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Coal, wind, petroleum and Wood

Conserving energy is better than making more.

Story By Marcus Wilkins | Photo by Nicholas Benner

In the 42 years he spent at Black & Veatch Corp., Ron Wood often contemplated the American energy-consumption conundrum. How will the United States continue to satiate its ever-increasing appetite for energy?

It's a dynamic problem constantly complicated by new technologies, fuel sources, economic trends and numerous hypothetical outcomes. That might be why Wood, BS EE '64, appreciates starting with a simple, philosophical approach.

“The most effective sustainability solution is the wise use of the energy that we already have,” says Wood, former president and CEO of the billion dollar energy division of Black & Veatch. “If we could teach two generations of primary school kids to turn the lights out, it would be a significant move forward for this nation.”



In the case of electricity, the [U.S. Energy Information Agency](#) predicts a 28 percent increase in demand from 2010 to 2035. According to Wood, if that were to be met using exclusively 500 megawatt coal-fired plants, it would require an alarming construction rate of a new facility every 4.4 weeks during the next 24 years at a cost of \$395 billion. If the demand were to be satisfied using just wind power — available only about 40 percent of the time — it would require 27 new 1.5 megawatt wind turbines every day until 2035 with a whopping \$790 billion price tag.

Ron Wood wants people to understand that sustainable means responsible energy decisions.

In the U.S., 40 percent of the total energy consumed is in the form of electricity (about half of which is derived from coal). Another 40 percent is consumed for mobility (derived mostly from foreign oil). The remaining 20 percent goes for everything else, from space heating to industrial use.

For Wood, the most important components of sustainability pertain to education and efficiency. That’s why he likes the opportunity Mizzou students have to help businesses address these issues. An applied engineering course, for example, teaches industrial and commercial energy audits, waste assessments, water audits, full-cost accounting and greenhouse gas calculations.

The benefits of energy savings go beyond corporations. MU Extension works with state and federal agencies to provide farmers affordable assessments of their energy use and recommendations to increase efficiency. Those might include new lighting and better heating systems for livestock barns or solar panels to provide renewable electricity for their homes. If the Extension staff finds that improvements could reduce energy use by 15 percent or more, the program will offer grants, rebates or low-interest loans to help fund the upgrades.

“The least expensive unit of electric power generation that we can create is the one that we avoid using,” Wood says.

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