

# 10 Minutes on Global Infrastructure\*

What you need to know about emerging topics essential to your business. Brought to you by PricewaterhouseCoopers.

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## Building a foundation for growth

### Highlights:

- Infrastructure is high on the global agenda and the potential payoff for investments is substantial.
- Business and government will increasingly join forces to finance, build and operate transportation and other infrastructure projects.
- Pursuit of sustainability is creating opportunities as industries converge to develop clean technologies such as “smart” electric grids.
- Given their increasing complexity, infrastructure projects will require an intense focus on risk management and accountability.

**As part of their plans to stimulate their economies, many countries including China, Mexico, Australia and the US have announced plans to step up infrastructure spending.**

**As they increasingly compete for business, nations, states, provinces, and cities are also investing in their infrastructure. The world's infrastructure investment needs for energy, road and rail transport, telecommunications and water are likely to average 3.5 percent of world gross domestic product through 2030, or about US\$71 trillion, OECD says.**

**The renewed focus on infrastructure is creating opportunities for businesses and investors around the world. It is also prompting innovations in financing, development, and operations of infrastructure.**

### What CEOs expect from national and local infrastructures

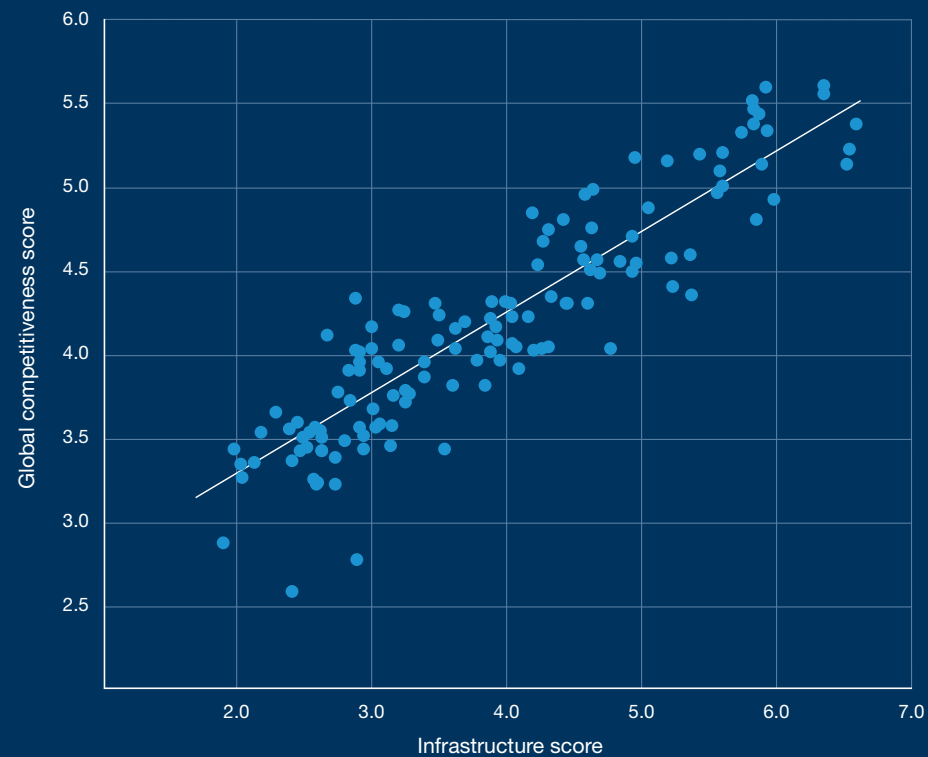
1. A third of CEOs responding to PwC's 13th Annual Global CEO Survey expressed concern that inadequate infrastructure is threatening their companies' growth prospects, up from a quarter of CEOs in our 2008 survey.
2. Only 40 percent of CEOs said the government in the country where they operate is taking adequate steps to improve the infrastructure.
3. The percentage of CEOs who said they were satisfied with government actions on infrastructure improvement varied widely by country—87 percent in China/Hong Kong expressed that view, compared with only 13 percent in the UK.
4. About 86 percent of CEOs expect consumers to place more importance on a company's environmental and corporate responsibility practices—a trend that is also affecting expectations of governments in how they execute infrastructure projects. supplied later.

## At a glance

Transformations of cities and nations are underway through significant infrastructure projects. Opportunities abound for construction, engineering, building, and technology firms. But all businesses stand to gain from newly connected markets, revitalized centers, re-imagined sites, and new growth areas. Is your company poised to take advantage of the global competition for your business, people, and assets?

### Well-developed infrastructures drive competitiveness

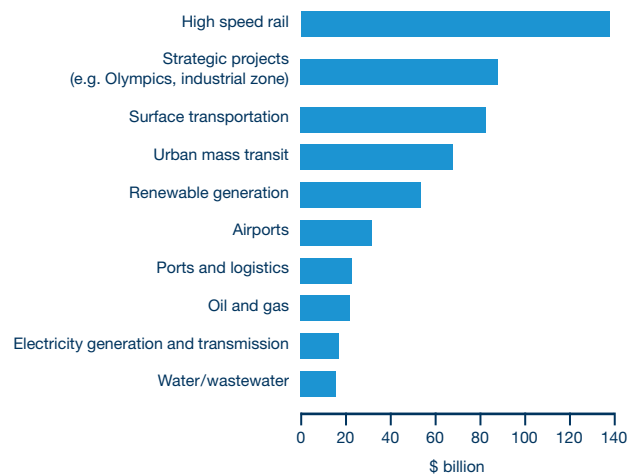
Correlation of infrastructure scores with global competitiveness scores of 133 countries



Source: World Economic Forum, *The Global Competitiveness Report 2009-2010*, September 2009.

## Infrastructure needs are massive

### Top 100 global projects by type of infrastructure



Source: CG/LA Infrastructure, *Top 100 Strategic Infrastructure Projects*, November 2009.

Government leaders around the globe recognize that a world-class infrastructure can give a country a competitive edge.

### Inadequate or crumbling infrastructure stunts growth

In Asia, US\$8 trillion in infrastructure investment is needed over the next decade, according to the Asian Development Bank. The Bank sums up the problem this way: “The inadequacies of Asia’s infrastructure networks are a bottleneck to growth, a threat to competitiveness, and an obstacle to poverty reduction.”

For example, India’s ability to maintain its rapid growth depends on its ability to provide basic services. Many of its roads, rail lines, ports and airports are already operating at capacity. The Indian government’s plan through 2012 calls for US\$500 billion in infrastructure projects, with power and road projects topping the wish list.

Meanwhile, developed countries need to repair, replace and upgrade crumbling bridges, roads, water systems,

communications networks and energy grids. In the US, \$2.2 trillion in investments is needed over five years to bring its aging infrastructure up to good condition, the American Society of Civil Engineers says.

### The payoff in growth and competitiveness

Robust economies require constant attention to infrastructure. The payoff of infrastructure investments can be big in developing nations, as Brazil’s experience shows. After substantial investment spending, Brazil’s economy grew more than five percent annually in 2007 and 2008.

The Asian Development Bank estimates that the payoff for a US\$8 trillion investment in pan-Asian connectivity in the region’s transport, communications, and energy infrastructure would be real income gains of US\$13 trillion over the next decade and beyond.

Mature economies can only maintain their competitive edge and continue to attract businesses and people, with continued infrastructure investments.

## The private sector will help governments get the job done

Increased government spending through stimulus packages will provide a shot in the arm, but growth in public-private partnerships (PPP) will be needed. And in some cases, the private sector will lead, as it has in the build out of telecommunications networks in many developing countries.

Private capital is interested. In the US alone, an estimated \$180 billion in private capital is available for infrastructure investments. Pension funds are helping to fuel the trend, with many now viewing infrastructure projects as a stable new asset class.

### **Rise of PPPs: on-time and on-budget completion**

Infrastructure PPPs are common in Europe, Australia, Canada, South Africa and parts of Asia. They're now gaining momentum in India, Central and Eastern Europe, Latin America and the US. India expects PPPs to develop 30 percent of the US\$500 billion in projects planned for the five years ending in 2012.

PPPs offer advantages in cost and efficiency. In a 2009 study of 114 PPPs, the UK's National Audit Office found

that 69 percent were completed on time. Australia's Allen Consulting Group found that cost overruns were much higher for traditional projects than for PPPs—AU\$673 million on AU\$4.5 billion in projects versus only AU\$58 million on AU\$4.9 billion in PPPs.

The success of PPPs is due to several factors. For example, private partners bring new design concepts and take on risks that they are better suited than the public sector to manage.

### **How to entice private sector participation**

For deals to proceed, public officials will need to carefully allocate risks and take other steps to structure arrangements in ways that attract private partners. Where experience with PPPs is very limited, officials will need to make the public understand that private partners are entitled to make money. Contracts can be structured to reward private partners financially, depending on their performance. Public officials will also need to address taxpayers' concerns through transparency and accountability.

## Pursuing sustainability in development and operations will drive innovations

The financial crisis has prompted governments and businesses to think differently about how to build, finance and operate roads, energy grids and supply chains. Innovations in infrastructure development, not just in financing, are likely to flourish in the coming decade.

### **Emerging smart infrastructures**

Clean energy projects offer vast opportunities for a wide range of businesses, due to a convergence of technologies. “Smart” energy grids, which depend on intelligent networking, are being developed by alliances of utilities and information technology, communications and computer networking companies. Software companies are helping utilities manage all the data. Appliance manufacturers are working on washing machines, refrigerators and water heaters that can communicate with the smart grid. Automakers are working with battery technology specialists and utilities on electric cars and the infrastructure to support them.

All of this is changing the competitive landscape, even for old-line industries like steel. The European Union’s goal of

having 20 percent of energy come from renewable sources in 2020, for example, could result in the wind turbine industry overtaking EU automakers as the steel industry’s biggest customer by 2013, according to one estimate.

### **New ways to pay for infrastructure**

Sustainability will be defined broadly to include the ability of infrastructure projects to support themselves.

The Dutch government plans to develop the first national GPS-based road charging system, where drivers would pay on the basis of distance traveled and time and place of travel. The goal is to make drivers think twice about starting their engines, reducing congestion and improving air quality, while making users pay for road maintenance.

Congestion pricing, a successful approach in London, Stockholm, and Singapore, is catching on elsewhere in the world. Surcharges for getting on transport networks during peak periods not only relieve congestion, but also avoid the need to build new roads and instead raise revenues for other infrastructure projects.

## Managing complex projects in a new era

Given their increasing complexity, large infrastructure projects require an intense focus on transparency and accountability to ensure that they are funded, that they are completed in a timely, cost-effective manner and that they can be run efficiently.

### **Good governance and risk management**

This can be achieved by planning projects with discipline, implementing formal internal controls to address risks such as corruption and scope creep and fostering open communication with suppliers, contractors and other key stakeholders. In short, what's needed is good governance and risk management practices.

Poorly defined projects almost always deliver sub-optimal results, no matter how well they're executed. And establishing internal accountability is critical as large projects typically involve people in different locations with overlapping controls.

Risk management is essential because large capital projects attract corruption in the form of bribery, use of inferior materials, poor workmanship and outright theft. Putting systems in place to avoid and

detect corruption is especially important now that many governments are stepping up enforcement of anti-bribery laws.

Success also depends on having the right talent in place. In the utility industry, which will make huge capital investments in the next decade, 62 percent of senior executives in a PricewaterhouseCoopers global survey said they faced shortages of skilled capital project managers.

### **The way forward: key questions**

- For **governments**: How prepared are you to engage the private sector in infrastructure development? What types of infrastructure investment would pay off the most?
- For **private partners**: How prepared are you to provide transparency in project design and financial structures?
- For **companies engaged in the execution of projects**: How can you demonstrate the necessary governance and risk management practices that provide greater confidence in on-time, on-budget delivery?

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## Upcoming 10Minutes topics

### **Creating more value from HR**

The link between effectively deployed talent and business results has never been more apparent than in the past year. Strong leadership enabled many firms to perform better than their competitors. 10Minutes discusses ways that companies can improve their approach to recruiting and managing pivotal employees by better aligning HR models to the strategic goals of the business.

### **The changing face of financial reporting**

Standard setters have proposed fundamentally changing the way public companies gather and display financial data for investors and the general public. While some welcome the changes, critics say the proposal is costly and, in large part, unnecessary. 10Minutes discusses the pros and cons.

### **From crisis mode to sustained efficiency**

With the strength of the recovery remaining uncertain, companies have yet to ease up on cost-reduction measures. In fact, many are going to the next level, re-thinking operating models and structures to see how various functions can deliver even more value at lower cost. 10Minutes looks at how companies are embedding lessons from the crisis into more disciplined management of corporate performance.

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## How PwC can help

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about business continuity in an  
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