



ASIA PERSPECTIVE

# Manufacturing in China: Best practices for handling uncertainty and shaping the future footprint

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Presenting today



## JOHAN ANNELL

PARTNER

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He is fluent in Mandarin and has an M.Sc. in Industrial Engineering & Management from Chalmers University of Technology and a M.Sc. in Financial Economics from Gothenburg University.



# Opportunities and long-time trends favourable for foreign investment in China



**Growing middle class & overall rising income**



**Rising demand for sustainable solutions & new goals to reach carbon neutrality**



**Trends towards healthier lifestyles & priority on life science**



**Increased need for automation & productivity gains**



**Increased compliance with regulations & transparency demanded**



**5G & overall connectivity at high level, and taking global lead**



**Shift toward domestic consumption to moderate export & investment focus**



**Continuing trend of urbanization & more cities upgrading city infrastructure**

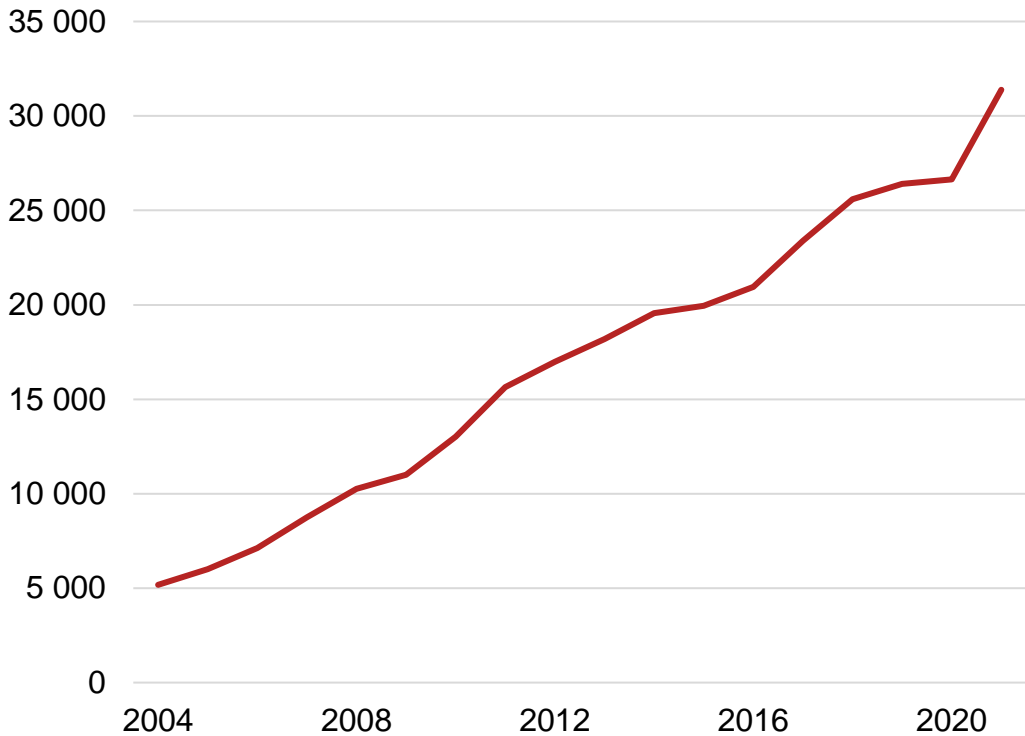


**Booming food industry with increased demand in quality & quantity with higher output**

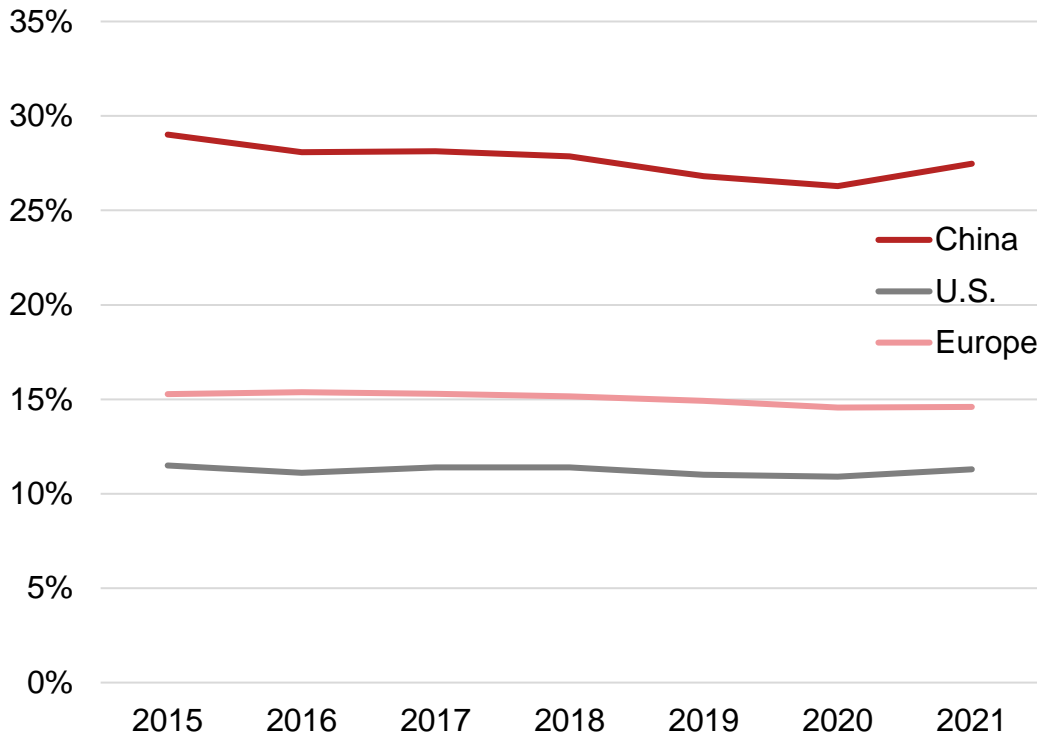
# China manufacturing's output has increased six times since 2004

The manufacturing sector in China is still growing in China and remains the largest contributor to GDP, at a much higher percentage than most western countries

China's manufacturing output, 2004 – 2021 (billion RMB)



Manufacturing sector's share of total GDP, 2015-2021

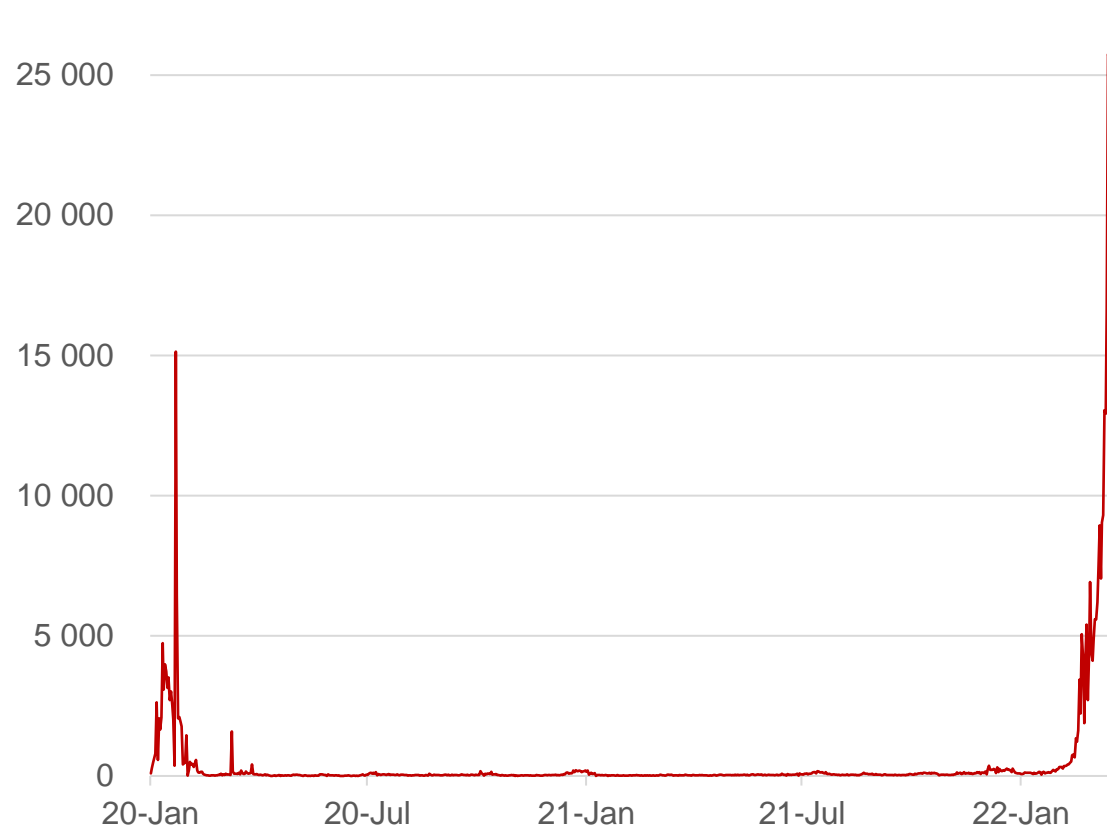


Sources: National Bureau of Statistics of China, Wind, UN COMTRADE database, Trading Economics, FRED Economic Data

# Current covid situation is impacting production and logistics severely

Periodic lockdowns, very local restrictions, unpredictable enforcement and ripple effects affect production

China's daily number of confirmed cases, 2020-2022



## Factory shutdown / closed-loop



- Workers stay on site at factories – partial mitigation
- Inability to run full speed or lack of materials lead to downtime

## Truckdrivers & logistics



- Stranded long-haul truck drivers & inefficiencies
- Flow of goods disturbed for months – rejected and returned

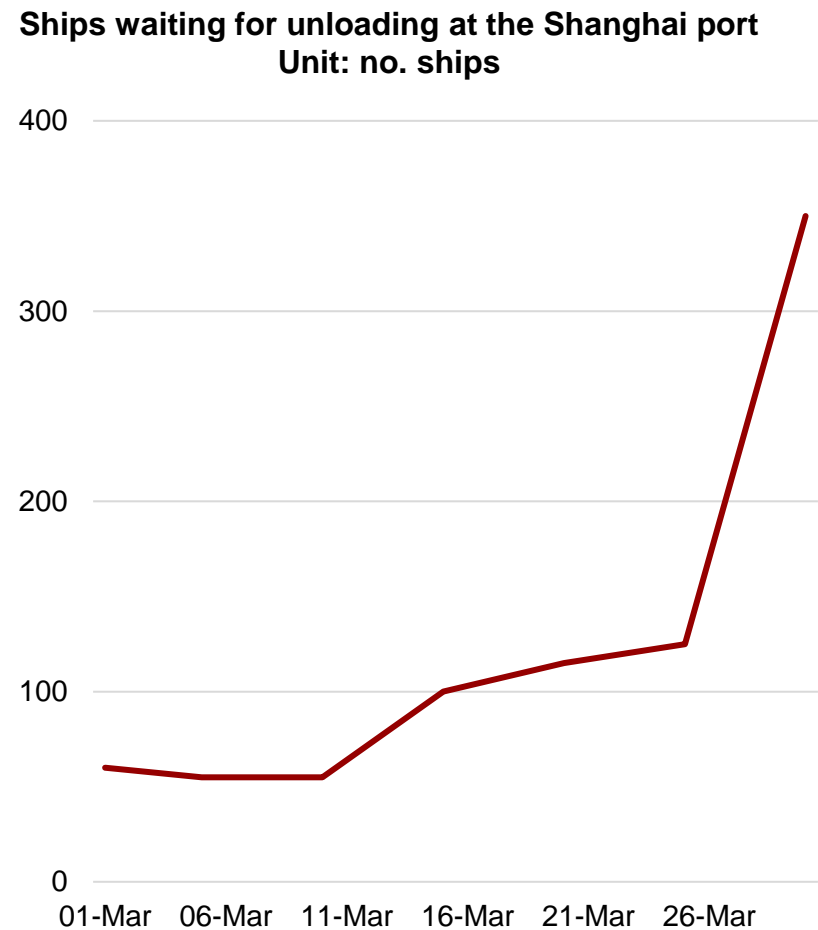
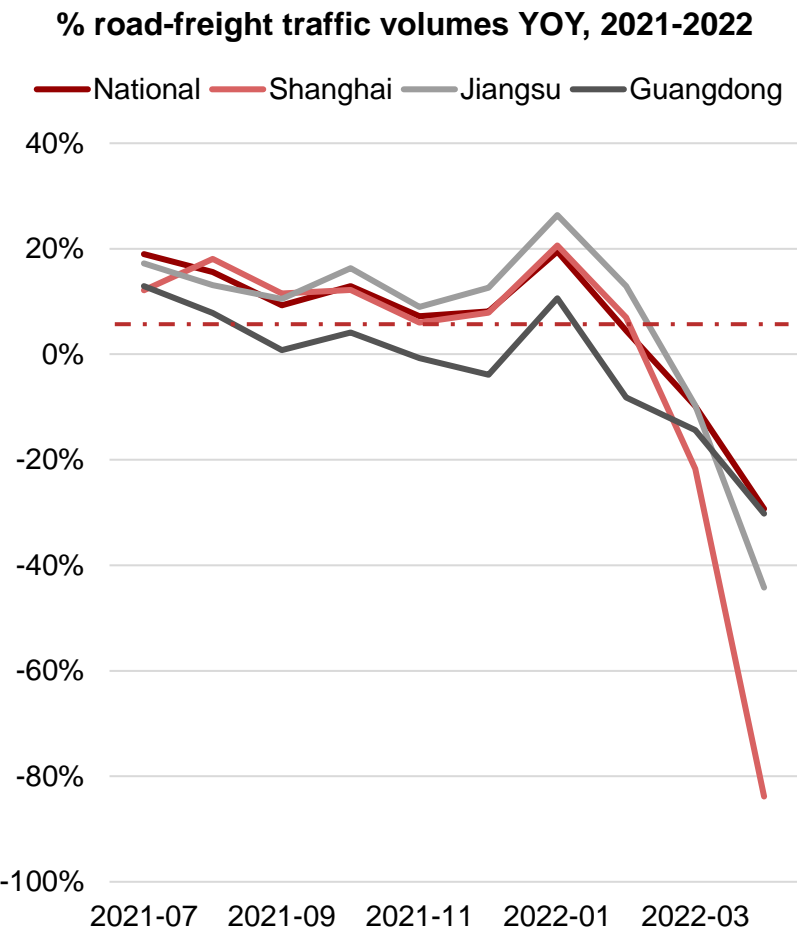
## Shanghai port | Capacity impact



- Other provinces are reluctant to accept deliveries from Shanghai and other areas with Covid out-breaks
- **25-30% impact on Shanghai port's capacity**
- Shortage of delivery truck drivers, decreased demand for containers from factories all contributed to the increased pressure on the SH port

Sources: CCTV, Our World in Data, Bloomberg, The Verge, Assembly

# Road freight volumes have faced a heavy decline early 2022 – and ships are waiting outside Shanghai



Sources: Bloomberg, Morgan Stanley Research, VesslesValue, China Newsweek, Trivium China



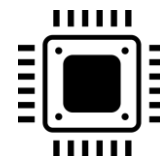
# Reopening is coming – but impact will be felt for long in production

Many companies are looking to reopen their production units – but will struggle to make up for lost volumes



## 16<sup>th</sup> April:

- Government releases guidelines to resume operation
- Whitelisted 600+ prioritized companies to resume operation
- “Centralize resources” to support whitelisted companies within:



Semiconductor industry



Auto & machinery manufacturing industry



Biomedicine industry

*“If supply chain companies could not find a way to resume operation and production, it’s likely all Chinese OEMs may have to suspend production in May.” – CEO of Xpeng Inc. via Wechat post*



## Tesla

- Closedown since 28<sup>th</sup> March, currently planning to reopen
- 48,000+ unit cars loss as of 20<sup>th</sup> April
- 84,000 projected unit loss if factory reopens early May



## Apple

- 2 production lines in Shanghai and Kunshan halted operations, accounting for 20-30% of global iPhone production capacity
- Projected 6-10m unit iPhone loss



## Volkswagen

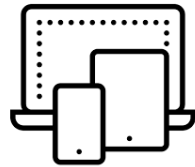
- Closed-loop system
- Halted operation as parts cannot be delivered to the factories
- VW is currently evaluating reopening its production in SH

# Chinese government priorities for industrial development coming decade

Foreign companies can expect more favorable opportunities in sectors highlighted in policy and public reports



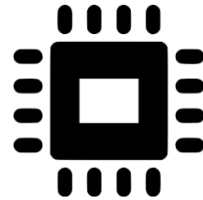
**Manufacturing**



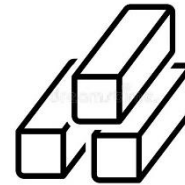
Electronics



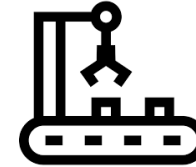
New energy vehicles



Semiconductors



Metallic and non-metallic products



Machinery



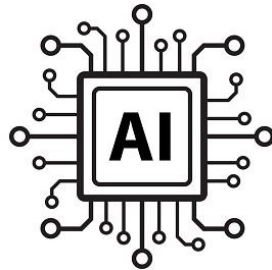
Chemical



Biomedicine



**Scientific research & technical services**



AI technology



IoT technology



Chemical & biological



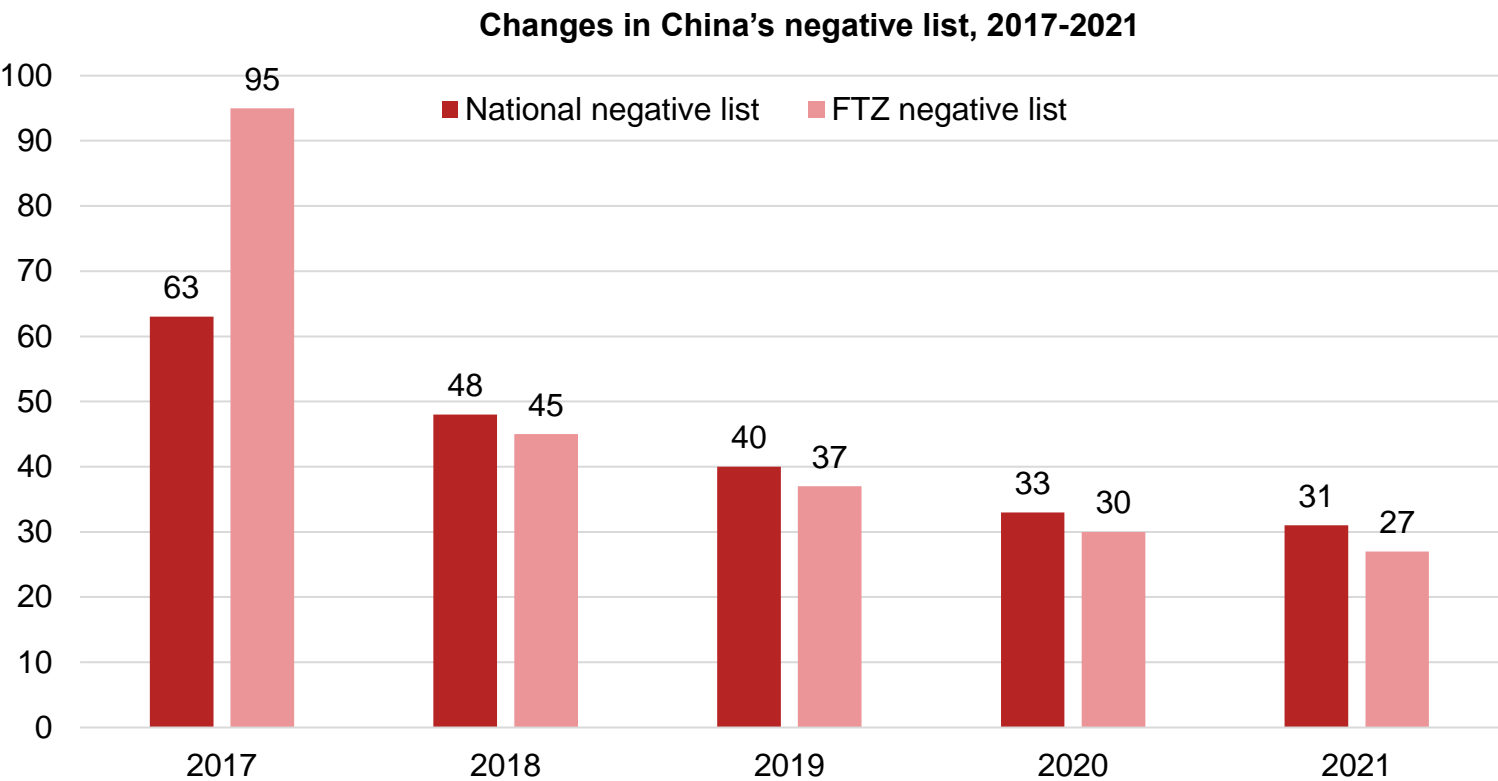
Industrial sustainability

Sources: National Development and Reform Commission

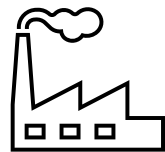


# The system of “negative lists” is key factor shaping opportunities to invest

China’s NDRC is allowing competition between foreign and domestic firms in more industries



Industries with major restriction lifts in 2020 and 2021



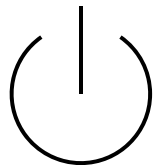
Manufacturing



Finance



Health and social work



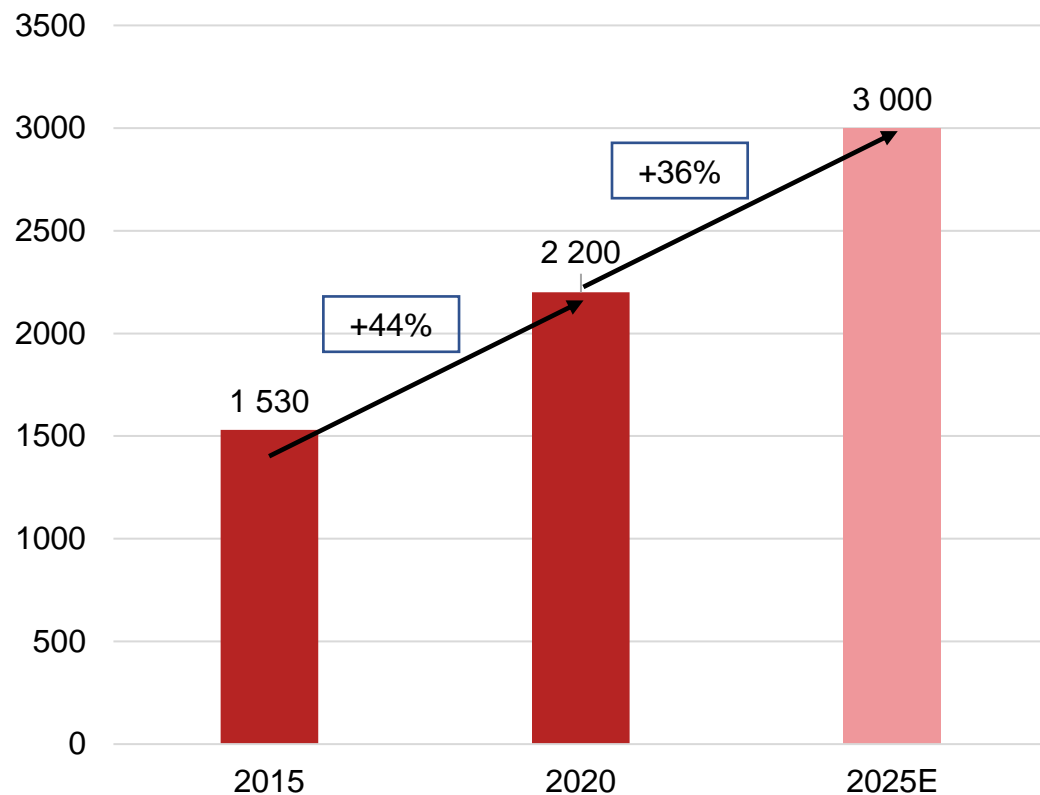
Power, heat, gas, and water production & supply

Sources: China’s State Council, National Development and Reform Commission, China Briefing

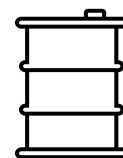
# China has intense needs to increase energy production

Industrial growth is a key driver of energy consumption – and China is increasing production significantly

China's power generating capacity, gigawatts



## By 2025, China aims to have:



- Annual crude oil output level will be increased to 200 million tons, highest since 2016



- Annual natural gas output to be increased above 230 billion cubic meters
- 12% increase since 2021's level



- 19% of production capacity will be transformed to flexible power sources for balancing of renewable energy plants
- 3% production capacity will be closed

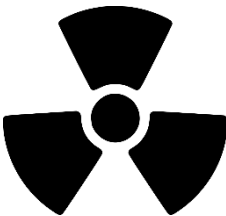
Sources: National Development and Reform Commission, Bloomberg

# Heavy investment for energy transition to meet the country's carbon goals

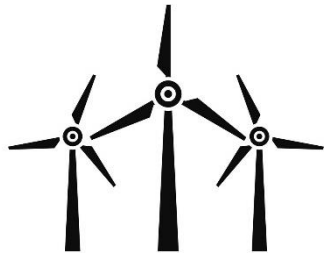
China aims to increase non-fossil fuel energy significantly to hit carbon targets and secure energy needs



China has significant hydropower, with limited expansion the coming years

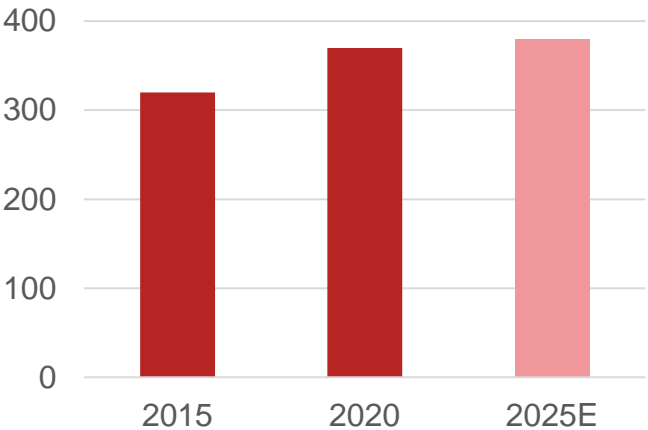


- Target to complete construction for 12 nuclear power plants by 2025
- Plans for 150 reactors built in coming 15 years – more capacity than rest of world

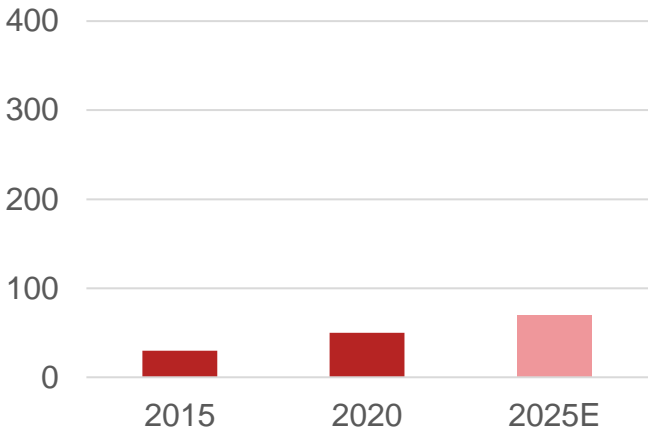


- Prioritize developing offshore wind power in 5 provinces, and overall in wind power in the eastern and central plain regions
- Exact target not set, but high priority

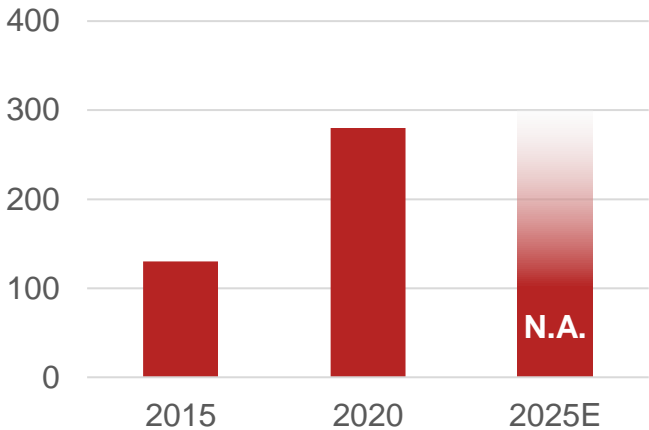
China hydropower's production capacity, gigawatts



China nuclear power's production capacity, gigawatts

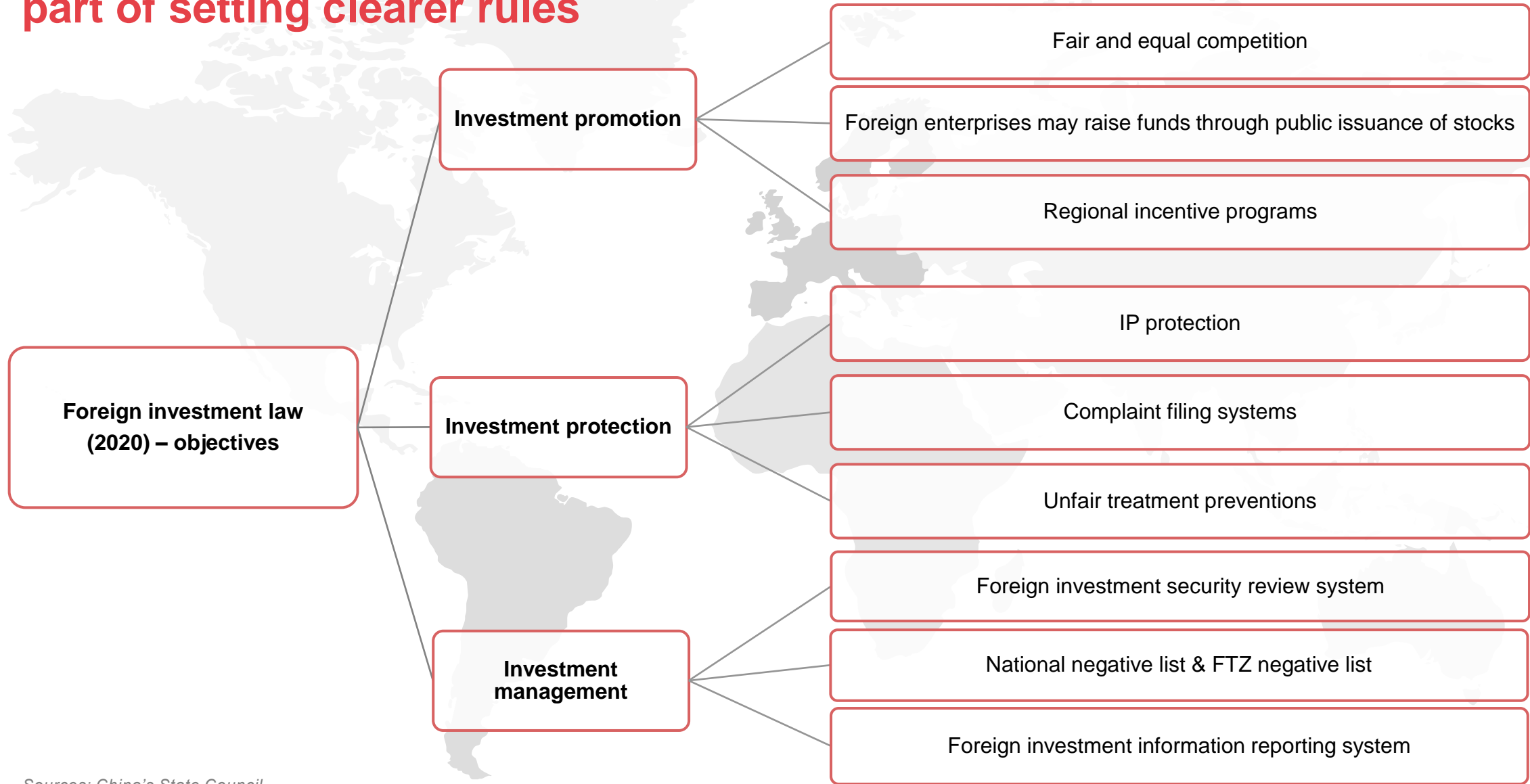


China wind power's production capacity, gigawatts



Sources: National Development and Reform Commission, Bloomberg, IAEA

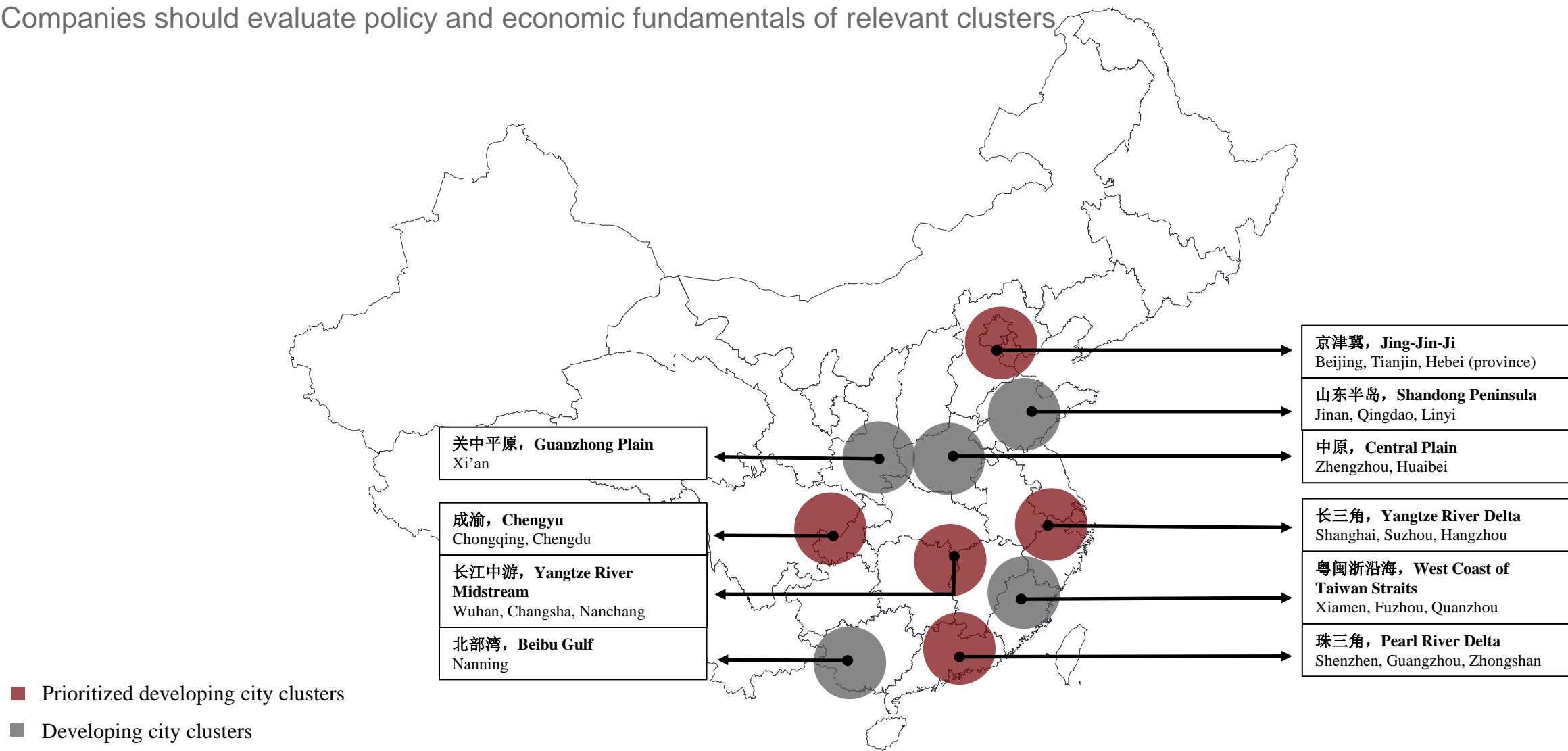
# China is encouraging new stage of foreign investment - new legislation is part of setting clearer rules



Sources: China's State Council

# City clusters is a key part of Chinese development policy at national level

Companies should evaluate policy and economic fundamentals of relevant clusters



Sources: State Council

# The top 5 city clusters account for over half of China's GDP

These are clusters that are usually first considered and are engines of growth



**Yangtze River  
Delta**



**Pearl River  
Delta**



**Jing-Jin-Ji**



**Yangtze River  
Midstream**



**Chengyu**

Main cities	Shanghai, Nanjing, Hangzhou	Guangzhou, Shenzhen	Beijing, Tianjin, Baoding	Wuhan, Changsha, Nanchang	Chongqing, Chengyu
% share of GDP	24.1%	9%	8%	9%	6%
% share of population	17%	6%	8%	9%	8%
No. of cities	41	9	13	31	16
Key industries	Finance Automotive Shipbuilding Communication tech	Electronics Digital Logistics Emerging industries	Automotive Electronics ICT Machinery	New materials Adv. Manufacturing Biomedical	Digital Machinery Finance

Sources: National Bureau of Statistics of China

# Growth is encouraged in clusters less well known to western companies

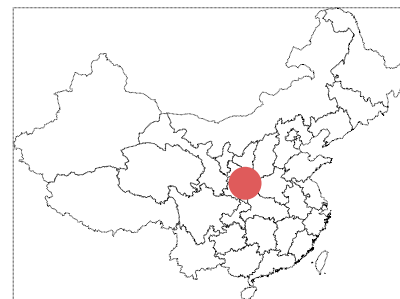
Foreign companies should also evaluate alternative locations for operations in other clusters



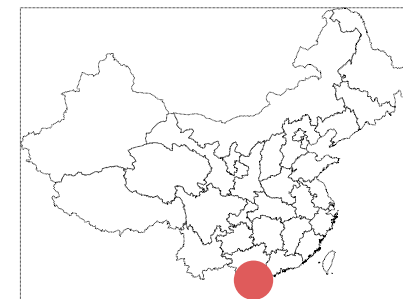
**Shandong Peninsula**



**Central Plain**



**Guanzhong Plain**



**Beibu Gulf**



**West Coast of Taiwan Straits**

Main cities	Jinan, Qingdao, Yantai	Zhengzhou, Heze	Xi'an, Baoji	Nanning, Haikou	Xiamen, Quanzhou, Wenzhou
% share of GDP	7.2%*	8.2%*	2.6%*	2.7%*	8.5%
% share of population	7.2%*	11.8%*	2.8%*	3.1%*	6.7%
No. of cities	17	30	11	12	20+
Key industries	Agriculture Manufacturing Machinery ICT	Finance Healthcare ICT Transportation	Tourism Logistics Adv. manufacturing Finance	Chemicals Agriculture Energy Healthcare	Tourism Industrial sustainability Textile Seafood

Sources: National Bureau of Statistics of China

\* Data aggregation from period 2017-2020 regional statistics



# Economic zones are smaller areas encouraging investment

Companies should evaluate benefits and eco-system offered by relevant zones when considering establishment

National level zones	# zones	Purposes – as defined by national policy – each zone has variations	Examples
<b>Special Economic Zones</b>	7	To attract foreign investment by implementing favourable investment environment for economic development.	Shenzhen Xiamen Hainan
<b>New Areas</b>	19	To aid China's economic development, reform, and opening up	Pudong (Shanghai) Changchun
<b>Pilot Free Trade Zones</b>	21	To boost innovation, industrial transformation, investment, and trade facilitation.	Shanghai FTZ, Guangdong FTZ Tianjin FTZ
<b>Economic and Technological Development Zones</b>	219	Zones focused on developing knowledge- and tech-intensive industries. It aims to utilize foreign investment to boost overall regional economic growth.	Beijing ETDZ Guangzhou ETDZ Hongqiao ETDZ
<b>High-Tech Industrial Development Zones</b>	169	To leverage on foreign companies to heavily develop high-tech expertise, and to achieve an overall goal to promote scientific research, education, and production.	Nanjing HTIDZ Hangzhou HTIDZ Zhongguancun (Beijing)

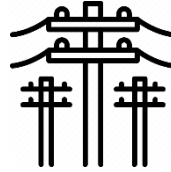
# Decision criteria for setting up/relocating manufacturing – site selection



Regional outlook



Incentive programs  
for foreign companies



Local infrastructure  
& energy stability



Availability of labour  
& regional labour cost



Local government support



Land & utilities



Logistic convenience  
to local and global  
suppliers



Closeness to customers



Availability of suppliers



# Production facility acquisitions rely on primary due diligence and clear target image

## Primary due diligence in acquisition or JV

### Operations review

- Obtain basic information
- Staffing and key positions overview
- Process management overview
- Production planning and performance evaluation
- Quality control & procurement processes
- Inventory management & logistics

### Compliance review

- Review of documentation
- Understanding of manufacturing site
- Permits review – environmental, health and safety
- IP and software licenses needed

### Technical review

- Identification of risk and opportunities for future facility upgrades
- Equipment condition and efficiency assessment
- Building, utilities, and intangibles assessment

### Capital Expenditure & finance summary

- Review and rectification plan of non-compliant items
- Cost estimation of remediation plan for CAPEX
- OPEX impact of compliance and new compensation structure

### Implementation and optimization plan

- Key negotiation items for deal valuation, retention of key staff and previous owner engagement
- Implementation plan with: To-be organization chart, key process adjustments, procurement plan and recruitment plan

# Getting it right from the start – and drive continuous improvement to avoid Waste



Unnecessary transportation  
(in- and out-bounding)



Excess inventory



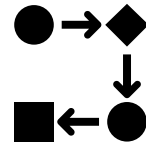
Unnecessary movement of  
people and machines



Idling of resources



Over-production of a product



Over-processing or adding  
unnecessary features to a  
product



Defects that require  
costly correction



Optimize operation and  
business model



Supplier base and  
supply chain improvement



# Acquisition in industrial products – Nordic Manufacturing Company

A Swedish company providing Heating, ventilation, and air conditioning (HVAC) solutions, decided to expand in Asia via acquiring a local company. The company reached out to Asia Perspective to help

## Approach



Market research



Defining criteria for company searching



Evaluation and shortlisting companies



Deal structure proposal



## Results

- Report delivery: market overview of local relevant segments
- A report with shortlisted targets and deal structure proposal
- Client ready to go ahead in negotiating with targets

# Composite Material Producer - Assembly Line Acquisition

A composite materials company looked to establish production lines in China. The client turned to Asia Perspective for help to identify qualified suppliers and to support with the acquisition

## Approach



Establishing supplier selection criteria



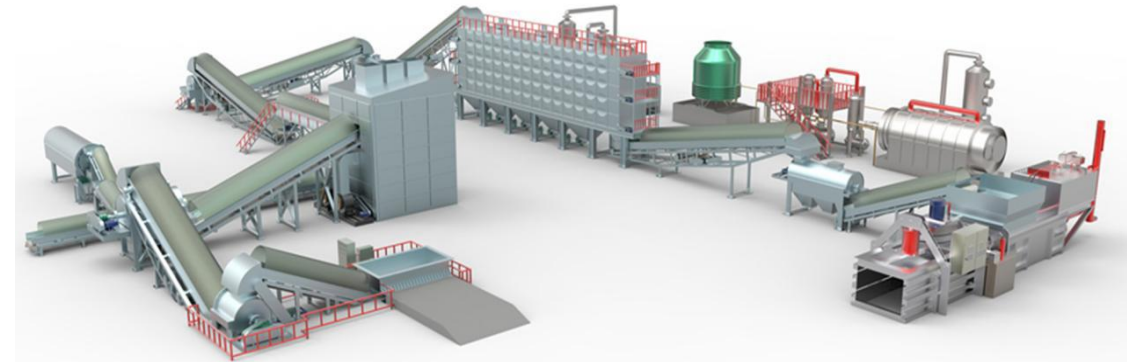
Evaluating and shortlisting of suppliers



On-site visit & information gathering of suppliers



Negotiation support



## Results

- Cost saving between 7% to 21% with shortlisted suppliers compared to initial estimates
- Formalized contract with supplier with a 16% cost reduction, location convenience, and multiple alternative benefits

# Automotive Industry Supplier - Interim Management before Acquisition

A Nordic automotive supplier and a leading Global conglomerate encountered multiple compliance issues during a pre-acquisition due diligence process.

The Nordic company turned to Asia Perspective to help to identify and solve compliance issues for a smooth acquisition, as well as identifying any arising risks involved with the acquisition

## Approach



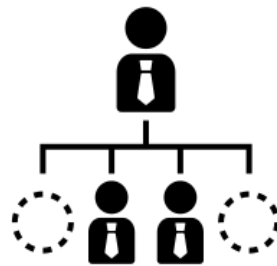
Compliance risk  
assessment



Interim management  
for client



Dismissal of key  
stakeholders



Organizational restructuring  
and recruitment

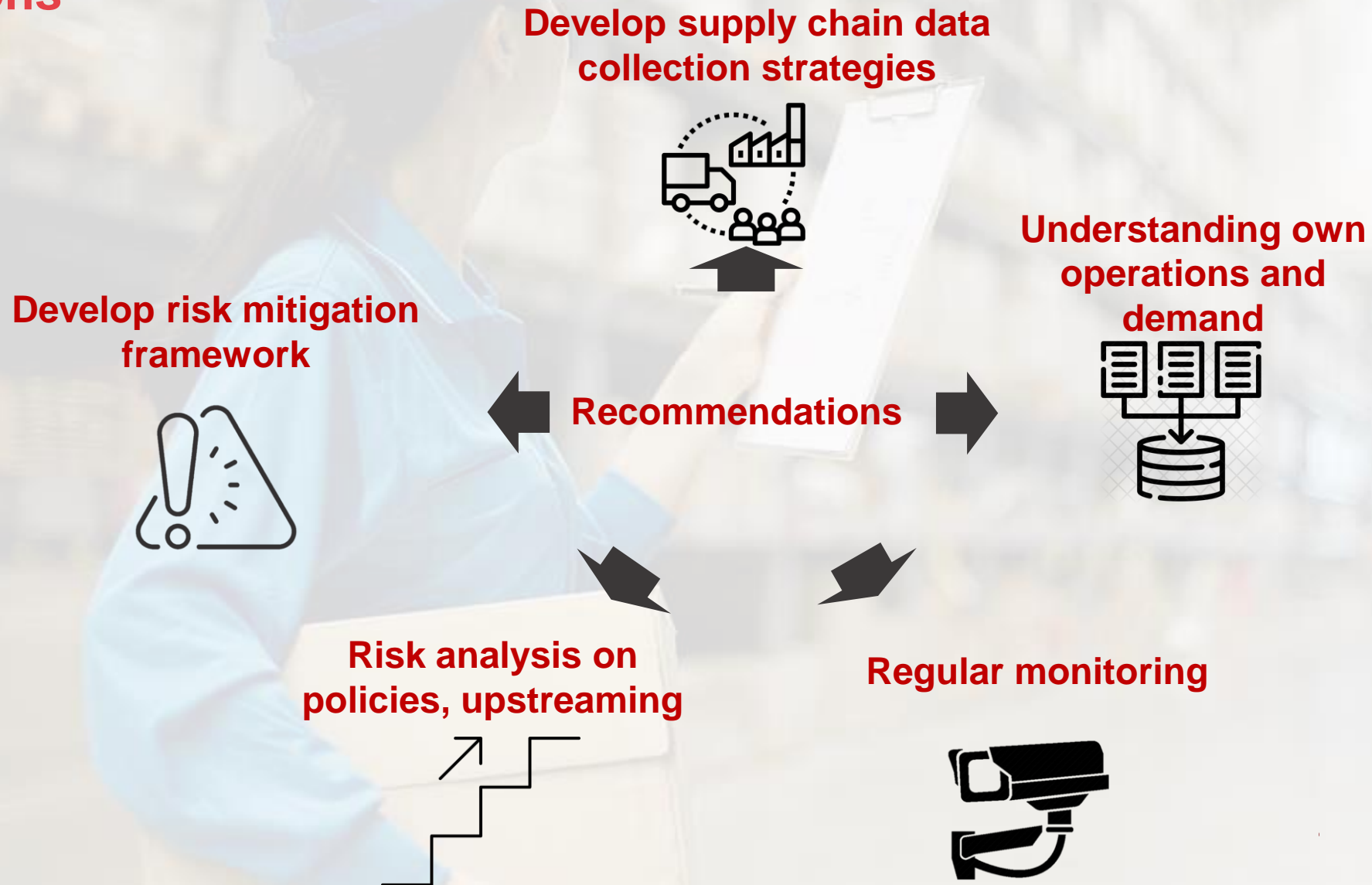


## Results

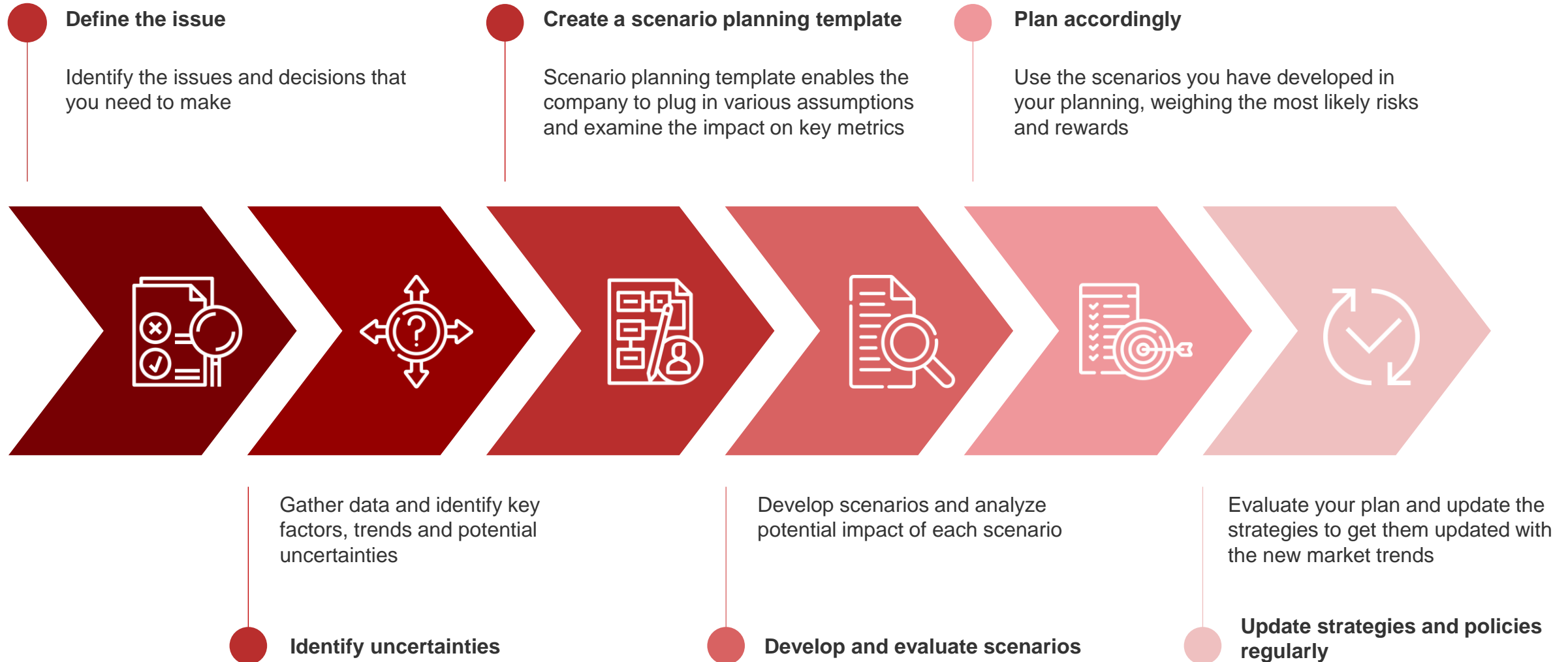
- Cost savings in purchasing: 25%
- Sales margin increase: 10%
- Full compliance achieved which passed the acquirer's final due diligence.
- Completed acquisition



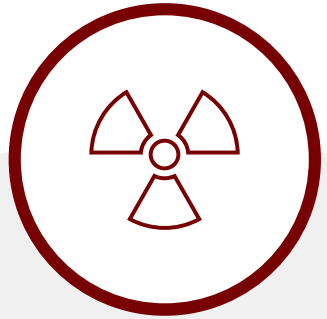
# It is crucial to work in structured way on supply chain and manufacturing operations



# Scenario analysis allows organizations to evaluate the impact and be prepared for the unexpected changes

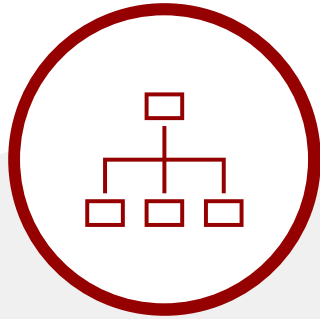


## Best practices to avoid costly mistakes, collaborate globally, operate efficiently



Understand the  
business' risk  
exposure

1



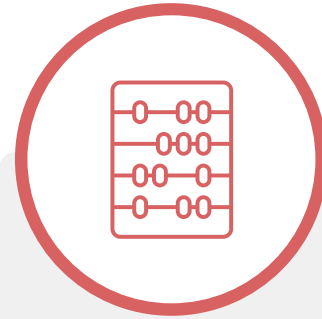
Strengthen  
management and  
supervision

2



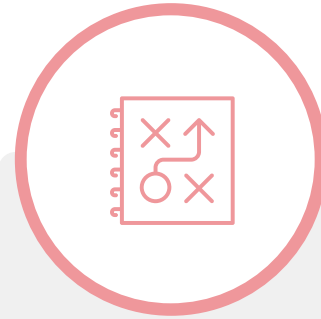
Conduct scenario  
planning

3



Quantify risk  
impact and  
likelihood in  
forecasting

4



Make strategic  
trade-offs

5



Enhance cross-  
cultural  
understanding

6



# Our expertise



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Sourcing & Supply Chain Management



Restructuring & Transformation



Financing & M&A



# We work with many leading large companies

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# Thank you for your time

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