



**TENTATIVE Agenda
President and Board of Trustees
Thursday, October 11, 2012
Village Hall
123 Madison Street**

Special Meeting at 8:00p.m. in Room 201

- I. Call to Order
 - II. Roll Call
 - III. Agenda Approval
-

Instructions for Agenda Public Comment

(3 minutes per person; 3 items per person maximum)

Comments are 3 minutes per person per agenda item, with a maximum of 3 agenda items to which you can speak. In addition, the Village Board permits a maximum of three persons to speak to each side of any one topic that is scheduled for or has been the subject of a public hearing by a designated hearing body. These items are noted with a (*).

IV. Public Comment

V. Presentation of an Oak Park Residential Smart Communities Project and Consideration of a Memorandum of Understanding with the Illinois Smart Communities Coalition and the Korean Smart Grid Institute


Overview: This presentation will provide information on the collaboration among the Korean Smart Grid Institute (KSGI), the Illinois Science and Technology Coalition (ISTC) and the Institute for Sustainable Energy Development (ISED). In addition staff will review a draft Memorandum of Understanding between the Village of Oak Park and KSGI, tentatively scheduled for the October 15, 2012 Regular Meeting agenda.

- 1. Val Jensen, Vice President, Customer Operations, ComEd (5-10 min)
- 2. David Kolata, Executive Director, Citizens Utility Board (5-10 min)
- 3. K.C. Poulos, Sustainability Manager (5-10 min)
- 4. Andrew Barbeau, President, Institute for Sustainable Energy Development (5-10 min)
- 5. Bob Greenlee, Legal Counsel, Illinois Science and Technology Coalition (5-10 min)
- 6. Bruce Hamilton, President, Smart Grid Network, Inc. (5-10 min)

VI. Adjourn

For more information regarding Village Board meetings and agendas, please contact the Village Manager's Office at 708.358.5770. If you require assistance to participate in any Village program or activity, contact the ADA Coordinator at 708.358.5430 or e-mail adacoordinator@oak-park.us at least 48 hours before the scheduled activity. Agendas and agenda materials are now available electronically on the village web site. Visit www.oak-park.us mouse-over News, then click on Board Agendas and Minutes.

MEMORANDUM

TO: President Pope and Village Trustees
CC: Cara Pavlicek, Rob Cole, Lisa Shelley
FROM: K.C. Poulos 
DATE: October 5, 2012
RE: October 11, 2012 Presentation of the Smart City USA Project and Consideration of a Memorandum of Understanding with the Korean Smart Grid Institute and the Institute for Sustainable Energy Development

This memorandum and attachments serves to provide you with background information regarding for smart grid technologies, a brief history of the smart technology collaboration between Illinois and the Republic of Korea, a description of the proposed Oak Park residential and commercial smart grid project and a request to consider signing a Memorandum of Understanding with the Korean Smart Grid Institute (KSGI) and the Institute for Sustainable Energy Development (ISED).

Background:

Nationally, the electric distribution industry recognizes the risks and costs associated with its aging infrastructures. Utilities throughout the country have implemented pilot programs testing digital and automated technologies (also known as smart grid technologies). In 2009, ComEd announced its own Smart Meter Pilot Program, designating 10 communities, including the Village of Oak Park, connected to its Maywood substation as its test bed, "Innovation Corridor". These communities received over 170,000 smart meters in 2010, with Oak Park residents and businesses receiving over 20,000 of those meters. During the pilot, ComEd tested smart meter capabilities including communications, remote disconnect, and real time energy monitoring. In a sub-pilot, some customers were given in-home energy readers to track real-time energy use; customers also had access to an online tool that showed day-after usage information and bill estimates.

In addition to smart meter installations, Oak Park received the state's first smart substation upgrade. The upgrade allows ComEd to remotely track and react to various events on the circuits served by the substation, rerouting power to prevent or contain outages.

ComEd reported its findings in 2011 to the Illinois Commerce Commission. ComEd recommended that smart meters and other smart grid upgrades be deployed throughout its territory to strengthen the distribution system and improve reliability. With the passage last fall of Illinois' Energy Infrastructure Modernization Act, also known as the Smart Grid Bill, ComEd was given authority to expend \$2.6 billion over

the next 10 years on system-wide grid upgrades and innovative technology investments.

ComEd has since identified its Innovation Corridor, and in particular the Village of Oak Park, as its test bed for demonstrating various technology smart grid innovations. These demonstrations will evaluate the latest technology and implementation approaches in areas such as residential solar power, energy storage, intelligent substations, distribution automation and installation of electric vehicle charging stations.

In prioritizing smart grid investment in a test bed setting, Illinois' goal is to showcase a fully integrated smart community featuring a more reliable electrical grid system, energy saving technologies and renewable energy installations. In practical terms, ComEd will use the test bed as a procurement strategy to source best-in-class smart grid hardware and software solutions, and provide a real-life demonstration site for federal agencies, utilities and others interested in deploying these technologies on a national scale.

Collaboration between Illinois and Korea:

The State of Illinois considers ComEd's 2010 smart meter pilot program to be a business model for creating jobs and formed the Institute for Sustainable Energy Development (ISED) to attract smart grid business to the region. ISED attracted the attention of the international smart grid industry because of the potential to further deploy smart grid technologies in an urban environment with dynamic pricing structures. In particular, the Korean Smart Grid Institute (KSGI) recognized the potential offered by the Chicago region to replicate a micro grid system Korean companies developed on Jeju Island, Republic of Korea.

In collaboration with ISED, Village officials encouraged KSGI to consider Oak Park as its site for developing its smart grid demonstration during a visit in July 2010. KSGI, supported by the Republic of Korea's Ministry of Knowledge Economy, signed a Letter of Intent with the Village of Oak Park and ISED to research the feasibility of establishing a Smart City program within the Village. KSGI was considering 250 sites throughout the world at the time.

In 2011, Oak Park hosted three KSGI delegations, providing tours of Oak Park's neighborhoods and shopping districts, ComEd's smart meters and smart substation. Oak Park also showcased a variety of unique aspects that provide advantages over other site locations, including:

- A diverse building stock and residential demographics (which offer opportunities to test effective communication practices and consumer decision-making factors);
- A reputation for leadership in environmental sustainability, specifically in municipal electricity aggregation (first municipality in the nation to adopt a

- 100% renewable portfolio standard for residential and small business customers);
- Its urban density, which offers a high impact demonstration site of concentrated investments;
 - Oak Park's strong partnership with ComEd, specifically as a participant in ComEd's smart meter pilot program, as a recipient of over 20,000 smart meters and as the site of the first smart substation in the state;
 - Oak Park's relationships with a wide range of supportive institutions and potential partners including Illinois Science and Technology Center (ISTC), ISED, IIT, Illinois Department of Commerce and Economic Opportunity, Argonne National Laboratories, and the Galvin Center for Electricity Innovation;
 - Oak Park's convenient location with direct flights from any major city in North America into O'Hare, one of the world's busiest airports; and
 - The leadership and engagement of Oak Park's village government.

KSGI worked with ISED and the Village to further identify the type of projects that would improve the reliability of Oak Park's aging electrical infrastructure and test new technology that would improve residential and commercial reliability and energy efficiency through solar power applications and battery storage systems.

In April 2012, South Korean officials narrowed its search to five finalists (3 European, 2 North American). Oak Park welcomed KSGI for additional visits in April and June 2012, signing a second LOI on June 7th. In August, KSGI determined Oak Park to be the preferred location for its smart grid innovation concepts and proposed entering into a Memorandum of Understanding (MOU) that identifies the project partners and their roles, and provides a project description including equipment, financing and installation phases. Despite the non-binding language contained within the MOU, Korean officials and companies view this MOU as an important and definitive document for the project, memorializing the parties' commitments to collaborate on a smart grid project in Oak Park. KSGI has indicated that formal contracts will be created to articulate each phase of the project.

Proposed Smart City USA Project:

The Smart City USA Project provides the Village of Oak Park and its residents with the opportunity to become innovators in community-wide electrical efficiency, demand aggregation and coordinated generation technologies, while providing proof of the commercial viability of various advanced monitoring and energy management technologies. KSGI proposes to the Village of Oak Park a 200-resident (single family and multi-family) project involving a renewable energy and battery system as well as energy monitoring devices that will generate, track and store energy to increase a home's electric reliability while reducing energy use and costs. KSGI further proposes to set up a network operating center (NOC) at Village Hall to monitor resident participants' aggregate energy use, experiment with two-way communications and participate in energy savings programs such Demand Response. KSGI also proposed a commercial project, but did not provide a scope of

work or funding proposal other than traditional project or owner financing. The Smart City USA Project will commence after the MOU signing and continue over the next two years, through December 2014.

The residential project would involve the installation of rooftop solar panels connected to a converter and battery storage back-up system that is also interconnected with ComEd's electrical grid. The solar and battery back-up system will be capable of running the house during evenings and outage events, reducing the home's electric bills while increasing its energy reliability. These residential systems will include advanced monitoring devices that communicate data via wireless communication to a Networking Operating Center (NOC) located within the Village. The NOC will track real-time aggregate data and create analysis reports. The NOC also offers the opportunity to communicate peak events to resident participants to encourage energy savings, track outages as well as aggregate the solar energy for possible sale to the region's energy market.

This project will include an investment of approximately \$4 million dollars in energy saving improvements in the Village over the next two years. Neither the Village of Oak Park nor its residents will fund any part of the proposed project. KSGI has expressed an interest in funding an estimated \$2 million of the residential project costs by providing technology products (the NOC and wireless communication devices) and funding through participating Korean companies to cover monitoring and NOC installation costs. ISED is pursuing approximately \$2 million in funding through the Illinois Department of Commerce and Economic Opportunity (DCEO), and technology products from Illinois technology companies. DCEO has indicated that the residential project is eligible to apply for funding through its Energy Efficiency Trust Fund's regular competitive grant application process. To the extent that the project requires additional financing, ISED will consult with the Illinois Science and Energy Innovation Foundation to identify such funding.

Village of Oak Park Role:

The role of the Village of Oak Park during the project will continue to be that of facilitator, helping to support value-generating linkages among the parties and the resident and commercial participants. Staff will also create and implement processes for resident education, outreach and recruitment, grant application and administration, project timeline management and resident relations during installations. The NOC will be monitored by KSGI and Village staff and be used to analyze and report aggregate data.

A high level examination of staff time commitments for project design, implementation and evaluation estimates that the Sustainability Manager will spend approximately 64 hours per month on the project through the end of 2014. Additional staff time from the Village Manager's Office, Communications, Housing Programs, and Building and Property Standards Departments is estimated at 16 hours per month or less. Organizations within ISED have devoted considerable staff time to this project as well, and will also explore funding sources to provide technical

project management support for the implementation and evaluation phases of the project. Funding sources being considered are include DCEO grant opportunities, other energy efficiency and technology funding sources, and in-kind contributions.

Neither the Village of Oak Park nor the resident participants will be required to contribute funds to the project. However, Oak Park will apply for the DCEO energy efficiency funding, and Village staff will work with ISED staff to create the grant application. DCEO energy efficiency funding guidelines offer a rolling application period, and the project management team proposes to submit the application by the end of October 2012. ISED proposes applying initially for between \$500,000 and \$750,000, depending on the identification of any additional Illinois-based participation to fund a technical project manager consultant as well as fund installation of solar panels, battery storage systems and home area networks for 40 homes. ISED anticipates applying to DCEO in 2013 for similar equipment for an additional 80 homes, and in 2014 for the final 80 home installation of the same type of equipment. There is a 25% matching requirement for each application which is met by KSGI's agreement to fund 50% of the project.

If DCEO awards the grant, Village staff will administer grant funds by processing project invoices and distributing monies to the appropriate contractors or other entities in accordance with the Fund's guidelines, in a manner similar to other Village housing improvement programs, although this project's guidelines are still under development.

If DCEO does not award a grant to the project, ISED will work to identify alternative financing including in-kind contributions from Illinois technology companies and requests for funding to other entities such as the Illinois Science and Energy Innovation Foundation. If for some reason the project is halted, the Village would return grant monies to DCEO.

Proposed Recommended Action: Consider Approving the Memorandum of Understanding and Consider Directing Staff to Apply for Funding from the Energy Efficiency Trust Fund.

Attachments:

1. MOU
2. Letters of Intent from Participating Korean Entities
3. List of Illinois Entities Associated with Institute for Sustainable Energy Development
4. Glossary of Technology Devices and Acronyms
5. Power Point Deck

Smart City USA Project

Glossary of Terms

AMI: Advanced Meter Infrastructure refers to systems that measure, collect and analyze energy usage, and interact with advanced devices such as electricity meters, gas meters, heat meters, and water meters, through two-way communication media either on request (on-demand) or on pre-defined schedules. This infrastructure includes hardware, software, communications, consumer energy displays and controllers, customer associated systems, Meter Data Management (MDM) software, supplier and network distribution business systems, etc. The network between the measurement devices and business systems allows collection and distribution of information to customers, suppliers, utility companies and service providers. This enables these businesses to either participate in, or provide, demand response solutions, products and services. By providing information to customers, the system assists a change in energy usage from their normal consumption patterns, either in response to changes in price or as incentives designed to encourage lower energy usage use at times of peak-demand periods or higher wholesale prices or during periods of low operational systems reliability.

DR: Demand Response is generally used to refer to mechanisms used to encourage consumers to reduce demand, thereby reducing the peak demand for electricity. Since electrical generation and transmission systems are generally sized to correspond to peak demand (plus margin for forecasting error and unforeseen events), lowering peak demand reduces overall plant and capital cost requirements. Demand response may also be used to increase demand (load) at times of high production and low demand. Some systems may thereby encourage energy storage to arbitrage between periods of low and high demand (or low and high prices).

ESS: Energy Storage System is any technology that stores energy for delivery of power. The Oak Park Smart Community Project contemplates use of a rechargeable ESS that consists of battery storage that will be recharged by a solar panel system.

HEMS: Home Energy Management System is technology that provides comprehensive electric demand management solutions for utilities and consumers, allows homeowners to reduce or shift energy use during peak times, and helps electricity providers improve grid efficiency and network reliability.

ISED: Institute for Sustainable Energy Development, an Illinois not-for-profit company organized to develop and promote proof-of-concept smart grid demonstrations in Illinois. The coalition membership is comprised of Illinois science and technology companies many of whom are listed here: <http://istcoalition.org/about-istc/members-partners/> and provided in Attachment 3.)

KSGI: Korean Smart Grid Institute, a Republic of Korea entity organized to promote Korean smart grid technology. KSGI represents the companies that have agreed to participate in the Oak Park Smart Community Project.

MDMS: Meter Data Management System refers to a key component in the smart grid infrastructure that is in the process of being evolved and adopted by utility companies. And MDMS performs long

term data storage and management for the vast quantities of data delivered by smart metering systems. This data consists primarily of usage data and events that are imported from the head end servers that manage the data collection AMI systems.

An MDM system will typically import the data, then validate, cleanse and process it before making it available for billing and analysis. MDMS solutions based on meter data include meter and network asset monitoring and management; automated smart meter provisioning and billing cutover; asset management and other systems. Furthermore, an MDMS may provide reporting capabilities for load and demand forecasting, management reports, and customer service metrics. An MDMS is the first step to ensure that consistent processes and are applied to the data. Besides this common functionality, an advanced MDMS may provide facility for remote connect/disconnect of meters, power status verification/power restoration verification and on demand read of remote meters.

MKE: Ministry of Knowledge Economy is a composition of former Republic of Korea Ministries of Commerce, Industry and Energy; Information and Communication; and Science and Technology. This combination provides a vast array of experts to create synergies, spur innovation, and upgrade the nation's economy. As an advocate for economic growth, MKE has considerable jurisdiction in, pushing for development of new growth engines and promoting foreign trade, especially in the area of energy cooperation projects, renewable resources and distribution networks.

NOC: Network Operating Center refers to a centralized data communication, analysis and reporting platform that enable utilities or other energy managers to organize and assess the data gathered from smart meters in a responsive and accountable fashion and under clearly defined privacy protection agreements.

PCS: A Power Converter System transforms electric energy from one form to another, converting between AC and DC, or just changing the voltage or frequency, or some combination of these. A power converter is an electrical or electro-mechanical device for converting electrical energy. Power conversion systems often incorporate redundancy and voltage regulation.

PJM: Pennsylvania, Jersey, Maryland Interconnection is a federally regulated regional transmission organization that independently and impartially coordinates the movement of wholesale electricity to ensure reliability in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia, the largest centrally dispatched grid in North America.

PV: Photovoltaic, or solar energy, produces electric current or voltage caused by electromagnetic radiation, usually from sunlight.

DCEO: The Illinois Department of Commerce and Economic Opportunity provides a variety of grant opportunities to Illinois residents, business, government entities and others to further the state's economic development goals and policies.

Members & Partners



(<http://www.anl.gov/>)

ARGONNE NATIONAL LABORATORY

Argonne National Laboratory is one of the U.S. Department of Energy's oldest and largest national laboratories for science and engineering research. Argonne applies a unique mix of world-class science, engineering and user facilities to deliver innovative research and technology.



(<http://www.astellas.us/>)

ASTELLAS PHARMA US, INC.

Astellas Pharma US, Inc., is the U.S. affiliate of Astellas Pharma Inc., a R&D-driven global pharmaceutical company. At Astellas, we improve lives through innovative and effective medicines. Our dedication to *changing tomorrow* for patients and our customers fits closely with our strong scientific orientation and focus on the community in which we work and live.



(<http://www.baxter.com/>)

BAXTER INTERNATIONAL

A leader in healthcare for more than 75 years, Baxter assists healthcare professionals and their patients with treatment of complex medical conditions. Information on our business, leadership and history are available here (<http://www.baxter.com/>).



(<http://www.chicagolandchamber.org/Pages/default.aspx>)

CHICAGOLAND CHAMBER OF COMMERCE

Founded in 1904, the Chicagoland Chamber of Commerce is a private, non-profit business assistance and economic development organization. We are dedicated to helping area businesses grow as well as promoting the economic development of the region.



(<http://www.eaton.com/Eaton/index.htm>)

EATON CORPORATION

Founded in 1911, Eaton Corporation is a power management company with customers in over 100 countries. Eaton is a global technology leader in electrical components and systems for power quality, distribution and control; hydraulics components; aerospace fuel, hydraulics and pneumatic systems; and truck and automotive drivetrain and powertrain systems for performance, fuel economy and safety.



(<http://www.fnal.gov/>)

FERMI NATIONAL ACCELERATOR LABORATORY

Fermi National Accelerator Laboratory advances the understanding of the fundamental nature of matter and energy by providing leadership and resources for qualified researchers to conduct basic research at the frontiers of high energy physics and related disciplines.



GlaxoSmithKline
(<http://www.gsk.com/about/index.htm>)

GLAXOSMITHKLINE

One of the world's leading research-based pharmaceutical and health care company. Headquartered in the UK, GSK is a global organization with offices in over 100 countries and major research centers in the UK, USA, Belgium and China. GSK's mission is to improve the quality of human life by enabling people to do more, feel better and live longer.



(<http://www.gtlresources.com/>)

GTL RESOURCES

GTL Resources is a leading bio-refining company which, through its subsidiary Illinois River Energy, produces over 100 million gallons of ethanol per year from its production facility in Rochelle, Illinois USA. GTL developed the project, secured the financing, managed the construction, and now runs the business. The Rochelle site enjoys plentiful nearby corn due to the many high-yielding and abundant acres planted in the area, as well as various transportation and other locational advantages.



Illinois Business Roundtable
(<http://www.illinoisbusinessroundtable.com/>)

ILLINOIS BUSINESS ROUNDTABLE

Founded in 1989, the Illinois Business RoundTable is a nonprofit, nonpartisan, voluntary association of 63 chief executive officers of Illinois' businesses. The Illinois Business RoundTable studies, makes recommendations and takes action on critical public policy issues facing Illinois.

American Medical
Informatics Association
2012 Annual
Symposium
(<http://istcoalition.org/event/american-medical-informatics-association-2012-annual-symposium/>)
November 2012 (All Day)

View All Events
(<http://istcoalition.org/events/upcoming/>)

Members & Partners

The Illinois Science & Technology Coalition Succeeds Only Through Collaboration And Partnership. Click Here To Learn About Our Partners.





ILLINOIS INSTITUTE OF TECHNOLOGY

Founded in 1890, IIT is a Ph.D.-granting university with more than 7,500 students in engineering, sciences, architecture, psychology, design, humanities, business and law. IIT's interprofessional, technology-focused curriculum is designed to advance knowledge through research and scholarship, to cultivate invention improving the human condition, and to prepare students from throughout the world for a life of professional achievement, service to society, and individual fulfillment. Visit www.it.edu (www.it.edu)



ILLINOIS MEDICAL DISTRICT

Created by an act of the Illinois State Legislature in 1941, the Illinois Medical District (IMD) is the largest urban healthcare, educational, research and technology district in the nation. The District includes 560 acres of medical research facilities, labs, raw development area, universities, public safety institutions and more than 40 healthcare-related facilities.



JOHN G. SHEDD AQUARIUM

The John G. Shedd Aquarium, a nonprofit institution dedicated to public education and conservation, is among the world's largest indoor aquariums. The facility houses more than 32,600 aquatic animals representing some 1,500 species of fishes, reptiles, amphibians, invertebrates, birds and mammals from waters around the world. Since its opening in 1930, the aquarium's mission has been to enhance public understanding and appreciation of the aquatic world. Today, this educational goal has gained urgency as more species acquire endangered status. Shedd Aquarium is committed to a number of projects designed to preserve threatened or endangered aquatic species.

(<http://www.shedd-aquarium.org/>)



MOTOROLA

(<http://www.motorola.com/Business/US-EN/Business+Solutions/>)

MOTOROLA SOLUTIONS

Motorola Solutions connects people through technology. Businesses and government agencies around the world turn to Motorola Solutions innovations when they want highly connected teams that have the information they need throughout their workdays and in the moments that matter most to them.



(<http://www.nanoink.net>)

NANOINK, INC.

NanoInk, Inc. is an emerging growth technology company specializing in nanometer-scale manufacturing and applications development for the life sciences, engineering, pharmaceutical, and education industries. Using Dip Pen Nanolithography® (DPN®), a patented and proprietary nanofabrication technology, scientists are enabled to rapidly and easily create micro- and nanoscale structures from a variety of materials on a range of substrates. This low cost, easy to use and scalable technique brings sophisticated nanofabrication to the laboratory desktop. Headquartered in the Illinois Science + Technology Park, north of Chicago, NanoInk currently has over 250 patents and applications filed worldwide and licensing agreements with Northwestern University, Stanford University, University of Strathclyde, University of Liverpool, California Institute of Technology and the University of Illinois at Urbana-Champaign.



(<http://www.niu.edu/index.shtml>)

NORTHERN ILLINOIS UNIVERSITY

Northern Illinois University is among the nation's premier regional public universities. Located in one of the most dynamic regions of the country, NIU is a comprehensive teaching and research institution with a diverse and international student body of more than 25,000.



**NORTHWESTERN
UNIVERSITY**

(<http://www.northwestern.edu/>)

NORTHWESTERN UNIVERSITY

Research thrives at Northwestern University. At Northwestern, and often with partners at Argonne National Laboratory, Fermilab, and local universities, interdisciplinary teams work to solve society's problems and facilitate clinical and commercial use of their innovations. The interdisciplinary culture already exists throughout Northwestern University. More than 90 school-based centers and 20 University centers support interdisciplinary research on Northwestern's two lakeshore campuses.



(<http://www.uchicago.edu/index.shtml>)

UNIVERSITY OF CHICAGO

The University of Chicago brings together the brightest minds to tackle the most challenging problems facing humanity. One of the world's greatest intellectual communities and centers of learning, UChicago has achieved this distinction through faculty scholarship, the training of graduate students, and an undergraduate education that emphasizes critical thinking and broad interdisciplinary exposure to a full range of intellectual discovery. UChicago manages, supports, and engages with two major federal research centers where cutting-edge science is always underway: Argonne National Laboratory and Fermi National Accelerator Laboratory.



(<http://www.uic.edu/index.html>)
(<http://www.uic.edu/research.shtml>)

UNIVERSITY OF ILLINOIS AT CHICAGO

With an enrollment of over 25,000 students, the University of Illinois at Chicago is the largest university in the Chicago area. Located just west of Chicago's Loop, UIC is a vital part of the educational, technological and cultural fabric of the city. It is also one of the country's top research universities and over the years has attracted an impressive amount of award-winning faculty. According to U.S. News & World Report, UIC is one of the most diverse and affordable universities in the nation.



(<http://illinois.edu/>)

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

The University of Illinois at Urbana-Champaign is a place of excellence, innovation, and tradition. More than 2,000 faculty members lead 41,000 students in a process of discovery and learning in 16 colleges and schools and more than 80 research centers and labs. Faculty and students pursue projects with other top scholars from around the world and across disciplines. Campus resources include the world's largest public university library, outstanding centers for the arts, and many world-class research facilities.

Partners



(<http://www.bio.org/>)

BIO

BIO is the world's largest biotechnology organization, providing advocacy, business development and communications services for more than 1,200 members worldwide. BIO was created in 1993 through the merger of the Association of Biotechnology Companies and the Industrial Biotechnology Association. The goal was for the entire industry -from young startups to established companies- to speak with one voice for the industry on issues such as FDA reform, reimbursement policy, national healthcare policy, regulation of biotech crops, and small business and economic development issues.



(<http://broadbandillinois.org/index.html>)

BROADBAND ILLINOIS

The Partnership for a Connected Illinois, Inc. (PCI), is a 501(c)(3) non-profit organization based in Springfield, Illinois. PCI has a three-fold mission: (a) to collect and publish broadband data, (b) to ensure broadband access throughout the State, and (c) to maximize broadband's impact and use.



(<http://c2st.org/>)

CHICAGO COUNCIL ON SCIENCE AND TECHNOLOGY

C&ST will be an advocate for regional science policy and among the nation's leading source of information on policy issues of science and technology. In establishing the Chicago Council on Science and Technology in 2006, the founders sought to bring together Chicago's scientific leaders - academic, corporate, government, museums, universities and national laboratories- to provide a forum for the discussion of current issues of scientific interest.



Chicago Metropolitan
Agency for Planning
(www.cmap.illinois.gov/)

CHICAGO METROPOLITAN AGENCY FOR PLANNING

CMAP is the official regional planning organization for the northeastern Illinois counties of Cook, DuPage, Kane, Kendall, Lake, McHenry, and Will. CMAP developed and now guides the implementation of GO TO 2040, metropolitan Chicago's first comprehensive regional plan in more than 100 years. To address anticipated population growth of more than 2 million new residents, GO TO 2040 establishes coordinated strategies that help the region's 284 communities address transportation, housing, economic development, open space, the environment, and other quality-of-life issues.



CHICAGOLAND
Entrepreneurial Center
(<http://www.chicagolandec.org/>)

CHICAGOLAND ENTREPRENEURIAL CENTER

The Chicagoland Entrepreneurial Center (CEC) is a non-profit organization that supports entrepreneurs on their path to building high-growth, sustainable businesses that serve as platforms for economic development and civic leadership. CEC promotes and grows the startup community in Chicago. We develop programs, establish partnerships and run projects that provide entrepreneurs with the tools they need to build successful, sustainable businesses.



CITIZENS UTILITY BOARD

The Citizens Utility Board (CUB) is an Illinois utility watchdog organization created by the Illinois General Assembly to serve as a voice for residential and small business utility consumers. CUB strives for better service and lower utility rates for all Illinois residents. Their work ranges from challenging utility rate hike requests to fighting for better consumer protection laws in Springfield, to helping individuals dispute unfair bills.

(<http://www.citizensutilityboard.org/>)

Clean Energy Trust CLEAN ENERGY TRUST

(<http://www.cleanenergytrust.org/>)

The Clean Energy Trust is an Illinois non-profit corporation whose mission is to further the growth of the clean energy technologies and businesses in the State of Illinois and the broader Midwest. We believe clean energy will define the future, help secure our nation's energy supply, and enable the highest quality of life for all citizens. Illinois can be a global leader in clean energy. The Trust strives to support regional economic development and address our nation's energy and environmental crisis by encouraging innovation in the sector.



(<http://www.ibio.org/index.lasso>)

IBIO

IBIO's mission is to make Illinois and the surrounding Midwest one of the world's top life sciences centers; a great place to do business, and a great place to grow new technology ventures. IBIO advocates for sound public policy, delivers education and training programs, and improves our ability to create, attract, and retain businesses.



(<http://www.commerce.state.il.us/dceo/>)

ILLINOIS DEPARTMENT OF COMMERCE AND ECONOMIC OPPORTUNITY

The Department of Commerce and Economic Opportunity (DCEO) is charged with enhancing Illinois' economic competitiveness by providing technical and financial assistance to businesses, local governments, workers and families. As the state's lead economic development agency, DCEO works to capitalize on Illinois' strengths as a center of transportation, manufacturing and technology development. The agency actively promotes the state's business-friendly policies, highly productive workers, and entrepreneurial spirit — attributes that helped Illinois win Site Selection magazine's Governor's Cup as the top state in the nation for business development.



(<http://www.iseif.com/>)

ILLINOIS SCIENCE AND ENERGY INNOVATION FOUNDATION (ISEIF)

The Illinois Science and Energy Innovation Foundation (ISEIF) was formed to help "game-changing" smart grid and grid-enabling ideas become industry leading companies. We embody a unique model for fostering innovation that will have lasting economic benefits in Illinois. Along with providing growth capital, we help entrepreneurs access public funding and support, technology validation through real-time "test beds", and mentorship from a network of experienced professionals.



(<http://www.illinoistech.org/>)

ILLINOIS TECHNOLOGY ASSOCIATION

The Illinois Technology Association, a next-generation business organization is a driving force behind the growth of Illinois' vibrant technology industry. ITA's mission is to accelerate the growth of our 700 member companies, drive their visibility and bridge the technology talent gap from startups to industry leaders in software, services and information technology. Through collaboration and collective action, ITA brings the industry together to drive member success and advocate for the Illinois technology community locally and nationally. Illinois is a national leader in technology and ITA is committed to its continued growth.



(<http://www.ars.usda.gov/Main/docs.htm?docid=3153>)

NATIONAL CENTER FOR AGRICULTURAL UTILIZATION RESEARCH (NCAUR)

The National Center for Agricultural Utilization Research is a leader of innovative, problem-solving research that makes the food supply safe, secure and sustainable, and creates renewable products and green technologies that drive economic growth and development.



NATIONAL CORN TO ETHANOL RESEARCH CENTER (NCERC)

The National Corn to Ethanol Research Center (NCERC) is the only public entity in the world that conducts research, validation and commercial testing of products and technologies on behalf of academia, industry, Government and trade associations. The NCERC is unique in that it is the only facility worldwide to house, all under one roof, the following: Analytical Laboratory, Fermentation Laboratory, Pilot Scale Ethanol Production Process, Workforce Training Program.

(<http://www.ethanolresearch.com/>)



NATIONAL GOVERNORS ASSOCIATION

The National Governors Association (NGA)—the bipartisan organization of the nation's governors —promotes visionary state leadership, shares best practices and speaks with a collective voice on national policy. Through NGA, governors identify priority issues and deal collectively with matters of public policy and governance at the state and national levels.

(<http://www.nga.org/>)



SMART CHICAGO COLLABORATIVE

The Smart Chicago Collaborative is a civic organization devoted to using technology to make lives better in Chicago. They were formed to address the challenge of the lack of broadband Internet access for all Chicagoans. More broadly, they work to apply the transformative power of technology to solve problems for the people of Chicago.

(<http://www.smartchicagocolaborative.org/>)



SOUTHERN ILLINOIS UNIVERSITY CARBONDALE

From its humble beginnings as the state's second teachers college – founded in 1869 with a dozen academic departments and an inaugural class of 143 – Southern Illinois University Carbondale now ranks among Illinois' most comprehensive public universities.

(<http://www.siu.edu/>)



TECHAMERICA

TechAmerica is the largest and strongest voice and resource for technology in the United States and is the industry's leading trade association. TechAmerica Midwest serves the high-tech business interests of companies located in the region by providing access to opportunities for networking, business development, education, advocacy, and through delivering a portfolio of products and services.

(<http://www.techamerica.org/>)



WORLD BUSINESS CHICAGO (WBC)

World Business Chicago (WBC) is Chicago's not-for-profit economic development corporation, chaired by Mayor Richard M. Daley and directed by a Board made up of some of the region's leading business executives. The office fosters Chicago's global position as a thriving business location by coordinating the city's business retention and attraction efforts, raising its profile as a prime business location and serving as a resource for companies. The staff navigates the site selection process for businesses by providing economic and industry data, site location assistance, state and local incentive information, and bringing together key parties in the public and private sectors to spur and accelerate economic growth.

(<http://www.worldbusinesschicago.com/>)

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I-ON Communications

August 10, 2012

The Illinois Smart Communities Coalition

David Pope
Village President
The Village of Oak Park

Mark Harris
President & CEO
Illinois Science and Technology Coalition

David Kolata
Executive Director
Citizens Utility Board

Andrew Barbeau
Managing Director
Robert W. Galvin Center for Electricity Innovation at Illinois Institute of Technology

**Letter of Intent
on
Illinois Oak Park Smart Community Project**

To whom it may concern,

I-ON Communications ("I-ON", here in after) is pleased to tell you our interest on the Illinois Oak Park Smart Community Project.

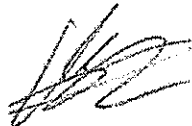
I-ON secures the technology and reliable system for field work through strategic partnership with experts in many fields in the world. We provide optimum service oriented customer needs as well as total solutions from consulting via plan, development, maintenance to training. By extension we have developed DR-system & Security-system of Smart Grid

We hope to build further relationship and establish a framework for collaboration and cooperation between I-ON and the Illinois Smart Communities Coalition.

I am confident that our close collaboration on the Illinois Oak Park Smart Community Project will bear fruitful outcome for both of our sides.

Sincerely,

Jae Cheol, OH
President & CEO





Tel. +82.31.429.7794 / Fax. +82.31.429.7795 / <http://www.entech.biz/>
SK Ventium 102-1101, Dangeong-dong, Gunpo, Gyeonggi, Korea ZIP 435-010

August 8, 2012

The Illinois Smart Communities Coalition

David Pope
Village President
The Village of Oak Park

Mark Harris
President & CEO
Illinois Science and Technology Coalition

David Kolata
Executive Director
Citizens Utility Board

Andrew Barbeau
Managing Director
Robert W. Galvin Center for Electricity Innovation at Illinois Institute of Technology

**Letter of Intent
on
Illinois Oak Park Smart Community Project**

To whom it may concern,

EN Technologies Inc. ('EN', here in after) is pleased to tell you our interest on the Illinois Oak Park Smart Community Project.

EN is emerging as one of Korea's leading provider of products for controlling, managing and green power systems. Its products include bi-directional power conversion system for the smart grid, battery energy storage system, quick charger and on board charger for lithium-ion based vehicles. The company's core strength is in power electronics and only small and medium size company involved in all 3 area of national smart grid project.

We hope to build further relationship and establish a framework for collaboration and cooperation between EN and the Illinois Smart Communities Coalition.

I am confident that our close collaboration on the Illinois Oak Park Smart Community Project will bear fruitful outcome for both of our sides.

Sincerely,

Kyung-Ha Suh
Managing Director
EN Technologies Inc.



August 6, 2012

The Illinois Smart Communities Coalition

David Pope
Village President
The Village of Oak Park

Mark Harris
President & CEO
Illinois Science and Technology Coalition

David Kolata
Executive Director
Citizens Utility Board

Andrew Barbeau
Managing Director
Robert W. Galvin Center for Electricity Innovation at Illinois Institute of Technology

**Letter of Intent
on
Illinois Oak Park Smart Community Project**

To whom it may concern,

Fountain Springs is pleased to tell you our interest on the Illinois Oak Park Smart Community Project.

Fountain Springs has developed end-to-end advanced metering infrastructure(AMI), energy management system(EMS), meter data management system(MDMS) and machine-to-machine(M2M) solution with special knowledge support the requirements and needs for Smart Grid initiatives based on the highest levels of performance, reliability and flexibility. We have built a pilot in Jeju Smart Grid Test-bed with Korea Telecom(KT) consortium.

We hope to build further relationship and establish a framework for collaboration and cooperation between *Fountain Springs* and the Illinois Smart Communities Coalition.

I am confident that our close collaboration on the Illinois Oak Park Smart Community Project will bear fruitful outcome for both of our sides.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jeong-Uoog, Kim'.

Jeong-Uoog, Kim
CEO
Fountain Springs Co., Ltd.

Smart City USA Project



**An International Smart Grid
Collaboration**

The Need for Reliable Energy

Val Jensen, Vice President, ComEd

- Aging Infrastructure
- Smart Grid Solutions

David Kolata, Executive Director, CUB

- Customer Benefits
- Regional Benefits – Job Creation

Oak Park's Involvement in ComEd's Smart Grid Rollout

K.C. Poulos, Sustainability Manager

- Oak Park received > 20,000 Smart Meters
- Site of state's first smart substation
- Test bed for ComEd's Innovation Corridor
- Fostering Relationships to Attract Demonstrations

Illinois & South Korea: A Collaborative Effort

Andrew Barbeau, President, Institute for
Sustainable Energy Development

- Formation of ISED
- Collaboration Process with KSGI
- Visits to Oak Park

Proposed Smart City USA Project

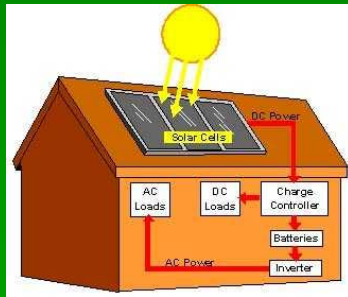
Bob Greenlee, Legal Counsel, Illinois
Science & Technology Coalition

- Project Description & Duration
- Anticipated Outcomes
- Funding Sources
- MOU Process

Technology Components

Communication Device

Participant's Home



Village Hall



Solar Panels and Battery



NOC

NOC Contains:
Gateway
MDMS
Relay to PJM
Displays



Modem-
Attaches to Smart Meter



KSGI Commitments

Bruce Hamilton, President, SmartGrid Network, Inc.

- Korean Business Culture
- Letters of Intent
- In-Kind and Funding Commitments

Village of Oak Park's Role

- Facilitator
- Grant Applicant and Administration
- Community Outreach
- Resident Recruitment
- Project Management



DRAFT

Memorandum of Understanding

for the

Smart City USA Project

between the Korean Smart Grid Institute, working together with

KT Corporation, En Technologies, ION Communications, Enerider

and

The Village of Oak Park working together with the Institute for Sustainable Energy Development

This Memorandum of Understanding (“MOU”) is entered into this ___th day of October 2012, by and between the Korean Smart Grid Institute (KSGI) working together with the above listed Korean companies (collectively “the Korean Entities”); and the Village of Oak Park, working together with the Institute for Sustainable Energy Development (ISED), collectively (“the Illinois Entities”); together (“the Parties”) for the purpose of furthering the implementation of the Smart City USA Project in the Village of Oak Park, Illinois.

I. Background and Parties

A. On January 20, 2010, the Illinois Department of Commerce and Economic Opportunity (DCEO) and the Korean Ministry of Knowledge Economy (MKE) entered into a memorandum of understanding to advance the adoption of innovative smart grid and green technologies in the State of Illinois for the purpose of generating economic opportunity, creating jobs and producing environmental benefits for consumers, communities and shareholders in Illinois and elsewhere.

B. KSGI, a non-profit organization, was established by MKE in August 2009 to promote the success of the Korea Smart Community Companies. KSGI developed the Jeju Island Demonstration Project in South Korea. That project installed and tested the most advanced smart grid technologies, including solar panels, battery storage, wireless communication and network operating centers. Its success presents a leading opportunity for research, development and deployment, and offers a model for the commercialization and export of smart grid technologies. KSGI is the Secretariat of smart grid initiatives and projects in Korea with the mandate to manage the Korean government’s smart grid roadmap; operate a smart grid test-bed pilot city; and extend other policy support for smart grid related issues. KSGI worked with the Korean Smart Community Companies and identified their participation in a smart grid test-bed in the Village of Oak Park, Illinois. KSGI will serve as the project manager on behalf of the Korean entities.



C. The Village of Oak Park is a thriving community of approximately 52,000 people with a commitment to urban sustainability located immediately west of the City of Chicago. The Village of Oak Park is internationally known for its architectural heritage, its broadly diverse residential and commercial building stock and the breadth of its racially and economically diverse population.

D. In January 2010, and again in June 2012, the Village of Oak Park entered into Letters of Intent with KSGI to explore and advance collaboration on this smart grid test project in Oak Park. Through this MOU, the Parties will cooperate and collaborate to apply advanced technologies, share clean energy knowledge and expertise, improve energy efficiency and commercialize smart grid technologies. This will lead to the vitalization of relevant industries, ultimately contributing to the region's economic recovery and creating business opportunities for the whole U.S. energy industry.

II. Identification of the Parties

The Parties to this MOU are as follows:

A. The Village of Oak Park, an Illinois municipal corporation, 123 Madison St., Oak Park, IL 60302. The Village of Oak Park will be the facilitator between the Parties and the Residential Participants. The Village will contribute staff time to educate the community about the Project, identify interested Oak Park residents to participate in the Project, house the Network Operating Center (NOC), and facilitate advancement of the Project in cooperation with all other Parties.

The Village will work with ISED to apply for grant funding and if awarded, the Village will administer the funds and track any in-kind contributions necessary to pay for agreed-to portions of the Project.

B. The Institute for Sustainable Energy Development (ISED), 10 Heather Lane, Oak Brook, IL, a not-for-profit organization existing under Illinois law. The primary role of ISED is to act as liaison between the Village of Oak Park, the State of Illinois, and the Korean Entities and to identify and assist in applying for funds and in-kind contributions necessary to implement the Project.

C. KSGI, 18F KOTECH 305 Teheran-ro, Yeoksam-dong Gangnam-gu, Seoul, Korea 135-780, a not-for-profit organization existing under the laws of the Republic of Korea. The primary role of KSGI will be to act as the project manager for the Korean Entities and to identify and secure the financial participation of Korean corporate, governmental and not-for-profit entities in this Project.

D. The Korean Smart Community Companies, including but not limited to:



1. KT Corporation, a corporation duly organized and existing under the laws of the Republic of Korea, with its principal place of business at 206 Jeongja-dong, Bundang-gu, Seongnam City, Gyeonggi-do, 463-711, Korea (hereinafter referred to as “KT”);
2. EN Technologies, a corporation existing under the laws of the Republic of Korea, with its principal place of business at address;
3. ION Communications, a corporation existing under the laws of the Republic of Korea with its principal place of business at address
4. Enerider, a corporation existing under the laws of the Republic of Korea with its principal place of business at address

The foregoing entities shall be known collectively “the Korean Smart Community Companies.” There may be additional Korean Smart Community Companies who wish to participate in this agreement as identified by KSGI in the future.

III. The Smart City USA Project

KSGI and the Korean Smart Community Companies, after performing an in-depth analysis for the last three months, have identified the Village of Oak Park as the desired location for its Smart City USA Project (the “Project”). This MOU describes the proposed demonstration project and sets forth the general expectations of the Parties to continue to move this project forward.

KSGI has encouraged private Korean Smart Community Companies to support the establishment of the Project within the Village of Oak Park and the Korean Smart Community Companies have submitted or will submit a letter stating their participation in the Project.

A. Description and Project Development

The goal of the Project is to create a Smart City USA demonstration project to evaluate the benefits of smart grid technology. To this end, the goal of this MOU is for the Parties to continue to work together to provide two hundred (200) Oak Park residences with advanced metering infrastructure (AMI), distributed generation resources (particularly solar powered photovoltaic technology), home energy management systems (HEMS), energy storage systems and to participate together in demand response programs. Of the 200 Residential Participants, one hundred (100) residences will be single family structures, and one hundred (100) residences will be located in multi-family structures.

The Parties will work together in close collaboration to carry out the Project, described as follows:

1. **Phase 1 (Residential):**
 - a. **Phase 1(a):**



The Village of Oak Park and ISED will educate Oak Park residents about the Project, and identify and select interested Project participants.

One or more of the Korean Entities will provide and install wireless communication devices, meter data management systems (MDMS) or advanced metering infrastructure (AMI) in the selected 200 single family and multi-family households within the Village of Oak Park (the “Residential Participants”). Phase 1(a) will begin immediately and be completed in 2013.

The Korean Entities will also build a Network Operating Center (NOC) for aggregated real-time energy monitoring to be house in Oak Park, IL. The NOC will be monitored by KSGI and Village staff and be used to analyze and report aggregate data. Phase 1 is expected to begin on or after October 2012. It is not anticipated that the Village will need to hire any additional staff members for purposes of monitoring the NOC or communicating NOC information to the participants.

b. Phase 1(b):

The Parties will provide and install real time home energy management systems (HEMS) to the selected 200 Residential Participants. Phase 1(b) will begin in 2013 and completed by December 31, 2013.

2. Phase 2 (Residential and Commercial): The Parties will install solar or photovoltaic panels (PV), Power Conversion Systems (PCS) and Energy Storage System (ESS) structures on 40 Residential Participants’ properties to improve energy efficiency in 2013. Phase 2 also includes the installation of one commercial smart grid project to prove realization of an “energy saving building” concept or “zero energy building” as applicable. The Parties will also explore participation in real-time pricing and other energy saving concepts. In Phase 2, the Residential Participants and any commercial participants, using the aggregation and communication technology of the NOC, will be able to participate in energy and cost saving programs such as the Demand Response Program of the Pacific Jersey Maryland (PJM) Market (Illinois’ regional energy supply market.)

3. Phase 3: The Parties shall endeavor to expand the installation of PV, PCS and ESS systems to the 160 additional Residential Participants connected to the NOC in 2014. The Parties will continue to explore the possibility of “energy saving buildings” or “zero energy buildings”, as applicable, for a commercial smart grid demonstration. The goal of Phase 3 is to expand the PV, PCS and ESS systems to an additional 80 participants in year 2, to be completed by 2013, and an additional 80 participants in year 3, to be completed in 2014.



B. Project Implementation and Funding

1. **Electric Metering.** The Parties acknowledge that the Village of Oak Park and ComEd have spent in excess of \$11 million to install smart meters in the Village of Oak Park residences and construct a “smart” electric substation.

2. Residential Demonstration Project.

a. Phase 1

i. **Phase 1(a).** The hardware and software necessary for the AMI, NOC and other smart home solutions will be provided by the Korean Entities. The Village of Oak Park and ISED will not provide direct funding for Phase 1.

ii. **Phase 1(b).** The Korean Entities will provide the hardware and software necessary to provide the Residential Participants with the HEMS.

b. **Phases 2 and 3.** The Korean Entities (50%) and the Illinois Entities (50%) will each contribute funding on a 50/50 basis for the design, development, manufacture, and installation of the PV, PCS and ESS systems provided to Residential Participants. The Parties acknowledge and agree that some or all of the funding associated with PV, PCS and ESS purchases and installations may be provided in the form of in-kind contributions of products or services, at a value to be mutually agreed by the Parties. The Village of Oak Park will not provide direct funding for Phases 2 or 3, but will work with ISED to apply for funding and/or in-kind contributions to match the Korean contribution on a 50/50 basis. The value of each Parties’ financial and in-kind contributions will be determined and set forth in future agreements.

- **Expansion (Phase 3).** The Parties agree that expansion of the PV, PCS and ESS installations (beyond the 40 Residential Participants in Phase 2 of the Project) will require additional funding to be identified in the future. In Phase 3, the Parties will endeavor to seek funding and install PV, PCS and ESS on: (a) an additional 80 Residential Participants in Year 2 (2013); and (b) an additional 80 Residential Participants in Year 3 (2014).

- **Demand Response.** The Korean Entities will provide funding for the installation of the Demand Response system. In the event that any costs or expenses for the operation of the system exceed revenues recovered, those costs will not be borne by the Residential Participants.

- **Commercial Demonstrations.** Any commercial smart grid demonstrations are anticipated to be funded by project financing or owner financing.

IV. Ownership



All hardware and software installed on residential properties will remain the property of the Korean Entities and the Korean Entities agree to maintain it until the conclusion of the demonstration project on December 31, 2014. At the conclusion of the project, ownership and maintenance of the equipment, including any necessary software licenses and rights to future upgrades will be transferred to the participant homeowners at no cost, except for the NOC which will be owned and maintained by the Village of Oak Park.

V. Confidentiality

Each of the Parties agree to maintain in strict confidence any and all information relating to, in any way, the other Parties and not to disclose such information to third parties without the disclosing Party's prior written consent. The aforesaid shall not apply to such information that: (i) is or has become known to or generally available to the public, not as a result of the receiving party's breach of this MOU; (ii) was known to the recipient prior to disclosure thereof by the disclosing party; or (iii) the disclosure of which is required under applicable law or regulation. The Parties acknowledge that the Village of Oak Park will adopt this agreement at a public meeting and that this agreement and all related documents are subject to disclosure under the Illinois Freedom of Information Act. Any information that any Party supplies to the Village of Oak Park under a claim that it is confidential will be marked confidential.

NOC Data Analysis. The Parties agree that NOC data will be gathered and analyzed on the aggregate level only and that individual electric use and account information will remain private and confidential. The Parties anticipate and mutually agree to use the aggregate data only for analysis and reporting purposes.

VI. Understanding

This MOU is legally non-binding and serves solely as a preliminary understanding and description of the Project, the Parties and their respective responsibilities and obligations relating to the Project as of the Execution Date. The Parties intend that none of the Parties will have any contractual obligations to the other with respect to the matters referred herein unless and until subsequent formal written contracts have been fully executed and delivered by the Parties. The Parties commit themselves in good will to engage in discussion, negotiation and acknowledge that there will be a future need to execute all necessary agreements and contracts in accordance with the goals of the Project. The Parties understand that subsequent formal written contracts or agreements, governed under Illinois law, will be signed by relevant parties for each of the three (3) phases to clarify and detail the terms and conditions of the Project.

VII. Termination

If any Party desires to terminate this Memorandum of Understanding, it can do so by providing 14-day written notice by certified or regular mail or by email to the representatives at the addresses set forth below. Notices to the Korea Smart Grid Institute shall constitute notice to all the Korean Entities.



VIII. Notices

Notices to the Illinois Entities:

Village of Oak Park:
Village Manager
Village of Oak Park
123 Madison St.
Oak Park, IL 60302
village@oak-park.us

Village Attorney
Village of Oak Park
123 Madison St.
Oak Park, IL 60302
law@oak-park.us

with a copy to:

Institute for Sustainable Energy Development
222 Merchandise Mart Plaza
Suite 1212
Chicago, IL 60654
rgreenlee@istcoalition.org

Notices to the Korea Entities:

Korean Smart Grid Institute:
18F KOTECH 305 Teheran-ro
Yeoksam-dong Gangnam-gu
Seoul, Korea 135-780
jerryyang@smartgrid.or.kr

International Cooperation Team

IN WITNESS WHEREOF, the authorized representatives of the Parties have caused this MOU to be executed as of the date first above written.

KOREAN SMART GRID INSTITUTE

By: _____
Name: Jerry Yang
Title:

KT CORPORATION

By: _____
Name: Jin-Soo Sohn
Title: Senior Vice President



EN TECHNOLOGIES

By: _____

Name: Kyung-Ha Suh
Title: Managing Director

ION COMMUNICATIONS

By: _____

Name: Jae Cheol, Oh
Title: President & CEO

ENERIDER

By: _____

Name: Jeong-Uoog, Kim
Title: CEO

VILLAGE OF OAK PARK

By: _____

Name: David Pope
Title: Village President

INSTITUTE FOR SUSTAINABLE ENERGY DEVELOPMENT

By: _____

Name: Andrew Barbeau
Title: President