

ASU's Global Institute of Sustainability: Guiding Arizona's Long-Term Future

By Jonathan Fink

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Arizona is a state built on optimism—a welcoming land of dazzling landscapes, abundant sunshine, and seemingly limitless economic opportunity.

But lately there is a growing unease among our citizens, concern that the bounty that drew us here might be running out. The decade-long drought might turn into a 1930s-style Dust Bowl. The choking “brown cloud” of air pollution might never lift. Night-time temperatures might pass the century mark and keep on rising. Freeway construction might never relieve the growing load of traffic.

Similar worries face people in different regions of the U.S. and the world. More frequent and intense hurricanes traumatize the Gulf Coast. Climbing gas prices threaten our nation's mobility. Conversion of corn into ethanol causes the cost of basic foodstuffs to skyrocket. New diseases like bird flu spread across the globe at the speed of a 747.

The sustainability of our lifestyle, our economic prosperity, and our environment suddenly seem to be at risk. Societies everywhere are confronted by limits that they did not worry about before. Solutions appear to be beyond our grasp.

But adversity always contains the seeds of opportunity for creative individuals, companies and societies.

In the spirit of optimism, Arizona State University and *The Arizona Republic* are teaming up to produce a series of columns to help Arizonans understand both the challenges of sustainability and their possible remedies.

In 2004, with the generous support of business leader Julie Ann Wrigley, ASU gathered a number of its programs together under the umbrella of the Global Institute of Sustainability (GIOS). The hallmark of GIOS is its research on rapid urbanization, which uses Greater Phoenix as its main “laboratory.” ASU professors receive millions of federal, state, and industry dollars to study all aspects of how cities grow. Among the major questions being addressed are:



How does the expansion of metro Phoenix affect the Sonoran Desert ecosystem that supports it, and how does that natural environment influence the way the city develops?

How do commercial and government managers make decisions about water allocation in the face of uncertainty about drought, climate change and population growth?

How can changes in construction materials reduce the “urban heat island effect,” the tendency of urban areas to retain daytime heat, which when slowly released causes night-time temperatures to rise dangerously high?

How might new information-sharing technology allow the Valley's police departments to more quickly identify criminals who slip from one city to another to avoid capture?

How can “green” energy technologies like bio-diesel made locally from bacteria and roof-top solar reduce a city's reliance on vulnerable, distant fuel sources whose combustion contributes to the perils of global climate change?

Where does the Valley's air pollution come from, which neighborhoods are most affected and what can be done to reduce it?

Although these questions may seem diverse, they share three elements. First, they can only be solved through an interdisciplinary approach, bringing together many different professional perspectives, as occurs routinely in modern research universities. Second, they seek practical answers to many of the issues of greatest concern to Arizona's citizens. Third, their solutions offer new business opportunities through the creation of “sustainable technologies.”

In the coming months, expect to see articles written by sustainability experts from among the ASU faculty, students and staff, as well as our partners in the community. We hope that these columns will provide you and your family with helpful suggestions to guide your own choices about how Arizona can continue to grow in ways that preserve our bright future.

Jonathan Fink is Vice President for Research and Economic Affairs at ASU. On July 1, he becomes the Julie Ann Wrigley Director of the Global Institute of Sustainability as well as ASU's first Chief Sustainability Officer.