



# China Carbon Forum | 中国碳论坛

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

---

## Municipal energy policies and concepts: German and Chinese Experiences

### Executive Summary

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.

#### The Smart City: Wilhemsburg Central

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 **how a single neighbourhood could successfully achieve energy efficiency and transition to a renewable energy system.** Over the course of 2006 to 2013, the **IBA Hamburg** developed 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 Wilhelmsburg 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 **the '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 to 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 Wilhelmsburg 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.