Conserving Energy Resources

The turnout of 260 people on April 26th for the Fracking in Your Backyard? event at the Pix Theater highlighted local concerns about the use of new. high volume, hydro-fracturing technologies (fracking) for gas extraction in Lapeer and surrounding counties. Local township meetings on this issue have also drawn large crowds. It was clear that most people attending these meetings do not want fracking in their neighborhoods or anywhere.

There was ample evidence presented at the Pix that the new fracking technologies using millions of gallons of chemically-laced water for each well are a threat to water resources, air quality and human health. With highly-polluting coal and accident-prone nuclear power plants also not wanted in our backyards or anywhere, the question remains: How will we safely meet our energy needs now and in the future?

Clark Tibbits, a member of the Lapeer Land Conservancy, addressed this question briefly in the second part of his talk at the Pix. Clark proposed that learning to live in ways that require less energy is an answer to this question. Here is a summary of what he has done and what we all could easily do to reduce our dependence on dirty and risky sources of energy:

Small is Better

The United States has roughly 6% of the world's population and consumes 25% of the world's energy resources. Part of the problem as Clark sees it is that we live in such large houses, drive such large cars and mow so much lawn. Small dwellings have less energy embodied in building materials, are easier to insulate well and use less energy to heat and cool. Lawns can be converted into gardens and wildlife habitat to reduce the gas used by inefficient and polluting mowers. Higher efficiency standards for cars and trucks that were mandated just a few years ago are already saving significant amounts of gas and oil. Small hybrid cars consistently get 50 miles or more on a gallon of gasoline. Consistently downsizing houses, lawns and cars over the past 30 years, Clark said, has not diminished the quality of his life; it has only reduced the amount of damage he was doing to the earth and given him more time and money to enjoy the small joys life has to offer.

Enough is Enough

A few years ago National Geographic magazine ran a picture of all the contents of a typical 2 story house that contained oil or oil based products. That pile of things was almost half the size of the house itself. Clark has used the small size of his dwellings to limit the amount of stuff that he owns and has never had a garage for the same reason. It helps to ask, Is this thing something I need or just want? The temptation to buy and own whatever we want can often be set aside by giving attention to non-material sources of satisfaction and happiness that don't use scarce energy resources.

The National Geographic picture would have been even more impressive if it could have shown the energy that was embedded in making and transporting all that stuff. Food is a good example of embedded energy. Think of all the energy used in producing the food that comes from modern agricultural businesses, including the manufacture of the buildings and equipment, fertilizers/pesticides/herbicides (mostly oil based), and transportation of both raw materials and finished products across the country. Most of what we eat has traveled thousands of miles. Animal agriculture is especially inefficient with 10 pounds of soy or corn feed and hundreds of gallons of water required for each pound of edible flesh produced. Good local food sources, much of it organic, are now available in most communities. Local food not only uses much less energy but it is probably healthier too.

Sharing, Reuse and Recycling

Although this is something we all do to some extent to stretch our money, it has been a hallmark of Clark's life. He was a Peace Corps volunteer in the 1960s in a small mountain country in southern Africa called Lesotho where all of the land is owned in common and where each household is given a house site in a village and 3 acres of fields to grow their food. In addition to land security, most members of large extended families support each other in times of need. So although it is a poor country, the consequences of poverty are not dire as in other places in Africa. This same ethos can be seen in a less formal way in the US where family members live together and neighbors help and share with each other. This sharing is not a strong value here but it has now become an economic necessity for many. When this happens, regardless of the reason, people are often able to live better with less, including less energy consumption.

We also do that through the resale and reuse of goods. Yard sales, thrift shops and Craigslist give us a wonderful opportunity to meet most of our needs without purchasing new items that are embedded with scarce energy. And of course, we can now conveniently recycle what we cannot reuse. Clark, an economist, doesn't worry about a decline in consumerism affecting GNP and jobs. Wealth and jobs can be shared too. Wouldn't it be great if we could all reduce consumption and work less to support ourselves? More financial security and peace of mind may be found from learning how to live with less than from investments and bank accounts.

Clean, Renewable Energy

Conserving energy through changing the way we live is more efficient and achievable, according to Clark, than creating energy by any known means. Conservation can take us a long way toward true energy independence. If we go far enough along that path, we might get to a place where all the new energy that we must have comes from clean, renewable sources.

The economics of renewable energy is changing dramatically. The costs of solar and wind power are now very close to that from new, cleaner coal plants and are rapidly closing the gap with natural gas. About 7 years ago, Clark added an attached greenhouse to the caretaker's house at the Tibbits Nature Sanctuary here in Michigan. Part of the greenhouse is used for growing vegetable starts and supplementing the house heat. The other part is a passive solar hot water heater made from a reused hot water tank painted black. The glazing for the greenhouse is reused double pane windows and the foundation and walls are made from recycled tires coated with homemade adobe. The costs were minimal and the payback of investment very short.

At the same time, fifteen solar panels were added to the roof of the house that now supply 90% of its electricity. The panels came via a DTE program called Solar Currents that subsidized the initial costs. Under that program, Clark will recover his investment through renewable energy credits in 20 years in addition to generating most of his own electricity at no additional cost. Since that time the cost of solar panels has fallen by a third, making solar energy more cost competitive even without a subsidy.

Other homeowners in Lapeer County are turning to wind power for their electricity needs and further north in the Thumb large wind power installations are expanding rapidly. Solar and wind energy resources now account for close to 10% of power generation used in Michigan. The State is being pushed to increase the requirement to 25-30% as it is in neighboring states. Other countries are getting much larger percentages of their power from renewable sources, so it can be done here.

If a full accounting were done for the health and environmental consequences of burning dirty fossil fuels, solar and wind would be the least expensive as well as cleanest and most reliable energy sources available. That, Clark says, must be our future. We must, he added, do our best to control and limit the use of dirty fossil fuels and risky nuclear options until that future is realized.