

Property Sector Steel Consumption Model

SMM
Shanghai Metals Market

Property sector steel consumption model

SMM bases on primary research, internal database and modelling, successfully help our client deeply understand property sector steel demand and make a prediction of future property steel demand changes

Project Background

The property sector is the single biggest driver of China steel demand, which accounts for 25-30% directly. It is also the driver of other steel end user sectors such as construction machinery and white goods which account for 10-15% of China steel demand. Given this, understanding the outlook for property over the next 0-5 years is key to ensure client's demand forecasts remain relevant.

Client is building their internal sectoral demand model for China and seeking a better understanding of the drivers of steel demand from the property sector over the next five years. The client is seeking an underlying view on property demand in China and associated steel intensity.

Key Output

Steel consumption model in property sector

China property sector steel consumption model in 2020

Property sector market analysis

Key drivers analysis

Property sector steel consumption forecast in 2021-2025

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SMM Methodology

Based on client's request, SMM has scoped the project into 3 modules:

1. Property sector steel consumption model (current)
2. Forecast factors and market analysis
3. Property sector steel consumption model (future)

Main Research Methodology:

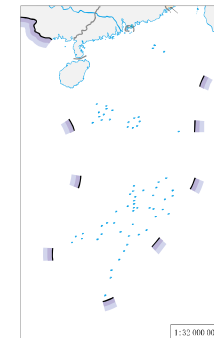
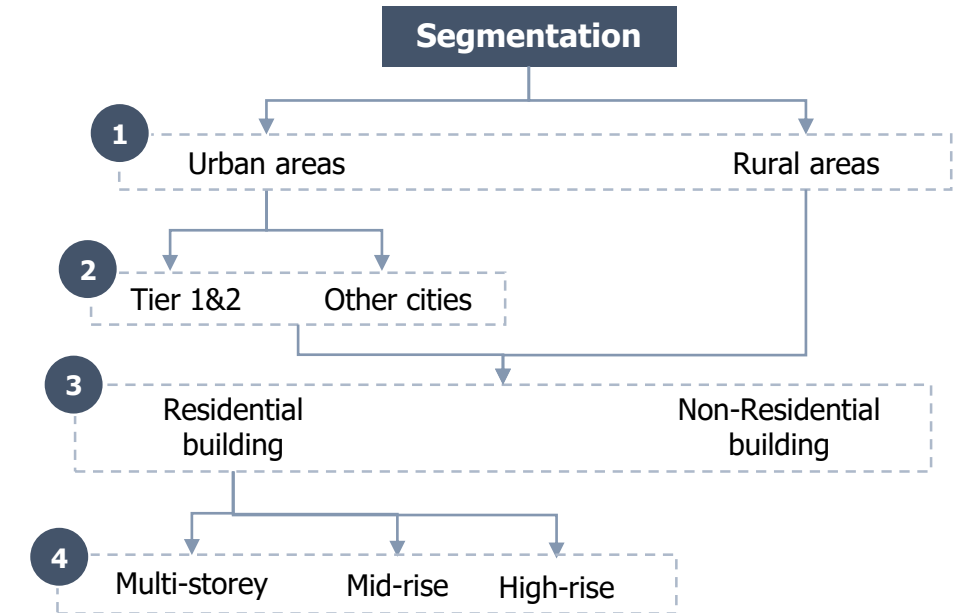
- **Desktop Research:** SMM databases, industry public reports, etc. to comprehensively understand property steel demand
- **Primary Research:**
 - Industry level: conduct in-depth interviews with industry experts such as construction engineers (5 samples) and architectural designers (5 samples).
 - Company level: conduct in-depth interviews with different company such as property developers (25 samples) and construction companies (25 samples)

Property sector steel consumption based on 4-level segmentation

➤ Tier 1 and Tier 2 cities distribution

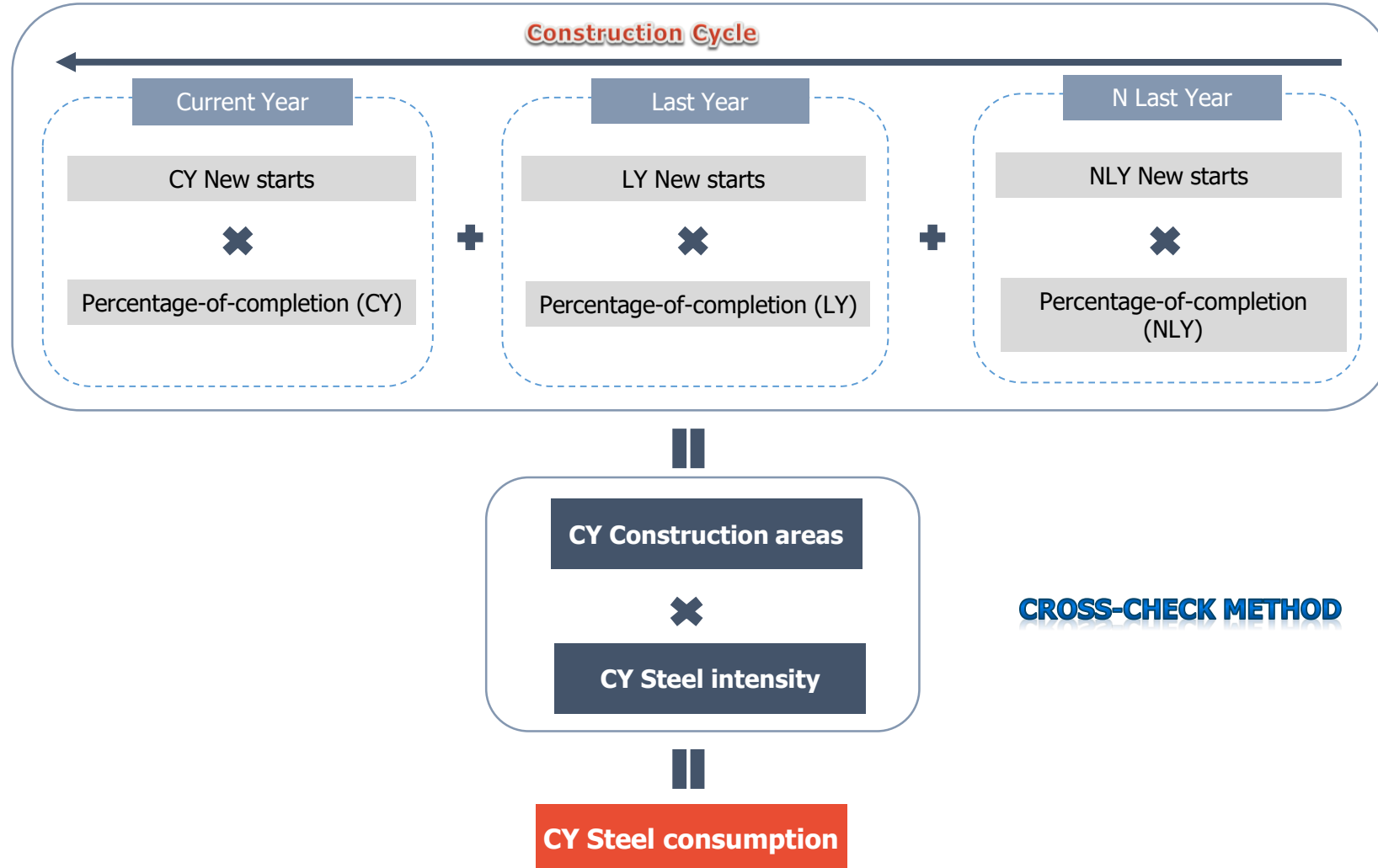


➤ 4-level segmentation

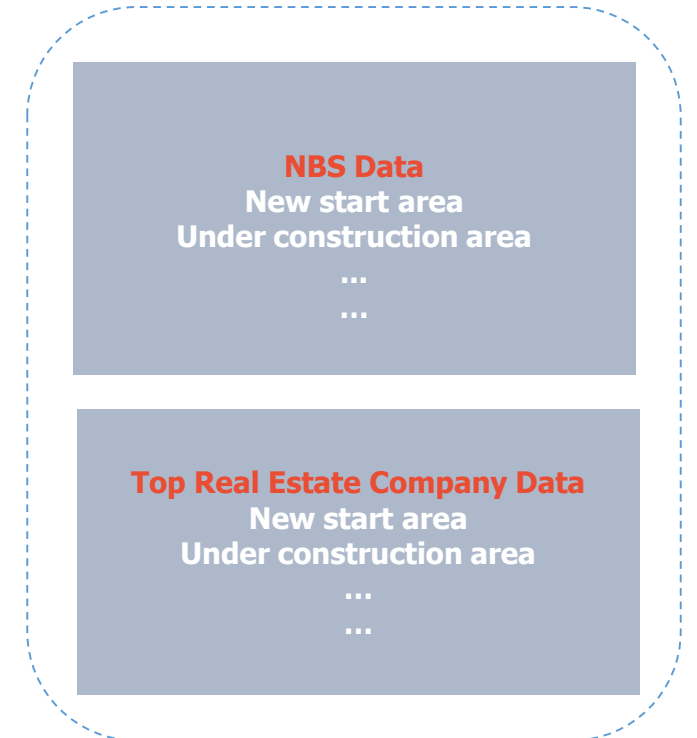


Tier 1: Beijing, Shanghai, Guangzhou, Shenzhen
 Tier 2: Tianjin, Chongqing, Jinan, Shijiazhuang, Changchun, Harbin, Shenyang, Hohhot, Urumqi, Lanzhou, Yinchuan, Taiyuan, Xi'an, Zhengzhou, Hefei, Nanjing, Hangzhou, Fuzhou, Nanchang, Haikou, Nanjing, Guiyang, Changsha, Wuhan, Chengdu, Kunming, Lhasa, Xining, Dalian, Qingdao, Ningbo, Xiamen, Suzhou
 The remaining are the third and fourth tiers and other cities
 Multi-storey: 4-7 floors
 Mid-rise: 8-18 floors
 High-rise: > 18 floors

Empirical Approach: Property Consumption Model Description



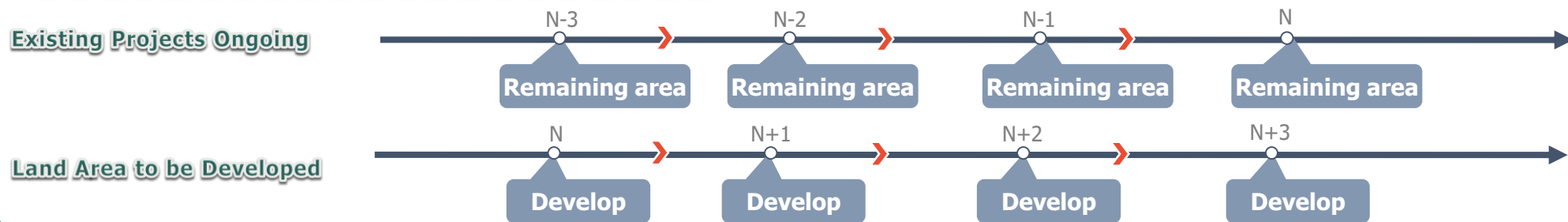
CROSS-CHECK METHOD



Empirical Approach: Property Sector Forecast Model

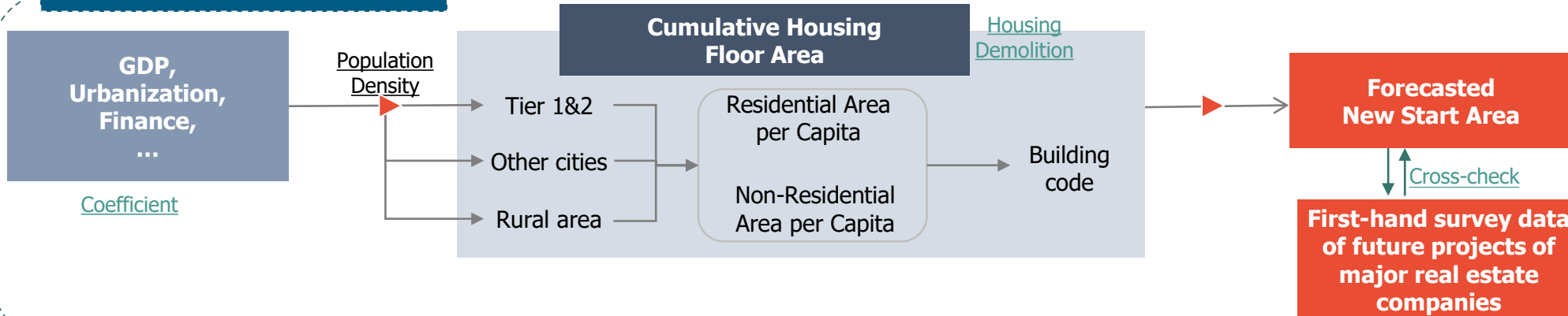
FORECAST METHOD

Historical Year New Starts and Land Purchase Evaluation

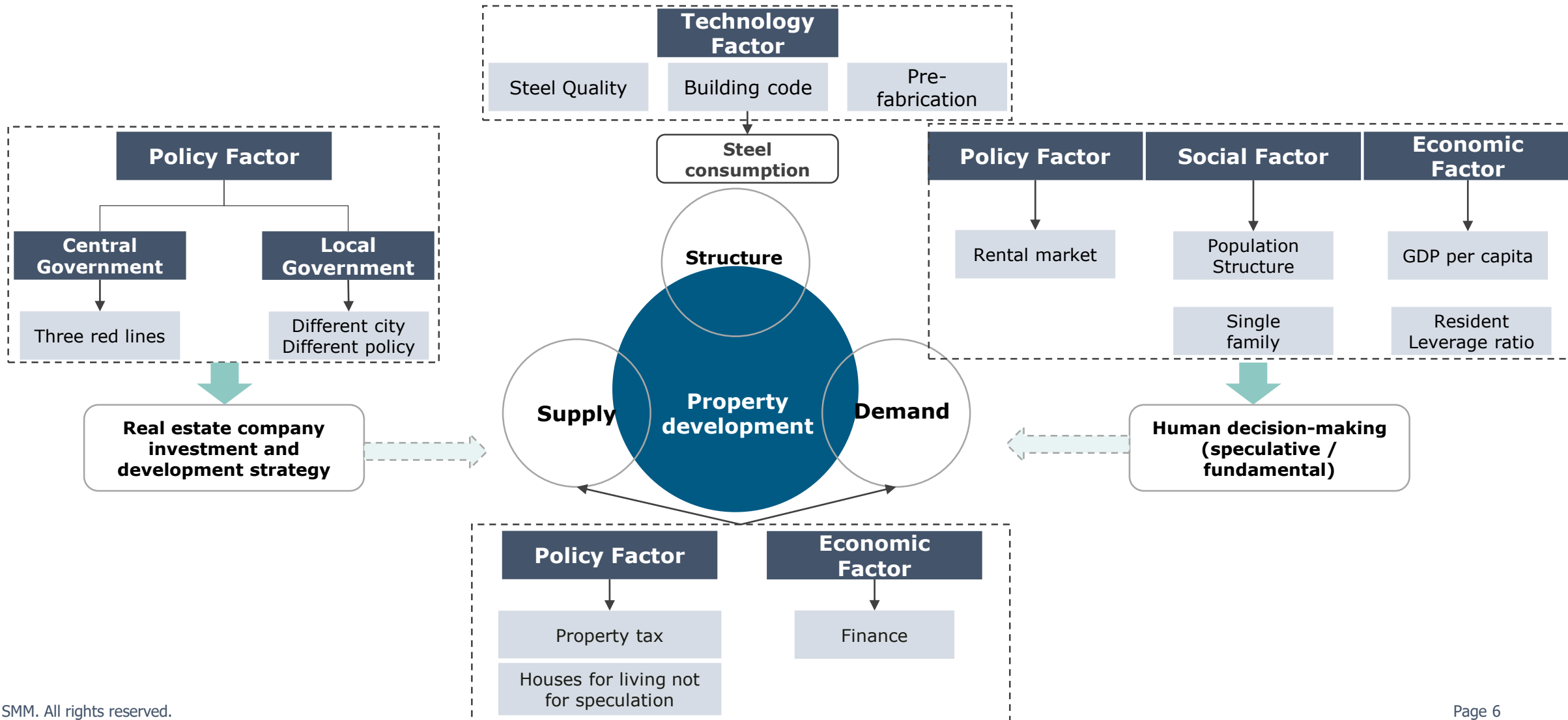


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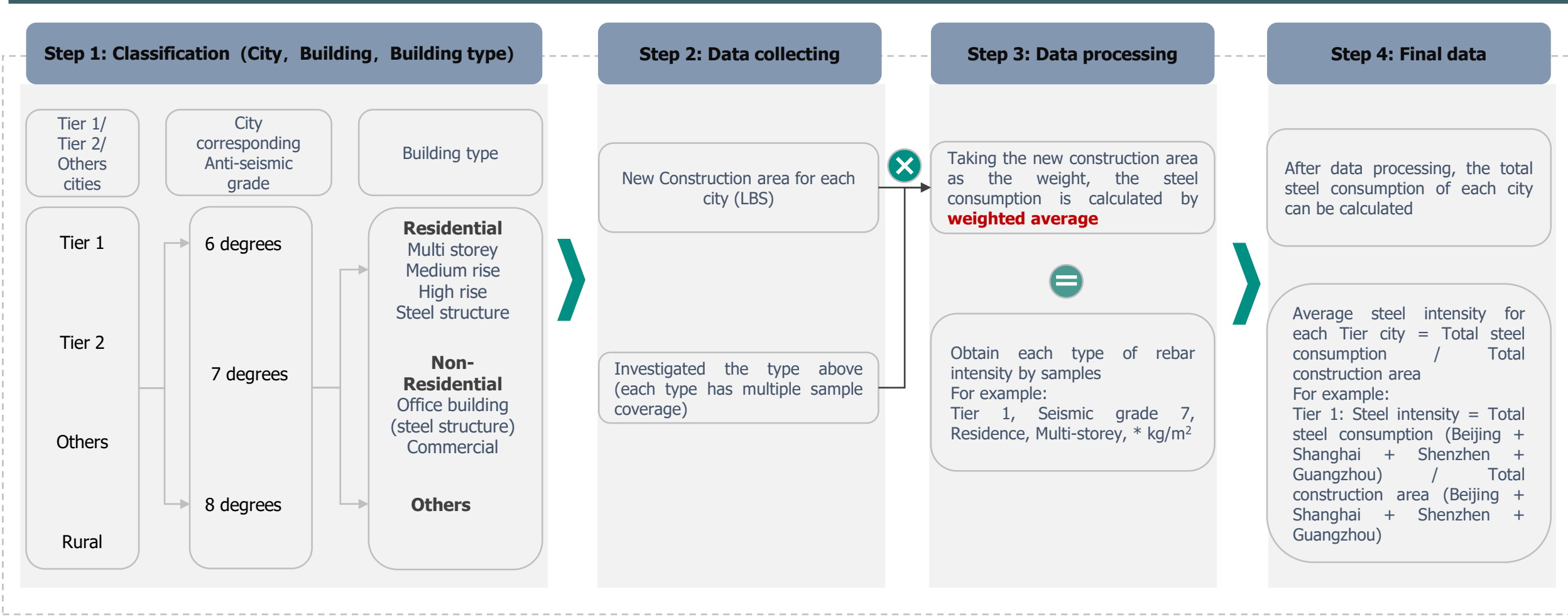
Current Year New Start Forecast



Forecast factors



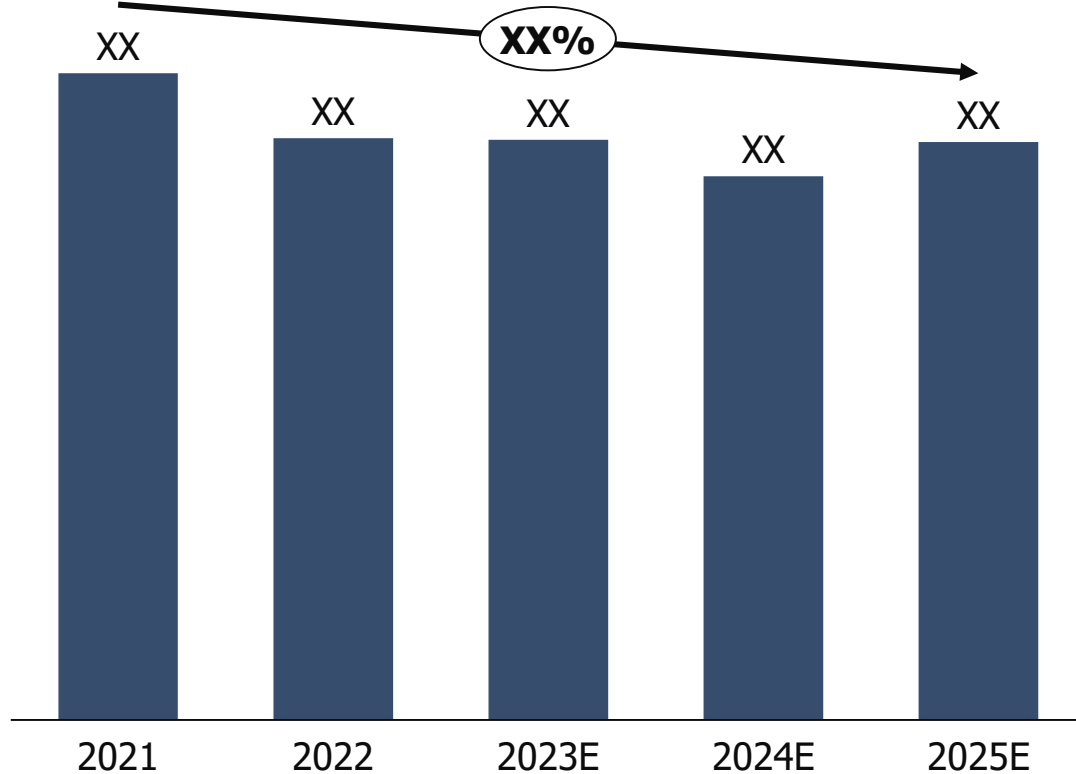
Steel intensity model methodology



Steel consumption in property sector

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Unit: Million mt



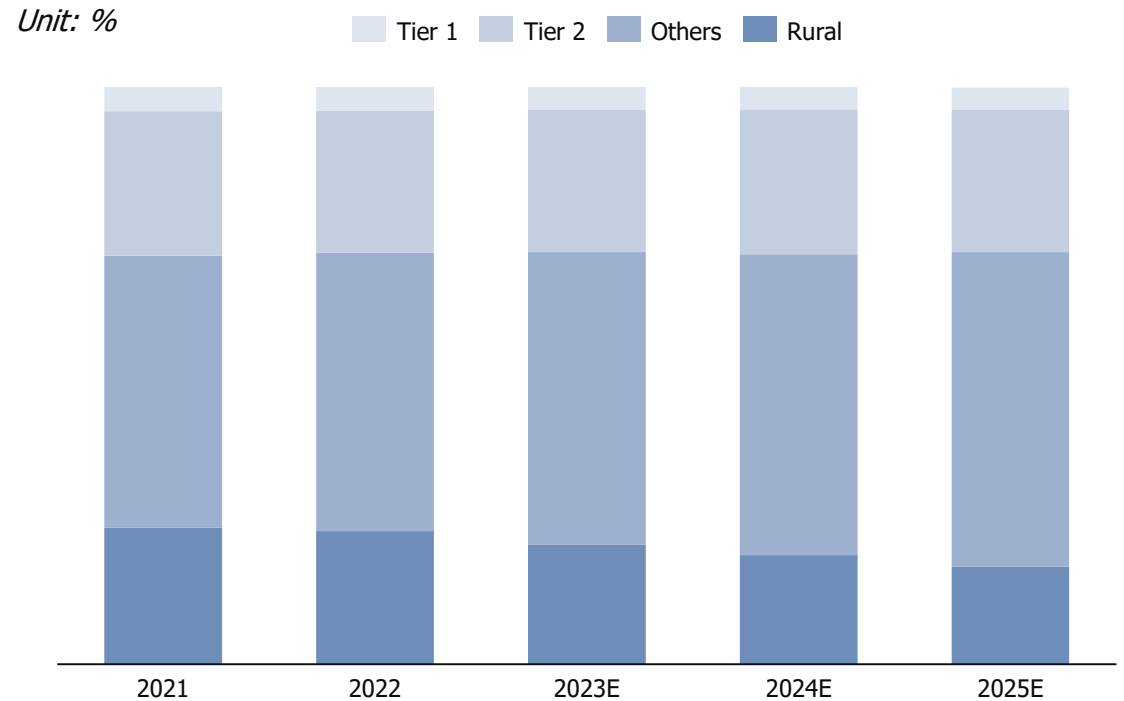
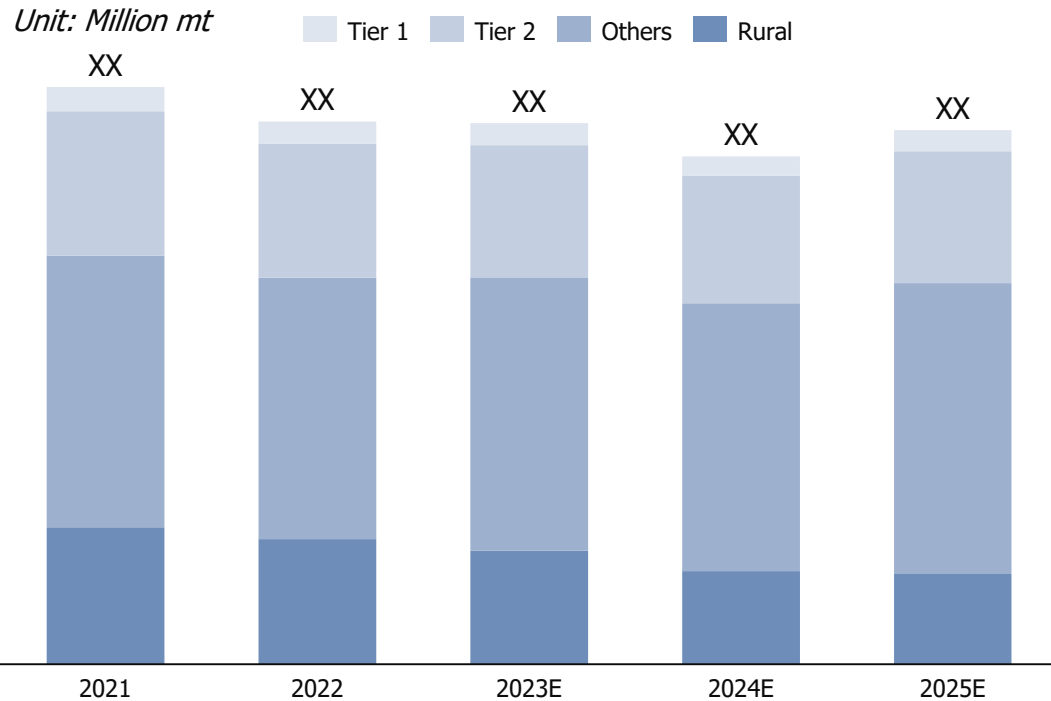
■ Steel consumption

- According to the steel consumption forecast model, the steel consumption of the property sector in 2021 was XX million mt, and decreased by XX% to XX million mt in 2022.
- According to the model forecast, CAGR of steel consumption in property sector to be XX% from 2021 to 2025. China's property sector has entered the stock era from the incremental era.
 - ✓ China's urbanization rate has reached XX% in 2022. According to the experience of other countries, when the urbanization rate reaches over XX%, the annual urbanization rate will slowly increase.
 - ✓

Steel consumption in property sector

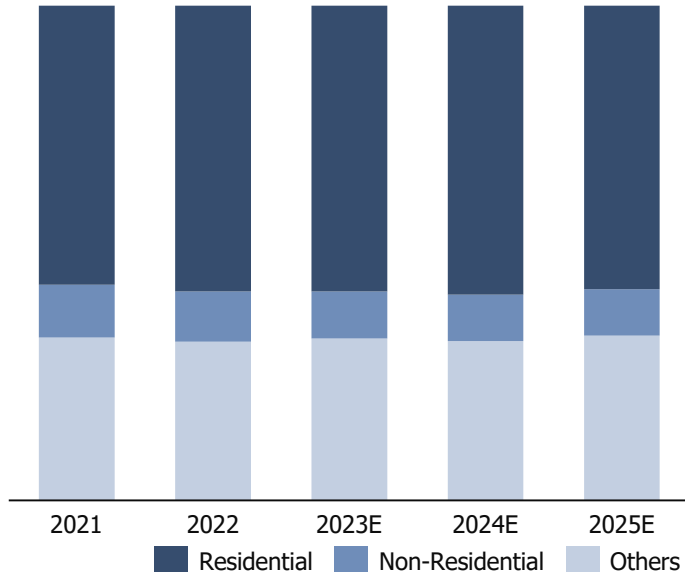
ILLUSTRATIVE

- By cities, the proportion of steel consumption in Tier 1 and Tier 2 cities will increase, especially for Tier 2 cities, while that in other cities and rural area will decrease, which was mainly caused:
 - ✓ The cost of living is high. The cost of living in Tier 1 cities has sharply increased, especially with high housing prices, which makes it difficult for many people to afford and choose Tier 2 or other cities with lower living costs.
 - ✓

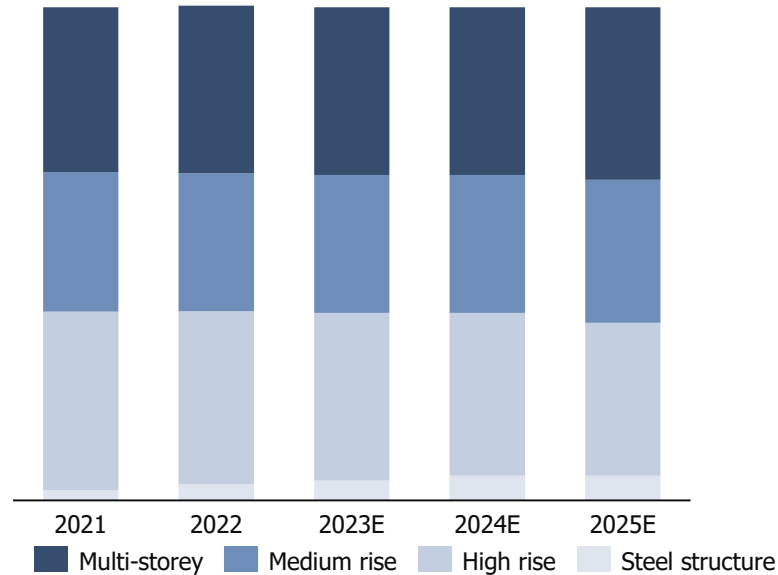


Steel consumption in property sector

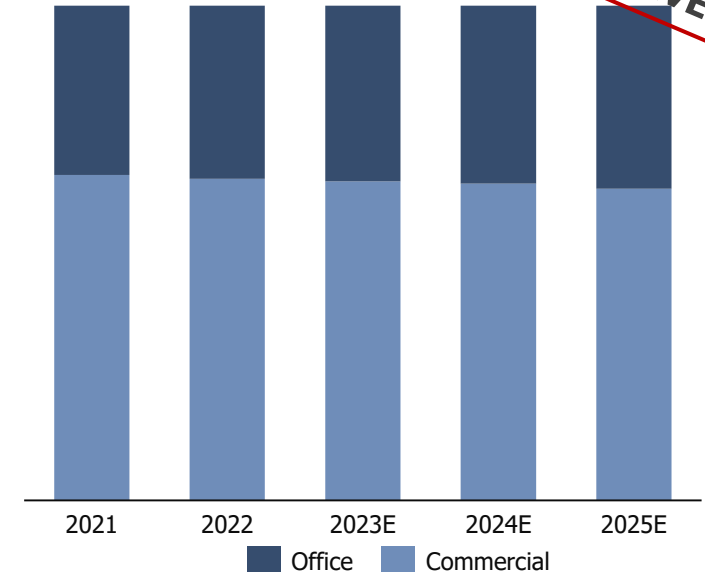
➤ Steel consumption by building type



➤ Steel consumption ratio in residential



➤ Steel consumption ratio in non-residential



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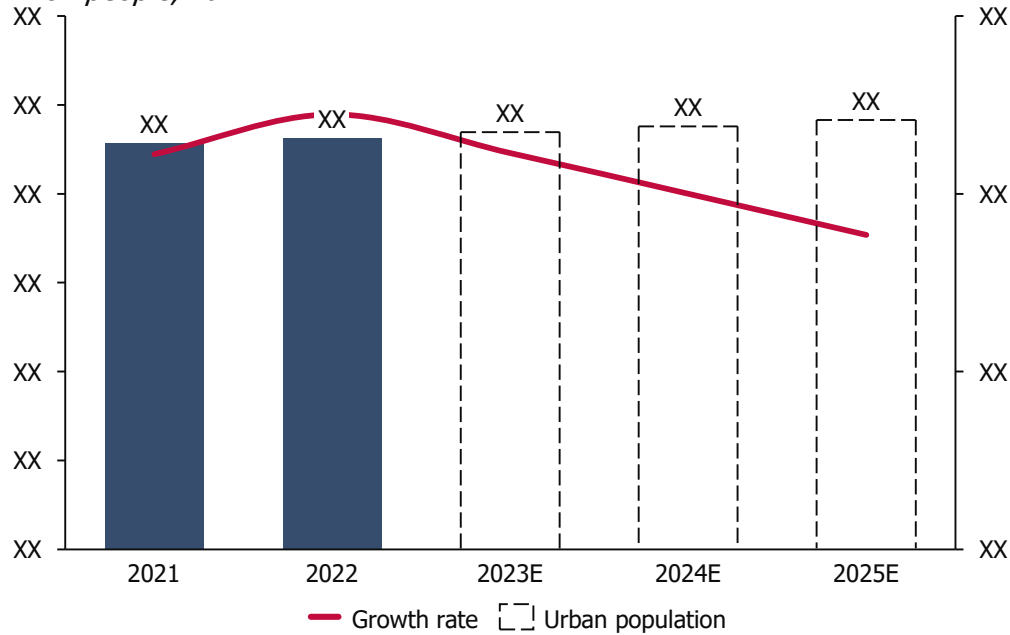
- In the long run, the proportion of non-residence and others of steel consumption will change significantly.
 - ✓ This is because with the change of working mode, life mode and online group purchase mode, the demand for office and commercial building will be weakened, so the proportion of office and commercial building in total steel consumption will decrease. According to the property developer's feedback, when they sell land, many office and commercial buildings are packaged with residence, otherwise it is difficult to sell them alone. The office vacancy rates are also rising in Tier 1 cities, especially Beijing.
 - ✓
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New construction area prediction

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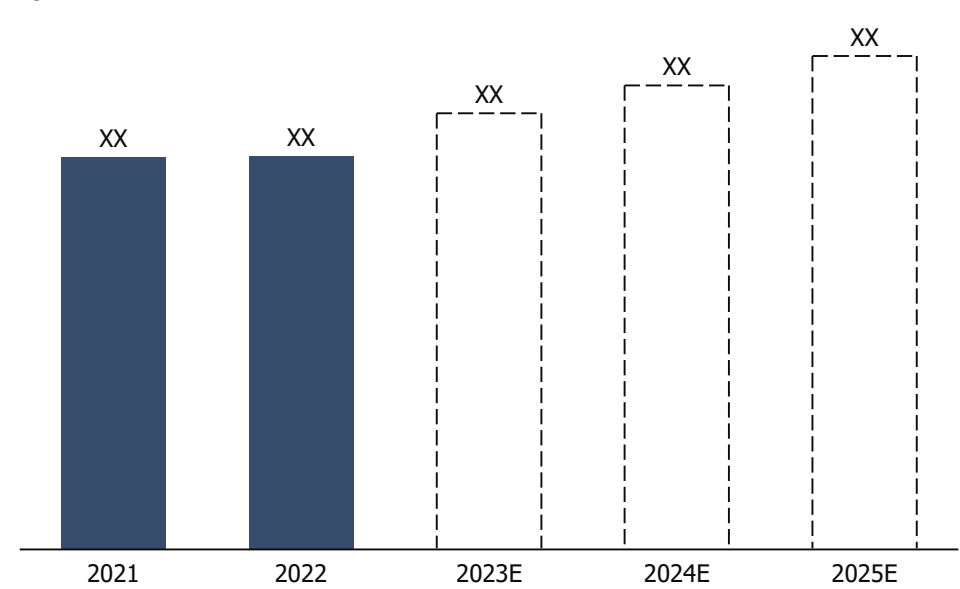
➤ Urban population forecast and future increase

Unit: Million people, %



➤ Newly added floor area demand brought from urbanization development

Unit: Million m²



✓ From the perspective of urbanization process, the progress of urbanization in China was relatively slow before the urbanization rate reached 30%. After breaking through 30%, the process of urbanization has accelerated significantly. At present, the national urbanization rate has exceeded XX%, which is still in the period of rapid development of traditional urbanization. The improvement of urbanization rate has narrowed in recent years, but benefit from the continuous promotion of the new urbanization strategy, there is still room for urbanization in the next few years.

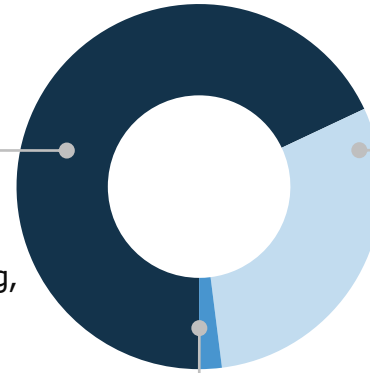
✓

Future prospects for the development of steel structure buildings

ILLUSTRATIVE



Precast concrete: 68%
Used for residence, office building, teaching building, hospital, etc.



Precast steel structure: 30%
Used in factories, gymnasiums and high-rise office buildings



Precast wood construction: 2%
Used in villas, antique buildings, etc



*Note: the figures in the chart refer to the proportion of new construction area of different types of prefabricated buildings in the total area.
Data source: China Metallurgical Construction Association (CMCA)*