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## **WEIZMANN INSTITUTE SOLAR TECHNOLOGY TO CONVERT GREENHOUSE GAS INTO FUEL**

**REHOVOT, ISRAEL—June 7, 2012**—An Israeli-Australian venture will use solar technology developed at the Weizmann Institute of Science to reduce carbon dioxide (CO<sub>2</sub>) emissions from the burning of brown coal. The venture was recently launched in Israel by NewCO<sub>2</sub>Fuels Ltd., a subsidiary of the Australian company Greenerth Energy Ltd., which has acquired an exclusive worldwide license for the solar technology from Yeda, the Weizmann Institute's technology transfer arm.

The Weizmann technology makes use of concentrated solar energy to dissociate CO<sub>2</sub> to carbon monoxide (CO) and oxygen (O<sub>2</sub>). This method, developed at the Institute by Prof. Jacob Karni of the Department of Environmental Sciences and Energy Research, also makes it possible to dissociate water (H<sub>2</sub>O) to hydrogen (H<sub>2</sub>) and O<sub>2</sub> at the same time it dismantles the CO<sub>2</sub>.

CO, or its mixture with hydrogen, called Syngas, can then be used as gaseous fuel, for example, in power plants, or converted to liquid fuel such as methanol, which can be stored, transported, or used to power motor vehicles.

The method has proved successful in laboratory trials. NewCO<sub>2</sub>Fuels Ltd. is now building a solar reactor for the conversion of CO<sub>2</sub> on an industrial scale. Part of the development is being performed in collaboration with the Canadian Institute for the Energies and Applied Research at the Weizmann Institute of Science.

Greenerth Energy Ltd. expects the new Israeli-Australian venture to help harness the vast brown coal resources in the State of Victoria in southeastern Australia. Use of this type of coal has, until now, been limited by its high CO<sub>2</sub> emission content. The possibility of converting CO<sub>2</sub> to fuel in a clean and efficient manner will turn brown coal into a source of environmentally friendly fuel.

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*The Weizmann Institute of Science in Rehovot, Israel, is one of the world's top-ranking multidisciplinary research institutions. The Institute's 2,700-strong scientific community engages in research addressing crucial problems in medicine and health, energy, technology, agriculture, and the environment. Outstanding young scientists from around the world pursue advanced degrees at the Weizmann Institute's Feinberg Graduate School. The discoveries and theories of Weizmann Institute scientists have had a major impact on the wider scientific community, as well as on the quality of life of millions of people worldwide.*