Efficiency the solution to our energy woes

by Dr. Jim Reynolds
Faculty Contributor

Transitioning away from fossil fuels toward a renewable energy future was just a good idea until recently. What is occurring now is a wholesale acceleration toward natural renewable energy as more and more executives and accountants come to the realization that the environmental movement was fundamentally correct in its assessment of energy trends and environmental crises.

This isn't a bad revelation because it provides an opportunity for former opponents to work side by side toward a sustainable and less volatile energy and economic future.

Make no doubt about it energy and economics are intimately intertwined. If the kilowatt-hour became a currency unit, few would have trouble making the switch. It's all about ENERGY!

The faster we get off of fossil fuels the better off we will be. What are our options? The two biggest sources of renewable energy are the sun, in all of its forms (solar, wind, waves, ocean currents, hydroelectric, and biomass), and efficiency.

Geothermal and tidal energies round out our smorgasbord of natural renewable energy options. Of these choices, efficiency is the tool we already possess and can implement with the lowest effective cost, shortest payback time, and quickest start-up. We just have to use it. Just look around us; waste is everywhere.

For over a year the Brevard community has been treated to the spectacle of an erupting geyser and steaming landscapes reminiscent of a styxian cruise as our decaying infrastructure collapses around us.

Students must routinely leave their dorm windows open in winter because there is no way for individuals to control temperature in the chronically overheated residence halls.

Summer residents in the Villages have two complaints: 1) the rooms are too cold and 2) they can't open the windows. Our academic buildings are lit through poorly designed, heat-leaking windows installed in the 1960's.

Even our exam schedule is designed to maximize the number of student days spent on campus, thereby augmenting their per capita energy use.

I estimate that we could close the campus down two days earlier each semester with a more efficient final exam schedule, reducing utility and cafeteria costs due to earlier student departures.

Students in Ms. Rathbone's BCE 211L labs are required to give group presentations of environmental issues/improvements that they observe needing attention on campus.

They don't have to look very far. Nearly all of these presentations address efficiency issues, be they low-flow showerheads, metered dorm rooms, campus lighting, or campus driving policies.

We teach sustainability in BCE 211. I think we do a fairly good job because almost all of the students are quick to point out that we do little at Brevard College that is sustainable when it comes to our energy/utility use.

Replacement of the steam plant with decentralized water heating units is an important first step toward an efficient, renewable energy campus.

Once the gap is bridged from the steam plant to decentralization, the new units must be regarded as the back-up system as our energy transition extends to the other major form of renewable energy, the sun: specifically, solar water heating.

Solar water heating will further reduce the College's utility expenditures, at least until the sun burns out. It would also include, for the first time, air conditioning in the academic buildings currently served by the steam plant.

My point in discussing this topic is that, eventually, even the conservative elements of our society will realize that sustainability is a good thing.

It puts conservation back into conservatism. If they think it is all about the bottom line and making money in the short term before nonrenewable resources run out, then they should look at the bottom line of sustainable energy use because that's a LOT more money over a longer period of time (like forever or at least until the sun burns out).

When that change comes, our transition to renewable energy will shift from a linear mode to an exponential skyrocket. Energy will be abundant, clean, and relatively inexpensive.

We hope to achieve this goal by 2050; my guess is that it will happen long before that. To get there, we need leadership with a vision.

Brevard College is a mirror on society. Experts suggest that, at many institutions, energy use could be reduced by >50% by efficiency upgrades alone.

If we demonstrate good fiscal responsibility through more efficient energy usage, other facets of society will learn from us, probably through our alumni as they spread out into the world, and become more efficient too.

If we choose to do so, we can provide the leadership that is needed to get there. This can only be good for the human family.

To listen to the energy debate, one might be led to believe that a dark future awaits us all. I don't subscribe to that school of thought.

Energy is abundant and all around us. We just have to be smart about how we use it.

What better place is there to be smart than at a small liberal arts college set in beautiful natural surroundings with a motivated student body.