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BEYOND A GLOBAL DEAL

A UN+ Approach to Climate Governance

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EXECUTIVE SUMMARY

A global agreement on binding emissions reductions is unlikely, but progress against climate change can still be made through a patchwork of initiatives and commitments by forward-thinking countries, sub-national governments, international organizations, businesses, and civil society. That is the conclusion of a working group of experts from China, Germany, and the United States. As part of the Global Governance 2020 program, the group has been convened in the aftermath of the Copenhagen conference in late 2009 by the Global Public Policy Institute and its partners, the Hertie School of Governance, the Shanghai Academy of Social Sciences, Fudan University, the

Brookings Institution, and Princeton University. The Working Group represented a diverse, carefully selected collection of individuals who work on climate change in academic, industrial, and governmental capacities. Over the course of a year, the Working Group applied scenario planning methodology to envision different ways the world might approach the challenge of climate change over the next decade. This Executive Summary outlines the three scenarios envisioned by the Working Group, as well as the insights and policy recommendations that derive from them.

Three Possible Directions for Climate Governance

Our scenario analysis produced three possible outcomes for climate governance in 2020.

Scenario 1, “Kyoto 2.0,” results from a growing international consensus on the necessity of deep emission cuts based on a series of global treaties. The result is a comprehensive, UN-led solution to climate change and the subsequent establishment of low-carbon economies around the world. Given the latest developments in Copenhagen and the results of Cancún, this scenario is highly unlikely to become reality.

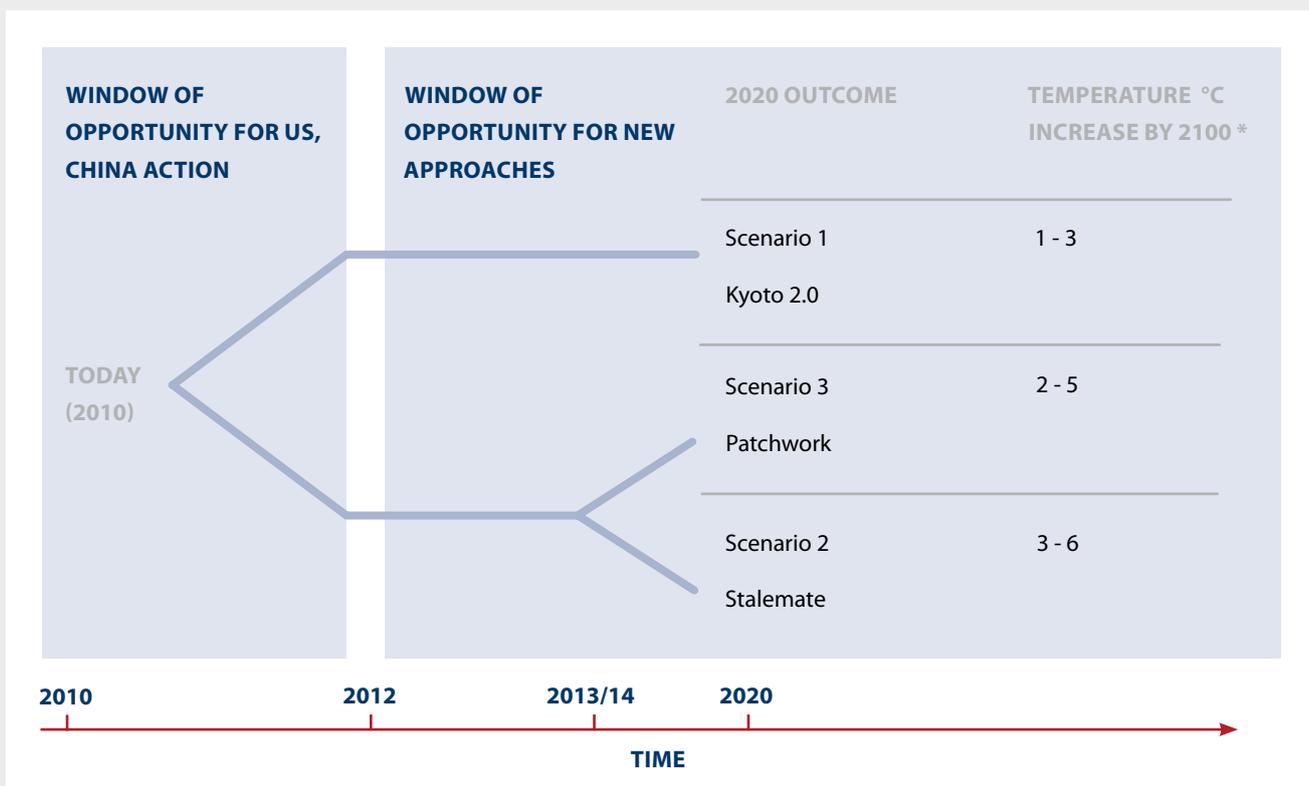
Scenario 2, “Stalemate,” presents climate governance in ruins. The United Nations Framework Convention on Climate Change (UNFCCC) process unravels with short-term thinking trumping long-term policy making. Neither the United States, China, Europe, nor developing countries see themselves in a position to take the lead in combating climate change.

Scenario 3, “Patchwork governance,” witnesses a stalled UNFCCC process but also the initiation of a UN-plus process. A broad coalition of ambitious and pragmatic countries, regions, cities, companies, media, non-governmental organizations, and thought leaders contributes to the emergence of a complex, multilayered governance landscape. If

scenario 1 cannot be achieved, this is the second best option.

We identify two windows of opportunity in which the decisions of key actors can shift climate governance from one scenario to another. In the next two years, the most important factor is the behavior of the world’s two largest emitters, China and the United States. Aggressive climate policies in either or both countries would serve as a catalyst for global action, sending a strong signal to industry and driving forward the multilateral process. Conversely, the failure of either nation to take aggressive steps to reduce emissions over the next few years will make it impossible to develop an effective global treaty to limit emissions before 2020.

In the latter case, which we consider most likely, our analysis highlights a second window of opportunity, closing around 2013/14, during which a multilayered governance network beyond the UN could emerge with sufficient support from ambitious governments, sub-national actors, industry groups, and civil society. We imagine that this patchwork scenario could create the conditions for an eventual rebirth of the global treaty process, but consider this unlikely before 2020. This figure displays the possible scenarios and decision points.



This map gives a graphical representation of the three distinct possible futures the scenario planning yielded.

* Assuming the three scenarios correlate with the IPCC Special Reports on Emissions Scenarios: Scenario 1 with the B1 family, Scenario 2 with A1F1 and Scenario 3 with the A2 and B2 families.

Insights

Our analysis indicates that a comprehensive, effective global agreement to reduce GHGs is unlikely in the next decade. This conclusion follows from the political, social, and economic conditions that preclude aggressive action by the United States and China to reduce emissions. Such action, in turn, is necessary to drive a successful global treaty process. In particular, our analysis indicates that climate and energy legislation will remain sidelined over the next two years in the United States as other concerns take precedence, and as the Obama Administration's ability to pass legislation is constrained by Republican gains in the 2010 mid-term elections. In China, meanwhile, our scenarios indicate that the government will continue to pursue significant policies to reduce carbon intensity, promote energy efficiency, and improve energy security. However, these policies will not include verifiable and internationally agreed emissions reductions targets. Under these conditions, our analysis suggests that other nations

will not have sufficient incentives to create a meaningful successor to the Kyoto Protocol.

Therefore, our analysis indicates that the best way to tackle climate change in the post-Copenhagen era is to promote a "UN-plus" approach in which emissions reductions are achieved in an entrepreneurial, bottom-up process rather than in response to a comprehensive global treaty. This approach envisions that the United Nations Framework Convention on Climate Change (UNFCCC) will remain the focal point for global discussion of climate change. However, the initiative would pass to businesses, governments, and civil society groups that are already willing and able to reduce emissions, "climate entrepreneurs", to develop the economic, political, and social programs that will reduce global emissions.

Programs of this nature are already emerging across the world. The key challenge for policymakers, then, is how to bring them to the level of scope and ambi-

tion needed to have a substantial impact on the climate. Entrepreneurial climate governance does not mean relying only on markets or environmentally-conscious citizens. Rather, governments, businesses, and civil society organizations who are concerned about climate change need to bind together to create the foundations for global action. While we believe that this approach will be less effective in reducing emissions than an effective global treaty, we also believe that tapping the energies of the world's climate entrepreneurs presents new and exciting opportunities for governments, business, and civil

society to meet the climate challenge in the next decade. This is largely uncharted territory for global environmental governance, so additional creative thinking is needed. Below we outline some initial steps.

Recommendations

Analysis of the three scenarios can inform policy-making for a multitude of actors wishing to curb global warming. The political and economic outlook does not favor the type of aggressive, binding emissions reductions in China and the US that is necessary for a multilateral treaty process (scenario 1) to emerge over the coming decade. Hence, policy makers should focus their energy on averting a global stalemate on climate governance (scenario 2) by pushing a UN+ approach of patchwork climate governance (scenario 3). Our analysis shows that the following three to four years are crucial in this endeavor.

United States and China

We recommend that both countries, while reaffirming their commitment to the multilateral process, actively support an entrepreneurial “bottom-up” approach which encourages emissions reductions by cities, regions, companies and organizations. These reductions should be encouraged through strengthening transnational partnerships, such as the C-40 group of cities and industry associations.

Private sector and civil society

Acting strategically, these players can divert scenario 2 (Stalemate) into scenario 3 (Patchwork Governance). We recommend that the private sector and civil society focus on building cross-national partnerships to lead where governments cannot, adopting voluntary emissions targets at the firm, sector, and industry levels. These and similar ac-

tions will allow leading firms to adapt to the new opportunities which a fragmented but more entrepreneurial governance landscape will inevitably present.

European Union

We envision a powerful role for the EU in shaping a “coalition of the ambitious” of countries committed to aggressive emissions reductions, while using both diplomatic and economic incentives and sanctions to promote participation by other countries and sub- and non-state actors within them. The EU can be the nucleus of the UN+ approach.

UNFCCC Secretariat

The UNFCCC should expand beyond its state-centric and consensus-based structure to one which explicitly encourages a wider variety of approaches to climate governance. The UNFCCC can continue to play a vital role as the central forum of a UN+ approach, but if it fails to reach beyond the treaty-making process it will become increasingly marginalized.

SCENARIOS

Methodology

Scenario planning is a structured process used by businesses, governments, and other organizations for strategic planning in the face of an uncertain future. At the core of the methodology lies the fact-based development of various plausible future outcomes in relation to a given issue. Based on these scenarios, implications can be drawn suggesting how desired outcomes might be achieved and undesired consequences avoided.

The Global Governance 2020 (GG2020) program used a tailor-made version of scenario planning methodology, designed and supervised in cooperation with private sector scenario experts. The process, by providing a challenging and interactive framework for creative and rigorous thinking, utilizes the diverse backgrounds and expertise of the working group to produce policy-relevant results.

Scenario planning unfolds in three key steps:

- First, key factors that may influence the future of a policy challenge are identified and the relationships between them are described. From the resulting tapestry of factor interrelations, a “core model” can be identified that describes the underlying logic and dynamics determining thinkable future developments in relation to a given issue.
- Second, detailed descriptions of the factors and relevant actors, situated in the logic of the core model, are used to envision possible development paths for the factor system, called “scenarios.”
- Third, key trends and turning points are identified within each scenario, representing potential points of adjustment along the development path. Implications are drawn from these points of adjustment to provide a basis for the formulation of policy recommendations.

Following these analytical steps we developed three scenarios for the future of global climate governance. The narratives of the scenarios are presented in this report. Scenarios are narrated as seen by an observer in the year 2020, looking back on the previous decade. We have discussed the merits of including concrete costs estimates in each of our three scenarios, but in the end decided that such an endeavor would be beyond our capacity.

In this report, we ultimately focus on making specific recommendations for actors in global climate governance, including governments, industry, civil society, and international organizations. The key trends and turning points identified in each scenario suggest ways that specific actors can take advantage of the opportunities these points of adjustment present. The recommendations are directly derived from these insights.

Scenario 1: Kyoto 2.0

Scenario 1: Kyoto 2.0

Vision of the Future: A Comprehensive, Multilateral Deal on Climate Change

The year is 2020, and a series of global deals on climate policy has put the world on track to stabilize emissions in time to mitigate the bulk of anthropogenic climate change. The political frictions of the start of the decade have given way to a successful inter-state political process that has set clear limits on greenhouse gases. Markets have responded by developing and investing in clean technologies, facilitating shifts in consumer behavior.

Far-reaching treaty regimes

At the heart of this picture lies a series of global treaties. Members of the UNFCCC have consistently found agreement on climate policy and, by the end of the decade, agreed to deeper and deeper cuts in emissions. A reformed Clean Development Mechanism is a major feature of the climate governance landscape, and has to date transferred billions of dollars into energy efficiency. Alongside these funds, wealthy countries have mobilized some \$100 billion in climate-related aid for LDCs, in part through a new international tax on air travel and automobile sales.

The low carbon economy goes mainstream

Emerging from the financial crisis that marked the start of the decade, the world economy has grown at a historically average rate. The rapid growth the BRIC countries experienced in the previous decade has leveled somewhat, though remains steady. Unemployment rates are within historical norms in major economies. This steady economic growth provides the background for a series of ambitious and far-sighted investments and initiatives to support a low-carbon future. Economic growth in developing countries also leads to higher demand for environmental protection and environmental services.

Alternative energy sources now contribute 30 percent of total global energy needs, almost double the 2010 level, and continue to expand rapidly. This growth has resulted from substantial public and pri-

vate investments in clean energy technology, which have driven down the costs of production, raised its efficiency, and facilitated the transition from fossil fuels.

Publics across the world have adopted more sustainable consumption patterns as the price of carbon has increased relative to alternatives. Major economies have begun investing more in public transportation infrastructure, with concurrent changes in urban planning.

Climate change is seen as a potential threat to the economy and quality of life in all countries. In contrast, alternative energy is seen as a central aspect of economic dynamism, akin to the dot-com boom in the 1990s. Several regional centers of green innovation around the world compete for dominance. Though initially resistant, major energy and automobile companies now actively compete to capture the market in alternative energy technology.

Emissions and future climate change

Global carbon emissions have just reached their peak, and are expected to begin declining in the coming years. If the provisions of the latest accord are adhered to, the world will be on track to maintain average temperature changes within the crucial two-degree threshold.

From 2010 to today: Global Convergence on Emissions Reductions

TREND 1

Climate change is increasingly viewed as a core security issue

The US Department of Defense released a much-discussed report in 2011 identifying areas at high risk of climate-related security disruptions. As if on cue, a major drought struck Sudan, undermining the fragile peace process in the country. In 2014 the country slipped back into a brutal civil war between Khartoum and the South. European and Chinese oil companies operating in Sudan suffer major losses and the global price of oil rises. Radical Islamist groups in Somalia seize on the chaos and orchestrate a series of terrorist attacks on American military targets in the region, further raising the price of oil.

TREND 2

Climate disasters focus public opinion

Several major climatic events have shaped public perceptions of climate change. In 2012 a major typhoon wrecked havoc across much of the Yangtze River delta, inflicting billions of dollars worth of damage and killing over 1000 people. Just the next year, a hurricane devastated the American Gulf Coast, imposing twice as much damage as the now-forgotten Hurricane Katrina. Around the same time, yet another storm caused massive flooding in Bangladesh, sending a stream of climate refugees into India and other neighboring countries. Hollywood immortalized these events in a multi-billion dollar film that won the Oscar.

After each of these events, NGOs conducted a sophisticated media campaign to warn the public of the economic and security risks of climate change. NGOs had prepared these campaigns in advance, and were simply waiting for the right event to deploy them. NGOs developed sophisticated communication strategies around climate science and actions. The increasing scientific consensus around climate change was reinforced and increasingly connected to concrete effects in the public mind.

Responding to these impulses, publics in China, the EU, and the US consolidate their support for climate change actions.

TURNING POINT 1

Us congress passes an aggressive energy bill

Gaining political momentum from a recovering economy and dropping unemployment, the Democratic Party exceeded expectations in the 2012 elections. This win gave the Obama administration extra political capital and, crucially, was seen as a rebuke of Republican obstructionism. With Senate resistance to climate legislation weakened, the US Congress passed a climate and energy-related bill that imposed moderate caps on US emissions in certain sectors and created a national emissions trading system.

The US legislation, though modest in scope, was warmly received by the international community. The EU responded with an increased commitment for mitigation and adaptation aid for LDCs, and China announced it would seek further cuts in energy intensity. Negotiations over legally binding caps remained fraught, however. In the end, the voluntary emissions limits agreed at Copenhagen were modestly increased.

TURNING POINT 2**A coalition coalesces among developed and developing countries**

By the 2015 COP meeting in Beijing, significant will to tackle climate change had emerged. For the first time, developing countries agreed to accept binding limits on carbon emissions, with a small but charismatic and active coalition of developing world climate leaders, organized by Costa Rica, playing a crucial role. Voluntary commitments to go carbon-neutral from several small island states provide additional inspiration. Those low-income countries that did agree to cut emissions received substantial grants for clean technology development, as well as preferential market access through the GPS system from wealthy countries. China, India, and Brazil, seeking to establish themselves as major and responsible actors in the climate regime, collectively agreed to begin reducing emissions no later than 2030 and to cut emissions by 25% below 2030 by 2050. There were also several sectoral agreements, such as in aviation and shipping, for specifying further reductions.

The EU, encouraged by this progress, announced even more ambitious reductions and offers innovative mechanisms for technology transfer and financial support for technology upgrades in developing countries. Internal divisions between EU member states were mitigated by global progress toward climate mitigation.

TREND 3**Industry reacts to market signals by investing heavily in clean technologies**

The market interpreted the 2015 Beijing Accord as the start of serious global regulation of greenhouse gasses and responded by investing heavily in clean technology. Healthy competition to develop the best green technology emerges across the globe. All countries want to lead this effort, further driving down the prices of these technologies as countries compete to secure first-mover advantages. Protectionism does not emerge as countries see mutual gains from trade and respect their free trade commitments. The Indian car-maker Tata delivered a small, battery-powered car costing just \$5000. Major advances in carbon-sequestering coal plants were developed by a Sino-American joint venture, benefiting from tax breaks for development and commercialization issued by both governments. Consumers react to the changing price of alternatives by purchasing more climate-friendly products.

TURNING POINT 3**Ambition begets ambition: a virtuous cycle**

These innovations encouraged countries to be even more ambitious. Denmark announced plans to become completely carbon neutral by 2050. Under the second Obama Administration, the US announced ambitious plans to further cap emissions. In China, the government announced plans to gradually retrofit all existing coal plants with carbon sequestration technology and to reform energy taxes to make carbon more expensive.

Spurred on by these actions, each subsequent COP following 2015 increased the reductions targets. By 2017 all countries were committed to specific reductions, though for LDCs these were to be achieved significantly in the future. NGOs play a strong role in the international regime by monitoring and verifying country commitments, as well as providing capacity building to LDCs and other actors.

Scenario 2: Stalemate

Scenario 2: Stalemate

Vision of the Future: Global Climate Governance in Ruins

The stalemate scenario is a world of polarization and antagonism in 2020. The relationship between the major powers is tense. Short-term global economic and security considerations dominate political decisions in developed and developing countries at the expense of long-term policy making. Consequently, global warming is not a priority topic. Efforts to implement a global post-Kyoto climate regime have stalled.

Economic difficulty and technological stagnation

Economic difficulties, including low growth and high unemployment coupled with widespread protectionist pressures and huge public deficits contribute to a “climate malaise” in which many developed countries, including EU members, postpone or effectively abandon earlier plans to cut GHGs.

The price of fossil fuel energy sources stays highly volatile, but there is no general shift towards more sustainable production or consumption patterns. Individuals as well as companies deal with climate change challenges on an ad-hoc basis.

The dismal prospects for an effective post-Kyoto climate regime have further undermined public and private R&D investment of low-carbon technologies. Major companies are divesting from corporate social responsibility programs and the number of green start-ups has been on the decline. No breakthrough in low-carbon technologies is foreseen in the near-term future.

Tensions dominate global climate policy

The international community has failed to set-up the announced climate fund for developing countries (up to 100 billion US\$). The Group of 77 accuses the industrialized world of deliberately sacrificing the future of the hardest hit countries for its own economic gains and demands immediate and substantial action. Multilateral institutions in general are deeply polarized and characterized by clashing interests and stalled debates. Alongside climate change, a number of other topics such as

nuclear disarmament, the regulation of financial markets, the Doha trade round, as well as the global fight against poverty, illiteracy and diseases have stalled. Policy makers worldwide are struggling with numerous distractions including economic problems, interstate and regional conflicts, high-profile natural disasters, and public security threats.

Increased divisions in public opinion and civil society

Global public opinion is split on the topic of climate change between growing alarm and increasing denial. Environmental NGOs fall into opposing camps, some going as far as advocating civil disobedience to disrupt the carbon economy while others are still trying to muster support for a political solution.

Due to the lack of engagement by major stakeholders, the UNFCCC process has lost most of its credibility and supporters. Moreover, the public has grown increasingly skeptical of any reported progress. The traditional media attention surrounding climate summits as well as new IPCC reports or updates is now greeted with public cynicism, if not completely ignored. There exists a widespread feeling of frustration and anger within global civil society. While most observers still recognize climate change as an important topic, its hold on the public mind has weakened in key countries.

Global emissions and future global warming

In the stalemate scenario, global emissions follow the business-as-usual projections as seen from 2010. Emissions are expected to peak at the earliest by 2040. Given that, future scenarios predict more than 5 centigrade global warming by the end of the century with very significant adaptation costs, particularly in response to increased incidence of extreme weather events, and in particular dramatic increases in flood damage.

From 2010 to Today: a Downward Spiral

TREND 1

Building frustration and conflict

Following the 2010 Cancún summit, key NGO representatives expressed their frustration about the stalled UNFCCC process. Searching for alternative strategies, a fraction of the NGOs started boycotting several meetings. Some prominent NGOs react by adopting a more confrontational strategy, taking increasingly radical actions and undermining the legitimacy of the broader climate action movement.

The adversarial character of the climate debate was also increased by climate skeptics who were emboldened after Cancún and Copenhagen. Beginning with the leaked emails and other documents revealing misconduct within the climate science community just before the Copenhagen summit, climate skeptics increased their criticism of the scientific community. Climate scientists in turn sharpened their messages, and many become more political.

TREND 2

The economy and security remain top priorities

At the same time, the state of the global economy drew attention away from climate change issues. Financial and fiscal weaknesses in the early part of the decade lingered in key economies. National governments in many countries had to bail out private banks and companies through unprecedented policy measures and economic stimulus packages. The fiscal/debt crisis for example in Iceland and Ireland, the United States, and southern Europe resulted in tough austerity programs that increased political conflict.

Also, non-traditional threats remained one of the top priorities of major powers. The US and other foreign troops withdrew from Iraq and Afghanistan in 2011 and 2012, but violent local and regional conflicts continued to destabilize both countries. Terrorist organizations rallied in failed states and launched new rounds of terrorist attacks across the Middle-East and against high profile targets worldwide, resulting in significant casualties.

As a result, both policy makers and the public across the world shifted their attention away from climate change toward economic prosperity and security.

TREND 3

Tensions between the US and China increase

The Chinese economy continued to expand while growth remained slow to moderate in the US, increasing tensions between the world's two largest economies. Trade and current account imbalances, as well as occasional acts of economic brinksmanship (such as China's temporary export bans on rare earth elements) and the continuing diplomatic impasse over exchange rate policy made it increasingly difficult for the superpowers to resolve issues through bilateral talks. US-Chinese differences over climate change aggravated economic disputes and vice-versa. At the climate talks in Seoul in 2012 (COP 18), the US renewed its claim that China should shoulder more responsibilities on emission reduction and threatened to impose carbon duties on Chinese goods. China interpreted this as a tactical move to prevent Chinese products from entering the U.S. market. While signatories of the Kyoto protocol together with the Obama Administration signed a follow-up agreement with the aim of reducing global emissions by 25% by 2020 compared to 1990 levels, large emerging economies including China, India and Brazil did not sign on. On this account, the US senate later voted against the ratification of the Seoul Protocol.

*TURNING POINT 1***San José 2014: G-2 stalemate stalls the UNFCCC process**

The 2014 UN climate summit in San José, Costa Rica (COP 20) produced no results, leading to a general understanding that no globally binding regime to curb greenhouse gas emissions would come out of the UNFCCC process within the decade

Earlier elections in the US had strengthened the Republican Party, giving it control over both houses and the presidency. As a result, only a very weak cap-and-trade system had been adopted and US interest in climate governance further reduced. China, on the other hand, had been focused on sustaining economic development in light of a troubled housing market and growing income gaps.

These domestic developments combined with the heightened tensions between the two countries have locked the G-2 into a classic Prisoner's Dilemma. As a result of the failure of the G-2 to act, the BASIC countries and other major developing economies refused to adopt new commitments at San José. The United States in turn – with the growing sympathy of other industrialized countries – challenged them to make substantial commitments to reduce carbon emissions as a precondition for US action.

Meanwhile, ambitious countries, such as the EU, Costa Rica, South Korea, and the Small Island States, failed to create momentum at the Seoul summit. The EU in particular, shying away from confronting the US and China, was again shown to lack leverage over the G-2. It was unable to lead a group of ambitious countries to form a stronger negotiation block. After the conference, individual European countries publicly questioned the validity of their previous carbon reduction commitments.

*TREND 1 CONTINUED***Climate debate becomes polarized**

Following the failure of summit in Seoul, the NGO climate community lost cohesion. Seeing no prospects for a deal within the UN framework, many activist groups became more radical, trying to get attention for their cause through ever starker activities. Criticism of large polluters, including countries and companies, became shriller. Some organizations turned actively against the UN process, claiming that it is not the right platform to solve climate change. Resulting from this, the global climate change debate became increasingly polarized. The UNFCCC secretariat now finds itself arguing with climate activists about its legitimacy. NGOs cooperating with large companies are attacked by other NGOs. Some call for civil disobedience to disrupt the carbon economy.

At this time the effects of global warming were still not strong enough to raise sufficient public concern. Footage of ever stronger tropical storms or of climate refugees from Africa fueled the intensity of the debate but also led actors to turn against each other.

Consequently, civil society organizations did not manage to cause a major shift in public opinion in most countries, developed and developing. With few exceptions, governments felt less pressured to increase their efforts on global warming than before. Instead, climate skepticism became more and more attractive.

*TREND 2 CONTINUED***Tensions in international diplomacy make climate negotiations harder**

During the second half of the decade, geopolitical and economic issues continued to define the global agenda. Nuclear nonproliferation came again into focus in 2016, after Iran was claimed to have successfully built nuclear weapons by some intelligence reports. Tensions in the Middle East and the Afghanistan-Pakistan-India region heightened. As a result, the climate change agenda lost more speed.

*TREND 3 CONTINUED***Trade disputes between US and China escalate**

After the showdown in Seoul, Chinese-US relations were at an all-time low. Diplomatic disputes over Taiwan led to a rupture in US-China relations, with China threatening the development of US technologies, including electric vehicles, through restricting exports of rare earths and crucial manufactured sub-components. A tit-for-tat trade conflict between the US and China developed, with each accusing the other of undermining free trade and the development of clean technologies. The unstable situation led to a disinvestment by Western companies and higher costs for green technologies.

*TREND 4***Investment in green technologies plummets**

With climate change having long lost its status as a top political priority, an increasing number of countries started phasing out public investment in green technologies in the second half of the decade. The number of incentive programs worldwide to encourage private investment in green technologies, higher energy efficiency standards, and low-carbon consumption declined. Geopolitical tensions had made the oil price become increasingly volatile, but not extremely high, ranging between 50\$/b and 150\$/b (at the constant price of 2010).

With a clear pricing signal thus missing, there was no major breakthrough in clean energy technology. Some improvements were gained during the last ten years in solar energy, bio-energy, hydrogen, wind power and others, but not enough to make them competitive with fossil fuels. Considering their economic interests, many investors halted or postponed plans to invest in clean-energy technologies. With fewer technological opportunities on the horizon, developing and emerging markets consequently did not build their growth strategies around clean technology and sustainable development. While countries remained concerned about energy independence, they started actively using regenerative, nuclear and fossil energy to achieve their geostrategic goals.

**TURNING POINT 2****The coalition of ambitious climate mitigators fails to gain momentum**

In the years following the 2014 Seoul summit, a loose group of actors formed, including ambitious states, regions, cities, some NGOs as well as some large companies. Their goal was to implement measures to curb global warming independently of a global consensus, hoping that a functioning architecture would gain support over time. While the initial frustration after Seoul had made many people put their hope in this approach, the idea did not gain sufficient momentum. In light of the polarized debate, most did not support a “UN+” approach, and instead advocated a completely alternative architecture, claiming the UN-FCCC had become a lame duck. Still hoping for a UN-based solution, the European Union only half-heartedly backed the idea, which left the initiative without leadership by a large global power.

After years of costly but futile attempts to shore up support and investment for a low carbon society, by 2020 the general sentiment has become one of pessimism and exasperation. Many countries likely to be affected by climate change now concentrate their efforts on adaption strategies instead of mitigation. The threat of countries turning unilaterally to risky geo-engineering strategies such as injecting sulfur particles into the air became closer to reality, further raising tensions.

Scenario 3: Patchwork Governance

Scenario 3: Patchwork Governance

Vision of the Future: A Complex, Multilayered Governance Landscape

The patchwork governance scenario is a world of fragmentation. In 2020 the UNFCCC process has largely moved away from the idea of a universal global treaty. COPs still occur at frequent intervals and serve as a focal point for discussion among all stakeholders. Yet the inability to reach a solution at the UN level has not only caused frustration, but also led to the emergence of a disaggregated of climate governance infrastructure by 2020.

The world is divided between climate leaders and laggards at multiple levels. These levels include ad-hoc groupings of progressive states, aggressive domestic actions by individual states, and substantial commitment from sub-national and non-state actors. Broadly speaking, a loosely-defined “coalition of the ambitious” including state actors as well as industry and civil society serves as the main driver for the climate governance network. Although this coalition lacks coherence and consistency and does not fill the top-level void left by the failure of the UNFCCC process, it has developed a scale and coherence to have a heavy impact on global GHG emissions change.

Climate leadership has been defined in increasingly diverse ways. Some countries continue to pioneer high-level political commitments to emissions reduction. For example, the EU has used trade policy to pressure trade partners into climate action, charging tariffs on carbon footprints of imports from countries without ambitious GHG reduction targets. The WTO has consequently become a forum in which climate governance efforts are heatedly debated. Other actors, ranging from sub-national jurisdictions such as California or the members of the C40 network of global cities, to large transnational corporations, to investor and consumer groups, to civil society networks, have announced and implemented carbon mitigation strategies. Seeking public relations and first-mover advantages, they have stimulated follow-on action throughout various industry sectors across the world.

Diplomatic hedging

The developing countries are split; many of those likely to be affected by climate change are political supporters of the bottom-up governance initiatives and increase pressure on the main emitters. For example, India has just recently given up its fence-sitting status, seeking increased leadership in the international community as well as greater opportunity for its growing energy and infrastructure sectors in a “green” economy. China has continued to pursue the creation of a domestic carbon market, but it has not achieved substantial emission reductions, and economy-wide GHG emission regulation in the US remains elusive. Additionally, heavy emitters like Australia and countries dependent on a global fossil fuel economy such as Saudi Arabia and the Gulf States take some steps to actively stymie global climate governance efforts. There are a number of fence-sitters such as countries neighboring the EU (e.g. Turkey or Ukraine), but also most ASEAN countries. The G-2 have become increasingly anxious about the development of the climate governance network, its potential impact on trade, and their participation in post-carbon industries, and have begun to question their resistance to more ambitious climate governance. As a result, both the US and China actively follow a hedging strategy that allows for some ambitious actions but stops short of binding international commitments.

Investment in green technologies grows in key sectors

Green industries are one of the fastest growing sectors of global markets in 2020. Wind power has grown rapidly in China and the European Union, while solar energy has made major inroads in niche markets such as rural water heaters. The credible efforts to curb global GHG emissions by the coalition of the ambitious has driven investment in research and development of new technology but even more so in implementation of existing technology. Overall, global investment in GHG related activi-

ties has increased dramatically. Green performance of both countries and companies has proven to be a useful indicator for the overall economic health affecting company and country risk ratings. On the other hand, the lack of coherent global climate governance has prevented institutional investors from redirecting larger money flows.

Public opinion

Public opinion has varied over the threat of global warming and what action is needed. The scientific evidence that human activities are causing massive climate disruptions is stronger than in 2010 but has not fundamentally changed public opinion. Nor are climate-related weather events frequent enough to change global opinion. The public discussion has become increasingly polarized between those convinced of the importance of acting strongly to prevent further climate change, and climate change skeptics. However, some EU countries have started to make a credible case that emission reduction is possible without compromising healthy economic development, and even offers new opportunities for

development and prosperity. These examples offer an alternative model to developing countries, encouraging them to leap-frog the carbon-heavy industrial phase. Within the countries of the coalition of the ambitious, public opinion favors strong measures against climate change. Lowering emissions has become synonymous with an improved lifestyle, cleaner and healthier environments, and even a sense of national pride. Nevertheless, climate change is not the top priority for most citizens. Any economic crisis or conflict directs attention and resources away from climate action.

Global emissions and future global warming

In the Patchwork Governance Scenario, global emissions have flattened and are expected to peak by 2030. Given that, the 2°C goal can no longer be achieved. Future scenarios predict 3 to 5 centigrade global warming by the end of the century, with significant adaptation costs.

From 2010 to Today: A Path of Ups and Downs

TREND 1

The UNFCCC process did not produce a meaningful successor to the Kyoto Protocol

Differing perceptions of the cost of emissions mitigation, the scientific case for action, and the trade-off between mitigation and growth led to the stagnation of the UNFCCC process, with major countries side-stepping the forum for substantive action. “Common but differentiated responsibilities” proved impossible to define.

Many factors precluded a successor to the Kyoto Protocol. First, China was unwilling to commit to any GHG emission target that would be monitored by an international body. Second, the US refused to join any agreement unless China committed to an emission target monitored by a credible third-party entity. As a result, the UNFCCC process lost momentum as the “engine” of global action on climate change. However, it remained an important forum for discussion on climate change and information-sharing in particular. Civil society organizations continued to organize side events at COPs and keep on lobbying governments as well as the private sector to commit to binding reduction targets.

Nevertheless, signatories of the Kyoto Protocol signed a new treaty in Seoul in 2012 (COP 18) with an emission reduction goal of 25% compared to 1990 level by 2020. The Seoul Protocol included a long list of developing countries from island states, Africa and Latin America but without China, India, and Brazil. However, while the US was initially a signatory, the Treaty was later not ratified by the US Senate thus reducing the chances of an ambitious post-Kyoto Treaty in the near future.

TREND 2

Economic issues dominate domestic agendas

In the US, many conservatives argued that higher-than-expected costs of clean technology, uncertain economic prospects (green-tech bubble), scientific complexity, and recalcitrance in China and India made aggressive emissions mitigation a losing proposition. In an increasingly competitive economy, this put a still-fragile US economic recovery at too much risk. While the Obama administration was re-elected in 2012, the Democratic Party lost its majority in both Senate and the House of Representatives. The Obama administration also did not win any mandate to enter into any internationally binding agreement on carbon emission. The economy and job creation continued to be on top of domestic agenda.

China reacted to the economic and scientific uncertainties surrounding climate change by hedging its bets, with special attention to its core concerns of domestic political, social, and economic stability. This calculus led it to pursue an energy security and diversification strategy, with co-benefits for emissions reductions and clean-tech sector growth, but without diplomatic commitments. Nevertheless, China experimented with sub-national solutions, encouraging selected cities, provinces and (state-owned) companies to play a more active part in international cooperation projects (e.g. CDM, cap-and-trade feasibility studies, technology transfer, standard development, reporting and certification).

TREND 3

Less hype, more results

Global green tech investments had continued to increase up to 2012-13. Yet after it had become clear that there will be no ambitious Kyoto-successor, parts of the private sector forecast the failure of the UNFCCC process as a whole and subsequently pulled out of the CDM and other green investment vehicles. Many actors lost their trust in the stability of the green investment climate. At the same time, a decrease in government subsidies to the green tech sector, in part motivated by a shift in focus in the US and China away from climate issues, allowed the remaining individuals and institutions to focus on the most promising and profitable new technologies and ideas that are ready for swift implementation. The existence of unique business opportunities coupled with a renewed sense of urgency and shared responsibilities emerged among green technology leaders.

*TURNING POINT 1***UN+ process initiated after COP 20 in Seoul**

After 2012, the existing UNFCCC had mostly become a forum for negotiation and consensus-building. It was no longer regarded as the primary forum for solving the climate crisis. This initiated and further solidified a mindset shift among those eager to combat climate change to go beyond the UNFCCC process. The willingness of ambitious countries to engage in new and seemingly unorthodox partnerships visibly increased. For example, the EU took preemptive action to sign results-oriented agreements with cities, regional networks, businesses, universities, unions and NGOs worldwide. As a first confidence-building step, the EU co-published a paper entitled “The UN+ process” with an alliance of international NGOs on the next policy steps to complement the UNFCCC process. The UNFCCC Secretariat adopted a constructive approach to this shift, engaging with individual governments, industry, and civil society actors to promote the UN+ process, which took place outside the formal, intergovernmental negotiations.

*TREND 4***Phoenix from the ashes: Coalition of the ambitious adopts voluntary actions towards Greenhouse Gas Emissions reduction**

Given the global deadlock, a host of new actors decided to take matters into their own hands. A core of private sector actors, led by the insurance industry, large institutional investors, and a number of clean-technology entrepreneurs, began an aggressive effort to promote climate sustainability, viewing a low-carbon future as a major market opportunity. In parallel, a multitude of actors including important sub- and supra-national entities and corporations concluded that they are better off betting their futures on a renewable rather than fossil-fuel future. For example, over 1,500 mayors from the 50 states, the District of Columbia and Puerto Rico, representing a total population of over 100 million citizens signed the U.S. Conference of Mayors Climate Protection Agreement and voluntarily committed their cities to the Seoul Protocol. C40 Cities Leadership Group expanded into a group of 400 cities around the world in 2016. Seventy major companies established a Green Investment Fund, with oversight by a prominent board, which helped to lend momentum and credibility to private-sector efforts.

Individual states such as South Korea are able to demonstrate that its “Green Growth” strategy - initiated by President Lee Myung-bak in 2009 – translated into measurable and sustained economic benefits (e.g. foreign direct investment and the number of green technology patents held by local companies and universities).

Leading companies in energy-intensive sectors such as oil and gas extraction and refining, chemicals, cements, and metal production, as well as the transportation sector, such as automobile and airlines, self-organized through trade organizations to uphold voluntary emission reduction targets. Foreseeing and understanding the increasing ease of measuring and exposing their carbon footprint by non-governmental organizations, it became conventional wisdom for corporate executives to actively define the scope of their negative impact on society. Starting in 2012, many industries formed Working Groups to set self-regulating framework using the World Economic Forum as a platform.

TREND 5**Increasing public and policy entrepreneurship**

At the same time, the general frustration concerning the failure of the UNFCCC process led important stakeholders to go further with voluntary actions. First, the EU expanded its Emissions Trading Scheme, inviting cities, universities, companies, and local networks around the world to participate as well. Moreover, it moved ahead with the introduction of unilateral climate-related tariffs for all products sold in the EU (linked to ETS participation). Together with the UNFCCC+ process, this move created major international tensions, particularly at the UNFCCC secretariat and the WTO. To appease some of its critics, the EU set up a dedicated multi-billion euro fund to support developing and emerging countries, especially in the BASIC countries and Mexico, helping to bring them into the coalition of the ambitious. Within the UNFCCC+ framework, the EU worked with investors, insurance companies and multinationals to finance international cooperation projects and technology transfer.

Second, the ensuing international debate created new momentum for an emerging international NGO platform focusing on climate issues. Global media attention was on the rise and NGOs used this opportunity to successfully frame natural disasters as a result of climate change. They managed to use existing scientific evidence to create a strong narrative. Unsuspected support came from security-oriented organizations including the US military, which increasingly viewed climate change as a security threat. Rising energy prices, migration flows and the potential for resource wars (e.g. over water) all contributed to a changing mindset in large parts of the global military community.

Powerful critics of climate change, including to some extent the G-2, but also oil exporters and large emitters as well as fiscal fundamentalists, rallied against this new coalition. Additional support came from a growing number of businesses that aimed to position themselves as being the true green leaders. Alongside PR and CSR considerations, these companies wanted to gain first-mover advantages in the emerging green economy, and avoid potential backlashes, tariff-related and otherwise, from dirty products. Consumers were generally aware of the climate crisis and their potential role in providing a solution, but they were not a trigger for grand-scale social change. Public opinion continued to split globally and within countries.

TURNING POINT 2**Patchwork governance organizes itself**

In an attempt to coordinate the vast variety of efforts to curb global warming, a “coalition of the ambitious” formed out of the informal talks hosted by the UNFCCC secretariat consisting of states, regions, cities, but also large NGOs, private companies and academic institutions. The stated goal was to establish the UNFCCC as a crucial platform for debate and information sharing but also to provide the necessary monitoring capacity for existing carbon abatement efforts.

By the end of the decade, this UN+ network had created significant traction, starting to have substantial impact on the global GHG emissions. The set of bilateral agreements and self-regulation initiatives it included was expected to expand significantly adding up to the necessary carbon reductions to curb global warming – albeit roughly a decade later than originally hoped for.

Policy Recommendations

The central insight to emerge from the scenarios is that governments, multilateral organizations, industry, and civil society should broaden climate governance beyond the search for a global treaty. Even in the unlikely event of a successful global treaty, the emphasis of climate governance will shift to the level of regions, cities, and businesses. For the US and China, it suggests the need to promote a “bottom-up” approach to combating climate change. For the EU and civil society, it suggests the need to facilitate emissions reductions networks among willing partners. For the UNFCCC, confronting decentralized climate governance means adopting a more inclusive approach that recognizes the efforts of non- and sub-state actors, while for industry, sectoral partnerships and voluntary emissions reductions will likely increase in importance. In this new world of climate governance, the dream of a comprehensive, global treaty needs to be replaced by a more realistic assessment of how a network of decentralized actors can achieve meaningful emissions reductions over the coming decade.

Though the recommendations below lay out concrete steps policymakers can take to build an effective and feasible climate regime, we believe more thinking is needed to envision and implement a truly successful “UN+” governance architecture. We thus encourage participants and observers of climate governance to think expansively about specific policies and projects that can drive climate solutions forward in the absence of a binding multilateral treaty.

Policy Recommendations for the European Union

Our scenario analysis indicates that if the UNFCCC process continues to stall, the EU will likely be the single most important actor in kick-starting a multilayered and networked global climate governance structure. In order to further solidify and expand Europe's position as a prime research and production base of green technology and to protect Europe's credibility at the global level, member states of the EU and the EU Commission must reclaim leadership in all major formal and informal global climate governance talks. Accordingly, the EU should develop and follow a "UN+" strategy. By engaging a multitude of actors on all levels, the EU can make itself the nucleus of a new multilayered and networked climate governance structure. The goal is to create a "coalition of the ambitious" which, with its actions, can achieve significant cuts in global emissions despite a stalling UNFCCC process.

Actively enlist the support of ambitious developing and emerging countries, such as Costa Rica, Mexico, the small island states and others.

- EU institutions such as the Directorates for external development assistance, environment, trade, culture (soft diplomacy), justice (consumer protection) and the European Investment Bank should pool their resources and provide coordinated fast-track climate-related assistance (loans, research grants, consulting, monitoring, project finance, technology transfer) to developing countries willing to undertake emissions cuts.

Open negotiations with non-state players such as regions, cities, NGOs and companies.

- The EU should encourage and facilitate voluntary emission targets by these players, using the tools described above to provide incentives. Additionally, the EU should use its summoning power to host multilayer climate talks.

Push for strict and transparent monitoring, evaluation and professionalism in the UN+ structure.

- The EU should insist that voluntary emissions reductions targets made within the UN+ framework be verifiable, and provide resources for monitoring compliance
- The EU should build and provide greenhouse gas emissions monitoring capacity, by funding research and monitoring services e.g. at universities and think tanks.

Increase the cost of not participating in the UN+ structure.

- The EU should rattle the sabre of green tariffs starting with a feasibility study on implementing import tariffs in the EU based on carbon emissions of the imported product.

Build support for UN+ focus.

- The EU should actively push other key climate actors – states, but also international institutions and civil society groups – to engage beyond the UNFCCC.

Seed-fund a European alliance of NGOs dealing with climate change issues.

- The EU should co-sponsor a joint agenda with NGOs to participate in subsequent engagement campaigns globally.

Policy Recommendations for China

Our scenario analysis indicates that China's decisions, along with those of the United States, will largely determine the shape of global climate institutions in the post-Kyoto era. Its domestic initiatives, including energy intensity reductions and clean-technology investment, reflect substantial concern for the adverse effects of climate change, including declining food production, increased flooding, and vulnerability to shortages of fossil fuels. However, in order to ensure that its interests are met and that dangerous climate change is averted, China needs to more fully engage the multilateral UNFCCC process while strengthening its own unilateral efforts and linking them to global networks. In particular, Chinese policymakers should adopt a more ambitious decentralized approach to climate governance that encourages bottom-up initiatives to lower greenhouse gas emissions while accomplishing other goals such as air pollution reduction and rural poverty reduction.

Affirm China's commitment to the UNFCCC process, but also expand its agenda beyond global treaty negotiations.

- Propose and lead “mini-lateral” initiatives on concrete goals including sectoral emissions commitments, regional cooperation, and technology exchange agreements.
- China should promote local -to-local cooperation with other countries, and especially the US. Existing efforts linking governments, companies, research institutes, universities, and NGOs must be brought to a far larger scale. Such programs will be most effective if they are linked to networks of peers around the world who are taking similar initiatives.

Strengthen existing domestic efforts

- China should accelerate its transition to a lower-carbon economy by decreasing dependence on exports and eliminating subsidies for highly-polluting industries, in particular decreasing export rebates for energy intensive products such as iron and steel while at same time easing

Western concerns related to China's trade imbalance.

- China should start with its power sector for a pilot semi cap-and-trade system, whereby the cap would strengthen over time at a rate tied to economic growth. However, a strict incremental rate would guide this process, and flexible measures such as renewable energy credits could be used to control the abatement cost and also to promote the growth of green industries.

Empower sub-state actors to become climate leaders in global networks.

- Expand positive incentives for regional governments and regional officials that devise and implement climate reduction policies. China should pilot absolute greenhouse gas emissions initiatives in more developed regions. Developing absolute emissions reductions targets in areas such as Guangdong, Shandong, and Shanghai, which are expected to reach middle-income development status, can help to promote low-carbon industry while providing a powerful symbol of China's commitment to addressing the climate issue.
- Encourage firms and civil society to take leadership on climate governance. Voluntary initiatives can augment government environmental goals. China has yet to fully exploit the governance advantages provided by civil society advocacy and corporate social responsibility.
- Such initiatives can be most effective when Chinese governments, firms, and civil society groups are linked to their peers abroad in knowledge-sharing and capacity-building networks.

Policy Recommendations for the United States

A majority of Americans want to see policymakers move to prevent climate change and switch the economy to cleaner, safer, homegrown energy. But the close partisan divide in Washington has thwarted these goals. As the scenarios demonstrate, the United States now risks not just blocking global efforts to mitigate climate change—and thus bearing the full cost of future climate disruptions at home and around the world—but also being left out of the global shift to a low-carbon economy.

To avoid these dangers, policymakers, NGOs, and firms in the United States need to move the battle against climate change out of the US Congress and beyond the UNFCCC process. Fortunately, no country in the world has more experience with the kind of decentralized, bottom-up, multi-sectoral approaches recommended below. By building upon these achievements, the United States can still become a global leader in the fight against climate change.

Push for a UN+ approach to climate governance at the global level.

- The US delegation should push the UNFCCC to officially recognize a network approach to climate governance.
- The US President should join with other world leaders to call other actors to join together in a coalition of the ambitious.
- The federal government should, along with other developed countries, provide technical and material aid to entities in the developing world – states, sub-national governments, private organizations – that wish to reduce emissions voluntarily.

Provide moral and material support to a “bottom-up” approach to climate change.

- Building on the Obama Administration’s commitment to reduce its own emissions, the federal government should encourage other actors in the United States to follow suit and provide them with the material resources to do so.

- Establish a program to assist state and local governments looking to reduce greenhouse gas emissions. Such a program would help sub-national governments establish their own reduction programs by providing expertise (for example, regarding setting up carbon markets) and resources.
- Expand government-sponsored voluntary emissions reductions commitments for corporations. The legitimacy, prestige, and convening-power of the federal government can make a more effective voluntary reductions program than private groups can create on their own. If the program is developed with adequate transparency and monitoring elements it could have a substantial impact on emissions.
- Link regional U.S. carbon markets to carbon markets around the world. Emissions trading is most effective when it includes a wide range of buyers and sellers. Making the currency of US carbon markets exchangeable with others around the globe will make reductions more cost effective.

Commit to specific emissions reductions at state and local level

- State and local governments in the United States should move ahead where Congress cannot. Sub-national governments are becoming the frontline of efforts to mitigate climate change.

Policy Recommendations for the UNFCCC Secretariat and Member States

The pictures of a patchwork governance structure as well as a global stalemate painted by the scenario analysis suggest that the UNFCCC risks being marginalized in the fight against climate change. In order to hedge against such risks and prepare for the world's nations to reach an ultimate agreement, the UNFCCC secretariat and member states should aim to strengthen its role as the focal point of global climate governance. To do so, it is critical for the Secretariat to avoid a sense of competition with other emerging national and sub-national governance structures but rather to position itself as an overarching institution that links and empowers them.

Employ administrative and advisory power to move the process away from an all-or-nothing dichotomy.

- This dichotomy gives the impression that countries either come to a comprehensive agreement or fail their responsibilities to avoid climate disaster.
- Retool the process to accommodate the passing of global agreements on certain agenda items rather than all of them at once.
- Divide agenda items into smaller, more layered, and thus more manageable pieces.
- Categorize certain issues as technical ones and assign them to specialized committees.

Link various emerging governance systems to the UNFCCC.

- Taking proactive action to address interoperability between emerging systems is necessary to re-affirm the UNFCCC's role as an overarching governance structure. The legitimacy of the UNFCCC process gives it significant leverage over other governance initiatives.
- Establish criteria and mechanisms through which actions done through other governance systems can be recognized.

- Develop rules and mechanisms for emissions trading through which one system can accept credits from another system.

Host and structure an open and web-based registry for emerging governance systems and initiatives.

- This will facilitate information flow as well as positioning the UNFCCC Secretariat as an information hub that gives structures to other systems.
- Provide incentives for emerging governance systems to register by providing insights and advice based on the latest UNFCCC negotiations.
- Penalize governance systems that do not register with the Secretariat by excluding their results from the possibility of counting towards national commitments.

Policy Recommendations for Business

Business is likely to have to contend with a fluid and complex climate governance landscape in the next decade. Our scenario analyses indicate that climate governance is likely to become more fragmented, with some countries, localities, and companies taking aggressive actions to lower greenhouse gas emissions even in the absence of a comprehensive, global agreement. These risks can be managed by self-organizing collective governance standards. Business should prepare for inconsistency and variation in climate policy by taking voluntary actions that emphasize collaboration across industrial sectors, governments at all levels, and civil society actors.

Prepare to take the lead

- Even in the absence of overarching national or international climate legislation, business should seize public relations and first-mover advantages by voluntarily reducing emissions. Such efforts should emphasize co-benefits such as lower energy costs, cleaner air, and greater efficiency.
- Dialogue with civil society actors, such as NGOs, can aid business understand future trends in climate policy and can help to maximize the public relations advantages of adopting greenhouse gas emissions reductions.

Emphasize sectoral partnerships

- In a fragmented, decentralized climate governance landscape, collaboration across sectors can help reduce the costs and complexity of compliance with different regulations and policies.
- Sectoral collaboration can also help business adapt to rapidly evolving climate policies and reduce risk.

Develop profitable solutions

- The incentives currently supporting investment in clean technologies will change, with some to be replaced or eliminated while others may be expanded. For example, the Clean Development Mechanism and subsidies for renewable energy technologies will likely be phased out.
- Businesses should shift their attention toward developing profitable products and services in the absence of subsidies.

Policy Recommendations for Civil Society

The evolution of climate governance over the next decade will present both opportunities and challenges to civil society. At certain key points, such as the aftermath of climate-related natural disasters or contentious COP meetings, civil society may play a crucial role in coaxing reluctant governments to compromise and push international or regional greenhouse gas emissions reduction treaties. Civil society may also be able to pressure governments in China, Brazil, India, the United States, and elsewhere to strengthen climate-related policies. To seize these opportunities, civil society actors should reach internal consensus on priorities, strategies, and bargaining chips, and engage with a range of actors beyond the UNFCCC process. For many organizations, this will mean a new emphasis on transnational partnerships, and paying greater attention to the development of a common narrative and lobbying strategy. Civil society was instrumental in building expectations for a “global deal” solution. As the prospect of having a globally binding commitment in the near term fades and the probability of other scenarios rises, civil society can be equally effective in unleashing energy for other governance initiatives.

Advocate the idea that UNFCCC is not necessarily the only legitimate governance structure.

- Opinion leaders should change the public mind-set away from an all-or-nothing dichotomy where the world either achieves a global agreement or expects climate disaster.
- Investigate the possibility of a polycentric approach to climate governance that can yield effective emissions reductions actions in the coming decade and explain it to key stakeholders.
- Applaud constructive actions taken by sub-state governments and private organizations that are outside of the UNFCCC governance structure.
- At global talks, emphasis should shift from a global deal to specific projects. Reducing Emissions from Deforestation and Forest Degradation (REDD) and Measurement, Reporting,

and Verification of emissions reductions (MRV) are examples of technical solutions that result from the involvement of civil society experts.

Lobby governments at all levels to take unilateral actions to stem emissions.

- NGOs should help local governments and companies to achieve energy efficiency and reduced emission by transferring technological know-how.
- NGOs should lend legitimacy to effective government schemes at all levels. At the same time, they should hold governments to account.
- NGOs should build government capacities by forming cross-country and sector-wide network to collect, catalogue, and disseminate knowledge and tool kits.

Press companies to take voluntary efforts to reduce their climate impact.

- Developing sector-specific policy frameworks will complement the UNFCCC process, as corporations may lack in-house climate policy expertise, and may also lack connections with the UNFCCC process.
- NGOs should where possible broker public private partnerships in the areas of financing and technology transfers. In China, for example, the expertise of environmental NGOs in developing regulatory structures for tradable emissions control schemes in developed nations has contributed to the development of similar systems.

About this Report

This report was produced within the framework of the Global Governance 2020 program organized by the Global Public Policy Institute in Berlin in collaboration with partner institutions in the US (Princeton University and Brookings Institution), China (Fudan University and Shanghai Academy of Social Sciences), and Germany (Hertie School of Governance).

GG2020 brought together 24 young thinkers from the United States, China and Germany, for three meetings in Berlin (17-21 January 2010), Shanghai (11-15 July 2010) and Washington D. C. (16-20 January 2011). During these meetings, the GG2020 fellows jointly developed a shared vision for the system of global governance in the year 2020 and beyond with a particular focus on the global challenges of global climate governance, nuclear non-proliferation and disarmament as well as global economic governance.

This report reflects the work and findings of the GG2020 working group on global climate governance. The diversity of the working group members in terms of origin, background and expertise represented a crucial asset for jointly working towards globally effective while regionally feasible solutions.

The working group made extensive use of the intellectual instruments provided by the field of future research, including trend analysis and scenario planning, in order to jointly explore possible future developments in global climate governance. To produce innovative and high-quality results, GG2020 fellows were trained in these approaches by an expert from the private sector. During the three sessions, the working group also met with leading academic experts and policy-makers in the field of climate change from all three countries to gather their input, opinion and advice. For more information please visit www.gg2020.net.

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