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**Maintaining hope for sustainable energy**

It goes without saying that sustainable energy is one of the most pressing problems facing modern society with materials at the heart of its solutions. Whether it is high-temperature materials for efficient combustion, nanostructures for high-power density batteries, or metastructures for light harvesting, breakthroughs in energy conversion and efficiency have relied on breakthroughs in materials research. What remains to be said, loudly and forcefully, is that society has taken mere baby steps toward a sustainable energy future. “Green” sources—solar, wind, and water—account for just 11% of today’s worldwide energy consumption (*IEO2013*, www.eia.gov/ieo); energy efficiency has yet to impact expectations of rising demand; and nuclear energy remains the Dr. Jekyll and Mr. Hyde of technological solutions, offering carbon-free energy but at the exorbitant price of long-lived nuclear waste and easy redirection toward nuclear weapons. Particularly challenging for a researcher in the field is the recognition that energy policy would likely lead us out of the quagmire sooner than technological innovations, if only nations and their citizens could muster the political will. I ride my bicycle to work knowing my efforts are drowned out in a metropolitan area that has eliminated high-occupancy-vehicle lanes through the downtown area.

However, we have no choice but to maintain hope. We must continue to direct our intellectual energies toward the challenge of sustainable energy. And perhaps more significantly, we must draw the best and brightest minds of the next generation to devote their formidable talents toward this problem as well. We have examples of success. Years of effort in photovoltaic research is now showing a spectacular payoff. Solar electricity at grid parity was considered but a dream in the 1970s, whereas today’s installed costs are competitive in selected markets (18¢/kWh, *Bloomberg NEF*, 2011). But other technologies have stalled. In my area of research, fuel cells, the on-again/off-again interest level of the US DOE has damaged the momentum, but the potential for payoff remains at least as high (Nicholas, *Interface*, 2013). While research fads offer enticing temptations, sustained effort bolstered with a continuous influx of new ideas is required to solve hard problems. I maintain hope that a rational approach to energy policy and energy research will emerge. I have no choice.

Sossina M. Haile

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