Breaking the Deadlocked Climate Change Negotiations

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Breaking the Climate Change Negotiation Deadlock

Abstract

Climate change negotiations have been deadlocked since 1997 because different negotiators have different perceptions about the negotiation game. This study contributes to our understanding of the causes of deadlocks, demonstrates how the hypotheses apply to the climate change negotiations, and proposes a credible strategy for breaking the deadlock in climate change negotiations. While the rest of the world has been focusing on greenhouse gas (GHG) reduction targets, China and the US are primarily concerned about energy security, industry protection, and technology access. These differing approaches, which constitute misperceptions about the nature of the negotiations, have produced little hope of an international agreement on GHG reductions. However, there is a solution—the right players need to be negotiating prerequisite agreements first. A hypergame analysis provides the basis for a procedure that reconfigures the negotiation game into an ordered set of negotiable issues that are prerequisites to negotiating GHG emission reductions.
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Introduction

Thirteen years have passed since the 1997 Kyoto Protocol, and the recent 2009 Copenhagen meeting also failed to achieve meaningful results. On the other hand, climate change is an extremely serious global problem.\(^1\) Why are countries unable to agree to significant greenhouse gas (GHG) reductions? Why have negotiations been deadlocked for more than 13 years? Can the deadlock be broken?

Deadlocks in international negotiations have been studied in a variety of contexts.\(^2\) Narlikar’s work is particularly valuable, providing a conceptual framework consisting of six hypotheses about the causes of deadlocks: 1) narrow zone of agreement, 2) uncertainty and distrust, 3) balances of power, 4) inappropriate institutional structures, 5) perceptions of unfairness, and 6) domestic opposition.

In addition to Narlikar’s framework, game theory is also a useful tool for analyzing negotiations.\(^3\) The simplest negotiation games occur when all negotiators have “complete information” about the issues, the negotiators’ strategies, and the payoffs from these strategies. However, complete information is often unavailable for a variety of reasons\(^4\) so some negotiators may have misperceptions about the issues, the strategies, and/or the payoffs. These negotiation games are called games with “incomplete information.”

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\(^1\) Pachauri and Reisinger 2007.


\(^3\) For example, see Avenhaus and Zartman 2007; Brams 2003.

\(^4\) Devetag and Warglien 2008; Narlikar and van Houten 2010.
There are three approaches to analyzing games of incomplete information. The first approach uses cardinal values, probability distributions, and Bayesian belief updating. However, this well-known method is difficult to apply to real-world games because it actually demands even more information (probability distributions) and it is doubtful that these models can capture the decisions of real-world negotiators.

The second approach differs from the first in two significant ways. First, values are modeled more realistically as relative ordinal preferences. It is more likely that a negotiator can rank the possible outcomes from most to least preferred than that he can calculate accurate cardinal values. Similarly, he can better guess the order of other negotiators’ outcome preferences than their actual values. Second, the game played by each player is modeled separately, based on the perceptions of each player, and the perceived games of the individual players are linked as a “hypergame.”

A third approach was developed to support military strategists. This is a hypergame method (like the second approach) but uses probability distributions (like the first approach) across the possible subgames that can be played by the opponent. Applying this to negotiations would be difficult because it assumes that the strategist knows about all the opponent’s possible misperceptions and knows the probability of their occurrence.

5 See any game theory textbook, for example Myerson 1991, 74-83.

6 Hypergames have been applied to several international conflicts and negotiations: Bennett and Dando 1979; Fraser and Hipel 1984; Fraser, Wang, and Hipel 1990; Hipel, Dagnino, and Fraser 1988; Inohara, Hipel, and Walker 2007; Okado, Hipel, and Oka 1985; Said and Hartley 1982; Shupe, Wright, Hipel, and Fraser 1980; Wang 1993; Wang and Hipel 2009; Wang, Hipel, and Fraser 1988, 1989.

7 Vane 2000, 2006; Vane and Lehner 2002.
The second approach, using ordinal preferences and hypergames, is best suited to modeling international negotiations. Therefore, this study uses a hypergame analysis as a foundation to make three contributions to our understanding of deadlocks in international negotiations. First, it contributes to our understanding of the general causes of deadlocks using Narlikar’s framework. The study of misperceptions leading to hypergames is an addition to Narlikar’s hypothesis 2 (uncertainty and distrust). Second, this study demonstrates misperceptions and other hypotheses apply to the climate change negotiations. Third, it proposes a credible strategy for breaking the deadlock in climate change negotiations.

**Misperceptions as a Cause of Deadlock**

Despite the repeated failures of climate change negotiations, the same GHG reduction issue is negotiated repeatedly in different forums and different locations, with the world hoping that maybe agreement will be reached this time. UNFCCC negotiations have been held annually since 1997 in Kyoto, Buenos Aires, Bonn, The Hague, Marrakech, New Delhi, Milan, Buenos Aires, Montreal, Nairobi, Bali, Poznan, Copenhagen, and Cancun, and climate change has been frequently discussed in the meetings of the G8 and G20. Why do negotiators persist in trying to negotiate the same issue again and again despite repeated failure?

Previous analyses of this deadlock have focused on ideas to expand the zone of agreement, which is Narlikar’s hypothesis 1. These ideas relate to tweaking the details about the timing and amount of GHG reduction, side payments to developing countries, details about emissions trading and taxes, the relative value of carbon sinks, distribution of costs and benefit, and so

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8 Frankel 2007.
10 McKibbin and Wilkoxen 2007.
Because this issue is being negotiated by government leaders, tweaking the technical details does not facilitate agreement. However, this deliberate repetition of failed attempts makes some sense if we hypothesize that the negotiators are misperceiving the game. When misperceptions occur, effectively different negotiation games are being played by different groups of countries but each group behaves as though all groups are playing the game that it perceives. Our hypothesis is that China and the US are playing one game and the rest of the world is playing another.

China and the US are by far the world’s largest GHG polluters, together producing over 40% of the world’s total. Russia, India, and Japan follow far behind with about 6%, 5%, and 4% respectively. However, China and the US are more concerned about issues other than, but related to, GHG reductions—energy security, industry protection, and technology access. This is the key to understanding the misperception problem. China and the US are considering these other issues during GHG reduction negotiations but the rest of the world behaves as though there were just one issue on the table. Thus, two games are being played—one as it is perceived by China and the US (C,US) and the other as it is perceived by the rest of the world (ROW). I denote these two games as \( G_{C,US} \) and \( G_{ROW} \), respectively. The combination of these two games is a hypergame.

**Negotiation Game Perceived by ROW**

ROW perceives a negotiation game in which China, the US, and ROW each have two options—committing or not committing to significant GHG reduction targets (third column in

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11 Kurz, Stinson, Rampley, Dymond, and Neilson 2008; van Kooten 2009.

12 Vezirgiannidou 2010.

13 EIA 2008.

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How does ROW appear to perceive the preferences for China, the US, and itself? ROW’s repeated return to the table to get agreement on GHG reductions implies that they perceive that all three players will favor GHG reductions in the current round. From this perspective, we can propose some plausible preferences perceived by ROW for the three negotiators in this game. ROW believes that China prefers the outcome in which all countries agree, followed by the preference for the outcome in which China and the US reduce, then the outcome in which the US and ROW reduce, and lastly the outcome in which China reduces but not the US. ROW’s perceptions about the US preferences would be similar, with the US preferring the outcome in which all countries agree, followed by the outcome in which China and the US reduce, then the outcome in which China and ROW reduce, and lastly the outcome in which the US reduces but not China. ROW perceives its own perceptions as generally favoring more agreement over less agreement. Using the usual stability criteria, we find the preferred outcome of this game to be that in which all the negotiators agree to GHG reduction.

**Negotiation Game Perceived by China and the US**

China and the US have been reluctant players with ROW in the negotiation games for GHG reductions because they perceive the game as having additional critical issues. China and the US perceive a negotiation game in which all three negotiators have the option of committing to GHG reductions, as in $G_{ROW}$, but in addition, the US prefers the strategy of protecting its GHG-intensive industries, China prefers the strategy of obtaining access to clean energy technology, and both have concerns about energy security strategies (fourth column in Table 1).

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14 Fraser and Hipel 1984.
Table 1
The Hypergame Consisting of $G_{ROW}$ and $G_{C,US}$

<table>
<thead>
<tr>
<th>Negotiator</th>
<th>Strategies</th>
<th>$G_{ROW}$</th>
<th>$G_{C,US}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>1 Commit to significant GHG reduction targets.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>2 Establish treaties for energy security.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>3 Obtain access to clean energy technology.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>US</td>
<td>4 Commit to significant GHG reduction targets.</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>5 Establish treaties for energy security.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>6 Protect GHG-intensive industries.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Rest of World</td>
<td>7 Commit to significant GHG reduction targets.</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Both China and the US have huge energy requirements and are concerned about their future energy security. Within the G20, the US, Japan, and China have the largest and fastest-growing need for imported oil.\textsuperscript{15} China and the US are currently self-sufficient in natural gas but China will need to import gas, not only because overall energy demand is growing but also to support its intention to curtail environmental damage by shifting from coal to natural gas. China and the US are unilaterally implementing several strategies to deal with energy security—creating reserves, expanding tanker fleets and pipeline networks, improving national efficiencies in internal distribution and consumption, and diversifying to nuclear and renewable energy technologies. These strategies should have no adverse effects internationally. On the other hand, bilateral strategies of negotiating diverse supply sources, acquiring overseas oil fields, building joint venture refineries with oil-supplying countries, and implementing diverse routes of delivery create a potential for China-US conflict as the global supply of oil and gas is depleted.

The US is a developed country with mature industries to protect, and these industries exert a strong domestic influence on potential international agreement. Therefore, as signaled by Section 768 of the American Clean Energy and Security Act, the US will not accept cost disadvantages in GHG-intensive industries such as aluminum, cement, steel, chemicals, and petroleum refining.

China has made commitments to invest in clean energy technologies. However, a significant amount of research, development, and demonstration (RD&D) is required for the short-term mitigation of emissions from GHG-intensive industries and long-term replacement with clean technologies. There is a gap between the current annual $5 billion funding for global

\textsuperscript{15} EIA 2008.
RD&D and the required annual funding of $37 to $74 billion estimated by the International Energy Agency.\textsuperscript{16} A meaningful agreement would include a commitment to close this gap, but this is too high a cost for a single country to bear.

We use a single game for China and the US because it is plausible that they perceive each other’s strategies. With seven strategies, there are 128 possible outcomes. However, these can be reduced to 34 feasible outcomes because of two types of infeasibility perceived by China and the US. First, they would not consider feasible an agreement to reduce GHG emissions that does not include both of them. Second, GHG reduction commitments are not their immediate priorities. Neither will commit to GHG reductions without securing their energy supplies, the US will not make any commitments without protections established through product and process standards for GHG-intensive goods, and China will not commit to GHG reductions unless it has access to renewable energy technologies.

China and the US perceive that China’s strongest preference is not to make significant GHG reductions, followed by a preference for its own energy security and access to technology, followed by a preference for the other negotiators to reduce their GHG emissions. Similarly, China and the US perceive that the US’s strongest preference is not to make significant GHG reductions, followed by a preference for its own energy security and protection, followed by a preference for the other negotiators to reduce their GHG emissions. China and the US perceive that ROW’s strongest preference is for an agreement on GHG reductions and that ROW is indifferent to outcomes that do not include GHG reductions. Using these preferences, the preferred solution for $G_{C,US}$, determined with the support of the software package GMCR II,\textsuperscript{17} is

\textsuperscript{16} IEA 2009.

\textsuperscript{17} Fang, Hipel, and Kilgour 1993; Fang, Hipel, Kilgour, and Peng 2003a, 2003b.
the outcome that includes agreement on all issues except for China and the US not agreeing to GHG reductions.

The solution to the hypergame consisting of $G_{ROW}$ and $G_{C,US}$ uses outcomes preferred by ROW for itself in $G_{ROW}$, and the outcomes preferred by China and the US in $G_{C,US}$. Therefore, ROW chooses to agree to significant GHG reductions; China and the US choose to not agree to GHG reductions but to pursue their other strategies for energy security, industry protection, and technology.

*Deadlock from Misperceptions in the Hypergame*

This hypergame solution with respect to GHG reductions explains the negotiation deadlock that we have observed since 1997. The deadlock results from the fact that several strategies that are important to China and the US are not important to ROW. This analysis points us directly to the deadlock solutions, namely dealing with the concerns of China and the US as prerequisites to negotiating GHG reductions.

In the next two sections, we reconfigure the negotiation game by restructuring and ordering the negotiators and single-negotiator strategies into focused, single-issue games that will have a lower potential for misperception and a higher potential for agreement. Reconfiguring the negotiators results in China and the US negotiating first, and then expanding the agreement to the rest of the G20 and beyond. Reconfiguring the issues transforms unilateral concerns into sequenced, multilateral issues to take advantage of prerequisite relationships.

*Reconfiguring the negotiators*

The UNFCCC consensus rule is a recipe for paralysis because it is impossible to obtain agreement among 190 negotiators on a problem as contentious and costly as GHG reductions.
Research in coalition formation has been conclusive on this point.\textsuperscript{18} A small group of countries must agree to move forward together, eventually expanding the size of the group. Reconfiguring the negotiators is a strategy related to Narlikar’s hypothesis 4 (inappropriate institutional structures). The theory of coalition formation has also shown that meaningful agreement is most likely when negotiators have similar interests.\textsuperscript{19} In this case, China and the US are the world’s largest energy consumers, they produce the most GHGs and carbon dioxide, they are both reluctant to commit to the high cost of developing alternative clean technologies, and they are the most concerned about energy security. China is unwilling to significantly reduce GHGs unless the US does, and vice versa. Unless these two agree, a broader agreement is not possible.

One technical study\textsuperscript{20} and two opinion pieces \textsuperscript{21} maintain that significant global problems must be negotiated first in smaller groups and then expanded, and Bergsten explicitly proposes starting with the G2 of China and the US. Using Erik Gartzke’s database\textsuperscript{22} of diplomatic affinity in the UN General Assembly, we can calculate diplomatic influences among the G20 countries. It is likely that any deal China accepts will be acceptable to Brazil, India, and Russia, and that any deal the US finds acceptable will be satisfactory to the EU and Japan. Based on these influences, the agreement could expand in three phases as follows (see Figure 1):

**Phase 1:** China recruits \{India, Indonesia, and Saudi Arabia\}.

US recruits \{Australia, Canada, EU, and Japan\}.

\textsuperscript{18} For a summary, see Carin and Mehlenbacher 2010.

\textsuperscript{19} Carin and Mehlenbacher 2010.

\textsuperscript{20} Chou and Sylla 2008.

\textsuperscript{21} Bergsten 2008; Naim 2009.

\textsuperscript{22} Gartzke 2010.
Phase 2: China and {India, Indonesia, and Saudi Arabia} recruit {Argentina, Brazil, and Mexico}.

{Australia, Canada, EU, and Japan} and {India, Indonesia, and Saudi Arabia} recruit {South Korea and Turkey}.

Phase 3: China and {India, Indonesia, and Saudi Arabia}, {Argentina, Brazil, and Mexico}, and {South Korea and Turkey} recruit {Russia and South Africa}.

Of course, this is just one possible scenario for expanding the agreement. Other scenarios could be planned using other measures of diplomatic affinity, including subjective affiliative networks among the G20 leaders.
Figure 1
Expanding the Agreement (Based on data provided by Erik Gartzke, UCSD)
Reconfiguring the Issues

In many circumstances, using step-by-step (or multistage) negotiations has advantages over the approach in which all parties negotiate all issues in one bundle. In order to reconfigure the negotiation across issues, we use the unilateral strategies that China and the US prefer to the strategy of GHG reductions. The US preference for protecting its GHG-intensive industries can be transformed to be a negotiation on product and process standards and border taxes on GHG-intensive goods that do not meet the standards. China’s preference for access to clean energy technology can be reconfigured to be a negotiation to establish an RD&D collaborative. The shared preference of China and the US for dealing with energy security concerns can be expanded to negotiating a multilateral treaty with coordinated strategies for security of non-renewable and renewable energy supplies.

The most fruitful approach to determining the order of these issue negotiations is to think of them in terms of prerequisites. Will it help the negotiation of one issue if it has been preceded by the successful negotiation of another? There are no obvious prerequisites for negotiating the product and process standards or the RD&D collaborative. However, the energy security issue has two components: securing supply agreements for non-renewable GHG-intensive energy and replacing carbon energy technologies with renewable clean energy technologies. The importance of clean energy to the issue of energy security makes it crucial to negotiate the terms of the RD&D collaborative before negotiating the energy security issue.

Converting US Protection to Multilateral Product and Process Standards

As signaled by Section 768 of the American Clean Energy and Security Act, the US will not accept cost disadvantages in GHG-intensive industries like aluminum, cement, steel, chemicals, and petroleum refining. That is, foreign competitors must be subject to the same emission control standards as US firms. A *multilateral* approach would support and extend current initiatives to establish global product and process standards for achieving GHG reductions across an industry. Three groups currently establish such standards:

(1) Industry partnerships like the Cement Sustainability Initiative, the International Aluminium Institute, and the World Steel Association have member companies in China and the US, and are among the most dynamic initiatives under way. The Cement Sustainability Initiative is revising product standards and working on initiatives for construction codes, government purchasing standards, and carbon capture and storage; the International Aluminium Institute is establishing process standards for significant GHG reductions; and the World Steel Association is focusing on establishing standards for the collection and reporting of CO$_2$ emissions by steel plants.

(2) The GHG Protocol Initiative—a partnership of the World Business Council for Sustainable Development and the World Resources Institute—provides standards and guidance to companies and other organizations preparing GHG emissions inventories. The GHG Protocol developed the Corporate Standard that serves as the accounting framework for international standards on six greenhouse gases. The International Organization for Standardization adopted ISO 14064 as the Corporate Standard to promote consistency in the design, development, and implementation of comparable GHG programs. ISO 14064 is used as the global standard for quantifying and reporting on GHG emissions and removals.
(3) The public-private sector task forces in the Asia Pacific Partnership for Clean Development and Climate analyze existing standards and propose new standards for the aluminum, cement, and steel industries in China, the US, Australia, Canada, India, Japan, and South Korea.

A China-US agreement can extend the accomplishments of these organizations by providing significant funding and political promotion. The issue of product and process standards involves setting future standards, adopting a reasonable but aggressive implementation schedule, and establishing a multilateral trade agreement that legitimizes border taxes on GHG-intensive goods that do not meet the standards.

This is a simple “product and process standards” negotiation game focused on a single issue and is likely to lead to successful agreement. A negotiation game model would simply show agreement or no agreement on the single issue. The benefits of agreement for the US are clear because the agreement would be consistent with Section 768 of the American Clean Energy and Security Act. Agreement would also be in China’s best interests because it would define the rules of trade with its largest customer. This prerequisite is an example of a deadlock solution related to Narlikar’s hypothesis 6 (domestic support) because, with these protection mechanisms in place, US domestic opposition to GHG reductions will abate significantly.

Converting China’s Demand for RD&D to a Multilateral RD&D Collaborative

China and the US must reach agreement on RD&D collaboration and license-free access to new technologies. All participants in a multilateral RD&D collaborative must work together to pool costs, avoid duplication, and share benefits through license-free access.

Several recently established organizations demonstrate that there is a global willingness to move forward on collaborative clean technology research, including the Major Economics

The Major Economics Forum consists of 17 of the G20 countries, including China and the US, and has recently created technology action plans for the gaps identified by the IEA. The Asia Pacific Partnership on Clean Development and Climate includes Australia, Canada, Japan, China, India, Korea, and the US, and these countries work with private sector partners to accelerate the development and deployment of clean energy technologies. The International Renewable Energy Agency has membership of 142 countries, including China and the US, was established to promote renewable energy, and could serve as a coordinating funding agency. The Renewable Energy & Energy Efficiency Partnership, which has 46 members, including China and the US, funds renewable energy projects in developing countries. The Carbon Sequestration Leadership Forum has 23 members, including China and the US, and provides approximately $50 million in annual funding for small projects.

The issue of a multilateral RD&D collaborative requires that China-US negotiations focus on energizing organizations like these with strong mandates, significant funding injections, and the necessary political pressure. Thus construed, the “RD&D collaborative” negotiation game is also a simple game with agreement or disagreement on a single issue. The negotiation is likely to lead to successful agreement because members of the collaborative obtain cost-effective access to new technologies. This prerequisite is a deadlock solution related to Narlikar’s hypothesis 5 (unfairness) because it will assuage China’s cost concerns about solving a problem that was created by the developed countries.
Converting Unilateral Energy Security to a Multilateral Energy Security Treaty

The Energy Charter Treaty and the Trade Amendment to the Treaty can serve as foundations for a coordinated energy security agreement. The Energy Charter Treaty was designed to promote energy security and has been signed by 46 countries, but not by China or the US. The Trade Amendment to the Treaty has been signed by 35 countries but, again, not by China or the US. The fact that China and the US have failed to participate in the Energy Charter Treaty indicates that the energy security issue will be challenging to negotiate. However, on the positive side, China is balancing its strategic energy initiatives with cooperative decisions in international affairs, and both countries are members of the International Energy Forum.

With the RD&D prerequisite achieved, the energy security negotiation too becomes a simple negotiation game with agreement or disagreement on a single issue. Agreement would seem to be in the best interests of both countries. Energy security need not be a zero-sum game with wins by one country and losses by the other. There are real benefits for both in cooperating to avoid future conflict. China and the US—and subsequently, the other G20 countries—will benefit from cooperative exploration, joint development of LNG ports, establishment of a multilateral petroleum reserve, and collaboration on maintaining safe supply routes on land and sea. This prerequisite is a deadlock solution related to Narlikar’s hypothesis 2 (uncertainty and distrust) because it will reduce uncertainty about energy supplies for both countries and mitigate the distrust that may increase as supplies decrease.

The process of reconfiguring the negotiators and issues results in four issue-focused games, connected across issues and negotiators as shown in Figure 2. The connections are that there are three prerequisites games for the GHG reduction game and that the RD&D game is a prerequisite for the energy security game. For connections across negotiators, the negotiations between
China and the US occur first, and then negotiations are extended by China and/or the US to the rest of the world, beginning with the G20 countries.
Figure 2
Reconfiguring the Hypergame (ROW: Rest of World)

Hypergame

- ROW Game
  - GHG Reductions

- China and US Game
  - GHG Reductions
  - Protection
  - Technology Access
  - Energy Security

Reconfiguring the negotiators and issues

Focused-Issue Games

- RD&D Collaborative
  - China & US
    - China/US & ROW

- Energy Security
  - China & US
    - China/US & ROW

- Product & Process Standards
  - China & US
    - China/US & ROW

- GHG Reductions
  - China & US
    - China/US & ROW
Conclusion: Reaching Agreement

One reason why negotiations about GHG reductions have failed is that the negotiators have misperceptions about the game. When we consider the negotiations as a hypergame—one in which China and the US have strong concerns about industry protection, energy security, and access to technology while the rest of the world is focused only on GHG reductions—we can see that lack of agreement is the only possible outcome. It explains the deadlocked negotiations and provides a framework and procedure for reconfiguring the negotiations.

We have found a way forward by reconfiguring the negotiation game into four connected, issue-focused games as shown in Figure 2. Each of these simple, focused games—with RD&D agreement a prerequisite for energy security negotiations—has a much higher likelihood of achieving agreement than the hypergame that has been played since 1997. The reconfiguration has also been shown to relate to several of Narlikar’s hypotheses about the causes and solutions to deadlocked international negotiations.

The most practical way to proceed is for China and the US to negotiate directly. Initial sessions of the US-China Strategic and Economic Dialogue (S&ED) were held in July 2009 and again in May 2010, signaling that China and the US are willing to address critical bilateral and global issues. Negotiating the product and process standards agreement, RD&D collaborative agreement, and energy security agreement could take place within this forum. Failing this, the French team organizing the 2011 G20 summit could design a process that would bring China and the US together to negotiate the three prerequisite agreements.

To reach agreement on the three prerequisites, the US must be willing to contribute RD&D expertise in exchange for China’s cooperation on product and process standards and energy security, and China must be willing to cooperate on product and process standards and energy
security in order to benefit from RD&D expertise. The negotiators can also be mindful of compliance across the issues. For example, breaching the energy security agreement could result in reduced license-free access to RD&D, and failing to meet GHG reduction commitments could result in the imposition of import taxes on the relevant GHG-intensive goods.

The process of negotiating the three prerequisite agreements can also build the necessary trust and a positive relationship between China and the US, particularly since these issues are less politically charged than the issue of GHG reductions. Having achieved agreement on the three prerequisites, the deadlock on negotiating an agreement on GHG reductions can be broken.
References


