

## **Japanese Consortium selected for “Smart Community Project in UK”**

Tokyo, May 23, 2013 – Hitachi, Ltd. (“Hitachi”), Daikin Industries, Ltd. (“Daikin”), Mizuho Corporate Bank, Ltd. (“Mizuho Corporate Bank”), and Mizuho Information & Research Institute, Inc. (“Mizuho Information & Research Institute”) today announced that their consortium, with Hitachi as the consortium leader, has been selected to execute the “Smart Community Demonstration Project in Greater Manchester, UK”. The project will be spearheaded by Japan’s New Energy Development Organization (“NEDO”).

The project will see the delivery of Japanese cutting edge technologies including heat pumps and ICT systems, which will contribute to the UK’s transition to a low carbon society. As part of its commitment to achieve CO2 emission targets set by the EU 2009 Renewable Energy Directive, the UK is aiming to supply over 15% of its energy demand with renewable energy sources by 2020 and to support the penetration of heat pumps up to 30% by 2030.

The consortium will conduct a feasibility study, which is expected to be completed by December 2013. Based on the results of the feasibility study the project will move to the demonstration phase, which is scheduled by the end of March 2016.

Further detail of the project as well as background information about the four participating companies can be found below.

### **Theme 1. Demonstration of usability and efficiency of load-balancing aggregation technology and systems for residential power consumption (Hitachi, Daikin)**

The consortium plans to select and introduce 200 to 300 electrical heat pumps suitable for various types of housing in Wigan, Greater Manchester. In addition, an aggregation system will be used to analyse consumers’ power consumption.

Focusing on heat utilisation, in particular, space heating which represents the majority of energy consumption in UK’s households, traditional gas-fired water heaters will be replaced with electrical heat-pumps, which enables control of the timing of heating operations, thus allowing the project to demonstrate reduction of power consumption during surplus-demand periods (Negawatt) and increase of power consumption during over-supply periods (Posiwatt). During the demonstration phase, large amounts of data will be collected from residential homes through a centralised management system and analysed in real-time. This analysis will be linked with the study of pricing mechanisms that will enable the creation of new services for consumers.

Furthermore, the consortium will study the connectivity and interoperability of several kinds of energy measurement systems. First, by adopting electrical power aggregation functions the proposed system will support services for electricity trading markets or retailers. Secondly, by adopting heat pump aggregation functions that can remotely control consumers’ energy measurement equipment and also make electrical power demand adjustments.

### **Theme 2. Establishment of Business Model (to be demonstrated by Mizuho Corporate Bank, Mizuho Information & Research Institute, Hitachi, Daikin)**

The proposed scope of work includes research and analysis of the energy market, energy

utilities and heat pumps. It will also include the development of schemes to realise large-scale roll out of heat pumps and to encourage consumers to participate in the aggregation business, as well as new business models which will be presented to the UK market.

The four companies will utilise their expertise of demand-side control and communication technologies to build and demonstrate the benefits of the proposed smart community system.

#### **About Hitachi, Ltd.**

Hitachi, Ltd., (NYSE: HIT / TSE: 6501), headquartered in Tokyo, Japan, is a leading global electronics company with approximately 326,000 employees worldwide. Fiscal 2012 (ended March 31, 2013) consolidated revenues totaled 9,041 billion yen (\$96.1 billion). Hitachi will focus more than ever on the Social Innovation Business, which includes information and telecommunication systems, power systems, environmental, industrial and transportation systems, and social and urban systems, as well as the sophisticated materials and key devices that support them. For more information on Hitachi, please visit the company's website at <http://www.hitachi.com>.

#### **About Daikin Industries, Ltd.**

Daikin Industries, Ltd. (TSE: 6367) is a global leader in the market of residential, commercial and industrial use air conditioning systems, with a well-established presence in Japan, China, Southeast Asia, Europe, and North America. The company is also one of the leaders in the fluorochemicals industry. Across the entire Daikin Group, the company employed a staff of over 51,000 employees. The company ended financial year 2012 with a consolidated net sales of 1290.9 billion yen. For more information, please visit <http://www.daikin.com/>.

#### **About Mizuho Corporate Bank, Ltd.**

Mizuho Corporate Bank, Ltd. provides financial and strategic solutions for the increasingly diverse and sophisticated needs of clients, focusing its efforts on serving major corporations, financial institutions, and public sector entities. A relationship management approach to serving clients enables Mizuho Corporate Bank, Ltd., together with group companies such as Mizuho Securities Co. Ltd., to develop customized solutions in areas such as corporate, structured and project finance, investment banking, transaction banking and risk management. With offices in more than 30 countries, Mizuho Corporate Bank, Ltd. offers clients both localized service and the extensive reach of a global business network. Mizuho Corporate Bank, Ltd. is a subsidiary of the Japan-based Mizuho Financial Group, Inc. (NYSE: MFG / TSE: 8411), one of the largest financial services companies in the world, with total assets of over \$1.8 trillion as of March 2013. For more information, please visit <http://www.mizuhocbk.com>.

#### **About Mizuho Information & Research Institute Inc**

Mizuho Information & Research Institute Inc., (MHIR) was established in 2004 as an IT (information technology) strategy company of the Mizuho Financial Group, Inc. More than 4,000 professionals with expertise in a wide range of fields, such as IT & telecommunications, environment & energy, socioeconomics and science provide high-quality solutions to customers through consulting, system integration and outsourcing, and support the enhancement of customers' corporate values. For more information, please visit <http://www.mizuho-ir.co.jp/english/>.