



BY MCKINLEY CONWAY

COMING: THE BIGGEST ROOM EVER!

GET READY FOR A PERIOD OF UNPRECEDENTED GLOBAL DEVELOPMENT THAT WILL PROVIDE NEW OPPORTUNITIES AROUND THE WORLD IN EMERGING INDUSTRIES RANGING FROM NANOTECHNOLOGY TO SOLAR AND WIND POWER.

DAN DRIEGER / ISTOCKPHOTO

The economic recession has prompted many to duck and cover, and many economists are making very pessimistic short-term and long-term forecasts. However, scrutiny of the factors at play reveals that the coming decade will bring a great deal of opportunity.

A key economic indicator that is often overlooked is the number of new industrial plants that are opening. Conway Data started to collect and compile reports of manufacturing plants, distribution facilities, and office buildings in the 1950s, when economic growth in the United States was typically measured by government estimates of overall economic activity. We found a distinct difference between what the government measured and what we reported. The government guessed at the size of *forests*. We counted *trees*.

The “trees,” in this case, were the activities of the nation’s fastest-growing firms—just a small percentage of the total. We believed that this gave a more realistic view of things to come. Over the decades, our reports revealed consistent growth that continued despite wars, natural disasters, recessions, and depressions.

When industrial plants shut down, they attract a certain measure of public attention. More easily overlooked are the thousands of new plants and facilities that are opened all over the United States each year. For example, in 2008, Ohio landed the greatest number of new plants and expansions with 503. (Texas, with 497 projects, came in a close second.) Rounding out the rest of the top five were Michigan, Pennsylvania, and North Carolina, respectively. Note that the “Rust Belt” states ranked high in our count at the same time the national news media were reporting nothing but bad news about them.

We believe this data reveals the true strength of the U.S. economic system and its future.

WHAT'S DRIVING THIS GROWTH?

Future development is driven by a variety of basic human instincts—notably, need, desire, fear, and competition—dynamics that have been in effect since the beginning of re-

corded history. All of those factors are continuing to build up pressure.

1. Need. The fast-growing global population has an urgent and growing need for water, food, shelter, clothing, and essential services. From the present level of about 7 billion souls, Earth’s population is predicted to grow to 8 billion by 2020 and 9 billion by 2040. There is no effective world population management plan currently, and none in sight.

2. Desire. Thanks to globalization and communication technologies,

ers at all levels are increasingly measured by their ability to place their constituents high on the charts for economic development success.

NEW AND EMERGING INDUSTRIES

How will the world respond to these growing pressures, and where will we find the new industries to build tens of thousands of new productive facilities and create billions of new jobs? Here are a few promis-



A desalination plant at work. Desalting and selling seawater could become the largest industry in the world. A dramatic rise in sea levels due to climate change could hasten industry growth.

those who live in the Third World are now well aware of what they are missing. They, too, want to ascend above the poverty level. Rising expectations of those living below the poverty line are a major force even in the wealthiest nations.

3. Fear. Personal security is a global concern. Terrorist attacks can occur anywhere at random and often target innocent civilians. There is the awesome threat of a devastating nuclear attack triggered by fanatics. Consequently, the pressure builds for defense mechanisms, ranging from standing armies to city surveillance cameras and home intrusion alarms.

4. Competition. Better reporting of economic development activities and “scoreboards” showing the relative success of nations, provinces, and local jurisdictions is intensifying basic competitive instincts. Political lead-

ing areas for new growth.

• **Water supply systems.** Uppermost on mankind’s list of necessities is water. In the years just ahead, the world will be forced to phase out the existing water supply system—an environmentally damaging practice based on robbing natural streams and pumping aquifers to extinction. The new system will likely rely on huge seawater desalting plants. The basic technological know-how is already in place, and smaller scale desalination plants are currently in use in the Middle East. A desalting plant in Saudi Arabia provides water to the capital city of Riyadh 200 miles from the source. Desalting and selling potable water will become big business—possibly the largest in the world.

A dramatic rise in sea levels due to climate change could hasten con-

struction of scores of seawater desalting plants around the world. These would withdraw great amounts of water from the oceans, maintaining safe sea levels while providing new supplies of water to regions suffering from desertification.

- **Science and technology R&D.**

The rapidly expanding combination of academic incubators, science parks, and venture capital firms will spin off a stream of new science and

PEGGY GREB / USDA-ARS



Agricultural engineer Paul Colaizzi demonstrates the soil-wetting pattern of subsurface drip irrigation in a cottonfield. Drip irrigation is an excellent way to conserve water and reduce fertilizer runoff in gardens.

technology breakthroughs. The current wave of new ventures in biotechnology, nanotechnology, and the information sciences will seem small in comparison. In the years ahead, discoveries will range from giving sight to the blind and curing cancer to linking computers directly to our brains.

- **Clean energy and power plants.**

The world is moving ever closer to recognizing the futility of depending on fossil fuels and industries. Governments are starting to make firm commitments to alternative sources. This is triggering new investment in nuclear, wind, solar, biomass, and geothermal power plants, as well as energy from ocean tides, waves, and currents—not to mention new energy systems yet to be developed.

- **Transportation systems.** The congestion and accident risks that

THE RISE OF CLEANTECH

In the midst of the recession, the clean energy economy is growing, and global investments could reach more than \$2 trillion over the next decade.

A recent study conducted by the Pew Charitable Trusts reveals that there were 770,000 green energy jobs (both white-collar and blue-collar) in the United States alone in 2007, compared to around 1.3 million jobs in traditional energy utilities.

The field still represents a small part of the overall U.S. economy. However, clean-energy job opportunities have increased more than twice as fast as the overall U.S. job growth rate since 1998, largely without a push from the federal government.

Clean energy technology, or cleantech, includes renewable energy, clean transportation, wastewater management, new construction, pollution reduction, and sustainable agriculture. Currently, government support of cleantech enterprises is growing and investment from the private sector is increasing on a large scale—not just in the United States but around the world—as the burgeoning field becomes more high-profile.

Over the next two decades, more than 2 million jobs in renewable energy technologies could be created in the European Union alone, according to research conducted by Copenhagen Economics. The researchers point out that this figure doesn't include the number of potential jobs in energy efficient "green" construction and transportation. They project that there may be twice as many opportunities for employment in those areas.

Texas and Ohio, the two U.S. states that Conway Data reports as having the most new and expanded plants, have both benefited economically from the nascent cleantech field. According to the Pew report, Texas "generates more electricity from wind than any other state, had more than 55,000 clean energy economy jobs in 2007, and attracted more than \$716 million in venture capital funds for clean technology between 2006 and 2008." The report adds, "Ohio ranked among the top five states with the most jobs in clean energy, energy efficiency, and environmentally friendly production in 2007."

Jobs, businesses, and investments in the field are projected to increase as environmental protection and economic growth become more closely linked together—in other words, as a clean energy economy emerges. There are some key variables, however. Investing in new technology carries risks and often relies on long-term returns, rather than short-term gains. While innovation typically has a stiff price tag, investors and policy makers now appear likely to move more toward clean energy technologies.

— Aaron M. Cohen

Sources: The Pew Charitable Trusts, www.pewtrusts.org. Copenhagen Economics, www.copenhageneconomics.com. PSQ Analytics, www.psqanalytics.com.

are plaguing the roadways will be relieved by investments in new concepts and technologies. Interstate highways will be modernized by the addition of lanes in which individual autos and trucks are controlled by computers. Robo-cars—small vehicles completely controlled by built-in AI—will pick up elderly and disabled people in residential areas and

take them to nearby supermarkets, doctor's appointments, and wherever else they might like to go.

New travel frontiers will range from space tourism to human-powered flight around our neighborhoods. In December 2009, Virgin Galactic unveiled its new spaceship at the Mojave Space Port. They're selling tickets for trips this year. A num-

ber of other firms are also actively promoting projects. As for human-powered flight, the Daedalus 88 machine currently holds the record. It flew 199 km from Crete to Santorini in 3 hours and 54 minutes.

- **Agricultural technologies and solutions.** Drip irrigation systems, pioneered in Israel, have been proven to conserve huge amounts of water. This increase in water productivity saves money, increases crop yields, and contributes to more sus-

PETR KRATOCHVIL / PUBLIC DOMAIN PICTURES.NET



Wind turbines at work. The shift from fossil fuels to more sustainable alternatives is under way, and this is triggering new investment in wind energy as well as solar, geothermal, and other renewables.

ment. Thus, there will be powerful support for constructive conservation projects such as the restoration of vast areas of tropical rain forest, denuded woodlands, dried-out savannahs, destroyed coral reefs, and damaged barrier islands and seashores.

We will also develop methods to salvage and reuse nuclear waste material. A new program aimed at doing just that is gaining legislative support in the United States.

past trends also suggest that the world agenda will include building hundreds of new business parks containing tens of thousands of new plants, providing millions of new jobs, and supporting a better quality of life for billions of the world's citizens.

If there's one thing we can predict with absolute certainty, it's that the decades ahead will be tumultuous. There will be setbacks. There will be rude surprises, disasters, and downturns. The world, however, is more

ERIK ZOBRIST / NOAA RESTORATION CENTER



A marsh buggy brings sediments to a newly created marsh on East Timbalier Island in Louisiana in order to preserve the rapidly eroding coastline. Environmental conservation and restoration projects will create new economic opportunities in the coming years.

tainable food production. As Lester Brown recently reported in *THE FUTURIST* ("How to Feed 8 Billion People," January-February 2010), drip irrigation reduces the amount of water needed by around 50%.

Research in genetics and other fields will likely lead to the development of crop varieties that can be irrigated with saltwater as well as others that resist freezing temperatures. In 2000, I visited a test plot in Jubail, Saudi Arabia, where greens were being grown using saltwater irrigation.

- **Promoting sustainable living.** The most important element of the world agenda for the upcoming decades will be the preservation and restoration of natural resources and environments. Every new development project will be viewed not as an unavoidable detriment but as an opportunity to enhance the environ-

SOCIAL PROGRESS SUPPORTS GROWTH

The spread of democracy will lend support to these emerging industries. Around the world, the political winds shift constantly. However, there is an underlying desire of all people to be self-governing. Thanks in no small part to cyberspace, this movement will accelerate, giving rise to new democratic governments in areas where dictators and juntas previously ruled. This in turn will lead to great new investments aimed at improving the quality of life for millions rather than providing luxury for a few despots. Lifting Third World countries to productive status will also provide a boost to the global economy.

Despite widespread worry about a collapse in commercial real estate,

capable of dealing with almost any type of disaster. Given lead time, the world can cope with even the worst-case scenarios. □



About the Author

McKinley Conway is the founder of Site Selection, www.siteselection.com, the first-ever magazine focused on corporate real estate and economic development. He also founded the International Development Research Council and the Industrial Asset Management Council. In addition, Conway created the industry's first development-focused Internet site, SiteNet, www.sitenet.com. His previous article for *THE FUTURIST*, "The Desalination Solution," appeared in the May-June 2008 issue. His address is Conway Data, Inc., 6625 The Corners Parkway, Suite 200, Norcross, Georgia 30092. E-mail editor@conway.com. Web site www.conway.com.

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