U R B A N TRANSITIONS ALLIANCE Industrial legacy. Sustainable future.



URBAN TRANSITIONS ALLIANCE CHINA WORKSHOP Industrial Legacy. Sustainable Future.

EVENT REPORT

30 October 2018

Organizer: ICLEI - Local Governments for Sustainability Supporting organization: Beijing E-Town Location: Cendre Hotel, Beijing

Overview

As they experience growing environmental and social pressures, industrial legacy cities across the Urban Transitions Alliance are proactively re-thinking their infrastructure and advancing their shift towards more sustainable urban systems. Traditionally, different sectors are regarded separately - too often causing important projects and policies to fall short of their potential impacts. Neither sources of a problem nor impacts of responsive actions are usually one-dimensional. Accordingly, pressing challenges like air quality improvement in cities can best be solved when the system is regarded as a whole, including aspects of urban transport and logistics, residential and industrial energy demands, spatial planning and green infrastructure.

The Urban Transitions Alliance China Workshop: "Industrial Legacy. Sustainable Future." gathered nearly 30 participants to establish and discuss a holistic view on the transition process. Experiences from industrial legacy cities and various stakeholders showed how well-managed urban transitions allow local governments to create healthy local environments, vibrant, green economies and good opportunities for citizens.











Key Questions

- What key policies are industrial legacy cities implementing in order to achieve the shift to more sustainable urban systems and to future-proof their urban infrastructure?
- How can instruments like master-planning be used effectively for holistic transition management? Which methods have proven effective for including stakeholders and enabling a transition towards sustainability?
- How are industrial legacy cities answering to the pressing challenge of air pollution, investing in sustainable urban mobility, renewable energy and green infrastructure?
- Where can we see the benefits from integrated and inclusive planning processes? What have cities in transition learned from international cooperation and knowledge exchange?

Key Outcomes

- Discussions focused on governance strategies and comprehensive master planning as tools for tackling concrete urban transition challenges in Chinese and German cities.
- The workshop participants discussed urban transitions as interdependent change processes of dimensions like air quality and also of energy, mobility, infrastructure (including green buildings) and social transitions in order to reflect how cities can navigate them in a holistic and integrated manner.
- The workshop served as a platform for exchange: For the first time, all Chinese UTA cities participated and interacted with German cities and partners to exchange views and learn from each other about ongoing urban transitions in each region. In this regard, the workshop also laid a foundation for UTA stakeholders to understand the challenges and projects being implemented, so that bilateral or multilateral city/partner-pairing and cooperation projects can be planned and considered in the future under the UTA framework.





Workshop Program

Facilitator | Shu Zhu, Regional Director and China Representative, ICLEI East Asia Secretariat

09:00 – 09:45 Managing Urban Transitions towards a Sustainable Future Opening Addresses

Shu Zhu, Regional Director, ICLEI East Asia Secretariat, Beijing, China
Vera Rodenhoff, Head of Division, International Cooperation on Environment, Energy and Cities; OECD and OECD-Countries, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany
Dengli Ming, Chief, Science, Technology and International Cooperation Division, Municipal Environmental Protection Bureau, Beijing, China

09:45 – 10:30 Defining Urban Transitions: How can the Different Transition Dimensions be Navigated in a Holistic and Integrated Way?

Discussion with audience participation

Wei Bai, Deputy Director of Sustainable Studies Center, China Center for Urban Development (CCUD) Lennart Kümper-Schlake, German Federal Agency for Nature Conservation (BfN) Ang Ye, Team Leader, Sino-German Eco-City Cooperation, Energy-Efficient Buildings China, dena – German Energy Agency Shu Zhu, Regional Director, ICLEI East Asia Secretariat

10:30 – 11:00 Coffee Break

11:00 – 13:00 Transition Visions, Challenges and Learnings from Industrial Legacy Cities Presentations + Panel Discussion

> Qingmin Bian, Head, Science and Technology Bureau, Shijiazhuang Yuhua District, China Taiji Lu, Secretary of Party Committee, Environmental Protection Bureau, Beijing Huairou District, China Ling Liu, Deputy Head, Construction and Development Bureau, Beijing Economic-Technological Development Area, China Sebastian Schlecht, Project Manager European Green Capital – Essen 2017, City of Essen, Germany Torsten Wilke, Coordinator, Office for Urban Green and Watercourses, City of Leipzig, Germany

- 13:00 14:00 Networking Lunch
- 14:00 17:00 Site Visit to Beijing Boda Water Co. Ltd
- 18:30 20:00 Reception "Trends in Architecture in China and Germany" On invitation of NAX; Hosted by the Germany Embassy in Beijing



Managing Urban Transitions towards a Sustainable Future

With structural changes being one of the ad-hoc topics, cities worldwide are pushing forward transitions of various kinds. The Urban Transitions Alliance believes that sustainability should stand at the core of urban transitional processes.

Shu Zhu, Regional Director and China Representative of ICLEI East Asia, warmly greeted the guests and participants with a short welcome speech, and briefly updated the audience on the latest progress and activities of the Alliance.

Through coordinating international forums, thematic webinars, and Alliance Challenge Exchange Calls, the UTA allows participating local governments to cooperate closely to identify common challenges, share knowledge, co-create solutions and forge strong working relationships with peers, experts and private sectors in the four core working areas of energy, mobility, infrastructure, and social transition.

Vera Rodenhoff, Division Head for International Cooperation on Environment, Energy and Cities; OECD and OECD-Countries, of the German Federal Ministry for the Environment, Nature, Conservation and Nuclear Safety, stressed that integrating nature into cities is not only pleasant for the residents and good for human health, but also prevents negative impacts of climate change and heat-island effects. "Though at very different scales, German and Chinese industrial legacy cities are facing similar challenges related to climate change," she added, "and it is worthwhile for both sides to learn from each other."

Dengli Ming, Chief of the Science, Technology and International Cooperation Division of the Beijing Municipal Environmental Protection Bureau, shared key insights from Beijing's 20 years of experience on air quality and environment improvement. "Many European cities have gone through industrialization a long time ago, and have entered the stage of transition toward a sustainable future;" she said, "on the other hand, Chinese cities only started to industrialize three decades ago, and the process is still on-going in many places. Through participating in networks like ICLEI and exchange programs like the UTA, Chinese local governments are provided with opportunities to learn from experiences of cities in Germany and many other countries in the world."



Shu Zhu, Regional Director and China Representative, ICLEI East Asia Secretariat \circledcirc ICLEI East Asia



Vera Rodenhoff, Head of Division, International Cooperation on Environment, Energy and Cities; OECD and OECD-Countries, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany © ICLEI East Asia



Dengli Ming, Chief of the Science, Technology and International Cooperation Division, Beijing Municipal Environmental Protection Bureau, China © ICLEI East Asia



Defining Urban Transitions

Following the opening session, experts from China and Germany had a through discussion on the key question of "how can the different transition dimensions be navigated in a holistic and integrated way?"

Urban Transitions in China

Wei Bai from the China Center for Urban Development presented the general trend of urban transitions in



Wei Bai, Deputy Director of Sustainable Studies Center, China Center for Urban Development © ICLEI East Asia



Lennart Kümper-Schlake, German Federal Agency for Nature Conservation © ICLEI East Asia



Ang Ye, Team Leader, Sino-German Eco-City Cooperation, Energy-Efficient Buildings China, dena – German Energy Agency © ICLEI East Asia

China. Due to external factors and the need to improve production capabilities, many medium and small-sized industrial cities and towns in China face urgent needs for transitions and industrial upgrades. Following the Chinese national policy of constructing characteristic towns, many resource-exhausted cities in China are striving to move away from traditional industries, discover and embrace local characteristics, and strategically strengthen emerging industries with extended service industries.

With the "Revitalizing Three Olds – Old Towns, Old Villages, and Old Factories" project in Guangdong Province as an example, Wei Bai suggested including urban spatial replanning and re-distribution to be an effective tool for leveraging investments. In addition, she also highlighted the accessibility to robust education systems and high quality medical services as assets that make a city livable. "After all," she concluded, "attracting talent to stay is the key to making a city sustainable."

Green Infrastructures for a Sustainable Future

While the concept of nature conservation is often regarded as a classical tool to preserve the nature in rural areas, in recent years, the attention began to shift towards urban nature.

Lennart Kümper-Schlake of the German Federal Agency for Nature Conservation pointed out that the greening of urban infrastructures plays a dominant role in a number of German cities' transitions from industrial legacies, as it entails multifunctional and cost-effective benefits and has great potential to provide cities with possible solutions to problems including climate change adaptation, nature conservation, and human well-being.

The shift towards greener infrastructures, however, is a complicated process, as it requires the transformation of the entire setting of the urban area from a gray infrastructural setting to one with a mixture of green and gray infrastructures.

In order to successfully implement and maintain green infrastructures, Kümper-Schlake summarized funding for maintenance, capacity and integration as critical issues to be considered. "While there has been a good amount of



investment in green infrastructures in Germany" he said, "lack of funding for maintenance has been a major and continuous problem."

Capacity is another common problem among German cities. Quantitatively, there is a low in numbers of staff equipped with required capacities to carry out and maintain green infrastructure projects; and qualitatively, local governments tend to encounter knowledge shortage when it comes to specific technical questions such as "which kind of trees could bring the positive effects we were expecting?"

Finally, integration measures are also key for successful implementations. While vertical integration is crucial, it is also important to coordinate horizontal integrations between departments to ensure that sectors are following the shared goals of local master plans. In addition, exchanges at the subnational level are also vital as this is usually where changes take place.

Integrated Master Plans Based on Local Needs

Ang Ye of the German Energy Agency highlighted the importance of developing integrated master plans for urban transitions specifically tailored for local needs. She explained how German cities manage their transitional plans strategically in an integrated and holistic manner, with decision-making and coordination between sectors taking place at the mayoral level. However, she encouraged Chinese cities to firstly identify their positions under the national framework, and develop clear visions and objectives before determining pathways for their local transitions, as the starting point of cities could be vastly different.

With delivering green building projects as an example, Ang Ye said, "while German cities may focus on professional capacity development of the personnel, Chinese cities, in some cases, may need to develop an entire supply chain." Thus, although Chinese cities could learn from successful experiences of German and other European cities through international cooperation, it is important that they know their local capacity and challenges, so as to apply appropriate solutions accordingly.

Ang Ye also reminded local governments to maximize the positive impacts and to seek new opportunities created as a city transitions. For instance, when pushing forward a green building project, the city may also need to consider emerging issues such as: how to store the energy generated by solar panels, how to distribute the benefits, and how to calculate electricity fees. More importantly, how to mobilize citizens and various stakeholders to participate in the process is also a critical question cities may encounter when navigating their transitions.





Transition Visions, Challenges and Learnings from Industrial Legacy Cities

On this occasion, representatives from three Chinese participating local governments of Beijing Economic-Technological Development Area (or "E-Town"), Beijing Huairou District, and Shijiazhuang Yuhua District, and two German cities of Essen and Leipzig all presented their local actions and experiences in transitioning away from industrial legacies, and exchanged on common challenges they are facing in the process.

Visions and Challenge of Chinese Cities

Confronted with air pollution and structural changes of industries following the rapid industrialization, **Shijiazhuang Yuhua District** expanded its support of innovative technologies and guided upgrades of local enterprises. At the same time, the District also seeks to strengthen international cooperation to attract foreign investment and upscale export-oriented industrialization. Yuhua District identifies the lack of higher education and institutions of science and technology; shortage of talent and human resources; and the need to improve outdated policies and implementation mechanisms as the main challenges at the current stage of its transition.

In maintaining its position as the ecological district of the Capital city, **Beijing Huairou District** formed an advisory group to formulate and implement action plans on environmental and ecological development, and has strengthened the construction of scientific research infrastructure to gather institutions, universities, and enterprises and also to support high-end science and technology development. Furthermore, Huairou District is seeking to foster the film and television industry originated in the area since 1995.

The transformation of **Beijing E-Town** from an agricultural area into an urban-industrial hub began in 1992, making it the youngest member of the UTA when it comes to industrial development. Recognizing that buildings are basic components of cities, yet also the main bodies of energy consumption and greenhouse gas emissions, Beijing E-Town has identified green buildings as a key area of the transition towards a community with green development and high quality of life. In line with these efforts, E-Town is also striving to expand utilities and social services to meet the needs of the growing population.

Experiences and Learnings from German Cities

The city of **Essen** is located next to the Ruhr River and at the center of the Ruhr Metropolis region. Essen's identity as an industrial legacy city is rooted in the massive coal mining and steel production that began in the early 19th century and turned the Ruhr region into Germany's industrial heart.

The beginning of the mining industry crises in the late 1950s, however, compelled the Region to undergo an active structural shift. The State recognized science and knowledge as the basic



Qingmin Bian, Head of Science and Technology Bureau, Shijiazhuang Yuhua District © ICLEI East Asia



Taiji Lu, Secretary of Party Committee, Environmental Protection Bureau, Beijing Huairou District © ICLEI East Asia



Ling Liu, Deputy Head, Construction and Development Bureau, Beijing E-Town © ICLEI East Asia



tools to follow modern technological developments, and made investments in upscaling higher education, turning the Ruhr into the densest university region in Europe.

From 1989 to 1999, the 100-year structural changes program of the International Building Exhibition Emscher Park (IBA) continued to develop and accelerated the ecological, economic and social renewal of the Region. Under the program, the Emscher Landscape Park was reconstructed to connect fragmented green structures into a coherent park system with open spaces accessible for public; old railway dams were converted into a bike path network; and the ongoing conversion of the river Emscher has shown positive impacts on its ecosystem and surrounding landscape. In fact, parts of the river were reopened for swimming in 2017, after 46 years of prohibition due to water contamination.

Essen's successful structural change and sustainability transition culminated in the title of "European Green Capital 2017". Moving into the future, Essen identifies mobility as a key transition challenge, and has set the goal to reduce car traffic by 50% in the next 17 years while increasing cycling rates. At the same time, the city also strive to steady citizen engagement and expand international cooperation.

Just like other cities in Eastern Germany, the city of **Leipzig** had to face strong structural changes in the past 25 years. Following the industry collapse and serious population loss in the 1990s, Leipzig closely incorporated the European approaches of urban policies for sustainable development, and since then manages its transitions through strategic planning. The requirements of different sectors are taken into consideration, and targeted engagement strategies ensure that the city's activities are designed to match the needs of its citizens.



Sebastian Schlecht, Project Manager European Green Capital – Essen 2017, City of Essen © ICLEI East Asia



Torsten Wilke, Coordinator, Office for Urban Green and Watercourses, City of Leipzig © ICLEI East Asia

The renewing process of Leipzig began in the 1990s with a first transition phase that focused on saving the building stock, followed by the second phase of residential environment development; the third and fourth phase of functions development and countering population loss were implemented in the 2000s. From the 2000s, the city focused on creating sustainable growth. During these years, Leipzig vastly improved its investment conditions by developing open and green spaces in residential areas, and by converting a former coal-mining area into the Cospuden lake. In addition, green cycling and walking paths were built in the city and old cannels were redeveloped into attractive waterways for canoes. The successful transition has turned Leipzig into one of the top growing cities in Germany in recent years.

Site Visit Program

In the afternoon, participants visited Beijing Boda Water Co. Ltd, a wastewater treatment company located in Beijing E-Town. The UTA member district has been working proactively against challenges of air pollution and lack of resources.



The Beijing Boda Water Company uses water resources as an example to demonstrate how to integrate an energy-saving and energy-efficient system in an industrial zone, and how this can contribute to local air quality improvement.

Established in 2008, the company has four large-scale water plants as well as a science and technology research and development center. It specializes in regional wastewater treatment, water re-using and related technology development; offers additional transfer and consulting services; and provides environmental protection investment and operation management.

Beijing Boda Water is the first specialized enterprise in Beijing that uses membrane technology to engage in municipal and industrial wastewater reprocessing on a large scale. It is also the first domestic modern enterprise to produce high-quality reclaimed water that could be directly used in industrial enterprises. From 2009 to 2017, Beijing Boda Water produced a total of 68.32 million tons of high-quality reclaimed industrial water, equivalent to 25 days of running water in the City of Beijing. Reclaimed water accounts for 35% of the total water supply in the Development Area.



Participants visited Beijing Boda Water © ICLEI East Asia



Participants visited Beijing Boda Water © ICLEI East Asia



Participants visited Beijing Boda Water © ICLEI East Asia





Workshop Participants

- 1. Wei Bai, Deputy Director of Sustainable Studies Center, China Center for Urban Development (CCUD)
- 2. Qingmin Bian, Head, Science and Technology Bureau, Yuhua District, Shijiazhuang, China
- 3. Felix Bleich, Project Assistant, Energy-Efficient Buildings China, Berlin, Germany
- 4. Yuting Chang, Communication Officer, ICLEI East Asia Secretariat, Seoul, South Korea
- 5. **Jie Chen**, Deputy Head, Environmental Protection Bureau, Beijing Economic-Technological Development Area, China
- 6. Jing Guan, Program Officer, China Center for Urban Development (CCUD)
- 7. Katja Hellkötter, Founder I Managing Director, CONSTELLATIONS International, Berlin, Germany
- 8. **Christoph Hoja**, Architect and Urban Planner, Project Manager Senate Department for Urban Development and Housing, Berlin, Germany
- 9. **Ping Kong**, International Project Advisor, UNESCO WHITRAP and Member of Advisory Board, Institute Heritage Studies, Berlin, Germany
- 10. Daniel Krahl, Advisor, Liaison Office Sino-German Urbanisation Partnership, GIZ, Berlin, Germany
- 11. Lennart Kümper-Schlake, German Federal Agency for Nature Conservation (BfN), Bonn, Germany
- 12. Elena Lichtenthaler, Policy Fellow, merics Mercator Institute for China Studies, Berlin, Germany
- 13. Ge Liu, Program Officer, ICLEI East Asia Secretariat, Seoul, South Korea
- 14. Ling Liu, Deputy Head, Construction and Development Bureau, Beijing Economic-Technological Development Area, China
- 15. Taiji Lu, Secretary of Party Committee, Environmental Protection Bureau, Beijing Huairou District, China
- 16. **Dengli Ming**, Chief, Science, Technology and International Cooperation Division, Beijing Municipal Environmental Protection Bureau, China
- 17. Jiayi Mu, Officer, Environmental Protection Bureau, Beijing Huairou District, China
- 18. Ralf Niebergall, Vice President, Federal Chamber of German Architects, Berlin, Germany
- 19. Vera Rodenhoff, Head of Division, International Cooperation on Environment, Energy and Cities; OECD and OECD-Countries, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany
- 20. Claudia Sanders, Project Coordinator, Network for Architecture Exchange NAX, Berlin, Germany
- 21. Peter Sailer, Project Director Sino-German Urbanisation Partnership, GIZ, Beijing, China
- 22. Sebastian Schlecht, Project Manager European Green Capital Essen 2017, City of Essen, Germany
- 23. Jonas Schorr, Start-Up Entrepreneur, Founder of URBANImpact, Berlin, Germany
- 24. **Junli Wang**, Officer, Environmental Protection Bureau, Beijing Economic-Technological Development Area, China
- 25. **Keyao Wang**, Architect, Founder of ZHI Space Xian, German Chancellor Fellowship (2017), Berlin/Bonn, Germany and Xian, China
- 26. Lihua Wang, Deputy Director, Science and Technology Bureau, Yuhua District, Shijiazhuang, China
- 27. Torsten Wilke, Coordinator, Office for Urban Green and Watercourses, City of Leipzig, Germany
- 28. **Ang Ye**, Team Leader, Sino-German Eco-City Cooperation, Energy-Efficient Buildings China, dena German Energy Agency, Berlin, Germany
- 29. Shu Zhu, Regional Director, ICLEI East Asia Secretariat, Beijing, China