

Newsletter

Upscaling and mainstreaming
sustainable building practices
in western China



Editorial

In 2016, the SusBuild team made fruitful achievements, starting from a kick-off conference supported by national and local governments, hosting a series of trainings and networking events for SMEs, organising good practice tours for Chinese stakeholders, supporting the development of local strategies for green building materials and components promotion, to conducting studies of energy performance and policy framework for energy efficiency in public and commercial buildings.

The year 2017 will be remarked as another important year for SusBuild. Among other activities, we will host training and networking events focused on green construction and energy service companies and welcome European enterprises to join and share their technology solutions.



Good practice tour with Chinese stakeholders in Berlin

In order to facilitate SMEs' access to finance, the SusBuild team will develop a strategic paper on ESCO financing and support match-making between banks and ESCOs. Besides, SusBuild will prepare a handbook on energy management in large commercial buildings. Furthermore, the alliance for promoting sustainable buildings in western Chinese mountainous region is being established.

A lot to be expected!

CONTENT

Editorial 1

SusBuild Trainings 2

- Sustainable building materials & component manufacture
- Sustainable interior design and decoration

Promoting ESCOs to support building renovation in Chongqing 3

Promoting sustainable building materials in Chongqing and Yunnan 4

SusBuild Trainings



SUSTAINABLE BUILDING MATERIALS & COMPONENTS MANUFACTURE

On the 27th and 30th of June 2016, SusBuild hosted the sustainable building materials/components manufacture training and business networking in Chongqing and Kunming, respectively. 130 participants attended the courses, mostly coming from SMEs of the building materials sector in Chongqing and Yunnan. The training was supported by all Chinese partners and local authorities. The training was organised in 5 sessions which covered diverse aspects of the event subject. It started with an introduction of the basic concepts and the development of cleaner production auditing, and best practice cases.

This was followed by a session on the national programme of green building materials labelling, its application procedure and criteria, and the Chinese national policies of promoting green building materials labelling. The third session covered local practices of developing sustainable building materials, namely: strategies, policies and their enforcements, experiences and lesson learnt in the development of green building materials. The fourth session was focused on the development of Corporate Social Responsibility (CSR) and its importance in modern enterprises. During the last session, building materials companies, local authorities, sector association and R&D institutes had an opportunity for networking with each other.

SUSTAINABLE INTERIOR DESIGN AND DECORATION

On the 28th of June and 1st of July 2016, SusBuild organised the sustainable interior design and decoration training and business networking that took place in Chongqing and in Kunming, respectively. More than 100 participants from SMEs sustainable interior design and decoration sector in Chongqing and Yunnan attended the courses. The training was supported by all Chinese partners, SusBuild's associate partner econet China, and local authorities. This training also covered 5 sessions including diverse aspects of the sustainable interior design topic. In the first session, Mr. Liu Gang, Director of CSP



R&Dcentre of China Academy of Building Research, presented building industrialisation worldwide and in China with national policies, case studies and trends for future developments. Session 2 covered the local practices in Chongqing and Yunnan, including local actions, challenges and opportunities, policies and good practice cases. The training also invited German enterprises to provide training and share their experiences. In the following session, a certified DGNB (German Sustainable Building Council) auditor, Mr. Hans Niemann from energydesign presented DGNB methodology of selecting sustainable materials, its feasibility, its application in the actual projects, and its future perspective. Mr. Yi Liqun from Sto, introduced light, sound and air quality as key indicators of indoor environment and their substantial impact on human's health and comfort. Mr. Jorge Villena Tejedor from Windmüller flooring products WFP presented their organic floor with its environmental and health compatible properties. German companies had opportunities to introduce and exhibit their technology solutions and explore partnership with local enterprise.

The training manuals are available on <http://susbuild.eu/library/other/training-handbooks/>

On 12th-15th June, we will host another two series of training and networking events focused on green construction and energy service companies. We expect to host more than 100 participants during each event. Besides trainings for local SMEs, we also aim to encourage exchange and dialogue among local and European SMEs. Thus, we welcome European enterprises and organisations to join us. As SusBuild is funded by EU Switch Asia Programme, the participation is free of charge.

If you are interested in the events, please feel free to contact us: chun.xia@wupperinst.org

Promoting ESCOs to Support Building Renovation in Chongqing

In 2016, SusBuild team conducted a preparatory study to analyse the current challenges and opportunities in energy retrofits of public and commercial buildings in Chongqing. Chongqing City has endeavoured to energy retrofit of public and commercial buildings, in cooperation with various stakeholders. Among others, it has systematically promoted energy services for energy retrofit.



PROMOTION OF ENERGY PERFORMANCE CONTRACTING

Chongqing Municipal Commission of Urban-Rural Development introduced the standardised procedure of Energy Performance Contracting for energy retrofit in Public and Commercial Buildings to regulate energy service companies in the market, and to ensure an effective implementation of the EPC model. EPC companies are responsible to ensure the retrofit process and operation/management of the building, and to support stable and consistent energy saving benefits. According to this model, companies are encouraged by their return on investment through shared-savings, and users are spared financial and technical risks.

ESTABLISHMENT OF AN INNOVATIVE FINANCING PLATFORM

Chongqing Municipality actively promotes cooperation between energy service companies and financial institutions, such as banks, to build a “government-enterprise-bank” financing platform that would support the use of the EPC model in retrofitting existing buildings. In 2011, Chongqing Municipal Commission of Urban-Rural Development signed a strategic cooperation agreement with Tsinghua Tongfang and the Bank of Chongqing. This new model of cooperation between government, energy service companies and financial institutions gives play to the technology and management expertise of the service company while controlling financial risks for EPC implementation, resulting in better confidence and engagement of property owners in retrofit projects.

NURTURING OF RELEVANT MARKET PLAYERS

In the present, Chongqing is nurturing nearly 30 local energy service companies for energy-saving consulting, diagnosis, design, refurbishment, operation and management services. Chongqing Municipal Commission of Urban-Rural Development is responsible to monitor these companies and make an annual assessment of their service on the basis of project implementation quality and customers’ feedback. Furthermore, three third-party verifiers have established a cross-checking mechanism for demonstration projects with the aim to prevent the monopolization of the measurement process. This management system plays a key role in ensuring fair, just and accurate measurement of energy savings.

INCENTIVES FOR INNOVATION

In order to vitalize the energy service market, Chongqing Municipal Commission of Urban-Rural Development works with the Chongqing Municipal Finance Bureau to establish and implement a financial incentive that matches the local financial subsidy system and the central government:

(1) Differentiated incentives for different extent of energy performance improvement

Financial subsidies will be allocated based on the extent of energy performance improvement, with the aim to enhance technologies and engineering quality.

(2) Shared-savings model

The city applies an EPC model with “shared-savings model”, i.e., financial subsidies are allocated to the energy service company and project owners with the ratio of 8:2 to fully mobilize the parties in the process.

Even though the market for building energy retrofit in Chongqing is continuing to develop rapidly, the technical capacity of the service companies, their service quality and project management capacity, and their self-regulation differ greatly. Besides, most of them still lack access to financing. In addition, currently, energy service companies are unable to meet the demand of integrated technologies and measures as energy retrofitting of public and commercial buildings requires. The coordination and integration of different systems becomes complicated, when several companies work in the same project.

Promoting sustainable building materials in Chongqing and Yunnan

In 2016, SUSBUILD supported local government of Chongqing and Yunnan Province in developing strategic plans of promoting manufacturing and use of green building materials and components. The following materials and components are identified as focus areas in each province.



Materials and Components	Chongqing	Yunnan
New materials	<ul style="list-style-type: none"> - establishing an industry chain of graphene - promoting glass fiber reinforcement and micro glass fiber thermal insulation - building components and products made of glass fiber composites. 	
Cement	<ul style="list-style-type: none"> - focusing on production of Portland cement with 42.5 grade and above - encouraging the expansion and use of ready-mix cement products - recycling and reusing waste to produce building materials 	
Glass	<ul style="list-style-type: none"> - establishing an industrial base for the glass industry(Wansheng and Yongchuan glass industrial parks) - promoting the use of innovative insulation glass products for building envelope - developing new products (e.g. fire-resistant glass panels, electrochromic glass and adaptive thermochromic). 	<ul style="list-style-type: none"> - establishing the largest production site for energy-efficient glass in China - widening the application of energy-saving doors and windows with innovative insulation glass - developing high-borosilicate glass, high-alumina glass, ultra-thin glass, ultra-white glass and quartz glass products.
Ceramics	<ul style="list-style-type: none"> - focusing on product design, functionality and intelligence - high-grade and highly-efficient sanitary and building ceramics - encouraging the development of thermal insulating, energy-efficient and lightweight ceramic plates. 	<ul style="list-style-type: none"> - promoting the use of thin and functional ceramic tiles - promoting the use of water-saving and lightweight toilets - providing households with safe, healthy, and intelligent products.
Wall materials	<ul style="list-style-type: none"> - R&D of efficient blocks with thermal conductivity of less than 0.18W/(m•K) - encouraging the use of coal gangue and shale resources to develop new wall materials. 	<ul style="list-style-type: none"> - utilizing fly ash, construction waste, mine dumps and desulfurized (phosphorus) gypsum for concrete blocks, large wall panels and insulation blocks - developing comprehensive thermal insulation blocks with load-bearing function and decorative function. - promoting water permeable bricks for establishing a sponge city.
Decoration materials	<ul style="list-style-type: none"> - consolidating the production of security doors, door systems and accessories - developing products out of light aluminium, stainless steel panels, belts, foils and composite panels - promoting waterproofing materials - developing quality pipelines and panels - safe, energy efficient and decorative panels and window shades made of inorganic and thermal insulating materials. 	<ul style="list-style-type: none"> - promoting the use of durable, low leakage, maintenance-free polymer materials and composite pipes, fittings and polymer roofing membrane (waterproofing), waterproof sealant, heat-reflective coating and film. - promoting finishing materials and adhesives that are water-based and made of low VOCs -focus on local material resources (e.g. diatom mud).
Building components	<ul style="list-style-type: none"> - developing a modern system with standard design, production and on-site assembly - emphasising on prefabricated steel and light steel structures, modern wood structures, light partition panels, wall panels, prefabricated staircase, balconies etc. 	
Inorganic and non-metallic materials	<ul style="list-style-type: none"> - developing high-performance quartz materials, graphite, calcium carbonate, kaolinite, fluorite, barite and nano-mineral materials; -establishing industries of nano-mineral materials, waste water/gas and nuclear waste treatment materials, radiation shielding , high-performance insulation and wear-reducing materials, lubricating materials, cladding materials for electronic components, grinding materials and high-performance electrode materials; - enhancing the development of utilizing silicon, calcium and barium materials; - encouraging the development of stone technologies and ultra-thin stone materials. 	

In order to promote the wide application of these materials and components, both Chongqing and Yunnan Province urge the establishment of green building material labelling system and developed middle-term strategies.

Strategies	Chongqing	Yunnan
Full implementation of green manufacturing in the building materials industry	<ul style="list-style-type: none"> - Promoting clean production and energy conservation; - Intensifying R&D input; - Enhancing efficiency in resource utilization; - Focusing on product life cycle management; - Developing a circular economy; etc. 	
Establishment of a product system for green building materials with focus areas as breakthrough	<ul style="list-style-type: none"> - Encouraging the development of new efficient, safe and climate neutral functional materials; - Ceasing the production of low-grade materials and encouraging high-performance and innovative products; - Focusing on the design, user friendliness, energy efficiency and functionality of components. 	
Responsive action on assessment and labeling of green building materials	<ul style="list-style-type: none"> - Introducing a star rating evaluation system and publishing product catalogs to ensure suitable product selection and application - Establishing a database for information collection and exchange ("Internet +"). 	<ul style="list-style-type: none"> - Enhancing public awareness; - Establishing a well-developed assessment organization; - Publishing product catalogues for a suitable product selection and application; - Using "Internet +" for a public service platform.
Promotion and application of green building materials	<ul style="list-style-type: none"> - Coordinating the development among construction and engineering design codes, construction specifications and standards of green building materials; - Prioritizing catalogue products or labelled products. - Developing buildings with light-steel structure; developing prefabricated steel, concrete or wood buildings; 	
Pilot projects as first-hand demonstration	<ul style="list-style-type: none"> - Green building project demonstration; - Green industrial park demonstration; - Collaboration in waste treatment as demonstration. 	