Industry Agenda

Infrastructure & Urban Development
Governors Meeting 2013

Davos-Klosters, Switzerland 23-26 January

March 2013
Foreword

The Infrastructure & Urban Development Industries at the World Economic Forum can report another year of accomplishment under the leadership of its Governors. The Community now consists of 39 Partners covering a broad range of professional interests, needs and activities across the entire value chain, from real estate and urban development to construction and heavy industry engineering services. Its objectives are to leverage the strengths of this value-chain approach while ensuring the highest level of servicing of the specific sectors’ priorities. During the past year the Community grew substantially, with several new Partners joining from the areas of engineering, procurement and construction (EPC); specialty EPC contracting in upstream extractive industries (including oil and gas); and the real estate development and investment sectors.

Today's global infrastructure demand is estimated at approximately US$ 4 trillion in annual expenditure with a gap – or missed opportunity – of at least US$ 1 trillion every year. However, countries are often faced with the paradox of a dry pipeline of projects. While government leaders must appropriately select and prioritize their infrastructure needs beyond the constrained logic of political cycles, they are nevertheless partly incapable of closing the financing gap, which the private sector must fill. Without innovative financing models, new models of collaboration and the creation of private companies that are best suited to execute the much-needed infrastructure and resultant urban development, it will not be possible to meet the demand.

At the World Economic Forum Annual Meeting 2013 in Davos-Klosters, an unparalleled number of world leaders from industry, government, academia and civil society convened under the theme of “Resilient Dynamism”. The Infrastructure & Urban Development Industries Governors’ discussions and related private events in Davos provided fertile ground to reflect on some of the most pressing economic issues related to the sector and on aligning the Community’s goals going forward. Many of the ideas and solutions envisioned at the Annual Meeting 2013 in Davos will serve as stepping stones, enabling the agenda to move forward swiftly:

- The topic of critical economic and financial uncertainties played out well under the banner of “Resilient Dynamism”. Whereas political risks in developed countries appear to have been largely overestimated in the recent past – such as the euro crisis – it is nevertheless true that an increased mandate of fiscal austerity has resulted in constricted public budgets detrimental to public investments. It became clear that lending restrictions, particularly in the European banking sector, have worsened the deficit in infrastructure financing. Regulatory reforms and the adoption of new financing sources could help alleviate this lack of funding. Although the risk of collapse and break-up of the Eurozone still exists, past positive developments have given hope for a more favourable scenario of stabilization and growth. Responsible solutions to short-term fiscal challenges in the United States are expected, thereby offering a positive and hopeful mid-term outlook that will directly impact the sector.

- This year’s Annual Meeting included a joint Governors session, bringing the Infrastructure & Urban Development and Mining & Metals Communities together. Given the affinities and complementarities these industries share, it emerged that the leading representatives welcomed the opportunity for more systematic cross-industry collaboration in 2013 and beyond. Indeed, the industries have a series of topics and issues in common, including demand, supply, production, environment,
government and social relations, infrastructure and financing. Collaboration includes focusing on the sharing of best-practices, particularly on government and community engagement, setting global minimal standards for social and environmental behaviour, as well as infrastructure financing, global supply and demand forecasts and innovation.

- The Governors reaffirmed their continued support of the Strategic Infrastructure Initiative, which brings awareness to the problem of a widening infrastructure gap and provides guidance to overcome the short-term oriented focus of public investment. In effect, project funds should be set up by the public and the private sectors working to accelerate the preparation process. The perception of risk and slim returns particularly in low-income countries can lead to a shortage of financing. Thus, to attract investors and financiers, new forms of guarantees, credit enhancement and new sources of long-term investment are needed. Although Public Private Partnerships (PPPs) are an alternative, to provide sufficient investments in infrastructure and urban development to secure future growth their success requires a change in public perception and understanding. Participants engaged in the Initiative were invited to join forces and support the Russian Federation’s B20 process on “Investments and Infrastructure” and to translate the identified recommendations into concrete action plans for governments.

The Forum’s Infrastructure & Urban Development Industries team will strive to make 2013 an even more successful year than 2012 as the Infrastructure & Urban Development Industries pan out a number of results directly related to its initiatives while making use of the vast experience and knowledge of the new Partners who joined recently. The team looks forward to working with all members of the Community in 2013 to advance the industries’ agenda while contributing to improving the state of the world. In this regard, recognition for their leadership and commitment go to immediate past-Chair Lee A. McIntire (CH2M HILL Companies) and outgoing Steering Board members, Priya Hiranandani-Vandrevala, (Hirco Group), Mohamed Alabbar (Emaar Properties), Douglas Frye (Colliers International), Roland Koch (Bilfinger), Atsutoshi Nishida (Toshiba Corporation) and Philip Dilley (Arup Group). The team also thanks all the Governors for their extraordinary support and advice throughout the past year.

The Infrastructure & Urban Development Industries aims to serve as a forward thinking, valuable, and internationally recognized partner for all stakeholders involved in infrastructure & Urban development while shaping the sector’s agenda to create unparalleled opportunities to convene leaders, raise global awareness, conceive frameworks, and prepare actionable recommendations in the context of improving the state of the world.
Governors’ Lunch and Community Update for Infrastructure & Urban Development Industries

Hotel Waldhuus, Sertig-Dischma
Friday 25 January, 12.00 – 14.45

The Steering Board of the Infrastructure & Urban Development Industries Community is the group’s ultimate decision-making body. Through its new Chair – David D. Seaton – and members, it defines the future endeavours of the Infrastructure & Urban Development Industries at the World Economic Forum. Community recognition and its unique role in shaping the global agenda critically depend on the advice of Steering Board members who individually may well spend more time interacting with the World Economic Forum beyond the regular meetings convened by its Chair.

This year’s Governors lunch and Community update was preceded by the first gathering of the newly formed Steering Board for 2013 called by the immediate past-Chair Lee A. McIntire, and is comprised of the following Partners:

– David D. Seaton, Fluor Corporation, Chair of the Steering Board
– Lee A. McIntire, CH2M HILL Companies, immediate past-Chair of the Steering Board
– John M. Beck, Aecon Group
– Samir Brikho, AMEC
– Fabrizio Di Amato, Maire Tecnimont
– Philip Diley, Arup Group
– Colin Dyer, Jones Lang LaSalle
– José Manuel Entrecanales Domecq, Acciona Energia
– Douglas Frye, Colliers International
– Ajit Gulabchand, Hindustan Construction Company
– Priya Hiranandani-Vandrevala, Hirco Group
– Samer S. Khoury, Consolidated Contractors Company
– Burak Oymen, Capital Partners
– Henry Ross Perot Jr, Perot Companies
– Atul Punj, Punj Lloyd
– Mu’Taz Sawwaf, Construction Products Holding Company
– Hamish Tyrwhitt, Leighton Holdings
– Sandra Wu Wen-Hsiu, Japan Asia Group

01: Lee A. McIntire, Chairman and Chief Executive Officer, CH2M HILL Companies, USA; Chair of the Steering Board of the Infrastructure & Urban Development Industries 2012 welcoming the Governors
02: Samir Brikho, Chief Executive Officer, AMEC, United Kingdom
03: Olof Faxander, President and Chief Executive Officer, Sandvik, Sweden
04: Douglas Frye, Global President and Chief Executive Officer, Colliers International, USA
05: Atsutoshi Nishida, Chairman of the Board, Toshiba Corporation, Japan
The Infrastructure & Urban Development Industries Steering Board outlines the focus of the Community at the World Economic Forum on an annual basis. Therefore its members provide general guidance and help the Chair set the mandate while monitoring and evaluating the outcomes of initiatives, activities, meetings and geographical areas of interest. The Steering Board confirmed the mandate of the Infrastructure & Urban Development Industry Partner projects for 2013 as follows:
- Strategic Infrastructure Initiative
- Future of Urban Development, with a specific focus on China in 2013
- Real Estate Policy Dialogues
- Energy Infrastructure Dialogues with the oil and gas community

The Steering Board also endorsed the transition of the Disaster Resource Partnership (DRP) secretariat from the World Economic Forum to a rotating secretariat among the Infrastructure & Urban Development Governors, with Samir Brikho (AMEC) agreeing to host it for 2013, and Steve Dobbs (Fluor) tentatively agreeing to do so for 2014. Special thanks were extended to Samir Brikho and Ajit Gulabchand for their leadership on the DRP as Steering Board Chair and Member respectively in 2012.

As mentioned, several new Partners joined the Community from the areas of engineering, procurement and construction (EPC); specialty EPC contracting in upstream extractive industries (including oil and gas); and the real estate development and investment sectors, bringing the number of Partners to 39. The new Governors for 2013 are:
- Robert G. Card, President and Chief Executive Officer, SNC-Lavalin Group
- Fabrizio Di Amato, Chairman and Chief Executive Officer, Maire Tecnimont
- Bernard J. Duroc-Danner, President, Chairman and Chief Executive Officer, Weatherford International
- José Manuel Entrecanales Domecq, President and Chief Executive Officer, Acciona Energia
- Olof Faxander, President and Chief Executive Officer, Sandvik
- Kim Jae-Youl, President, Samsung Engineering Co.
- Burak Oymen, Co-Founder and Chairman of the Executive Board, Capital Partners
- Shingo Tsuji, President and Chief Executive Officer, Mori Building Co.
- Hamish Tyrwhitt, Chief Executive Officer, Leighton Holdings

1 Represented by Nicholas Gee, Senior Vice-President, Formation Evaluation and Well Construction, Weatherford International
2 Represented by Hiroo Ichikawa, Executive Director, Institute of Urban Strategies, Mori Memorial Foundation, Mori Building Co.
01: Yoshiaki Fujimori, President and Chief Executive Officer, LIXIL Group Corporation, Japan
02: Lee A. McIntire, Chairman and Chief Executive Officer, CH2M HILL Companies, USA
03: José Manuel Entrecanales Domecq, President and Chief Executive Officer, Acciona Energia, Spain
04: Samir Brikho, Chief Executive Officer, AMEC, United Kingdom; Sandra Wu Wen-Hsiu, President and Chief Executive Officer, Japan Asia Group, Japan; and Ajit Gulabchand, Chairman and Managing Director, Hindustan Construction Company, India
05: Henry Ross Perot Jr, Chairman of the Board, Perot Companies, USA
06: Fabrizio Di Amato, Chairman and Chief Executive Officer, Maire Tecnimont, Italy; Kim Jae-Youl, President, Samsung Engineering Co., Republic of Korea; Sandra Wu Wen-Hsiu, President and Chief Executive Officer, Japan Asia Group, Japan; Juergen Tinggren, Chief Executive Officer, Schindler Holding, Switzerland; Ian Bremmer, President, Eurasia Group, USA; and Stephen Dobbs, Senior Group President, Fluor Corporation, USA
Governors Meeting for Infrastructure & Urban Development Industries

Critical Economic and Financial Uncertainties for the IU Sector
Hotel Waldhuus, Sertig-Dischma
Friday 25 January, 12.00 – 14.45

This session was off the record and conducted under the Chatham House Rule.

The year 2012 will likely be remembered as a turning point for the world economy and financial markets as central banks around the world stepped up collaboration to stimulate the economy, while tougher financial regulations came into effect. Amid rising concerns of economic slowdowns in emerging markets, sovereign debt and fiscal crises are still overshadowing parts of the globe. At the same time, the world’s political powers are in transition and political uprisings are creating further uncertainty. In this session, industry leaders exchanged their views on the impact of these uncertainties on the infrastructure and urban development sectors.

Key Points
Several global developments are seen as key influences on the industry:

− **Tightened public budgets**: The increased mandate of fiscal responsibility has resulted in tighter public budgets, thus restricted public investments. Public-Private Partnerships (PPPs) are an option to provide sufficient investments in infrastructure and urban development to secure future growth.

− **Uncertainties on EU debt issues**: The risk of the collapse and break-up of the Eurozone still exists, but past positive developments give hope for a more favourable scenario of stabilization and growth.

− **Cautious optimism on US fiscal issues**: Responsible solutions to short-term fiscal challenges in the US are expected, thereby offering a cautiously positive and hopeful mid-term outlook.

− **Increased gap in infrastructure financing**: Lending restrictions, particularly in the European banking sector, have worsened the shortfall in infrastructure financing. Regulatory reforms and the adoption of new financing sources could help alleviate this situation.

− **Intensified inequality resulting in political uncertainty**: Growing inequality regionally and globally could potentially lead to social unrest, such as in China and Southern Europe.
− Growth of nationalism: Geopolitical risks and social tensions could threaten China’s economic growth.
− Technology for economic growth: Access to information technology in developing countries has added significant dynamism to economic development.
− Increased prominence of free trade agreements: Transnational free trade agreements are anticipated to support international trade, as no short-term progress is expected at the level of the World Trade Organization (WTO).

Synopsis
With the progressive volatility of economic development in recent years, offering a reliable outlook is becoming increasingly difficult. Nevertheless, the leaders of the infrastructure and urban development sector came together to discuss and align their expectations on the general economic prospects and the ensuing impact on the sector.

As a consequence of the financial and sovereign debt crisis, the dominant global trend will likely be recognition of the need for austerity and fiscal responsibility, which could result in tighter public budgets and could impact investments in infrastructure and real estate, deepening the financing gap between infrastructure and real property. The Governors therefore proposed shifting the short-term oriented public investment focus towards more long-term investments to secure sustainable economic growth. They also suggested that to promote infrastructure investment when budgets are limited, PPPs, which align costs with benefits, should be considered. However a change in the public perception of PPPs would be required.

Uncertainties remain about the handling of the European sovereign debt crisis but positive developments are raising hopes. The collapse and break-up of the Eurozone, once a probable scenario, seem less likely and industry leaders are taking a more optimistic, albeit cautious stance by predicting stabilization and growth in the Eurozone.

This more positive outlook is also apparent in the management of US fiscal issues. Although the track record is worrisome, responsible solutions to the short-term fiscal challenges are expected. While the chances of significant reforms in this area are quite slim, the measures offer a more positive mid-term outlook.

The changes that have resulted from the crisis in European banking regulations have also had important effects on emerging markets due to the banks’ dominance in long-term financing in such markets as Eastern Europe and Sub-Saharan Africa. Their lending restrictions and deleveraging have deepened the deficit in infrastructure and urban development sector financing. Regulatory reform and/or the adoption of new financing sources (for example pension funds or stronger investments from emerging markets) could help overcome the financing shortfall.

Growing global inequality is a key area of concern, as it can lead to potential social unrest, not only in the European countries bearing the brunt of the sovereign debt crisis but also in emerging markets such as China. China’s economic growth is affected by the rise of social tensions and increased regional geopolitical conflicts. The new leadership shows signs of increased nationalism in response to such trends.

Taking a long-term perspective, the sector’s outlook is still positive as global economic growth measured by global GDP and driven mostly by emerging markets is expected to double in the next 20 years. Such key trends as urbanization and the demand for access to information technology in developing countries are beneficial to the industry.

International trade through transnational free trade agreements is expected to support the development of economic growth. These agreements will be required to make up for the anticipated lack of short-term WTO progress.
Other Takeaways
− In the recent past, political risks in developed countries, such as euro crisis predictions, have largely been overestimated.
− The global financial crisis that started in 2007/08 has had limited impact on emerging markets in comparison to other recent developments.
− Lack of transparency poses a significant obstacle to economic growth especially in emerging markets as the correlation between the level of transparency and economic growth is clear.

Chaired by
Lee A. McIntire, Chairman and Chief Executive Officer, CH2M HILL Companies, USA; Chair of the Governors for Infrastructure & Urban Development Industries 2012

Discussion Leaders
Douglas Frye, Global President and Chief Executive Officer, Colliers International, USA
Ajit Gulabchand, Chairman and Managing Director, Hindustan Construction Company, India
Roland Koch, Chairman of the Executive Board, Bilfinger, Germany
Sandra Wu Wen-Hsiu, President and Chief Executive Officer, Japan Asia Group, Japan

Firestarters
Ian Bremmer, President, Eurasia Group, USA; Young Global Leader
James M. Flaherty, Minister of Finance of Canada
Fu Jun, Executive Dean and Professor, School of Government, Peking University, People’s Republic of China

Special Guest

Moderated by
Colin Dyer, President and Chief Executive Officer, Jones Lang LaSalle, USA
Cross-industry Governors’ Breakfast for Mining & Metals and Infrastructure & Urban Development Industries

Hotel Seehof, Ferdmann
Thursday 24 January, 07.30 – 08.30

This session was off the record and conducted under the Chatham House Rule.

The Mining & Metals and Infrastructure & Urban Development Industries are closely interconnected and are subject to numerous exogenous risks that are beyond the control of multinational corporations. Coping with these risks, which include access to infrastructure and capital, resource scarcity, and volatility in energy, currency and commodity prices, will require innovative approaches that may not be appropriate within each industry.

In this cross-industry session, high-level participants from both industries offered diverse views on the most critical global risks they must face and suggested possible areas for collaboration to minimize risk exposure.

Key Points

Both industries are dealing with common topics and issues, including:

- Government relations/social responsibility: Increased project risks caused by unreliable government relations that could be improved by better aligned interests, balanced contracts, community support and enhanced social responsibility, resulting in an improved perception of the industry.
- Infrastructure: An overall lack of needed infrastructure, especially in the areas of energy, transportation and water.
- Financing: The need for risk mitigation instruments and competitive costs of capital.
- Environment: The responsible handling of water and waste that meets industries’ needs.
- Demand: The declining predictability of interlinked demand and commodity prices.
- Supply/production: Overall degradation in the quality of the resource base; the need to keep productivity competitive; the lack of skilled labour as well as the emergence of new technologies, such as autonomous vehicles.

Synopsis

As global GDP is expected roughly to double in the next 20 years, and as key trends like urbanization are influencing demand in their favour, the Mining & Metals and the Infrastructure & Urban Development Industries enjoy a favourable long-term outlook. In the short to medium term, however, both industries are facing common, increasingly interlinked issues that should be addressed from a global perspective.

A key matter in both industries is managing government relations and ensuring social responsibility as good corporate citizens. Today the industries encounter increased project risks when certain public partners fail to fulfil their contractual obligations. This issue, partly a consequence of a mismatch between a project’s duration and changes of responsibility in the public sector, could potentially be addressed by the fair allocation of risks and more balanced contracts, and by a stronger alignment of interests at the governmental and local levels. This would also help improve the industries’ generally unfavourable reputation caused by the perception that companies have overreached on deals and inadequately assumed their social and environmental responsibilities in the past.

Ensuring environmentally-friendly development and operations that meet specific requirements is also a common topic for the industries. The current lack of minimum international standards on essential studies and assessments must be addressed, especially in the areas of water and waste handling that are topics of particular concern to the companies.

A lack of sufficient infrastructure, at the production and market stages, poses a significant challenge to the mining and metals industry. The shortage of...
infrastructure in the areas of energy, transportation and water systems constrains capacity and critically impacts not only operation costs but also new developments. Infrastructure investments are key to strengthening a country’s competitiveness and enable future growth. Both industries play an important role in the development of infrastructure and call for greater collaboration with the public sector to address these gaps.

Related to infrastructure, the financing of investments is another area of mutual concern. Ensuring the costs of capital are in line with international levels is key for a company to remain competitive. The industries also call for the broader availability of risk mitigation instruments, for example to decrease currency or political risks. This directly ties in to negotiating more balanced contracts as reduced risks will lower private-sector return expectations.

On the supply and production end, mining and metals companies must deal with the overall declining quality of their resource base, leading to the need for increased productivity, also in the infrastructure industries, for example through the use of new technologies. In addition, both industries must tackle the issue of the lack of skilled labour.

The demand for raw materials, and interlinked commodity prices, has become increasingly difficult to predict over the last few years. This hampers companies’ ability to plan reliably for the long term, affecting project planning and related infrastructure development.

Closer collaboration between the industries, supported by the World Economic Forum, was discussed, initially focusing on best-practice sharing for government/community engagement and setting minimum international standards for social and environmental behaviour. Additional topics to be addressed include global supply/demand projections, which could decrease supply-chain volatility, and collaboration to foster innovation. Additionally, the Forum will continue to drive the topic of infrastructure financing as part of the Strategic Infrastructure Initiative.

Discussion Leaders
Lee A. McIntire, Chairman and Chief Executive Officer, CH2M HILL Companies, USA
Eduard Potapov, Chief Executive Officer, Metalloinvest Management Company, Russian Federation

Special Guest
Ricardo Quijano Jiménez, Minister of Trade and Industry of Panama

Moderated by
Hamish Tyrwhitt, Chief Executive Officer, Leighton Holdings, Australia
Private High-level Roundtable on Global Infrastructure Financing

Congress Centre, Rinerhorn Club
Thursday 24 January, 10.30 – 12.00

Although it offers substantial economic, social and environmental benefits, infrastructure still suffers from significant underinvestment. To keep pace with current demand, investment in infrastructure must more than double globally, increasing by US$ 1 trillion per annum through 2020. The development of environmentally “clean” infrastructure would raise this estimate by an additional US$ 200-300 million per annum.

Boosting the supply of infrastructure in the developing world will require relying more heavily on private investment than in the past. In this session, participants from the government, private sector (investors and infrastructure developers, including Members of the Global Agenda Council on Infrastructure and the Global Agenda Council on Long-term Investing) and multilateral development banks (MDBs) discussed new sources of capital for infrastructure, the constraints facing private-sector infrastructure investors and the levers to address these constraints, including but not limited to standardized risk mitigation instruments. The discussion centred on both debt and equity finance, although the focus of most institutional investors interested in infrastructure is generally on equity investments.

Key Points
Several levers to attract private infrastructure investments were discussed. Among them:
- Increasing the reliability and predictability of project cash flows, for example by incorporating standardized risk mitigation instruments.
- Ensuring a dependable, legal framework and processes unaffected by political change to help reduce country risks.
- Improving public-private collaboration to raise awareness of private investor needs and develop a shared perception of investment risks.
- Reducing transaction costs, for example through standardizing contracts and building local capacity to increase project success rates.
- Providing a continuous project pipeline and ensuring sufficient project preparation and development.

Other Key Takeaways
- To free up capital for greenfield investments, the refinancing of existing infrastructure projects – initially in more developed economies to gain market acceptance – should be considered.
- To extend the reach of MDBs in the short term, off-balance sheet solutions should be considered as recapitalizing them is a politicized and lengthy process.
- To reduce minimal investment hurdles, crowd in small and medium-sized investors and address the issues of investment size mismatch and risk concentration, investment pooling should be pursued.
- To increase investment reliability, contrary actions should have meaningful consequences that detract potential followers.
- To improve public-private collaboration, the fair distribution of risk and rewards among partners and a review of country risk perception/measurement are needed from a public perspective.
Synopsis
Infrastructure financing has been significantly impacted by the recent turmoil in the financial sector as the availability of financing has declined (e.g., as a result of the Third Basel Accord), and the ability to reduce risks (e.g., in the form of Collateral Debt Obligations) has been curtailed. Together with strained public budgets and increasing infrastructure needs, the financial crisis has widened the infrastructure financing gap despite recognition of the long-term economic, social and environmental benefits of infrastructure development.

To bridge this gap, strengthening private-sector infrastructure investments is a viable option but one that requires a better understanding and consideration of private investors’ needs. In this context, three areas of particular importance stand out:

− Increasing the reliability for private infrastructure investments
− Improving cooperation between the public and private sectors
− Ensuring a more continuous pipeline of well-prepared projects

Reliability for infrastructure projects in this context relates to the long-term predictability of cash flows, a consistent, predictable regulatory framework and a stable political situation. Increasing this reliability is crucial to crowd in private investments, and risk mitigation/credit enhancement instruments can play an important role in providing the dependability. The lack of standardization poses a major constraint to the availability of such instruments. As a first step, the World Bank, International Finance Corporation and Multilateral Investment Guarantee Agency as key multilateral development financial institutions will further work with two World Economic Forum Global Agenda Councils on a differentiated analysis by category (capital, market and project/phase) of investment risks and related available/needed (standardized) instruments (see Figure 1). The broader goal is the creation of new tools to help reduce political risk, particularly in relation to greenfield projects in emerging markets, which would attract private-sector equity and debt investors to various stages of the infrastructure financing process.

For many long-term investors, reliability also entails the decision not to partake in the financing of an asset in the first project phases (including construction). Their role might therefore not be in the early financing of greenfield projects but on takeout financing of stabilized assets for which they are willing to accept a lower return.

Figure 1: Potential matrix of investment risks and (standardized) mitigating instruments
During the course of 2013, the World Economic Forum will drive the development of a blueprint for policy-makers and the development of standardized risk mitigation instruments to minimize political and regulatory risks, particularly around greenfield infrastructure financing in emerging markets. The Forum will also continue its work on Regional Infrastructure Development in Africa and publish a report on best practices for infrastructure PPPs by May 2013. Kirill Dmitriev, Chair of the B20 “Investment and Infrastructure” working group, invited participants to join the process of drafting and communicating B20 recommendations.

Co-Chaired by
Gordon Brown, UN Special Envoy for Global Education; Prime Minister of the United Kingdom (2007-2010)
Tidjane Thiam, Group Chief Executive, Prudential, United Kingdom

Discussion Leaders
Rajiv Lall, Vice-Chairman and Managing Director, IDFC, India; Global Agenda Council on Infrastructure
Danny Truell, Chief Investment Officer, Wellcome Trust, United Kingdom; Co-Chair of the Governors for Investors 2013; Co-Chair of the Governors for Investors 2013; Global Agenda Council on Long-term Investing

Special Guests
Jin-Yong Cai, Executive Vice-President and Chief Executive Officer, International Finance Corporation (IFC), Washington DC
Frank De Lima, Minister of Economy and Finance of Panama
Pravin Gordhan, Minister of Finance of South Africa
Ricardo Martinelli, President of Panama
Ebrahim Patel, Minister of Economic Development of South Africa

More efficient and productive public-private cooperation requires a good understanding of the other parties' needs. Private investors today often witness a lack of understanding of their situation when working with concessionaires and the public sector. To provide a better view, participants discussed the benefits of developing a blueprint for policy-makers on how to establish policy frameworks that would be attractive to infrastructure equity investors, particularly long-term financial investors such as sovereign wealth funds and pension funds. Starting from the assumption that capital is scarce – and including data collection and a mapping of supply and demand across segments – the blueprint could enable government entities seeking to attract financial-return-driven equity capital for infrastructure to become more competitive. It would focus on explaining who the long-term financial investors are and what attracts them to infrastructure investments and the key policy and regulatory elements that drive or hinder the flow of capital to infrastructure. For effective collaboration, public capacity pertaining not only to regulating investments but also to managing partnerships is required. Although still problematic in many regions, the private sector acknowledges significant improvement in this respect, for example in Sub-Saharan Africa where, over the past decade, the number of successful PPPs has increased, thereby reducing the costs of doing business. The private sector advises that experience indicates further capacity can best be built locally and through hands-on project work, also leveraging the skills base of MDBs and other expert organizations. An additional lever is standardizing contracts, decreasing capacity requirements and costs on both ends, and allowing for more efficient risk mitigation.

Currently, insufficient project funding preparation and uncoordinated project development result in the lack of a continuous pipeline of well-prepared projects. To increase the level of private-sector engagement, a strategic infrastructure plan as well as an established, capable development network is needed alongside sufficient funding. An example of high-level, continent-wide strategic infrastructure planning is the Programme for Infrastructure Development in Africa (PIDA), an African-wide infrastructure action plan developed by African heads of states and coordinated by the African Union Commission, the NEPAD Secretariat and the African Development Bank. Additional innovative models to attract new sources of finances are needed and, as such, this topic requires a more in-depth analysis. The Forum will continue to work on investigating the opportunity for systematic private-sector collaboration to accelerate project preparation and the implementation of PIDA.
01: Enrique García Rodríguez, President and Chief Executive Officer, CAF - Development Bank of Latin America, Caracas
02: José Manuel Entrecanales Domecq, President and Chief Executive Officer, Acciona Energía, Spain
03: Kirill Dmitriev, Chief Executive Officer, RDIF Management Company, Russian Federation
04: James Stewart, Chairman, Global Infrastructure, KPMG, United Kingdom
05: Kevin Lu, Regional Director, Asia-Pacific MIGA, World Bank Group, Singapore
06: Patrick Khulekani Dlamini, Chief Executive Officer and Managing Director, Development Bank of Southern Africa, South Africa
07: Jin-Yong Cai, Executive Vice-President and Chief Executive Officer, International Finance Corporation (IFC), Washington DC
The Future of Urban Development
Industry Partners’ Session

Hotel Waldhuus, Dischma
Thursday 24 January, 14.30 – 17.00

This session was off the record and conducted under the Chatham House Rule.

In this session, participants identified the concepts, trends and disruptive innovations that are changing the way cities are built and managed. Building on the drivers of change identified, they discussed how different industry sectors could evolve over the next 10 years as a result of these changes. The session was convened under the umbrella of the World Economic Forum’s Future of Urban Development Initiative, which serves as a partner in transformation for cities as they address key urban challenges, and accelerates the transition to innovative urban models through multistakeholder collaboration. The Project Chair requested participants’ support to help expand the project’s activities to other regions by serving as regional or knowledge champions.

Key Points
Several trends and disruptive innovations are driving urban transformation in regions around the world:

− US perspective: Cities are growing and many problems that once plagued cities now affect the suburbs. Smart mayors will attract talent by investing in quality of life and by exploring creative finance mechanisms that leverage private-sector contributions.

− Indian perspective: Rapid urbanization, a burgeoning youth population and 40 million people living in unauthorized housing are shaping India’s future. A lack of capacity is allowing trends like suburbanization and unauthorized housing to happen by default.

− South African perspective: A legacy of exclusion has locked inefficiencies into the urban landscape that are expensive and challenging to address. Inclusionary policies should shape future cities, such as the flat-fare metro systems of Buenos Aires and New York.

− Canadian perspective: Prosperity has prompted Calgary to consider how to achieve long-term financial, social and environmental sustainability. Increased density and a reconsideration of how cities raise revenue and how federal funds are distributed to cities are essential components.

− Chilean perspective: The country is experiencing economic growth but challenges such as drug trafficking, violence, inadequate infrastructure and the lack of social integration persist in cities. A new urban policy will focus on social integration, heritage and natural conservation, and institutional reform.

− Chinese perspective: Rapid urbanization implies huge market potential as people in cities tend to change consumption patterns. The new administration will pay increasing attention to urbanization.

− Additional drivers: Citizen activism and feedback loops enabled by social technology; PPPs to finance urban infrastructure; public health; energy demand and innovations in the energy supply chain (decentralized power distribution, shale gas); transit-oriented development, real estate value capture from public investments; waste harnessed for power.

Synopsis
In light of the concepts, trends and disruptive innovations that are changing the way cities are built and managed, participants discussed best- and worst-case scenarios for how different government and industry sectors will evolve.

The transportation sector will face significant changes as the concept of transit-oriented development pushes the auto industry beyond car manufacturing to providing mobility solutions (car-sharing, fast-charging electric vehicles, etc.). Cities that are proactive in promoting congestion pricing, density, walkability and mixed-use development will gain a competitive edge over those that do not.

The engineering and construction sector will change as prefabrication and new materials permit companies to accelerate the pace of infrastructure development and construct buildings for greater adaptability. In the best-case scenario,
infrastructure works in harmony with the natural environment (rivers and flood lines) to achieve greater resilience. Tendering will be replaced by Public-Private People Partnerships.

Water and waste flows in cities will change in the face of increasing resource scarcity. Greater emphasis on conservation will force utility providers to deliver services more efficiently. For example, they will cease to provide fresh water for toilets and solid/liquid waste will be harnessed for energy purposes. New systems for purification will have to be scaled up.

The real estate sector will also be driven by resource scarcity. Retrofitting will become mainstream by working with tenants, the public sector and the energy, finance and investing sectors to resolve issues over who benefits from the investment. Cities will enable smaller units to permit greater density.

The public sector will transform as participatory planning becomes customary and new models emerge for selecting and developing infrastructure projects for investment as well as urban development projects. These include Dialogue, Decide, Deliver (DDD) and Public-Private People Partnerships (P4s).

**Firestarters**
Shaun Donovan, US Secretary of Housing and Urban Development
Mike Muller, Commissioner, National Planning Commission, South Africa; Global Agenda Council on Water Security
Kamal Nath, Minister of Urban Development and Minister of Parliamentary Affairs of India
Naheed Nenshi, Mayor of Calgary, Canada; Young Global Leader
Rodrigo Pérez Mackenna, Minister of Housing and Urbanism and Minister of National Property of Chile; Global Agenda Council on Catastrophic Risks

**Special Guests**
Li Tie, Director-General, China Center for Urban Development, People’s Republic of China
Roberto P. Roy, Minister for Canal Affairs of Panama

**Moderated by**
Philip Dilley, Chairman, Arup Group, United Kingdom

**Table Hosts/Discussion Leaders**
J. Carl Ganter, Managing Director, Circle of Blue, USA
Abha Joshi-Ghani, Director, Thematic Knowledge and Learning, World Bank, Washington DC; Global Agenda Council on Urbanization
Fahd Al Rasheed, Chief Executive Officer and Member of the Board, King Abdullah Economic City, Saudi Arabia; Young Global Leader; Global Agenda Council on Urbanization
Raphael Schoentgen, President, GDF SUEZ China, People’s Republic of China; Young Global Leader

**Moderated by**
Philip Dilley, Chairman, Arup Group, United Kingdom
1: Raphael Schoentgen, President, GDF SUEZ China, People’s Republic of China
2: Participants in the session
3: Ajit Gulabchand, Chairman and Managing Director, Hindustan Construction Company, India
4: Participants in the session
5: Abha Joshi-Ghani, Director, Thematic Knowledge and Learning, World Bank, Washington DC, and Roland Busch, Member of the Managing Board and Chief Executive Officer, Sector Infrastructure and Cities, Siemens, Germany
6: Patrick Brothers, Executive General Manager, Corporate Strategy, Leighton Holdings, Australia
7: Li Tie, Director-General, China Center for Urban Development, People’s Republic of China
8: Fahd Al Rasheed, Chief Executive Officer and Member of the Board, King Abdullah Economic City, Saudi Arabia
New Frameworks for the Oilfield Services Industry Partners’ Session

Hotel Waldhuus, Sertig
Saturday 26 January, 08.00 – 10.00

This session was off the record and conducted under the Chatham House Rule.

Participants in this session discussed new frameworks for the fast-changing oilfield services and equipment industry and the issues the industry is facing:
- A severe talent shortage, leading to increasing labour costs
- The emergence of new commercial, risk-sharing relationships between resource owners and the oilfield service sector
- Inadequate recognition by the public and governmental institutions, leading to bad public perception, for example on environmental issues
- The need for investment in community development through job creation and local content

Recognizing these challenges and working closely with key partners and constituents, the World Economic Forum is building a tailored value proposition for the oilfield services Community. This inaugural session aimed to further the discussion based on the issues that were previously identified at the Calgary Roundtable and shape an action plan to foster Community collaboration for Forum activities in 2013-14.

Key Points
- The oilfield services industry must effectively address industry-specific issues, including a severe talent shortage, new emerging business and risk models, inadequate public recognition and perception, environmental concerns, safety and security issues, as well as the need to contribute to local development.
- To attract young, talented people into the industry, the Community needs to cooperate on student scholarship programmes, joint training programmes and industry branding initiatives.
- Oilfield services industry internal collaboration is essential to address these issues and work towards a cost-efficient, environmentally-sound and publically-accepted sector.
- The industry should work on clearly communicating its important role in job creation and delivering affordable energy for society.

The Community should develop joint standards and approaches to safety, security and sustainability issues, which should then be reflected in national and international oil companies’ tender criteria.
- Session participants committed to developing an action plan for these critical topics and building the Community in various Forum meetings and activities throughout 2013.

01: Ayman Asfari, Group Chief Executive, Petrofac Services, United Kingdom
02: Samir Brikho, Chief Executive Officer, AMEC, United Kingdom
03: Emilio Ricardo Lozoya Austin, Chief Executive Officer, Pemex - Petroleos Mexicanos, Mexico
04: Robert G. Card, President and Chief Executive Officer, SNC-Lavalin Group, Canada
05: Naheed Nenshi, Mayor of Calgary, Canada
06: Khalid A. Al Falih, President and Chief Executive Officer, Saudi Aramco, Saudi Arabia
Synopsis

The oilfield services industry has achieved fast growth and higher importance in the upstream oil and gas sector in the past decade but is now facing more significant and complex challenges. These changes necessitate closer collaboration within the industry.

The restricted talent pool is likely the industry’s biggest challenge, as capabilities are the key constraint to enhancing production and bringing down costs. For this issue, it is important to communicate the industry’s needs to governments so they put appropriate policies in place. For example, Canada focuses immigration on skilled workers and offers foreign students fast access to work visas. As a result, it takes only approximately two months on average to mobilize staff to Canada, while it takes as much as one-and-a-half years for Australia. The industry should also establish training relationships between service companies and national and international oil companies (NOC/IOCs), and cooperate closer with higher education institutions. Another joint objective is to make the industry attractive and interesting to young people. For example in Saudi Arabia, high school graduates are sponsored and supported in college and with summer internships. Such initiatives allow tailoring education to industry needs and increasing industry affiliation. Another common challenge is capitalizing on the talented female workforce more effectively.

The oil and gas industry is planning to deploy significant capital expenditure over the coming years, and assuring a seamless operation between oilfield services companies and NOC/IOCs is urgently needed, particularly as social and technical complexity is increasing. To address these challenges, new risk-sharing models are being deployed (for example risk-sharing and production enhancement contracts) and huge advances in technology are being made (for instance for deep water and oil sands).

Both the oil and gas and oilfield services industries are not well regarded by the public. In the United States the public image of the oil and gas industry can be compared to that of the tobacco industry. Moreover, the public does not recognize the job creation potential and positive economic impact of the hydrocarbon industry relative to the green power industry. Citizens seem to have taken affordable and reliable energy for granted, and they do not appreciate the difficulty to deliver. The industry Community needs to raise its voice, demonstrating its existing positive impacts and responsibility. Communication could be anchored around the engineering and technology as they enjoy a positive reputation in civil society. Overall, the industry needs to be branded as an industry of the future, not as an industry of the past.

In an increasing number of countries, stakeholders do not accept pure monetization projects and have broader expectations with regard to fostering local development. The industry is also increasingly held responsible for reducing water and energy consumption and delivering energy safely. Another concern is the security situation in many locations where evacuation plans need to be developed proactively, potentially in industry partnerships. The industry should establish joint standards and approaches for safety, security and sustainability, which should then be reflected in NOC/IOCs’ tender criteria. As many of these challenges also apply to the mining industry, great potential exists to derive lessons from cross-industry collaboration.

Through the discussion, three issues were identified as the top issues to be addressed with the Forum: a severe...
talent shortage (and the need for local content development), new emerging business and risk models, and inadequate recognition and perception by the public. The Community committed to keep up the momentum and develop an action plan for these critical topics in various meetings and events, including an update call in March/April and sessions at one of the Forum’s Regional Meetings in 2013 and at the World Economic Forum Annual Meeting 2014. Participants also expressed the need to support additional oilfield services companies joining the Community so that a more complete value chain is represented (e.g., drillers). Petrofac has offered to act as the Forum secretariat to actively support this effort.

Co-Chaired by
Ayman Asfari, Group Chief Executive, Petrofac Services, United Kingdom
Samir Brikho, Chief Executive Officer, AMEC, United Kingdom
Energy, Mobility and Basics & Infrastructure Industry Partners Welcome Reception and Dinner

Hotel Waldhuus, Sertig-Dischma
Wednesday 23 January, 19.00 – 21.30

Held on the first evening of the World Economic Forum Annual Meeting 2013, this informal private reception and dinner welcomed Partners from the Energy, Mobility and Basics & Infrastructure Industries to Davos. The question addressed at the dinner was: “What was the most unexpected development in your industry in 2012, and how will this turn-of-events affect your business in 2013?” Leaders from each industry were invited to share their perspective in line with the Annual Meeting theme, “Resilient Dynamism”. The most unexpected developments in each of the three industries ranged from innovative value-chain integration, for instance the acquisition of a refinery in the context of a major airline strategy and operation, to the unprecedented disruption caused by a natural disaster like hurricane Sandy, and the role that properly designed infrastructure must have in future city planning.

Guests
Richard H. Anderson, Chief Executive Officer, Delta Air Lines, USA
Philip Dilley, Chairman, Arup Group, United Kingdom
Ignacio Sanchez Galan, Chairman and Chief Executive Officer, Iberdrola, Spain

Moderated by
Alex Wong, Senior Director, Head of Business Engagement (Geneva), World Economic Forum

01: James Rosenfield, Senior Vice-President, IHS and Co-Founder, IHS CERA, USA
02: Christian Rynning-Tonnesen, President and Chief Executive Officer, Statkraft, Norway
03: Mohamed Bin Dhaen Al Hamli, Minister of Energy of the United Arab Emirates
04: Elizabeth Dipuo Peters, Minister of Energy of South Africa
05: Steen Riisgaard, President and Chief Executive Officer, Novozymes, Denmark
06: Richard H. Anderson, Chief Executive Officer, Delta Air Lines, USA
07: Bruno Lescoeur, Chief Executive Officer, Edison, Italy
01: Alex Laskey, President and Founder, OPOWER, USA, and Abdulla Saif Al Nuaimi, Vice-Chairman, Abu Dhabi National Energy Company (TAQA), United Arab Emirates

02: Davinder Chugh, Member of the Group Management Board, ArcelorMittal, United Kingdom, and Rashid Sall Al Jarwan, Acting Chief Executive Officer, Dana Gas, United Arab Emirates

03: Participants in the dinner

04: Ignacio Sanchez Galan, Chairman and Chief Executive Officer, Iberdrola, Spain

05: Participants in the dinner

06: Jon Wellinghoff, Chairman, Federal Energy Regulatory Commission, USA

07: Mohamed Bin Dhaen Al Hamli, Minister of Energy of the United Arab Emirates and Ignacio Sanchez Galan, Chairman and Chief Executive Officer, Iberdrola, Spain
01: Elizabeth Dipuo Peters, Minister of Energy of South Africa
02: Sandra Wu Wen-Hsiu, President and Chief Executive Officer, Japan Asia Group, Japan
03: Juan Federico Jiménez Mayor, Prime Minister of Peru
04: Samer S. Khoury, President, Engineering and Construction, Consolidated Contractors Company (CCC), Greece, and Philip Dilley, Chairman, Arup Group, United Kingdom
05: Robert G. Card, President and Chief Executive Officer, SNC-Lavalin Group, Canada; John M. Beck, Chairman and Chief Executive Officer, Aecon Group, Canada; Hamish Tyrwhitt, Chief Executive Officer, Leighton Holdings, Australia
06: Philip Dilley, Chairman, Arup Group, United Kingdom
Hotel Waldhuus, Sertig/Dischma
Friday 25 January, 15.15 – 17.00

This session was off the record and conducted under the Chatham House Rule.

This cross-industry CEO session convened key leaders from government, the private sector and multilateral development banks to examine innovative ideas and facilitate actions for stakeholder collaboration in infrastructure.

The discussion focused on five issues:
- Collaborating on infrastructure project identification and prioritization
- Improving the public-private partnership (PPP) model
- Unlocking private financing
- Enhancing infrastructure resilience and impact
- Advancing public-private collaboration for the enabling environment

Key Points
- The estimated global infrastructure gap of US$ 1 trillion is a key threat to economic development, social progress and the competitiveness of countries.
- Despite the fact that many countries have developed integrated infrastructure plans, they still face financing gaps and the challenge of preparing and delivering projects quickly and efficiently.
- Unsolicited proposals should be revisited to better explore the private sector’s entrepreneurial spirit in identifying and preparing infrastructure projects; however, they are only appropriate within the right enabling environment and with strict procurement transparency enforcement.
- Project preparation funds should be set up by the public and private sectors working closely together to accelerate the preparation process.
- The shortage of financing is most pronounced for risky projects; to attract investors and financiers, new forms of guarantees and credit enhancement, and new sources of long-term investment are needed.
- The private sector should organize itself better to enhance the dialogue with the public sector as well as within the private sector, e.g. between long-term investors and corporates, between infrastructure and mining companies.
- Governments need to establish a conducive enabling environment with a stable and sound legal framework, independent regulatory institutions and anti-corruption initiatives.
- Participants were invited to join forces and support the Russian Federation’s B20 process on Investments and Infrastructure to translate its recommendations into concrete action plans for governments.

Synopsis
In opening remarks, the particular challenges and opportunities of infrastructure in the Philippines and in Nigeria were highlighted. Despite global economic uncertainties, both countries are on a strong growth trajectory, which offers a window of opportunity for economic and social progress through strategic infrastructure development. Both have developed prioritized infrastructure plans, yet are struggling to get projects off the ground.
Collaborating for Infrastructure Project Identification and Prioritization

Governments should develop a prioritized infrastructure plan, including an evaluation of financing and delivery options for each project. Following the Nigerian example, countries should integrate plans into a coordinated, cross-sector infrastructure vision and master plan. Independent, depoliticized institutions should create and administer these plans to decouple the short-term political cycle from the long-term infrastructure cycle. Unsolicited proposals can be used to leverage the private sector’s entrepreneurial spirit in identifying and preparing projects – but only if the enabling environment is right, transparency issues are dealt with and proposed projects are evaluated against the infrastructure plan.

Improving the Public-Private Partnership Model

To prepare bankable PPPs, robust project planning with clearly stated objectives, strategy and risks is essential. In addition, political will and leadership as well as the engagement of all stakeholders are needed to build local community support and trust. The public and private sectors should collaborate in setting up project preparation funds and joint teams to accelerate the preparation process. With these funds, impartial experts can be hired to drive the preparation process along best practices.

PPPs are an important way forward in many countries, including in Asia and Africa, and equally valid in mature economies; yet, stakeholders need to realize that there is no silver bullet as their success depends on the countries’ environment and the specific asset. Countries should leverage the lessons learned from successful cases, such as Canada, to improve their PPP frameworks. In some cases, hybrid models can be applied; for example, an airport runway could be government funded while the commercial activities are operated under a PPP structure.
Unlocking Private Financing
While there is no shortage of private financing globally, many projects do not offer an attractive risk-return profile. Moreover, a financing shortfall exists for the feasibility study stage of greenfield projects. Governments should work on dedicated solutions for each life-cycle stage, such as providing downside protection through guarantees and credit enhancement through asset pooling for greenfield projects. Another idea is to develop new financing institutions that can act as catalysts for foreign direct investment through co-investments; this type of institution is already successfully operating in the Russian Federation, for instance.

Enhancing Infrastructure Resilience and Impact
Countries often lack the vision and know-how to tackle the global issues of urbanization, climate change and sustainability. Governments should work together with companies to identify and develop innovative solutions and standard protocols for infrastructure. The business community should also better organize itself to enhance the dialogue with the public sector, as well as within the private sector, for example between investors and industrials, and between infrastructure and mining firms.

Advancing Public-Private Collaboration for the Enabling Environment
Governments also need to foster an enabling environment by establishing stable and reliable legal frameworks and independent regulatory institutions. Country-level anti-corruption initiatives such as the World Economic Forum’s Partnering Against Corruption Initiative (PACI) help to create a level playing field and increase the acceptance of PPPs within civil society. The World Economic Forum was asked to consider its role in participating in the B20 Investments and Infrastructure working group, and all the participants were invited to the G20 St Petersburg meeting and to join the process of drafting and communicating government recommendations based on the findings of this session.

Introductory Statements by
Benigno Simeon Aquino III, President of the Philippines
Shamsudeen Usman, Minister for National Planning of Nigeria

Chaired by
Hamish Tyrwhitt, Chief Executive Officer, Leighton Holdings, Australia
Cross-industry CEO Session: Dynamic Resilience in a Hyperconnected World: Putting Principles into Practice

Congress Centre, Casanna 2
Friday 25 January 15.30 – 17.00

As the boundaries between the physical and digital worlds converge and billions of people, processes and things interconnect, it has become a global priority to understand the impact of hyperconnectivity. In this workshop, chief executives of industry, issue experts and government leaders explored the dynamics of complexity, the challenges to decision-making and the manner in which principle-based solutions can serve to strengthen trust, resilience and innovation.

Key questions addressed:
1. What are the implications of the systemic changes created by hyperconnectivity – increased velocity, complexity and interdependency – that impact the decision-making of global leaders?
2. How can the empowerment of individuals be supported to better understand their needs and incorporate their voices into the global agenda more effectively?
3. How can the resilience and security of critical digital, civil and industrial infrastructure be ensured?
4. How can the transparency and accountability of interconnected stakeholders be strengthened?

Key Points
- Hyperconnectivity fundamentally redefines how individuals, enterprises and governments communicate and relate. It provides new models for innovation, new opportunities for growth but also new risks to manage and mitigate.
- The world has shifted from being complicated to complex. While complicated systems deliver predictable outcomes, complex systems deliver unknown outcomes and require constant adaptation. Leaders need to embrace uncertainty and the ability to adapt quickly.
- The velocity of change is accelerating on a non-linear scale. Leaders need to recognize that “slowing things down” is not a viable option.
- Both opportunities and risks will emerge from the bottom up. Any one event can have a disproportionate impact on others; “unknown unknowns” will play a larger role in shaping society.
- Unexpected shocks and subsequent failures are inevitable. Resilience and the ability to quickly recover is a top priority for all business leaders.
- Transparency, accountability and trust are essential to strengthening our global society. Leaders need to better understand how these can be strengthened via self-regulation and decentralization.

Synopsis
The moderator’s opening remarks highlighted the dynamics, impact and relevance of hyperconnectivity, referring to the CEO’s role as being akin to “change management on steroids”. The current context was broadly described as a unique opportunity to address both systemic risks as well as create new opportunities for economic and social progress.

Individual empowerment
Participants stressed that hyperconnectivity marks the end of clear decision paths with known outcomes. With so many interdependencies and uncertainties, the world is now being driven on a minute-by-minute basis. The rigidities of rule-based systems are not equipped to adjust in such a rapidly changing world, hence the need to pivot to principle-based systems that provide greater flexibility around shared vision and common values, as opposed to hierarchical control.

Institutional response
With hyperconnectivity empowering individuals to act and collaborate in new ways, the discussion also focused on the ability of institutions to adapt and respond, in particular on how the flattening of business organizational structures is impacting middle management. With individuals now having a collective and direct voice, the ability of senior leaders and their institutions to effectively listen (and adapt) gave rise to particular uncertainty.

Systemic resilience
As hyperconnectivity brings about systemic and constant change, it was asked how adequate protection could be established for a future that is unpredictable. Participants noted that there is no more “slowing down”: The world will only get faster and more complex. In such a low-latency and complex environment, how can firewalls and zones of protection be built to prevent interconnected events from cascading into potential collapse? How can “circuit breakers” be established and safely turned off as information and communications systems evolve. At present, there is no coherent way to map, understand or identify the new vulnerabilities that have arisen in a world where everything connects with everything else.

Accountability and transparency
Accountability and transparency were identified as key factors shaping the business landscape today. While it was noted that increased transparency involves increased risk, it was felt that the long-term opportunities for value creation were far greater.

In a context of complexities and rapid change, participants felt that establishing trust, transparency and accountability demanded a decentralized approach and considered it important to learn from the “bottom up”, to allow solutions to emerge and then to support those approaches best suited to a particular environment and context. A first step would be to create a better understanding of models demonstrating trust maintained by self-regulation.

Next steps
There was agreement that the Forum and its Partners could pursue goals the following over the next twelve months:

1. Establish a broader understanding of how to pivot from rules-based to principle-based approaches for governance
2. Identify elements of a hypercritical infrastructure
3. Develop tools/insights/approaches which can enable organizations and institutions to act with greater agility and understanding of the systemic relationships across stakeholder communities
4. Understand the role of the individual and how to respond to real-time feedback more effectively
Accelerating Infrastructure Development

In the face of fiscal austerity, how can the private sector accelerate critical infrastructure development?

Key Points

− The global infrastructure deficit requires annual investment of US$ 2 trillion each year for the next 20 years.
− The world’s “savings surplus” provides an unprecedented opportunity to address the infrastructure deficit.
− Public-private partnerships (PPPs) are not a silver bullet; in many cases, bespoke solutions are required. One challenge is to overcome public resistance to pay-per-use services such as road tolls.
− Governments can do a lot – including providing clear priorities for development and forms of limited guarantee – but the private sector also needs to do more, especially in terms of financing.
− Long-term investors such as pension funds can become a significant source of capital if development risks can be mitigated or offset.

Synopsis

In recent decades, rapid economic and demographic growth coupled with severe underinvestment in infrastructure have created an infrastructure deficit that some estimate requires investment of over US$ 2 trillion each year over the next 20 years. At the same time a global “savings surplus” exists, providing an unprecedented opportunity to address this infrastructure deficit.

Better mechanisms to match the funds with viable infrastructure projects are needed. Governments around the world are trying to position their countries as recipients of funding in their efforts to bridge the infrastructure gap. Ukraine, for example, has focused its development plan on improving infrastructure. Following its success in hosting the 2012 UEFA European Football Championship, the country is undergoing deregulation and creating incentives for investors. For instance, its enormous oil and gas sector has been partially privatized and joint-stock companies have been created to allow private investors to participate.

In Asia, total infrastructure needs are estimated at more than US$10 trillion over the next 10 years, more than double the spending of the previous decade. Asian governments do not have the financial capacity, know-how or technology to develop these projects alone – strong private-sector involvement is required. Although true progress will take time, PPP projects in the Philippines, Vietnam and Indonesia show great promise.

Africa continues to face serious infrastructure challenges. Infrastructure investments bore the brunt of post-crisis reductions in public expenditure on top of dramatic declines in private investment. This has had an immediate negative effect as high growth rates in Africa have been driven by infrastructure development and progressive policies. Improvements in ICT infrastructure, for example, were a strong contributor to the region’s improved growth performance over the 1990 to 2005 period and were responsible for adding almost one percentage point to per capita growth rates.

Panama provides a compelling example of how infrastructure can be one of the main drivers of an economy. The country’s GDP growth has averaged 10% in recent years on the back of large projects such as the Panama Canal expansion as well as smaller metro, road and hospital building projects.

Governments can act in many ways to address the infrastructure deficit. They can, for example:

− provide clear lists of priority infrastructure projects
− provide transparent, stable tariff structures
− shift the mindset away from government projects to PPPs
− enhance risk mitigation via guarantee structures or innovative mechanisms that limit investment risks during the development phase

Contributors

Haruhiko Kuroda, President, Asian Development Bank, Manila
Ricardo Martinelli, President of Panama
Raila Amolo Odinga, Prime Minister of Kenya
Hamish Tyrwhitt, Chief Executive Officer, Leighton Holdings, Australia
Viktor Yanukovych, President of Ukraine

Moderated by

Gordon Brown, UN Special Envoy for Global Education; Prime Minister of the United Kingdom (2007-2010)
Designing Smart Cities

How can cities be designed for urban resilience and prosperity?

Key Points
− Resilience is the capacity of cities to prepare, respond and recover.
− Information technology does not make a city smarter or more resilient; rather, the solution lies in keeping the citizen at the centre and providing better, faster and cheaper services.
− Planning matters.
− Cities share global values, including the primacy of safety and security, and the importance of convenience.

Synopsis
By 2025, 12 new megacities will exist, seven in China alone. What makes cities – old or new – resilient? They must be built for and around people. The ultimate test is whether a city’s residents are proud to identify themselves as belonging to that city, whether they want their children to live there and whether they can quickly resume normal lives after a disaster strikes.

A city is prepared for a disaster if it can both withstand the shock and bounce back. It is very difficult for cities to plan for natural disasters unless they have experienced one. City officials do not want to spend money on preventive measures against floods, for example; they would rather spend it on goods and services their constituents want immediately. However, government’s first priority is to save people’s lives. They must educate their citizens on the potential for natural disasters and, in their planning for the aftermath, recognize that people are often unwilling to relocate from their homes.

Like government officials after disasters, cities must be flexible and deal with situations as they occur. The US city Detroit dedicated itself to the auto industry but began to slump when it was unable to recreate itself as the industry experienced decline. Local political cycles are often too short for adequate planning. Setting a long-term schedule is useful, although it must remain flexible.

An area often overlooked in the health and resilience of cities is community capacity. The lack of community capacity slowed New Orleans’ recovery after Hurricane Katrina in 2005. Community participation can prevent vibrancy from leaving decaying cities.

Excluding the poor from civic life can hurt community capacity. Transport is the most crucial way to bring the poor into the fold of a city; they must be close to their jobs. In many countries, government subsidies of services intended to benefit the poor often end up assisting the wealthy. Providing conditional cash transfers to the poor is one solution. Cities for too long have been built for buildings or cars and not for the people, whether rich or poor.

Contributors
Ida Auken, Minister of the Environment of Denmark
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Bekele Geleta, Secretary-General, International Federation of Red Cross and Red Crescent Societies (IFRC), Geneva
Ajit Gulabchand, Chairman and Managing Director, Hindustan Construction Company, India
Abha Joshi-Ghani, Director, Thematic Knowledge and Learning, World Bank, Washington DC
Rodrigo Pérez Mackenna, Minister of Housing and Urbanism and Minister of National Property of Chile

Moderated by
Philip Dilley, Chairman, Arup Group, United Kingdom
Energy Revolution in the Making

How will unconventional energy transform geopolitical and industry landscapes?

Key Points
- Increased shale gas production through hydraulic fracturing could be one of the most profound changes to the global economy since World War II, according to certain energy analysts.
- This energy “revolution” could cause our world to shift from a situation of resource scarcity to one of resource abundance.
- The transformation will affect a number of geopolitical and economic relationships, as shale gas drives down prices in some markets, and countries that traditionally imported energy no longer need to rely on the same set of producers.
- The consequences for the planet are profound: because natural gas is a cleaner energy supply, increasing its use has allowed the US to reduce emissions to the lowest level since 1992.
- The leakage of methane that occurs in shale gas extraction poses severe environmental risks, as it is a more damaging greenhouse gas than carbon; however, neither the industry nor regulators know how much leakage is taking place.

Synopsis
The development of unconventional energy – primarily the extraction of shale gas through hydraulic fracturing – has profoundly reshaped energy markets and is likely to transform a number of geopolitical relationships. Ten years ago, almost no one could have predicted that the United States would be an exporter of natural gas. However, technological innovation has enabled the production of large quantities of shale gas in countries such as the US, which has been a major energy importer for decades.

This transformation has implications for energy markets, geopolitics and the environment. Currently, energy markets are moving to new equilibriums as the price of natural gas is significantly lower in the US than in many parts of the world. This price change alters energy producers’ calculations in terms of where to invest in production, and it affects the producer-consumer relationships that have existed between many countries. For example, some analysts argue that recent efforts in the EU to push for lower tariffs on Russian Federation gas imports would never have occurred if EU policy-makers perceived energy scarcity as a mounting concern. Likewise, recent sanctions on Iran that block the sale of Iranian oil were offset in the US by greater oil production.

Among the big political questions related to this unconventional energy are whether US policy-makers will allow energy exports and how other nations will respond to the prospect of shale gas production. For example, in France considerable political resistance to hydraulic fracturing exists. In Japan, the country’s energy mix has been the focus of a great deal of debate since the Fukushima disaster and the government’s decision to idle much of its nuclear energy production.

In addition to a number of political uncertainties, greater reliance on this unconventional energy source also has environmental implications. Because natural gas is more carbon-efficient than coal – generating 40-50% fewer carbon emissions – increasing use of this energy source has allowed the US to reduce its emissions to 20-year lows.

A number of unknown risks exist, however. Experts do not know how much methane leaks from shale gas production: initial estimates vary greatly and are hotly contested. Because methane is a more destructive greenhouse gas than carbon dioxide, even small amounts of leakage can cause environmental damage.

Enthusiasm about natural gas reserves has prompted a number of regulators, particularly in the US, to encourage energy producers to switch from coal to gas. However, meeting the world’s growing energy demands has always been a question of balancing a mix of sources. Given the environmental risks and the growing political mandate to focus on climate change, energy leaders should continue to maintain flexibility in sourcing and to prioritize the development of renewable energy sources.

Contributors
Kenneth A. Hersh, Founder and Chief Executive Officer, NGP Energy Capital Management, USA
Yorihiko Kojima, Chairman of the Board, Mitsubishi Corporation, Japan; Energy Utilities and Technology Community Leader 2012
Fred Krupp, President, Environmental Defense Fund, USA
Christophe de Margerie, Chairman and Chief Executive Officer, Total, France

Moderated by
Daniel Yergin, Chairman, IHS CERA, USA; Oil and Gas Community Leader 2012

Investing for Impact

Synopsis
Mainstreaming impact investing has been on the World Economic Forum’s agenda for a number of years. Through ongoing workshops, working groups and research, the Forum has initiated a dialogue based on the premise that confidence in impact investing starts with a widely agreed upon definition.

Forum working groups have defined impact investing as investments that are motivated by the intention to create social or environmental good with measurable results.

The panelists in this World Economic Forum Annual Meeting 2013 session highlighted several challenges to mainstreaming impact investing, including an early-stage ecosystem, small average deal sizes, how the strategy fits into traditional asset allocation frameworks, fiduciary hurdles, education and uncertainty around metrics, as well as how to measure impact or “what is socially/environmentally good”.

Solutions to these challenges include supporting intermediaries that are creating metrics, educating the industry, supporting scalable business models, and emphasizing transparency and accountability.

Focus areas mentioned during the session were:
- Studying how investors make portfolio allocation decisions and the role impact investing should play in the portfolio
- Comparing financial returns of impact investors with market returns
- Sharing best practices in impact investing, as well as the importance of looking at opportunities and barriers in emerging markets

Contributors
Chey Tae-Won, Chairman and Chief Executive Officer, SK Holdings, Republic of Korea
Azman Mokhtar, Managing Director, Khazanah Nasional, Malaysia
Jill Otto, Associate Investor, JP Morgan, USA
Jim Roth, Co-Founder and Partner, LeapFrog Investments, United Kingdom
David Spreng, Founder and Managing Partner, Crescendo Ventures, USA

Moderated by
Gillian R. Tett, Assistant Editor, Financial Times, USA

32 Infrastructure & Urban Development Governors Meeting 2013
The Africa Context

Key Points
- The behaviour of investors is based on perception.
- An unconventional approach is required.
- Africa’s challenges are actually good opportunities.
- Africans should be defining the terms of incoming investment by providing the right framework.
- The extensive analysis must now lead to action; now is the time to create bankable deals with integrated approaches.
- Key are a commitment to the process and a commitment to implement.
- The telecommunications industry provides a good case study for Africa, offering an example of technology leapfrogging and quick implementation of practical regulations; more such industries are needed.
- The question of whether oil refining should be part of a regionally integrated strategy or a decentralized strategy must be addressed.
- Unemployment is a big issue; teaching entrepreneurship and empowerment is key.

Synopsis
The general consensus reached during this session was that regional integration is inevitable and important although it is not currently sufficient. Views on regional integration tend to be inward looking, with countries focusing on what they get rather than on the overall benefits of integration for the region. Some countries are more advanced in this respect than others. “Teething” issues are to be expected, but mechanisms that do not hamper general regional strategies are important.

Participants generally agreed on the key needs of infrastructure development and employment creation. On the subject of infrastructure, participants agreed banks should be more flexible and should be willing to price according to risk. On the topic of employment, the development of skills and support to entrepreneurs were considered vital. The private sector should demand freedom of action if it is lacking in the African countries in which they operate.

Contributors
Jin-Yong Cai, Executive Vice-President and Chief Executive Officer, International Finance Corporation (IFC), Washington DC
Paul Kagame, President of Rwanda
Jasandra Nyker, Chief Executive Officer, BioTherm Energy, South Africa
Thierry Tanoh, Chief Executive Officer, Ecobank, Transnational, Togo
Zola Tsotsi, Chairman, Eskom Holdings, South Africa

Moderated by
Nkosana D. Moyo, Founder and Executive Chair, Mandela Institute for Development Studies (MINDS), South Africa
The Global Energy Context

What strategic shifts and transformational issues are shaping the global energy context?

Key Points
- The global economic recession has slowed energy demand and curtailed investments in renewables.
- The unconventional energy revolution in natural gas has lowered prices and fuelled recovery.
- Countries are becoming serious about energy efficiency but have barely scratched the surface.
- The US is becoming more energy self-sufficient but will hardly disengage from geopolitical priorities.

Synopsis
According to the session panellists, energy is the lifeblood of the global economy and access to electricity in particular should be seen as a basic human right. Consensus was gained among participants that the shale gas revolution, unlocked by fracking technology, has dramatically reshaped the global energy context of imports, exports, supply and demand around the world, resulting in more choices and opportunities for consumers and suppliers alike. Some said the plunge in North America’s natural gas prices will resemble big tax cut for corporations and households as they consume energy more cheaply than ever.

But participants also agreed that this unconventional energy revolution is not a panacea for economic ills, nor will it relieve most national security tensions and hotspots. Demand for energy continues to grow worldwide. Climate change from carbon emissions is already resulting in record heat, drought and storms, while pushing natural ecosystems beyond the tipping point. The Middle East region still needs to create a staggering 100 million jobs in the next few decades. And excluding hydropower and biofuels, global demand for the 2% of renewable energy is anaemic; investment in wind technology actually shrank last year for the first time.

Above all, according to participants national energy policies, including those in the OECD countries, are typically incoherent, reactive, shallow and politically expedient. Government policies, or the lack thereof, neither advance long-term stability nor reduce carbon emissions. For example, Germany’s aggressive targets and adoption of green technology have had the perverse effect of boosting demand for coal and raising its carbon footprint.

Meanwhile, markets are quietly achieving both growth and environmental improvements. In the US, which rejected Kyoto, the shale gas boom has resulted in the lowest energy prices in decades and is driving the economic recovery while also achieving the lowest emissions since 1992 and the lowest per capita emissions since the 1960s. Infrastructure for liquid natural gas and emerging spot prices would accelerate these trends.

Panellists said a comparable revolution on the demand side of the energy equation is needed. Universal access to energy is a priority for developing countries, led by better education, transmission and distribution. Energy efficiency could emerge through a smart grid that empowers end-users and informs them of opportunities. Governments in both developed and developing countries could shift subsidies from escalating production towards conservation and waste reduction. Concurrently, governments and utilities have begun buying peak energy from renewable sources – generated by their own consumers.

Contributors
Robert D. Hormats, US Undersecretary of State for Economic, Energy and Agricultural Affairs
Majid Jafar, Managing Director of the Board, Dana Gas, United Arab Emirates
Sam Laidlaw, Chief Executive Officer, Centrica, United Kingdom
Tulsi Tanti, Chairman, Suzlon Energy, India; Renewable Energy Community Leader 2012

Moderated by
The Natural Resource Context

What strategic shifts and transformational issues are shaping the natural resource context?

Key Points
- Natural resource depletion is less of a concern than the cost of extracting those resources.
- The higher pricing of resources encourages more investment in new technologies that are changing the game.
- Resource nationalism, regulatory uncertainty and corruption are putting investors off vitally needed investments in infrastructure.
- New lifestyles and technologies are required to break the link between resource consumption and GDP.

Synopsis
A straw poll of session participants found that roughly two-thirds of those present believe that the current pressure on commodities and natural resources is unprecedented. However, panellists argued that the issue is less about resource depletion than it is about the cost of extracting or realizing those resources. For example, the world has at least 1,000 years of potentially extractable phosphates, but it will take US$ 5 billion of new investment in potash and phosphate mines over the next decade to increase production by 50%. Equally, the world has considerable coal reserves, but the cost of carbon capture is the same as the cost of building the power station.

While the pricing of commodities does not reflect supply and demand, higher pricing encourages both greater investment and more innovative technologies. High oil prices have been accompanied by unprecedented investment in the industry – totalling US$ 800 billion in upstream oil and gas in the past year alone. The gas sector has been transformed by new fracking technologies, which will see the United States overtake Qatar as an exporter of liquefied natural gas. Soaring prices for soya and grain in the past four years have been good for farmers and have incentivized investment in a sector that has been ignored for too long. Applying food production technologies to Africa could lead to the continent becoming the bread basket of the world.

Although higher commodity prices encourage investment, factors such as the rise of resource nationalism, regulatory uncertainty and corruption are putting off investors. Argentina and Venezuela were identified as countries where the nationalization of resources is hampering investment and efficiency. However, the US, Canada and China are also seen as being protective of their commodities. As resource prices rise, this problem may get worse. One panellist argued that in Latin America, the issue is not one of nationalization but national governments pushing back against the greed of oil companies seeking to extract an unreasonable share of the profits. Another panellist stated that elected officials do not sufficiently understand the risks investors need to take to realize their return in this sector.

The spectre was raised of the populations of China and India consuming Western levels of resources. The 10% growth in China’s GDP over the past decade was accompanied by a similar increase in primary energy growth. There was no consensus on the solution to this problem. Some participants suggested that a radical change in lifestyle is required, while others had faith that new technologies will deliver the services everyone wants (“cold beer and hot showers”) in a more resource-efficient manner. There is also scope for greater efficiency in resource use. For example, the market-pricing of water would reduce consumption, while the waste of 30-50% of the food produced in the world offers enormous potential.

Contributors
Ivonne A-Baki, Secretary of State for the Yasuni-ITT Initiative of Ecuador
Samir Brikho, Chief Executive Officer, AMEC, United Kingdom
Oleg V Deripaska, President, EN+Group, Russian Federation
Lin Boqiang, Director, China Center for Energy Economics Research (CCEER), Xiamen University, People’s Republic of China
Jim Prokopanko, President and Chief Executive Officer, The Mosaic Company, USA

Moderated by
Vijay Vaitheeswaran, China Business and Finance Editor and Shanghai Bureau Chief, The Economist, Hong Kong SAR
Turning Transparency into Growth

How can anti-corruption become a core element of a company’s growth strategy?

Key Points

- Companies believe they know in the meantime what they have to do to minimize the risk of corruption.
- The challenges in many parts of the world remain formidable.
- The business case of fighting anti-corruption is less obvious.

Synopsis

In a lively debate, four chief executive officers and a Central Bank governor tackled the issue whether there was a chance of turning transparency and anti-corruption into growth. Representatives from emerging economies were very outspoken about the high levels of corruption going hand-in-hand with the high growth rate of their economies. They deplored the weakness of the justice systems and rampant impunity in their countries. They demanded stiff law enforcement action against “big fish” in order to demonstrate to the public-at-large that these states were serious about fighting corruption.

The CEOs stressed (reputational) risk and cost. They talked about the increasing cost of non-compliance. They also mentioned the cost of compliance. On the business case for anti-corruption, the actual topic of the event though, they were fare less outspoken. Only after prompting from the audience, they did mention collective action of competitors and/or the public sector as a creative solution.

Finally, in the course of the debate, it was mentioned that following the money trail to financial havens was indispensable.

Contributors

Sanusi Lamido Sanusi, Governor of the Central Bank of Nigeria
Lawrence Elliot, Economic Editor, The Guardian, United Kingdom
Lee A. McIntire, Chairman and Chief Executive Officer, CH2M HILL Companies, USA
James C. Smith, President and Chief Executive Officer, Thomson Reuters, USA
Jack B. Dunn, President and Chief Executive Officer, FTI Consulting, USA
Rahul Bajaj, Chairman, Bajaj Auto, India
The Evolving Role of Business

How is business balancing shareholder and stakeholder demands to respond to the changing expectations of society?

Key Points
- After several “trust shocks”, corporations, their leaders and business at large need to marry profit with purpose.
- Short-term shareholder capitalism needs to be replaced with a more mature version of stakeholder capitalism (long term, inclusive).
- The next evolution of the role of business should be thought about in terms of “useful capitalism”.

Synopsis
Harvard Business School Professor Nancy Koehn, interestingly enough a historian by education, charmingly led a lively and interesting debate about the role of business (which probably referred to both the role of business today in our hyperconnected and “perma-crisis” world, and the role of business in society going forward). The moderator opened with a reference to Bill Gates’ call a couple of years ago in Davos for “creative capitalism” and to John Mackey’s recent book contemplating examples of what he calls “conscious capitalism”.

There was broad agreement on the diagnosis, i.e. that business (like leadership in general) has gone through several “trust shocks” and needs to rebuild such trust and confidence in leadership and business. When it came to remedies, the panel ultimately circled a lot around the discussion of the perceived dichotomy whether more non-financial reporting/transparency or more value-based individual leadership is the prime prerogative. I believe both.

Ultimately – and the panellists would agree with that – we need to move on from short-term shareholder capitalism to long-term stakeholder capitalism. A movement also from the single bottom line via the “triple bottom line” back to a “new single bottom line”. In the long term and in an inclusive view, this is what business is about. Such a concept would include social and environmental “externalities”. In private conversations, I have recently started coining the term “useful capitalism”. Corporations need to be long term and “net useful” for society at large. This goes far beyond talk of licenses to operate or CSR reporting. If and when (and that holds true through history, as Nancy Koehn would probably agree) they are useful, they make money.

Actually, the most useful companies to their stakeholders at large are often the most financially successful in history. And then people (consumers, employees, long-term shareholders, governments) will trust corporations and leaders again. Capitalism can and should be that simple, that useful.

Contributors
David Childs, Managing Partner, Clifford Chance, United Kingdom
Richard W. Edelman, President and Chief Executive Officer, Edelman, USA
Ernst Ligteringen, Chief Executive, Global Reporting Initiative (GRI), Netherlands; Global Agenda Council on the Role of Business
Duncan Niederauer, Chief Executive Officer, NYSE Euronext, USA
Sandra Wu Wen-Hsiu, President and Chief Executive Officer, Japan Asia Group, Japan
Nancy Koehn, James E. Robison Professor of Business Administration, Harvard Business School, Harvard University, USA
## Infrastructure & Urban Development Industries 2013 Event Calendar

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<td>Lima, Peru</td>
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<td>Nga Pyi Taw, Myanmar</td>
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<td>New York, USA</td>
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<td>19 March</td>
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</table>
Infrastructure & Urban Development Industries Lists of Participants

Governors Meeting for Infrastructure & Urban Development Industries

2012 Chair
Lee A. McIntire, Chairman and Chief Executive Officer, CH2M HILL Companies, USA

Governors
Mohamed Alabbar, Chairman, Emaar Properties, United Arab Emirates
Ayman Asfari, Group Chief Executive, Petrofac Services, United Kingdom
John M. Beck, Chairman and Chief Executive Officer, Aecon Group, Canada
Samir Brikho, Chief Executive Officer, AMEC, United Kingdom
Roland Busch (Alternate to Peter Loscher), Member of the Managing Board and Chief Executive Officer, Sector Infrastructure and Cities, Siemens, Germany
Robert G. Card, President and Chief Executive Officer, SNC-Lavalin Group, Canada
Fabrizio Di Amato, Chairman and Chief Executive Officer, Maire Tecnimont, Italy
Philip Dilley, Chairman, Arup Group, United Kingdom
James Dimon, Chairman and Chief Executive Officer, JPMorgan Chase & Co., USA
Stephen Dobbs (Alternate to David T. Seaton), Senior Group President, Fluor Corporation, USA
José Manuel Entrecanales Domecq, President and Chief Executive Officer, Acciona Energia, Spain
Olof Faxander, President and Chief Executive Officer, Sandvik, Sweden
Douglas Frye, Global President and Chief Executive Officer, Colliers International, USA
Yoshiaki Fujimori, President and Chief Executive Officer, LIXIL Group Corporation, Japan
Nicholas Gee (Alternate to Bernard J. Duroc-Danner), Senior Vice-President, Formation Evaluation and Well Construction, Weatherford International, Switzerland
Balkrishan Goenka, Chairman, Welspun Corp., India
James P. Gorman, Chairman and Chief Executive Officer, Morgan Stanley, USA
Barry M. Gosin, Chief Executive Officer, Newmark Grubb Knight Frank, USA
Ajit Gulabchand, Chairman and Managing Director, Hindustan Construction Company, India
Priya Hiranandani-Vandrevala, Co-Founder and Chairman, Hirco Group, India
Joseph M. Hogan, Chief Executive Officer, ABB, Switzerland
Hiroo Ichikawa (Alternate to Shingo Tsuji), Executive Director, Institute of Urban Strategies, Mori Memorial Foundation, Mori Building Co., Japan
Johan Karlstrom, President and Chief Executive Officer, Skanska, Sweden
Samer S. Khoury, President, Engineering and Construction, Consolidated Contractors Company (CCC), Greece
Kim Jae-Youl, President, Samsung Engineering Co., Republic of Korea
Klaus Kleinfeld, Chairman and Chief Executive Officer, Alcoa, USA
Roland Koch, Chairman of the Executive Board, Bilfinger, Germany

Atsutoshi Nishida, Chairman of the Board, Toshiba, Japan
Burak Oymen, Co-Founder, Capital Partners, Russia Federation
Henry Ross Perot Jr., Chairman of the Board, Perot Companies, USA
Atul Punj, Chairman, Punj Lloyd, India
Mouhtaz El Sawaf, Chief Executive Officer, Construction Products Holding Company (CPC), Saudi Arabia
Yoshihiro Shigehisa, Chairman Emeritus, JGC Group, JGC Corporation, Japan
Hamish Tyrwhitt, Chief Executive Officer, Leighton Holdings, Australia
Wang Jianlin, Chairman and President, Dalian Wanda Group, People’s Republic of China
Sandra Wu Wen-Hsiu, President and Chief Executive Officer, Japan Asia Group, Japan

Industry Guest
Harald Sommerer, Chairman of the Executive Board and Chief Executive Officer, Zumtobel, Austria

International Organizations and Experts
Ian Bremmer, President, Eurasia Group, USA; Young Global Leader
Fu Jun, Executive Dean and Professor, School of Government, Peking University, People’s Republic of China
Rashad R. Kaldany, Vice-President, Global Industries, International Finance Corporation (IFC), Washington DC

From Government
James M. Flaherty, Minister of Finance of Canada

1 Unable to participate
2 Invited to the “Critical Economic and Financial Uncertainties for the IU Sector” Session
Cross-industry Governors’ Breakfast for Mining & Metals and Infrastructure & Urban Development Industries

Governors
John M. Beck, Chairman and Chief Executive Officer, Aecon Group, Canada
Samir Brikho, Chief Executive Officer, AMEC, United Kingdom
Robert G. Card, President and Chief Executive Officer, SNC-Lavalin Group, Canada
Nicholas A. Curtis, Executive Chairman, Lynas Corporation, Australia
Olof Faxander, President and Chief Executive Officer, Sandvik, Sweden
Kim Jae-Youl, President, Samsung Engineering Co., Republic of Korea
Madhu Koneru, Group Executive Director, Trimex Group, United Arab Emirates
Lee A. McIntire, Chairman and Chief Executive Officer, CH2M HILL Companies, USA
James O’Rourke, Executive Vice-President, Operations and Chief Operating Officer, The Mosaic Company, USA
Henry Ross Perot Jr, Chairman of the Board, Perot Companies, USA
Eduard Potapov, Chief Executive Officer, Metalloinvest Management Company, Russian Federation
Vania Somavilla, Executive Director, Human Resources, Health and Safety, Sustainability and Energy, Vale, Brazil
Hamish Tyrwhitt, Chief Executive Officer, Leighton Holdings, Australia
Andries Jacobus Wilkens, Executive Director, Growth and Strategic Development, African Rainbow Minerals (ARM), South Africa

Expert
Kevin Lu, Regional Director, Asia-Pacific MIGA, World Bank Group, Singapore

Industry Guest
Thomas Keller Lippold, President and Chief Executive Officer, Corporación Nacional del Cobre de Chile (CODELCO), Chile

From Government
Ricardo Quijano Jiménez, Minister of Trade and Industry of Panama

Private High-level Roundtable on Global Infrastructure Financing

From Business
Arjun Dhawan, President, Infrastructure Business, Hindustan Construction Company, India
Fabrizio Di Amato, Chairman and Chief Executive Officer, Maire Tecnimont, Italy
Kirill Dmitriev, Chief Executive Officer, RDMF Management Company, Russian Federation
Stephen Dobbs, Senior Group President, Fluor Corporation, USA
José Manuel Entrecanales Domecq, President and Chief Executive Officer, Acciona Energia, Spain
Tenbite Ermias, Partner and Managing Director, and Head, Sub-Saharan Africa, Boston Consulting Group, South Africa
Johan Karlström, President and Chief Executive Officer, Skanska AB, Sweden
Zia Khan, Vice-President, Strategic and Evaluation, The Rockefeller Foundation, USA
Samer S. Khoury, President, Engineering and Construction, Consolidated Contractors Company (CCC), Greece
Rajiv Lall, Vice-Chairman and Managing Director, IDFC, India; Chair of the Global Agenda Council on Infrastructure
Vineet Mittal, Co-Founder and Managing Director, Welspun Energy, India
Brian Molefe, Group Chief Executive, Transnet SOC, South Africa
Jaidev R. Shroff, Chief Executive Officer, United Phosphorus (UPL), India
James Stewart, Chairman, Global Infrastructure, KPMG, United Kingdom
Tidjane Thiam, Group Chief Executive, Prudential, United Kingdom
Danny Truell, Chief Investment Officer, Wellcome Trust, United Kingdom
Hamish Tyrwhitt, Chief Executive Officer, Leighton Holdings, Australia
Mark Wiseman, President and Chief Executive Officer, Canada Pension Plan Investment Board, Canada

From International Organizations and Development Banks
Jin-Yong Cai, Executive Vice-President and Chief Executive Officer, International Finance Corporation (IFC), Washington DC
Patrick Khulekani Dlamini, Chief Executive Officer and Managing Director, Development Bank of Southern Africa, South Africa
Enrique García Rodríguez, President and Chief Executive Officer, CAIF - Development Bank of Latin America, Caracas
Kevin Lu, Regional Director, Asia-Pacific MIGA, World Bank Group, Singapore
Kala Mutuleeny, Principal Counsel, Asian Development Bank, Manila

From Government
Gordon Brown, UN Special Envoy for Global Education; Prime Minister of the United Kingdom (2007-2010)
Frank De Lima, Minister of Economy and Finance of Panama
Pravin Gordhan, Minister of Finance of South Africa
Ricardo Martinelli, President of Panama
Ebrahim Patel, Minister of Economic Development of South Africa
Romulo Roux, Minister of Foreign Relations of Panama
The Future of Urban Development
Industry Partners’ Session

Industry Partners
Jamal Akl, Senior Group Vice-President, Sales, Proposals and Support, Consolidated Contractors Company (CCC), Greece
Robert W. Bailey, President, Water Business Group, CH2M Hill, USA
Patrick Brothers, Executive General Manager, Corporate Strategy, Leighton Holdings, Australia
Roland Busch, Member of the Managing Board and Chief Executive Officer, Sector Infrastructure and Cities, Siemens, Germany
Neil Coleman, Vice-President, Global Communications, The Rockefeller Foundation, USA
Fabrizio Di Amato, Chairman and Chief Executive Officer, Mairi Tecnimont, Italy
Philip Dilley, Chairman, Arup Group, United Kingdom
Ajit Gulabchand, Chairman and Managing Director, Hindustan Construction Company, India
Priya Hiranandani-Vandrevala, Co-Founder and Chairman, Hirco Group, India
Hiroo Ichikawa, Executive Director, Institute of Urban Strategies, Mori Memorial Foundation, Mori Building Co., Japan
Chris Luebkeman, Director, Global Foresight and Innovation, Arup Group, USA
Anand G. Mahindra, Chairman and Managing Director, Mahindra & Mahindra, India
Fahd Al Rasheed, Chief Executive Officer and Member of the Board, King Abdullah Economic City, Saudi Arabia
Raphael Schoentgen, President, GDF SUEZ China, People’s Republic of China
Jan-Eric Sundgren, Executive Vice-President, Public and Environmental Affairs, AB Volvo, Sweden
Shoji Takenaka, Global Vice-President, Smart Community Division, Toshiba Corporation, Japan
Dylan E. Taylor, Chief Executive Officer, Americas, Colliers International, USA
Sandra Wu Wen-Hsiu, President and Chief Executive Officer, Japan Asia Group, Japan

Industry Guests
Conrad van Oostrom, Chief Executive Officer, OVG Real Estate, Netherlands
Harald Sommerer, Chairman of the Executive Board and Chief Executive Officer, Zumtobel, Austria

International Organizations and Experts
Geoffrey Cape, Chief Executive Officer and Founder, Evergreen, Canada
Neil Coleman, Vice-President, Global Communications, The Rockefeller Foundation, USA
Abha Joshi-Ghani, Director, Thematic Knowledge and Learning, World Bank, Washington DC
Jonathan Reckford, Chief Executive Officer, Habitat for Humanity, USA
Melanie Walker, Deputy Director, Special Initiatives, Bill & Melinda Gates Foundation, USA

Experts
Pooran Desai, Co-Founder, BioRegional, United Kingdom
J. Carl Ganter, Managing Director, Circle of Blue, USA
Peggy Liu, Chairperson, JUCCCE, People’s Republic of China
Sue Riddlestone, Co-Founder and Chief Executive Officer, BioRegional Development Group, United Kingdom
Jeroen van der Veer, Executive Member of the Governing Board, European Institute of Innovation and Technology, Hungary

From Government
Shaun Donovan, US Secretary of Housing and Urban Development
Alan Hirsch, Deputy Director-General, Economic Policy, Presidency of South Africa, South Africa
Li Tie, Director-General, China Center for Urban Development, People’s Republic of China
Mike Muller, Commissioner, National Planning Commission, South Africa
Kamal Nath, Minister of Urban Development and Minister of Parliamentary Affairs of India
Naheed Nenshi, Mayor of Calgary, Canada
Rodrigo Perez Mackenna, Minister of Housing and Urbanism and Minister of National Property of Chile
Roberto R. Roy, Minister for Canal Affairs of Panama
Andrei Sharonov, Deputy Mayor for Economic Policy of Moscow, Russian Federation

Project Adviser
Peter Lacy, Managing Director, Senior Executive, Accenture, People’s Republic of China
Cross-industry CEO Session: Global Physical Infrastructure

Governors
John M. Beck, Chairman and Chief Executive Officer, Aecon Group, Canada
Patrick Brothers, Executive General Manager, Corporate Strategy, Leighton Holdings, Australia
Roland Busch, Member of the Managing Board and Chief Executive Officer, Siemens, Germany
Robert G. Card, President and Chief Executive Officer, SNC-Lavalin Group, Canada
Wolfgang Colberg, Chief Financial Officer, Evonik Industries, Germany
Fabrizio Di Amato, Chairman and Chief Executive Officer, Maire Tecnimont, Italy
Patrick Khulekani Dlamini, Chief Executive Officer and Managing Director, Development Bank of Southern Africa, South Africa
Kirill Dmitriev, Chief Executive Officer, RDIF Management Company, Russian Federation
Stephen Dobbs, Senior Group President, Fluor Corporation, USA
Kim Fejfer, Chief Executive Officer, APM Terminals, A.P. Møller-Maersk, Denmark, A.P. Møller-Maersk, Netherlands
Douglas Frye, Global President and Chief Executive Officer, Colliers International, USA
Yoshiaki Fujimoto, President and Chief Executive Officer, LIXIL Group Corporation, Japan
Ben Hill, President, Trina Solar Europe, Switzerland
Johan Karlstrom, President and Chief Executive Officer, Skanska, Sweden
Rajiv Lall, Vice-Chairman and Managing Director, IDFC, India
Gottfried Leibrandt, Chief Executive Officer, SWIFT, Belgium
Hisham Mahmoud, Group President and Chief Executive Officer, AMEC, USA
Nossiwe Nocawe Nokwe, President and Chief Executive Officer, PetroSA, South Africa
Atul Punj, Chairman, Punj Lloyd, India
Hamish Tyrwhitt, Chief Executive Officer, Leighton Holdings, Australia
Andries Jacobus Wilkens, Executive Director, Growth and Strategic Development, African Rainbow Minerals (ARM), South Africa
Sandra Wu Wen-Hsiu, President and Chief Executive Officer, Japan Well Construction, Weatherford International, Switzerland

Industry Guests
Eddy Bruyninckx, Chief Executive Officer, Antwerp Port Authority, Belgium
Suresh Chaturvedi, Group Chairman, Overseas Infrastructure Alliance (OIAPL), India
Harald Sommerer, Chairman of the Executive Board and Chief Executive Officer, Züntobel, Austria
Juergen Tinggren, Chief Executive Officer, Schindler Holding, Switzerland

International Organizations and Experts
Geoffrey Cape, Chief Executive Officer and Founder, Evergreen, Canada
Rashad R. Kaldany, Vice-President, Global Industries, International Finance Corporation (IFC), Washington DC
Kevin Lu, Regional Director, Asia-Pacific MIGA, World Bank Group, Singapore

From Government
Benigno Simeon Aquino III, President of the Philippines
John P.J. Magufuli, Minister of Works of Tanzania
Mike Muller, Commissioner, National Planning Commission, South Africa
Cesar Purisima, Secretary of Finance of the Philippines
Shamsuddin Usman, Minister for National Planning of Nigeria

Project Adviser
Philip Gerbert, Senior Partner and Managing Director, Boston Consulting Group, Germany

New Frameworks for the Oilfield Services Industry Partners Session

Industry Partners
Ayman Asfari, Group Chief Executive, Petrofac Services, United Kingdom
John M. Beck, Chairman and Chief Executive Officer, Aecon Group, Canada
Samir Brikho, Chief Executive Officer, AMEC, United Kingdom
Robert G. Card, President and Chief Executive Officer, SNC-Lavalin Group, Canada
Fabrizio Di Amato, Chairman and Chief Executive Officer, Maire Tecnimont, Italy
Olof Faxander, President and Chief Executive Officer, Sandvik, Sweden
Steve Fludder, Senior Executive Vice-President and Chief Marketing Officer, Samsung Engineering, Republic of Korea
Nicholas Gee, Senior Vice-President, Formation Evaluation and Well Construction, Weatherford International, Switzerland
Balkrishan Goenka, Chairman, Welspun Corp., India
Kirk D. Grimes, Group Executive, Operations, Fluor Corporation, USA
Hor Wuen Fung, Corporate Marketing and Communications Director, Weatherford International, USA
Kim Jae-Youl, President, Samsung Engineering Co., Republic of Korea
Emilio Ricardo Lozoya Austin, Chief Executive Officer, Pemex - Petroleos Mexicanos, Mexico
Michael McKelvy, President, Government, Environmental and Infrastructure Division, CH2M HILL Companies, USA
Carlos Murrieta, Chief Operating Officer, Pemex - Petroleos Mexicanos, Mexico
Anders Nyren, Chairman, Sandvik, Sweden

Industry Guests
Khalid A. Al Falih, President and Chief Executive Officer, Saudi Aramco, Saudi Arabia
Shahril Shamsuddin, Group President and Chief Executive Officer, Sapura Group of Companies, Malaysia

From Government
Idris Jala, Minister, Office of the Prime Minister, Malaysia
Saddeek Omar El Kaber, Governor of the Central Bank of Libya
Naheed Nenshi, Mayor of Calgary, Canada
Contact Information

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