China Carbon Forum | 中国碳论坛

An independent platform to foster trust and cooperation among China's stakeholders for climate action

Local Climate Governance: a key to realizing national targets?

Executive Summary

This event was part of the series held by the Low Carbon Leadership Network, jointly organised by China Carbon Forum and GIZ. The event discussed a wide range of important issues currently facing China in managing climate change. It focused on the role of local governments and identified some key areas where the panelists thought that improvements could be made. Importantly the panel identified further bilateral collaboration as crucial to helping China meet these challenges successfully.

The event builds on a dialogue which was started in December 2013 when a high level delegation of the National Development and Reform Commission (NDRC), led by Deputy Director General Sun Zhen, traveled to North Rhine-Westphalia (NRW) for a series of meetings on the topic of Climate Governance and attended the NRW climate congress in Wuppertal. Since then the dialogue on the topic has continued with various stakeholders, including China's National Center for Climate Strategy and International Cooperation (NCSC) and the Wuppertal Institute.

The event provided a valuable forum for interaction and networking between Chinese and German counterparts, especially businesses, foundations, policy experts and government representatives.

Record of Discussion

The following is an edited synthesis of discussion that took place at the event among panelists (around 75 minutes) and open Q&A with participants (30 minutes). As per convention, individual's comments are not attributed.

The panel heard from Chinese and German representatives on the two countries' approaches to climate change. While China has prioritised its "top-level design", this is an evolving process, and the **government is also using a bottom-up strategy to help China move toward a more market-oriented approach**. At the national level, the central government has clear goals under the five-year planning process, which assigns goals from national to local government level. Besides this, NDRC needs to provide more creative policies through legal reform. For example to establish the carbon trading system, carbon inventories need to be regulated and quantified, establishing differentiated caps moves in to the area of political administration, and within the areas covered by the carbon market allocation methods need to be set appropriately. **In the future, China would also like to see further inter-governmental cooperation for the purpose of carbon management and climate goals.**

With a special focus on the region of North Rhine-Westphalia, the panel discussed climate policy in Germany at both the national and local levels. In 2013, North Rhine-Westphalia became the first German state to pass a Climate Protection Law with legally binding mitigation targets. On the one hand, the Climate Protection Law is supposed to serve as a legal framework for reducing CO2 emissions, on the other hand it is also an important guiding principle, which will determine North Rhine- Westphalia's climate protection policy over the coming legislative periods and therefore lays out the political goals for the next 30 to 40 years. A distinctive aspect of North Rhine-Westphalia's climate protection policy is the cooperation of more than 400 stakeholders from different areas of expertise, who are working together on a climate protection plan which will serve as a road map for climate governance at the state level. In this regard, the national level could take North Rhine-Westphalia as an example for broad public participation in conceptualizing its national climate protection plan for 2016.

The panel discussed the limitations of economic advice on climate policy, given the unpredictability of economic development. This contrasts in some ways with the high-degree of certainty in regard to climate impacts. This makes policy advice a unique challenge.

This event builds on existing cooperation between NRW and NDRC. A Chinese delegation visited Germany in December 2013, in recognition of the progress that the German local governments such as NRW have made in relation to the low-carbon transition. **This progress includes legal approaches that could inform progress in China.** The visit helped Chinese representatives see how local German governments had connected their local goals with the wider climate change issue in the public mind, helping to provide important public support. Government's also need to send a signal to companies in order to encourage technology innovation.

Further progress depends on a process of exchange of views and experience, and it is not a zero-sum game. The Chinese government's goal is for climate change professionals to be involved in training political leaders, mayors, and party leaders. Many problems remain to be solved, and many lessons to be learnt.

The panel discussed existing partnerships between NRW and China, especially business partnerships, which are already very diverse. Furthermore, climate protection offers substantial business opportunities, especially in the field of energy efficiency and energy saving. Many market leaders in this area of expertise are located in North Rhine-Westphalia. One example of this expertise is the manufacturing of heating pump systems which require over 80 percent less energy. Therefore it is important to access these new growth markets and further strengthen technical development and cooperation between Germany and China.

Exploring the theme of the event, the panel discussed how local policy informs national policy in China, and the central/local decision-making balance. China has a long history of promoting pilot projects which is not well understood outside of China. **While the government is not currently confident enough to predict when China's overall emissions may peak, several local-level administrations have broached this topic, including Beijing and Zhenjiang in Jiangsu**. In short, there is significant potential for local governments to influence national policies. China is such a vast and diverse country, and each province has unique characteristics, the experience in Jiangsu might not be useful for Inner Mongolia. the central government has to be responsible for the entire country, while local government has the flexibility to adapt to its own conditions.

President Xi has appealed to officials to learn from international experience. Germany and China have existing collaboration for over a hundred years. Germany should not be worried that China would surpass it economically. **However China is in a unique situation and must work hard to reduce its environmental footprint, faster than has happened in developed countries.** China is ranked as the world number one in many areas, but still has much to learn. American creativity, Japan's approach to crisis, and Germany's precision should all provide an example to China.

The panel was asked to consider the issue of climate change adaptation, and how to plan for it at the local level. The panel pointed out that bottom-up processes are very important for climate change adaptation. While climate protection policies are made at the central level in Beijing and Berlin, it is the local and regional level where those policies have to be implemented. Therefore, innovations and ideas from the local level like the stakeholder process in North Rhine-Westphalia are needed to better realise climate protection measures.

China needs to have a sense of crisis awareness in relation to climate change and domestic development. However there are conflicts arrising from statements for domestic and foreign audiences. For example the government tells foreign partners that it is still developing and should not be asked to take on strong commitments. At the same time, the government asks local administrations to meet increasing tough standards. **This leads to confusion among local governments who are concerned that the central government might have concealed motivations, and in many cases choose to proceed as normal.** This dynamic does not exist in the way that other countries deal with the media. The panel expressed hope that Chinese local governments will expand their communication and exchange of experience with foreign and other local governments.

The panel challenged the conventional wisdom that China is shifting its pollution problem west, as the east develops. In fact it was suggested that **some western regions have been advancing faster than counterparts in the east**. Fairness is an important issue for transforming the economy of China’s western region, why should they bear the environmental costs of the wealthier eastern coastal area without compensation?

The event, ***"Greening China's Financial System"***, was co-organised by the International Institute for Sustainable Development (IISD), the UNEP-Inquiry, and China Carbon Forum (CCF). The panel discussion involved a range of eminent speakers who provided comprehensive and in-depth discussion of green finance in China, as well as internationally. The panel in particular discussed the outcomes of two streams of work on green finance. The first, with a new report titled Greening China’s Financial System, is a joint project between the Development Research Centre of China’s State Council (DRC) and IISD. The second is from a joint Green Finance Task Force co-convened by the People’s Bank of China (PBOC) and UNEP-Inquiry.

The speakers on the panel discussions presented a good balance of perspectives, approaching the topic from governmental, academic and think-tank viewpoints. This range of views made for a stimulating Q&A session with the audience. Many stayed on afterward to network and discuss the topic of the morning, providing a valuable forum for interaction and networking between counterparts, especially business, NGOs, foundations, policy experts and government representatives.

Record of Discussion

The following is an edited synthesis of discussion that took place at the event among panellists and open Q&A with participants. As per convention, individual's comments are not attributed.

The panel discussed the progress of important research on green finance in China, and launched the Synthesis Report on ***Greening China's Financial System***, a joint project between the Development Research Centre (DRC) of the State Council and IISD. The report represents a significant milestone after 18 months of work by the partner organisations, and was launched at the China Development Forum in March 2015. The discussion also covered a separate stream of work involving the People's Bank of China and UNEP-Inquiry on developing a sustainable financial system for China.

The panel provided some background to the discussion of green finance. Global financial assets, more or less, amount to USD 305 trillion. That is up from USD 115 trillion in 2002. However, this is in the context of other forms of capital, especially natural capital, being rapidly depleted.

China is an important stakeholder when it comes to finding effective ways to encourage green finance, because China faces extensive environmental challenges while it is already one of the largest investors in clean technology. Almost $90bn. was invested last year (a 32% increas) in such technologies, much larger than the next largetst investor, the US, at $51bn.

Existing efforts in China include the Green Credit Guidelines, produced by the China Banking Regulatory Commission, which aim to encourage innovative ways of greening development finance across the country. The two projects being discussed today, involving the State Council DRC and the People's Bank of China, involve different approaches, but are closely coordinated through partnership with UNEP-Inquiry and IISD. It is important to note other complementary work is also taking place, in particular the China Council for International Cooperation on Environment and Development (CCICED) also has a taksforce looking at green finance.

This research is released in the context of international momentum on green finance. The panel noted that this year will see the Finance for Development Summit in Addis Ababa in July and the UN summit on Sustainable Development Goals for the post-2015 development agenda in New York in September. Finally, the UNFCCC Conference of Parties will take place in Paris in December, hopefully building on progress made during the year.

A few years ago green finance led to a concentration on providing options to those actively interested in "being green". Now there is a realisation that the way that the finance system works will determine whether or not a sustainabile economy is achieved. **The chrystalization of all the aspects that need to come together is happening in China, perhaps faster than anywhere else**. This is due to: 1) China's process of economic reform which make new approaches possible where they weren't before, and 2) a strong message from the leadership that the transition to an "eco-civilisation" is an absolute priority for China's development. This combination provides a "perfect moment" to progress green finance in China.

State Council Development Research Centre (DRC) and IISD project

The ***Greening China's Financial System*** is the product of two years work, between the State Council DRC and IISD. The key points include:

China has moved early on green finance, although the financial system is not yet sufficiently competitive. The PBOC has had policies relating to green finance since the 1990s, limiting lending to polluting and energy-intensive industries. Later, by 2007, the CBRC put forward guidelines for green lending. Several years later, the CBRC announced that it would release guidelines on green credit ratings. China's Environmental Pollution Liability Insurance system (EPLI) was also relatively early on the scene, and this is subject to ongoing improvement. While these efforts are not yet mature, they are on the table and markets are preparing to react.

The financial market is still underdeveloped and the institutions do not have the capacity to lead on green finance. **Because the financial system is underdeveloped, however, this also offers flexibility in how it develops from here**. China's experience and practice is valuable for learning internationally about green finance, and both its successful experiences and pitfalls can and should be observed by other countries.

However you look at green finance internationally, however, **it is clear that we are still far from an ideal green financial regime, and far from the volumes required to meet the demand for green investment**. Research by the PBOC suggested that in the period 2015-2022 at least RMB 3 tln would be required for green investment in China, RMB 2 tln of which would need to come from the financial system. Only 7% of current financing in China currently could be described as "green". Given that provision of finance reached about RMB 10 tln last year, even 10% of this would not be enough to meet demand for green investment in coming years. In addition, Chinese banks have been reluctant to sign up to the Equator Principle, as it would impose significant constraints on their operations, possibly compromising their competitiveness and market share.

The reasons for the current situation include:

- The legal system is still lagging behind. Legislation does not impose strict enough penalties, including newly released regulations. Enforcement is also ineffective.
- The cost and pricing of environment impact is still problematic. The negative cost of pollution and emissions is not factored in to economic statistics.
- There is lack of definition for financing policies, esp. for green bonds.
- There needs to be much better communication between key stakeholders, including financial institutions, oversight bodies and environment agencies.
- There is not sufficient policies to support the development of third parties. Green finance is where industry and the environment meet. This means that there are technical issues which are outside industry's existing expertise. Policy should support third parties to fill this gap.
- Finally, there is a lack of awareness of green finance amongst society at large, including amongst attendees of the China Development Forum, which represents a concern.

The PBOC/UNEP Green Finance Taskforce

The **Green Finance Taskforce**, co-convened by the PBOC and UNEP-Inquiry has brought together leading Chinese financial policy and regulation experts and international experts to mobilize knowledge, assess options and make specific proposals for establishment of a comprehensive green finance system and the promotion of green investment. The taskforce has also consulted extensively with the private sector in order to produce meaningful outcomes, the results of which will be released in a report in April. Although the report is not yet finalised, the panel discussed the main themes at the workshop.

China's air, water and soil pollution challenges all require significant green finance. Therefore, we need to change the direction of investment. In the future, investments need to go towards cleaner and greener industries. If the direction of investment changes, the allocation of technology, human resources and production will also switch towards greener industries. The finance sector is important for facilitating this switching of investment towards greener industry. Historically, the public sector has only been able to provide about 20% of the finance needed, with 80% coming from the private sector. It is clear that much will be required of the private sector during this transtion, and incentives need to be provided to attract private finance to green industries.

The panel described several key advantages of green finance. Green finance is an important policy option to help achieve the goal of stable economic growth and development and adjustment of the economic structure. Green finance can help to exploit new areas of potential economic growth. At the same time it can accelerate innovation in the industrial structure, energy structure and transportation structure. Green finance can also help ease constraints on government finance when facing environment problems. Government funds can leverage more than 10 times the amount of investment from the private sector, for example through green banks, green bonds and tax exemptions.

The research work sought to create a framework for effective green finance, which includes:

1. Increased rates of return on green investment. This addresses the existing problem of investors not being satisfied with the expected ROI for green projects. We need to find low-cost means of financing projects and making them more attractive to investors.
2. Raise the cost of pollution/emissions. This "strikes at the heart" of our transport and energy mix. Bringing down the relative cost of greening these sectors can create a huge shift in their impact.
3. Incentives for customers and producers. Build on the leadership of large corporations that use CSR as a market opportunity and help expand consumers' green consumption consciousness.

Key recommendations of the taskforce:

1. Institution building. Establish new, professional institutions that are engaged in green credit and green investment, including a green banking system and green investment funds. The PBOC has specifically looked at the UK example of a green investment bank, which plays an important role in making projects viable. It is also important to encourage a green securities market, or equity. It is hoped that local government will participate in the development of these institutions.
2. Reduce the cost for green financing. Fiscal policies can be designed to improve the leverage effect, by realising thirty more dollars for every public dollar spent. The new institutions outlined above should support the "ecosystem" of green investment and manage these subsidies and incentives. Transparency and oversight is required. KfW in Germany provides a good example in this regard. In addition, there is a maturity mismatch for loans to many green projects. There is room to allow banks to issue longer maturity loans. Other measures could include waiving the corporate tax liable for profits on green bond sales. Also, from a regulatory angle, offering preferential treatment of green bonds on a bank's balance sheet. This could reduce risk for banks issuing green bonds.
3. Foster the development of infrastructure for the green financial system, including a green stock index. This should be driven not just by government, but also the private sector, especially securities exchanges. Most mainstream exchanges do not currently have a focus on green assets. In fact many listed companies, and a high proportion of the stock market value, are invested in "dirty assets". So investors have no choice but to put resources with these older industries. A green index will give investors a green option, complemented a green rating system. A green investment network would also be useful, as exists abroad in some places. These can control large amounts of investment in a kind of syndicate.
4. Establish and strengthen legal frameworks. Environmental liability for banks lending to polluting projects means that victims can sue the banks. Examples exist in other developing countries. Compulsory green insurance is also important, given the wide occurrence of bankruptcy of polluting companies. This puts the potential environmental costs on the books for companies. Finally, compulsory disclosure requirements for environmental impacts allows companies' performance to be assessed.

International experience

The panel commented on the need to build consensus in the international community, of the importantance of green finance. Countries such as the UK, France, China and Indonesia have been taking the lead on the issue, but the enthusiasm is not shared with all countries. Some countries' needs may vary but especially in developing countries, fiscal resources will not be sufficient. In addition, there can be differences in definitions of green finance, as developed countries tend to emphasise greenhouse gas emissions, whereas developing countries emphasise localised pollution. In addition, there is a difference in paths, where developed countries prefer to frame the issue in terms of investor social responsibility. This leads to green securities growing very quickly but green lending growing more slowly. Developing countries on the other hand are more likely to utilise public investment. While it is difficult for all parties to agree on the same path, we can allow for diversity in terms of methodology while working to coordinate efforts. Green credit ratings and regulatory risk assessment is an area where common standards could be developed between countries.

Existing forums have begun to discuss the importance of green finace, for example the Silk Road Fund, the AIIB and the forthcoming BRIC bank. In addition, the panel suggested that environmental performance has become a much bigger issue for Chinese companies today. China's larger companies are now operating in many countries and that brings reputational risk. It is also, therefore, an important issue for the Chinese government. **The panel suggested that China should aim to meet the environmental standards of the IMF and World Bank in its investments, and in the future to do even better** (by going beyond existing standards or making new standards/rules). The better the standards for Chinese companies at home, the more likely they are to lift their standard overseas.

The panel emphasised that the strength of developing green finance, as opposed to emphasising regulatory measures in relation to pollution, is that it directs resources to new areas of growth. It can both suppress investment in polluting industries, while encouraging investment in cleaner industries. **This shift in resource allocation is more efficient that regulatory measures, and less costly overall**.

The UNEP-Inquiry programme has found that **much is going on internationally in green finance**, including central banks, financial regulators, policy makers and setters of standards for financial and capital markets that are beginning to think differently on the subject and experimenting. The Sustainable Stock Exchanges Initiative is an important complementary measure to these efforts.

Singapore stock exchange provides a good example, where listed companies are not just required to report on sustainability but there is a system of fines to ensure a high quality of reporting. Credit rating agencies are also starting to actively engage with sustainability, with S&P creating a methodology for assessing climate risk across all of its ratings. South Africa has introduced a requirement that trustees report on environmental issues in relation to its well-developed institutional investment sector.

The panel also commented on the role of central banks, and in partciular that the Bank of England has introduced a prudential review of climate risk on the stability of the insurance sector in the UK. This may exapand to the banking sector. As the banking sector becomes more aware of the issue of climate risk, **China may consider undertaking a similar prudential overview of its insurance and banking sectors**. Kenya's central bank has also facilitated the highest level of penetration of mobile banking which has increased the level of financial inclusion over a remarkably short period of time to a high level.

Indonesia has launched it's Roadmap for Sustainable Finance which brings green issues in to the heart of how capital markets work in the country. The effort will evolve over time, but it marks the first time that capital requirements for banks have been examined as to whether adjustments should be made on account of environmental considerations.

There is also consideration now as to whether the balance sheets of central banks could be utilised more effectively to channel finance in ways which facilitate the green transition. Bangladesh has begun using its balance sheet refinancian operation to support banks that are investing in green and rural economy assets.

Overall, these international efforts represent a blossoming of ambition and experimentation in green finance, and reflects increasing willingness of key stakeholders including policymakers,. central banks, regulators, standard setters, credit ratings agencies and accounting bodies, to try and bring the environment in to alignment with the underlying design of the financial system.

The downside is that the efforts are still fragmented and we are still unclear about the benefits and costs of various approaches. **The challenges are not yet dealt with in a comprehensive way that allows for policy to chart a clear course**. The panel described the challenge as: "we see all the stars in the heaven, but we don't understand how the heaven works". China, of all countries, is taking positive steps to addressing these challenges, including the work of the PBOC, DRC and CCICED (under MEP). This work is helping to provide a framework for understanding how the stars fit together and relate to one another.

The panel commented that **multilateral organisations have proved to be slow to react to innovations in green finance**, and rather the "stewards of convention". This has been the case even when it can be shown that new approaches are beneficial. This will gradually change and resistance will be overcome, leading to the organisations actively contributing to the process. This is laregely up to the member nations of those organisations to push forward on green finance.

The final report of the UNEP-Inquiry will draw together the lessons learned from countries around the world. It will be launched at the IMF/World Bank meetings in October 2015 in Peru. It intends to engage widely with partners in order that the lessons are carried forward as much as possible.

Observations on China

The panel commented on **the likelihood of green finance being a topic covered within the 13th Five Year Plan, as well as the 19th Party Congress language**. If this happens, China would become the first country to place green finance in its highest level of strategic policy directives. This would also represent incredible progress for China which has arrived at this point much quicker than developed countries with far more mature financial sectors.

While those working on green finance focus heavily on the issue, **it is important to keep in mind where the issue fits in relation to China's other priorities**. China is not lacking for important issues on its policy agenda. The finance sector faces significant challenges in relation to the welfare system, established industries, as well as new areas such as e-finance. For those concerned about sustainability, it is important to make sure that green finance is raised in the most important policy initiatives, at the very least alongside these other key areas.

China's "one belt, one road" strategy also provides an opportunity to push green finance internationally. China can work with its trading partners to find ways to promote green finance, alongside the trading initiatives. The panel also suggested that China should work to have green finance included in the decisions and communiques of multilateral meetings such as the G20.

The panel emphasised **the need to continue to prove to stakeholders the importance of prioritising green finace**. The changes needed won't happen by themselves. At the same time, change in China will work best if the international community aims to "encourage" China, rather than "teach" China. While this seems to be happening so far in the area of green finance, the nature of engagement in relation to expectations for reform from the international community is a key issue for China.

The event on ***"Municipal energy policies and concepts: German and Chinese Experiences"*** was part of the China Low Carbon Leadership Network (LCLN), an event series jointly organized by Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) and China Carbon Forum (CCF). The LCLN events aim to encourage communication among leading local and international experts in China's climate change sector. The event series are funded by the German International Climate Initiative on behalf of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB). The panel included distinguished experts from the fields of energy and eco-city planning, as well as those working on EU-China projects and Sino-German projects focusing on energy concepts. As the speakers came from both Chinese and international backgrounds, the audience were enabled to gain an insight into a mix perspectives, especially during Q&A sessions. After the discussion, the guests enjoyed the follow-up networking event.

Record of Discussion

The following is an edited synthesis of discussion that took place at the event among panellists (around 40 minutes) and open Q&A with participants (60minutes). As per convention, individual's comments are not attributed.

As the very core of industry, population, transport, and infrastructure, today's cities are commonly associated with high energy demands and high greenhouse gas emissions. As a result, cities and municipalities are often regarded as a contributor of both environmental and climate problems. However, during the event, the panel presented that an increasing number of **city governments are actually attempting to counter the effects of climate change by de-carbonizing their local energy systems** by adopting renewable energy and energy efficiency schemes**.**

It was further argued that no matter how sophisticated national policies regarding energy and climate concepts may be, **the success of such policies greatly depends on their implementation at a local level.** In order to make this point, the panel referred to the Federal Government of Germany's "*Energiewende*" (energy transition). In 2010, Germany introduced an ambitious long-term energy strategy, which would focus on developing renewable energy, energy efficiency and sustainable economic development, whilst phasing out the usage of nuclear energy and coal. Similarly, the strategy also aimed for the country's greenhouse gas emissions to be reduced by 80% within 2030. The panel argued the successful implementation of the *Energiewende* depended greatly on the local level's capacity to put policies into motion.

In addition, the panelists explained that it was important for local municipalities to develop their own low carbon policies as a result of mass migration occurring in countries all over the world, making the question of energy consumption evermore pressing. As China is especially experiencing rapid urbanization, the country has rendered low-carbon urban development an ever more significant policy area.

<u>The Smart City: Wilhemsburg Central</u>

In order to further explore the issue of low-carbon urban development, the panel discussed the concept of 'smart cities.' Smart cities are places where investments in human and social capital and traditional and modern communication infrastructure fuel sustainable economic development and life-quality with a wise management of natural resources, ideally involving participatory engagement.

In particular, the panelists highlighted Wilhemsburg Central, Europe's largest river island, as a key example of h**ow a single neighbourhood could successfully achieve energy efficiency and transition to a renewable energy system.** Over the course of 2006 to 2013, the **IBA Hamburgdeveloped** seventy different projects in the district located near Hamburg city centre. The projects were set up with the involvement of residents, and presented innovative and creative ways in which a city could develop without harming the climate or environment.

Projects included:

- *The '**BIQ' presented the world's first building with a bioreactor façade,** solely powered by biogas energy produced from microalgae that are grown within the glass elements on the sides of the building.*
- The **Integrated Energy Network Wilhelmsburg Central,** which saw many power stations of residence and office buildings combine with each other to create a big 'virtual' power station. As residents could feed renewable thermal energy into this thermal grid, **the project resembled a decentralized heat grid.**

The success factors behind such programs were underlined as:

- Strong cooperation between experts from various fields such as economics and environmental sciences, as well as reliable cooperation between the private and public sector.
- Gaining the involvement of local people to get involved, as well as their feedback.

However, the panel accepted that there were indeed challenges in realising the Wilhemsburg Central project in Germany's cities. The first obstacle seemed to lie in undertaking such an operation in a region which is already established as a busy, residential area, as one needs to find a way to adapt to and work in harmony with the neighbourhood without interrupting the day-to-day life. Similarly, another challenge revolves around informing the local residents of the project, and convincing them of the project's necessity.

China Experiences

The panel commented that t**he 'energy concept' approach taken in Germany is a new idea for China**, and that hopefully there will be opportunities to have bilateral cooperation on some projects that have been successfully implemented in Germany under this framework.

The panelists then offered background information to China's experiences in developing low carbon cities:

- In 2010, China's National Development and Reform Commission (NRDC) set up a low-carbon development pilot scheme, thereby establishing 8 low carbon pilot cities and 5 low carbon provinces. The scheme was related to the country's eco-city plan initiated by ministries in the central government and local governments.
- China's National Energy Administration (NEA) has set an ambitious long-term energy strategy leading to 2020. The new strategy seeks to strengthen the use of renewable energy, whilst also aiming to cut emissions. The NEA also intends to create 'new energy cities', which will be increasingly reliant on renewable energy, as well as having low-carbon emissions. The NEA is currently working with GIZ in order deepen its understanding of Germany's energy concepts and how policies could be integrated into China's new energy system as well as adapt to its traditional cities.

In addition, the panel also sought to discuss the main challenges China's municipalities were facing in implementing low carbon urban development initiatives.

Firstly, it was acknowledged that **concepts such as energy efficiency and low-carbon urban development were still fairly new in China**. Therefore, although the government may have departments which are dedicated to these issues, the departments may not be as experienced as their counterparts in Germany. Hence, furthering public participation and developing programs that are equally detailed as in Germany may remain slightly problematic. Nonetheless, the panel put forth that China is working with European countries in order to improve its urban energy strategy.

Similarly, the panel also indicated that another potentially challenging issue lay in **boosting cooperation between different government departments despite their different initiatives or conflicting interests**. The panel noted that Germany had itself also faced similar challenges; however the issue was overcome by creating awareness for the cause and also the need to bring together experts from various fields. It was stressed that such a development takes time and patience.

The panelists further affirmed that China's previous attempts to build low-carbon cities in non-residential areas had been unsuccessful as these isolated regions were unable to attract industries and investors. Therefore, the panelists pointed out that the Wilhemsburg Central project acted as a good role model by presenting the need of regenerating existing residential environments.

The panel also discussed the EU-China Eco-City Link (EC-LINK), a bilateral project between the European Union and China's central government The EC-LINK is supported by both Ministry of Housing and Urban Rural Development in China as well as the European Commission Directorate General for Development Cooperation, whilst being implemented by GIZ.

The EC-LINK program, which was launched in March 2015, seeks to work with the relevant local governments to strengthen the low-carbon concepts in ten pilot cities by supporting the development of projects in the following areas:

- Compact Urban Development,
- Clean Energy
- Green Buildings
- Green Transportation
- Solid Waste Management
- Water Management
- Municipal Financing
- Urban Regeneration
- Green Industry

As a bilateral project, EC-LINK seeks to **share the best practices of the experiences European urban sustainability to the relevant Chinese pilot cities**, whilst adapting the concepts to fit with the needs of their Chinese counterparts. The program also involves partners who have worked in the development of the low-carbon urban strategy of Europe's eco-cities, key members of the European business community, as well as parties from development cooperation programs. In addition, the EC-LINK offers financial support and training to the pilot cities. The success of a bilateral project is only ensured once it has been implemented successfully in not just one Chinese city, but has been replicated elsewhere.

The speakers suggested that the biggest challenge facing the EC-Link was its need to prioritize which projects to support from the many that were proposed. Projects were selected if they had a coherent methodology that could be replicated and applied to other Chinese cities, whilst also serving the purpose of the national strategy. The projects which were not selected by the EC-Link would instead be shared with its European partners.

The panel discussed how the policy-making process differs between Europe and China. The example of Hamburg was pointed to, where **a combined ministry covering buildings, traffic and environment made it much easier to implement comprehensive policies**. The same situation exists in Germany at the federal level. **Awareness is also very important**. Given the dramatic emission reduction goals required, it is not possible to achieve them in one sector alone. Hamburg, as a highly-industrialised city, provides a good example of how emission reduction strategies must be spread across all parts of the economy. Government has a role to play in integrating emission reduction strategies, involving industry, experts, as well as local communities.

This level of integration is a big challenge for local government in China, especially as clear direction has not come from the central government. China's ministries are not so coordinated as in Germany. Responsibilities are often split between different ministries and different levels of government. For example, the NEA focuses on project development, MoHURD works on building issues and NDRC on low-carbon and climate change policy. The central government often does not use its combined resources, especially funding and experts, to achieve coordinated outcomes. As a case in point, MoHURD is not allowed to use the word "low-carbon" or "eco city" in its projects. It is the former ministry of construction and there is some institutional lethargy in that regard. However, its agenda is now growing and its work now overlaps with that of the NDRC, the Ministry of the Environment and others.

At the city level, however, the situation may be better. **For cities that aim to be green and sustainable, the initiative usually comes from the local mayor**. This provides the necessary authority to overcome obstacles. Shenzhen provides a good example, where ministries have been combined to cover several areas relating to urban development. In addition, Zhuhai's current mayor and vice-mayor have prioritized sustainable development, especially for transport. While it doesn't have a combined ministry like Shenzhen, it was one of the first cities to create a dedicated office to planning with a comprehensive remit, under the authority of the mayor. For Zhuhai and Shenzhen, this coordination is important in order to sell themselves as "liveable" cities. The panel also commented that there is room for an expanded role for NGOs to play a part of this process.

The National Urbanisation conference will be convened this July in Beijing, chaired by Xi Jinping and Li Keqiang, and involving all of the line ministries. A range of policy paper that have been prepared over the course of the last year will be presented, with the aim to integrating and coordinating urban planning at all levels of government.

Attendees learned that the IBA Hamburg project was financed by both the private and public sectors, receiving funds of 600 million euros and 100 million euros from each respective sector. The private sector were apparently very excited to become involved in the project which offered both a good cause as well as exciting innovation. Further study would be needed to see if the Hamburg financing model could be replicated in China.

The panelists also discussed how EC-LINK worked with Cities Development Initiative for Asia (CDIA) – an initiative of the Asian Development Bank – GIZ and other organisations, in order to offer **Public-Private Partnerships Training (PPP Training) in all ten of the pilot cities**. The training covered a great variety of sectors – including the water and energy sectors. By offering such training, EC-LINK has attempted to make itself more attractive to investors from development banks, commercial banks as well as investment banks.

The speakers claimed that green bonds are gaining more attention within China. Furthermore, the panel acknowledged that increasing green bonds were being issued offshore. For example, London is currently issuing Chinese Yuan as the currency's high liquidity. Similarly, the panel suggest that the Asian Infrastructure Investment Bank represents great potential to further support the growth of low-carbon cities in China and the region.