject to any confidentiality required by LGEUS or vendors, the report will include an update on the various activities identified herein. EPA will use this date to determine the environmental benefits associated with LGEUS's "green" activities.

#### **IV. Terms and Conditions**

This MOU is not contractual or a financial obligation instrument. Nothing in this MOU shall obligate EPA or LGEUS to expend appropriations or to enter into any contract or other obligations or be cited as the basis for the promise or transfer of funds. Collaboration under this MOU shall be in accordance with applicable statutes and regulations. This MOU does not restrict EPA or LGEUS from participating in similar activities or arrangements with other entities or Federal agencies (domestic or foreign).

Either Party may unilaterally withdraw at any time from this MOU by transmitting a signed writing to that effect to the other Party. By mutual agreement, which may be either formal or informal, the Parties may modify the list of intended activities set forth in Section III above, and/or determine the practical manner by which the goals, purposes and activities of this MOU will be accomplished. Modification to other written parts of this MOU must be made in writing and signed by both Parties and their designees.

Nothing in this MOU shall be construed to authorize or permit any breach of any Federal, State or local law, including, but not limited to, any environmental law administered and/or enforced by EPA.

Access to all documents generated pursuant to the activities set forth in this MOU that constitute agency records for purposes of the Freedom of Information Act ("FOIA"), 5 U.C.S. 552 shall be governed by the provisions of the FOIA.

LGEUS agrees that it does not expect, nor will it ever seek to obtain from EPA in any judicial forum, the payment of money, services or other thing of value from EPA based upon the terms of this MOU. The immediately preceding sentence does not in any way affect or limit any legal rights accruing to LGEUS by virtue of any other law, regulation, contract or assistance agreement.

LGEUS understands and acknowledges that, as an institution of the Federal Government, EPA has a duty to refrain from providing any commercial entity an

exclusive privilege without receiving payment therefore and, as a consequence, that EPA's relationship with LGEUS in no way affects, alters or otherwise constrains EPA's right to provide similar (or identical) services to, or establish similar (or identical) relationships with, any other entity.

LGEUS understands that EPA's participation in this MOU does not constitute an endorsement, express or implied, of (a) any policy advocated by LGEUS or (b) any goods or services purchased, offered or sold by LGEUS or (c) any product or products solely by virtue of carrying the WaterSense or Energy Star label. LGEUS agrees not to make statements to the public at workshops or meetings, in promotional literature, on its Web site, or through any other media that imply that EPA endorses LGEUS or any service or product offered by LGEUS. LGEUS is free to publicize the existence of this MOU and its participation in any EPA Partnership Program.

LGEUS shall maintain full right, title and interest in any intellectual property right, including without limitation on the foregoing any patent or copyright, in any work product developed solely by LGEUS in furtherance of the objectives of this MOU. Any intellectual property developed collaboratively by the Parties will be governed by the Federal Copyright Statute at Title 17 of the United States Code or by the Federal Patent Statute at Title 35 of the United States Code. With respect to any copyrightable subject matter, including but not limited to journal articles, training, educational or informational material or software, created jointly by the Parties from the activities conducted under this MOU, LGEUS hereby grants to the government a royalty-free, nonexclusive, irrevocable right to reproduce, distribute, make derivative works, and publish or perform such work(s) publicly, or to authorize others to do the same on its behalf.

This MOU does not authorize LGEUS or the EPA to use the other's logo, trademark or other intellectual property without prior consultation with and approval of the other party. This MOU does not in any way bypass or alter the obligation of LGEUS to meet any of the specified requirements and/or procedures associated with the individual partnership programs listed in the MOU.

The EPA enters into this MOU under the authority of Section 103 of the Clean Air Act, 42 U.S.C. §7403, Section 104 of the Clean Water Act, 33 U.S.C. §1254, and Section 8001 of the Solid Waste Disposal Act, 42 U.S.C. §6981, Section 6604 of the Pollution Prevention Act, and Section 324A of the Energy Policy and Conservation Act, 42 U.S.C. §6294a, which provide EPA with authority to undertake cooperative efforts with private organizations to promote the coordination and acceleration of research, studies, training, and other efforts to prevent, reduce and eliminate pollution.

This MOU does not create any right or benefit, substantive or procedural, enforceable by law or equity, by persons who are not party to this MOU, against LGEUS or EPA, their officers or employees, or any other person. This MOU does not direct or apply to any person outside of EPA and LGEUS. This MOU is limited to the activities of LGEUS and no other divisions or subsidiaries of LG Electronics Inc. or their parent company LG Corporation.

**V. Effective Date and Administration**

This MOU will become effective upon signature by the Regional Administrator of EPA Region 2 and the Chief Executive Officer, LGEUS or their designees. It may be modified or amended by written agreement between both parties. This MOU will terminate at the end of five (5) years from the date of signature unless revised or extended at that time by written agreement of the parties. It may be terminated at any time by either party upon the issuance of a written notice to the other party. The Parties will review annually the provisions of this MOU and its implementation. Modifications will be made in writing and attested to by both parties.

Signed:

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Judith A. Enck  
Regional Administrator  
U.S. EPA Region 2

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Wayne Park  
President and CEO  
LG Electronics USA, Inc.

Date:

Date: