Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Webinar

Chinese Experiences to Support Local Climate Action

03 August 2015, 11:00 UTC/GMT



Transformation - Urban Opportunities - Climate Change (TUrbOCliC)

Cross-sectoral group of the TUEWAS and SNGA network of GIZ

Programme

- **Welcome and Moderation**
  Vaishali Nandan, Joint Speaker of TUrbOCliC TUEWAS Working Group
- **Presentations:**
  - **Local Low Carbon Development in China**
    Ms. Ursula Becker, GIZ Project Director
  - **Know-How Dissemination for local climate action**
    Dr. Stefan Werner, GIZ Program Manager
  - **Integrated urban energy concept development**
    Mr. Paul Recknagel, GIZ, Senior Program Manager
  - **Up-scaling of Building Renovation Project**
    Dr. Volkmar Hasse, GIZ Program Director
- **Discussion and Wrap-up**

Local Low Carbon Development in China

Policy Dialogue with the National Development and Reform Commission (NDRC)

BMUB IKI Project

Sino-German Climate Partnership and Cooperation on Renewable Energies

Presented by

Ursula Becker, GIZ Beijing
Project Director

I. Overall Framework

1) China's national arrangement for addressing climate change

National Leading Group to Address Climate Change

State Council	NDRC	MFA	MoE
MoST	MCA	MoF	MLR
MEP	MoHURD	MOT	MWR
MoA	MOH	MIIT**	MofCOM
AQSIQ	SAT	SFA	CAS
CMA	NEA*	STATS	SOA

Leading Group Office: National Development and Reform Commission (NDRC)

Responsible department: Department of Climate Change, NDRC

Local Leading Group to Address Climate Change

Composed by local DRC, Bureau of Finance, Bureau of Meteorological Administration, etc.

China's National Climate Change Programme

National low carbon provincial and city pilots; National Emissions Trading Scheme (ETS) pilots

National low carbon industrial park pilots

Other pilot projects

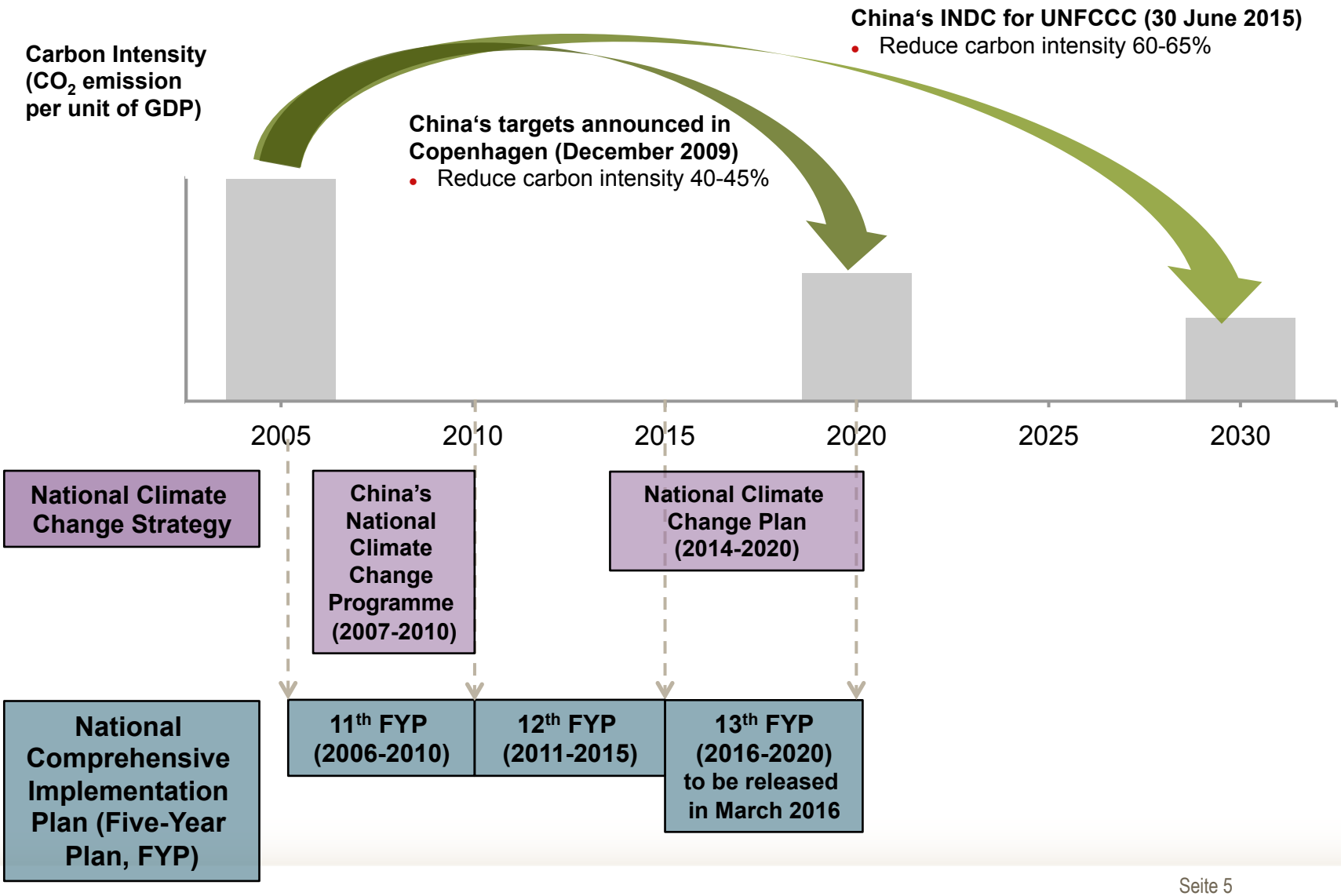
Local low carbon pilots implementation plan

*NEA: National Energy Administration

** MIIT: Ministry of Industry and Information Technology

I. Overall Framework

2) China's national targets and politic framework



II. Low Carbon Development at Local Level

1) Low carbon development in pilots

The 12th Five-Year Plan (2011-2015)

- Promote low carbon development in pilots
- Accelerate the development of low-carbon technologies
- Establish low-carbon product standards, labeling and certification system
- Establish greenhouse gas emissions statistical accounting system
- Gradually establish a carbon emissions trading market

NDRC
National low carbon provincial and city pilots
(since July 2010)

- 1st batch: July 2010
  5 provinces and 8 cities
- 2nd batch: December 2012
  1 province and 28 cities
- Up-scaling until 2013:
  at least 1 pilot in 30 provinces / provincial level municipalities and regions
  (34 provinces in total)

NDRC
National Emissions Trading Scheme (ETS) pilots
(October 2011)

- Testing of ETS in 7 pilots
- All 7 ETS pilots in operation since June 2014
- National ETS is scheduled to be launched in 2016.

NDRC & MIIT
National low carbon industrial park pilots
(September 2013)

- 1st batch: July 2014 to 2016
  55 industrial parks
- All industrial park pilots are required to submit implementation plans.

II. Low Carbon Development on Local Level
2) Low carbon development in communities

Political Framework:

Low Carbon Community Pilots Construction Notice (NDRC, March 2014)
Guide to Low-carbon Community Pilots Construction (NDRC, February 2015)

Overall objective: Promote low carbon development on community level

1) Built 1,000 low carbon community pilots nationwide
2) Built a batch of national pilots of low carbon community

Implementation entities

- NDRC
- Provincial DRCs
- City / county DRCs
- District governments
- Community committees
- Other stakeholders

DRCs on all levels are required to work with other stakeholders

Procedures

- Provincial strategy plan
- Pilot selection & application
- Planning & approval of implementation plan
- Implementation
- Monitoring
- Experience sharing

II. Low Carbon Development at Local Level

2) Low carbon development in communities

Guide to Low-carbon Community Pilots Construction (NDRC, February 2015)

Categories

- **Newly-built** urban communities
- **Existing** urban communities
- **Rural** communities

Key Areas for Action

- Carbon emissions reduction
- Spatial layout
- Building
- Transport
- Energy system
- Water system
- Waste treatment
- Environmental aspects & afforestation
- Management of community operations
- Low carbon lifestyle

Evaluation Index / Indicator system

Table 1: Index system for pilot construction in newly-built urban communities

Grade-one Index	Grad-two Index	Nature of Index		Target Reference Value
Carbon emission	Rate of decrease in community carbon dioxide emission	Obligatory		≥ 20% (comparing to baseline scenario)
Spatial layout	Comprehensive plot ratio of construction land	Obligatory		1.2-3
	Ration of public service land		Inductive	≥ 20%
	Ratio of industrial land and residential land		Inductive	1/3-1/4
Green building	Qualification rate of community green buildings		Inductive	≥ 70%
	One-star qualification rate of green building in newly developed indemnification housing	Obligatory		100%
	Two-star qualification rate of green building in newly developed commercial buildings	Obligatory		100%
	Ratio of industrialized construction area in newly developed buildings		Inductive	≥ 20%
	Ratio of construction area of newly developed fine-decorated residential buildings		Inductive	≥ 30%
	Road network density	Obligatory		≥ 3km/km^2

III. Conclusions

- **Political framework, overall strategy and more detailed guidance for Low Carbon Development at community level are in place**
- **Implementation at local level is still challenging due to:**
  - Missing guidance and experience on how to involve all necessary stakeholders
  - Missing fiscal support and / or missing incentive mechanisms

→ Capacity development at local level to bridge missing experiences

→ Integration of low carbon measures into the „normal“ development plans instead of regarding them as additional requirement

IV. Capacity development supported by the Sino-German Climate Partnership

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Training on low carbon planning and evaluation

- **Ganzhou** and **Jingdezhen** used trained skills and experiences for the compilation of their **low carbon development plans**.
- Both plans had been approved by NDRC and the cities were acknowledged as national low carbon pilot cities (December 2012).

- **Stakeholders in Jiangxi utilized their knowledge gained** when issuing the "Notice on Developing Low-Carbon Community Demonstrations".
- The notice includes assessment criteria and was announced in September 2013 (even before the national low carbon plan was released).

江西省发展和改革委员会办公室文件

赣发改办气候〔2013〕81号

江西省发展改革委办公室关于开展创建低碳示范社区活动的通知

各设区市发展改革委：

为贯彻落实省委、省政府"发展升级、小康提速、绿色崛起、实干兴赣"的重大战略布署和《江西省"十二五"控制温室气体排放实施方案》，积极探索建设富裕和谐秀美江西的科学发展路

Experience exchange on low carbon technologies & best practice

- Jiangxi Provincial Biomass Technology Research Center

Know-How Dissemination for local climate action

Cooperation with MoHURD (Chinese Ministry of Housing and Urban-Rural Development) to enable key actors in Chinese cities

BMUB IKI Project

Qualification of Key Actors on Energy Efficiency in the Building Sector (KABEE)

Presented by

Dr. Stefan Werner, GIZ Beijing
Program Manager

Chinese Low Carbon Urban Policy frame

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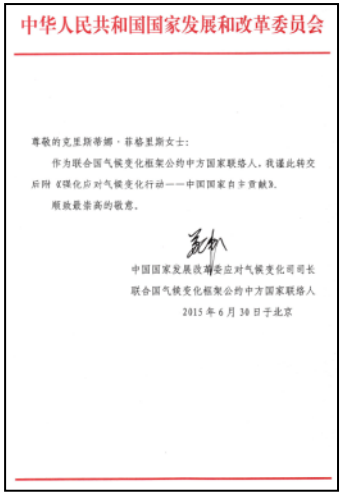
China's INDC for UNFCCC (30 June 2015)
-Carbon emission peak by 2030
-Lower carbon intensity by 60-65% by 2030 (2005)


中华人民共和国国家发展和改革委员会

尊敬的克里斯蒂娜·菲格里斯女士：

作为联合国气候变化框架公约中方国家联络人，我谨此转交后附《强化应对气候变化行动——中国国家自主贡献》。

顺致最崇高的敬意。

中国国家发展改革委应对气候变化司司长
联合国气候变化框架公约中方国家联络人
2015年6月30日于北京

2011-2015 12th Five-Year-Plan
-Reduce energy intensity by 16%
-Reduce green house gas emission by 17%
-Ambitious 13th FYP is in preparation

2013 Green Building Action Plan
-New Buildings: 1 billion m² Green Buildings
-Retrofitted Buildings: 400 Mio. m²
-Reform of the heating system
-Promotion of Eco-Urban districts

2014-2020 National New Urbanisation Plan
-Optimize form and layout of urbanization
-Strict construction quality management
-Improvement of planning processes
-Integration of urban and rural development

How to locally implement in cities?!

Political Partner of KABEE project
Mr. HAN Aixing, Vice Director
Dep. Building Energy Efficiency, MoHURD

KABEE commissioned by: BMUB IKI

Project Duration: 12/2013-01/2016

Implementation Partners:
-Chinese Academy of Governance (CAG)
-National Academy for Mayors of China (NAMC)
-Chinese Society for Urban Studies (CSUS)
-Science, Technology & Industrialis. Dev. Center (CSTC)

Demand to support local climate action in China

1、 Enable local key actors with the help of German Know-How on energy efficiency in cities.

2、 Develop training materials and training formats for the cities based on the local training demand.

3、 Set up a trainer pool for MoHURD for effective dissemination into cities.

4、 Embed developed training capacities into existing training structures of MoHURD, CAG, NAMC, CSUS & CSTC.

Know-How Dissemination into cities

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Chinese Trainer Pool to bring Know How to Chinese cities

6 training modules on energy efficiency in cities

Replicable Training formats in China & Germany

The 6 training modules

Content scope

German Know-How on energy efficiency in cities

- Policies
- Standards | Strategies | Financing
- Technical Concepts | Implementation Management | Success Factors Learnings

6 Topics:

1. Comparison of energy efficiency in cities
2. Energy efficiency in buildings
3. Energy efficiency through integrated approaches
4. Energy efficiency in industry parks
5. Application of renewables in cities
6. Comparison of low carbon urban development concepts

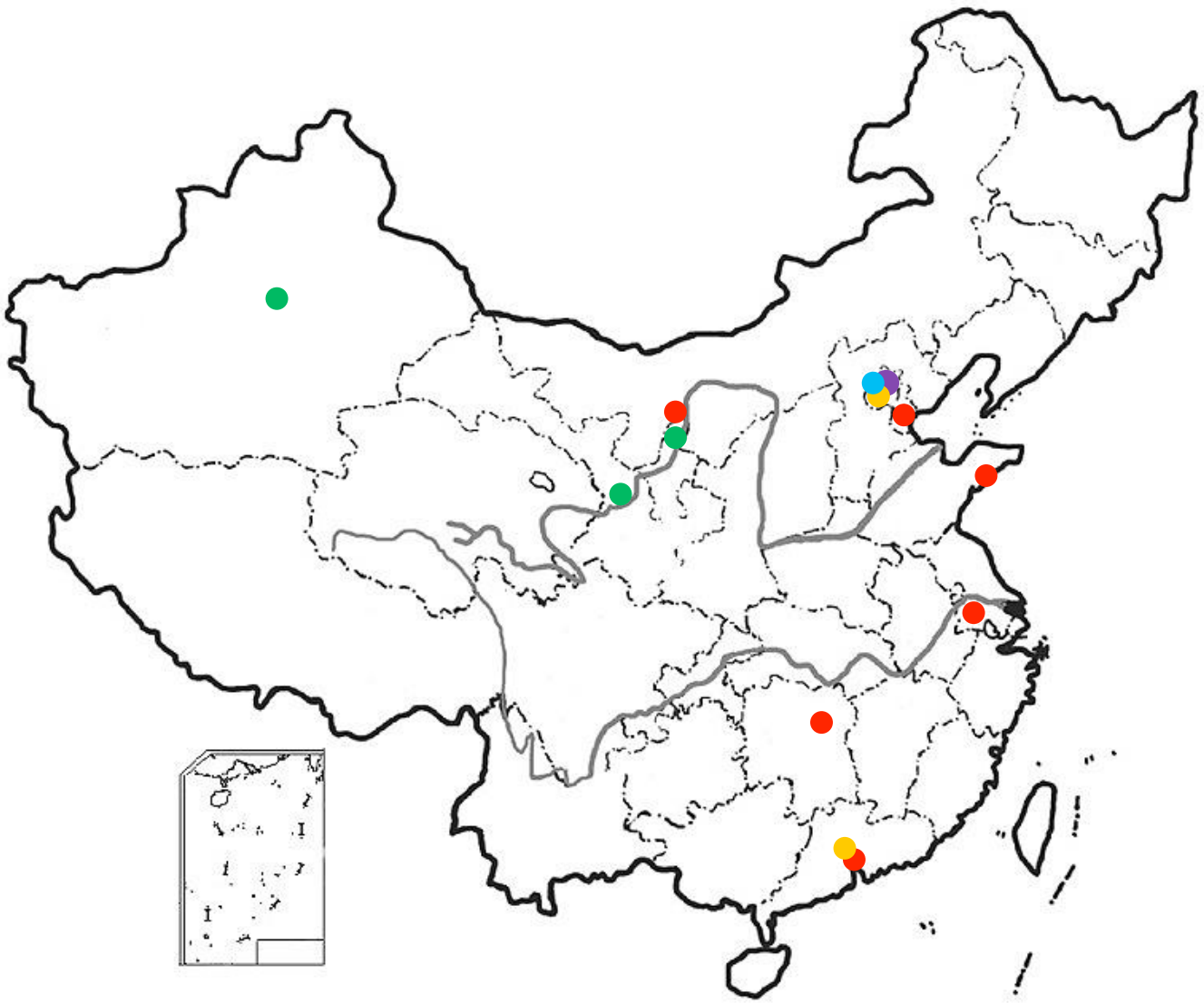
Training Materials:

-Textbooks
-Trainer Manuals
-PPT-presentations

Future challenge…

Incremental adjustment to local situation & Integration of Chinese case studies by MoHURD trainers

Local trainings



Legend:

- Roadshows in cities with CSTC
- Provincial seminars with party schools & CAG
- Training for Trainer seminars with MoHURD
- Contributions to national conferences with CSUS
- National seminars for mayors with NAMC

如果您对我们的培训内容感兴趣，请联系我们！愿为您提供更多信息。

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建筑节能领域关键参与人能力建设项目

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On behalf of
Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety
of the Federal Republic of Germany

通往能源节约型和气候友好型城市之路

组织中德知名专家，开展内容系统深入、形式丰富多样的培训活动，为您提供高品质的德国知识和实践经验，帮您解决在通往能源节约型和气候友好型城市之路上面临的各种挑战！

中国城市的能源消耗和二氧化碳排放占全国总量的80%以上，而建筑能耗又约占其中的1/3。城市建筑领域的节能对于实现国家能源节约和气候变化减缓战略目标至关重要。

各级政府及企事业单位已经意识到节能减排的重要性并开始采取行动，然而却缺乏相应的专业知识来指导城市科学的实现节能减排目标，尤其是建筑领域的节能减排。

德国在建筑节能领域积累了深入广泛的经验，可以为中国现阶段的发展所借鉴。由中国住房和城乡建设部与德国联邦环境、自然保护、建筑和核安全部合作开展的"建筑节能领域关键参与人能力建设"双边培训项目，旨在为中国各级政府及企事业单位搭建一个学习借鉴德国建筑领域节能减排先进技术和知识的平台。

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Thank you for the attention!

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Development of Integrated Energy Concepts

Cooperation with NEA (National Energy Administration) to support New Energy Cities in China

BMUB IKI Project

Sino-German Climate Partnership and Cooperation on Renewable Energies (CoRE)

Presented by

Paul Recknagel, GIZ Beijing
Senior Program Manager

Sino-German Cooperation on Renewable Energies – CoRE
中德可再生能源合作项目

Political and ministerial dialogue for RE & Policy advise
政府对华

Capacity building and scientific advise for selected New Energy Cities in China
示范城市指导与培训

Dialogue platform for Chinese Pilot Cities
示范城市间的交流平台

Bilateral Exchange
双边对话

Integrated Energy Concepts
城市综合能源规划

Exchange of best practices
城市间交流

Strengthen the Sino-German cooperation on renewable energy and city level energy policy
加强中德可再生能源合作

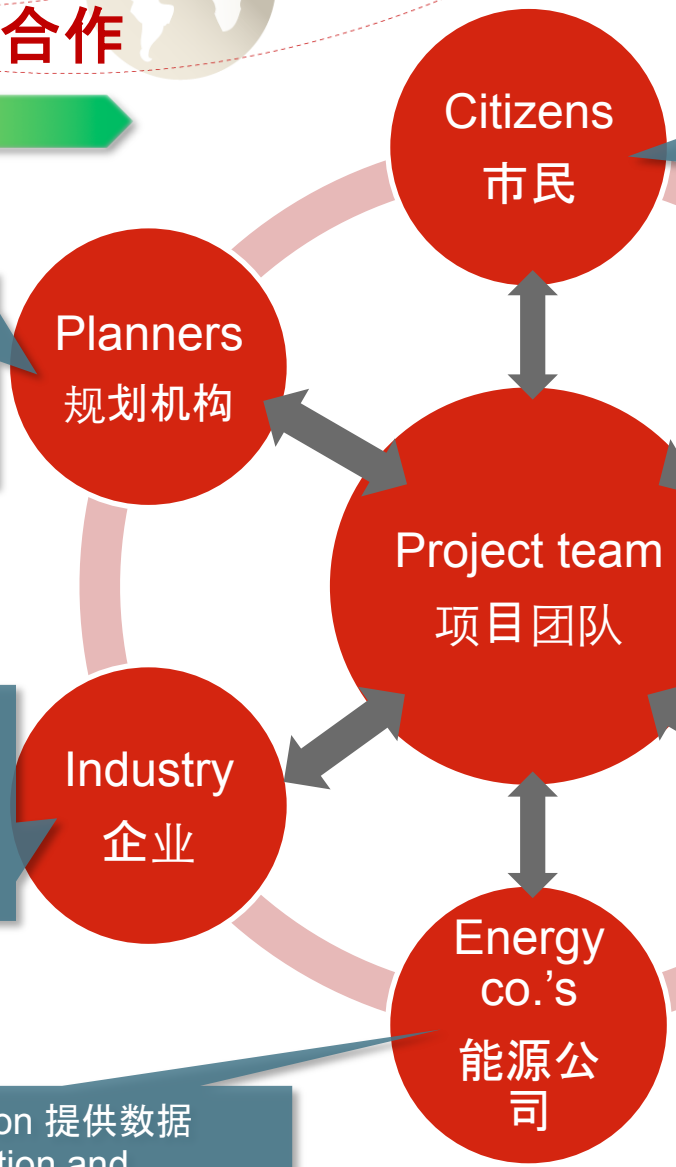
Policy advice and technical support for the development of *integrated energy concepts for Pilot Cities*
城市间针对能源规划的咨询指导

City-level energy concept development process

Continuous monitoring, evaluation and optimization

Stakeholder involvement
利益相关方的合作

Stakeholder involvement



- Public information events 宣传会
- Target of incentives 制定激励方案
- Participation in workshops and round tables 参加圆桌会议

- Implementation partners 潜在实施伙伴
- Coordination of measures 方案协调

- Define targets 设定目标
- Organization of process 组织活动
- Public relations 公共关系

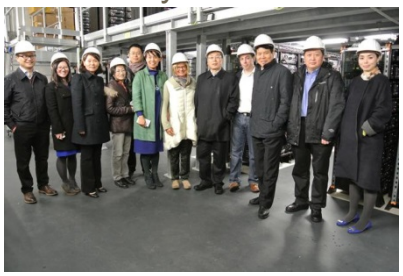
- Large energy consumers 大型耗能企业
- Potential investors 潜在投资商

- Planning work 规划
- Data provision 提供数据
- Communication直接沟通

- Data provision 提供数据
- Grid connection and expansion 电网改造

Current progress

- First study tour to Germany on “Energy transition, renewable energy and city-level energy concepts”



- Selection of three Chinese pilot cities: Dunhuang, Jiaxing (Xiuzhou) and Xintai



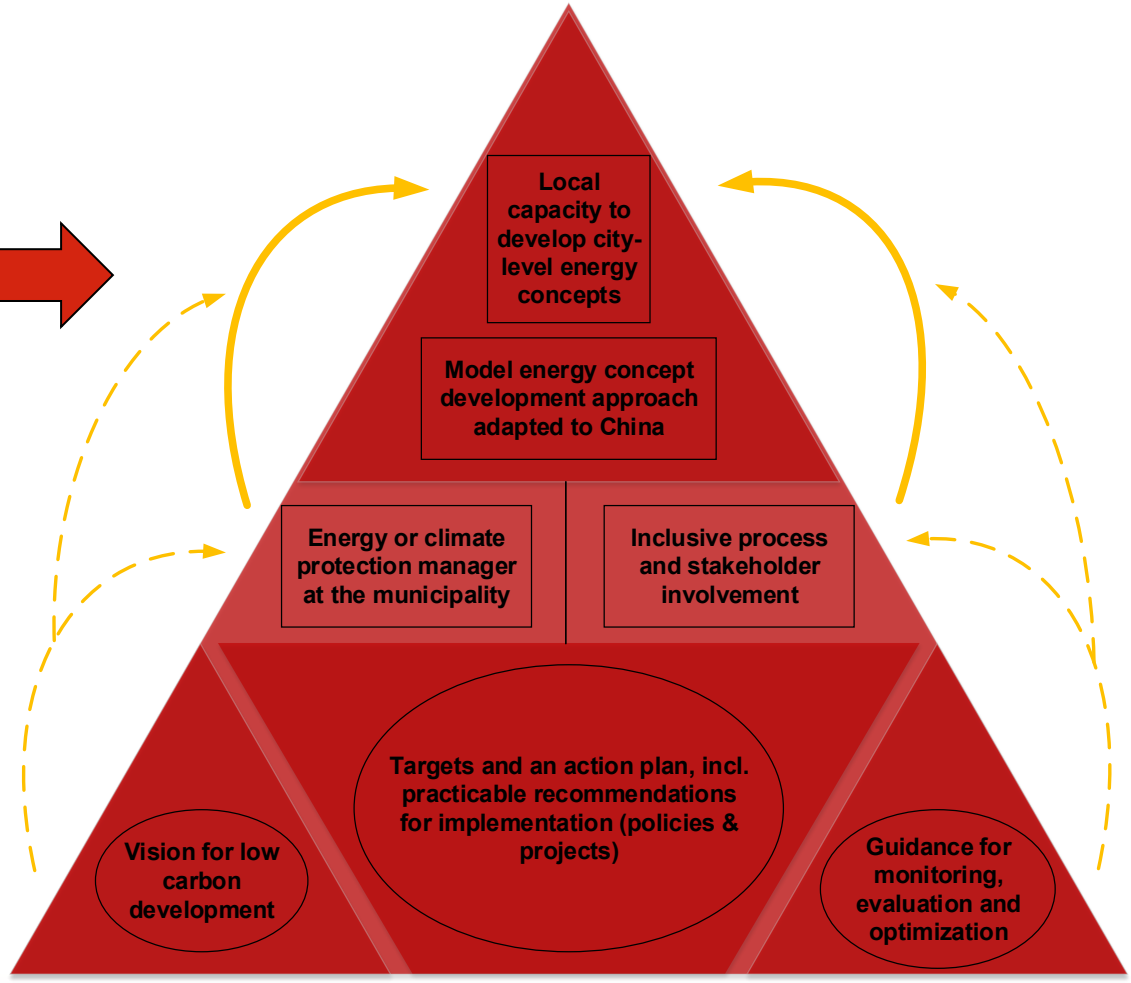
- Cooperation agreement with Sino-German New Energy Demonstration Cities signed
- Tender process for consulting services
- Data collection
- Build a web-based information & dialogue platform for Chinese Pilot Cities

Expected outcomes - building the foundation to drive local action

Long-term national results

Pilot city implementation

CoRE impetus and support



For more info: paul.recknagel@giz.de

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Up-scaling of Building Renovation Project

Advising the Peoples' Bank in Jiangsu
to meet their energy saving targets

BMUB IKI Project
Low Carbon Development
in the Jiangsu Province of China

Presented by

Dr. Volkmar Hasse, GIZ Beijing
Program Director Low Carbon Urban Development

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Energy-efficient retrofitting of the main branch building of the People's Bank of China in Zhenjiang City, Jiangsu Province

- **Goal: reduce energy consumption by 20% within 5 years (4% per year)**

→ **Approach: Energy-efficient retrofitting of buildings scheduled for renovation**

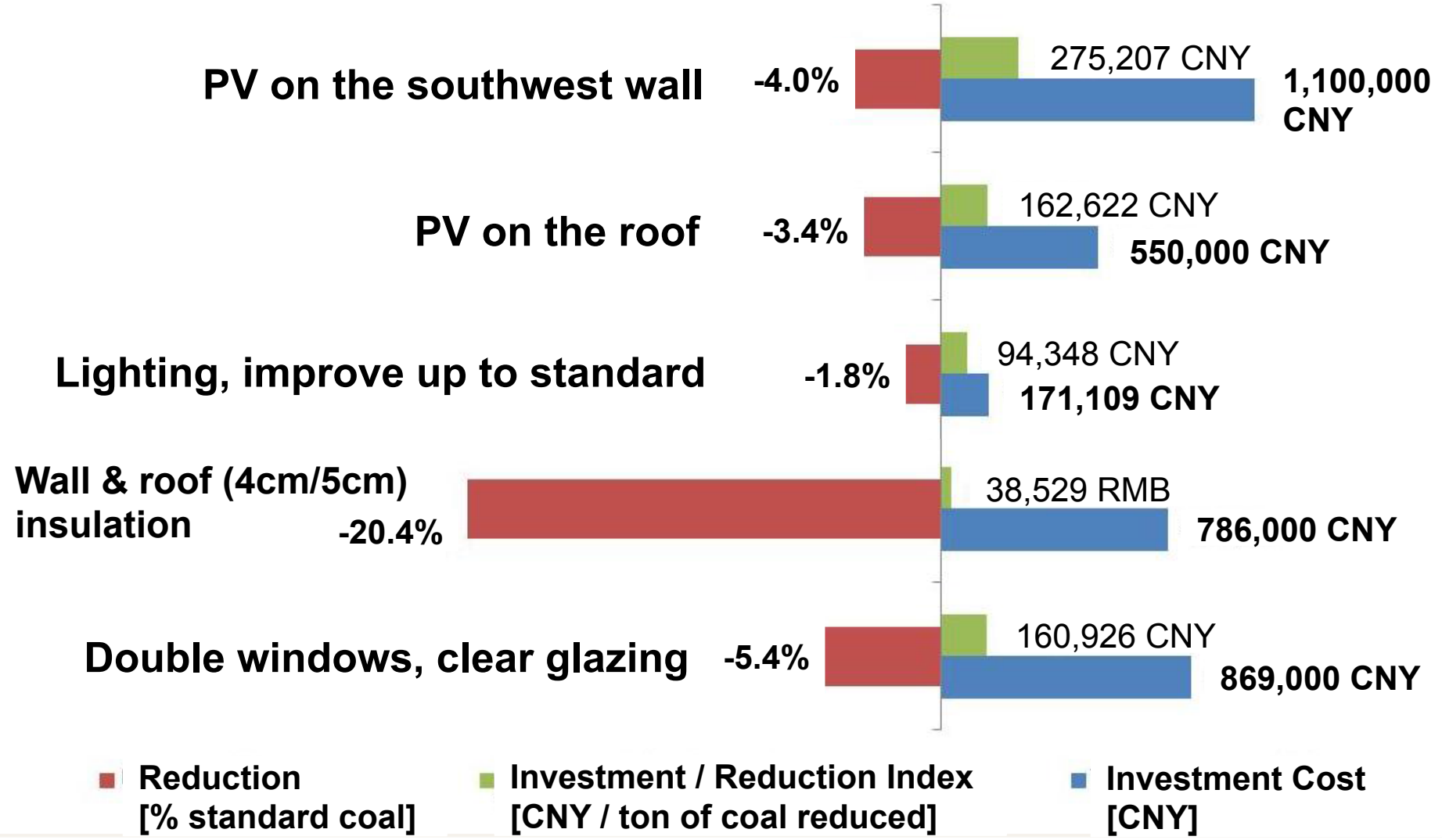
中国人民银行
THE PEOPLE'S BANK OF CHINA

Pilot project in the city of Zhenjiang

- **March 2013: GIZ was asked for advice on retrofitting the main office building**
- **August 2013: EnergyDesign Shanghai was commissioned to develop a *holistic energy efficiency renovation concept***

energydesign Shanghai
Office for Sustainable Built Environment Engineering

Energy use improvements of the People‘s Bank of Zhenjiang



Implementing the Energy Concept

In August 2014 the People's Bank of China in Zhenjiang started to implement suggested measures for more energy efficiency and CO2-emission reduction

Photovoltaic installation on
- **The roof top** **-3.4%**

Lighting improvements
- **Utilization of daylight**
- **Lighting control systems**
- **Efficient luminaries** **-1.8%**

Improvement of the envelope
- **Double glazing windows** **-5.4%**
- **Wall and roof insulation** **-20.4%**

Additional Improvement:

HVAC of computer room
- **Internal insulation**
- **Natural cooling**
- **Controlled ventilation**

55% savings of computer room AC power

Overall minimum power savings:

expected ca. 30%

Implementation status March 2015

Installation of inner insulation (ALC boards)

Conclusion

Advantages of the developed energy retrofitting concept

- **Developed in close cooperation with building owners**
- **Exceeding CO_2-reduction goals under the 12th Five Year Plan**
- **Modular basis allows flexible application and step by step implementation**
- **Easily replicable for a wide range of buildings**

Longterm prospects

- **Retrofitting of other People's Bank branches based on the developed energy retrofitting concept**
- **Dissemination of the pilot project's outcome and experiences throughout Jiangsu province and beyond through MoHURD**

Lessons Learnt and Challenges

1. **Holistic energy concept:**
   Development of a **holistic energy concept offered flexibility** to select suitable options instead of taking just sub-optimal solutions in consideration of available funding.

2. **Technical Options:**
   Suitable options for technical solutions were found considering the special circumstances of the building and the wishes of the owners.

3. **Energy Advisor of Zhenjiang:**
   In the future, a local competent authority may establish a position of **Community Energy Advisor** to advise citizens on available new energy concepts (assuming a role similar to giz in this project).

4. **Dissemination of know-how:**
   - The People's Bank will implement this energy concept in their **further building renovations**.
   - Other **organizations with large building stocks** (e.g. State Grid) took notice and would like to **renovate according to this concept**.