

Decarbonization and China – policy ‘thinking’, industrial policy approach and capabilities

Input for CEO4Climate event, hosted by Gustav Baldinger (PwC), Marcel Winter (Afry) and Fabian Etter (swisscleantech)

2nd February 2026

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[China Macro Group \(CMG\)](#)

Corporate profile

- ✓ CMG is an agile, service-minded and innovative **management consulting and research firm**
- ✓ CMG serves **international corporate, investment and public sectors** on China related questions
- ✓ It specializes in aiding **strategic decision-making** of governance, executive and functional bodies
- ✓ CMG combines three **core capabilities**: policy (domestic + trade conditionalities), business and strategy
- ✓ CMG operates with presences in **Zurich, Munich and Shanghai**

How we work

«China inside-out»

Cross-cultural team, extensive networks in China, “reality checked” China analysis and also accountable to the Chinese discourse

Inter-disciplinarity

Business / strategy, public policy / political science, macro-economy, geopolitics / geopolitics / trade

“Multipolar” analytically

For geopolitical / geoeconomic analysis actively use, seek and iterate with expertise and views from different “poles”

Epistemological and dialectical values

Original, fact-based and calibrated
Dialectics seen as resource and a process principle

Professional services DNA

Listening, ownership and co-creation as foundation to build trusted and tailored collaborations

Our value proposition – 6 service areas

1



Consulting

- Strategy devising / review
- HQ-subsidiary alignment

2



Briefing

- Strategic business context
- Market / competitive trends

3



Sector/market/tech intelligence

- Value-chain, competitive and go-to-market
- Tech, cluster and ecosystem analysis

4



Partnering with Chinese firms

- Partner mapping and evaluation
- Collaboration concepts

5



Monitoring

- Policy / sector / market factors
- Geopolitical / risk factors

6

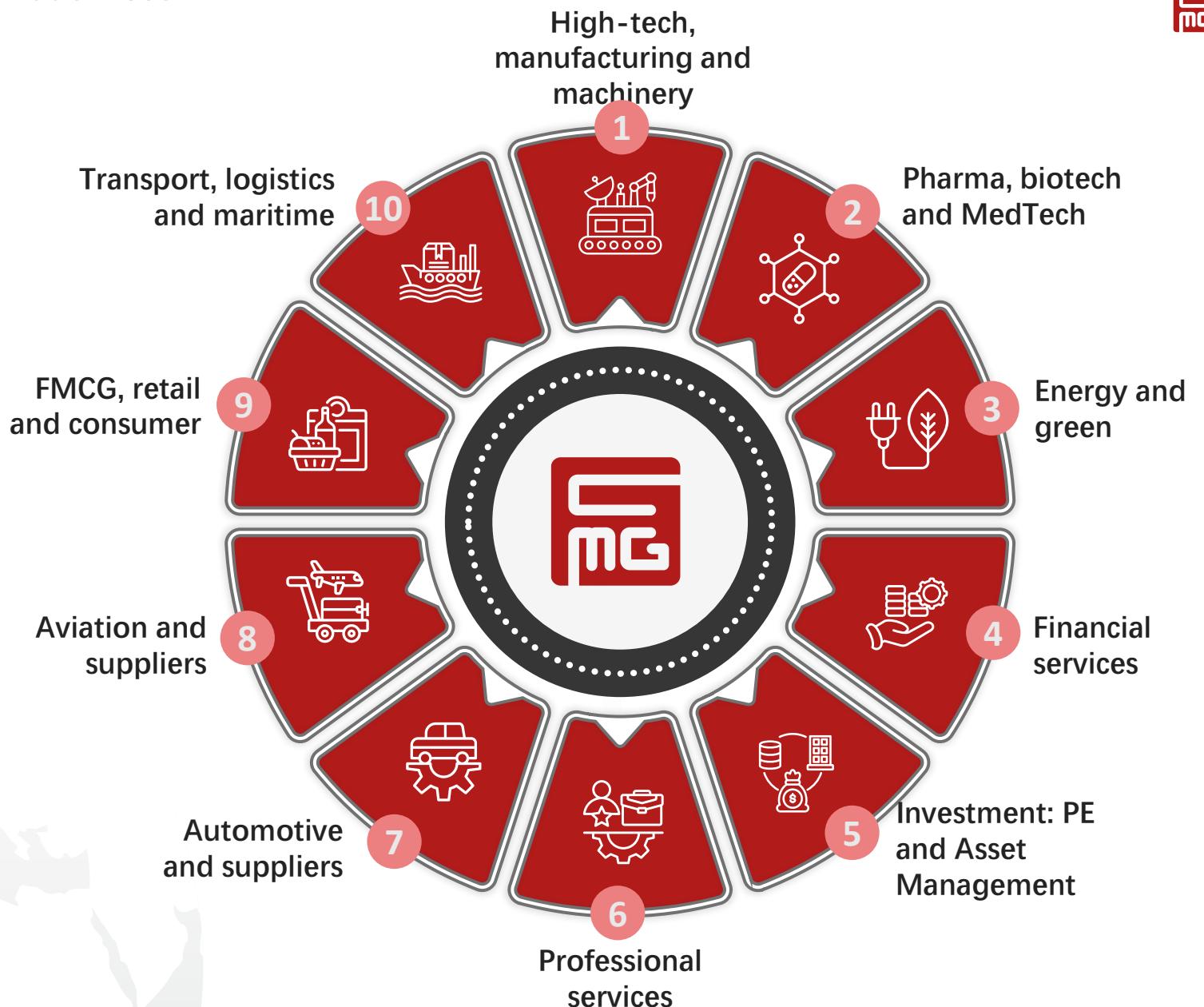


Learning & curation

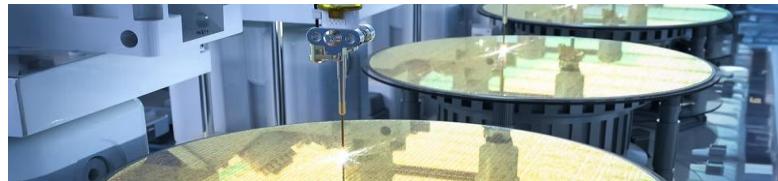
- Learning conferences / fact-finding
- Trainings, events and moderations



We serve 10 key sectors among European business



CMG's key six service areas



Consulting

Support your strategic decision-making, planning and actions

- Strategy development / review
- Workshops spanning strategy to governance aspects
- Partnership- and negotiation concepts
- M&A target screenings
- New capabilities (e.g. GA)



Briefing

Align your cross-functional views on China and surface questions

- Group BoD / ExCo briefing
- Briefings during HQ delegations' traveling to China
- Event-driven or pre-travel briefings
- Informal / bottom-up lunch & learn-type of briefing
- Briefing as part of internal training program



Intelligence

Surfacing sector, market, tech and ecosystem granularity that matters

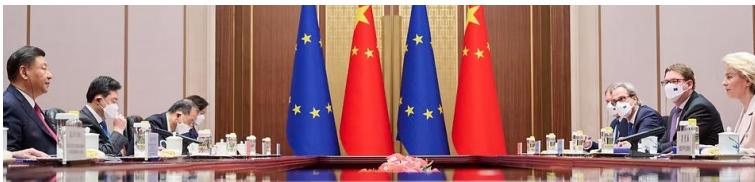
- Competitive benchmarking
- Value-chain analysis
- High-tech park analysis
- Tech capabilities mapping



Partnering

Helping you partner for synergies with Chinese business – anywhere

- Partner screening and synergy evaluation
- Negotiation concept and strategy
- Target screening and outreach curation
- Contact facilitation and process support



Monitoring

Track what is relevant to you strategically and operationally

- Evolving strategic business context
- Sector, market and/or competitive monitoring
- Geopolitical and risk factors
- Macroeconomic factors
- Chinese domestic politics



Learning & CURATION

Design value-adding events and interactions related to China

- Expert presentations
- Panel / webinar moderations
- Conference (co-) hosting / MCing
- Trainings

Exemplary CMG project types for European business

The diagram illustrates the concept of Strategic benchmarking. It features a grid with 'Company' on the vertical axis and 'Product' on the horizontal axis. The vertical axis is divided into four categories: **Product**, **Process**, **Information**, and **Human Resources**. The horizontal axis shows five distinct products: **Personal computer**, **Business computer**, **Automobile**, **Food processing**, and **Plastics**. Each product cell contains a red line graph representing a performance profile. The graphs show varying degrees of performance across the four categories, with some companies excelling in certain areas (e.g., the automobile industry in Process and Information) and others in others (e.g., food processing in Human Resources).

Policy-based product portfolio review		
Market share		Sales growth potential
High market share	High sales growth potential	Star
	Low sales growth potential	Question
Low market share	High sales growth potential	Mature
	Low sales growth potential	Dormant

Taiwan crisis sanction mapping

Completely implemented
Some implemented
Not yet implemented

Source: This map highlights countries and regions that have completely implemented the U.S., Canada, Australia, and the European Union's measures. The U.S., Canada, Australia, and the European Union have imposed a range of measures, including economic sanctions, travel restrictions, and diplomatic actions, in response to the situation in Taiwan. These measures have been adopted by other countries and regions as well. The map also shows countries and regions that have not yet implemented any measures. The map is not comprehensive and does not cover the entire subject.

The diagram illustrates the relationship between Disruptive Events and Disruptive Technologies across four quadrants:

- High Impact, High Impact:** Disruptive Events (e.g., Uber, Airbnb) and Disruptive Technologies (e.g., Blockchain, AI, Big Data).
- High Impact, Low Impact:** Disruptive Events (e.g., Tesla, Netflix) and Disruptive Technologies (e.g., Cloud Computing, Blockchain).
- Low Impact, High Impact:** Disruptive Events (e.g., WhatsApp, Uber Eats) and Disruptive Technologies (e.g., Blockchain, AI, Big Data).
- Low Impact, Low Impact:** Disruptive Events (e.g., Airbnb, Uber) and Disruptive Technologies (e.g., Cloud Computing, Blockchain).

Y-axis: Disruptive Events (High Impact, Low Impact) and Disruptive Technologies (High Impact, Low Impact).
X-axis: Disruptive Events (High Impact, Low Impact) and Disruptive Technologies (High Impact, Low Impact).

China's going-out connectivity

Primary objectives

- 1. Ensuring energy and mineral security
- 2. Ensuring food security
- 3. Ensuring economic security
- 4. Ensuring cultural security

"Going out" cooperation and resources

- Direct investment
- Technology transfer
- Resource imports
- Cultural exchange
- Financial cooperation
- Policy dialogue

Emerging Markets

- Latin America: Brazil, Argentina, Chile, Mexico, Venezuela, Peru, Colombia, Ecuador, Uruguay, Paraguay, Bolivia, Venezuela, Costa Rica, Panama, and Venezuela
- US: United States
- Europe: Russia, Turkey, Germany, France, Italy, Spain, Portugal, Greece, Poland, Hungary, Czech Republic, Slovakia, Romania, Bulgaria, and Turkey

Emerging Markets that have highest trade with China

Emerging Market	Trade with China (Billion USD)
China	1000
US	350
Germany	150
India	120
Brazil	100
Russia	80
UK	70
France	60
Japan	50
South Korea	40
Italy	30
Spain	20
Portugal	10
Greece	10
Poland	10
Hungary	10
Czech Republic	10
Slovakia	10
Romania	10
Bulgaria	10
Turkey	10

Key domain area	International business	Global business
Learning		
Innovation (R&D)		
Manufacturing		
Commercial		
Production services		
Research and Development		

SOE policy intelligence	
123s regular user manual - Austin	Examples 123s regular manual - Austin
Marketing	<ul style="list-style-type: none"> Marketing intelligence is the process of collecting and analyzing data to understand consumer needs and behaviors, competitor actions, and market trends. Marketing intelligence helps companies make informed decisions about product development, pricing, promotion, and distribution. Marketing intelligence can be used to identify opportunities for growth, assess market competition, and evaluate the performance of marketing campaigns. Marketing intelligence can also be used to monitor and respond to changes in the market, such as shifts in consumer preferences or the actions of competitors.
Marketing campaign	<ul style="list-style-type: none"> Marketing campaign intelligence is the process of collecting and analyzing data to understand the performance and impact of specific marketing campaigns. Marketing campaign intelligence can be used to evaluate the effectiveness of different marketing tactics, such as email newsletters, social media posts, and search engine optimization. Marketing campaign intelligence can also be used to track the performance of specific marketing campaigns over time and make adjustments as needed.
Events	<ul style="list-style-type: none"> Marketing event intelligence is the process of collecting and analyzing data to understand the performance and impact of specific marketing events, such as trade shows, product launches, and webinars. Marketing event intelligence can be used to evaluate the effectiveness of different marketing tactics used during the event, such as email newsletters, social media posts, and search engine optimization. Marketing event intelligence can also be used to track the performance of specific marketing events over time and make adjustments as needed.

CMG Publications, Webinars and Events

CMG Primers

Understanding process and key outcomes of China's 20th Party Congress



EU-China relations – from economic integration to EU’s strategic autonomy and ‘de-risking’



Understanding supply chain distortions of critical minerals powering the green energy transition



Understanding China's economy into 2025 – evolved development strategy, reform priorities and short-term macroeconomic management



Understanding the “Taiwan issue” – context, influencing factors and outlook



Sino-Swiss – from honing a “special relationship” to balancing new geopolitical complexities

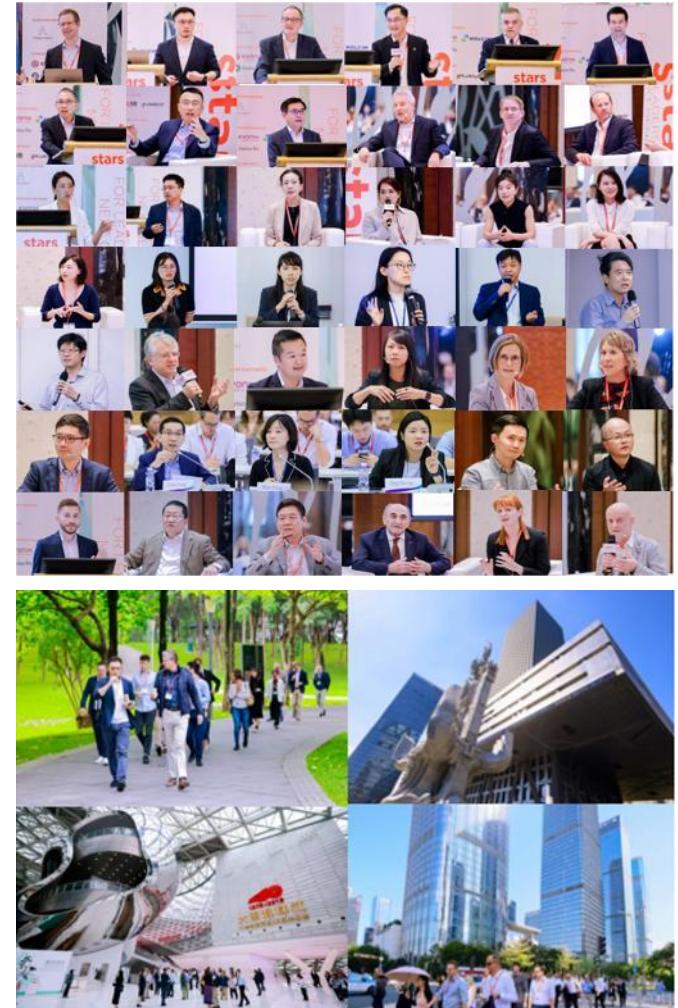


CMG curated webinars



New webinar series: China's 15th FYP: building towards next milestone in 2035 under unabating geopolitical pressure	
 Dealing with Trump 2.0 – is China making better or worse adjustments in view of the 15th FYP? BAW Wang Jun, Director of Economic and Financial Research Institute of State-owned Assets of China, Chinese Academy of State-owned Assets, Beijing, China 25 September 2023 10:00-11:45 CET 14:00-15:45 CST	 China-US relations – is tension or improvement to aid China's development and 2035 CAW Wang Jun, Ambassador to the US, Embassy of the People's Republic of China, Washington, DC, USA 27 September 2023 10:00-11:45 CET 14:00-15:45 CST
 Four years later: 15th FYP – taking stock of its execution after the FNP 2025 ZJU Guangyu, Senior Vice-Minister of Finance and Counsellor of the State Council 24 September 2023 10:00-11:45 CET 14:00-15:45 CST	 "Rebalancing" – interacting the "5th FYP outline" as per the 15th CC Plan and amending shifts BAW Wang Jun, Dean of School of Economics and Management, Tsinghua University 25 September 2023 10:00-11:45 CET 14:00-15:45 CST
 The iteration – 10-year outlook: Imaging China in 2035 as the next major transformation milestone YU Pengfei, Academician of Chinese Academy of Social Sciences (CASS) and President of Advisory Committees of MPA and MBA Program, Tsinghua University 26 September 2023 14:00-15:45 CST	 Transitioning to the 15th FYP – zooming in on Shenzhen as local government case study ZJU Wang Jun, Vice-Chairman, Institute of Regional and International Economics of Shenzhen University 26 September 2023 10:00-11:45 CET 14:00-15:45 CST
 18 May 2023 15:00-16:45 CET "EU-China Relations in Challenging Times" Nicolas CHAPRON, Ambassador of the Delegation of the European Union to the People's Republic of China, Beijing	 26 August 2023 15:00-16:45 CET "China's Economy and Ongoing Reforms In Uncertain Times" HUANG Yiqing, Deputy Chair and Senior Vice-Chair Professor of the Chinese Academy of Finance, National School of Development, Peking University, Beijing
 7 June 2023 15:00-16:45 CET "China – The World in a Swift Transformation" Barbara REAZZONI, Ambassador of Europe and to the People's Republic of China, Beijing	 9 September 2023 15:00-16:45 CET "Looking at ASEAN as Part of China's External Circumlocution" Liu XIAO, Vice-Chair, Ocean Global Vice Chairman, Ocean Wu-Mei Managing Council, Citic Global, Singapore
 24 February 2023 9:00-9:45 CET 16:00-16:45 CET "Peak Covid? China and Foreign Business – Qo Quo?" Jing MA, Vice-Chairman, Director of the Research Center on China in Global Business JGU, Germany	 26 June 2023 10:00-10:45 CET 16:00-16:45 CET "China EU Relations: Beijing's View on Challenges and Opportunities" Ugo RIZZI, Ambassador and head of the Mission of the European Union of China to the European Union, Brussels, Belgium
 29 March 2023 9:00-9:45 CET 15:00-15:45 CET "China's Economic Policy Blueprint after the NPC's" SU Chengyu, Marshall Financial Chair Professor-Duo, Chair of Economics and Management, and Chair of Finance, Zhejiang University, Hangzhou, China	 26 September 2023 9:00-9:45 CET 15:00-15:45 CET "Stock-taking and prospects of Sino-Swiss relations in a post-pandemic and post Covid China?" Jing MA, Vice-Chair of the Chinese Academy of Finance and to the People's Republic of China, Beijing
 14 April 2023 9:00-9:45 CET 15:00-15:45 CET "The FNP Topic again 2023 NHC: Organisational Changes of China's Financial Regulatory System to Manage Risks and Serve the Real Economy?" XING Yu, Vice-Chairman, Hong Kong Monetary Authority and Chair of the National Committee of the Chinese People's Political Consultative Conference (NPC), China	 1 December 2023 9:00-9:45 CET 16:00-16:45 CET "12 months into China post Covid: China's economy, policy and evolving posture; is internationalisation what does it mean for European Business?" Jing MA, Vice-Chair of the Chinese Academy of Finance and to the People's Republic of China, Beijing
 17 May 2023 9:00-9:45 CET 15:00-15:45 CET "Europe-China Relations in Fought Times - Drivers and Outlook?" Jorge TOLEDO, BRAZIL, Ambassador of the Delegation of the European Union to the People's Republic of China, Beijing, China	 16 JUNE 2023, President, European Union Chamber of Commerce in China (EUCC) Chair of the Board of Directors, Robert Bosch Innovation & Research, Shanghai, and International Board, Beijing, China
 9 June 2023 9:00-9:45 CET 15:00-15:45 CET "China's Vision and Aspirations for Multiple Polar World?" Jia CHENGXIAO, Member, Standing Committee of the 11th-12th National Committee of the CPPCC (2018-2023), Vice-Chair of the Committee of Grand Counselors, Peking University Party Committee School of International Relations, Beijing, China 9 June 2023	 Moderator Wang JUN, Vice-Chair Chair of the Board of Directors, Chairman of the Board of Directors, and Member of the Board, Sinopec  TUE 20 SEPTEMBER 2023 9:00-9:45 CET 15:00-15:45 CET "The Chinese Story – innovation, Science & R&D, Beijing, China

CMG curated conferences



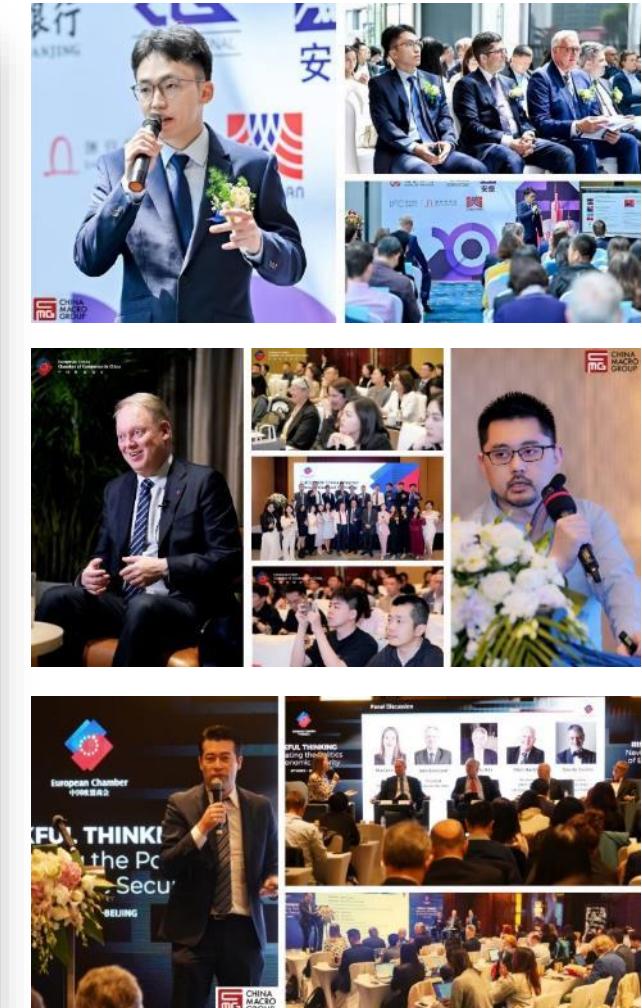
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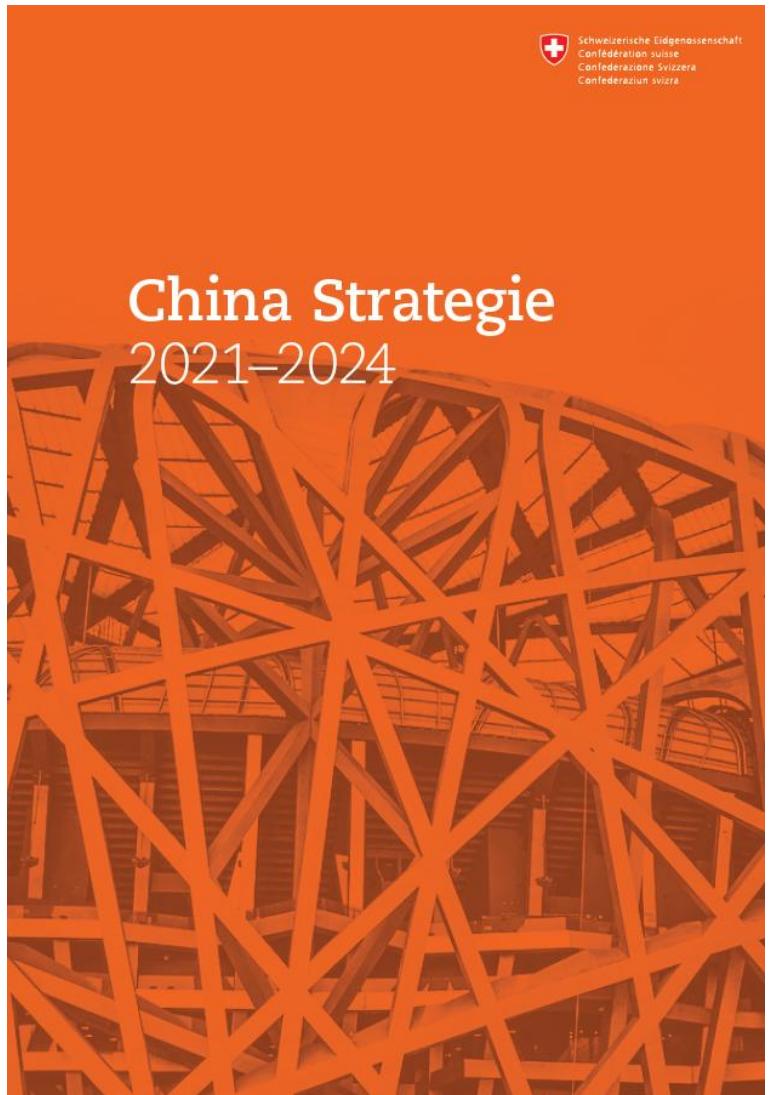
Referential publication: EUCCC-CMG report “Riskful thinking – navigating the politics of economic security”



[Download
full report here](#)



Referential publication: CMG mandated to conduct external evaluation of Federal Council's China strategy



Externe Evaluation der China-Strategie des Bundesrats vom März 2021

Verfasst durch die China Macro Group AG (CMG) zuhanden des Staatssekretariats des Eidgenössischen Departements des Äusseren (EDA)

November 2024

Abstract:
Der vorliegende Bericht ist eine in den Monaten August bis Oktober 2024 extern durchgeführte Evaluation der China-Strategie des Bundesrats vom März 2021. Die China-Strategie wird anhand von fünf Aspekten evaluiert und stützt sich dabei auf Erkenntnisse aus Interviews mit der Bundesverwaltung, eine mit Stakeholdern der China-Strategie im Sinne des "Whole-of-Switzerland"-Ansatzes durchgeführte Umfrage, durch die Bundesverwaltung zur Verfügung gestellte Dokumente sowie auf eigene Analysen und Recherchen von öffentlichen Quellen. Die Evaluation betrachtet nicht die politische oder inhaltliche Richtigkeit oder Adäquatheit der in der China-Strategie enthaltenen Analysen, Urteile oder der definierten Prinzipien, Ziele und Massnahmen. Abschliessend macht die Evaluation Empfehlungen für die künftige Umsetzung und Formalisierung der China-Politik als Teil der aussenpolitischen Strategiekaskade des Bundesrats.

1

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policy - market - strategy

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Confederazione Svizzera
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Confederaziun svizra

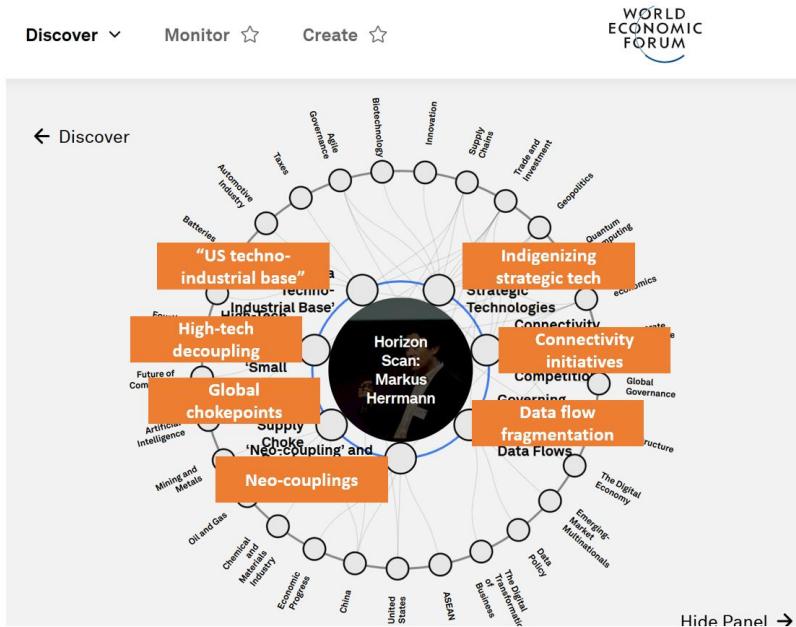
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“Summer Davos” – a multi-year partnership engaging international Executives on China analysis

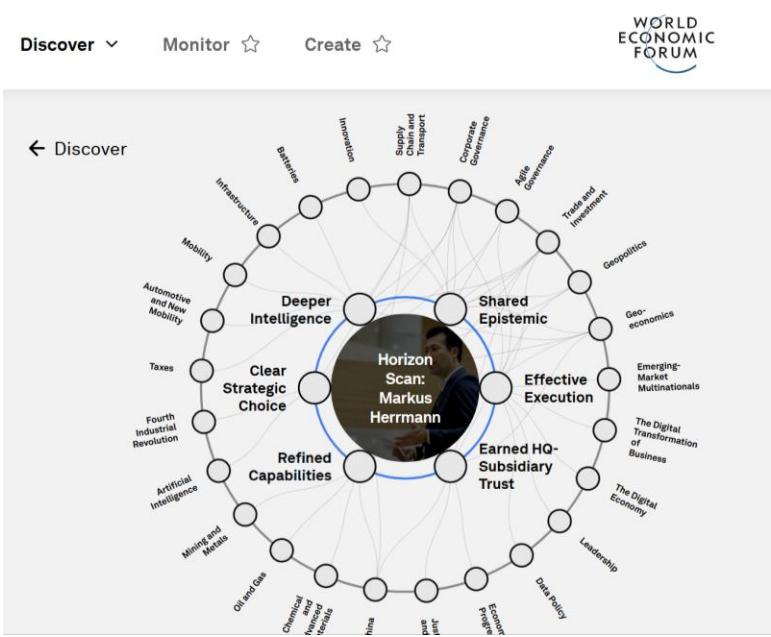
Tianjin 2023



Predictions and insights on seven emerging geoeconomic trends



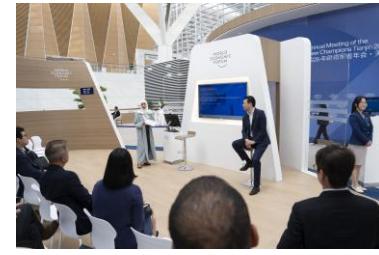
Dalian 2024



Six building blocks for effective corporate strategy-making in China today



Tianjin 2025



Agenda

1

Decarbonization and China

- Policy “thinking”, NDCs and 15th FYP priorities
- From corporate capabilities to China’s strategic industrial policy approach

2

Key business trends and proposed key conclusions for Swiss actors

Agenda

1

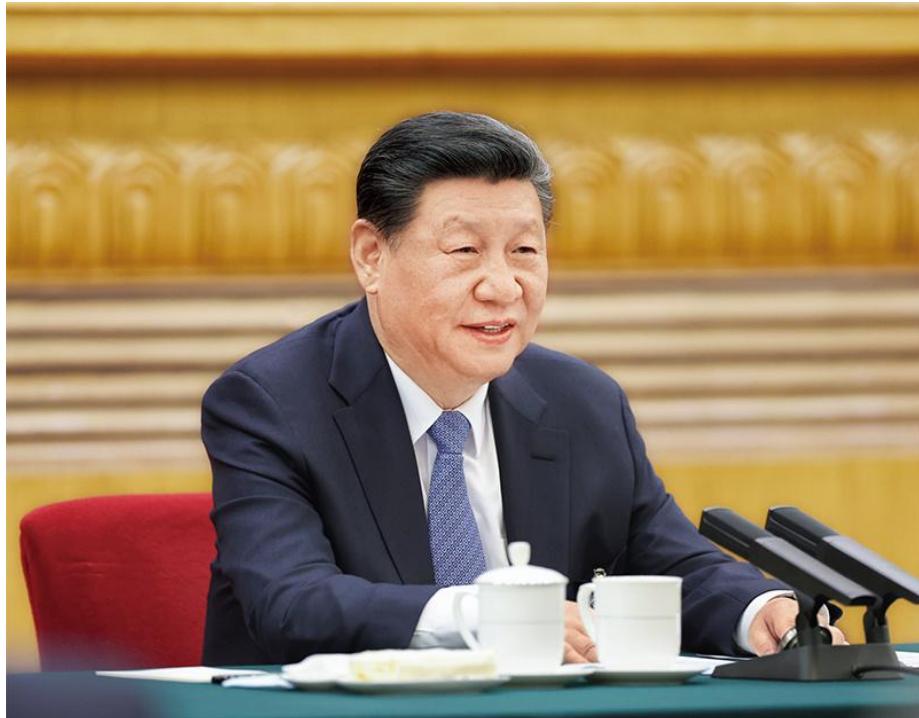
Decarbonization and China

- **Policy “thinking”, NDCs and 15th FYP priorities**
- From corporate capabilities to China’s strategic industrial policy approach

2

Key business trends and proposed key conclusions for Swiss actors

Policy “thinking”: decarbonization as part of “High-Quality-Development” – an economic driver, not a cost



XI Jinping making speech at 11th collective study session of
Politburo of 20th CC CCP on January 31, 2024

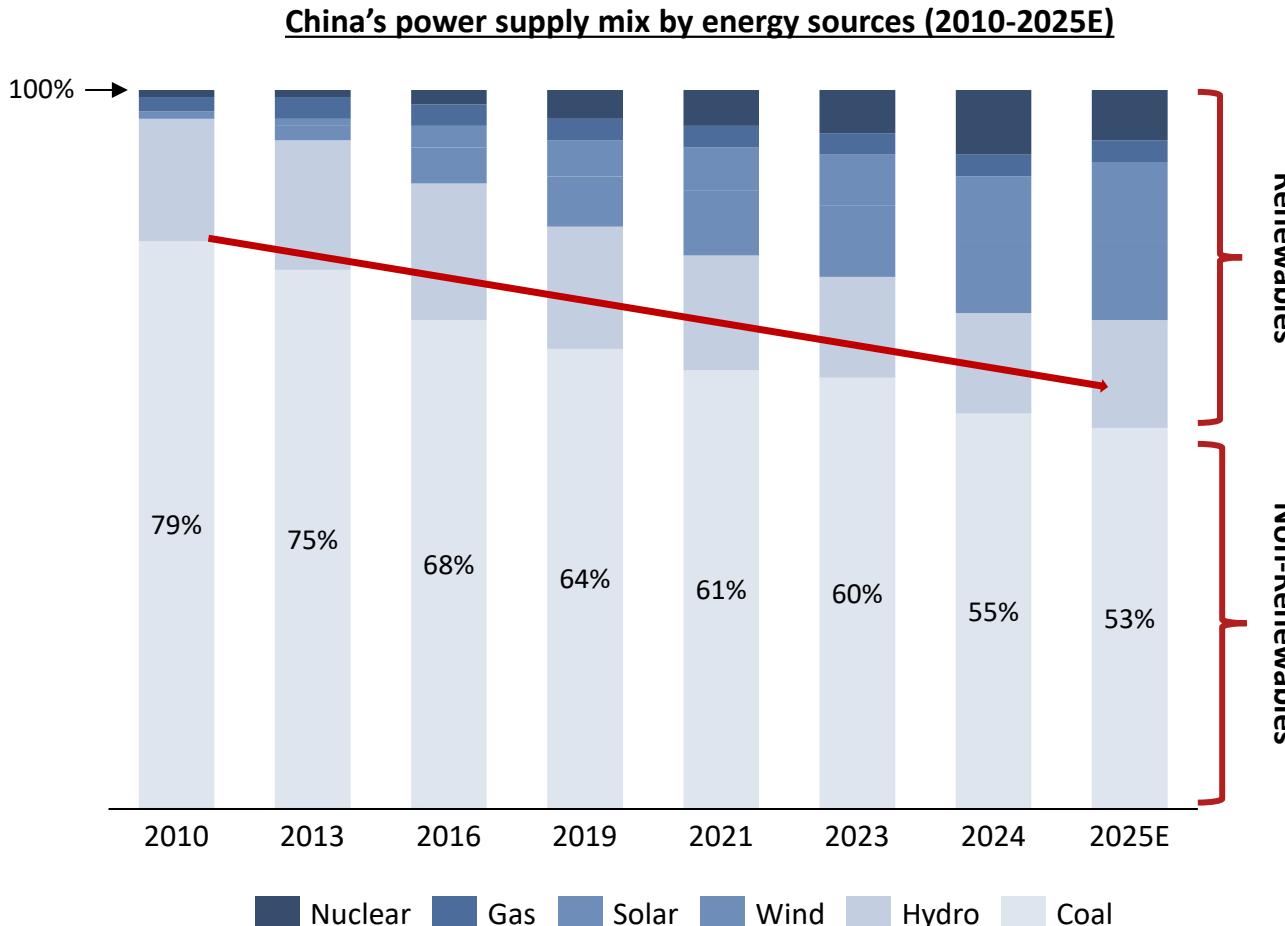
“Green development is the **foundation of “High-Quality Development”**, and ‘New Productive Forces’ are inherently ‘green productive forces’.

We must **speed up green innovation** and deployment of green technologies, strengthen green manufacturing, develop green services... and build a green, low-carbon, and circular economic system.”

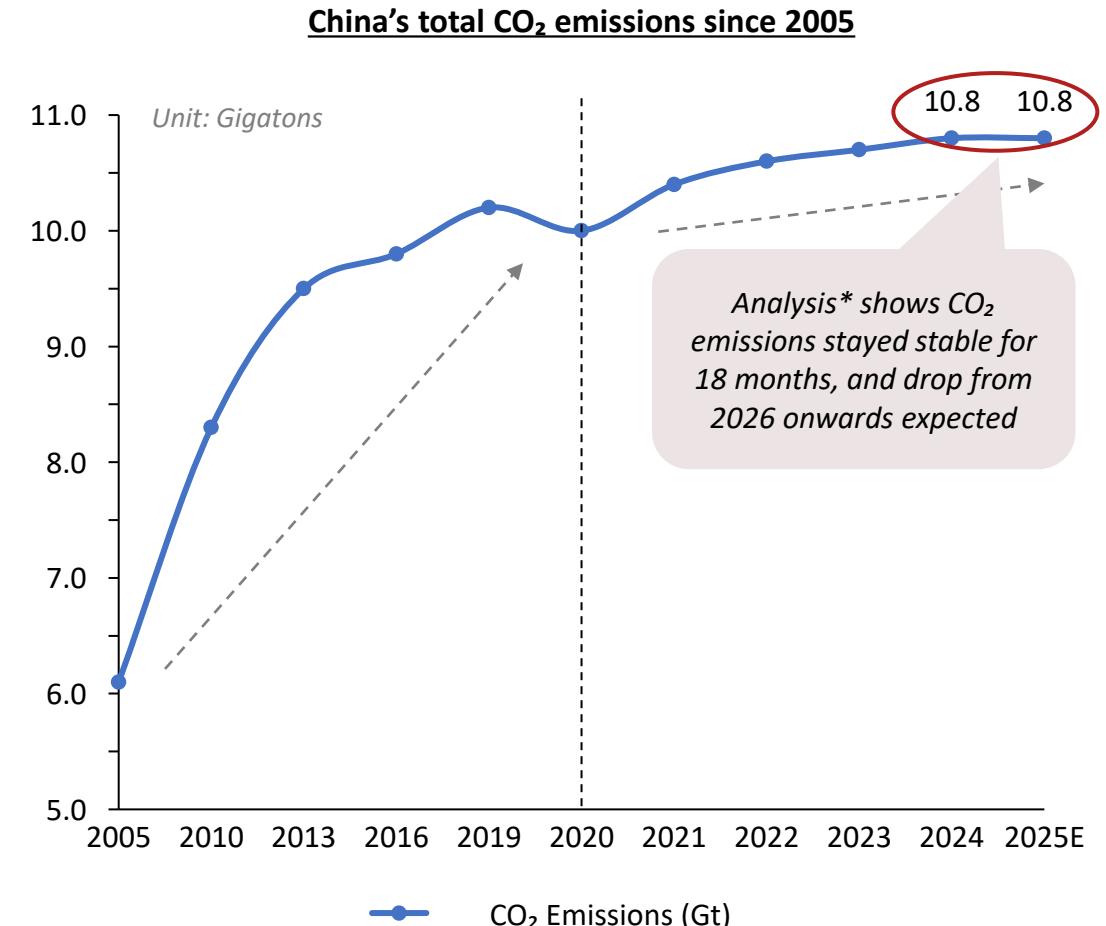
“绿色发展是高质量发展的底色，新质生产力本身就是绿色生产力。(...) 加快绿色科技创新和先进绿色技术推广应用，做强绿色制造业，发展绿色服务业... 构建绿色低碳循环经济体系。”

At-a-glance: China's energy supply structure and CO2 emissions profile

Coal dependency gradually declining – renewables now at 47%



Total CO2 emission growth is plateauing post 2021



Source: 2010-25 China Energy Data Report, Hunan Renewable Energy Society; *Analysis is by Centre for Research on Energy and Clean Air

China's new NDCs show good ongoing progress already at outset of 10-year period across most 17 initiatives

China's 7 updated NDCs – goals by 2035

- 1) Reduce Greenhouse Gas (GHG) emission by 7-10% from the peak level (~2030)**

(EU: 66.25-72.5% reduction compared to 1990* by 2035)

- 2) Raise share of non-fossil energy to more than 30% of total energy consumption**

(EU: > 42.5% renewable energy share by 2030; no fixed goal for 2035)

- 3) Expand Emissions Trading System (ETS) to cover all major high-emitting sectors**

(EU: constantly expand ETS sectors)

- 4) Increase wind and solar capacity to more than 6 times of 2020 level (target 3,600 GW)**

(EU: no fixed wind and solar capacity target)

- 5) Make New Energy Vehicles (NEVs) the mainstream of new vehicle sales**

(EU: zero emission of new vehicles by 2035)

- 6) Increase forest stock volume to more than 24 billion cubic meters**

(EU: plant > 3 billion new trees by 2030; no fixed goal for 2035)

- 7) Establish a “climate-resilient society”**

(EU: foster a “climate-resilient Europe”)

17 official top-level initiatives – progress of past 5 years (as of Nov. 2025)

- 1) Strengthen climate policies**

- 2) Enhance carbon trade**

- 3) Develop green and low-carbon technology**

- 4) Green transformation of urban and rural dev.**

- 12) Green transformation of industrial sectors**

- 13) Green and low-carbon transportation**

- 14) Strengthen carbon sink capability**

- 16) Strengthen climate change monitoring**

- 5) Climate financing**

- 6) Integrate carbon and pollution control**

- 7) Specific regional climate actions**

- 8) Develop circular economy**

- 15) Enhance natural ecosystem adaptability**

- 17) Climate awareness and society actions**

- 9) Green foreign trade**

- 10) Global climate governance**

- 11) Green Belt and Road Initiative**

 Governance and societal initiatives
 Require advancing corporate/tech capabilities
 Level of progress (based on Chapter 1.1, *China's Nationally Determined Contribution Report 2035*)

Source: 7 Nationally Determined Contributions (NDCs) and 17 initiatives extracted from China's report to UNFCCC – *China's Nationally Determined Contribution Report 2035* (Nov. 2025)

*: EU greenhouse gas emission peaked in ~1990

15th FYP (2026-2030): green policy shifts focus from renewable capacity to marketized framework conditions...

Five key green policy priorities – as per “Proposition” for 15th FYP

Develop a “New Power System”

- Integrate wind, solar, hydro and nuclear into a unified power system
- Enhance grid flexibility, resilience and inter-regional balancing

Grid & Storage Infrastructure

- Scale up pumped hydro and new-types of energy storage
- Strengthen transmission and distribution to support variable renewables

Market & Pricing Reform

- Align investment efforts with decarbonization objectives
- Improve pricing mechanism of power market

Managed Fossil Fuel Transition

- Promote cleaner and more efficient fossil fuel use
- Advance coal-to-electricity substitution

Zero-Carbon Industrial Models

- Support distributed energy systems
- Develop zero-carbon factories and industrial parks

“Zero-Carbon Parks” as illustration of micro-level execution



Photo shows the China-Germany Equipment Manufacturing Industrial Park in Shenyang, Liaoning Province. Through a renewable geothermal heating project in partnership with BMW Brilliance Automotive, the park targets at realizing zero-carbon operation status by 2027 (Photo/IC)



Source: Proposal of the Central Committee of the Communist Party of China on Formulating the 15th Five-Year Plan for National Economic and Social Development (Oct. 2025)

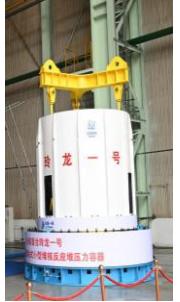


4T RMB investment to build “new power system” as most ambitious 15th FYP goal, to raise renewables share from 47% to ~60% by 2035

... while China's new “NQPF” industrial policy framework defines 6 key new green technologies as priorities

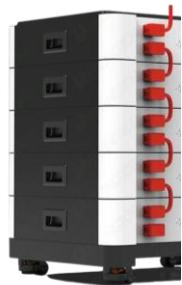
Early piloting

Next-level Nuclear Energy



- Key products: small Modular Reactors (SMRs)
- Policy focus: demonstration stage, not mass rollout, used to complement to large reactors, not substitutes
- Market trend: SOEs (CGN) as sole developers and operators, no private demand yet

New Energy Storage



- Key products: long-duration electrochemical storage for inter-provincial grids
- Policy focus: pilot - early scaling via quotas
- Market trend: Grid SOEs (State Grid, Southern Grid) as first buyers, energy SOEs to adopt

Advanced Power Systems & New-Type Grids



- Key products: grid-forming inverters for renewable penetration
- Policy focus: planning scaling and system integration phase (15th FYP proposals)
- Market trend: State Grid as dominant buyer

Sustainable Aviation Fuel (SAF)



- Key products: advanced bio- & E-fuels; next-Gen low-carbon fuels
- Policy focus: Early R&D phase supported via CAAC, and SASAC-led pilots, no mandates yet
- Market trend: Central SOE airlines as first potential off takers, use in symbolic routes to meet external pressure

Earlier stage R&D

Bio-manufactured Energy



- Key products: Bio-based fuels, biogas upgrading
- Policy focus: Early R&D, framed as key to rural revitalization
- Market trend: Local SOEs and municipal platforms as early adopters

Carbon-Removal Technology



- Key products: Carbon-removal-integrated power systems
- Policy focus: Early R&D + limited, selective pilots
- Market trend: Energy SOEs as project sponsors, deployment tied to policy demonstration zones, not commercial demand

* Note: emerging vs future industries defined by *Standardization Pilot Program for New Industries (2023-2035)*, issued jointly by MIIT, MOST, Standardization Administration of China

Agenda

1

Decarbonization and China

- Policy “thinking”, NDCs and 15th FYP priorities
- **From corporate capabilities to China’s strategic industrial policy approach**

2

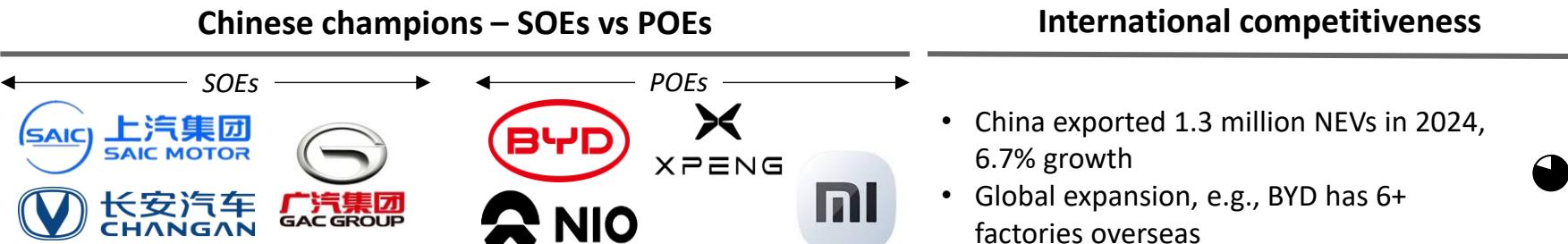
Key business trends and proposed key conclusions for Swiss actors

Corporate capabilities: Chinese firms are leading globally across multiple key green industries

Key green industries (revenues/jobs)



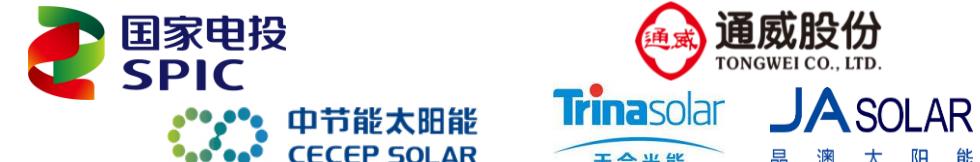
NEVs \$0.3 trillion / 1.5 million



Lithium batteries \$0.2 trillion / 1 million



Solar \$0.2 trillion / 4.6 million



Wind energy \$0.2 trillion / 2.0 million



Hydrogen equipment ~\$0.1 trillion / N/A



International competitiveness

- China exported 1.3 million NEVs in 2024, 6.7% growth
- Global expansion, e.g., BYD has 6+ factories overseas

- CATL already has > 30% of global market share
- License out technologies

- China exported 235.9 GW of PV modules in 2024, up by 13% vs. 2023
- Strong global footprint

- More going-out, mostly project-based
- Cumulative export volume of 20 million KW by 2025

- Going-out focus on hydrogen equipment export, incl. to Europe, SEA, Australia
- Exploring onshore project collaboration in Middle East and SEA

Source: National Energy Administration, Ministry of Industry and Information Technology, China Association of Automobile Manufacturers, China Photovoltaic Industry Association, China Renewable Energy Society, China Hydrogen Alliance, International Renewable Energy Agency, IBISWorld, CMG Analysis

Role of SOEs: SOEs often function as long-term investors and important enablers in China's green transition

NDRC guides SOEs to play demonstrative and leading roles...



The screenshot shows the official website of the National Development and Reform Commission (NDRC) of the People's Republic of China. The main content of the page discusses the role of state-owned enterprises (SOEs) in the 'Carbon Peak and Carbon Neutrality' action plan, specifically mentioning the 'Ten Actions for Carbon Peaking'. The page includes a summary of the actions, a quote from the NDRC, and links for further reading.

"The SOEs shall integrate carbon peaking and carbon neutrality objectives into their overall development strategy, and play demonstrative and leading role in implementing the policy actions for progressing the green transition."

--NDRC Announcement on "10 Actions for Carbon Peaking", Nov 2022

...and defines four key roles SOEs should play to drive green transition



Large capex requirements

- SOEs can access patient capital (耐心资本) and policy banks, at lower financing costs
- Absorb policy risk, price volatility, and long amortization periods



Frontier technology

- SOEs can deploy at scale before profitability, providing real-world testing
- Reducing risk gap between early lab research and market adoption



Ecosystem building (产业生态)

- SOEs often span multiple nodes of market system (energy, grids, industry, transport)
- SOEs can internalize coordination costs and e.g. align investment timing



Co-lead basic research

- Absorb early-stage R&D risks via demonstration projects
- Steer research toward national strategic needs and priorities

Compared to POEs, SOEs tend to prioritize more strategic objectives, esp. in green tech not immediately generating short-term profits

Case-study: China created new national-level SOE, CRRG, specializing in circular economy sector

China Resource Recycling Group was founded 2024...



Ceremony for the establishment of CRRG in Tianjin. October 18, 2024

- Founded in September 2024, China Resources Recycling Group (CRRG) is the **98th central SOE** of China. **CRRG is a nationwide recycling network.**
- CRRG has founded **8 subsidiary companies**, in battery, minerals, plastic, vehicle, electronics, etc.

...with four stated functions to promote the circular economy

Pioneer demonstrator

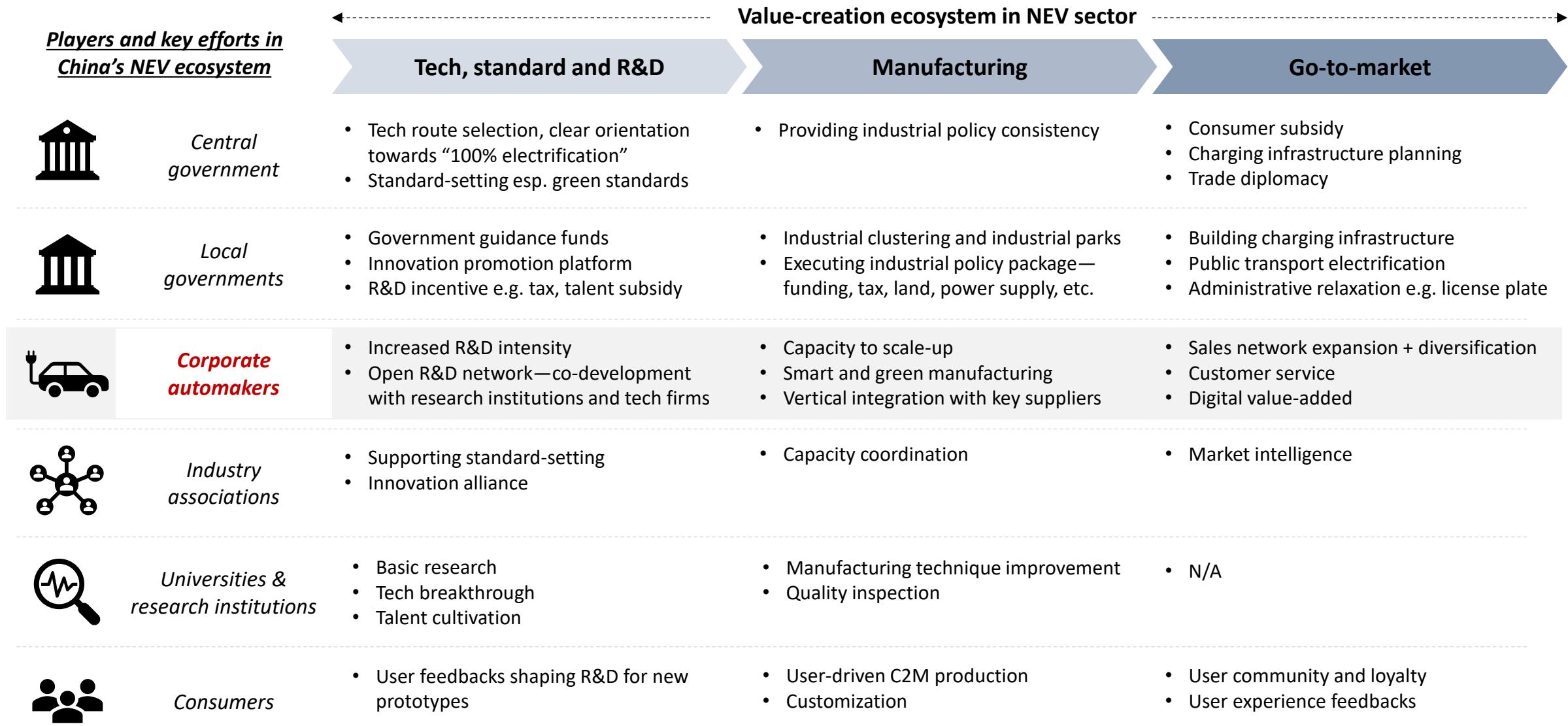
Large-scale and long-term Investor

*System integrator
(系统集成者) and ecosystem builder*

Technology enabler

- CRRG builds national recycling platforms that consolidate fragmented and informal markets. SOE backing allows these systems to scale before viability.
- CRRG invests in capital-intensive recycling assets such as batteries and end-of-life renewables despite uncertain returns. This absorbs technical and commercial risk.
- CRRG integrates collection, processing and reuse across multiple recycling streams. It links waste sources directly back into industrial supply chains.
- CRRG deploys digital platforms and standardized processes to improve traceability and efficiency. Large-scale rollout helps turn recycling R&D into industry benchmarks.

Corporate capabilities are merely one pillar in China's ecosystem approach to push green transition – NEV case



Agenda

1

Decarbonization and China

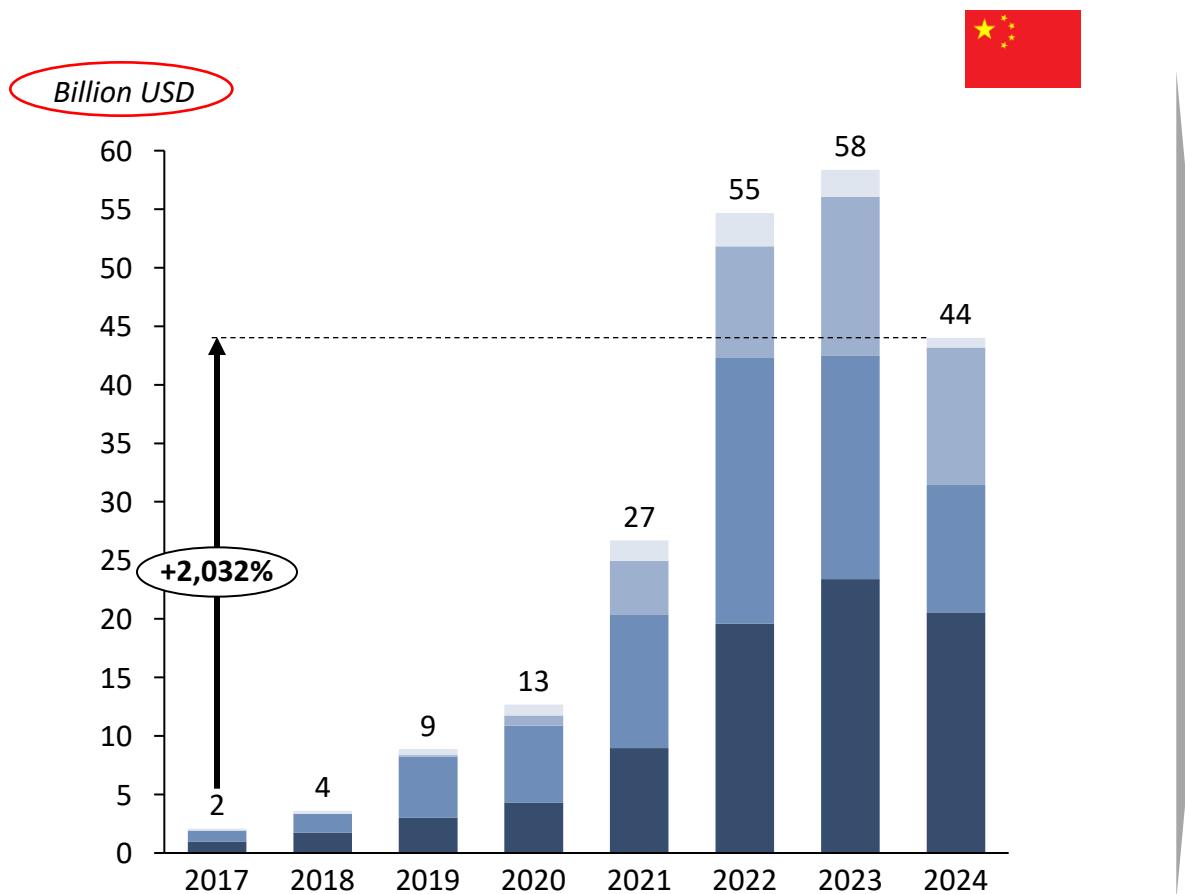
- Policy “thinking”, NDCs and 15th FYP priorities
- From corporate capabilities to China’s strategic industrial policy approach

2

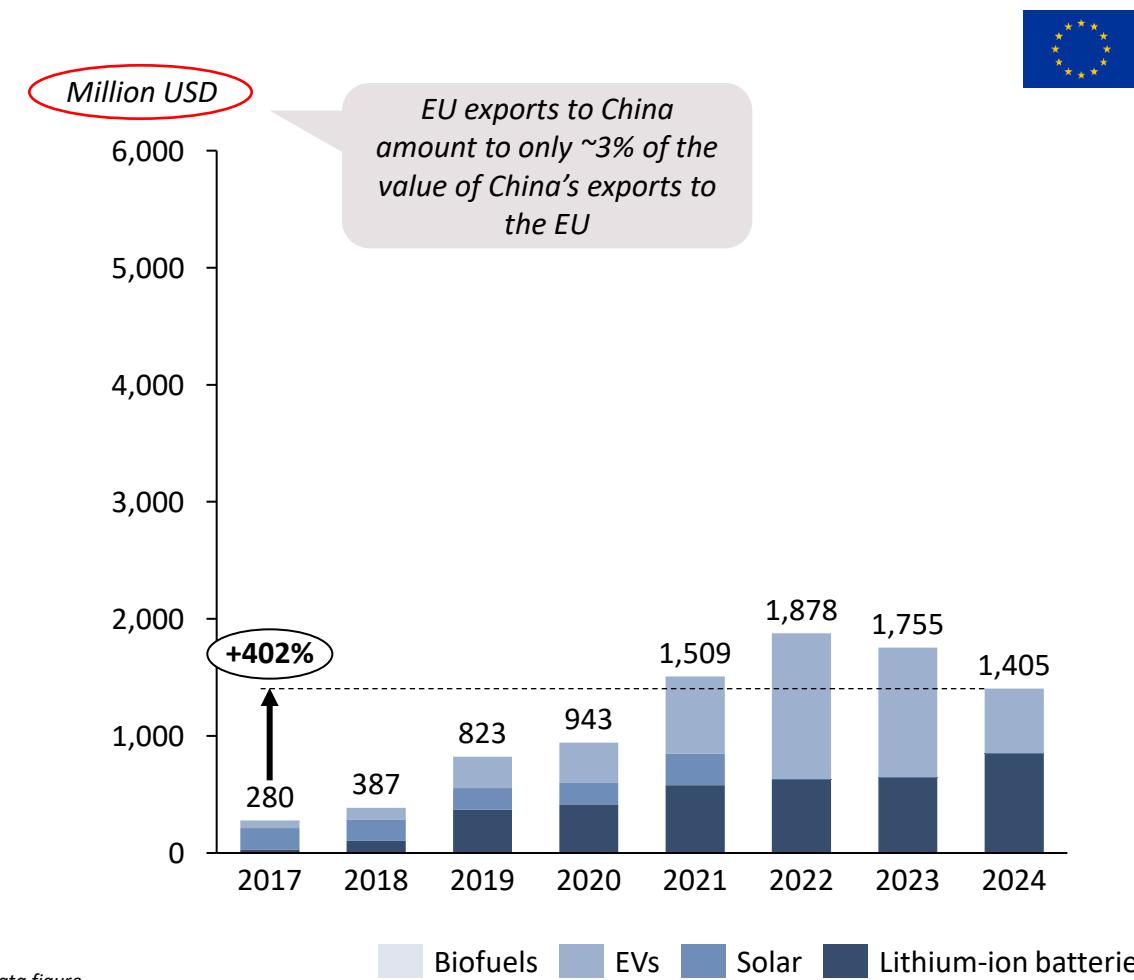
Key business trends and proposed key conclusions for Swiss actors

Trade view: China with strong export surplus in green tech to EU – lithium-ion batteries as focus in recent years

Since 2017, Chinese green exports to EU increased twenty-fold...



... contrasted by modest rise in corresponding EU exports to China



Source: UN Comtrade HS codes: Biofuel: 382600; EVs: 870380; Solar: 854140 & 854143; Lithium-ion batteries: 850760; note: Switzerland included in data figure

MNC strategies: 4 key strategy paradigms adopted by European MNCs to deal with Chinese green competitors

Observed key strategy paradigms

Going alone, primarily to defend home market (without China reliance)

Batteries

Wind

Hydrogen

NEVs



Illustrative sector vs company examples

Co-localizing in China to compete locally and globally

NEVs

Wind

Hydrogen



Strategic partnership / co-investment with Chinese firms

NEVs

Batteries

Wind

Hydrogen

Solar



Distribution- or services focused partnering with Chinese firms

Batteries

Wind

Solar



Northvolt builds a fully European battery value chain to reduce exposure to Chinese suppliers

Vestas & Ørsted pursue a Europe-centric model for the EU market

Thyssenkrup - Nucera competes with proprietary electrolysis technology developed and manufactured outside China

Renault's Ampere brand: designs and builds EVs and software in EU

VW set up a dedicated NEV JV in Anhui to access local scale and supply chains.

Siemens-Gamesa has major manufacturing operations in China to serve the Chinese market while sustaining global competitiveness

HydrogenPro manufactures electrolyzers in China to lower costs, while retaining IP and branding

Stellantis co-invests in battery manufacturing, e.g. in Spain

ACC builds EU gigafactories while sourcing Chinese production equipment at scale

Renexia partners on turbine supply aiming to manufacture in Italy

Air Liquide and Sinopec to jointly develop hydro energy tech

Bee Solar and Huasun have signed a cooperation agreement focused on solar panel components and production capabilities in Europe

Wärtsilä purchases Chinese battery cells and systems, integrates and services storage projects in Europe

Numerous SMEs, dealerships, and developers import Chinese Chine wind turbines, solar modules, and EVs to install / directly sell in Europe, solely focusing on distribution.

Source: IEA; European Commission; BloombergNEF; company disclosures



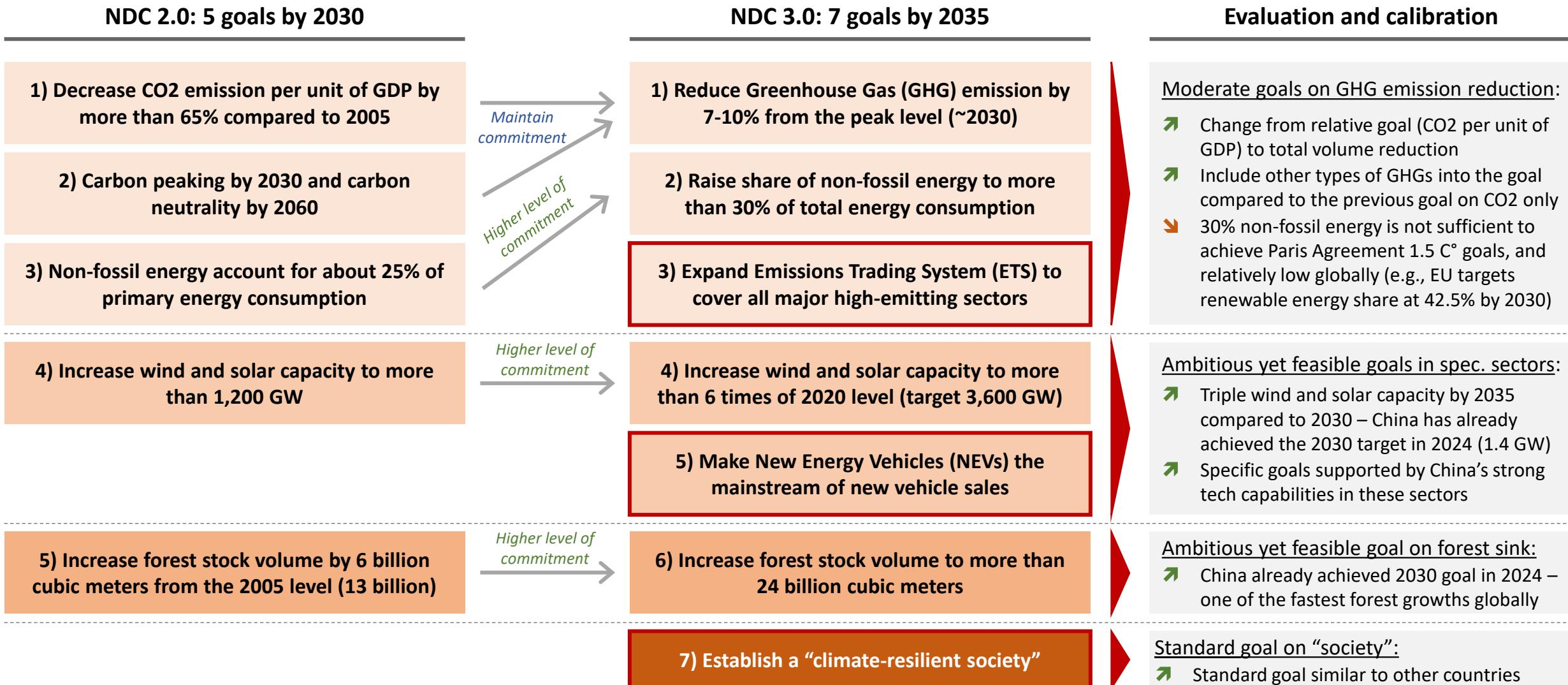
No major European firm in green tech identified that still competes in the Chinese market uses a “going alone” strategy paradigm

Proposed key conclusions for Swiss actors

- Corporate level
 - China as “emerging tech winner”?
 - Explore collaboration to deepen / defend your value creation
 - Re-think role of US market?
 - Raise your strategic and entrepreneurial game
 - Review your current strategy
- Policy level
 - Generally: keep a rational foreign policy towards China, guided by Swiss interests
 - E.g. need clear and long-term rationale if resorting to protectionist measures
 - Be open to gov-private sector collaboration and industrial policy
 - To act more strategically, less “cost”-centered

Appendix

China maintains commitment in GHG, with higher commitment in green industry, ecosystem and society goals



Source: 7 Nationally Determined Contributions (NDCs) extracted from China's report to UNFCCC – *China's Nationally Determined Contribution Report 2035 (Nov. 2025)*

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