



2016 Top Markets Report **Building Products and Sustainable Construction** Country Case Study

China

China is the world’s largest construction market and will continue to provide strong opportunity for U.S. building product exporters. Increasing urbanization and national commitments to conserve resources and reduce greenhouse gas emissions drive China’s steady commitment to expand the green portion of its massive construction market. Understanding China’s regulatory environment, specific market access requirements and relevant trade promotion opportunities will help U.S. exporters compete for expanding sales opportunities.

Overall Rank	HVACR	Lighting	Plumbing Products
3	3	3	42
Wood Products	Insulation	Windows* & Doors	Glass
1	3	75	23

**Rankings note: The low ranking for Windows and Doors is best understood as reflective of a strong downward trend in U.S. window and door exports to China during the 2010 to 2014 period, which drive forward-looking projections down sharply.*

China Construction Market

Although the rate of China’s economic growth is slowing, the country’s economy and its construction market continue to grow. China is expected to maintain its position as the world’s largest construction market for the near future and is expected to account for a significant share of all new global construction between now and 2020.¹ Increased urbanization also continues as China progresses in its central National New-type Urbanization Plan, which envisions 60 percent of China’s population living in cities by 2020.

These urbanization trends drive the Chinese government’s emphasis on increasing green building within its construction sector, in support of its commitment to conserve resources and reduce

greenhouse gas emissions. Focusing on buildings is a key element of its national strategy.

Strong growth in the level of green building in China’s market is projected through the period of this study. A recent industry survey of Chinese construction industry stakeholders showed a dramatic increase in the percentage of respondents – from 5 percent to 28 percent - who envisioned the majority of their work being green projects within three years.² The same survey indicated:

- The China green building market is driven by benefits beyond reducing energy use, including improving indoor air quality and protecting natural resources. A focus on healthy communities also is a feature of the China green building landscape.

- New commercial building (office, hotel, retail) is a market segment where 55 percent of Chinese respondents expect to undertake green building, exceeding the global average of 46 percent.
- New high-rise residential (4 floors or higher) is a segment in which 45 percent of respondents indicated that they expect to undertake green projects, exceeding the global average of 25 percent.
- Communities (mixed-use development combining commercial and residential buildings) are a segment where 36 percent of respondents indicated that they expect to take on green projects. This corresponds with China's focus on developing sustainable mega-cities, discussed below.

In 2013, China's State Council launched its Action Plan for Green Buildings, which sets a goal of making 20 percent of all new building construction compliant with specific green building requirements, among other objectives.³ In support of the Action Plan for Green Buildings, the government is developing a comprehensive set of 17 Chinese standards governing land, energy, water and materials savings; ambient and indoor environment requirements; and other functional requirements. These standards cover building planning and design, construction, retrofit, operation and maintenance, and demolition. Since 2014, all government-invested construction and public buildings greater in size than 20,000 m² must comply with Chinese green building standards.

A variety of policy approaches have been used to drive desired outcomes. Looking at energy efficiency in buildings alone, the following types of measures have been utilized:

- mandatory building energy codes for commercial and residential buildings in cities;
- policies to encourage retrofits in existing buildings;
- national, provincial and city-level financial incentives for energy efficiency level achievement;
- appliance standards; and
- a phase-out of incandescent light bulbs in favor of more efficient options.

Smart Cities

Increased and intentional urbanization also has driven a focus on creating smart cities across China. Nationwide, some 200 Chinese cities have been targeted for "smart" development following the central government's designation of smart city technology as a sector to be strengthened under the 12th Five Year Plan. In support of the nation's objectives, the National Development and Reform Commission, Ministry of Industry and Information Technology, Ministry of Public Security, Ministry of Finance, Ministry of Land and Resources, Ministry of Housing and Urban-Rural Development and Ministry of Transport collectively drafted the "Guidance for Facilitating the Healthy Development of Smart Cities." According to the Guidance, China will launch constructions in 10 areas: Smart Transportation, Smart Grid, Smart Water Utility, Smart Environmental Protection, Smart Health Care, Smart Pension, Smart Community, Smart Household, Smart Education and Smart National Land.

Market Access: Building Product Standards and Conformity Certification

The Chinese government is undertaking a comprehensive approach to evolve its system of standards development. This process must be monitored closely to understand developments that will impact the building products sector.

Currently, U.S. building product exporters must be in a position to achieve China Compulsory Certification (CCC) for covered products to certify conformance with Chinese product standards. Obtaining detailed information about standards may be burdensome. Where product-specific Chinese standards do not exist, however, there may be opportunities for U.S. exporters to work with Chinese authorities to inform standards development.

Product-level Promotion

At the product level, there are a number of Chinese procurement list resources that may be useful to U.S. exporters in promoting their products. Among these are:

- National Development and Reform Commission (NDRC) - Catalog of Energy Efficient Products for Government Procurement covers categories such as HVAC, lighting equipment, windows and glass, among others.
- MOHURD - Building Material Procurement Platform for Low-Income Housing database

covers sector products, such as insulation, doors and windows, and a number of other building products.

- MOHURD – Catalog of Green Building Materials and Products
- China Quality Certification Center (CQCC) – Catalog of Energy Efficient and Water Saving Products for Public Institutions
- CQC – Catalog of Energy Efficient Equipment and Technology Services for Business

Challenges & Barriers to Sector Exports

U.S. sector exporters enjoy strong brand recognition and a reputation for high product quality and reliability in China. The following types of challenges often constrain U.S. exporters' market access and market development.

Highly competitive market environment

U.S. sector exporters compete in the China market against leading global manufacturers that are renowned for product quality and innovation. Winning sales often requires regular direct engagement with buyers to distinguish specific product performance versus that of competitors.

To maximize impacts, USG trade promotion events (trade shows, trade missions and reverse trade missions) should be undertaken on a subsector specific basis to ensure focused engagement with potential buyers and specific discussion of a product's performance attributes.

Tariffs

U.S. products compete well in an environment where leading competitors face the same duties as U.S. firms. Vigilance should be applied to note opportunities for the U.S. – or leading competitor nations – to achieve duty-free or reduced-duty status for exports to China.

Complex regulatory environment

China's construction arena is heavily regulated, which leaves it subject to potential change without significant warning from Chinese authorities. Without a strong local presence or local partners, understanding regulatory complexities poses a challenge to U.S. exporters. Detailed knowledge of the product standard and conformity assessment

process is of particular importance to sector exporters.

In this context, public-private partnership models of export program development have proven successful since the government-to-government interface provides opportunities for leverage.

Business customs

The commercial landscape in China features cultural and political features that demand investment in longer-term business relationships. Sales are typically not made and sustained until after a business becomes recognized in the marketplace as having products well-suited to Chinese buyers and is backed by local relationships. Provision of strong after-sales support is essential to maintaining and growing business in China.

Geographic size and diversity

Market information is best tailored to specific locations and product types to be of real use. Choices must be made by exporters as to which trade promotion events to pursue in a vast country with many first and second-tier cities to address. Specific types of opportunity leads are needed.

For exporters unable to attend multiple trade promotion events, information on how to have products included in potentially important procurement lists and databases may be beneficial.

IPR Protection

In some subsectors, U.S. exporters have reported finding products with forged certification stamps and seals and with misrepresentations of product performance. ITA is available to assist U.S. exporters with IPR concerns. The full suite of services available to U.S. exporters is discussed in the Key Findings section of this report.

Know Your Buyer

For building product exports, the importance of specific sales channels and buyer categories varies depending on the target export market. Overall, ITA's experience supporting U.S. building products exporters in China indicates the following assignment of priority among relevant sales channels:

Figure 1: Northern and Eastern China

<u>Sales Channels</u>	<u>Priority</u>		
	Low	Medium	High
Government entities			X
Architects		X	
Design and build companies			X
Trade contractors	X		
Building facility managers	X		
Distributors		X	
Showroom dealers	X		
Retailers	X		
Other	X		

Figure 2: Southern China

<u>Sales Channels</u>	<u>Priority</u>		
	Low	Medium	High
Government entities		X	
Architects			X
Design and build companies			X
Trade contractors			X
Building facility managers			
Distributors			X
Showroom dealers	X		
Retailers	X		
Other	X		

Opportunities for U.S. Companies

Addressing the types of barriers discussed above may help U.S. exporters improve their share of the China market. This section provides a review of the current state of play and competitive landscape, suggesting where there may be the greatest room for growth.

For the sector as a combined whole, in 2014, U.S. products maintained the lead over all international competitors in terms of China import market share.

Until 2013, products from Japan had held this position for some time. A view of each subsector individually gives a more informed sense of the competitive environment.

Figure 3: China's Import Market

<i>Sector</i>	<i>Imports (2014, USD)</i>	<i>U.S. Rank as Import Source</i>	<i>U.S. Import Market Share</i>
HVACR	\$14 bil.	3	11.3%
Lighting	\$2.2 bil.	5	7.4%
Plumbing	\$855 mil.	5	9.1%
Wood products	\$22.1 bil	2	13.1%
Insulation	\$571 mil.	1	21.9%
Windows & Doors	\$96 mil.	8	4.7%
Glass	\$2.7 bil.	2	28.6%

HVACR

There is strong import demand for high-quality HVACR products in China, and the country's subsector imports from the U.S. grew at a compound annual growth rate of 5 percent during 2009 through 2014. During that time period, the U.S. share of China's HVACR import market fluctuated only slightly, decreasing from 11.8 percent to 11.3 percent.

Top 5 Import Sources and Market Share:

1. Germany (21.2%)
2. Japan (18.6%)
3. U.S. (11.3%)
4. Korea (7.9%)
5. China (5.4%)

Lighting

Lighting represents an area of opportunity for U.S. subsector exporters, particularly given Chinese government encouragement of energy efficient retrofits of buildings. Lighting is widely viewed as a "low hanging fruit" investment option to increase energy performance in existing buildings. New construction also offers strong opportunity.

China's imports of lighting products from the U.S. declined at an annual rate of 3.1 percent over 2009 through 2014, but despite this absolute decline, the U.S. share of China's lighting import market grew from 3.6 percent to 7.4 percent over the same period. U.S. sourced products now hold the fifth largest share of China's subsector import market.

Top 5 Import Sources and Market Share:

1. Japan (24.7%)
2. Germany (17.8%)
3. China (11.2%)
4. Korea (10%)
5. U.S. (7.4%)

Plumbing

U.S. plumbing products held a 9.1 percent share of China's subsector import market in 2014, reflecting significant growth in share from 5.1 percent in 2009. China's imports of plumbing products from the U.S. grew at a 14.3 percent compound annual growth rate during the 2009 to 2014 period, and the U.S. is now the fifth largest source of China's imports.

Top 5 Import Sources and Market Share:

1. Japan (21%)
2. China (13.9%)
3. Germany (13.8%)
4. Korea (11.9%)
5. U.S. (9.1%)

Wood

China's imports of wood products from the U.S. grew at an astonishing 41 percent compound annual growth rate over 2009 to 2014. Looking forward, China continues to represent an enormous market opportunity for U.S. wood products exporters, who currently claim 13.1 percent of the import market and are the second largest source of subsector imports after Russia.

China's demand for wood and wood products has shown extremely strong growth, with that trend expected to continue through 2018. While Chinese importers have shown tremendous interest in importing logs or least-processed wood and undertaking value-added production in China, U.S. exporters have strong opportunities in higher value-added wood product sales.

Top 5 Import Sources and Market Share:

1. Russia (14.3%)
2. U.S. (13.1%)
3. Canada (9.6%)
4. New Zealand (8.3%)
5. Thailand (5.6%)

Insulation

The U.S. is now China's top source of insulation imports. China's insulation imports from the U.S. have increased at a rate of 23.1 percent annual growth during 2009 to 2014, standing at 21.9 percent import market share at the end of that period, up from 14.6 percent at the beginning.

Top 5 Import Sources and Market Share:

1. U.S. (21.9%)
2. Japan (18.3%)
3. China (10.6%)
4. Taiwan (10.1)
5. Belgium (6.6%)

Windows and Doors

The U.S. share of China's window and door import market fell to 4.7 percent in 2014, down from 15.2 percent five years prior. The U.S. is now China's eighth largest source of subsector imports.

Top 5 Import Sources and Market Share:

1. Germany (23.8%)
2. Korea (12.1%)
3. Italy (9.3%)
4. Norway (7.2%)
5. China (7.0%)

Glass

China's imports of glass from the U.S. increased at an astounding 68 percent compound annual growth rate during 2009 to 2014. The U.S. now ranks second as a source of imports in China's glass subsector, with 28.6 percent import market share.

Top 5 Import Sources and Market Share

1. Korea (8.2%)
2. China (2.2%)
3. Japan (40.8%)
4. U.S. (28.6%)

5. Taiwan (13.7%)

Resources for U.S. Exporters

Additional information on green building-related opportunities for U.S. companies can be found in [China's Growing Green Building Industry and How U.S. Companies Can Get Involved](#).⁴

Please visit www.export.gov/china for information from U.S. Commercial Service (CS) China, including

- Market research
- Trade events
- Trade leads
- Services available to U.S. companies
- Contact information for CS offices in Beijing, Chengdu, Guangzhou, Shanghai, Shenyang and Wuhan
- Info on subscribing to regular updates or connecting on social media
- Other information to assist U.S. exporters with China export market development: Inquiries regarding export to China may be directed to the China Business Information Center, chinabiz@trade.gov.

¹ *Global Construction 2020*, Oxford Economics and Global Construction Perspectives

² Dodge Data and Analytics, *World Green Building Trends 2016, Developing Markets Accelerate Global Green Growth*, February 2016

³ Green Building Overview of China, China Academy of Building Research, www.egeec.apec.org/dmsdocument/384

⁴ *China's Growing Green Building Industry and How U.S. Companies Can Get Involved*, U.S. Consulate General Shanghai Commercial Service and Bisagni Environmental Enterprise, July 2015