

IMPACT SHEET • SWITCH-ASIA PROJECT
**“TRAIN THE TRAINERS”: TRAINING CHINESE
CONSTRUCTION SECTOR SMES IN ENERGY SAVING
TECHNIQUES AND TECHNOLOGIES**

Reducing greenhouse gases by increasing insulation



**The *Train the Trainers* project improved energy efficiency
by building capacity in the construction sector**



The Challenge

The construction industry in China is known for building new structures quickly and cheaply. The construction boom has led to low-energy efficiency in many buildings, with poor quality construction materials and poor installation techniques. Many investors still have the mind-set that good quality, efficient buildings are not worth paying for. The Chinese construction sector contributes substantially to the country's CO₂ emissions. Construction itself as well as the daily use of buildings, i.e. heating and cooling within the residential sector, represent almost one third of China's total energy consumption. Therefore, the building sector is an important link in the challenge of mitigating climate change in China.

Objective

The SWITCH-Asia project *Train the Trainers* aimed to improve energy efficiency in the Greater Shanghai region, by constructing more environmentally friendly buildings. It empowered the Chinese construction sector to incorporate energy efficiency measures in the design and construction of buildings. The project shared European experience in energy efficiency, building material standards and installation techniques. The project addressed these issues through three core activities, namely:

- providing training courses to Chinese construction SMEs and government officials;
- promoting European building standards and best practice;
- contributing to the development of an “enabling policy environment”.



TARGET GROUPS

- Construction companies, essentially small and medium-sized enterprises (SMEs) operating in Shanghai, Anhui Province, Zhejiang Province, Jiangsu Province and Jiangxi Province
- Construction material supply companies, essentially SMEs
- Architects
- Designers
- Real estate developers
- Construction check-up companies
- Local government officials
- National government officials

Activities / Strategy



The *Train the Trainers* project promoted sustainable production in the Chinese construction industry by sharing international experience in energy efficiency, building material standards and installation techniques. The project covered Shanghai and four neighbouring provinces that constitute one of the country's most vibrant economic zones.



Training and Awareness Raising

The project provided training courses to both industry and authorities, with a focus on ETICS (external thermal insulation composite systems) and other energy saving techniques. Awareness-raising and dissemination events were undertaken on the concept and advantages of energy efficient buildings, as well as European building standards and best practice. The project developed policy papers with recommendations to facilitate an “enabling policy environment” that stimulated behavioural changes.

Construction of good quality, high efficiency buildings involves not only construction SMEs but also designers, architects, real estate developers, construction material supply companies, as well as inspection authorities, technical institutes, universities and ultimately the government. The project addressed those on a management level, to ensure that the knowledge and training were brought back for replication.



Targeted Core Outputs

The project had three core outputs. Firstly, a training centre promoted the use of environmentally friendly technologies and practice by Chinese SMEs. Secondly, the training centre also promoted the switch to products that were greener and more energy efficient. Thirdly, project partners EUCCC and IVL assisted in the design and implementation of legal and economic instruments, which promoted SCP in the construction sector.

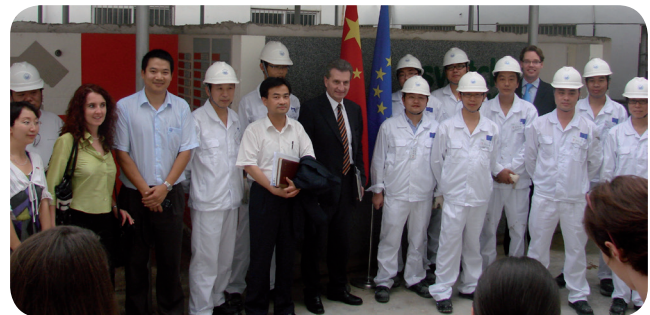
Scaling-up Strategy

The *Train the Trainers* project has had significant impact on Chinese domestic energy efficiency through capacity building and sharing project results with a broad spectrum of stakeholder groups.



The University – A Key Multiplier

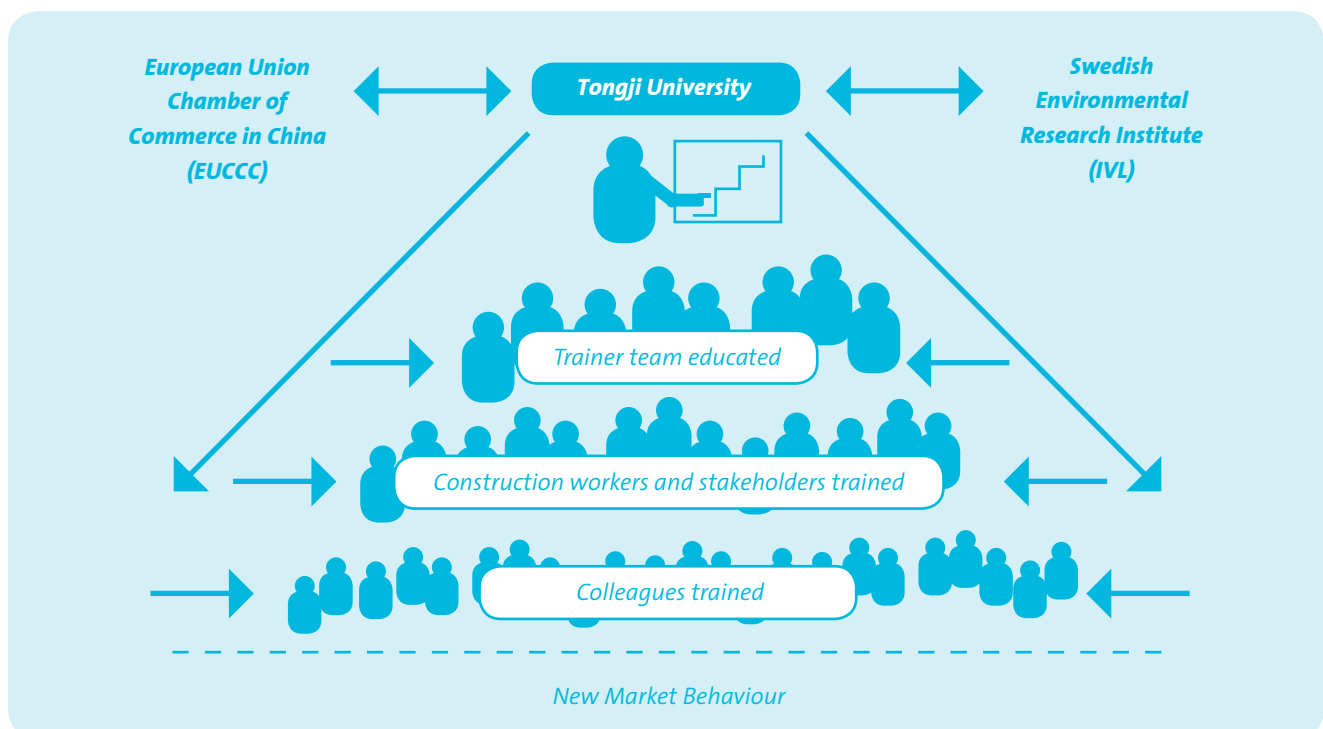
Key to the replication strategy was project partner Tongji University, a recognised leader in the provision of technical data on building for training needs. Universities can act as multipliers but are also important for creating markets. The Tongji University training centre expects an increase in demand from companies in the future and has therefore remained involved even after the project ended. A key success factor for the project was the combination of traditional, theoretical knowledge with a more innovative, hands-on practical training. This approach provided personalised tutoring and improved the chances that participants gained an in-depth understanding of the training.



Link Between Policy and Business

In general, Chinese universities are highly trusted by the authorities. They are recognised by the private sector as a neutral platform in the reception of new knowledge, and for their impact on national standards and legislation. This allows universities to play an active role in society, not only in their educational role, but also as lobbyists for the needs of government as well as the needs

of industry. Universities are seen as players that can reflect the needs and visions of industry. Tongji University used its contacts and networks to promote energy efficiency beyond the construction sector to local and national policy makers. Over 130 government officials from energy/environment/construction-related bureaux were trained during ad-hoc conferences and seminars.



Results



Training Sessions

More than 2 000 professionals from construction companies, suppliers, architects, designers and developers have been trained in Shanghai and across the Provinces of Zhejiang, Jiangsu, Anhui and Jiangxi. Trainees tended to be SME managers with some knowledge of energy saving construction and a strong interest in expanding their understanding as well as learning from European best practice. New training modules on ETICS insulation and passive house technical guidelines were developed, in conjunction with practical on-site training.



Four Training Centres

Four training centres have been established in each of the provinces, to serve as an ongoing legacy of the project. Many companies subsequently switched to energy efficient construction material and techniques, demonstrating the worth of investing in quality, even in an industry where fierce competitiveness is traditionally based on low costs alone.



I didn't expect to find the training so beneficial. It has inspired me to develop a more systemic view on how our products relate to the whole energy consumption cycle. In this way, we can save energy starting from the very initial stage of production.



Ms. Le Haiqing,
Sales Manager,
Shanghai ABM Rock Wool



Conference and Networks

Three conferences and various seminars and workshops were conducted, gathering 800+ professionals from the construction industry with officials involved in energy, environment and construction-related policy-making. Contents covered topical issues in the field of green buildings, ranging from standards and certifications to European best practice, from energy-saving and fire-safe insulation solutions to policies promoting energy efficient buildings. Five memoranda of understanding were signed with domestic and international industry associations, to strengthen the involvement, engagement and support of as many relevant stakeholders as possible.









Policy and Partnerships

Lobbying was conducted via existing channels and via the European chamber of commerce. Position papers were published annually, integrating an overview of business conditions and recommendations, especially those affecting the construction industry, the environment and energy. Three technical codes of green buildings were also influenced by project policy recommendations and training activities.



Impact in Numbers

Economic Impact 	<ul style="list-style-type: none"> • Upon completing the training, SME entrepreneurs were able to implement the knowledge learned and expand their businesses to become middle-sized companies offering jobs to more than 200 workers. • Training sessions to SME staff were held on the topic of more energy-efficient construction materials, through which technical standards were raised, and professional working certificates were provided to trainees. 	Target group Engagement 	<ul style="list-style-type: none"> • More than 2 000 SMEs were involved in project activities • The project engaged construction industry associations; business associations; universities, colleges and vocational schools where the training curriculum has been integrated in their regular curriculum. • The project reached out to target groups through conferences, exhibitions, media and seminars.
Environmental Impact 	<ul style="list-style-type: none"> • Reduced usage of low-quality raw materials which are toxic and/or generate more CO₂ emissions in their lifecycle. 	Policy Development 	<ul style="list-style-type: none"> • The project provided input to at least three green building certificates. • Training certificate was politically endorsed at the local level.
Social Impact 	<ul style="list-style-type: none"> • Health and safety risk reduction measures introduced to SMEs: Usage of labour safety equipment was included as a mandatory component of each of the training sessions, especially for the practical courses, thus raising awareness on the types of equipment available, their use and safety value. 	Europe-Asia Cooperation 	<ul style="list-style-type: none"> • Co-hosting of international conferences and exhibitions organised by third parties.





Legend

- Eligible countries where SWITCH-Asia projects are implemented
- Eligible Asian countries for the SWITCH-Asia programme
- Non-eligible Asian countries for the SWITCH-Asia Programme

Project implementation area

- City
- Region
- Country

The boundaries shown on this map do not imply on the part of the European Union any judgment on the legal status of any territory or the endorsement or acceptance of such boundaries.

OBJECTIVES

The SWITCH-Asia project *Train the Trainers* aimed to improve energy efficiency in buildings produced by the Chinese construction industry in the Greater Shanghai region.

DURATION



PROJECT TOTAL BUDGET

EUR 2 979 198
(EU contribution: 80%)

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