ENEL-NRC: JOINT LABORATORY FOUNDED FOR THE STUDY OF RENEWABLE ENERGY TECHNOLOGIES

- *The structure, which will be located at the Enel Innovation Lab in Catania, in agreement with the Institute for Microelectronics and Microsystems (IMM) of the National Research Council, will be mainly dedicated to the development of solar cells and innovative, very-high-efficiency photovoltaic systems*

- *Enel has launched an investment programme of more than 100 million euros in its Sicilian technology hub, consisting of the 3Sun photovoltaic factory at Passo Martino and the associated Innovation Lab*

Rome, June 8th, 2017 - Enel, acting through the Enel Green Power Renewable Energy Division (EGP), has signed an agreement with the Institute for Microelectronics and Microsystems (IMM) of the National Research Council (NRC) to create a dedicated laboratory to explore renewable energy technologies within the Enel Innovation Lab at Passo Martino, near Catania.

The lab's activities will mainly focus on the development of solar cells and innovative, very-high-efficiency photovoltaic systems, with a special focus on reliability and cost. In particular, the EGP innovation group will work with NRC-IMM to develop technologies for next-generation (double-sided) photovoltaic modules with high electricity yields that can collect and transform into power not only direct sunlight but also solar radiation reflected from the ground. In order to increase the efficiency of power generation, advanced structures for silicon solar cells will be studied and developed, coupling new materials. Another joint initiative of great interest will be high-efficiency and low-cost generation technologies exploiting hydrogen fuel for the electrolysis of water induced by solar radiation, mimicking a process similar to photosynthesis with artificial structures. These activities will also take place within the framework of broad European collaborative efforts. For this purpose, the NRC-IMM lab (www.imm.cnr.it) has been equipped with the most advanced equipment for electro-optic characterization and modelling photovoltaic systems and will be strengthened even further.

"We work in a challenging and rapidly evolving energy environment, so we have to forge synergies that enable us to be on the cutting edge and bring more reliable and sustainable solutions to the market", said Riccardo Amoroso, Head of Innovation and Sustainability for Enel Green Power. "*We are proud of this promising collaboration with a top-level organisation such as the NRC and of having created it at the Innovation Lab in Catania, our hub for technological excellence*."

"*The joint EGP-NRC initiative seeks to create a highly collaborative environment to foster knowledge exchange and innovative ideas*", said Guglielmo Fortunato, Director of IMM-NRC. "*The IMM has a long tradition in public-private initiatives, with laboratories at no fewer than two STMicroelectronics facilities (Catania and Agrate) for over 20 years, a winning model for working with Italian industry, which we can now apply with Enel*."

Enel has launched an investment programme worth more than 100 million euros at its Sicilian technology hub, consisting of the 3Sun photovoltaic factory at Passo Martino and the associated Innovation Lab, where EGP's top researchers are investigating renewable energy technologies. The installation of the new laboratory, with a core of researchers highly specialized in the science and technology of materials and devices, is intended to develop the site as an Innovation Campus and promote the growth of start-ups in the renewable energy sector.

The IMM's activities, which is part of the NRC's Department of Physical Sciences and Materials Technologies, range from materials science, process development and the creation of semiconductor devices and system integration. Thanks to participation in numerous European projects, the IMM has collaborated with prestigious international research institutions, such as CEA-LETI, IMEC, SEMATECH, ESRF, CNM and numerous companies in the field.