ANALYSIS

China's climate change policies: actors and drivers

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EXECUTIVE SUMMARY

China, the world's largest greenhouse gas emitter, has a poor reputation on environmental issues and was seen to be obstructive at the Copenhagen climate change talks in 2009. Yet paradoxically, China has invested significant resources into policies which reduce greenhouse gas emissions. These policies have been driven primarily by domestic considerations – energy demand, smog, and economic restructuring – but international image has also been a factor. The public outcry in recent years against air pollution has given urgency to the need for a cleaner growth path.

There are a growing number of actors within China who seek to influence climate change policy, although not always in a positive way. In particular, provincial governments and experts are gaining more influence over policy. As the range of players broadens, this opens up new opportunities for better international engagement with China on climate change. Foreign governments would do well to develop long-term relationships with the right policy actors if they wish to have influence on China's green growth trajectory.

China is the world's largest greenhouse emitter. It has a poor reputation on environmental issues, and it was seen to play a negative role at the Copenhagen climate change negotiations in 2009. Yet there is no question that China will be central to any serious global effort to tackle climate change. In the same way that China's economy has immense influence on the health of the global economy, China's attitude to climate change and its environmental policies will have major implications for the health of the world's environment.

As the world approaches a new round of global climate change negotiations in 2015 in Paris, it is critically important to understand the key actors and drivers that shape these policies. The global force of international climate change negotiations will touch even those countries which, like Australia, rank relatively low in terms of total greenhouse gas emissions.

This Analysis is based on some 25 interviews with some of China's key climate change policy-makers, experts and observers in early 2014. Its goal is to provide a deeper understanding of the distinctive characteristics, constraints and opportunities of the Chinese climate change policy-making environment.

CHINA'S 'CLIMATE CHANGE' POLICIES

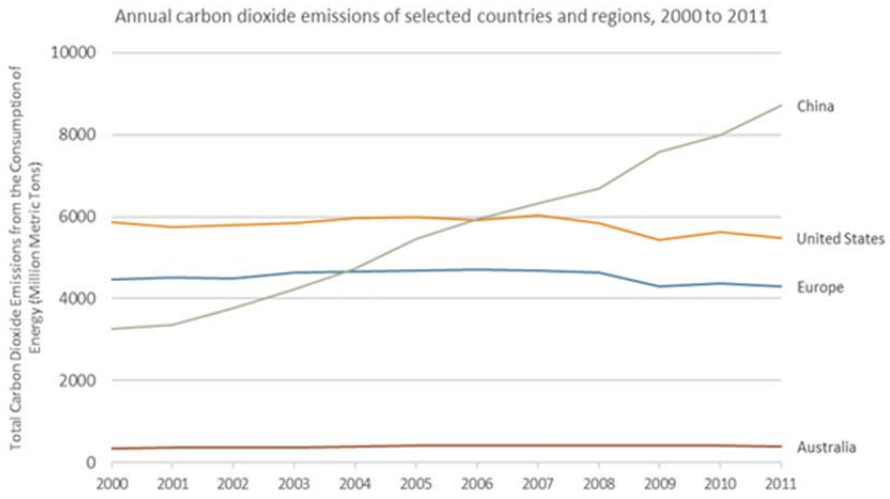
China's carbon dioxide emissions dwarf the contributions of all other nations, at more than a quarter of the world total.[1] The country's total emissions are already more than 20 times greater than Australia's (although its per capita emissions remain far lower, with each Australian consuming around three times more than each Chinese).[2] If current policies remain unchanged, by 2020 China's emissions will be more than double that of the second biggest emitter, the United States.[3] Its climate change policies are therefore vitally important for both the greenhouse gas mitigation effort and, because of the emissions-energy-economy nexus, for the world economy.

China is accused of avoiding its responsibilities to reduce emissions. But the country has made significant efforts in recent years to put in place policies that have the effect of reducing greenhouse gas emissions, even if carbon mitigation is not their primary driver.

Until recently, the key policies relevant to climate change were those related to energy efficiency and energy supply. Over the last three decades, most of China's Five Year Plans (the country's principal economic policy statements) featured goals to reduce energy intensity per unit of gross domestic product (GDP).[4] Support for renewable energy began in the mid-1990s.[5] The Renewable Energy Law, established in 2005 and revised in 2009, set a national renewable energy target, required grid companies to connect renewable energies,

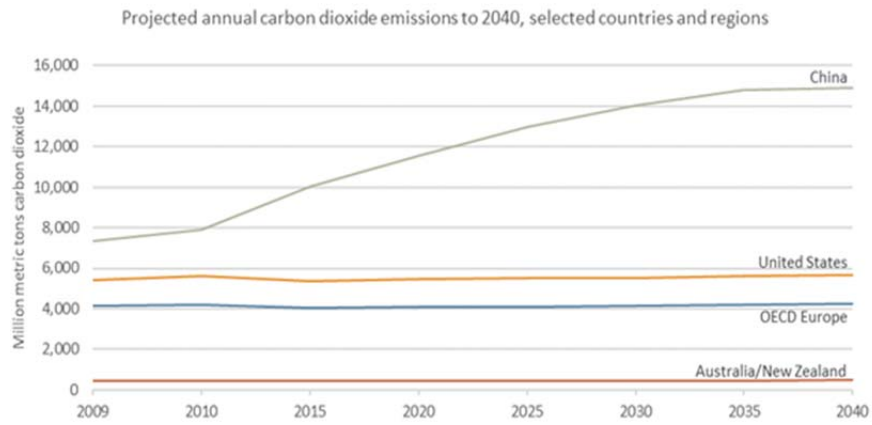
established feed-in tariffs and provided for government financial support.[6]

Figure 1:



Source: US Energy Information Administration, "Total Carbon Dioxide Emissions from the Consumption of Energy (Million Metric Tons)," in *International Energy Outlook 2013* (2013).

Figure 2:

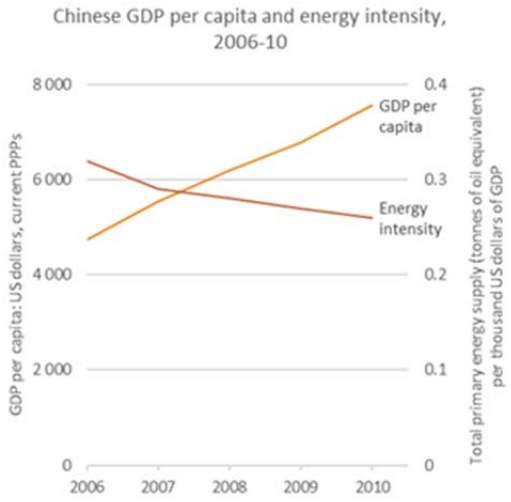


Source: US Energy Information Administration, "World carbon dioxide emissions by region, Reference case, 2009-2040," in *International Energy Outlook 2013* (2013).

The 11th Five Year Plan, covering the period 2006 to 2010, demonstrated a growing political consensus that economic growth could not continue to come at the expense of environmental degradation. The government set its first quantitative and binding energy target to reduce energy intensity (energy consumption per unit of GDP) by 20 per cent.

The 11th Five Year Plan also set goals for increasing 'non-fossil' – renewable and nuclear – energy to 10 per cent of primary energy, and reducing major pollutants by 10 per cent. By the end of the plan period, the pollution targets were met, but energy intensity and non-fossil energy fell just short of the goals.[7]

Figure 3:

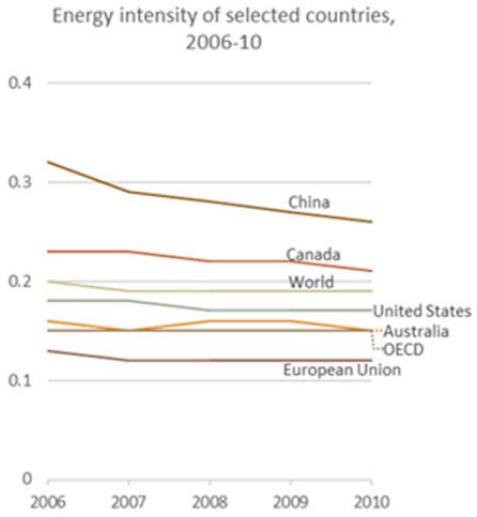


Source: OECD (2014), "Country statistical profile: China", Country statistical profiles.

In November 2009, just ahead of the UNFCCC Copenhagen Climate Change Conference, then Premier Wen Jiabao announced the centrepiece of China's climate change policy – an unconditional commitment to cut its emissions per unit of GDP 40-45 per cent from 2005 to 2020. China also pledged to increase the contribution of non-fossil energy to 15 per cent of the energy mix by 2020.[8] To give effect to China's commitments, the current 12th Five Year Plan is the first plan to set a carbon intensity target (carbon dioxide emissions per unit of GDP).[9]

Subsequently, the Government announced a series of measures to help meet these commitments. These included: pilot emissions trading schemes; energy and coal consumption caps; carbon capture and storage projects; support for improving efficiency of coal-fired generators; renewable energy projects; residential energy use caps; and support for smart grids and electric vehicles.[10]

Figure 4:



Source: OECD (2014), "Country statistical profile: China", Country statistical profiles.

Table 1:

12th Five Year Plan: main climate change-relevant targets

Carbon intensity (tons carbon dioxide/10,000 RMB)	Reduction of 17 per cent from 2010 levels by 2015
Energy intensity (tons standard coal equivalent/10,000 RMB)	Reduction of 16 per cent from 2010 levels by 2015
'Non-fossil' (renewable and nuclear) energy (proportion of total primary energy)	Increase from 8.6 per cent in 2010 to 11.4 per cent by 2015

Source: Joanna Lewis, "Energy and Climate Goals of China's 12th Five-Year Plan," (2011), http://www.c2es.org/international/key-country-policies/china/energy-climate-goals-twelfth-five-year-plan.

The jury is still out on whether China will meet its 12th Five Year Plan commitments. In the first two years of the plan, carbon intensity dropped 6.6 per cent, energy intensity fell by 5.5 per cent, and non-fossil energy increased to 9.4 per cent. The figures were lower than the State Council's expectations, and it remains to be seen whether the final figures will match the targets.[11]

Regardless of whether it meets the goals set out in the 12th Five Year Plan, however, China has made significant inroads in reducing business-as-usual greenhouse gas emissions. Absent a counterfactual scenario, we do not know exactly how much greenhouse gas emission has been avoided, but we can look at other indicators. China has developed a renewable energy industry that was virtually non-existent a decade ago. It is now the largest single country investor in both new renewable energy capacity and total capacity (even excluding hydropower).[12] It now has 20 nuclear power reactors in operation and another 28 are being constructed.[13]

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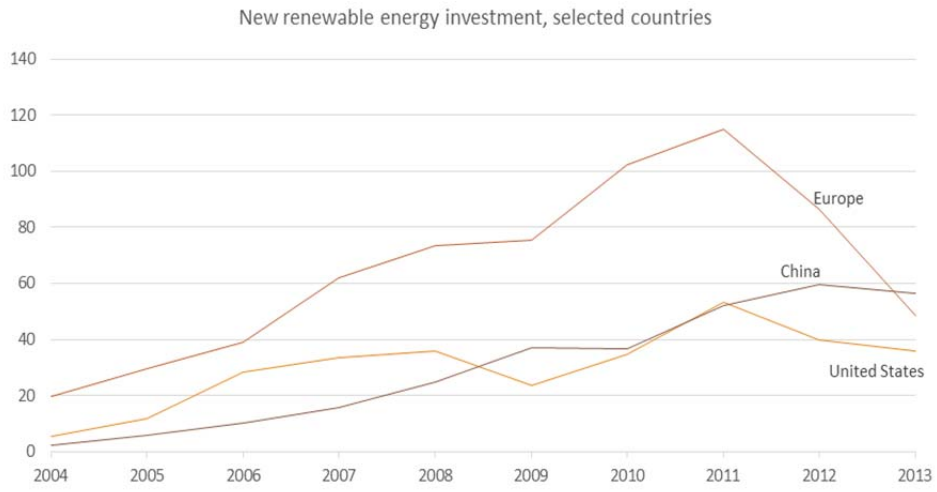
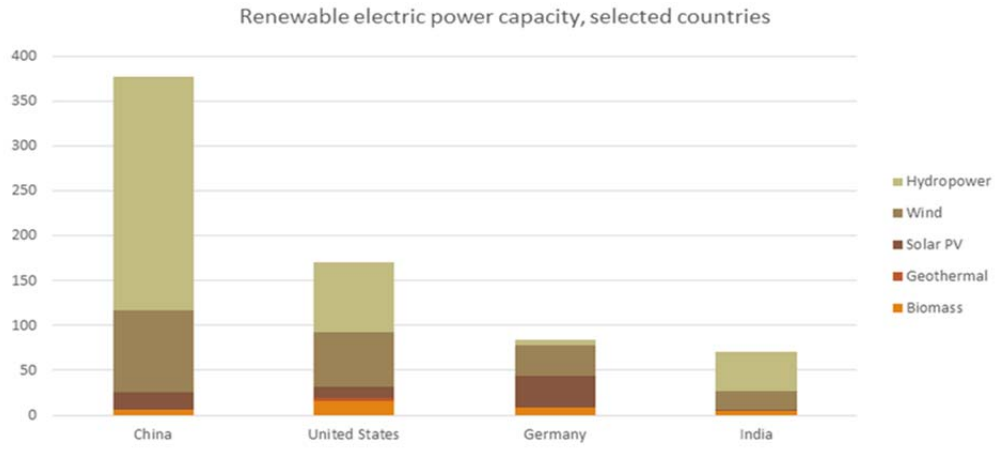
Figure 5:



Source: Frankfurt School-UNEP Centre/BNEF, "Global Trends in Renewable Energy Investment 2014," (2014).

Figure 6:



Source REN21. "Renewables 2014 Global Status Report." 2014.

China's energy intensity has also declined rapidly, though it still remains far higher than the world average (see Figure 4). The average energy efficiency of China's coal-fired power stations increased from 31 per cent in 2000 to 37 per cent in 2010 while America's remained flat at 33 per cent.[14] Its pilot emissions trading schemes cover 700 million tonnes of carbon dioxide emissions, second only to the European Union scheme, which covers 2.1 billion tonnes.[15] Only a few years ago, China was talking about carbon emissions peaking around 2050; now, some of China's most prominent experts think it possible to peak around 2025.[16]

The 40-45 per cent carbon intensity target was the government's first attempt to directly address climate change. It marked a crucial change in China's attitude towards carbon reduction. These changes were motivated by a range of actors and drivers, and understanding who and what these are is key to understanding both the constraints upon China's climate change policy and also the opportunities for more positive change.

CHINA'S CLIMATE CHANGE ACTORS

While the central government remains dominant, China has a range of actors that influence climate change decision-makers. The traditional power brokers of policy remain difficult to access and influence, but a range of new actors are emerging who offer new opportunities to shape Chinese climate change policy.

CENTRAL GOVERNMENT

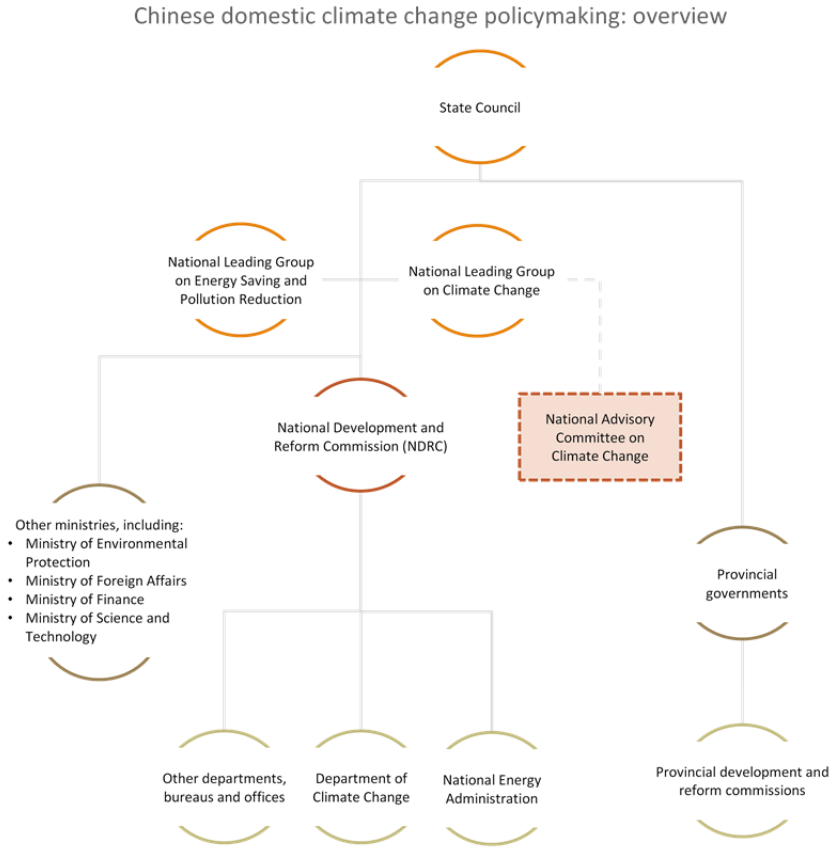
The central government retains tight control over most policy decisions in China, including climate change policy. As climate change has emerged as an important issue, it has come under the closer control and scrutiny of China's senior leaders. The government expects to have a controlling stake in the new 'strategic industries' spelled out in its 12th Five Year Plan, which include energy saving and environmental protection, new energy and clean energy vehicles.[17]

The primary leadership body for policy on climate change is the National Leading Group for Addressing Climate Change, chaired by Premier Li Keqiang. It includes almost all ministers of the central government.[18] The National Leading Group on Energy Saving and Pollution Reduction has the same membership.[19] The Leading Groups are similar to cabinet committees in an Australian context.

The National Development and Reform Commission (NDRC) is the primary government institution responsible for climate change governance. The NDRC is also one of China's most powerful policy-making bodies in the central government – a 'super ministry'– with responsibility for all policies related to economic and social development, including the writing of China's five year plans. In reality, NDRC's power status derives primarily from its role in approving projects.[20]

Although the NDRC remains pre-eminent, other government players have begun to vie for influence in shaping climate change policy. The Ministry of Foreign Affairs and NDRC competed for influence in the Copenhagen international climate change negotiations.[21] More recently, the Ministry of Finance has backed a national carbon tax over a carbon trading scheme because a tax would be under its control, not the NDRC's. The NDRC supports emissions trading for similar reasons.[22] NDRC's role is also being challenged by the Ministry of Environmental Protection, whose responsibilities previously excluded climate change, but focused instead on other types of air and water pollutants. As reducing smog becomes a higher priority for the government, it is becoming increasingly difficult to exclude the Ministry of Environmental Protection from climate change policy-making, which further complicates what is already a confused and poorly coordinated policy-making arrangement.[23] Still, it is likely NDRC will continue to be the supreme climate change authority for the foreseeable future, given its central role as a coordinating body.

Figure7:



Source: Adapted from Stephen Tsang and Ans Kolk, "The evolution of Chinese policies and governance structures on environment, energy and climate," *Environmental Policy and Governance* 20, no. 3 (2010).

The power of officials and institutions involved in decision-making is not only distinguished by hierarchical rank (as depicted in Figure 7), but also by function and *guanxi* – informal relationships. For example, because the NDRC has control over planning and project approvals, members of the NDRC can sometimes wield as much power as the State Council.[24] As we will see below, members of China's expert community and state-owned enterprises (SOEs) exercise influence through their *guanxi* with senior central government members.

EXPERTS

Academics and members of think tanks and research institutes "co-produce the Chinese climate change position and strategy" alongside the government organs.

One major gap in this complex governance arrangement is the lack of analytical capacity on climate change issues. The NDRC is, for example, notoriously understaffed.[25] As a result, one feature of China's climate change policy-making scene is the significant role played by experts from outside the bureaucracy. Academics and members of think tanks and research institutes "co-produce the Chinese climate change position and strategy" alongside the government organs.[26] They are regularly called upon to provide independent advice to senior leaders.

The central government's National Advisory Committee on Climate Change comprises China's most influential experts on this issue. The Committee has a direct role in policy development, including for international negotiations and five year plans. It reports directly to the NDRC and the State Council. Outside of this formal group, China's experts are often asked to appear in person at internal meetings and at the National Leading Groups. They also conduct government-sponsored research, appear in the national and foreign media, and meet regularly with relevant departments and the NDRC.[27]

The key expert players are all in Beijing, and for the most part their influence is derived from personal authority gained through connections and experience, not from their position or organisation. However, they tend to work in a small set of institutions, including Tsinghua University, Renmin University, the Chinese Academy of Social Sciences (CASS), the State Council Development Research Center (DRC), the National Center for Climate Change Strategy and International Cooperation (NCSC), and the Energy Research Institute (ERI).[28] The government generally supports the independence of these experts, which allows for a high-quality (but not necessarily transparent) debate within these circles.[29]

Australian and international universities, think tanks and institutions have already seen that developing long-term relationships with the expert community can yield more influence and better outcomes. For example, international think tanks and non-government organisations have held a degree of policy influence when they have maintained an influential, well-connected Chinese expert on their full-time staff.[30] Foreign governments have also tapped into this source of expertise

and influence for development, research and policy projects. Experts are now in such demand that the mark of a successful international climate change project now is the degree to which the identified experts are involved.[31]

China's small expert community on climate change is widening as more climate change and energy specialists come through the academic ranks. The central government is generous with funding for climate change related research, which has created a burgeoning community of young, well-connected researchers poised to replace the current generation of influential experts.[32] Developing relationships with this new generation of experts will be one way to shape Chinese policy-making on climate change in the future.

Nevertheless, while these experts are all influential, they are still only advisers; the government decides whether to act on their advice. One prominent member of this community explained that experts have most traction with political leaders when they stand united, which is as uncommon among academics and think tanks in China as it is in other countries.[33]

PROVINCIAL GOVERNMENTS

China's climate change, energy and environment policies are implemented through a cascading target responsibility system. The central government sets the overall targets, the most important of which are laid out in Five Year Plans. Then the targets are disaggregated to each province. The process of disaggregating targets is theoretically a central government decision based on modelling from experts, but in reality each province negotiates intensely with the central government to ensure their interests are reflected in the final decision.[34] Provincial governments are relatively senior, enjoying the same administrative rank as ministries, and have substantial influence over policy development through their *guanxi*.[35]

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Provincial governments are then free to choose what policy mechanisms they will use to implement a target and how strictly they implement it, subject to some constraints.[36] The central government evaluates performance of provincial leaders on the basis of their ability to achieve targets across a range of policy areas, and accords promotions to those who have performed well. Thus individual career success is linked to their ability to achieve the targets.[37]

Figure 8: *12th Five Year Plan carbon and energy reduction targets by province*

Overall targets
Carbon intensity: 17 per cent by 2015
Energy intensity: 16 per cent by 2015

Source: Da Zhang, Marco Springmann, and Valerie Karplus, Equity and Emissions Trading in China, (MIT Joint Program on the Science and Policy of Global Change, 2014), http://globalchange.mit.edu/files/document/MITJPSPGC_Rpt257.pdf.and Barbara Finamore et al., "Province-by-Province Details of China's Five-Year Energy and Environment Priorities," *Switchboard* (2011), http://switchboard.nrdc.org/blogs/bfinamore/province_by_province_details_o.html.

To get around central government anti-pollution measures, local officials have falsified information, shut down enforcement equipment, and secretly reopened factories.

China's unitary system of government implies provinces are subordinate to the central government. In reality, the central government faces a number of difficult challenges convincing provincial governments to enforce its targets and policies. Provinces have tended to prioritise economic growth over the central government's environmental goals.[38] To get around central government anti-pollution measures, local officials have falsified information, shut down enforcement equipment, and secretly reopened factories.[39]

One reason for these competing incentives is the central government's performance evaluation system, which excluded environmental goals

altogether until the 11th Five Year Plan.[40] Even now performance assessment still very much emphasises economic growth over environmental targets.[41] Another reason is that provincial governments generally lack understanding and knowledge of climate change issues and policies.[42] Corrupt local officials can also be swayed by bribes.

Provincial governments' incentives are beginning to change as the problematic environmental outcomes of unrestrained economic development become more obvious, and as the central government puts more effort into its environmental and anti-corruption agendas. In April 2014, the Standing Committee of the National People's Congress approved a new Environment Protection Law, which significantly increases the punishments for violations of environmental laws, allows for more civil society participation in environmental lawsuits and formalises a system of environmental performance evaluation for local officials. If implemented effectively, which is still very questionable, the new law will go a long way towards improving the incentives of provincial governments.[43]

Local government capacity is also beginning to improve after concerted central government and international capacity-building efforts, although there is still a long way to go.[44] The more developed eastern provinces now support balancing economic growth with environmental protection.[45] A key question is whether the poorer west will follow their lead, or whether the environmental problems will merely be displaced as heavy industry and electricity generation migrate west.[46]

In the east, therefore, foreigners have recently been able to influence policy development and implementation by engaging provincial governments on sophisticated policy measures. For example, the provinces developing pilot emissions trading schemes have relied enormously on foreign experts (consultants, foreign governments and think tanks) to develop their policies. Australia, the European Union, the World Bank and the Asian Development Bank have all been involved in the development of China's carbon trading policies.[47] This sort of policy engagement is likely to grow deeper and more complex as China's interest in protection of its environment escalates. In China's west, foreigners need to take a more basic approach focused on foundational capacity building to improve understanding of environmental and climate change issues.

STATE-OWNED ENTERPRISES

Large, centrally owned SOEs remain a significant factor in many government decisions, including with respect to climate change.[48] Many of China's largest emitters are SOEs, and the energy sector is almost completely dominated by them.[49]

The relationship between the largest SOEs and the central and provincial governments is complex and opaque. Even though they are

Large SOEs often have higher-level contacts in the Party than the government agencies which regulate them.

no longer officially bureaucrats, some SOEs are led by very senior members of the Communist Party of China. The heads of the biggest SOEs have equal administrative rank to ministers and provincial governors, and have direct lines of contact with the central Chinese leadership and provincial leaders.[50] Large SOEs often have higher-level contacts in the Party than the government agencies which regulate them.[51]

SOEs rely on the central government to give them preferential access to goods and financial markets, and for promotion within the Party.[52] In return, the central government expects SOEs to play their part in implementing the government's economic, social, national security and environmental policies. For example, SOEs played a large role in achieving the energy efficiency gains in the 11th Five Year Plan.[53]

Further complicating SOE-central government relations is the increasing reliance of SOEs on provincial governments for project approvals as a result of the central government's decentralisation drives. SOEs thus have a more complex set of stakeholders to negotiate. Yet they have also found greater opportunities to shape policy. The central government is generally increasing the time and effort it spends on consulting affected parties before it makes a decision.[54] SOEs are also gaining influence in western provinces, which are keen to attract SOE projects for economic growth.[55]

The same channels of authority and *guanxi* through which the government exercises control over SOEs are used by SOEs to influence government policy development. Representatives of SOEs often speak directly with their Party and government contacts about policy decisions. They recruit (on high salaries) ex-members of the central government to lobby on their behalf.[56] SOEs also attempt to leverage the influence of experts by offering them lucrative research contracts or board memberships. Interviewees stressed that experts remain fiercely independent, but these relationships probably have some effect on experts' advice.[57]

The extent of SOEs' influence is difficult to assess, not least because the government and SOEs often have similar goals, such as improving energy efficiency and increasing international market penetration.[58] But interviewees said the influence of SOEs over policy was significant and often favoured the status quo.[59] SOEs have already delayed the central government's energy intensity targets.[60] China's wind energy capacity has underperformed in part because SOEs controlling the energy grid have resisted adding intermittent renewable energy to the grids.[61] SOEs have even been blamed for preventing agency reforms that would improve coordination and execution of climate change and energy policy.[62]

DRIVERS OF POLICY

To understand China's climate change policy-making it is important to understand not just the interests of the key actors but also the ways in which a number of overarching drivers of government policy interact with climate change policy. An overriding priority of all levels of Chinese government is economic growth. Economic growth underlies poverty alleviation, social stability and, ultimately, government legitimacy. Environmental policies regularly clash with the economic development goal, as they do around the world. In China, however, the problem is arguably more acute as the country continues trying to improve the livelihood of some 157 million of its citizens that still live on less than $US1.25 a day.

It is hardly surprising, therefore, that the Chinese Government rejects the idea that it should act on climate change out of any kind of moral obligation to other countries, especially since developed countries' historical emissions are larger than China's. Nevertheless, China is making significant moves to reduce emissions growth. So what drives the Chinese Government's energy and carbon goals?

ENERGY DEMAND AND SECURITY

Until very recently, China's energy intensity and renewable energy policies have been primarily driven by Chinese leaders' anxieties about the country's demand for energy. In fact, many of those interviewed for this paper said the 12th Five Year Plan carbon intensity target was directly derived from the energy intensity targets.[63] There are two main elements to the energy problem: energy demand and energy security.

China is the world's largest energy consumer and producer.[64] Government leaders are well aware that energy is a key input to economic growth, and that demand for energy is likely to grow as long as the economy does (but perhaps not at the same rate).[65] In this context, any additional source of energy is attractive, and any increase in energy efficiency is desirable. For Chinese policy-makers, therefore, the issue is not so much about replacing traditional fossil fuels with cleaner sources, but about getting as much energy as possible out of both sources.

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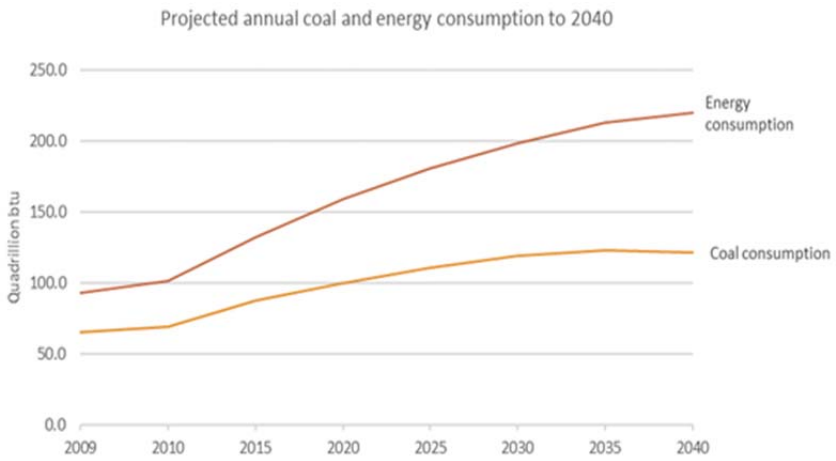
In the context of an ever-increasing demand for energy, China's leaders have also been attentive to the risks associated with importing energy. China has a very small oil and gas endowment,[66] but an extensive coal resource – more than enough to fill its own energy demand.[67] Coal provides almost 70 per cent of China's total energy demand[68] and energy makes up almost 80 per cent of China's annual greenhouse gas emissions.[69] China now uses almost as much coal as the rest of the world combined. But, while China's coal resource is abundant, much of it is located in the hard-to-reach north and north-western provinces.[70] And as enormous as China's coal resource is, the large and rapidly

expanding economy's appetite for energy will exhaust supply within around 30 years on current levels of production.[71] In 2009, China became a net coal importer.[72]

Figure 9:



Source: US Energy Information Administration. "World Coal Consumption by Region, Reference Case, 2009-2040." In *International Energy Outlook 2013,* 2013. US Energy Information Administration. "World Total Primary Energy Consumption by Region, Reference Case, 2009-2040." In *International Energy Outlook 2013,* 2013.

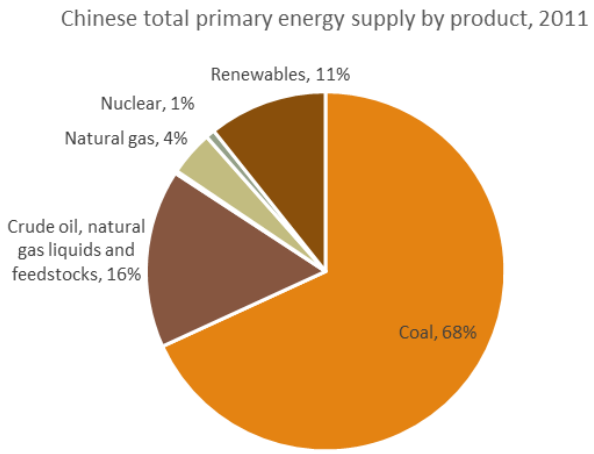
Concern about supplies of traditional energy sources and the security implications of becoming an energy importer stimulated an interest in alternative energy sources and energy efficiency well before climate change became a policy consideration. Meeting energy demand remains a significant motivator today, although energy security fears have subsided as China has become more confident on the world stage.[73]

China's energy SOEs also have their own interests with regard to China's energy policies. The coal SOEs resist policies that would cut coal completely out of the energy picture, but, given the ever-soaring demand for energy, are supportive of energy efficiency goals. The power SOEs are not tied to coal as a fuel, since many of them have also benefited from the government's investments in renewable energy. But the power SOEs are always keen to ensure that major changes in policy are implemented slowly enough for their businesses to adjust. The two major grid companies value grid stability, so they openly resist rapid growth in intermittent renewable energy sources and seek government support for infrastructure upgrades.[74]

The interests of SOEs pull the government in different directions and regularly delay ambitious reforms. Yet ultimately the government has not

allowed SOE influence to prevent its push to diversify the energy supply and support energy efficiency.

Figure 10:



Source: IEA, "World energy balances," in IEA World Energy Statistics and Balances (2013).

ENVIRONMENTAL DEGRADATION

While energy has always been a source of anxiety for China's leadership, the nature of the discussion has changed over the last few years. Although concerns about energy demand and security still exist, there is a growing concern about environmental degradation, particularly air pollution.[75]

China is experiencing severe air and water pollution as a consequence of the last two decades of rapid industrial development. Not all of this pollution is caused by electricity generation, but coal-fired power plants are now widely seen as a major source of air and water quality degradation, as well as exacerbating the existing water crisis in northern China. One result of this concern has been the growth in the renewable energy industry. Developed in the early 2000s primarily for export purposes, more recently (after experiencing a crash due to overcapacity) the industry has been charged with supporting an increasingly environmentally conscious domestic market.[76]

In fact, the smog problem has now become so bad, and so public, that the central government sees it as a threat to social stability and, ultimately, the government's legitimacy. One interviewee put it this way: "If the government cannot bring blue sky to the public, the public will doubt the government."[77] Air pollution is one of the few areas in which civil society has played a role in pressuring the government to take action. But its role should not be overstated. The recent air pollution experience does not necessarily translate to a more expansive role for

civil society in climate change policy more generally. Of course, it helps that the air and water pollution problem is one that Beijing's policy-makers must experience for themselves.[78]

Smog reduction is a significant enough priority now that the Chinese Government is willing to start making changes to the energy system...

Smog reduction is a significant enough priority now that the Chinese Government is willing to start making changes to the energy system, which also helps to reduce greenhouse gas emissions. The Air Pollution Prevention Action Plan released in September 2013 aims to reduce air pollution from coal-fired power plants, industrial pollution and vehicle emissions.[79] Greenpeace has suggested the air pollution response in China may have a greater impact on world carbon dioxide emissions than the European Union's emissions reductions targets.[80] It is true that not all smog reduction policies benefit climate change mitigation – for example, coal gasification, which would reduce air pollution but increase greenhouse gas emissions.[81] For now, however, the policies are mutually reinforcing.

ECONOMIC RESTRUCTURING

The increasing levels of pollution have coincided with a fundamental change in the central government's mindset away from the 'pollute first, clean up later' maxim of the past towards a 'low-carbon development' future.

In the past five years, it has become increasingly evident that China's leadership wants to move away from an economy driven by investment and focused on manufacturing towards one focused on domestic consumption. The cost of inputs is rising, and China is cognisant of the 'middle income trap' – that is, when a rapidly developing economy stagnates at middle-income level.[82] The stakes of potential economic slowdown are high, since it would call into question the Communist Party's legitimacy and threaten social stability.

China's leaders see the next phase of economic growth in high-tech industries and efficient, well-functioning (although still centrally controlled) markets. Wrapped up in this vision for the future economy are China's environmental goals. While the leadership is clear-eyed about the potential costs of stringent environment policies, the Chinese Government also sees 'green growth' as an opportunity. Their view is that low-carbon industries, among others, hold growth potential, and China aims to capture a leadership stake in the global low carbon market.[83]

An example of policy that serves both the economic restructuring and carbon mitigation goals is China's 'strategic industries'. In the 12th Five Year Plan, the government rearranged its 'strategic industries' to focus on high-value growth industries, including low-carbon products and services. According to the NDRC, "when the economic outlook is not good, developing strategic industries will definitely help alleviate downward pressure on the economy". China's aim is to increase the

strategic industries' share of GDP from about 3 per cent at the start of the 12th Five Year Plan to 8 per cent by 2015 and 15 per cent by 2020.[84]

Table 2:

Strategic industries: 11th Five Year Plan	Strategic industries: 12th Five Year Plan
National defence	Energy saving and environmental protection
Telecommunications	Next generation information technology
Electricity	Biotechnology
Oil	High-end manufacturing (aeronautics, high speed rail)
Coal	New energy (nuclear, solar, wind, biomass)
Airlines	New materials (special and high performance composites)
Marine shipping	Clean energy vehicles (plug-in hybrid electric and electric cars)

Source: Joanna Lewis, "Energy and Climate Goals of China's 12th Five-Year Plan".

As energy security fears have diminished somewhat and concerns about the environment have grown, opportunities for foreign exports and business partnerships have increased. China's desire for natural gas imports is likely to increase dramatically, while its demand for coal is unlikely to subside in the short term.[85] The new strategic industries, while under close government supervision, will also present new opportunities for business, academic and public policy partnerships. And China's desire for 'green growth' will fuel more interest in collaborative research programs with other countries on low-carbon technologies.[86]

INTERNATIONAL IMAGE

The fourth major driver of China's climate change policies is the need to create a positive international image. China wants to be well regarded on the world stage, and image is increasingly important as its economy grows.[87] China is sensitive to any perception that it is being bullied into an unfair agreement; in international negotiations, China desires respect.[88] China genuinely thinks it is inequitable for climate change negotiations to ignore developed countries' historical emissions, giving rise to the concept of 'common but differentiated responsibilities'. However, interviewees agreed that international image is important, and it was international pressure that first put climate change on the agenda in China.[89] China's attitude to international negotiations is the result of the tension between these two perspectives.[90] China is also pragmatic – all negotiators play it tough to get the most out of the deal, even if their attitude at home is slightly softer.[91]

China is sensitive to any perception that it is being bullied into an unfair agreement...

It is also true, however, that China is becoming less sensitive to international criticism not least because it can increasingly point to real measures it is taking in response to climate change.[92] The impact of international pressure has also been diminished by what China sees as

the lack of corresponding action by developed countries, including Australia. China is losing confidence in the UNFCCC's effectiveness, and may turn to regional solutions if the next round of negotiations in Paris in 2015 is not fruitful.[93]

In this context, multilateral negotiations may be of declining utility in shaping Chinese climate change policies. However, China has been increasingly receptive to foreign governments with experience in implementing climate change policy measures. For this reason, European countries and the European Union have had success in developing relationships through technical cooperation, although these relationships have not necessarily translated into influence over China's position in international negotiations.[94] Interviewees said China has been very interested in Australia's emissions trading scheme experience, although this interest has diminished somewhat since the Australian Government decided to abolish the scheme.[95]

CLIMATE CHANGE VULNERABILITY

Avoiding the impacts of climate change itself is a driver of climate change policy, albeit still a secondary one. China is already seeing the adverse impacts of climate change in the form of extended drought in the north, extreme weather events and flooding in the south, declining crop yields, rising seas, and glacial melt in the Himalayas. A recently released Intergovernmental Panel on Climate Change (IPCC) report suggests China could face a worsening water crisis and more severe flooding, along with an increased risk of disease and changes to its ecosystem.[96] In recent years, vulnerability to climate change has become an increasingly important factor in the minds of China's leaders.

Conveniently, the same policies that support energy security, reduce air pollution, restructure the economy and respond to international pressure can also have the effect of reducing the risk of dangerous climate change – at least up to a point. More difficult trade-offs between climate and economic goals will be required in the 13th and 14th Five Year Plans, in which the government may need to ease growth targets if it wishes to keep on track reducing emissions. The next 5-10 years will test the strength of the Chinese Government's commitment to reducing carbon emissions as a driver of policy.

The relationship between climate, environmental, energy and economic policies is complex. The central government has had difficulty persuading provincial governments and SOEs to implement its measures to reduce environmental pollution and restructure the economy effectively.

To reduce local government and SOE recalcitrance, the central government is using rhetoric on climate change as a lever to legitimise national policy. Coal-fired power generation and heavy industry are both major causes of air and water pollution and represent the old 'pollute

first, clean up later' export-driven economy.[97] So the central government has been using both international pressure on climate change and the local smog problem to help reinforce its arguments in favour of economic restructuring.[98] In this sense, environmental policies are actually helping to drive better implementation of broader economic goals.

The messages about energy, environment, environmental degradation and industry restructuring are fused into the concept of 'ecological civilisation'. The phrase refers to the Chinese leadership's belief that an emissions and energy intensive economy is not sustainable in the long run. It is regularly used to distinguish the kind of development path China seeks to pursue from the kind the developed world took. And it reflects the growing belief that economic gains must be balanced against environmental consequences. 'Ecological civilisation' has become the overarching narrative that binds China's energy, environment and climate change actions with the government's social and economic reforms.

CONCLUSION: THE UNCERTAIN FUTURE

Where China's climate change policy will go from here is hard to predict. Interviewees think the 12th Five Year Plan targets are likely to be met without too much difficulty,[99] but beyond that period making real progress will become far more difficult. The 13th Five Year Plan, which is already under development, may not contain the binding carbon caps developed countries are seeking. At the very least it will probably implement binding coal and energy consumption caps.[100] An interviewee close to China's policy-making elite said that China is likely to broaden and improve the emissions trading pilots, regionally if not nationally.[101] Many in China's policy-making community believe that a national emissions trading scheme, and potentially a carbon tax too, will be in place by 2020.[102] Energy intensity, carbon intensity and non-fossil energy targets are likely to continue, but their size will depend on how easily the country can achieve its 12th Five Year Plan targets. But all of these targets are likely to have more impact in the east than in the west, as a 'common but differentiated responsibilities' concept begins to emerge within China.[103] Still, China's climate change policy journey is just beginning. Interviewees close to the central government think it likely that China will be ready to accept an absolute cap on emissions and set up a national emissions trading scheme in five to ten years' time.[104]

This Analysis underlines that China's climate change policies are driven by domestic priorities – energy security, preventing local environmental degradation, economic restructuring and international image – most of which also reduce carbon emissions. The fact that national interests are the underlying motivation for climate change policy is not new; domestic concerns will always be the foundation of China's international position on climate change. Nevertheless, the link between national interests and

policy action shows that climate change and energy are likely to be enduring priorities, perhaps growing in importance into the future.

What this Analysis also shows, however, is that there are a range of entry points and options for the international policy community in shaping China's evolving climate change policies, in particular, the expert community that the Chinese state relies upon to inform policy-making. A more traditional but still very effective tool for influencing climate change policy is inter-country exchange on the practical or technical measures that can be undertaken to address climate change in China. In this regard, trying to bind China to specific policies through international agreements should not be seen as the only way to influence China's approach to climate – and perhaps not even the most effective.

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