

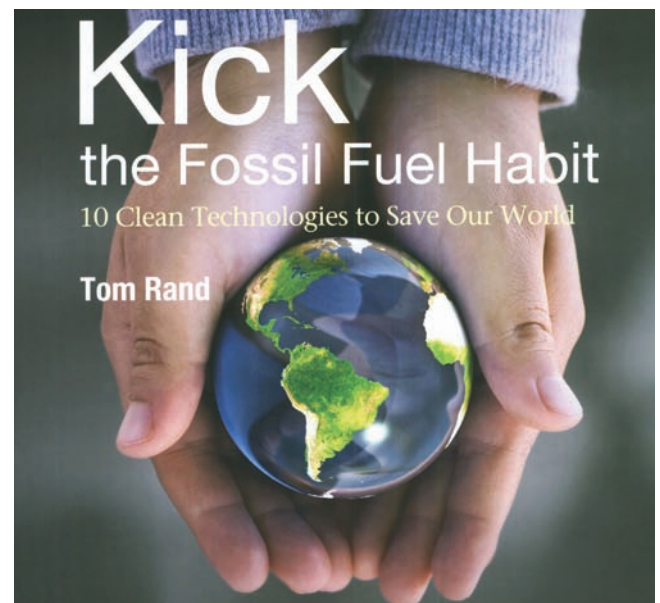
## HOLIDAY ECO-GIFT IDEA: KICK THE FOSSIL FUEL HABIT: 10 CLEAN TECHNOLOGIES TO SAVE OUR WORLD



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**Christine Lolley and Tom Knezic**

If you are looking for the right eco-conscious gift for the holiday season, we recommend *Kick the Fossil Fuel Habit* by Toronto author Tom Rand. The book discusses our current reliance on fossil fuels and the looming peak oil crisis. Tom, who in a past life was both a software entrepreneur and venture capitalist, offers ten suggestions to bring us into a low-carbon future. In addition to solar, wind power, and bio-fuels, he points to 'smart buildings' as part of his vision for a cleaner tomorrow.

In conversation, Tom explained why he decided to focus on buildings. "They account for 40 per cent of our energy use" he said. "If poorly designed, from an energy perspective, then they are very low-hanging fruit on the carbon tree." A 'smart building', as Tom sees it, acts like a thermos, locking heat in (or out). In the book, he uses the example of Passive House, a German design standard for energy efficiency, which mandates that buildings require no active cooling or heating. These houses are purposefully designed to use energy from the sun, earth, and our bodies, resulting in a 90 per cent reduction in energy use compared with regular houses.



All of the Environmentally Integrated Homes™ by Solares use Passive House principles, so Tom highlighted the Solares-designed Gananoque Lake Road House as an example of a smart building. Located in Gananoque, Ont., the house uses geothermal heating to remain a comfortable 20°C even on winter days when temperatures dip as low as -25°C. Passive ventilation and shading techniques are employed so that the home does not require air conditioning to stay cool in the summer.

Solares fits into Tom's vision for a clean technology future because, he said, "The firm is clearly trying to establish basic design principles around low energy, and there is nothing more important in the new building sector."

Tom is also putting his ideas into action for his own smart building, set to open this month. Planet Traveler, a Toronto hostel, was retrofitted from a derelict structure, and now promises to be North America's greenest guest-house (on the CO2 measure). Instead of focusing on surface fixes-such as biodegradable bathrobes or recycled toilet paper- Tom was concerned with reducing carbon emissions from day-to-day operations.

The 114-bed hostel managed an impressive 75 per cent reduction in emissions by using solar panels, a tight building envelope, LED lighting, and most importantly, geothermal heat pumps, which draw heat from 115 metres below the surface of the earth through a series of pipes. These retrofits have also added up to five percent of the building's capital value. "It was surprisingly easy," Tom said. "I'm looking forward to someone knocking me off that pedestal because that would mean others are stepping up to the plate."

We hope so, too.

