

HOT Growth

What Industries Will Fuel Arizona's Recovery?

By David Lucas

Photographs by Kenn Tomasch

As Arizona struggles to turn the economic corner heading into a new decade, more thought is being put into how to recapture the vitality of growth that characterized the state in previous decades. Instead of defining growth in terms of rooftops, however, many experts are looking to industries besides construction and tourism to expand and diversify our economy. To accomplish that goal, high-wage employers must either be attracted to the state or grown organically. Arizona can re-invent its economic makeup going forward by investing in areas that hold great growth potential. The foundation for some of that growth is already in place, and a number of companies are poised to take advantage of a wave of promising technologies. Nevertheless, new infrastructure will be needed.

Economists and employment experts have identified some fertile fields for job growth in the decade ahead. The US Bureau of Labor Statistics projects four of the top 10 industries that will experience the greatest job growth during the 2008-18 period are health related. In a report by the market research analysis firm IBISWorld, biotechnology was ranked third among the 10 strongest industries in the coming decade. Green industries also made a strong showing with environmental consulting ranked fifth and recycling facilities placing ninth.

In Arizona, renewable technologies—including solar—healthcare and biotechnology are among the sectors that can spur future job growth, many experts agree. Arizona already has a head start in healthcare. “We’ve been growing 36 percent faster than the nationwide average,” reveals Kathleen Lee, director of research and strategy for the Greater Phoenix Economic Council (GPEC). “We’ve also been gaining jobs in biomedical faster than the nation.”

Campus Catalyst

A potential catalyst for biomedical growth in the Valley sits on the same campus as the Translational Genomics Research Institute. TGen’s neighbor on the downtown Phoenix Biomedical Campus, the University of Arizona College of Medicine - Phoenix, collaborates with TGen and other organizations to advance research and biomedical engineering in the Valley.

Construction of a new Health Sciences Education Building began in May, promising to add a new job-generator to the Phoenix campus. Arizona Board of Regents President Ernest Calderón predicts the facility “will have a tremendous economic impact on the state by creating new jobs and pumping revenue into the economy.”

The \$187 million education building will house an expanded medical school, creating space for 120 students each year. That would place the size of the Phoenix facility in the top half of U.S. medical schools, according to Stuart Flynn, dean of the Phoenix campus.

By focusing on research initiatives in five specialized areas, including diabetes, heart disease and cancer, Flynn envisions his school following a similar path as the University of Pittsburgh, which gained national acclaim for its focus on transplantation and immunology. Following in those footsteps could lead to a big payoff. “Projections for this campus in the not too distant future are around \$2 billion,” Flynn says.

That inevitably leads to high paying job opportunities. “These are relatively green and high-end professional jobs that academic medical centers nurture,” Flynn says.



Students at the University of Arizona College of Medicine - Phoenix will soon be part of a skilled, well-paid workforce.

Photo courtesy University of Arizona College of Medicine - Phoenix



Dillon Holmes, president of Cambio Energy, sees bright prospects for solar technology as an economic driver.

Bright Future for Solar

With Arizona's abundant sunshine, solar development is a natural for the Valley, though other states are also in the mix. "The solar industry has had a tremendous growth in the U.S.," Lee says. "In the last three years there has been a 187 percent outgrowth in that industry. Some industry analysts are saying that will grow threefold."

Lee cites the Arizona Renewable Energy Tax Incentive Program the state Legislature passed in 2009 as an important competitive tool. "It moves our competitive ranking in terms of the ability to attract solar manufacturers to Arizona," she says. "We're able to compete with other states that offer similar types of programs. As a result of this program, we have already landed several solar manufacturers."

The legislation is designed to stimulate new investments in manufacturing and headquarters operations of renewable energy companies, including solar, wind, biofuel and geothermal. Renewable energy companies receive a refundable corporate income tax credit and a property tax reduction.



GPEC economist Kathleen Lee is optimistic about biomedical and high-tech industries' impacts on our economy.

"We have all the ingredients for success: we have the high-tech infrastructure, a skilled workforce and plenty of sun," says Kirk Busch, chairman of Az4Solar, a solar industry advocacy group.

Solar development has the potential to foster a variety of high paying jobs, as Busch outlines: "You're going to have high-level research and R&D folks in labs and development centers. You've got engineers and the middle management section of high-tech factories, which are great high paying jobs. Even at the factory floor level, it's a semi-skilled workforce. The job potential at the manufacturing level is fantastic. Architects have to draw the systems, you have electrical engineers on staff to do the diagrams, and you've got fairly high-skilled construction types on the rooftop doing these installations to code. That's why I call it potentially the perfect industry."

Cambio Energy of Phoenix is one company that saw an opportunity in solar two years ago and went all in. President Dillon Holmes leveraged his background as an electrical contractor and introduced Cambio Energy to the solar field. But first, Holmes had to negotiate a steep learning curve. "It was getting a firm grasp on the industry and then being prepared before our first installation," he says. "That was right in the middle of the recession. But it's picked up and it's growing now and we're happy with the number of installations."

Holmes estimates Cambio's installations have grown by 100 percent in two years. Business has been aided by a 30 percent federal tax credit and generous APS rebates (that have since been reduced). But even if incentives eventually go away, he believes Arizona solar will stand on its own.

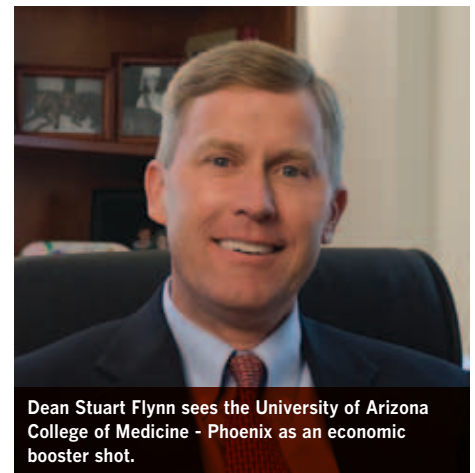
"The most growth in this industry is going to happen when there are no rebates at all," Holmes predicts. "This is a good way to get it kick-started, but once it becomes less volatile, once those go away, manufacturing costs are going to come down and we're going to have a market much like lighting or air conditioning where you're not totally dependent on these rebates."

Holmes adds that equipment costs have dropped 30 percent in about 18 months. "It's becoming mainstream. We've already seen a huge influx of competitors, a lot of startup companies," he says.

The key to success is making solar systems more affordable for homeowners, and better methods of financing solar electric are critical. Busch notes that National Bank of Arizona was instrumental in 2009 in financing Solar Phoenix, the nation's largest residential solar leasing program. "National Bank of Arizona has become a leader in solar installation financing," Busch says.

Besides healthcare and solar, high-tech industries hold promise of helping to diversify Arizona's economy in the next decade. "Arizona has been strong in aerospace and electronics," Lee observes. "That's been the mainstay of our economic history. We need to retain those jobs because aerospace jobs are about \$70,000 a year on average."

Advanced materials manufacturing is another potential growth market. These materials are key



Dean Stuart Flynn sees the University of Arizona College of Medicine - Phoenix as an economic booster shot.

components that go into many technologies. "As our economy moves forward, materials that go into processes as well as the products themselves are going to be very important," Lee says. "Because of our history of high-tech industries, we are well positioned for that type of activity."

The Greater Phoenix Chamber of Commerce will preview the latest research and analysis on economic trends from industry insiders at Economic Outlook 2011 in September. Members will gain valuable insight into how solar, healthcare and other growth industries will impact Arizona as we move to diversify our economy.

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