

Entrepreneurs Pitch in for Greener Globe

By Reese Halter

Necessity is the mother of invention. And while many political leaders fail to act decisively by imposing a carbon emissions cap, entrepreneurs are seizing many golden opportunities and ensuring a healthy future for our grandchildren.

While our society begins to ease into the transition of a low-carbon economy, using energy more efficiently is of paramount importance.

North Americans can cut almost one third of the greenhouse gas emissions by 2030 by simply becoming more efficient and in so doing save billions of dollars that would otherwise be paid out to utility and oil companies.

A dollar saved is a dollar earned – and Sam Walton’s Wal-Mart is an exemplary leader by increasing its efficiency. Wal-Mart is installing skylights, sensors to dim in-store lights, doors on its refrigerated display cases and many other ingenious small improvements that have cut their energy consumption by 20 percent, and in some stores by as much as 50 percent. They are saving over \$250 million annually.

Methane gas is at least 23 times more potent than carbon dioxide at trapping heat and not allowing the Earth to cool off at night. Last year for the first time in a decade methane levels rose by 26 million tonnes, partly from increased rice paddies, melting of the Arctic permafrost and from landfills.

In 2007, more than 125 biogas recovery systems in the U.S. were reducing methane emissions from manure by almost 80,000 tonnes while generating 275 million kilowatt-hours of energy – with zero emissions from burning biogas.

Today, several companies including Golden Spirit Enterprise of Vancouver and Changing World Technologies of New York have developed a process called thermal conversion, which uses high pressure and temperature to break down long chain molecules.

The thermal conversion process converts plastics, hospital wastes, diseased cattle, feedlot manure, bleached paper, yard wastes, agricultural waste, forestry waste, cardboard, used tires, municipal solid waste, garbage, sewage sludge and even anthrax into oil and non-toxic useful products including biogas.

This technology works and is being implemented around the globe.

Entrepreneurs have produced software to measure and manage efficiently the use of power from the conventional grid. One such company, ConsumerPowerline has contracts with department stores, hospitals and commercial buildings to reduce electricity on short notice when a spike in demand threatens a power outage.

Flat screen televisions use almost three times more energy than the conventional televisions. A Silicon Valley company, Spudnik, is now making energy efficient flat-screen televisions.

Verdiem, a Seattle-based company, makes software that allows schools, businesses and government agencies to power down idle computers throughout their networks. As of June 2008 Verdiem has saved over 480 million kilowatt-hours of electricity, \$50 million or the equivalent of conserving 117 million litres of gasoline.

Nextek Power Systems of Long Island manufactures a device that connects renewable energy sources that generate DC power directly with electronic devices and data centres that use DC – avoiding the energy losses converting into and out of AC.

Google and Intel are working to replace current computer power supplies, which lose about 50 percent of incoming energy with a new 90 percent efficient global technology. This will save \$5.5 billion worth of energy a year.

Pax Scientific of San Rafael, California has developed fans for refrigerators that are 25 percent more efficient than conventional fans, a saving of 4 percent on energy consumption or about 219,000 megawatt-hours of electricity not used in the U.S. About 15 million refrigerators are purchased annually in America.

Serious Materials of Silicon Valley wants a major piece of the \$4.6 trillion construction market and is launching EcoRock a replacement for drywall. Manufacturing of drywall releases 11 million tones of carbon dioxide worldwide each year.

IBM's "Project Big Green" will redesign data centres to cut energy by up to 40 percent. Already IBM has helped Pacific Gas and Electric switch from 300 servers to six IBM mainframe-based "virtual servers"

– single computer programmed to do the work of dozens – reducing energy in data centers by as much as 80 percent.

There is no problem – including global warming – that the innovative human mind cannot overcome.

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