

# The Future of Asia

## FORCES OF CHANGE AND POTENTIAL SURPRISES

CREATED FOR DISCUSSION AT THE 2014 POLICY RETREAT  
OF THE CANADA-AUSTRALIA PUBLIC POLICY INITIATIVE

Collaborative Foresight Study 2013



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# Disclaimer

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This report is a collaborative project between Policy Horizons Canada, a scanning and foresight organization within the Federal Public Service of Canada, and the Strategy and Delivery Division of the Department of the Prime Minister and Cabinet, Australia. For more information on how this report was compiled, please consult the “How this Report was Developed” section.

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**Australian Government**

**Canada**

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# Executive Summary

**The purpose of this study is to identify potential surprises and discontinuities that could emerge in Asia and create significant challenges and/or opportunities for Australian and Canadian interests over the next 15 years.**

**ASIA'S FUTURE LOOMS LARGE:** Asia has re-emerged as a centre of economic growth and the world is paying attention. By 2030, about six in ten people on the planet will be living in Asia. With a growing economy and middle-class, it is expected to be a key player on the world stage. While the 21st century may turn out to be the Asian century, Asia's future trajectory is still uncertain. It is subject to regional social and economic complexities, as well as environmental, technological and political forces in the region and globally. The interactions of these forces can lead to uncertainties and surprises that will shape the region and the world. Given its existing and potential influence, an enhanced understanding of Asia and its potential paths forward over the next 10 to 15 years is essential for Australia and Canada.

## **USING FORESIGHT TO BETTER UNDERSTAND**

**ASIA'S FUTURE:** This study uses foresight methods to contribute to that enhanced understanding. In contrast to economic forecasting, foresight methods are a form of qualitative modelling that look at phenomena from the perspective of multiple interacting systems. They take emerging signals of change in the systems under study and explore their interactions in rigorous ways. In doing so, foresight methods help to explore plausible

futures, point us to potential surprises, challenges and opportunities, and test the strength of commonly-held assumptions. There is no predicted future here; only descriptions of plausible futures worth consideration.

**FORCES OF CHANGE IN ASIA:** Significant changes are taking shape in Asia with the potential to cause great surprise in the region over the next 15 years.

- Asian economic models are evolving, as countries experiment with their own paths to prosperity. There is an early sense that a shift is underway from a GDP-centred to more inclusive growth models.
- Social inequality, demographic shifts and growing expectations of a rising middle-class are challenging governments to respond and prove their legitimacy.
- Emerging technologies might be a potentially disruptive force in the region. Over time, some Asian leadership in fields such as bio-manufacturing, artificial intelligence, and robotics may emerge or solidify.
- In order to address some of the challenging environmental and energy issues, some governments have demonstrated a willingness to take significant policy measures and support a range of technologies.
- On the security front, Asia is facing potential disruptions from both historically rooted disputes and emerging technologies.

## **EXPLORING POTENTIAL ASIA FUTURES:**

Scenario creation was used to explore the interactions between the emerging changes. A logic structure was



developed to define four archetypal scenarios: slow decline, muddling through, incremental growth and transformation.

- In “Great Expectations Unfulfilled” (slow decline), the belief that the “Asian economic miracle” will continue is replaced with growing resentment at unfulfilled political reforms.
- In “Taking the Good with the Bad” (muddling through), coalitions led by the U.S. and China compete for influence, and wealth discrepancies among Asian countries limit cooperation in building regional markets.
- In “Asia Ascending” (incremental growth), there are partial solutions to major issues, but not everyone is benefitting from the improvements.
- Finally, in “Asia Rebounds from Crisis in a Newly Networked Form” (transformation), a socio-economic collapse characterized by overwhelming job loss and regional health and food crises sparks a transformation in the region and the emergence of self-organizing networks and governments who choose to respond with more inclusive and environmentally sustainable strategies.

#### **SHARED IMPLICATIONS FOR AUSTRALIA**

**AND CANADA:** The scenarios helped expert participants in our study to consider possibilities and uncover possible surprises. They also helped in generating a list of common policy challenges and opportunities for both Australia and Canada.

- There will be challenges and opportunities in simultaneously cultivating both new and ongoing relationships while finding our niches and adding value as a middle-power amongst many rising middle-powers.

- We will find ourselves challenged by a region that might be predominantly state-led, more innovative and educated.
- The region may be surprisingly susceptible to technological disruptions, especially robotics and bio-production that could significantly affect employment levels and migratory flows.

**CHECKING COMMON ASSUMPTIONS:** Through research and dialogue with experts, an initial list of commonly held policy and planning assumptions about Asia’s future were developed. After going through the scanning and foresight process, most participants agreed that a number of assumptions needed to be nuanced or even reformulated.

- The middle-class is emerging, but it will not necessarily look like that of the West.
- The region will be resource-hungry, but technologies have the potential to impact the types and levels of resource demands by the end of the 15-year period.
- There is also the real possibility of economic under-performance.
- The story of China’s rise at the expense of the U.S. seems too simple. Significant U.S. influence in the region, especially military, cultural and intellectual, will likely remain.

#### **SUPPORTING FRUITFUL POLICY DIALOGUES:**

By providing insight into ongoing changes in Asia and potential ways these changes might unfold over the 15-year time period of the study, we hope to stimulate fruitful dialogue at the Canada-Australia Public Policy Initiative (CAPPI) retreat in January 2014. We also hope this report will contribute to broader policy dialogues.



# What is Scanning and Foresight?

Scanning and foresight are processes to help us think about the future. Scanning identifies changes in the domestic and international environments that could have significant implications for government policy and programs. Foresight processes explore how these changes may evolve and interact to create new policy challenges and opportunities.

These processes are not trying to predict the future. Instead, they explore the range of plausible futures that may emerge so as to help identify assumptions and strategies that will help policy-makers prepare for an uncertain future. Foresight studies, when conducted by governments, allow policy-makers to reflect on how the environment is changing and what additional information and planning may be required to ensure policy preparedness and resilience.

Foresight is a natural human trait that allows us to consider a problem, explore options and weigh pros and cons of possible strategies and desired outcomes. With this perspective in mind, Policy Horizons Canada's foresight process, which was used for this project, assembles a range of visual tools that help people surface their mental models and discuss them as a group. Engaging many perspectives ensures a more robust analysis that can then lead to better advice and operation.

## HORIZONS' FORESIGHT PROCESS

### Assumptions

- Conduct interviews and research to frame and understand the problem
- Track core assumptions to test

### Scanning

- Identify insights / weak signals that indicate change is occurring
- Assess relevant trends
- Elaborate on commonly-held assumptions

### System mapping

- Identify key elements in the system
- Describe key relationships

### Change drivers

- Describe change drivers shaping the system
- Develop influence maps of 2<sup>nd</sup> and 3<sup>rd</sup> order consequences
- Preliminarily examine the interaction of change drivers

### Scenarios

- Develop scenarios to explore a range of futures
- Identify potential challenges and discontinuities
- Test for robust assumptions and strategies

### Products

- Credible assumptions and key uncertainties
- Policy challenges and opportunities
- Emerging issues
- Data needs





## Current Assumptions

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In a foresight study, an important first step is to understand what assumptions are most commonly held about the system under examination. By the end of the process, the assumptions are examined in light of the developed scenarios to determine whether they remain credible or should be amended. Appreciating current and future assumptions is important in highlighting challenges and informing longer-term policy approaches.

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### THE FOLLOWING COMMONLY HELD ASSUMPTIONS ABOUT THE FUTURE OF ASIA HAVE BEEN IDENTIFIED THROUGH SCANNING AND CONVERSATIONS WITH EXPERTS.

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**Asia will be the driver of growth in the global economy:** Most experts believe that Asian economies will be able to overcome the “middle-income trap” and

The **Middle Income Trap** occurs when a country’s growth plateaus and eventually stagnates after reaching middle income levels. The problem usually arises when developing economies find themselves stuck in the middle, with rising wages and declining cost competitiveness, and unable to compete with advanced economies in high-skill innovations, or with low income, low wage economies in the cheap production of manufactured goods.  
([Asian Development Bank](#), 2011)

progress toward becoming high-income economies. Asia will likely be at the center of global financial systems.

**Major Asian economies will continue to be resource hungry:** Most experts expect increased Asian energy and resource needs for a burgeoning economy, with a rising middle class and expanding population.

**Environmental issues will worsen:** Pollution and environmental degradation will likely continue across Asia and have significant social and economic impacts.

**Asia will be home to the majority of the world’s middle class:** As the living standards of people in Asia improve, there will be a shift towards greater domestic consumption.





**Asia will continue to urbanize:** Although the growth in Asia's urbanization rates will slow down, urbanization will continue to create related economic, social and environmental pressures.

**Rapid economic growth will increase social pressures:**

While economic growth lifts millions of people out of poverty, income inequality and urban-rural tensions will continue to grow.

**Demographic trends will impact Asian countries differently but will not seriously impede growth:**

As in other parts of the world, demographic shifts, such as aging populations, the youth bulge, and the gender gap are expected to have manageable impacts on Asian societies and economies.

**Technological advances will continue to have disruptive effects in Asia's economic development:**

Biotechnology, artificial intelligence, robotics, and e-commerce are poised to change industries and business models in Asia and around the world.

**Asia will work within existing multilateral structures to increase its influence:**

In spite of its growing economic and political significance, it is assumed that Asia will continue to work within existing global structures to achieve multilateral objectives.

**China is rising and the U.S. is declining:** China is expected to overtake the United States in political and economic influence.

**Regional economic interdependency will continue and will reduce or prevent conflict:**

Complex interdependencies and growing bilateral engagement are expected to exert a strong stabilizing influence on countries in the region.

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**In this study, the above assumptions are tested against four scenarios presented later. We will then assess whether these assumptions are still valid or in need of revision.**



# Forces of Change in Asia

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Asia is a highly diverse continent. It encompasses a wide-ranging composition of populations, patterns of economic development, natural endowments, languages and cultures, as well as governance systems. Such diversity is subject to global forces, such as resource scarcities, technological advances, rapid urbanization and a rising middle-class, in addition to shifting geo-economic and geo-political dynamics.

This section highlights a combination of those existing and emerging issues likely to cause significant change and surprise for both the region and the world over the next 15 years. While many potential surprises exist, the following have been identified as significant based on scanning and discussions with a range of experts. Some of these change drivers are well known while others may not be widely considered. A more detailed description of these elements can be found in an accompanying supplementary report.



## ECONOMIC SYSTEMS

Asian countries are experimenting with their own paths to prosperity. There is an early sense that a shift is underway from a GDP-centric model to more inclusive growth models.

and e-commerce may stimulate entrepreneurship, increase domestic consumption and lead to the creation of micro-enterprises.

Shanghai's New Free Trade Zone Opens



## **HYBRID MODELS OF STATE AND MARKET-LED INNOVATION**

Although we may see increasing liberalization throughout the region, more active governments may still be the norm compared to the West. Asian countries are experimenting with a range of strategies, including free trade and special economic zones, as well as public-private partnerships that allow governments to leverage the private sector while maintaining overall control. At the same time, strategies to promote frugal innovation

**Frugal innovation** is a process that “discovers new business models, reconfigures value chains, and redesigns products to serve users who face extreme affordability constraints, in a scalable and sustainable manner. It involves either overcoming or tapping institutional voids and resource constraints to create more inclusive markets. Simply, frugal innovation provides functional solutions through few resources for the many who have little means.” (Bhatti, 2011)



## RETHINKING MODELS OF GROWTH AND CONSUMPTION IN ASIA

Over the past decades, Asian countries have followed the western industrialization model. In the face of growing inequality, resource constraints and the deteriorating environment, there is a growing debate in Asia about new economic models that are more inclusive, innovative, sustainable and frugal. In the future, Asian governments may choose to balance stimulating economic growth and managing resource and environmental constraints. State-led Asian economies may be in the best position to change their populations' preference from conspicuous to constrained consumption.

[Frugal Innovation in India](#)



## RAPID GROWTH OF SOUTH-SOUTH TRADE MAY RESHAPE GLOBAL AND REGIONAL TRADING BLOCS

Asian countries are increasingly participating in South-South (trade between developing countries) and regional trade as a result of bilateral trade agreements and the eventual implementation of the Trans-Pacific Partnership and the Regional Comprehensive Economic Partnership. At the same time, countries in Europe and North America are seeking to enhance their existing trade partnerships to gain access to the Asian market. Competition from growing South-South trade, which could become the main global economic motor, may disrupt these emerging trade partnerships as well as existing trading blocs and organizations, such as the World Trade Organization, the European Union and the North American Free Trade Agreement.

## INFRASTRUCTURE AND TECHNOLOGY ADVANCES: KEY TO REGIONAL INTEGRATION

Current initiatives to enhance Asian infrastructure are underway, both within countries and across borders. Increasing trade flows between regions will attract the type and level of investment necessary to complete undeveloped infrastructure links. Infrastructure development and regional integration will determine which areas of Asia rapidly grow and which ones will lag behind. At the same time, disruptive technologies could potentially decrease the expected returns on infrastructure investments, resulting in reduced use of roads, pipelines and transmission lines.



## INNOVATIVE ASIAN CITIES COULD LEAP AHEAD

The urbanization drive will create social, economic, environmental and governance pressures that many experts assume will allow Asian cities to make only moderate increases to the standard of living of their inhabitants. However, signs of innovation in some cities point to a different outcome, with advanced transportation networks, frugal innovation, modular buildings and eco-cities inspiring new models of development. These models may provide opportunities for rapid and inexpensive urban development and position these cities for greater success.

Rise of the Megacities



## CHIMERICA – THE BEGINNINGS OF A NEW REGIONAL RESERVE

Asian central banks hold US\$5 trillion in reserves and China and Japan hold \$2.7 trillion of U.S. debt in U.S. Treasury instruments. None of the players want to disrupt financial markets. However, China's housing bubble, the U.S. debt, and direct bilateral trade using national currencies are inextricably linked to the need to diversify holdings to maintain regional growth. In light of ongoing fiscal instability in the U.S., Asian countries may diversify their currency holdings by creating a new regional reserve currency based on the renminbi (the official currency of China).

China's Rising Stature in Global Finance



## SOCIAL SYSTEMS

**Asia's economic growth has lifted millions out of extreme poverty. However, the litmus test for Asian governments will be in how they manage the growing expectations of a rising middle class, social inequality and shifts in demographic structures. As Asian economies grow, it may be accompanied by a flourishing of Asian culture.**

for or appreciate. These include: mass migration, disease, human trafficking, labour shortages (inside and outside Asia), the breakdown of social and cultural norms including the traditional family structure and shifting gender roles, and possible changes in economic openness and regional integration.

Population Change Will Shape Asia's Future



## IMPLICATIONS OF DEMOGRAPHIC SHIFTS ON MIGRATION, EMPLOYMENT AND HEALTH

Demographic shifts – aging East Asian populations, younger South Asian populations, urbanization and skewed sex ratios – will combine in coming years to produce a complex story of positive and negative consequences that Asian countries are yet to prepare

## RISING INEQUALITY THREATENS TO DERAIL PROJECTED ASIAN GROWTH

Much of Asia has recently passed the threshold whereby extreme income inequality threatens growth. Extreme inequality can limit access to productive employment, concentrating power in sub-optimal ways, and planting the seeds for social unrest and political

dysfunction. China, India and Indonesia - the most populous countries in the region – have all experienced significant increases in inequality over the past two decades. Projected Asian growth could falter if current initiatives to address income inequality fail.

#### Confronting Rising Inequality in Asia



### **A RISING MIDDLE CLASS BRINGS RISING DEMANDS**

Increasingly educated, assertive, mobile, urban and tech savvy, the Asian middle class will have high expectations with respect to quality of life, governance, housing, education, health care, transportation and air and water quality. The growing middle class in Asia may use their increasing power to pressure governments on these issues. The unwillingness or inability of governments to meet their demands could lead to increased agitation for political change.

#### The Expanding Middle Class in Asia

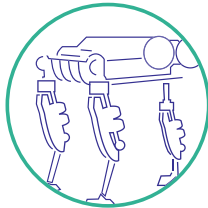


### **BENEFITS ASSOCIATED WITH ASIA'S INCREASED USE OF SOFT POWER**

Little attention is being paid to Asia's increasing cultural clout. The U.S. has long benefitted from the

“Americanization” of many parts of the world. Now Asia is increasing its market share. The emergence of cultural hegemony within the Asian region and some Western countries is happening through mechanisms such as popular culture, media, sport, language outreach and the strategic establishment of universities. Soft power allows Asia to project itself in a more confident and persuasive manner with potential benefits for preferential treatment in foreign relations, tourism and migration.





## TECHNOLOGY

**Building on the region's existing strength, governments in Asia, as well as foreign private investors, are increasingly supporting research and development of emerging technologies in Asia. While most Asian countries are primarily adopting existing technologies from the West, in 15 years they may be the leaders in some fields.**

### BIO-MANUFACTURING'S POTENTIAL TO RESHAPE PRODUCTION

Living organisms, such as yeast and bacteria, are increasingly being genetically modified to produce a variety of substances including drugs, plastics, and fuels, in a process known as bio-manufacturing. With relatively low sector entry barriers and cheap inputs,



these methods have the potential to replace current fabrication methods, rebalance global trade flows and shape Asia's place as a global hub of production.

### ROBOTICS IN THE LANDS OF CHEAP LABOUR

Asia is the biggest market for industrial robots. Japan is at the top, with China's market close behind and growing at the fastest rate of all Asian countries. The many benefits of robotics can be offset by worker displacement and worsening income inequality, especially for men. The pace of robotics over the next 15 years could challenge expectations of continued Asian labour advantage and notions about the nature of work.

[Robots Become China's Growing Labor Force](#)



### E-COMMERCE SPEEDING UP ASIAN CONSUMPTION

The emergence of digital marketplaces in Asia is helping it to shift from an investment-oriented society to a more consumption-driven one by offering more choice, convenience and temptation while shopping. A declining demand for large malls will affect infrastructure and real estate. Digital marketplaces will also stimulate entrepreneurship and influence the makeup and configuration of supply structures. In addition, the personalization of e-commerce, where advertising and sales are tailored to individual preferences, will change consumption patterns.

[China's e-tail revolution](#)



### ARTIFICIAL INTELLIGENCE (AI) AND DATA ANALYTICS MIGHT MANAGE BILLIONS

Computers continue to better reason, plan, learn, and communicate. As they link to large flows of data, the

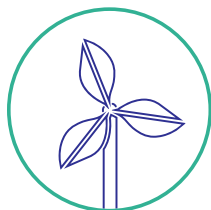
prospect of artificial intelligence (AI)-aided real-time management of complex systems and services (i.e., financial, social and environmental) is increasing. While AI-assisted governance may improve the delivery of services, it could also be used as a means of monitoring citizens' activities.

### THREE-DIMENSIONAL PRINTING'S EFFECTS ON VALUE CHAINS

With the advent of printers making solid three-dimensional objects from a digital model, more

individuals and companies can make their own products or product parts. Three-dimensional printing is already used to produce an array of items from furniture and clothing to vehicle parts, which has significant potential to change Asian and global manufacturing and shorten global value chains.

[Will 3D Printing Kill Asia's Manufacturing Sector?](#)



### ENERGY AND ENVIRONMENT SYSTEMS

**The rapid pace of economic development is taking its toll on the natural environment, with parched rivers, smog-filled skies and algae-infested beaches.**

**Governments are ready to take dramatic steps and are open to using innovative technologies and policy measures, from economic instruments to drastic bans on particular activities.**

### ENERGY STARTS TO BECOME MORE OF A TECHNOLOGY RACE

While natural resources will continue to be a big part of the energy story over the next 15 years, less resource intensive energy technologies and approaches such as smart grids and clean technologies will become more prominent. As this shift occurs, energy technologies will become an important source of competitive advantage, as will knowledgeable and innovative

[Who's Winning the Clean Energy Race? 2012 Edition](#)



workers and improved governance capacities. Some trade issues, including intellectual property and component tracking, will become more important.

### URBANIZATION AND SCRAP METAL POTENTIAL TO CHANGE RESOURCE CONSUMPTION

A combination of Chinese urbanization and the country's generation of scrap metal will have a profound impact on iron ore and coal exports to China. China and India are the region's largest importers of scrap metal, most of which comes from North America. China will go from being a net importer of scrap metal to a net exporter. Companies in iron ore and scrap exporting countries may risk becoming price takers.

### SPIRALING COMPLEXITY OF FOOD SECURITY

Challenges to Asian food security, including the over-exploitation of fish, declining water quality and availability, urban land use, rising salinity levels, and

more extreme weather came to a head with price spikes a few years ago. Since then, actions such as more industrial agriculture, foreign-land purchases, and genetically-modified organisms, have introduced new risks while not fully addressing initial problems. While food availability might be improving, livelihood threats, fish and genetic diversity loss and other pressures are making it less certain that Asian populations will have access to sufficient amounts of food in 10 or 15 years from now.

[Food Security - Asia's Two Faces](#)



## CASCADING WATER SUPPLY CHALLENGES

Water scarcity in Asia is worsening due to pollution, increased consumption, climate change, energy and other megaproject usage. The scarcity of water is creating “water refugees” and has increased black market water sales. These water challenges may lead to serious institutional challenges including inter-state tensions. However, they may also result in increased water trading and the wider use and development of desalination and filtration technologies.

[Asian Water Development Outlook 2013](#)



## SECURITY SYSTEMS

**Asia's re-emergence to date has been peaceful. To maintain its regional growth, Asia will need to face potential disruptions from historically rooted disputes and threats as well as new technologies.**

**Asia is also emerging as one of the world's centres for weapons manufacturing.**

## REGIONAL STABILITY THREATENED BY BORDER DISPUTES AND RISING NATIONALISM

The most volatile border issues and historical grievances include the South and East China Seas, Kashmir and North Korea. Many of these longstanding disputes might now have an economic dimension, as observers speculate that areas such as the Senkaku/Diaoyu Islands and the Spratly Islands may contain oil and gas reserves. The rise of nationalism influenced by tensions over competing territorial claims may threaten regional stability, trade relationships, economic growth and development.

[China's ADIZ Gambit and the Real 'China Choice'](#)



## THE RISE OF FUNDAMENTALISM AS A CONSTRAINT TO ECONOMIC DEVELOPMENT

Religious fundamentalism in Asia may cause population displacement, incubate criminal enterprises, increase debt, devastate national budgets, and affect the productive sectors of society. While religious fundamentalism has already relegated some Asian nations to the bottom of the Failed States Index, it has the capacity to undermine economic growth and development in fragile but otherwise economically healthy countries.

## CYBER-SECURITY AND THE NEW COLD WAR

There will be increasing pressure to manage cyber-security to mitigate its effects on world financial markets, critical infrastructure systems, and military command and control systems. The increasing cyber-security tensions between the U.S. and China may create incentives for regional players to develop their own capabilities. At the same time, these tensions may help drive investment and growth in cyber industries throughout Asia.

[Will the NSA Revelations Kickstart the Cybersecurity Industry in China?](#)





## AFTER FUKUSHIMA, ASIA STICKS TO NUCLEAR POWER PLANS

The recent Fukushima disaster could have seen countries shelve their nuclear energy ambitions and focus on alternatives like renewable energy. Instead, it is estimated that around 103 new nuclear reactors will be built in Asia by 2025. Countries have noted the benefits of diversifying their energy sources by

purchasing nuclear power plants. As Asia emerges as a global hub of nuclear energy, there will be increasing pressure in multilateral forums to develop regional safeguards against nuclear disasters in densely populated areas.

**After Fukushima:  
The Future Of Nuclear Power In Asia**



## GOVERNANCE SYSTEMS

**Changes are underway to make Asian governance institutions more efficient, open and transparent. Such changes could be difficult to implement due to vested interests. If these measures succeed, they could increase the economic competitiveness of the region. Observers may be surprised by the extent to which established institutions are willing to accommodate rising demands in order to maintain their legitimacy.**

## ACTING ON CORRUPTION

Many government-led anti-corruption initiatives are underway in Asia. In particular, the achievements of Indonesia's Corruption Eradication Commission are being modeled by others seeking the positive effects of improved regulatory quality and government effectiveness. This stands to impact corporations benefiting from the status quo. Similarly, national competitiveness across the region might shift while improved perceptions of government legitimacy may impact levels of foreign direct investment.

**Special Report:  
Indonesia's Graftbusters Battle the Establishment**



## WILLINGNESS TO EXPERIMENT IN DIGITAL GOVERNANCE AND SERVICE DELIVERY

Poor services and inadequate bureaucratic infrastructure are pushing governments to automate public service systems using digital technologies. Open source platforms are enabling countries to do this at a fraction of the cost. With India's universal identification system using biometrics (e.g., retinal scans) to track and deliver services and the use of digitized land records making it easier to issue loans for agriculture, traditional service delivery and governance methods may be displaced.

**Why India's Identity Scheme is Groundbreaking**



## THE RISE OF 'PARA-DIPLOMACY': THE IMPLICATIONS OF SUB-NATIONAL RELATIONSHIPS ON TRADE AND DIPLOMACY

With rising urbanization, some cities, states and regions have economies the size of countries. Many countries are therefore "cutting out the middle man" by establishing formal bilateral relations with sub-national governments. This will challenge international relations and institutions. Further, as they get pulled into global spheres, mega-cities may become more autonomous, amplifying tensions within their country. However, they may also pull their countries more quickly into the global economy.



# Scenarios

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Many environmental scans focus on change drivers and their implications. In a foresight study, surprises and challenges emerge as the change drivers interact with each other and the system under study. Scenarios provide an opportunity to explore these change drivers and their interactions in order to consider how the future might emerge. This helps decision-makers to understand how different planning assumptions may play out over time.

Scenarios are a systematic way of exploring a range of plausible futures. They allow us to evaluate existing and proposed policy approaches against a range of plausible futures and to identify possible surprises. Freed from the constraints of past trends and predictions, scenarios allow us to anticipate potential challenges and seek out opportunities in different contexts.

The following scenarios emerge, based upon an examination of the interactions of forces of change. They are not attempts to predict the future or arrive at future paths of differing probability. For the purposes of this study, four archetypal scenarios have been developed

that explore the future of Asia with regard to economy, society, technology, energy and environment, security as well as governance:

- Great Expectations Unfulfilled (slow decline)
- Taking the Good with the Bad (muddling through)
- Asia Ascending (incremental growth)
- Asia Rebounds from Crisis in a Newly Networked Form (transformation)

A series of questions at the end of each scenario invites policy developers to consider the repercussions of the events outlined in the scenarios.

## **GREAT EXPECTATIONS UNFULFILLED**

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In this scenario, the expectation that the Asian economic emergence will continue is quickly replaced with growing resentment at the unfulfilled political reforms.

**Economic-** The projections of economic growth in Asia do not materialize and plans for regional economic integration have evaporated amid institutional corruption and competition for natural resources. As income growth slows, the middle class becomes increasingly fearful for its economic security. Mortgage



stress starts to become a common news item in China. The combination of a Chinese housing bubble and a debt crisis in the United States triggers another global recession, pushing tens of millions into unemployment. A major wave of Asian emigration ensues.

**Social-** Recent positive trends towards the establishment of the rule of law begin to backslide in the face of a greater need to exert control over social unrest. The slowdown in economic growth only heightens tensions between the haves and have-nots. Those at the lowest rungs of society demand more and those at the top take more and protect what they have. Asian values of collectivism and the family erode against a backdrop of rising individualism and western style consumption. An attempt at shoring up declining industries to offset the spectre of mass unemployment only exacerbates rising levels of income inequality. Rising income inequality and the radicalization of returned migrant workers add to religious fundamentalism in certain parts of the region. Poorly targeted military responses only lead to further alienation.

**Technology-** Western industries begin to adopt technologies, especially robotics, 3D printing and artificial intelligence, driven by the need to compete with Asia. Asia's low-cost labour and manufacturing advantage starts to disappear. Regional growth begins to stall and countries such as China and Malaysia fail to overcome the middle income trap.

**Energy and Environment-** Investments in energy "game-changing" technologies either fail to pay-off or are subject to budget constraints that slow deployment. The promise of large-scale renewable technologies fails to eventuate in a cost-effective

or scalable manner, leaving many countries with an environmental imperative that they are unable to effectively resolve. The environmental impacts of resource extraction and pollution are felt mostly by the poor. For the first time, "water refugees" begin to migrate in significant numbers among regions and countries. The competition for water resources sees the wholesale collapse of a heritage-listed area. Governments around the world react with widespread condemnation for the loss of biodiversity but, at the same time, accept that climate change refugees are the new natural order of things.

**Security-** Faced with domestic challenges, the U.S. stands back from the region and attempts to act as an "off-shore" balancer. The decreased U.S. military presence results in the re-armament of many Asian countries. Stronger nations in the region exert greater diplomatic and military muscle to settle disputes. The smaller nations of central Asia engage in sporadic conflicts or "water wars"; while the blue water navies of Japan and China are increasingly entangled in standoffs over disputed islands. With instability in East Asia, India looks to central Asia for energy and the wider Indian Ocean as its sphere of economic influence.

**Governance-** Political elites are now more removed from the societies that they govern, and there is widespread anger at their failure to deliver promised prosperity. There has also been little traction in improving the region's multilateral forums. Instead, there is a proliferation of bilateral trade agreements resulting in a complex mix of rules and alliances. These agreements are principally aimed at constraining China but also at protecting key local industries to avoid further social unrest.

### Potential Scenario Challenge Questions:

- How will Asian countries deal with a mass exodus of people, the majority of whom would be more educated and wealthy?
- What impact will large income disparities have on the legitimacy of governments?
- How might a protectionist Asia clash with a world that continues to liberalize?

### TAKING THE GOOD WITH THE BAD

**The world has further shifted from a G20 to a G2 world. Coalitions led by the U.S. and China compete for influence. Wealth discrepancies among Asian countries limit cooperation in building Asian markets. While Asian exports to the West have declined, there is growth within the region.**

**Economic-** Economic growth lags behind population growth. Many economies still rely on cheap labour and commodities. While some countries perform well, growth rates are not as high as anticipated. Wages have risen but without the productivity gains to match. Entrenched corruption and slow regulatory reform are also limiting economic growth. While informal banking has provided credit access to larger populations, notable defaulting rates now hurt the economy. Southeast Asia is the regional trading hub and centre for regional capital markets.

**Social-** The middle class is growing, but lower classes are growing faster. While many in both classes are doing better, an increasing malaise sets in due to poor living conditions, lack of jobs for youth, pressures to care for elderly, disempowerment of women, an economic decline in rural areas, and income inequality. Social unrest grows on a number of fronts, but despite

its growing wealth, the middle class has little political influence partly due to its diverse needs and inability to organize. Their aspirations outpace reality and some migrate to other regions in search of a better life.

**Technology-** Artificial Intelligence monitors storm conditions and assists in real-time crisis management. It is also used to curtail activism through social media oversight. The bio-production of drugs, plastics and fuels hints at supply chain disruption to come, further unnerving established players concerned by how 3D printing has begun to bite into Asian manufacturing. Robotics help Japan and China address labour shortages, but also cause job losses for many Asians.

**Energy and Environment-** Although fossil fuels dominate, energy sources increasingly diversify, foretelling independence from imports. Nuclear power is the preferred alternative source of base-load energy in the region. A combination of unsound food practices and lack of water for use in food production is making it difficult for some groups to afford food. Food and water motivated dislocation rises. As coastal areas become “dead zones”, fishing boats are forced further offshore into disputed waters. Countries take unilateral geo-engineering or water system actions to manage domestic climates, adding to regional tensions.

**Security-** Educated but underemployed South Asian youth become disenfranchised resulting in ideological radicalization. They carry out sophisticated cyber-attacks on infrastructure and energy systems. Weakened border control capacity, increased acts of terrorism and historical resource claims disputes heighten inter-state tensions. However, these are partly cooled by Indonesia’s rising peacemaking role. China uses its soft power to exert greater influence in aligning markets and alliances to its interests.

**Governance-** While many governments struggle to meet rising social service demands from urbanization, aging and inequality pressures, some innovations arise. India's e-services (i.e., biometric ID) for the poor address some public needs. Private enterprise steps in to service wealthy and gated communities. Shanghai's Free Trade Zone is an independent innovation centre that is increasingly discontent with Beijing's bureaucratic demands. Countries lose interest in multilateral forums and the Trans-Pacific Partnership and Regional Comprehensive Economic Partnership fail to gain traction.

**Potential Scenario Challenge Questions:**

- How will Asia deal with the early signs of manufacturing displacement by 3D printing and bio-production?
- How will Asia respond when robotic or automated equipment adds to youth unemployment?
- What strategies will smaller Asian economies employ as larger powers exert more influence over regional markets?

## ASIA ASCENDING

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**In this scenario, there is growing prosperity and security in Asia. While incremental progress results in partial solutions to major issues, the region still faces some major hurdles. Economic gains and an expanding middle class lead to opportunities, but not everyone benefits from the improvements.**

**Economic-** Asian economies have avoided the "middle income trap" and are moving up the value chain and expanding the services sector. Currencies are traded more freely and financial systems are more open, with fewer protectionist policies and investment controls.

China's renminbi has emerged as a global reserve currency. There is also an increase in bilateral and multilateral free trade agreements.

**Social-** The Asian middle class is expanding and has growing political and social influence. However, the divide between urban and rural populations in developing countries is widening, particularly as urbanization has made the maintenance of aging city infrastructure a priority. There is improved cultural understanding between Asia and the rest of the world because of greater Internet access and more people studying and working overseas. In response to demographic pressures, the number of women joining the workforce is increasing. The flow of migrants is relatively free, and this addresses the demographic challenges of aging populations. However, robotics has taken the place of migrants in places such as Japan and some parts of China.

**Technology-** Asia has invested heavily in technology, which brings about challenges to traditional processes and industries, but opportunities in others. Economic production is changing as a result of 3D printing, bio-manufacturing, robotics and alternative energies. The investment returns on some traditional energy infrastructure are declining.

**Energy and Environment-** The significant demand for energy in Asia is resulting in the large-scale development of alternative energy sources. While countries are making some progress in overcoming water shortages by improving desalination and filtration technologies, these measures are insufficient to compensate for increased water use for consumption and energy. The rapidly diminishing global stock of fish is one of the most pressing environmental

issues of our time, however, little progress has been made to improve the situation.

**Security-** The U.S. remains the preeminent military power in Asia. Asian countries recognize that any conflict will jeopardize their economic and social gains. While some risks of conflict remain, especially in relation to ongoing territorial disputes and more access to improved military technology made in Asia, these are partly offset by a Code of Conduct to manage border and territorial issues and improved communication mechanisms between border officials.

**Governance-** Economic development, an expanding Asian middle class, a growing civil society and Internet activism are leading to the election of reformist governments that are successfully targeting corruption. The influence of national governments is eroding as Asia's largest cities seek to look after their own interests. In urban areas, people now feel an almost equal attachment to their places of residence as to their country.

**Potential Scenario Challenge Questions:**

- How will Asian countries accommodate the growing expectations of a rising middle class?
- How will Asia meet its growing consumption demands (e.g., food/fish, energy, materials, etc.) in the face of resource constraints?
- How will Asian governments respond to the rising influence of mega-cities?

## **ASIA REBOUNDS FROM CRISIS IN A NEWLY NETWORKED FORM**

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**Accelerated automation and environmental degradation have led to a socio-economic collapse with overwhelming job loss and regional health and food crises. With so many having nothing to lose and vanishing government legitimacy and budgets, self-organizing networks emerge. Rather than suppressing public anger, Asian governments respond with more inclusive and environmentally sustainable development strategies.**

**Economic-** Hard-hit India is embracing the self-regulating network model and emerges as a regional leader, challenging a China that still holds to top-down led development. However, India is not alone as consumers throughout Asia begin to adopt post-consumer values of constrained and collaborative consumption. In contrast, Chinese cities emerge as traditional hubs of global innovation on par with Silicon Valley. Innovations for rapid and inexpensive urban development position cities for greater resiliency and success. A self-sufficient Asia does not need the world as much as it needs Asia.

**Social-** The free movement of people within and across Asia alleviates differing aging and youth bulge tensions. Younger cohorts in South Asia begin to move northeast to fill the worker shortages left by an aging population. These cohorts also fill social service related positions as Asia undertakes welfare reform, helping drive domestic consumption in the health field. Online freelance work tempers these patterns to a degree. China's successful soft power tactics have resulted in an increase in foreign students to the country; more workers migrate from the West to the East.

**Technology-** Shifts from mass production to mass customization in manufacturing and health become possible through bio-manufacturing and 3D printing. This overlaps with a decoupling of production from industry, and challenges regulators and governance. Countries use artificial intelligence and data analytics to experiment with more inclusive policy development.

**Energy and Environment-** Multi-stakeholder environmental responses take shape involving an invigorated eco-movement. Digitally connected citizens use sensors and real-time displays to address water supply and other challenges. Water recycling and desalination technologies further reduce water stress. Vertical farming diversifies and stabilizes food supply. Asian leadership in alternative energies becomes a competitive advantage in the emerging energy tech race. Asian governments emulate China's policies to prevent Western countries from dumping trash in Asia. Lessons from iron reuse have spawned an industrial ecology across sectors.

**Security-** Asian governments are making strategic investments in security infrastructure in response to non-traditional security threats such as cyber-security, cross-border crime and human trafficking. More effort is put into resolving or sharing resources in the South China Sea. The emergence of blue water navies leads to greater cooperation between China, India and Japan to avoid miscalculation. The continued military presence of the U.S. adds to regional stability. This results in broader regional cooperation and the first joint military deployment for peacekeeping purposes. Multilateral institutions are the primary mechanisms to manage and resolve disputes when they flare.

**Governance-** Virtually connected citizen demands for accountable and responsive government lead to enhanced transparency and reduced corruption. The establishment of property rights in China and India reduces social tensions and boosts economic progress. Regional governance agreements are negotiated among all partners on an equal footing and reshape established systems and institutions. Mega-cities begin to form a network of city-states with increased presence and influence on the global stage.

**Potential Scenario Challenge Questions:**

- What impacts might post-consumerist values have on Asian and global economies?
- What challenges will an influx of migrant workers create for Asian countries?
- To what extent will Asian governments work with private and non-government actors on cyber-security issues?
- How will export-oriented Asian economies be affected by 3D printing?



## Common Policy Implications

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In light of the scenarios and potential surprises that may emerge, the following are policy implications that are shared by both Australia and Canada. The implications reflect both challenges and opportunities. Many are evident across scenarios, some take different forms in different scenarios and some arise in only one or two scenarios. Ultimately, they are a manifestation of the interaction of the factors driving change in Asia identified above. The implications are briefly explored as themes and finish in questions to help support policy dialogue.

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### CULTIVATING NEW AND EXISTING RELATIONSHIPS

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As we continue to develop relationships in Asia, we will have to learn how best to balance them with our existing ones, especially the U.S. and Europe. This will be challenging as Western trade and investments in Asia crystalize. Consequently, there may be an increasing likelihood of Western interventions to support Asian countries facing economic or political crises. Our challenges may be further amplified as the world of diplomacy becomes increasingly diffused. As companies, academics, non-government organizations and even individuals, to varying degrees, increasingly become our chief representatives, our diplomatic and geo-strategic capacities will have to keep pace.

- How will our complicated set of strategic relationships be challenged by a more dynamic and diffused diplomatic environment?
- How do we maintain these relationships in the face of divergent values and emerging rules and institutional arrangements?
- What does a U.S. military “pivot” to Asia look like in a world where its economic interests are increasingly aligning with those of China?

### A MIDDLE POWER AMONGST RISING MIDDLE-POWERS IN ASIA

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As great powers emerge, an obvious possibility is for middle powers to align in blocs or coalitions. There would be many economic benefits and strategic advantages of doing so. There may be opportunities to collaborate in building regional institutions (i.e., security-based, financial, etc.) and facilitate issue-based rule-making. However, many middle powers, both internal and external to the region, will be competing with each other, especially for the major markets in Asia. Both Australia and Canada will need to ensure that they are positioned to influence global and regional agendas, while striking the right balance between middle power cooperation and competition.

- Do we have the necessary level of Asian literacy in order to become an effective player in Asia?
- How will we develop the strategic and institutional intelligence to best position ourselves in the region?
- How will we work with other emerging Asian middle powers, such as Indonesia and South Korea?





## ENSURING VALUE-ADDED IN A RISING ASIA

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Asian economies are growing their internal markets and moving higher up the value chain, which will become the focus of increased competition. There are no shortage of countries lining up to take advantage of economic opportunities in the region. Our existing strengths in natural resources will continue to hold for the medium term. There is significant competition in this sector, including new and potentially cheaper sources of natural resources in Africa and Central Asia, and with time, disruptive technologies may emerge. Further up the value chain, both Australia and Canada have an opportunity to serve growing markets undergoing large-scale urbanization through engineering, health care, education and financial services to meet Asia's many development needs. Given its central role in the global economy, there will be a need to avoid a situation where Asia does not need us.

- How will we continue to add value for Asia as it further moves up the value chain?
- What is the most effective way to brand our countries in the global competition for Asian markets?

## POTENTIAL CLASH OF DEVELOPMENT MODELS

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It is currently difficult to see a future where state-led development approaches do not continue to play a significant role in international trade and relations. Indeed, it is plausible that Asian nations will widely adopt state-based models and instruments such as State-Owned Enterprises, Sovereign Wealth Funds. The potential for greater protectionism and state-led

distortions to competition are real and might be a particular challenge to market economies. There might also be more high-profile or strategic land or resource purchases and company takeovers by State-Owned Enterprises.

- How might our predominantly market-based economy model adapt to increasingly state-led economies in the region?
- Will we be able to manage differences in institutional arrangements?
- How might the perceptions of Australians and Canadians evolve in scenarios where foreign state-owned enterprises are highly influential?

## DOMESTIC TRANSFORMATION FOR NICHE EXPORTS

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Technological change, societal concerns and globalization are the structural drivers for industry and business adjustment. Industries will require flexible regulatory arrangements and support for market access while also maintaining labour standards. Government innovation policies will become increasingly important tools for creating comparative advantage in a highly competitive regional market. For example, the aggregation of farming units could lead to the rise of farming support services or promote diversification of certain industries into emerging areas with skills complementarities. The importance of cooperative research and the commercialization of such inventions as wireless or fuel cell technology will need to not only increase several fold but be scalable in record time.

- How do we support our small- and medium-sized enterprises to find niches in a competitive global environment prone to rapid shifts?

- How might educational institutions adjust to supplying the workforce of the future?
- How well connected are centres of research and industry?

### TRADE ROUTES AND SECURITY

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China will increasingly be able to dictate rules relating to shipping in East Asia. Currently, the rules concerning liability and cargo security analysis are constructed from a western perspective and known as the “Rotterdam rules”. China will play a leading role in navigation safety, marine research and offshore search and rescue in South East Asia. China will project naval power further afield as its free-rider status on U.S. security of shipping lanes begins to wane and the rise of Indian naval influence needs to be offset. In 2004, India’s first official naval doctrine boasted that “control of the choke points could be used as a bargaining chip in the international power game.” Recent and planned purchases of submarines across Asia reflect, in part, a growing concern over differing levels of bargaining power at the negotiating table. China’s proposal for an East Asia maritime cooperation platform reflects a concession to a previous position to not negotiate with ASEAN (Association of Southeast Asian Nations) as a bloc but instead, to enhance maritime cooperation through bilateral negotiations.

- How do we maintain a neutral maritime stance as the rules are informally rewritten?
- How might Australia and Canada protect their shipping without the U.S. security umbrella?
- Will Chinese bilateral negotiations reinforce the law of the sea?

#### Top 50 World Container Ports



### ASIA THE INNOVATOR JUST AROUND THE CORNER

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The old view of developing Asian countries as absorbers of innovations is rapidly fading, with these countries increasing their number of patent applications, research publications, doctorate degrees and expenditure on research and development. A number of Chinese and Indian companies are now anchored in Forbes’ Top 50 List of the “World’s Most Innovative Companies”. There are signs of changing school curriculums that support more thoughtful and creative students. Developing Asia is also exhibiting leadership in technologies from robotics to renewable energy. As Asia continues to re-emerge, it is increasingly focused on technological progress and prowess. They are increasingly discerning in their strategic knowledge-building partnerships with countries, companies and universities.

- Are we ready for an increasingly innovative Asia?
- Going forward, will we continue to be positioned as a knowledge partner of interest?
- Are we optimally positioned for an Asia increasingly focused on technology adoption?
- In the context of a globalized economy and given the history of intellectual property infringements, can we find the right balance between cooperation and competition?

### LEVERAGING THE DIVIDENDS OF GLOBAL MIGRATION

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Asians, particularly from China and India, make up the lion’s share of immigration to Australia and Canada. The attraction and retention of talent from Asia will be necessary to build our human capital and counter our aging population and projected labour shortages. We

are currently experiencing different migration patterns: brain drain, brain gain, return and circular migration. In the future, there will be a different balance of these patterns across scenarios. There also remains an opportunity to create a “brain chain” by leveraging migration flows to create economic linkages and business opportunities with Asian countries.

- How can we harness our demographic advantage, such as immigrants at home, return and circular migrants, and members of the diaspora to build economic relationships in Asia?
- What is the role of cities in affecting migration patterns? How could our cities be designed to best attract and retain immigrants?

## OUR POTENTIALLY JOB-SCARCE WORLD

While in most scenarios there is a need to address labour shortages, a common global challenge that might envelop much of Asia, Australia and Canada is a significant downward pressure on jobs. Income and job loss due to out-sourcing, technology and automation could continue to worsen. Similarly, environmental degradation could affect more and more jobs and income through the damage to natural and physical capital such as fisheries, forests, agriculture and infrastructure. This is an acute challenge for countries with large populations. India is expected to need about 10-15 million new jobs every year for the next couple of decades, in order to accommodate new entrants into the workforce.

- Will the enormous job pressures on Asia result in innovative solutions to the global struggle for employment in the face of increasing automation and computerization?
- Are we ready for a world with high levels of technology-driven unemployment?

## EDUCATION AND CULTURE

Australia and Canada are currently significant higher education destinations for Asian students. We are seeing increased investments in Asian universities. Under a scenario of an economically rising Asia, there would also be an associated rise in the prestige of Asian universities and for students to remain within Asia. The rise in the size of the middle class may mean students are still willing to travel for tertiary education, but it will be a challenge for universities outside Asia to attract students, particularly if they do not have campuses in the region. The online delivery of courses will be another challenge for our universities – MOOCs (massive online open courses) and SPOCs (small private online courses) are increasingly popular. In addition to addressing the challenges posed to our educational exports, there will also be a need to invest in science and technology education, and to support innovation in our universities, research institutes and the private sector.

- How important are Australian and Canadian university campuses in Asia to attracting and retaining students who would otherwise study elsewhere?
- To what extent will university fees decline if the majority of their courses are delivered online? What is the associated impact on research?
- What would be the effect to the Australian and Canadian economies and societies if international students did not need to live in our countries when they were enrolled at our universities?



## Conclusion/Credible Assumptions

The impact of Asia's re-emergence will be felt in Asia and globally. It is in Australia's and Canada's best interest to understand the social, economic, and political complexities of the region so that we can better prepare for the opportunities and challenges an Asian Century might bring. This study began with a set of commonly held assumptions about Asia's future. When examined across the scenarios, some of these assumptions still hold true, while others are being challenged.

### ASSUMPTIONS WHICH REMAIN CREDIBLE:

- Environmental issues will worsen.
- Asia will continue to urbanize.
- Demographic trends will impact Asian countries differently but will not seriously impede growth.
- Technological advances will continue to have disruptive effects in Asia's economic development.

### ASSUMPTIONS WITH NEW CAVEATS:

- Asia will be home to the majority of the world's middle class. However, the Asian middle class may not consume at the same level or in the same way as the Western middle class.
- Asia will be the driver of growth in the global economy. However, while less probable, the possibility of an economic recession in Asia is real.
- Rapid economic growth and urbanization will increase social pressures. However, measures to promote inclusive growth could alleviate some of the pressures.
- Major Asian economies will continue to be resource hungry. However, competing technologies will continue to emerge over the next 15 years and in some

scenarios begin to have notable impacts on the types and levels of resource demand by the end of the time period.

### ASSUMPTIONS NOW CHALLENGED:

- **Commonly held assumption:** Asia will work within existing multilateral structures to increase its influence.

**More credible assumption:** With its growing economic and political prominence, major Asian countries will exert greater influence in setting the international agenda.

- **Commonly-held assumption:** Regional economic interdependency will continue and will reduce or prevent conflict.

**More credible assumption:** Differences over resources, border disputes and remilitarization could potentially destabilize the region.

- **Commonly-held assumption:** China is rising and the U.S. is declining.

**More credible assumption:** While China is gaining economic and political influence, the U.S. will likely remain influential from a military and cultural, as well as economic standpoint.





## How this Report was Developed

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This report is a joint effort between Policy Horizons Canada (Horizons), a scanning and foresight organization within the Government of Canada and the Strategy and Delivery Division (SDD), Department of the Prime Minister and Cabinet, Australia. It was developed to support discussion at the 2014 public policy retreat of the Canada-Australia Public Policy Initiative (CAPPI), that convenes Australian and Canadian departmental secretaries/deputy ministers biennially for wide-ranging public policy discussions.

As stated earlier, the main purpose of this report is to identify potential surprises and discontinuities that could emerge in Asia and create significant challenges and/or opportunities for Australian and Canadian interests over the next 15 years. Another objective of this project included a focus upon capacity building and knowledge transference of Horizons' foresight methodology to the SDD team, and for the Horizons team to draw on the Australian experience in considering the opportunities and challenges of the Asian century.

This study was conducted over several months across three continents, involving interviews, workshops as well as scanning; an intensive process of analysis and interpretation of developments in Asia. Thanks to online conference and collaboration tools, the two groups were able to overcome geographic distance and time differences to work seamlessly from Ottawa and Canberra as one team.

To simplify coordination among team members, scanning and writing was done online. Analysts from both groups posted research results on Horizons' collaboration platform, Clearspace, which allowed collaborators to comment and edit one another's work. The team communicated weekly by phone to share updates on the

project and discuss or clarify issues relating to content and Horizons' foresight methods.

The joint project team, on both sides of the Pacific, participated in scanning and posting insights on the Web 2.0 collaboration platform. Horizons also gathered insights from the Asia Pacific Foundation of Canada, Oxford Analytica and Shaping Tomorrow. SDD, as part of its efforts to build linkages with academia, invited Carnegie Mellon University-Australia (CMU-A) to participate in research and insight generation. The CMU-A project team consisted of 12 students from across Asia. Canadian diplomatic missions also led discussions and interviews with experts from think-tanks and universities in major cities in the Asia-Pacific region (see "Annex" for participating missions).

Face-to-face discussions with experts took place in parallel in Australia and Canada. Horizons established an interdepartmental working group, consisting of 19 public servants from 12 federal departments, with diverse experience in working on Asian issues. Through four sessions, they offered insights on changes in Asia, developed scenarios, and explored potential implications for Canada.

SDD followed a similar process in engaging experts based in Australia. SDD conducted three workshops with participants from across government and academia. These workshops focused on testing assumptions, developing insights and testing the plausibility of the scenarios.

Through these engagements and scanning, the joint team identified developments in Asia and the surprises that these developments may bring to the region.





## Annex

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The following Canadian diplomatic missions led discussions and interviews with experts from think tanks and universities within Asia on Horizons' behalf:

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- **The Embassy of Canada to China (Beijing)**
  - The Consulate of Canada, Chongqing
  - The Consulate General of Canada, Guangzhou
  - The Consulate General of Canada, Shanghai
- **The High Commission of Canada to India (New Delhi)**
  - The Consulate General of Canada, Mumbai
- **The Embassy of Canada to Indonesia (Jakarta)**
- **The Embassy of Canada to Japan (Tokyo)**
- **The High Commission of Canada to New Zealand (Wellington)**
- **The High Commission of Canada to Malaysia (Kuala Lumpur)**
- **The Embassy of Canada to the Philippines (Manila)**
- **The High Commission of Canada to Singapore**
- **The Embassy of Canada to the Republic of Korea (Seoul)**
- **The High Commission of Canada to Sri Lanka (Colombo)**
- **The Canadian Trade Office in Taiwan (Taipei)**
- **The Embassy of Canada to Thailand (Bangkok)**
- **The Embassy of Canada to Vietnam (Hanoi)**





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