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Finding Alternate Ways to Develop Energy



You don't have to be a scientist to recognize there are serious problems with the way the world is gobbling up non-renewable sources of energy.

By Adam Michael Segal

Escalating oil prices, environmental concerns like global warming and air pollution and political instability, are just some of the vexing issues fuelled by this flaming demand and consumption of finite amounts of energy.

To help tackle these challenges, Israel's Weizmann Institute of Science is embarking on a new venture known as the Alternative Energy Initiative.

The project, which is supported by Weizmann Science Canada and other groups, focuses on innovative research to develop clean, sustainable forms of energy.

"We are straining the resources of the world and we can't continue going in this direction," said Jay Smith, Weizmann Science Canada's chairman of the board and president. "That is why research in this area is so compelling."

The research will be a catalyst for several energy pursuits, including solar energy development, fuel cells, nuclear fusion, methanol, as well as energy storage and conservation.

A key goal of the initiative is to attract established researchers and burgeoning scientific minds to Weizmann, a top ranked multidisciplinary research institute specializing in science based in Rehovot, Israel.

"To be a world leader you have to attract top scientists," said Michael Meyer, Weizmann Science Canada's national executive vice president. "And since this is a world wide project, we are going to be making it attractive for young and established scientists to come to Weizmann."

A fundraising campaign is under way to propel the endeavour with a target of raising \$20 million. Some major contributions have already been made, including \$5 million from Israeli philanthropist Yossie Hollander and \$1 million from Canadian businessman H. Thomas Beck. "I donated these funds to make sure Weizmann will continue to be a leading institution in alternative energy, a matter that is so crucial to all of us," Beck said. Energy projects involving Canadians have deep roots at Weizmann.

In the early 1980s, the Canadian Institute for Energies and Applied Research at Weizmann was created, leading to the building of a solar tower on the Weizmann campus.

At that time, alternative forms of energy were considered cutting edge, helping the institute get an early start in a field of science that is on fire today.

"Weizmann is one of the few organizations in the world that has more than 25 years experience dealing with solar energy and other alternative sources of energy," noted Hollander.

"That's why it's an excellent place for this initiative, and our goal is to get more and more people working on it, so that the next generation of students will be drawn to it."

Hollander added that the politics and economics of oil affect Israel's security, making the development of alternative energy particularly important for the Holy Land.

"With trillions of dollars going to [oil producing] countries that don't want Israel around, that money is dangerous," Hollander said. "For me, this project is therefore urgent.

Though the initiative is in its early stages, Weizmann researchers are already creating original alternative energy projects.

For example, institute scientists are exploring ways to manufacture methanol from the sun's energy, which could produce a form of fuel that is environmentally friendly.

Other researchers are slated to investigate how to generate energy from plants and biomass. And dynamic nuclear fusion research by Weizmann scientists is pushing forward nuclear fusion projects in the United States.

Meyer is optimistic about garnering support in Canada and internationally for the Alternative Energy Initiative because it could spark significant real-world applications.

"This is a subject that really affects everybody," he said

"It's relevant worldwide and the fact Canada took the lead with the solar tower means we can take the lead again in going to the public to raise the money."