

## Viewpoint – The Green Imperative for Process Industries

*Improve performance while reducing carbon emissions*

BY JACK BOLICK, PRESIDENT, HONEYWELL PROCESS SOLUTIONS

The world's manufacturers, particularly those in the process industries, are at crossroads. The global marketplace is demanding greater and higher quality output of fuel, fertilizer, food, paper, power, pharmaceuticals, chemicals and other commodities. At the same time, scientists, citizens and politicians are making it clear that reducing greenhouse gas (GHG) emissions is a top priority. Can we continue to drive business performance to ever higher levels and maintain enterprise profitability while reducing energy use and emissions?

I believe we can – and must. In this age of corporate social responsibility, the environment is a process variable that cannot be ignored. Stricter regulations – already in place across Europe and a growing possibility in the U.S. – only strengthen the green imperative.

### Reductions Are Within Your Control

According to a recent McKinsey & Company report, which included Honeywell among its sponsors, a significant portion of the necessary reductions in greenhouse gases generated by industry can be abated through existing technologies that help plants operate more safely, reliably and efficiently. The report specifically considered the U.S. industrial sector, which currently produces 7.3 gigatons of carbon-dioxide equivalents (CO<sub>2</sub>E). That number is expected to climb to 9.7 gigatons by 2030.

According to the report, efficiency improvements could reduce emissions from the industrial sector by 75 megatons by 2030. A range of process and product improvements in the chemicals, pulp and paper, iron and steel, and cement industries could contribute up to 70 megatons of abatement. Another 620 megatons of reductions could be achieved through an array of abatement

options that include improving energy efficiency in the process.

Ultimately, we have the means to shape the future if we focus on the improvements that make the biggest impact on the profitability of our business and our impact in the environment.

### Getting Started

Honeywell's experience with process customers around the world tells us that four areas of action can cut energy consumption up to 10%.

1. **Purchase energy economically.** Accurately forecast and monitor energy demand, acquire energy feedstock at the best prices to meet production needs, and sell back excess energy.
2. **Produce energy economically with reduced costs and improved efficiency.** Reduce heat leakages and waste by monitoring performance of key assets and utilizing advanced sensing technology. Allocate the best, most efficient energy resources to meet production demand, and integrate the control systems of power sources.
3. **Prioritize energy usage and improve process efficiency.** Improve startup and shutdown procedures to maintain consistent operations, avoiding process upsets and lost product yields.
4. **Sustain a highly efficient production environment and reduce emissions.** Accurately monitor and report emissions, comply with reporting regulations, monitor gas emissions to detect leaks and predict future energy requirements.

These four actions define “what” must be done to reduce GHG emissions. The “how” is some-

what more complicated. There are, however, existing process technologies that yield significant returns to the business and reduce waste and energy consumption.

- **A modern, well-designed control system** leads to an automated, integrated, more efficient operation that uses less power and reduces waste and rework. When Konya Sugar in Turkey migrated to the Experion Process Knowledge System, they saw a return on investment within one year through improved product quality and reduced energy consumption.
- **Manufacturing Execution Systems (MES)** improve plant profitability by enabling plant staff to work more effectively and make better decisions. Honeywell's MES systems, for example, track and report multiple sources of energy usage information against targets so energy performance can be tracked and improved.
- **Advanced process control applications** can minimize fuel and other energy costs associated with production and maximize throughput and yields. India-based packaged goods manufacturer Nirma saved \$750,000 in energy costs through the implementation of advanced process control; Catalyst Paper in Canada achieved similar savings.
- **Simulation technology** enables you to model complex industrial energy circuits including supply and demand, heat integration systems and boiler feed water circuits, and combustion optimization that reduces emissions and fuel consumption.
- **Wireless technology** uses less power to get more of the job done. The deployment of wireless sensors could reduce energy consumption across the industrial sector by up to 10 percent. Wireless also serves as an energy-monitoring tool: Bodycote's heat-treatment plant in Ohio is using wireless transmitters to monitor gas consumption and identify energy-saving measures.

### A Shared Industry Responsibility

While it's up to process companies to adopt these technologies in a meaningful way, technology companies also have a responsibility to advance the green imperative. That's why Honeywell continues investing R&D and marketing dollars

in technologies and services that help our customers meet the energy demands of the future. We measure, monitor and compile the economic and environmental returns from these solutions to help customers develop a compelling business case for these investments. In fact, nearly 50% of our product portfolio company-wide is linked to energy efficiency. We estimate the global economy could operate on 25% less energy just by using today's existing Honeywell technologies. Further, we work to ease the investment burden on our customers through energy performance contracts and other financing options.

And, we too must live the green imperative. That's why Honeywell recently established five-year greenhouse gas and energy efficiency objectives for its internal operations. By 2012, we aim to reduce the company's greenhouse gas emissions by 30% and increase energy efficiency 24%, both from a 2004 baseline year. To accomplish this, we're undertaking a range of actions – installing the intelligent-lighting systems designed by our own company, investing in LEED-certified buildings for office space, applying Six Sigma principles to better utilize energy across our manufacturing enterprise, and much more.

Our overall approach to GHG reduction is the same as the counsel we give our clients around the world. Take advantage of technologies that allow us to work more effectively, make better decisions and produce less waste. It is what's best for our business – and best for our world.

*Jack Bolick is President of Honeywell Process Solutions. Honeywell Process Solutions is part of Honeywell's Automation and Control Solutions group, a global leader in providing product and service solutions that improve efficiency and profitability, support regulatory compliance, and maintain safe, comfortable environments in homes, buildings and industry. [www.honeywell.com/ps](http://www.honeywell.com/ps)*



## Honeywell

Process Solutions  
 2500 West Union Hills Dr.  
 Phoenix, AZ 85027  
 Tel: 877.466.3993 or 602.313.6665  
[www.honeywell.com/ps](http://www.honeywell.com/ps)