



Global Scenarios to 2025

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Section 1: Introduction

Scenario planning has become an increasingly important strategic planning tool as more corporations, organizations, and government agencies begin to use scenarios. This publication presents a set of three interdisciplinary, global scenarios to 2025 that provide different pictures of possible futures.

What are scenarios?

Scenarios are plausible alternative views about how the future may develop. They differ from forecasting in that they do not attempt to predict the future based on linear extrapolations of the past. Scenarios do not seek to project the future. Instead, they focus on the identification of discontinuities and how these could potentially develop as a set over time. Scenario analysis allows us to anticipate future developments, and to evaluate strategies for responding to these events or conditions through an exploration of alternative futures.

Several alternative schools of scenario development have evolved over time and for the purpose of the NIC global scenarios to 2025 project, the *Intuitive Logics School* was chosen to develop the scenarios. This school of scenario planning places more emphasis on the qualitative logic of the scenarios and the resulting plots can easily stimulate debate among a diverse group of stakeholders. Encouraging users to challenge their mental models, these scenarios help us to prepare for the different futures that may unfold.

We also decided to use the deductive scenario development process which is a very structured step-by-step approach. The deductive approach starts in the present and ends with a range of plausible futures.

How are scenarios developed?

Over the course of almost one year, the scenarios were developed in a number of workshops around the world. A total of more than 200 people from about 40 countries have participated in the various workshops to help shape this work.

The process followed the following steps:

1. The first step in the scenario development process, which began in January 2008, involved the identification of the most important potential issues using the STEEP¹ analytical framework. A total of about 60 issues were identified using desk research and interviewing some of the world's foremost experts in the various interdisciplinary areas.
2. Issue prioritization and the development of the scenario logics were the focus of the second step. This step happened in three interactive workshops around the world: 1) at the Evian Group at IMD in Switzerland, 2) in Singapore, and 3) at the GBN/Monitor Group in San Francisco. The results of the outcomes of these three workshops were then synthesized into a single coherent set of storylines.
3. The third step involved scenario affirmation and refinement. At the Global Futures Forum Annual Meeting in Vancouver, the scenarios were presented and discussed with members of the global intelligence community. In addition, in June 2008 a formal scenario affirmation workshop was held in Washington, DC during which the scenario logics were further scrutinized and refined.
4. The final step involved the scenario writing and scenario quantification. To ensure the plausibility and the internally consistency of the scenario plots, the team worked with a group of leading scenario planners and thought leaders—the “scenario champions.” The scenario quantification was carried out by the International Futures team at the University of Denver, while the energy demand and mix modeling was conducted by the Markets & Country Strategies Group of PFC Energy.

¹ The STEEP framework is used to identify macro-environmental factors from the following dimensions: Social, Technological, Economic, Environmental, and Political/Regulatory.

What are the focal questions of the scenarios?

The National Intelligence Council, in collaboration with workshop participants, identified the following focal questions as the point of departure for the scenario development process:

- *How can the world attain a high level of sustainable economic growth given the rapidly changing geopolitical landscape of the early 21st century?*
- *What will the balance of power look like in 2025 and to what degree might collaborative policies and frameworks shape the global context?*

These questions formed the basis for the in-depth explorations of the dynamics of the different futures during the scenario workshops. They also inform the creation of the two-dimensional matrix used as the framework around which to structure the scenarios. In this case, the two most influential factors for the future were identified as economic growth (from constrained to unconstrained growth) and multilateral solidarity (from common cause to cross purposes).

What are the predetermined elements and critical uncertainties?

An important step in the scenario development process is to distinguish between the *predetermined elements* (factors that we can anticipate with certainty) and the *critical uncertainties* (factors that may have very different outcomes over the time horizon of the scenarios). The predetermined elements are essentially the “sure things” while the critical uncertainties are those uncertainties that are essential to the focal issues. The distinction between these elements is crucial and often not an easy one to make. The scenario dynamics take into account both the predetermined elements and the critical uncertainties – while the predetermined elements play out in a similar way in all the scenarios, the critical uncertainties provide the areas around which the scenarios develop along different paths.

The table below provides a consolidated view of the critical uncertainties identified during the various scenario development workshops. This represents the scenario dynamics perceived to be the most significant to the focal issues by the workshop participants.

Figure 2: The critical uncertainties

Social	Technological	Economic	Environmental	Political
<ul style="list-style-type: none"> - Intolerance, ethnic/religious tensions - Pandemics - Regional population distribution 	<ul style="list-style-type: none"> - Energy intensity - Energy transitions - Technological progress in genetics & life sciences 	<ul style="list-style-type: none"> - A two speed economy - China's slowing economy - Decoupling from US economy - Energy demand growth - Energy infrastructure investment - Global FDI flows - Global trade - Prosperity levels - Russia's economic fundamentals - US economic fundamentals 	<ul style="list-style-type: none"> - Climate change - Food security - Water scarcity 	<ul style="list-style-type: none"> - America's global image - CBW proliferation - China's leadership in region/world - Climate change mitigation - Corruption - Fundamentalism - Global governance - Market openness - Nuclear proliferation - Religious fundamentalism - Security of energy supply - Terrorism - US moral leadership in the world

The factors deemed to be most important overall revolved around *political/regulatory* issues and *economic/sustainability* concerns. Political and regulatory concerns included China's leadership role, global governance, market openness, terrorism, America's global image, and energy supply security, for example. Issues such as global trade, prosperity levels, energy demand growth, climate change, Russia's economic fundamentals, and decoupling from the US economy were some of the important economic/sustainability concerns.

Section 2: Executive Summary

Since 2002, despite high oil and commodity prices, the world has experienced schizophrenic growth. This growth has even surprised the most bullish economists and questions have arisen about its sustainability.

This economic growth was mainly driven by a two-speed world economy in which populous emerging markets, such as China and India, were growing at more than 10% and 8%, respectively. As a result, an economic shift in gravity away from OECD countries to Asia is already on its way. This high economic growth has resulted in an unprecedented demand for ultimately depletable natural resources. With population levels rising from the current 6.6 billion people to an estimated 8.0 billion people by 2025, it is evident that change is inevitable and that many stress points are likely to emerge in the future global environment.

Given this background, when developing the scenarios the following two focal questions emerged:

- *How can the world attain a high level of sustainable economic growth given the rapidly changing geopolitical landscape of the early 21st century?*
- *What will the balance of power look like in 2025 and to what degree might collaborative policies and frameworks shape the global context?*

Based on an exploration of these central questions against the backdrop of the critical uncertainties, three scenarios emerge for ***Global Scenarios 2025***. The different journeys the world takes to 2025 are represented below.

Each of the scenarios takes a different path into the future. As a result, the position of a nation that is moving in the direction of *Constant Renewal*, for example, will be very different from one following the *Fragmented World* path, for example. The different paths lead to the different futures outlined below:

Borrowed Time describes a world following a path that, without major changes, leads to an unsustainable future. Ignoring, or giving insufficient credence to, the long-term consequences of their policy decisions, leaders leave an “imperfect” or “flawed” legacy for future generations. The result is a world that is ill-equipped to deal with complex global dilemmas.

2009-2012: *While the economic pace slows in the OECD, emerging economies continue to grow. Governments tend to focus almost exclusively on problems with a clear historical precedence and essentially incapable of finding creative solutions to newer problems (e.g., climate change, global terrorism). Short-term, stopgap solutions to problems requiring a long-term commitment are ineffective. Lack of global leadership only worsens conditions.*

2013-2021: *Lack of harmony in regulatory frameworks in combination with global leadership vacuum results in difficulties in the West’s adjustment to new geopolitical realities. The rules of the game are shifting and cracks appear in the system (e.g., OPEC falters, immigration clampdowns).*

2022-2025: *Future generations are now set to inherit the many problems that have been allowed to fester. Economic swings, rising protectionism, and clear winners and losers (i.e., inequitable growth) characterize this world.*

Fragmented World describes a world struggling to manage problems against a backdrop of constrained growth combined with a lack of multinational solidarity. Neither nations nor the international system can keep up as the problems leave the solutions behind.

2009-2012: *Traditional international institutions are weakened by the diffusion of state power and new powers challenge the status quo. Global economy slumps and nations are unable to manage security and environmental challenges.*

2013-2021: *The dream of the BRICs fades somewhat and global insecurity increases (e.g., natural resource and ethnic conflicts, Middle East arms race). Technology diffusion dries up. International*

cooperation is absent.

2022-2025: *Poor economic performance, failed leadership, increased tensions, and an absence of multilateral cooperation define this world. An overwhelmed international system is collapsing under its own weight.*

Constant Renewal describes a world in which nations realize that the international community must work collaboratively on a sustained basis to affect real change at the global level. Leaders systematically adjust policies and frameworks as needed in support of shared global priorities. While the transition is not without difficulties, the world moves in the right direction.

Mid-2009-onwards: *Political, economic, financial and environmental shocks force changes in mindsets of key players, pressure from civil society spurs change. Leaders and nations re-commit to the international system.*

2013-2025: *A world in which societies reconnect with each other on local and global levels to tackle global problems. Although problems persist, global community comes together (albeit with some hiccups) and sets itself on a path towards economic growth and shared responsibilities.*

The table below provides a comparison of some of the key elements of the different scenarios.

	<i>Borrowed Time</i>	<i>Fragmented World</i>	<i>Constant Renewal</i>
Global leadership	<ul style="list-style-type: none"> ○ Focus of government leaders, particularly in powerful states, can be described as myopic and reflexive although many problems require long-term and solutions ○ NGOs and other non-state actors unable to fill leadership vacuum to tackle global problems 	<ul style="list-style-type: none"> ○ Local interests take priority over sustainability and economic growth ○ Decline in power of states triggers collapse of Bretton Woods institutions, simultaneously alternate power sources rise ○ World becomes fractured and divided 	<ul style="list-style-type: none"> ○ Global challenges addressed in collaborative and pragmatic way. Cooperation achieved via combination of existing organizations, new global mechanisms, and changes in mindsets ○ Grassroots dimension to problem solving deepens

	<ul style="list-style-type: none"> ○ World is playing catch-up 		<ul style="list-style-type: none"> ○ Environmental sustainability is a global priority
Economic growth	<ul style="list-style-type: none"> ○ Globalization progresses but potential is unrealized due to patchwork regulatory framework, leadership failures, adjustment to new geopolitical landscape. ○ US, China and India compete for increasingly scares natural resources ○ Selfish growth (non-inclusive growth) where companies are winners; boom-bust cycles the norm with increased protectionism ○ Increasing formation of regional trade blocs 	<ul style="list-style-type: none"> ○ Globalization stalls and access to capital is restricted, BRIC nations and other emerging countries falter. High and volatile energy prices constrain economic growth. ○ Slowdown in China and India intensifies internal tensions and energy supply concerns ○ Fragmented and incoherent global growth ○ Global scramble for natural resources erupts 	<ul style="list-style-type: none"> ○ Globalization accelerates with focus on strong trade integration and seamless cross border flows ○ Cash-rich countries begin reinvesting in emerging markets to pursue growth opportunities ○ Managed and inclusive growth policies ○ Despite peaking oil and natural gas, growth continues as energy conservation policies and technology sharing schemes gradually move the global energy mix away from fossil fuels
Security environment	<ul style="list-style-type: none"> ○ Security collaboration is limited to “friendly” states ○ Long-term Iraq commitment becomes a fact, terror watch continues ○ No global consensus about how to address long-term security issues, and energy security worries spur new generation of bilateral 	<ul style="list-style-type: none"> ○ UN Security Council refuses to censure new nuclear powers (e.g., North Korea and Iran). ○ Failing states, especially in natural resources rich countries of Africa (e.g., Nigeria), distort the flow of energy supply ○ Security becomes a real concern with frequent terrorist attacks, 	<ul style="list-style-type: none"> ○ Security addressed globally and efficiently. Technology emerges as the key enabler. ○ Improved collaboration leads to more secure environment ○ Security is considered a collective problem ○ Proliferation concerns remain, especially latent

	<p>agreements</p> <ul style="list-style-type: none"> ○ New forms of security alliances thrive as new geopolitics plays out ○ Environment-related humanitarian crises mount in an overwhelmed international system ○ Security “balance sheet” is in the red and some problems slip through the cracks 	<p>including a large scale bio attack.</p> <ul style="list-style-type: none"> ○ Traditional alliances wane ○ Security of energy supply lead to military threats over territorial claims in the Arctic (Canada, Russia and the United States), resource competitions spark conflicts. ○ A great power rivalry and arms race emerges in the Middle East 	<p>proliferation</p>
Population & Demographics	<ul style="list-style-type: none"> ○ Aging and declining population in developed countries continues ○ China feels pressures of aging, India fails to capitalize on youth bulge ○ Brain drain continues and is a real problem for emerging markets as rich countries welcome highly qualified migrants ○ Clampdown on immigration of low-skilled workers increases as unemployment rises in US and Europe ○ Accelerated urbanization in LDCs 	<ul style="list-style-type: none"> ○ Climate change and conflicts lead to a higher degree of displaced people who are knocking on the doors of the EU and the US. But the EU and the US strengthen immigration laws and enforcement. ○ Urbanization intensifies other problems ○ Global culture becomes less Western, with increasing nationalism and fundamentalism ○ Foreign student mobility is discouraged and scientific research contact is restricted ○ African fertility reductions cease 	<ul style="list-style-type: none"> ○ Retirement age in rich countries raised to 70 ○ Implementation of incentives in emerging markets to manage the birth rate. ○ Technology diffusion is aided by student mobility & efficient free movement of knowledge workers. ○ Sensible population growth policies are increasingly becoming the norm ○ People from emerging markets see opportunities in their home countries
Climate change	<ul style="list-style-type: none"> ○ Agreement on minimalist Kyoto 	<ul style="list-style-type: none"> ○ India and China sit out post-Kyoto 	<ul style="list-style-type: none"> ○ International climate

<p>policies</p>	<p>2 is reached yet scientific evidence reveals its failure to address climate change problems</p> <ul style="list-style-type: none"> ○ Lack of technology transfers to G77 to tackle problem ○ EU and the US pursue divergent strategies (emissions reduction targets vs. technology subsidies) but overall climate change essentially remains unchecked. ○ Climate change occurring faster than previously thought 	<p>round negotiations</p> <ul style="list-style-type: none"> ○ Extreme weather events cause severe damage but draw little action from the international community ○ As climate change becomes a more pervasive problem, climate change policies erode in a reversal of Kyoto 	<p>agreements ratified and new treaties emerge as needed</p> <ul style="list-style-type: none"> ○ Investment and cross-border sharing of energy efficient technologies combined with global and efficient carbon clearing houses provide the basis towards CO2 abatement ○ Emissions have reached a peak due to global coordination. Abatement to post industrialized levels is on track
<p>Regulatory context</p>	<ul style="list-style-type: none"> ○ Lack of global framework; uncoordinated regulation ○ Regulatory competition constrains international cooperation to support market access ○ Cracks in OPEC cohesiveness appear 	<ul style="list-style-type: none"> ○ Limited international cooperation leads to protectionist standards and a complex web of international treaties ○ Dysfunctional and local/state-centric regulation ○ Attempt by the WTO to revive the Doha rounds fail, WTO violations rife 	<ul style="list-style-type: none"> ○ Fundamental UN Security Reform is initiated ○ Strong international commitment to make international institutions work ○ Protectionism gradually decreases and international trade picks up ○ Financial policies, corporate governance, IPRs, etc. increasingly harmonized
<p>Technology & Innovation</p>	<ul style="list-style-type: none"> ○ Security concerns limit spread of public-private partnerships for fundamental R&D initiatives ○ Innovation progresses but is 	<ul style="list-style-type: none"> ○ Fundamental research has a strong home bias and is funded solely by national governments ○ Technology diffusion slows 	<ul style="list-style-type: none"> ○ Governments create investment incentives in technology and innovation improves; Global IPR framework emerges

	<p>inefficient and with a limited degree of collaboration</p> <ul style="list-style-type: none"> ○ US pushes green technology as a solution to climate change and environmental security but fails to lead by example ○ Biotechnology starts showing its true potential as tensions of IPRs increase 	<p>dramatically and innovation is not encouraged</p> <ul style="list-style-type: none"> ○ CCS proves to be impractical ○ IPRs violations are both widespread and rampant. 	<ul style="list-style-type: none"> ○ Co-opetition becomes the norm: strong collaboration in R&D with fierce competition in global markets ○ Innovation experiences unprecedented growth and improves the quality of life in general. ○ China and other emerging economies leapfrog technologies
Product, labour and capital markets	<ul style="list-style-type: none"> ○ Non-optimal flow of goods, people and capital due to inefficiencies in the system and concerns over security ○ Bilateral trade liberalization and formation of regional trading blocks. 	<ul style="list-style-type: none"> ○ US fortifies the border with Mexico, and the EU institutes broader immigration restrictions ○ Free flow of people, capital and goods is severely restricted because of important trade barriers and caps on foreign ownership ○ Large scale divestment of foreign assets by MNCs, nationalization and expropriations of foreign assets are widespread, especially in the natural resources sector. 	<ul style="list-style-type: none"> ○ Liberalized movement of labor, products and capital. ○ Better governance and more efficient investment policies improve labor picture in LDCs. ○ Free labor mobility improves competitiveness of global business. ○ Efficient and transparent capital markets allocate capital to sustainable investment opportunities worldwide. ○ Emphasis on efficiency and productivity.

It is noteworthy to mention that these scenario narratives were developed by the project team in collaboration with the thought leaders, experts, and workshop participants. As

such, the storylines reflect the different voices and perspectives of many people. In order to add depth and plausibility to these stories about the world in 2025, detailed economic and energy (demand and mix) modeling is also included in the scenarios.

Section 3: Borrowed Time

This is a world in which planning for global challenges is largely glossed over until they hit. Leaders have faith that solutions can be found and they put a lot of trust in technology as a silver bullet for environmental and climate change solutions. In response to governments limited successes though, other non-state actors (NGOs, MNCs, etc) attempt to create the solutions but find success elusive without the support of clear global state-based leadership. The more powerful nations tend to be suspicious of one another and avoid any long-term commitment to joint projects (except for limited economic projects). They believe that working alone, bilaterally or through informal groupings tends to bring better payoffs for national interests. For most, particularly the newer powers, continued economic growth is the top priority and they want to avoid distractions to that goal. While leaders know that the gap between the rich and poor (both between and within nations) has been widening and even causing disturbances in some countries, they believe that the solution lies in more growth. International policymaking can be characterized as cooperative where it suits short-term interests and requires little sacrifice, yet the bigger powers are not concerned about working at cross purposes if that enables the realization of their strategic goals.

Early Years, 2009-2012

The Pace Slows in OECD

On its own, a slowdown in US economic growth only marginally impacts the rest of the world. Although the Doha Round's failure still permeates the global trade system, trade and world GDP still grow and the effects of the financial crisis of 2007/8 have ultimately proved less damaging than originally feared. Thanks to strong injections of capital in the form of sovereign wealth funds (SWFs) and other financial instruments from some Asian and Arab Gulf countries, the global economic engine was re-ignited. Still, global trade is characterized by intra-regional flows and FDI rises with greater South-South flows.

China continues to be accused of being an energy glutton. At the G-8 summit, Western leaders and Japan call on Beijing to stem its energy demand. Leaders also call on OPEC to open up to the outside oil majors. Yet for China, and other emerging economies, it is important not to stop the “gravity train” brought about by continued economic growth. For China’s leadership, in spite of the environmental and social costs of unconstrained growth, the implications of “low (or no) growth” could be devastating. China’s leaders are grappling with complex questions such as: how low can growth drop before it threatens regime stability in China? How much growth needs to be sacrificed in order to achieve more balanced development? While they are well aware of the need to tackle environmental and social imbalances, the notion of “sustainability” is considered a lower priority for the time being.

Indian leaders worry about a slowing economic pace, although recent easing of India’s FDI regulations should stimulate investment in, for example, oil refining and mining. In Russia, the current blend of market-oriented policies and state intervention continues, but President Medvedev holds a summit with Western oil CEOs raising expectations that Moscow will soon allow more much needed outside investment, including Western technology for greater exploitation of Siberian fields. Two days later however, Prime Minister Putin charges two Russians working for Shell and BP with selling state secrets to their employers.

A Shifting Focus

Governments, particularly some of the more powerful ones, focus myopically on problems that have a clear historical precedence. These existing problems were shaped by late 20th century international relations and include economic growth, state failure, missile defense, etc. Politicians focus (even if more in rhetorical than real action terms) on domestic affairs, income inequality, and growing their economies, and they deal with these issues in a very local way. However, this focus on problems with a historical precedence created a milieu in which governments are now incapable of applying creative solutions to ‘newer’ problems. These more recent challenges, arising from pressures originating (at least primarily) from new technologies, are not dealt with by

governments. These are problems that require new types of solutions— global terrorism, illicit trafficking, and climate change—issues that demand cooperation among nations and are longer-term in nature. Consequently, a focus on achieving (mostly) short-term economic gains required the full attention of state leaders, thus creating a power vacuum.

This vacuum is “filled” in a chaotic and uncoordinated fashion by the many other actors who try to tackle these issues (e.g., NGOs, civil society, MNCs). Yet an inability to form substantive alliances between the competing groups and other international institutions impedes their progress. A lack of state sponsorship is the main reason that these other actors are forced to fiercely compete with distinct strategies to help solve these global problems. Unfortunately, this futile competition allows the ‘newer’ problems (i.e., those without a clear historical precedence) to fester and grow like a cancer, eventually disrupting the entire system. Overall, while economic institutions work (i.e., those focused on maintaining global growth), political and military ones are less effective.

New Problems, Old Solutions

These ‘newer’ problems also include, for example, intellectual property rights (IPRs) which suffer from different enforcement policies among nations. Similarly, different stock market regulations encourage different types of investment strategies among nations, for example.² New technologies are enabling the use (and potential abuse) of nano and biological weapons, another unprecedented problem which requires solutions tailored to the 21st century.

Security is also largely dealt with as if it was a problem with a historical precedence, but many security issues (e.g., chemical/biological weapons proliferation) must now be dealt with as if no historical precedence existed if intervention is to succeed. For instance, international terrorism is something the global community cannot get a handle on and living in a globalized and digital age has made the prospect even more challenging. In

²Such as China’s strict requirements for stock market listings, which often exclude biotech start-ups, and restrictions on moving currency abroad, making it tricky for investors to withdraw their money).

essence, the existing structures of conflict resolution will not work where states refuse to play by the existing rules (e.g., Russia's invasion of Georgia, the US invasion of Iraq). They are also unsuited for a new global geopolitical environment where an increasing number of "states" are in fact ruled by non-state actors. In many parts of the world, some argue that we have even entered an era of anarchy.

Against the backdrop of the new geopolitics, security concerns continue to plague world leaders and remain a key priority for the US. A withdrawal of 20,000 troops is followed by increased al-Qa'ida activity and the future stability of Iraq remains uncertain. Further withdrawals are put on hold for the time being. Neighboring countries impose new restrictions on Iraqi refugees, fearing that any permanent presence will destabilize the host nations. Secret talks between Palestinian President Abbas, Hamas and some European leaders begin, yet exposure by *The Jerusalem Post* and *Maariv* embarrasses European officials and effectively puts an end to the talks.

Rebels in Nigeria's Delta seize more control over oil infrastructure, causing the price of oil to climb to \$180. Under international pressure, Nigerian authorities mount a large-scale military operation, to once and for all suppress the rebels, but many military officers refuse to carry out their orders. News of the mutiny leaks out and causes panic in the oil markets, sending the price of oil skyrocketing. The US President's emergency meeting with OPEC leaders produces little on a substantive basis. OPEC's impotency helps to spur a new generation of bilateral agreements. For example, a US-Nigeria deal in which the US's new AFRICOM troops are deployed as a stabilizing force to restore order in the Delta is initiated. This happens despite opposition from African Union leaders, while China and India quietly back the intervention despite their usual sovereignty concerns.

China takes away lessons from this and continues to build up its blue-water navies as naval modernization and expansion takes place in Asia. India follows suit, although to a lesser extent. China's growing dependence on petroleum imports and mineral resources leads to an intensified Chinese concern about defending its access to vital sea lanes of

communication, especially to its south.³ China intends to secure the safety of tankers from the supply side to the final destination and also assert greater control over this region. China's nuclear and naval build-up on Hainan Island occurs with little public fanfare. While the US and some of its allies have been focused on the conflicts in the Middle East and Afghanistan, China has been developing its naval prowess almost under the radar.

A major naval base with underground facilities, Sanya is causing concern among both China's neighbors (including India and Japan) and extra-regional powers like the US. Such a naval build up leads to suspicion and counter-balancing among the states involved, as an undeclared regional arms race in Northeast Asia takes off and Japan is believed to be developing a nuclear arsenal. Although this naval competition does not automatically lead to conflict, crises and conflicts could emerge as a result of an accident or an unintended encounter at sea between opposing navies in an environment with no common understanding of the rules of engagement.

Also on security front, there is the specter of Iran—a “Western” problem as far as the Chinas and Indias of the world are concerned (i.e., subscribing to the “you break it, you bought it” philosophy). For emerging nations, these problems are only critical as far as they represent a threat to Persian Gulf oil supplies. It is realistic to expect China and India to make any significant intervention only in the event that they perceive a likely blockade of their oil supply. Then their own interests come to bear, but they probably count on building more pipelines before any major intervention on their part is necessary. China's concerns about security in Pakistan, for instance, have dampened plans for a Pakistan-China oil pipeline. Yet the long-delayed plans for the “peace pipeline” connecting Iran, Pakistan, and India (IPI) are back on track again, and the IPI pipeline may be extended to China.

New forms of alliances are emerging or consolidating. For example, the Shanghai Cooperation Organization (SCO) could soon count Iran as a full member. SCO members

³ While in a "common cause" scenario this could lead to new international agreements for maritime security, in this scenario countries are working at cross purposes.

(both full and observer) represent a potentially very powerful group: the world's largest economic blocs, largest military power and largest energy producer/consumer spread over a quarter of the planet's land mass. It is unclear how the evolution of the SCO will play out, as an alternative or complement to traditional Western-led arrangements, or perhaps more likely as a parallel institution that can impede, when desired, the existing traditional arrangements (covering issues from human rights to energy).

Lack of Global Leadership

New power states can also mean new international institutions, norms and ways of doing business. Nations accustomed to leading the world will have to “adjust their mental models” to reflect a new multi-polarity in which the West is no longer the nexus of global leadership.

The new rules of the game do not favor the incumbents. In particular, Western players may see themselves squeezed out of Central Asia, both politically and economically. In addition, the consequences of the US' unilateralist and confrontational foreign policy during the Bush administration both intensify the decline of the US itself-- leading to what Fareed Zakaria calls the “post-American world”--and encourage an increase in authoritarianism in various parts of the world. The march of democracies of the 1990s and early 2000s is halted and in many cases reversed. The decline of US power and prestige results in a vacuum without any recognized “global leader” emerging onto the world stage.

In other parts of the world, many of the largest humanitarian crises (in terms of fatalities) are environment-related, as illustrated by the unresolved situation in Sudan. International pressure on Khartoum remains intermittent and not systematic enough to force a peaceful solution in Sudan. China occasionally intervenes with Khartoum, and the US and Europe look to the Africans to take the lead on peacekeeping. Similarly, many other conflicts (such as in the DRC) suffer from an insufficient response from an overwhelmed international community. Africa is collapsing under the combined four forces of high

population growth, low economic growth, climate change and environmental degradation, and the persistence of widespread diseases.

Progress on environmental issues also suffers. As the Kyoto Protocol nears expiration, agreement on a new framework (Kyoto 2) is reached but the summit ends without any consensus over enforcement. The connection between climate change and other environmental crises remains a tenuous one for the US. In spite of his campaign commitments, the newly elected US President is incapable of getting political backing for a more engaged and visionary global environmental policy. Consequently, a lack of national leadership in tackling climate change further damages the America's international standing as it fails to lead by example. The charge that the current US policy is short-sighted and disconnected from the scientific evidence means that America is sowing the seeds for more environmental and economic damage in the future. But in a world living on borrowed time, there is no sense of urgency associated with the problem of climate change, except for those most likely to feel its effects. Consequently, there are many other issues, like security and drug-trafficking, which also require global attention but fail to get it.

An important concern of developing economies like China is the issue of *equity*. In their view, it is not the responsibility of the developing world to assume leadership roles in addressing problems like climate change and global warming—problems that were primarily created by more than two centuries of Western industrialization. The idea that these nations should bear an equal share of responsibility is simply illogical and unfair to them, especially given the progress they are making in development.

Others nations, like India, are also strong advocates of equity in any climate change negotiations or regime. The fact that, for example, per capita emissions in India are about 1 metric ton versus over 20 metric tons in the US would appear to add some weight to their arguments. That emerging countries prefer to achieve living standards comparable to those of the rich nations before tackling (Western-induced) environmental problems

does not seem wholly unreasonable. But the net impact of this view however is a collective, global failure to inhibit greenhouse gas production.

Win the Game but Lose the Match

The world is facing a question it has consistently refused to address. As various pundits, including Martin Wolf of the *Financial Times*, have argued: in light of the limitation of resources and the specter of climate change, we no longer live in a non zero-sum environment. In other words, the gains of some must be complemented by the losses of others. Growth cannot be enjoyed by all if we continue along this same path without making serious changes. Some would argue that the standard of living in the North must be reduced, and in particular that consumption must be reigned in. What is clear though is that lifestyles in the developed countries will have to change and become less energy-intensive in order to accommodate the developing countries. Cars can be abandoned in favor of public transport; private swimming pools and golf courses may need to go dry.

In the process, however, another flagrant characteristic of this world is that while there is economic growth, it is non-inclusive. World leaders (political as well as business) are effectively writing off the “human cost” of growth. Concerns for the suffering of the bottom 4 billion people on the planet are not addressed in a serious and sustained way—that is simply not one of the top priorities of most government and corporate leaders. Corporate profits and a short-term focus (e.g., quarterly shareholder reports) fuel a climate in which the companies are the winners in this world—and primarily the executive leadership of these companies. CEOs have refused to recognize that for greater equity and distribution they should be the first ones to relinquish the ridiculously high (some would say obscene) and generally perceived as unjustified levels of remuneration with which they are rewarded. The seemingly boundless greed of corporate leaders has plunged the world into a spiral of unconstrained materialism. But although the volume of non-state “noise” (e.g., NGOs, UN) rises as the gulf between the haves and the have-nots widens, the influence of the MNC remains pivotal.

For instance, the DATA Reports continue to highlight how far off track the G8 is in its commitments to help Africa to meet the Millennium Development Goals and this is an example of a major problem – it is “the same old story,” there is no significant change. And now that the planet is home to 7 billion people, problems are expected to intensify. But the issues of poverty, malnourishment, disease and ignorance are also increasingly affecting the “rich” countries as the pursuit of private gain is in part obtained by a continued deterioration in public goods, especially in areas of health and education. The North sees the re-emergence on quite a large scale of a “lumpen proletariat.”

Middle Years, 2013-2021

A Lack of Harmony

In essence, the potential of globalization is not realized due to a “patchwork” regulatory framework, a broad failure of leadership, as well as the inability on the part of the West to adjust constructively to a new multi-polar world. Global growth does however continue in this climate. Regionalism in Asia is developing further, although it is considered more as a buttress against extra-regional volatility and to ensure greater representation in global talks than as an effort to bolster international cooperation. The G8 has now become the G14 and includes the major Asian powers, but ultimately this meant simply a bigger window dressing exercise in lieu of serious global governance. Simultaneously, tensions between China and Japan remain acute, while suspicions between the two giants, India and China, prevent the development of a cooperative relationship based on trust. Territorial issues continue to plague much of Asia. Pakistan increasingly teeters on implosion.

China experiences greater Western criticism in its failure to intercede and help address problems in Africa. Resource-rich regions, such as Africa and Latin America, benefit from exports, but the elites and well-connected benefit by far the most. The slums absorb most of the rising populations. The sudden death of Chavez, resulting from a heart attack, is mourned not only throughout much of Latin America, but in other parts of the world, as the populist phenomenon of “Chavez-ismo” expands. Populist regimes are now also

increasingly present in Southeast Asia as well. Singapore has become a fortified state, an island of prosperity and security, in an environment of increased inequality and insecurity. In Indonesia, the memory (even if very remote) of the populist Sukarno is revived. While among states that retain a semblance of cohesive governance, there is a marked increase trend towards the “Chinese and Russian” models of state-led capitalism, as opposed to the “American model” of finance-led capitalism. China, Russia and the Arab Gulf countries increasingly form a global economic space, with Dubai and Doha as major global financial and transport hubs. The Middle East is more repressive than ever. One of Israel’s main problems is the mounting emigration as the security environment becomes increasingly intolerable.

In the middle years, security collaborations are limited to those between “friendly” states. Iran is widely believed to have conducted secret nuclear tests. The regime has become more tolerant on many social and sexual issues, but the general ethos has also become increasingly nationalistic. The Iran issue obviously concerns other Gulf countries, especially Saudi Arabia, and while the Saudis struggle with their own internal challenges they lead the push for nuclear power within the GCC.

Israel and several Arab states lobby for a missile defense pact with Washington, triggering a domestic debate over whether the US has become too overextended in its security commitments. Iraq looks more and more like Afghanistan, with many areas simply abandoned to contending armed groups. The US President has finally accepted that a unilateral withdrawal of American troops is not a viable option. Growing US isolationism increasingly raises questions about whether the US can be expected to continue “paying the price” for the support of Israel. As the 70th anniversary of the Jewish state approaches, the question of its survival into an eighth decade is openly debated. The much-promised Palestinian state, on the other hand, may be nearing establishment, notwithstanding the continued squabbling and indeed open conflict between opposing factions.

New Rules of the Game

Other gaps remain in this world where the rules of the game are shifting and, as a result, there is more novelty. For example, for several years running the Eurovision song contest has been won exclusively by Eastern European countries, with the result that a number of the original founding countries of the event have announced their withdrawal: this includes Luxembourg, Switzerland, Italy, Portugal and Ireland. More generally in the EU, the paralysis that initially set in with the attempt to establish a constitution, followed by the failure of the Lisbon treaty (the constitution's successor) to take hold, results in another bout of "Eurosclerosis" and a freeze on new membership. The Western Balkan countries have so far found themselves totally marginalized: continued conflict between Serbia, Kosovo, and Albania mars the South-eastern European environment, while Bosnia-Herzegovina appears on the verge of plunging back into anarchy. Turkey has turned its back on Europe.

While nuclear proliferation continues, so does innovation and improvisation. In other words, if you cannot get nuclear, you will improvise. Biological, chemical, nanoweapons – high-tech, low-tech – there is ample choice available. There is a strong black market for weapons. The threat list is exacerbated because we are no longer thinking about the security environment as being defined by or limited to the large super-powers. And while there are indeed many attempts by NGOs, for example, to mitigate these weapons markets, they fail primarily because of an absence of state support.

There are some successes though in this world, and the Six-Party Talks finally reach a positive resolution as North Korea rejoins the NPT. Following a widespread and terribly debilitating spread of disease and famine, occasioned by avian flu, the much-weakened North Korea's new leaders need to reverse their international isolation in order to feed and shelter their people. Otherwise, North Korea risked becoming one huge Dachau, one in which even the guards are decimated by disease and malnutrition.

Cracks in the System

As a consequence of the arrival of more bilateral fuel deals in the early years, cracks in the OPEC system start to appear around 2018-2020. Oil prices have substantially come down and now stand at about \$80 per barrel. While the price has not dropped down to \$20/barrel, the exorbitant prices of the earlier period are a thing of the past and, to a degree, help to spur economic growth.

The clampdown on immigration increases as unemployment rises in both the US and Europe. Crime levels increase as the contrast between (extravagant) wealth and (extreme) poverty becomes starker. Religion does not have a significant impact on problems but can act as a mitigating factor on negative market externalities. Riots break out in major metropolitan areas throughout North America and Europe and even in Japan. Many of the riots can be linked to the sense of poverty, injustice, and hopelessness felt by minorities and foreigners or in various forms of conflict between communities (whether in the townships of South Africa or the banlieues of France). Meanwhile, EU summit leaders delay any decision on Turkish accession for the immediate future.

Scientific evidence reveals that climate change is occurring much faster than previously thought. Russia faces off against Canadian-Danish claims for arctic sovereignty under the UN Convention on the Law of the Sea (UNCLOS). Despite Russia's successful circumnavigation of the Arctic and stepping up its plans for exploration of energy sources, the UN Commission has not yet rendered a decision. So although Russia, along with the other nations involved, is eager to access to the North Pole's potentially untold energy resources, she must wait. Meanwhile, inside the Kremlin, leaders are told that Russia in fact lacks the necessary technology to tap the resources.

Developing countries also lose out because of technology gaps. Poor nations feel betrayed because of a lack of seriousness about technology transfers from rich countries to halt climate change. As such, developing economies are fundamentally ill-equipped to tackle a problem which largely stems from activities in the industrialized countries.

Adrift Without a Compass

Bottom-up grassroots movements are not unified and are essentially unsuccessful. Despite being quite passionate in pursuit of their missions, these movements fail for the most part. There is an inability to initiate a focus on long-term problem solving methods to the world's global challenges. Similarly, NGOs and foundations' efforts either collapse into their economic motives or are primarily perceived to be ineffective and "feel-good." There is a lot of noise but not a lot of progress. A lack of global leadership and the fact that no leader, either from the "bottom" or the "top", steps us to solve these problems suggests the unsustainable nature of this world as it drifts into a global storm.

The absence of a global framework leads to some fragmentation. For example, many of the UN Millennium Development Goals remain unmet by the 2015 target date. In Sub-Saharan Africa, almost all of the MDGs are unmet while in Northern Africa some were already or nearly met in 2008. However, the deterioration of public goods, the continued decline in governance and the sustained increase in inequality have led to a regression in social indicators. There has been no improvement in much of the African continent in gender empowerment.

At the end of this period, the evidence suggests that the Bretton Woods reform has failed and it is clear that there is no new viable global governance system for the foreseeable future. The world is "sailing along like a ship on uncharted waters—without a compass." While in the 1990s more people were jumping on the ship, we are now seeing more abandoning ship, and taking their chances outside of the traditional international institutions/structures. This has been accompanied by an increase in the consumption of drugs, with ever younger levels of addiction, an increase in morbidity, and an increase in crime.

End Years, 2022-2025

The Ostrich Effect

Since many stakeholders (governments, corporations, etc.) are operating on a short-term basis, while many of the world's challenges require long-term attention and commitment,

there is an inconsistent and incoherent approach to problem solving. There is a general lack of control in many areas, for example in the global financial system, as issues requiring a sustained effort receive band-aid solutions. Essentially, although there is economic prosperity and significant military buildup, global cooperation is not really happening, except in a very limited way. We see more of the behavior attributed to ostriches in popular mythology – the “hide your head in the sand” strategy.

A major pandemic, for example, is seen as being very problematic in a world living on borrowed time. Should a pandemic occur, as was the case in North Korea, countries could shut down their borders and with no mitigating international force, economic growth will slow, and the world could spiral into a more negative scenario. Consequently, the way things play out is as much the result of unintentional factors as deliberate choices.

As a result of an inability to adequately address issues of global concern in the early/middle years, many problems fester and future generations will be faced with greater challenges that might have been avoidable, or at least less severe, in the first place. Water is a good example. The failure to design effective natural resource management plans (and effectively implement them) results in reactive instead of proactive policies. Water scarcity, including lack of the necessary physical infrastructure, is a persistent problem and expected to affect about 3 billion people by 2025.

Boom-bust cycles of economic growth are increasingly the norm with increased protectionism and slowing growth in Europe and the US. Unlike earlier, the rapidly rising powers are being hit by slowing global growth and, in the case of China, the demographic pressures of a rapidly aging population (a consequence of the one-child policy adopted in 1978) are increasingly acute. OECD countries in particular are also challenged by aging populations and will need intelligent immigration policies to support their economic growth. Shrinking native populations will necessitate the increased numbers of immigrants. In India, lack of any educational reforms has resulted in the country’s failure to capitalize on its “youth bulge.” Not lacking in workers, most lack the skills for high-tech industries. Japan’s decline in the previous decades continued, as the country

remained closed, with lackluster leadership, and home to an alienated youth, harassed women, and having failed to have invested in high-tech to compensate for a declining population.

Powerful Imbalances

The global economic pie has continued to grow, yet we remain on a path towards unequal growth. The “winners” and “losers” are not so much distinguished in terms of nations as they are in terms of social and professional groups. The winners are the upwardly mobile elites throughout the world with the required kinds of skill sets and capital. Thus the indigenous Dubai establishment is phenomenally rich, and those who cater to them with the requisite professional services are also rich, while the unskilled manpower from Bangladesh and elsewhere used in construction sites and menial service jobs enjoy neither acceptable incomes nor a dignified life.

Similarly, the moral turpitude which came to characterize capitalism in the first quarter of the 21st century resulted in labor conditions in factories, mines and fields throughout the world remaining worse than Dickensian in many parts of the world. The rich are rich and the rest are exploited and humiliated. Women especially continue to be condemned to inhuman conditions of servitude. For the 1 billion members of the Catholic Religion the condemnation of women to humiliating subservience, reflected in the Church’s hostility to contraception/family planning and its refusal to ordain women as priests, continues to be sanctioned by the Church’s male supremacist dogma. Millions of children are exploited as child labor concerns continue to plague the international community.⁴

Bilateral trade liberalization is re-energized by the slowing economies, but there is increasing evidence of the formation of regional trading blocks. Here, the spheres of influence are reliant on economic interests, and regional and sub-regional loyalties increase.

⁴ In 2008 UNICEF estimated that 158 million children (aged 5-14) globally were involved in child labor, millions of them working in dangerous situations/conditions. Just under three-quarters came from Sub-Saharan Africa (69 million) and South Asia (44 million).

The boom-bust cycles have increased the volatility of the price of oil and gas, but so far most producers have managed to weather the downside periods. At the same time, the volatility has meant that there has been little investment in alternative fuels. Iran, Saudi Arabia, and Russia face little near-term threat of transition away from fossil fuels. For the moment though, energy and food price volatility solutions escape world leaders, as they have ever since the period of rising prices and instability brutally emerged in 2007/2008.

The “security balance sheet” also is in the red. An environmental rights group’s report on secret nuclear facilities in Saudi Arabia is released. There are widespread calls in the US and European press for nuclear reduction talks; a summit is held in Vienna and negotiations are launched. A “hot” conflict breaks out in the Levant. Hezbollah and Hamas join forces to wage a multi-front insurgency in Gaza, the West Bank and along Israel’s border with Lebanon. This results in even more emigration from Israel. There is increasing talk of “will the last Jewish Israeli turn off the lights.” This is Zionism in reverse.

The US promotes green technology as a solution to climate change and environmental security although significant benefits are something for the future. Europe continues to promote emissions reduction targets although a French-German coalition aimed at protecting Germany’s eco-inefficient automobile industry threatens to reverse or delay progress. Biotechnology starts showing its true potential and drives innovation in a wide range of scientific domains. The impact on other economic sectors is expected to be quite significant in the post-2025 world.

As economic growth begins to slow in the rising nations, a new brain drain from East to West picks up, posing a major problem for emerging markets as talent migrates. Many emerging markets are unsuccessful in creating attractive opportunities for their most educated and talented. As such, their economies will continue to suffer unless something is done to stem the talent loss.

More Tough Choices Ahead

By the end of this period, there is no doubt that the world has continued to ignore environmental destruction in favor of economic growth. Choices must be made now about how to deal with pollution, climate change and weather volatility that are more extreme than the decisions leaders faced in 2009. In addition to the environmental pollution, some are beginning to realize that the world is also suffering from an acute moral pollution. An over-reliance of corporate solutions to global problems without the adequate counterbalance of governance and humanity produces a context in which the value of economic growth, materialism, and greed reign supreme. Famines, poverty, and resource conflicts that arise due to climate change are inadequately answered by governments and people generally have become ethical cowards and passive social observers rather than active players. There is no human solidarity. The result is huge inequalities of growth, and a world that is fractured and divided.

Section 4: Fragmented World

This is a world in which parochial interests take priority over sustainable economic growth. The lens through which state and non-state actors view and try to address global challenges (such as climate change and proliferation) is primarily one with a local focus, that is, the supply side of the equation is the first priority. 'International cooperation' becomes a misnomer as nations focus on what is best for them to the exclusion of international or multilateral interests. The security landscape is characterized by growing risks because of greater national focus and waning multilateral cooperation. Hence there is an increased chance that terrorism (including the possibility of biological attacks), greater numbers of displaced persons, challenges to energy security, and the threat of nuclear proliferation in the Middle East turn into full-scale crises. R&D increasingly has a strong home bias and technological diffusion dramatically slows as a climate of protectionism takes over. Climate change policies erode, reflecting a reversal from Kyoto. Overall, this is a story of progressively deteriorating environments, a world in which events outpace actions.

Early Years, 2009-2012

Struggling to Cope

In this period there is a disclosure in the Hong Kong press about Swiss bank accounts of Chinese leaders who have squirreled away millions. A dam in Central China also bursts, resulting in the deaths of several thousand peasants. Faulty construction by a large firm is linked to one of the CCP leaders with bloated bank accounts setting off major protests in Shanghai. The protest rapidly spreads throughout China. CCP leadership announces a reform program, including the election of local and provincial leaders and, in two years' time, a national presidential election. Prosecution proceedings begin of several party leaders on large-scale corruption charges. The world watches to see whether the CCP leadership can overcome public discontent.

Efforts by the WTO to revive the stalled Doha trade negotiations fail, earning the unwelcome distinction of being the first major global trade initiative to fail since the

Depression. Protectionist sentiment in the US and Europe feed off each other as their commitments to openness begin to wane. US mid-term elections take on a populist theme. The US Congress vows to rescind several trade agreements, including NAFTA. European anger over faulty imported pharmaceuticals—resulting in several deaths—triggers a temporary halt to medicines from India and China until further notice.

The implementation of poor policies by governments around the world tears away at the fabric of the international system. For example, export bans on rice by major Asian producers, in a climate of skyrocketing global prices, compound real-world difficulties such as food security. The inability of international leadership (i.e., the World Bank, World Food Program and the WTO) to combat this problem shows a major rift in the system. Protectionist sentiment becomes a more potent element the trade dialogue of governments and business leaders throughout the world.

Changing Dynamics

In terms of the broader power dynamics, there are 3 key phenomena driving this world. First, there is the diffusion and weakening of state power as governments appear to be increasingly ineffectual in addressing the major problems, and this has serious repercussions. The decline in the power of the nation states, the main pillars of international institutions, triggers the beginning of a collapse in these international systems. At the same time, the rise of alternative power sources is the third force exerting greater influence. These alternative power actors run the gamut from NGOs and philanthropists to Islamic groups (i.e., with its own spectrum from thoughtful groups to more extremist Muslim groups) to criminal and terrorist networks. The effectiveness of the influence of major powers is weakened and the power of large scale actors is constrained.

The global economy experiences a prolonged slowdown and is characterized by high inflation, relatively high levels of unemployment and low growth. Swathed in a blanket of stagflation, governments, while not indifferent, are simply unable to pull off the process of continued globalization. In fact, a wave of de-globalization is beginning to

wash over the West. Volatile fuel costs also encourage a contraction of globalization.

International Rules Erode

Nuclear states refuse to consider reductions in the face of growing demands from non-nuclear states. Iran maintains ambiguity over its development, but it is generally assumed that it now has the technology. Tepid international rules undercut the non-proliferation regime and enable Iran to bore through the crowd of global critics. Perhaps encouraged by Iran's success, other states in the region step-up their nuclear energy programs. The Saudi King announces a huge multi-billion dollar assistance plan for Pakistan, citing hardship suffered by Pakistan because of high oil prices. Suspicions grow that the assistance is in fact a quid pro quo for Pakistani help with the Saudi's nuclear technology program. The UN Security Council powers remain deadlocked over spurring nuclear reduction talks, with China fearing its nuclear modernization program will be unfairly pressured. The Security Council also cannot reach a consensus on censuring the new nuclear powers (e.g., North Korea and Iran) for their defiance of recent agreements on a timetable to disband its nuclear program, in the case of North Korea, and allow more access to international inspectors, in Iran's case.

The erosion of the nonproliferation regime is made clearer as there is no serious threat of enforcement—this is symptomatic of a broader lack of cooperation. Policy paralysis at this level fuels a lack of confidence in international collaboration as “looking out for #1” and focusing more locally appears a more attractive option. Whereas nations always consider their own interests first, in the post-WW II era nations thought that effective international institutions (i.e., which were powerful and reflected their values and interests) were in their interest. So while countries first considered their own interests, they believed that these institutions also served those same interests. However, that is less true today. And this lack of international cooperation against the backdrop of a major geopolitical shift, to a multi-polar world where the US is no longer the sole leading power, presents new challenges for all nations.

Disturbances in the Niger Delta continue to grow, increasing market fears of \$200 a

barrel oil. No international agreement is reached on outside intervention to help the Nigerian government find an equitable solution. Overall, poor management (by governments, corporations, and consumers) of the global energy system creates more and more volatility.

Calls for an end to NAFTA result in the initial closure of some industries on both the US and Mexican sides of the border. With GDP per capita running almost 4 times lower than that of the US and getting worse, more Mexicans try to illegally enter the US. American states along the border criticize the lack of US federal action and state authorities increase the roundup of illegal immigrants. The US fortifies the border with Mexico as the building of the “Great Wall of Mexico” progresses.

Yet despite these reactionary cries (and greater border defenses), there is actually a reinvigoration of NAFTA -- primarily for reasons of ensuring a secure energy supply. America’s dependence on its NAFTA partners’ energy resources cannot be understated; Canada and Mexico are consistently among the top sources for US oil imports, and the largest source of US natural gas imports is Canada. Producing less than half of its annual oil consumption requirements, the US has an added incentive to make NAFTA work. The US acquires much of the energy it needs through a viable regional arrangement, and consequently, Mexico and Canada have access to a huge energy market just over their borders. As such, there is a deepening of NAFTA in the energy dimension.

Across the Atlantic, the EU and individual European countries also institute broader immigration restrictions on migrants from North Africa. Turkey’s accession to the EU is ruled out; Turkey subsequently rejects the EU’s offer of a ‘privileged partnership’ as insufficient.

Not everything is going wrong however and there is room for optimism. For instance, scientists discover a breakthrough vaccine for malaria, and the UN convenes a special panel to consider funding for ensuring wide and rapid dissemination.

Too Many Challenges

Although climate change continues to make more demands on all members of the global community, some important members of the group choose to “opt out” of the conversation. India and China decide to sit out post-Kyoto rounds after it becomes apparent that the US and Europe are going to team up and insist on deep emissions cuts. After having taken on the mantle as the world’s largest CO₂ producer from the US several years ago, China’s emissions continue to rise. Despite evidence from NASA satellite data showing that Greenland is losing 100 billion tons of ice each year, government responses are muted at best. Environmental NGOs mount major campaigns for more climate change awareness, but find that publics in the US, Europe and China are much more worried about the lack of employment and a recession.

Post-cyclone Myanmar becomes the archetype for climate change tragedies and is typical for the future. Overall, albeit with a few exceptions, there is a clear lack of urgency regarding the issue of climate change. And as long as future responses to alleviate food/fuel problems following extreme climate events resemble the situation in Myanmar, problems will fester.

The world is unmoored and disoriented. The Bretton Woods framework can no longer support the weight of an integrated global economy that is disintegrating.

The transition towards fertility reductions in sub-Saharan Africa is failing and the populations of some the world’s poorest countries, with the lowest levels of human development, seem likely to rise. A large number of young Africans (2 out of 3 are under age 25) combined with persistent high fertility levels suggests continued population growth despite the AIDS epidemic. New Pope discourages family planning which serves to intensify population stress on countries (already) at risk of falling behind. Both Christian and Muslim missionaries carry an anti-birth-control gospel to ever greater numbers of Africans.

As the global culture becomes less Western, identity issues surge. An extra 1.3 billion

more people by 2025 (bringing world's population to 8 billion) will have a deleterious effect on all "critical uncertainties." Urbanization will be a problem and probably increased morbidity as international health institutions falter. Confronted with rising stresses and an inability of the system to respond, we see a breakdown of globalization.

Middle Years, 2013-2021

Growth in the BRICs is sharply down. Goldman Sachs issues a new report saying that the BRICs are in major trouble and their GDPs will not surpass those of the developed world until 2080. The price of oil reaches a peak of \$200 and then crashes to under \$100 following news of economic slowdown in China and India. This price volatility does hurt Middle Eastern nations. And growing evidence of Russian meddling in Central Asia states such as Turkmenistan and Kazakhstan to keep a low price on energy sold to Russia emerges. Also, there is increased evidence of growing Russia production constraints due to insufficient investment in Russian gas fields. Iran and Russia renew talks on a gas OPEC in view of lower energy prices.

A great power rivalry and arms race emerges in the Middle East as states, like China, are willing to trade sophisticated weaponry for energy access and political influence. The competition between increasingly capable missiles and missile defense/counter strike capabilities becomes a key military dynamic in the region.

A Less Secure World

Growing unemployment in Europe and the US means that both regions rescind visas for not only unskilled but also skilled workers. Obviously, replacing those skilled workers from the domestic talent pool is a great challenge, particularly if there was a dearth of qualified candidates in the first place. As a result, in Europe recent Muslim migrants are separated from their families. Riots erupt in French cities once again. AQIM⁵ announces a new crusade to retake Andalucía. A dirty bomb attack occurs in Granada injuring a group of Norwegian tourists and damaging the centuries-old Alhambra. Security concerns

⁵ The Algerian-based militant group Al-Qaeda in the Islamic Maghreb (AQIM).

increase with more terrorist attacks in Europe and Russia. New terrorist groups with links to Central Asia are responsible for the attacks in Moscow and St Petersburg. The biological weapons (BW) attack is linked to a network of scientists who work largely outside the Middle East in US and European labs.

While terrorism continues to plague the world, the conflict is broader than this as conflicts of all types create an ever-increasing sense of insecurity. For instance, a drive to ensure access to natural resources intensifies, particularly along the emerging economies. This resource competition will also spark conflict. For example, water conflicts erupt in the Indian state of Orissa as local farmers (once) again protest and demand access to the Hirakud dam water currently being exploited by industry. Government troops move in to secure the reservoir while local and government leaders negotiate. Stronger governance and effective water-sharing agreements might have helped to avoid the problem's escalation.

There is also a rising ethnic basis to conflict as the ethnic and religious tensions play out. Traditional Sharia law is spreading into the modern Muslim world and blurring lines in communities, for example as in Malaysia. Muslim communities in Great Britain lobbying for the right to set up Islamic courts as an alternative or complement to the established legal system propel the development of a more formal network in the future. But many non-Muslim British begin to express their antipathy to this development in a more violent manner and attempt to quash this and "Keep Britain British."

Contemporary Africa is the paradigm for what other regions will look like as well in terms of the ethno-religious dynamics. Africans and their problems may spill into the Middle East. Immigration is another key phenomenon in the *Fragmented World* (both within homelands and farther away to relatively prosperous parts of the world). It just might be so novel to Westerners that we will have trouble recognizing it.)

Diverse Relationships

The diversity of actors poses its own challenge to international system. It is difficult for

governments to get an accurate read on things because the relevant set of actors is unusually broad. The combination of many actors, weakened states and a less reliable international system (composed of weaker states) causes people to lose faith in these entities. As such, many international institutions are considered less legitimate. In essence, there is a fundamental redesign in the landscape of power occurring. And in an international system with “weak” rules, some more opaque alternatives, such as the Shanghai Cooperation Organization (SCO) for example, may begin to flourish. Unorthodox actors are emboldened to assert themselves.

There is now new space in on the world stage for more heterodox actors and behaviors. With this comes a growing redefinition of norms. For example, “peacekeeping” might cease to be a commonly held norm. A diversity of norms or normative apathy is bringing new behaviors (e.g., the virtue of combat, perhaps).

The economic slowdown in both China and India heightens internal tensions and increases energy concerns. China’s internal market does not grow as fast as expected and the country is still dependent on external technology.

A stronger connection between Russia and the EU is developing although Russia will not join the EU. The ossification of the EU makes it difficult enough with 27 members for Europe to sufficiently respond to a challenging world.

After having been rejected by the EU, Turkey starts to gravitate away from the West and become a new power center. Experts believe that Turkey will soon be a nuclear weapons power in its own right. Tensions between Turkish immigrants in the EU (comprising its largest non-European immigrant group) and their host communities throughout Europe continue to flare. Turkey-Russia relations enjoy a boost as the two “odd men out” of Europe explore ways to cement their axis of influence. Pivoting on energy security, a Russian-Turkish rapprochement is set in motion.

Ten percent of Bangladesh is submerged under water following a devastating cyclone.

Relief is palpable that it was not worse. Still, millions are at risk of serious health problems. The growing numbers of climate refugees to India results in intensified border tensions. At the UN, squabbling occurs over whether to label the migrants climate refugees, which would give them enhanced rights to assistance, or whether they are migrants using the cover of the disaster to flee a deteriorating economy in Bangladesh. Meanwhile, millions of refugees remain in limbo as victims of both extreme weather and a disjointed response from global leadership.

Technology Diffusion Tapers Off

A biological weapons (BW) attack and the discovery of scientific cooperation across borders lead governments to begin restricting contacts. Foreign students' emails start to be monitored by law enforcement agencies in several Western states. Governments step in to boost funding for R&D, but only if scientists restrict the dissemination of sensitive results. Biotech research is particularly targeted by Western governments for restrictions. Because of limited technology transfers, inefficiency and a duplication of efforts come to define the system. Innovation is not encouraged to the detriment of overall competitiveness and progress. For example, the development of carbon capture and storage (CCS) processes proves impractical in this climate, effectively eliminating this as a strategy to mitigate global warming. The dramatic slowdown in technology diffusion has serious repercussions in numerous other areas (e.g., pollution controls, health, biotechnology, ICT, weapons).

Energy technology continues to focus on liquid fuels. As oil becomes progressively more difficult to bring to markets, there is a rapid expansion in the use of biofuels. As a result, there is increased competition between fuels and food for land. Food prices consequently increase, leading to riots and instability in a number of African, Caribbean and Asian states. Interest in coal for electricity generation continues to grow in the US, India and China in an effort to cut back on foreign energy imports, although it is still often based on cheap and 'dirty' technologies. In terms of R&D, economic revenues are down thus causing high-risk venture capital to dry up somewhat. Of course, some defense R&D can flourish even in a threatening environment.

Yet R&D is insufficient to boost productivity and without an economic engine to lift (most) boats, political conflict comes to the fore. These stakes tend to be more transcendent and less discrete, and hence they are more difficult to resolve.

Information and communication technologies (ICTs) are increasingly a factor in this world as it enables atypical actors to organize themselves and ignite new movements. For instance, this is evident even in China where the rise of Internet-enabled pro-environmental initiatives reflects this evolutionary change in the nature of the political relationship between the citizen and the state (i.e., non-traditional and driven from the grassroots level).

Although the world is seemingly moving towards crisis, it is not in a state of total chaos.

End Years, 2022-2025

Clear System Failure

The global recession deepens. Iran's conservative regime is voted out of office and reformers begin a power struggle with their Supreme Leader for opening to the West. Western countries refuse to engage until Iran commits to denuclearization and an end to its support for Hezbollah. Russia, China and India engage in greater trade and provision of technological support for developing Iran's gas fields. Western energy companies, however, hesitate to engage until there is a clearer political situation and more protection for foreign investment.

The global recession--with lower oil prices--impacts elsewhere. The pro-US government in Venezuela in 2017 that succeeded Chavez is voted out of office and a populist regime installed. The new leadership moves ahead with the renationalization of the oil industry. In the Middle East, unemployment grows as growth prospects diminish. Palestinian agitation grows while Israel becomes increasingly frustrated with the stalemate in Iran and growing likelihood of a reformist Iran retaining nuclear weapons.

In Egypt, a Muslim Brotherhood enters the government as a coalition partner. While in Europe, budget deficits grow as governments struggle to fund health and retirement benefits at a time of economic slowdown. Italy reaches an all time record for 10 successive governments in an 18-month period. Protests against escalating fuel and food prices intensify around the world as convoys of angry truck drivers, farmers in tractors, and fishermen descend on major cities like Brussels. These demonstrations become more violent in nature as their (ultimately futile) efforts produce no results.

Fragmented and incoherent global economic growth means that we cannot “buy our way out of things.” This situation only serves to amplify the other problems (e.g., environmental, social), also adding to political ill will. National political leaders are widely considered to be weak as they are overwhelmed by the volume of problems (e.g., energy volatility, food crisis) and constraints (e.g., protectionist orientations). Non-state actors are opportunistic and interstate difficulties by no means prevent them from making a foray onto the global scene.

Tensions are Rising

Uninspired leadership, low productivity gains and parochial orientations are some of the forces that converge to undermine the logic or rationale for globalization. As a traditional exponent of globalization, the US suffers a weakening of its soft power as a result. The US has also, along with numerous other countries, missed many opportunities to provide the creative leadership necessary to address the myriad of problems facing the world.

Violence is endemic as evidenced by conflicts of many types (in addition to terrorism) being a constant facet of life in early decades of the 21st century.

Although demand decreases for natural resources, the scramble by China and India for Africa continues. Besides energy, other natural resources (e.g., timber, diamonds) also attract foreign investment. Unfortunately, the continent’s (mostly corrupt) elite are again the only Africans who will benefit.

Energy security leads to military threats over territorial claims in the Arctic as Russia continues to stake out its claim to potentially lucrative oil and gas reserves believed to lie under the North Pole's sea floor. Sino-Japanese navies trade shots near the Spratley Islands. In Tokyo and Beijing, the Chinese and Japanese embassies are both set afire by rioters. ASEAN leaders meet but fail to initiate peace talks between Beijing and Tokyo.

Fragmentation: An Undesirable Reality

After Iran successfully tests a nuclear weapon, press leaks indicate that Saudi Arabia and Egypt have been pursuing advanced chemical and biological weapons capabilities as a parallel deterrent in addition to nuclear energy development. The volatility of new nuclear powers and increasingly weaponized Middle East nations represents a major threat to what little international order still exists. For the first time in seventy-five years, emigration out of Israel surpasses immigration with most of the outgoing emigrants among the most highly-educated and technically-able people in Israel.

As the political climate worsens, Western multinationals begin to divest themselves of foreign assets. Environmental delinquents draw few punitive tariffs as concerns mount about a slowing economic growth rate. And movement towards the goal of a low-carbon, high-growth global economy decelerates almost to a standstill. One could say that the world is out of control. Yet people will ultimately adapt and even in this turbulent environment there will be some “winners”, although they will be few and far between. The consequences of the choices and decisions we have made will become glaringly apparent in this ***Fragmented World***.

Section 5: Constant Renewal

This is a world in which crises create the shocks needed to force fundamental changes in mindsets among people in key countries – both developed and developing – which carry sufficient weight in the global system to shape developments. It is grassroots pressure which forces change, with various political groups, NGOs, professional organizations and “people-in-the-street” coalescing to act as an orchestrated lobbying group on government leaders in order to force inter-governmental cooperation at a global level. On the part of the leaders, a stronger international commitment “to make the system work” develops. Environmental sustainability becomes recognized as a global priority alongside maintaining global economic growth. Globalization accelerates and fewer countries are left behind. Technological innovation and R&D, supported by government, and a mix of cooperative and competitive policies becomes the norm. Leaders and pressure groups must, however, work to ensure common interests continue to take precedence. This is a world in which global cooperation is achieved through a mix of existing organizations backed up by the emergence of new global mechanisms where the current ones are found wanting. In essence, the world “learns by doing,” seeking pragmatic solutions (without dogma) and constantly recalibrating what it should do, without leaving any hostages to fortune. Progress is often a case of two steps forward, one step back.

Early Years, mid-2009 onwards

Alarm Bells are Ringing

The current economic crisis spreads to emerging markets, triggers off a more serious global recession, and brings about a fall in oil prices. Vulnerable oil and gas producers are hit especially hard. This has serious regional ramifications in the parts of the world where major energy exporters are located. In a period of extended stagflation, monetary policy becomes useless because of the inflationary impact of OPEC’s addiction to 100-dollar oil as it correspondingly cuts supply. Set against this backdrop, the alarm bells are

sounding as a chain of events shocks the world's powers that be to realize the severity of developments and the need to come together.

Terrorists coordinate an attack on the SEGAS⁶ liquefied natural gas (LNG) complex at Damietta, Egypt causing significant material damage.) Concerned about current account balances, OPEC meets regularly to keep the oil price high enough, while Saudi Arabia continues to play its role as swing producer.

- A major hurricane hits New York City, flooding the subways in lower Manhattan and shutting down the NY Stock Exchange for almost one month. One span of the George Washington Bridge was blown apart, leaving 300 motorists seriously injured or dead. While the resulting damage on the ground may be less than that of Hurricane Katrina, the *nature* of New Orleans versus New York City makes a significant difference in how this event is perceived. Because NYC is a world financial capital, the US begins to realize its vulnerability to climate change events in a very tangible way.
- Earlier in the year, a cyclone struck China's financial hub Shanghai. Massive evacuations limited the loss of life while storm damage was estimated to top \$500 million. Shortly thereafter, China faced its most severe drought ever in the southwestern provinces of Yunnan and Sichuan as levels of water in the Yangtze River reached their lowest in almost 150 years. Ships are stranded like beached whales, millions face shortages of drinking water and severe power shortages. Global warming increasingly determines the efficiency of China's energy policy and produces more frequent spikes in fossil fuel usage to produce emergency power.

Together these events, within the context of a sustained global economic downturn, touch off a worldwide debate on climate change, fuelled too by the fact that (like its predecessor) Kyoto 2 has not been ratified by the US Senate. Most country governments

⁶ Spanish Egyptian Gas Company (SEGAS).

ignore critics and continue policies that fail to place a premium on reducing overall energy consumption, focusing instead on creating more supply. Chinese authorities have also announced that they are not bound by Kyoto 2, having walked out before negotiations concluded.

- Pressures build in legislatures through Europe and in the US Congress to link imports to action on environmental issues in producer countries in the developing world. The trade debate turns increasingly ugly.

As food prices continue to surge, food hoarding intensifies. The degree and extent of the impact varies on the different strata of society as the “have-nots” scramble for the crumbs. At the other end of the spectrum, the wealthy, elite, and powerful are still relatively immune to the crises.

- Relations between Taiwan and China improve somewhat. China does however continue developing its underground naval base at Sanya on Hainan Island. This is an unmistakable signal of China’s ambitions to build up a blue water naval reach, given the increasingly exposed energy and other raw materials supply routes. Control over these supply routes is crucial to its security and development rather than having to rely indirectly on the US Navy.
- Shortly before the 2012 Olympics conclude, Israel attempts a strike on a nuclear Iran, justifying its actions on the grounds of inaction by the international community. The US is seen as pulling another “Suez.” Israeli students set fire to the US Embassy in Tel Aviv. Turmoil in the Middle East sends oil prices rocketing to over \$250 a barrel. Leaders in Africa, the Caribbean and Latin America brace for more food riots.
- Frustrated by state inaction, we witness how the digital youth generation (*Generation Next*) creates virtual global networks to coordinate social revolutions on critical issues such as food security. In response to food riots abroad, a group

of US students at the University of North Florida begin a hunger strike in sympathy. The hunger strike begins to spread to Europe and then to India and China as students, activists, union workers, and others begin to stage sympathy strikes. The Vatican calls for a day of prayer and fasting. US authorities' efforts to stop the hunger strike end in riots. The Bill & Melinda Gates Foundation calls a worldwide virtual meeting, connecting over 20 million people spread across five continents. Over the course of the next month, a "human rights" bill is drawn up to be submitted to leaders at the UN General Assembly (UNGA) which—due to the hurricane—has had to reconvene on higher ground in the Empire State Building. Leaders are besieged during UNGA meetings by a combination of anti-nuclear and environmental activists. This increasing public pressure on governments is evidence of a more vocal and engaged public and the ripple effect of a deepening in the grassroots dimension to global problem solving, putting increasing pressure on governments worldwide to act.

Reform of Global Architecture

Resorting to what it believes are its rights under the original UN Charter, the UNGA passes, over the opposition of several Security Council members, a number of binding resolutions on nuclear disarmament and the reopening of the *Kyoto 2* agreement. The Security Council meets to debate the UNGA moves. The US President, who is facing reelection, separates himself from other permanent members and joins the UNGA in what becomes a modern version of the French Revolution's *Tennis Court Oath*. Other permanent members join him. This is an example of the very visible and initial response to the alarm bells by both state and non-state players. This response is coordinated and an alternative agreement, *Kyoto 2*, successfully emerges.

Fundamental reform of the Security Council is started. More member states will soon gain a seat at the table as both permanent and elected Council membership is expanded (e.g., India, Japan), and the process of veto power by permanent members is slated for elimination. There are also calls for a new environmental umbrella organization, a type of international environmental leadership group (a G-8 plus China, India, and Brazil at a

minimum) with mandatory enforcement powers over its members' own actions. And among non-members, those whose production fails to meet minimum environmental standards would be subject to the imposition of trade sanctions. While this is already being discussed, the policy needs to be codified by the WTO if we are to see action at an international level. The US alone is enough to kick-start this process, but has so far failed to take the lead in environmental issues.

Shocks Continue

- Venezuela remains a potential flashpoint, contributing to the deepening energy crisis. Home to one of Latin America's largest groups of ethnic Chinese, Venezuela continues to strengthen its strategic and economic alliance with China. Latin America continues to embrace Chinese investment as the Asian power becomes an increasingly influential actor in America's backyard.
- There is a complete implosion in Pakistan, sending shock waves throughout the world. Despite being identified by Goldman Sachs as one of the Next Eleven (N-11) countries, newly-elected President Zardari has inherited the collapse of the world's second largest Muslim (and currently the only nuclear Islamic) nation. A failed nuclear state that is home to a myriad of terrorist groups, disaffected rebel groups and a powerful army, this is expected to have grave consequences for global security. Pakistan's neighbors brace for the worst as chaos erupts in the major cities. Border crossings are flooded with people trying to escape. Hundreds of students at the Lahore and Hyderabad campuses of The City School are stranded as militants linked to the Taliban hold the schools hostage in an effort to gain a stronger foothold.
- With the political turmoil and uncertainties, economic growth slows. The US dollar collapses, inequalities continue to rise, the credit crisis deepens, and the younger generation makes more use of global virtual networks to help address issues of common concern.

It is clear that these events (e.g., extreme weather, energy challenges, squirreling away food, Pakistan's collapse) all impact the West directly and severely. The world is sufficiently shocked for the powers that be to become cognizant of the severity of the developments and begin to coalesce for concerted action (i.e., common cause). As the alarm bells ring, communities of people begin to recognize them as such and start to take notice. The scale and urgency of the “economic growth plus sustainable resource policies” dilemma is becoming clear.

In this world, the “acceleration effect” due to the compounding of events is particularly important. The inertia of inaction is fading. Underwhelmed by the pace at which institutions act to take these crises in hand, there is a rapid response from the “bottom of the pyramid,” especially in the context of ensuring adequate energy and water. Meanwhile, violent expressions by the lower and middle segments of society signal a deep frustration with leadership's speed in responding to many of the alarm bells. For instance, eco-terrorism is still considered a key domestic terror threat in the US, and will be for Europeans as well.

Governments create incentives and the general climate to stimulate investments in technology and innovation improves. For example, stable policy frameworks designed to encourage the kind of long-term investments that are needed to produce more energy efficient technologies are implemented. The evolution of science and technology and its impact on various facets of human life is unmistakable. The pace and scope of scientific discoveries is breathtaking and is expected to accelerate as nanotechnology and biotechnology dominate technological development for the foreseeable future. Developments in technology are not assumed to be linear and disruptive civil technologies could also have far-reaching implications (e.g., personalized medicine, distributed energy, and pervasive computing—or the “Internet of Things”).

The competitive edge of knowledge demands increasingly greater scientific knowledge and depth in management, creativity, and problem-solving skills. While the globalization of manufacturing changed the world, this is trumped by the significance of the impact of

the globalization of services. The “winners” are those organizations or networks that can successfully work together, those that nurture their collaborative advantage.

The US, Europe and China put together an assistance package for countries hard hit by rising food prices. The three begin cooperation on alternative energy technologies, attracting investment from the sovereign wealth funds (SWFs) of many producer countries. Among nations a new trust is emerging that is leading to new agreements.

Civil society is changing in other ways as life expectancy continues to increase in the both rich and poor nations. As standards of living continue to improve, so does life span. People are living longer and able to remain productive members of the labor pool for longer periods of time. As such, the retirement age in rich countries is raised to 70 years. Emerging countries implement incentives to manage high birth rates.

Finally, pandemics, although a wild card, deepen the crisis and play the early role of bringing the world together to address these issues (e.g., as the in the wake of the 2003 SARS outbreak).

Middle and End Years, 2013-2025

The middle and end years of a *Constant Renewal* world are expressed as two phases: *turning time* and *guided transition*. The potential set of events that brings the world together (i.e., common cause) and precipitates the initial actions that would lead to quality growth can be described as the *turning time*. This is by no means a utopian world, but we experience a period of *guided transition*, a transitional phase in which the world sees the effects of actions guided by common cause.⁷ Triggered by the alarm bells, civil society (enabled by technology-driven virtual networks) pushes very hard for a common framework to solve crucial problems.

⁷ Note that these phases (i.e., *alarm bells*, *turning time*, *guided transition* and the *constant calibration* to follow) are not very distinctive and discrete, thus the sequence described may in fact overlap across the phases.

Coming Together in Common Cause

The US comes to the realization that it has to play the role of a partner rather than a leader who can unilaterally “call the shots.” A new G7 (with a new name) is formed, which includes the BRICs and some key non-state players on an issue-by-issue basis. Discussions continue as to whether the global reserve currency will be the US dollar or the euro.

Very importantly in this scenario, coordinated responses are seen to be prevalent, both at the global and country-specific levels. There is an emergence of (1) core institutions⁸ and (2) context-specific response groups (e.g. with regards to Pakistan’s implosion, neighboring countries form a response group or leading oil-consuming nations form a coordinated group to address both demand- and supply-related issues). Technology-enabled networks (e.g., social, commercial, capital) play a dominant role in this global renaissance although these networks are primarily of a virtual nature. Evolutionary NGOs focus on responding to the challenges at hand and network globally to coordinate their responses in line with the common cause.

Many “populist solutions” are implemented early on at the country level to sustain local political stability and to start the process of transition. Changes in fiscal policies (e.g., huge carrot-stick policies) lead to more taxes to generate the resources needed to address the impact of the alarm bells and fuel the move towards managed, quality growth. The contribution mindset of the “elite” changes towards the common cause spirit (e.g., the widespread acceptance of a carbon tax). The transformation to a world of *Constant Renewal* requires a substantial investment, the sheer scale never before seen.

Organized religion also comes to the front as a key player in the process of transition. This may lead to the formation of new social contracts that are aimed at development driven by a common cause.

⁸ Change could be state-led or non-state led and initiated by any (alone or in concert) of the following agents: MNCs, global networks, NGOs, syndicates (e.g., energy), public-private partnerships (PPPs), Interpol/Europol/legal entities, the UN, and the scientific community.

Shared Global Priorities, Shared Actions

The science community comes forward to play an active role in policy development (e.g. the role of nuclear scientists in related policies). A coalition of motivated government leaders, NGOs, environmental, scientific and legal experts, as well as corporate executives, calls for, and begins drafting, a Universal Declaration of Environmental Rights (UDER). The UDER speaks not only to environmental rights but also to environmental responsibilities that civil society has to the entire global community. Also, the notion of a “concert of democracies” or a “coalition of the willing” gains momentum among political leaders as an alternative security and economic institution that reflects the 21st century geopolitical landscape.

There is a visible mindset change (especially amongst the youth across the world) from being “transaction oriented” to “gift/contribution oriented.” An excellent example is the growth of the open source software movement. At the same time, the “return” mindset of key global players changes, especially in the US, EU, India, China and Russia. For example, China genuinely participates in the transition and contributes to common cause (as illustrated by the recent uproar over the 60 GW power plant). However, this depends on how pressures from Chinese society, coupled with political changes, play out in China.

A failed Doha convinces countries that the WTO’s decision-making process (i.e., via consensus) has to be abandoned. The WTO rethinks its role, especially in the context of the agricultural economy. Severe droughts and famines lead to mindset changes related to genetically modified produce. WTO reform includes the design of a mechanism that: includes small countries, establishes a realistic WTO governing body, and prevents decision paralysis.

Significant reforms are triggered and implemented in the international/multilateral bodies, as the current form is known to be ineffective in responding to global needs. The new order includes new players and is based on new roles for such institutions. Initial responses are ad hoc but aligned with the common cause. (e.g., WTO now includes

context-specific groups; WHO aligns to the context of energy, food, economics; and IEA focuses on aligning demand and supply).

Many emerging markets prove to be relatively resilient in the aftermath of the financial market turbulence and growth in developing regions is expected to remain above the 1995-2007 average growth rates. There is an emphasis on efficiency and productivity growth. Productivity growth is fastest in China and other parts of Northeast Asia, with perhaps almost a doubling over the last decade. Recent economic progress and productivity growth in Asia has reduced by almost 50% the number of extreme “working poor”⁹ (at US\$1 a day) to 148 million from 1996-2006. Conversely, Africa needs a strong economic performance in order to reverse its increase of people working in extreme poverty (i.e., the numbers of US\$1 a day working poor, up 24 million in sub-Saharan Africa during the same period), yet this does not seem to be on Africa’s horizon.

Security is considered a collective problem, but convincing Iran to give up its nuclear weapons has proved harder than anticipated. Russia, the US and China have moved towards major reductions in their nuclear arsenals and are exploring a joint missile defense program against Iran and potential rogue nations/groups.. Significant global collaboration is however seen in this area (e.g., maritime collaboration to counter terrorism).

The increasingly closer linkage of financial markets gives rise to a convergence in corporate governance policies. The Institute of International Finance’s call for establishing a capital markets monitoring group is answered. Harmonization, and not only in financial policies, is increasing. The market forces push for the establishment of a global intellectual property rights (IPR) framework. This fosters more structured innovation including more collaborative frameworks to support these initiatives.

⁹ The term *working poor* as defined by the UN International Labour Organization (ILO) refers to the share of working people living in a household below the international poverty lines of US\$1 and US\$2 a day.

The SWFs see a change in their “return” mindset. There is a widely accepted push for transparency and governance and in order to be allowed to make the investments they wish in Western developed country markets SWFs are essentially forced in this direction. This also pushes their home governments into line. The SWFs invest a portion of their funds (for reasons of fiscal stability) into energy, health care, and the regional development needs of emerging countries. The Infrastructure Fund for India is created, but with a much more long-term return mindset, and a focus on inclusive development.

Companies in Europe, the US and Japan increase their funding of university R&D. While the US is still the leading source of US patents in ICT and biotechnology, Asia is not far behind. Asia, and especially China, manages the transition from imitation to innovation.¹⁰ China and other emerging countries leapfrog technologies as they benefit from technology sharing. *Co-opetition* becomes the norm: strong collaboration in R&D combined with fierce competition in global markets. The combination of both a bottom-up grassroots movement (e.g., market driven mechanisms, venture capitalists, public-private-partnerships, etc.) and a top-down policy framework (e.g., policy harmonization and a commitment to make the international system work) provides a setting that enables the world to come together to address common challenges.

Lingering Problems

Of course, although the world sets off on a path to greater collaboration and more inclusive growth, we are still confronted with serious problems. For example, while most of the international community has begun to enjoy higher sustained economic growth with more limited volatility, many countries in Africa are still left behind. Chronic leadership problems and local conflicts continue to confront Africans, ensuring that development and sustainability are, for the most part, distant and nebulous goals. Until adequate security is realized in Africa, the continent remains a virtual quagmire. Political turmoil in Pakistan reignites fears of a nuclear device ending up with terrorists. And the

¹⁰ For example, as in the case of the Chinese Academy of Science Nanotechnology Engineering Center Co. (CASNEC) that was founded to diffuse CAS nanoscience and nanotechnology

discovery of a European terrorist group producing anthrax causes the British Parliament to suspend habeas corpus as a full-scale roundup of terrorist suspects begins.

In addition to *overt* proliferation of nuclear, chemical and biological weapons, etc., the problem of *latent* proliferation may potentially be a greater threat in the future. The ability to more quickly produce these weapons under the guise of adhering to international non-proliferation agreements, enabled by technological advances and the digital diffusion of scientific knowledge, is a key critical uncertainty for leaders.

On the environment, India accused the UN body that monitors and enforces climate change measures of being biased. Chinese authorities complain that their middle class is still not allowed the same number of cars per household as in the West. Chinese and Indian students get into a shouting match which results in several injuries at the World Congress commemorating the 2012 worldwide hunger/sympathy strike. By 2020 in Tanzania Mount Kilamajaro's iconic glaciers have disappeared adding this World Heritage site to the casualty list of climate change. At the same time, the world experiences the emergence of new treaties, and the successful implementation of existing dormant treaties, focused on tapping new/disputed resources (e.g., under sea resources)

In light of the new world order, the role of NATO comes into question. Mutual trust-building activities between NATO and Russia are stepped up as a means to create the foundation for a secure future. Russian skepticism and distrust remains, but there is movement in the right direction. Russia's role in the world's changing geopolitical landscape is still evolving and it appears to be increasingly (albeit begrudgingly) steered towards more cooperative paths. Business interests and the younger generation are expected to play and increasingly more important role in the dynamics of Russia.

Constant Calibration

Midway through this period, there is a *constant calibration* as new issues, and different forms of existing ones, arise. Some of the vital conditions that would need to prevail to sustain quality growth galvanized around common cause are described below. A set of

counter forces is described which would need to be worked against for *Constant Renewal* to be sustainable. The counter forces also indicate some of the issues that would remain (residual) even in 2025.

This *constant calibration* does not come easily but is the result of a complex interplay between enabling factors and counter forces. Enabling factors that support the scenario may not necessarily eliminate the counter forces, but would play a significant role in muting their impact such that *Constant Renewal* does not collapse back into a different scenario.

<u>Enabling Factors</u>	<u>Counter Forces</u>
<ul style="list-style-type: none"> • <i>Vital assumption: Leadership Stability</i> (if not individuals, the type of leaders) • <i>Economic interdependence</i> maintains order and is prevalent amongst nation states • <i>Capacity building</i> (i.e., early investments into health, security, environment) • <i>Education/innovation</i> (e.g., intellectual property) • <i>Transparency, governance and accountability</i> (state, corporate, social networks) • <i>Implementation of existing treaties</i> has a complimentary effect on other initiatives • <i>Triple bottom line reporting</i> (“People, Plant, Profit”) • <i>Contingent Sovereignty</i>: responsibility to protect • <i>Framework for humanitarian interventions</i> (or food/energy security) • <i>Gen ‘X’ as shock absorbers</i>: role of social networks in bringing order • <i>Structural arrangements for capacity building</i> (civilian vs. militarian, schools vs. conflicts) • <i>Composition/design of forces</i>: degree of inclusiveness 	<ul style="list-style-type: none"> • <i>Peace in the Middle East</i>: high uncertainty, could continue to be problematic • <i>Disaffected communities</i> (i.e., many people may not benefit from this change, leading to strife) • Required <i>legal/regulatory changes</i> may be absent • <i>Terrorism</i>: despite coordinated efforts, this may still be a problem • <i>Drug trafficking</i> may not get addressed, particularly in a virtually networked world • <i>Implosion</i> (particularly in China and Africa) • <i>Concentration of wealth</i> (i.e., the increasing divide) • <i>India’s land crisis</i>: the issues related to land ownership regulations may increase • <i>Corruption</i>: may continue, though governance frameworks try to address • <i>Overt/latent proliferation</i> (nuclear/other) • <i>Network shock</i> of local events rippling across world via technology/media explosion • <i>Vested interests/scandals</i> (corporate) • <i>Political succession</i>: could become a serious

<ul style="list-style-type: none"> • <i>Funding</i>: foreign aid (partly in the interest of capacity building for national security) • <i>China and India</i> become active stakeholders on a long-term basis 	<ul style="list-style-type: none"> concern for “common cause” (backlash) • Evolution and participation of <i>Russia</i>
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Obviously, this will not be a world without stresses but a process of continuous adjustment, a world in which the fine-tuning of policies becomes the norm. Hence, the process of ***Constant Renewal*** that is happening. There is more of a focus on the institutional mechanisms needed to steer the world towards “high-quality” growth (i.e., strong and inclusive), growth driven by a common cause and more sustainable programs from multiple points of view (e.g., in terms of security, the environment, and energy). Ultimately, towards the end of the period it becomes clear that the world is on a trajectory toward sustainable growth.

Section 6: Conclusion

The world has never been as complex, fast-moving, or full of contrasts as it is today. When we began this project at the beginning of 2008, General Musharraf was Pakistan's president, oil traded at \$100 per barrel for the first time ever, and Iceland was still a solvent nation. This rapid pace of change shows no signs of slowing, making the development of scenarios of the future an even more challenging prospect. An attempt to envision possible, plausible futures involves taking a look at our mental models, re-examining how we represent real-life situations. This scenario project proposes three very different potential futures for the global community: *Borrowed Time*, *Fragmented World*, and *Constant Renewal*.

Borrowed Time represents how the future might play out if the world follows the “business as usual” modus operandi. The notion that we can afford to wait much longer for technology's silver bullet without facing serious consequences is somewhat unrealistic. The implications of this scenario are that (1) unless serious changes are made now in terms of how decision makers at all levels (e.g., international institutions, states, business leaders, and citizens) prioritize issues and (2) there is a conscious awareness of the true interconnectedness of a globalized world, then we could soon pass the point of no return (particularly with regards to climate change issues). In addition, leaders and citizens alike must be cognizant of the fact that the repercussions of their actions (or inactions) could last several lifetimes and beyond, and that in many cases the long-term impact is potentially irreversible.

Fragmented World is a more selfish world, a future which can be reflected in the expression “every man for himself.” Actors try to save themselves without much concern for the others. Economic growth is constrained and there is not a great deal of multilateral solidarity. There is more insecurity and less trust. This is a world that cannot keep pace with the problems, is overwhelmed, and is starting to come apart at the seams.

Constant Renewal describes a world in which nations realize that the international community must work collaboratively on a sustained basis to affect real change at the global level. This is not borne out of any sense of a desire to create a global “Kumbaya” community, but out of necessity—we are shocked into action--and a change in the way key players think about the issues. Leaders also develop a heightened sense of the scale and urgency of the problems facing the world. The journey to this future is full of pitfalls (and policies are fine-tuned as needed), but the main point is that there is a global momentum towards a sustainable future supported by lasting partnerships, cooperative agreements, and a clear change in ways of thinking about global problems.

It is important to remember that these futures are possibilities, not predictions. The data is provided as a guide through the storylines and should be used accordingly. The objective is to get users thinking how the world might look along the way toward 2025 and to consider some of the questions posed to the experts: How might the international system look? What leadership role will the US have? Where will China fit in? What happens with regard to climate change? Etc. And given a proposed future, users can explore various potential responses to the events from their own vantage points.

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