InterChina's Capabilities In Clean Tech

Presented by: InterChina Consulting

InterChina

英特华

Management Consultants

www.InterChinaConsulting.com

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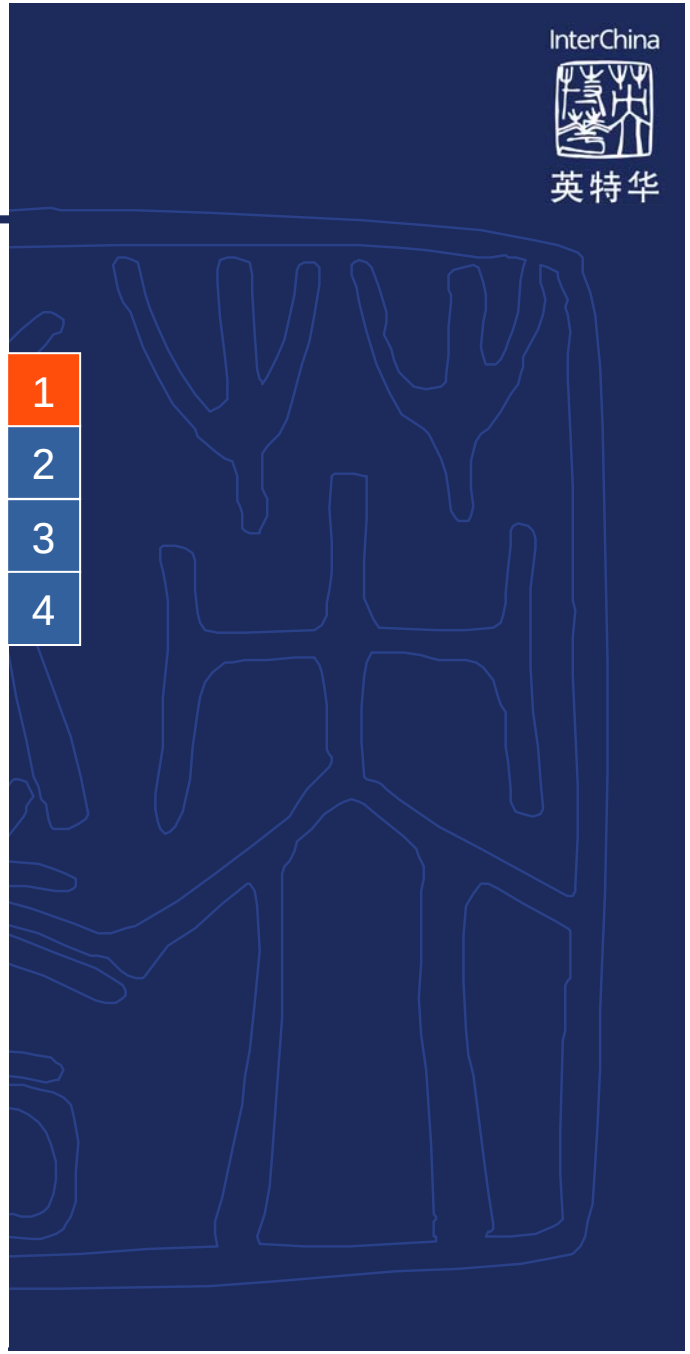


What is Clean Tech?

What is Clean Tech?	Examples Of Clean Tech	Features Of Demand

• Knowledge-based products or services for sustainable development, which;
  • Improve operational performance, productivity, or efficiency.
  • Reduce costs, inputs, energy consumption, waste, or pollution.
  • Protect us from global warming, the impact on the environment and stressed natural resources.
	Renewable Energy (Solar, Wind, Biomass etc.) 	• Emerging demand.
		• Developing technology.
		• Balance between risk and return.
		• Likely to have the potential to accelerate development sooner or later.
		• Regulatory-driven market.

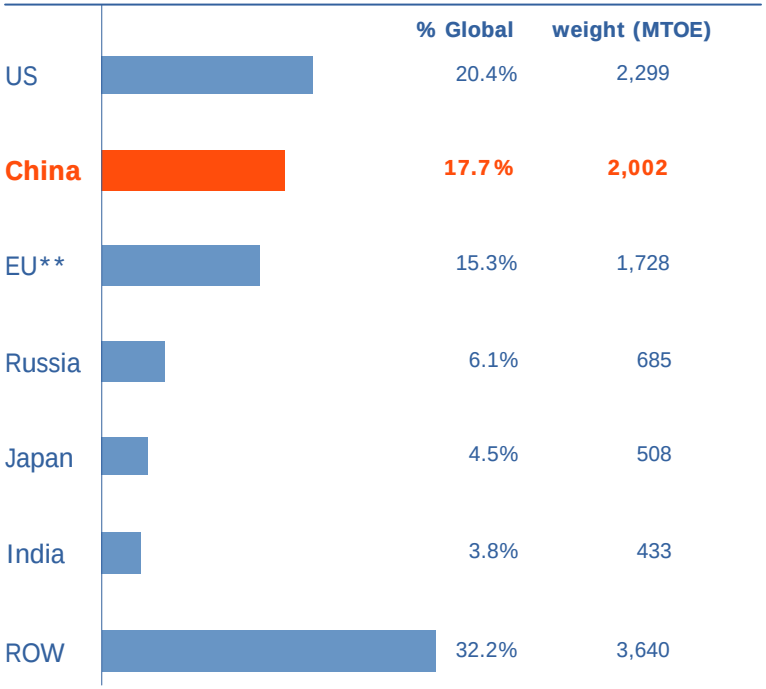
	Environment Infrastructure, Materials & Energy Efficiency 	
	Electric Vehicle 	

The Energy Consumption In China

China ranks 1st in incremental primary energy consumption over the past decade

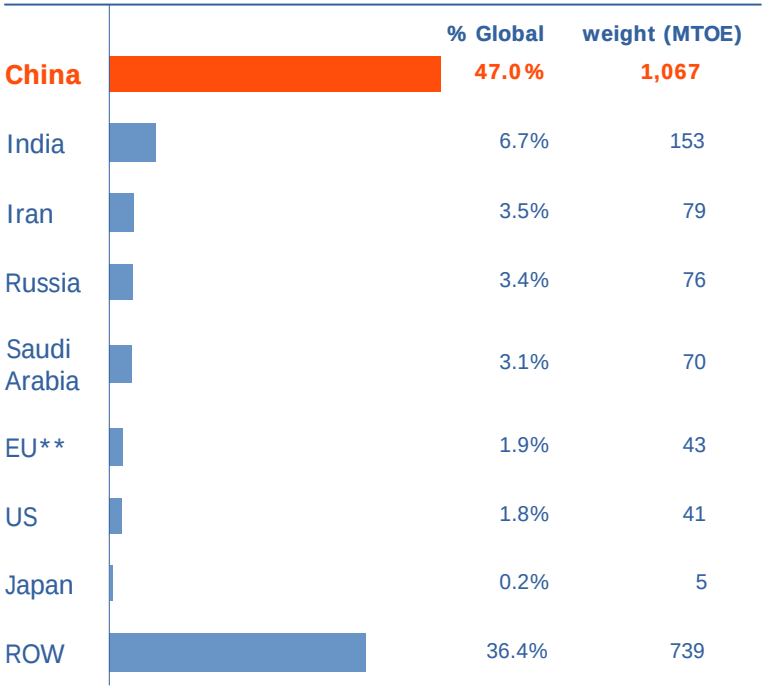
China ranks No. 2 in primary energy consumption volume in 2008…

100%=11,295 million tonnes oil equivalent (MTOE)



…But represents almost half of incremental primary energy consumption from 1999 – 2008

100%=2,273 MTOE, incremental consumption from 1999 – 2008



* Primary energy comprises commercially traded fuels only. Excluded are fuels such as wood, peat and animal waste, wind, geothermal and solar power generation.

** EU members include Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Republic of Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, UK.

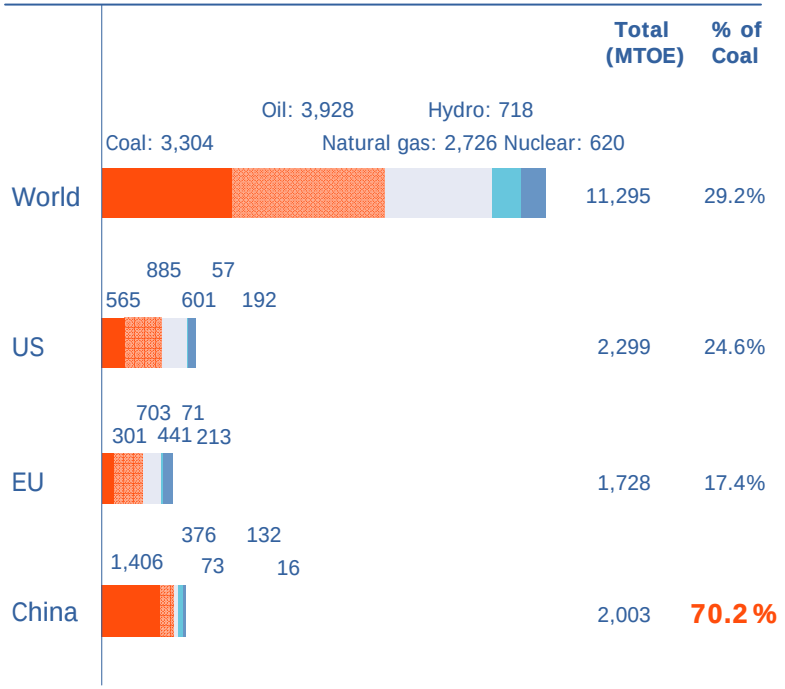
Source: BP Statistical Review Of World Energy, InterChina Analysis

Cleaner Future Of China

China consumes a lot of coal, but is planning for a cleaner future

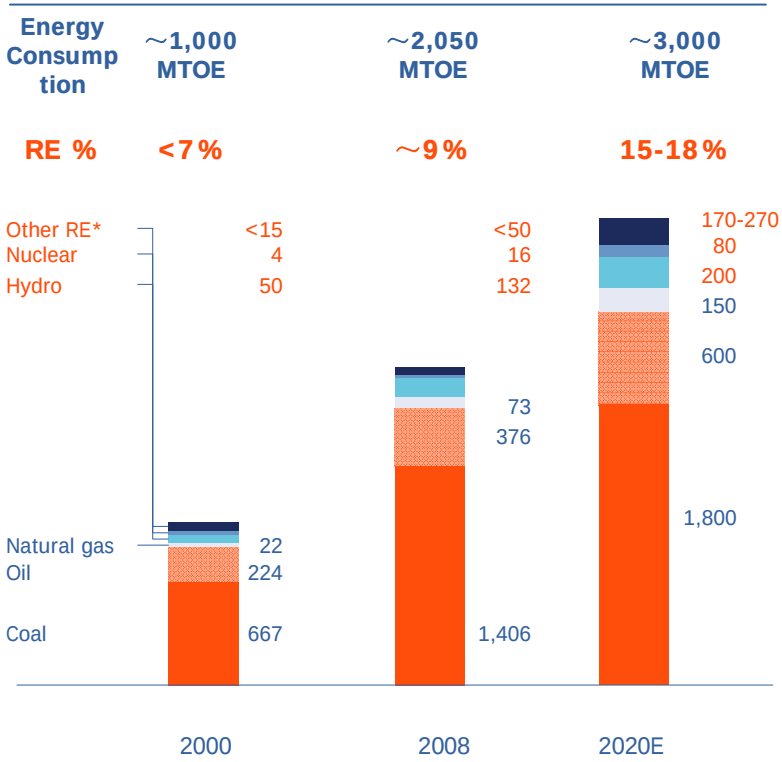
China relies heavily on coal as the source of primary energy consumption…

The Primary Energy Consumption In 2008, Unit: MTOE



…But China has the ambitious plan to improve its energy consumption structure: 15-18% of RE in 2020

The Energy Consumption Structure (Primary +RE) In China



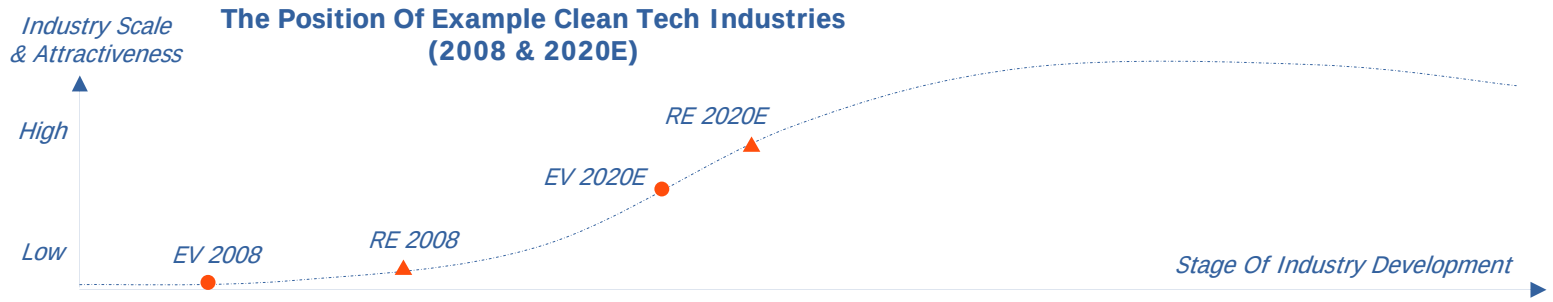
Note: Due to no consistent data for renewable energy consumption cross different countries, this chart only compare the primary energy consumption.

* Other RE = Solar, wind, Biomass, and various emerging renewable energy technologies etc.

Source: BP Statistical Review Of World Energy, IEA, National Energy Administration, China's NDRC, InterChina Analysis

Industry Development Cycle

Different Clean Tech industries are likely to experience varied development cycles

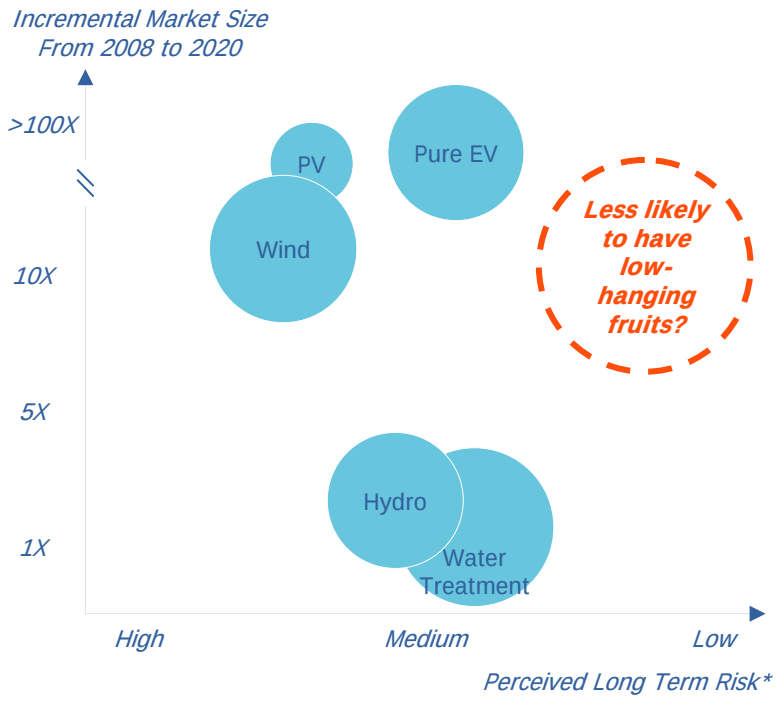


	Introduction Stage	Growth Stage	Maturity Stage
Technologies	• Many merging technologies. • Frequent ins and outs.	• A few proven technologies, leading the market development. • Still many marginal technologies trying to take advantage of newly educated market.	• Several established new technologies with significant market share. • Likely entry barrier for new technologies.
Government Administration Structure	• Unclear structure. • Lags behind industrial development.	• Catching up.	• Likely established structure.
Government Policy	• Government initiatives (E.g. govt. target, and initial planning). • Sponsored by the government (e.g. government research projects).	• Government support. • E.g. subsidy on the supply and/or demand sides.	• Likely minimized government support.
Market	• Little awareness of the new Clean Tech solutions. • Very likely to have the potential to accelerate development.	• Acceptance of new Clean Tech solutions beginning to occur. • Very likely to have the potential to accelerate development.	• Some well-accepted technologies.
Supply Chain / Infrastructure	• No dedicated supply chain available. • Have to seek support from other relevant industries.	• Under development. • In some cases, likely that government investment is involved (E.g. grid facility for EV).	• Likely to be mature, especially around proved established technologies.
Competition	• Fragmented competition scenario. • Experimental approach.	• Full-range advantages, from strategy and innovation to business model and operation. • Likely, heavy market education required	• Established competition structure. • Likely to have initial consolidation. • Brand and operation efficiency.

Attractiveness Of Clean Tech Industries

Big potential, though few low-hanging fruits

Market Attractiveness Of Selected Clean Tech Technologies In China



	Accumulated Market Size By 2008	Incremental Market Size (Accumulated, 2008-2020)	Market Size Expansion (2020/ 2008)	Incremental Investment or Ownership (Accumulated, 2008 -2020)
Pure EV*	<10,000 Units	6-12 mil units sold	**>100 X**	**RMB 600 – 1,200 Billion**
Solar PV**	0.15 GW	20 GW	**133X**	**RMB 350 – 500 Billion**
Wind	13 GW	137 GW	**11.5 X**	**RMB 800 – 1,000 Billion**
Hydro	170 GW	130 GW	**1.8 X**	**RMB 900 – 1,200 Billion**
Water	(Water Supply) 590 billion m3 (P.a.) (Sewerage) 30 billion MT (p.a.)	60 billion m3 (p.a.) 20 billion MT (p.a.)	**1.2 X**	**RMB 1,000 – 1,500 Billion**

- **Market Size Expansion From 2008 to 2020** is defined as the comparison of the value of accumulated capacity investment or ownership value (For EV only) in 2020 and 2008.
- **Perceived Long Term Risk** is defined as a multi-perspective evaluation of regulatory, commercial and China's specific issues, which will be discussed in detailed in the next slides.
- **The Bubble Size** indicates the value of incremental accumulated capacity investment or ownership value (For EV only) from 2008-2020.

* Note: This doesn't include the hybrid vehicles, which might be 3 – 4 times of market value of pure EV.

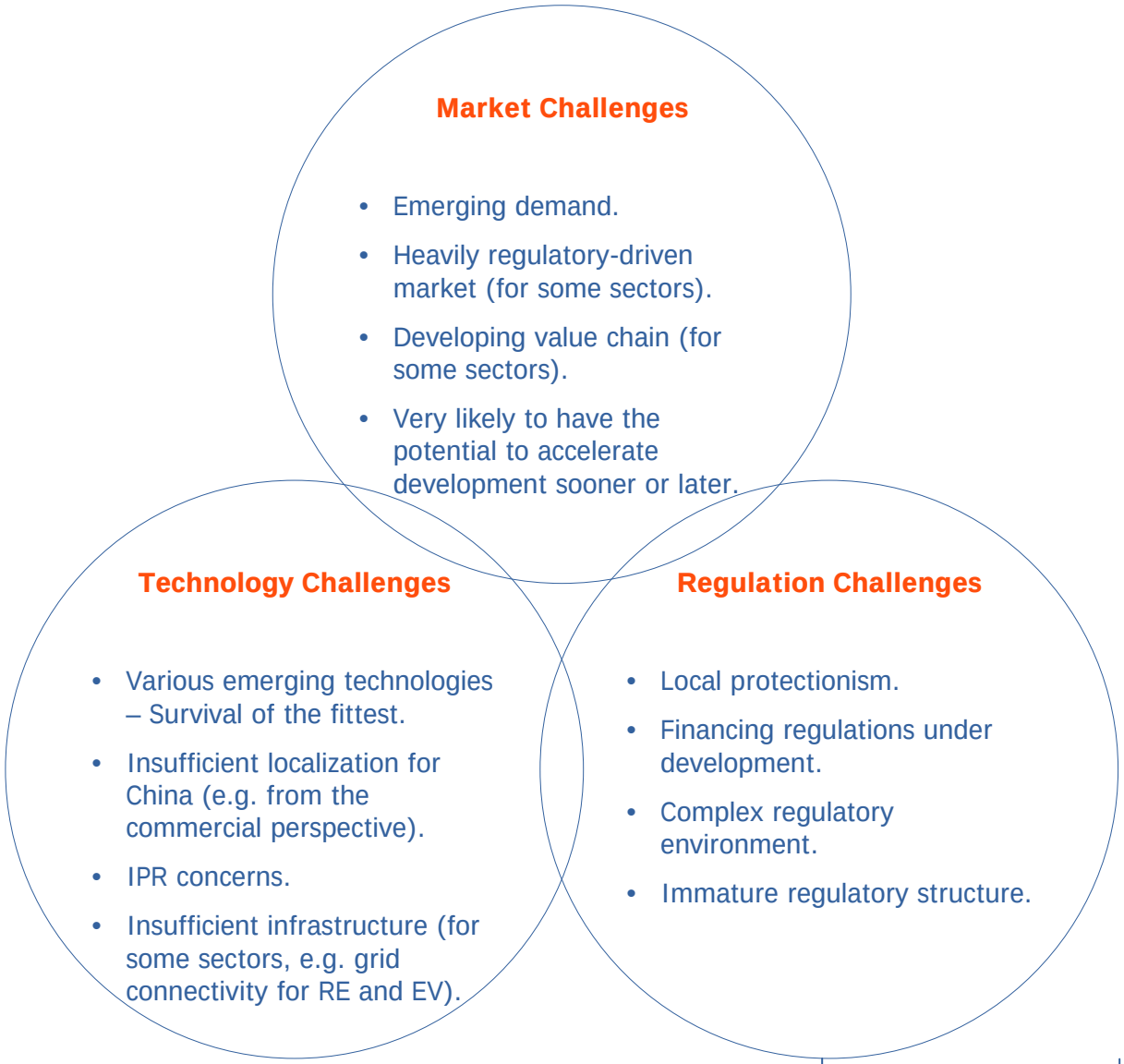
** Note: It is likely that Solar PV's attractiveness in China will also be in the upstream value chain (E.g. PV cell and module) rather than in the end market (I.e. PV farm). More than 95% of China's PV cell and modular are used for the export purpose, which is likely to maintain a similar trend in the medium term (still >50% will be exported).

Challenges In China's Market

In China's proverb, challenges lead to opportunities

Challenges? Or Opportunities?

- China poses various challenges from market, technology, and especially regulatory perspectives.
- Foreign companies should proactively develop reasonable solutions to address these challenges in order to maximize business opportunist from a medium-and-long term perspective.
- Good examples exists, for example, First Solar's 20MW project signed in a nascent stage of PV industry in China, and the demolish of wind turbine localization requirement under the efforts by foreign players in China.



Implications to Foreign Players

China to be considered in the context of global strategy

Top Players

- Critical role of China in the global strategy.
- Strong resources to be dedicated for China.
- On-going R&D capacity to keep competitive.

- **Fit In Global Strategy:** China is an integrated part of the global strategy, in terms of both the demand and competition.
- **Market Assessment:** Carefully balancing between what to pay and what to gain from China in the global context.
- **Government Lobbying:** Strong resources and dedication for government lobbying and market education.
- **On-going Competitiveness (China & Globally):** It is likely that the exchange of the market by the technology might be the entry point. Afterwards, the strong R&D capability to maintain the competitiveness in China and globally is critical.
- **Investment Vehicle:** The investment vehicle could be either WFOE or JV (either Greenfield or M&A).
- **Partner Selection:** In the case of JV, this will be a difficult game since the competitive advantage of the FIE is likely to be diluted soon. Therefore, the strategy fit and partner search will be critical.
- **Make Commercial Operation Right:** It might cover many aspects, e.g. localized product/service offering, fast learning curve of the way of doing business in China.

Medium-sized Players

- Strong enough to compete in China.
- Limited resources for China in the short term.

- **Challenge To Treat China As A Market:** Less likely to put China as the market for these medium-sized players due to the likely imbalance between what to pay (Technology, resources) and what to gain (Sustainable market share).
- **Periodical Case-by-case Review:** It would be worthwhile to update the market understanding every two years due to the fast development of Clean Tech in China, and review the role of China in the global strategy.
- **Asia Supply Base:** China might become a very competitive production country for medium to high end goods.
- **Competition Monitoring:** Be close to the competitors in China (Both foreign and Chinese), who might become a threat to your global market, soon or later. And monitor what is going on (E.g. competition, new low-cost technologies, etc).

- **China / Global:** China Should be considered in the context of the global strategy in these Clean Tech sectors.
- **Market / Competition:** Both market and the likely future competition from China should be carefully evaluated.
- **Pay / Gain:** It is the key that what to be paid in China and what to be gained should be carefully evaluated in both the short and the long terms.

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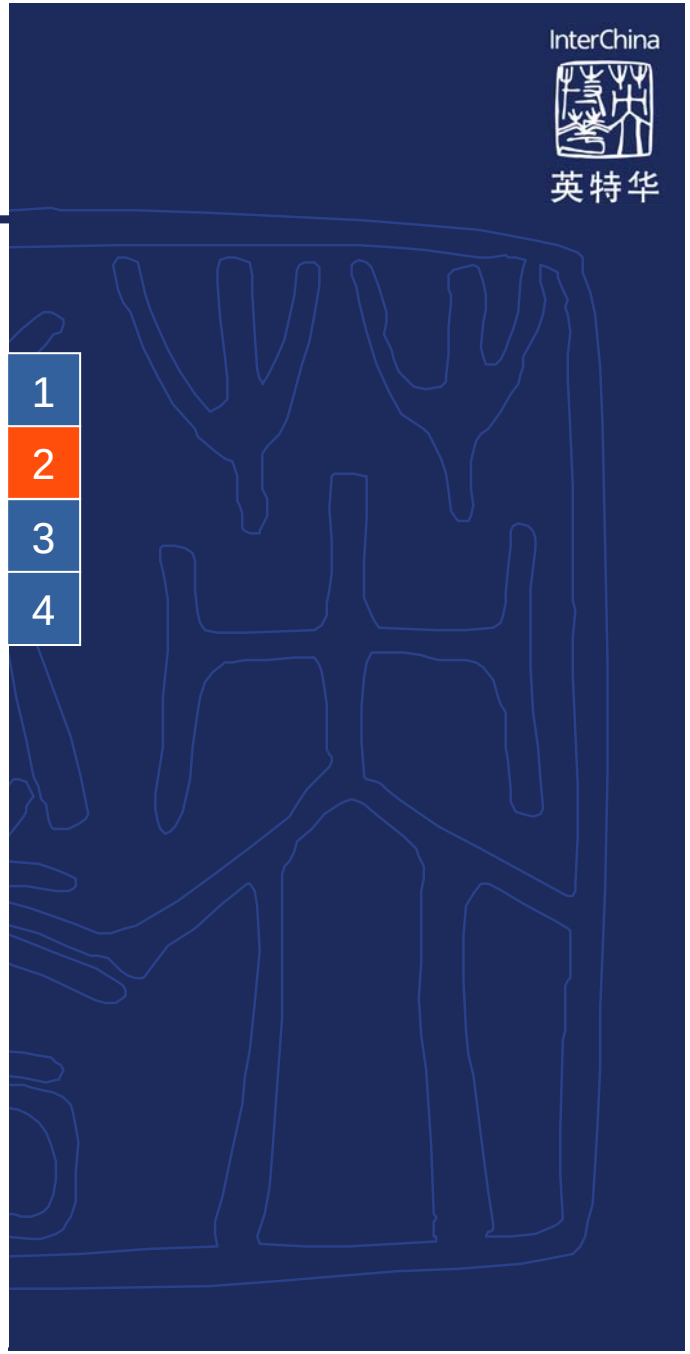


InterChina

Leading Strategy and M&A advisory firm in China

- Our Value
  - China specialist.
  - Strategy and M&A advisory
  - Sector expertise.
  - Retained 16 years experience.
- Our People
  - Bicultural partnership.
  - 50 consultants & advisors.
  - Chinese, senior, industrial, technical.
  - Located in China, EU, US offices.

- Our Clients
  - Medium-sized to Fortune 500.
  - 500 strategy projects.
  - 150 transactions (USD 3 bn).
  - 2/3 of projects are returning clients
- Our Reach: IMAP
  - Global mid-market M&A organization.
  - 44 offices, 30 countries, 400 professionals.
  - Over 200 transactions per annum.
  - Exclusive China partner since 2006.

Leadership
A partnership backbone with Western and Chinese professionals

Jan Borgonjon
President

James Sinclair
Managing Partner

Eduardo Morcillo
Managing Partner

Maria Wang
Partner
Human Resources

Wu Zhifang
Partner
Finance & Admin

Barry Chen
Director
M&A Advisory

Simon Zhang
Manager
Strategy

Pedro Conesa
Director
Spain

Franc Kaiser
Director
China

David Hofmann
Director
North America

Strategy | M&A Advisory

A unique and symbiotic combination of capabilities and services

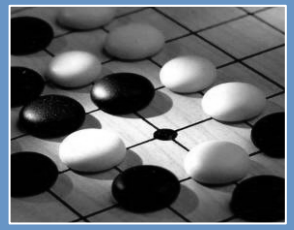
InterChina 英特华 IMAP

Strategy Practice

Strategy Services

- China Entry.
- Market Development.
- Market Penetration.
- Profit Protection.
- Government Affairs.

M&A Advisory Practice



Acquisition & Divestment

- M&A Strategy.
- Target Search.
- Due Diligence.
- Deal Structuring.
- Valuation.
- Negotiation Support.
- Deal Making.

Strategic Alliances

- Alliance Framework.
- Partner Identification.
- Partner Evaluation.
- Deal Structuring.
- Negotiation & Lobbying.
- Deal Closing.

Strategy Practice

The #1 alternative to the global consultancies, with a practical emphasis

We work with clients to capitalize on top line **growth opportunities** while also addressing long-term **profit protection**.

Development

Assessment of the opportunity and formulation of the strategy to enter new channels, value segments, application sectors and lower tier cities.

Penetration

Listening to the voice of the customer to improve customer segmentation & targeting, product & service offering, and route-to-market.

Profit Protection

Understanding of the cost curve and cost structure 5 years out, and development of the right response to protect profit margins.

Government Affairs

Design of a modern, proactive and customized approach to government affairs and corporate social responsibility to meet business objectives.

We pride ourselves on being **practical**, developing real understanding through fieldwork, and delivering workable results to an actionable level.

- 3,000 interviews each year.
- Senior, skillful interviewers.
- In-person, in-depth discussions.
- Data gathering + ideas testing.

Our practice of 25 consultants is organized around **sector specializations** with substantial project experience.

Seniors

- 10~20 years experience.
- 80~150 projects.
- Project supervisor/manager.
- Sector specialization.
- Strategy.

Consultants

- Ex-global consultancies.
- 5~10 years experience.
- 40~80 projects.
- Workstream leader.
- Fieldwork.

Associates

- Overseas MBA.
- 3~5 years experience.
- 10~20 projects.
- Team member.
- Analysis.

M&A Advisory Practice

Working in the client's interests, and known for getting things done

We support clients on **mid-market** buy-side, sales-side, investment and capital raising mandates for both **inbound and outbound deals**.

IMAP China Partner

We are the China partner of IMAP, the global mid-market M&A organization, which gives our clients global reach.

IMAP Rankings (2010)

- 4th ranking worldwide for values up to USD 100 million.
- 4th ranking in Europe for values up to USD 200 million.
- 7th in the United States for values up to USD 100 million.
- 4th in the Latin America for values up to USD 100 million.

We conduct **~40 mandates p.a.**, providing clients with transparency and control from start to finish, with an **average rate of 4-6 closures** p.a.

Example Transactions

2011 — BOBST GROUP
USD 60 million machinery sector acquisition of
InterChina acted as transaction advisor.

2010 — Dynasol
USD 120 million strategic alliance in downstream chemicals with CNGC
InterChina acted as transaction advisor.

2010 — Grupo Uriach
USD 21 million fine chemicals acquisition of
InterChina acted as transaction advisor.

2010 — GRUPO BIMBO
USD 4 million bakery sector acquisition of
InterChina acted as transaction advisor.

Our practice of **25 advisors** is comprised of senior Chinese negotiators with strong industrial and financial backgrounds.

Seniors

- Ex-corporate, PE.
- 10~30 years experience.
- 100~200 projects.
- Project supervisor/manager.
- Negotiation.

Advisors

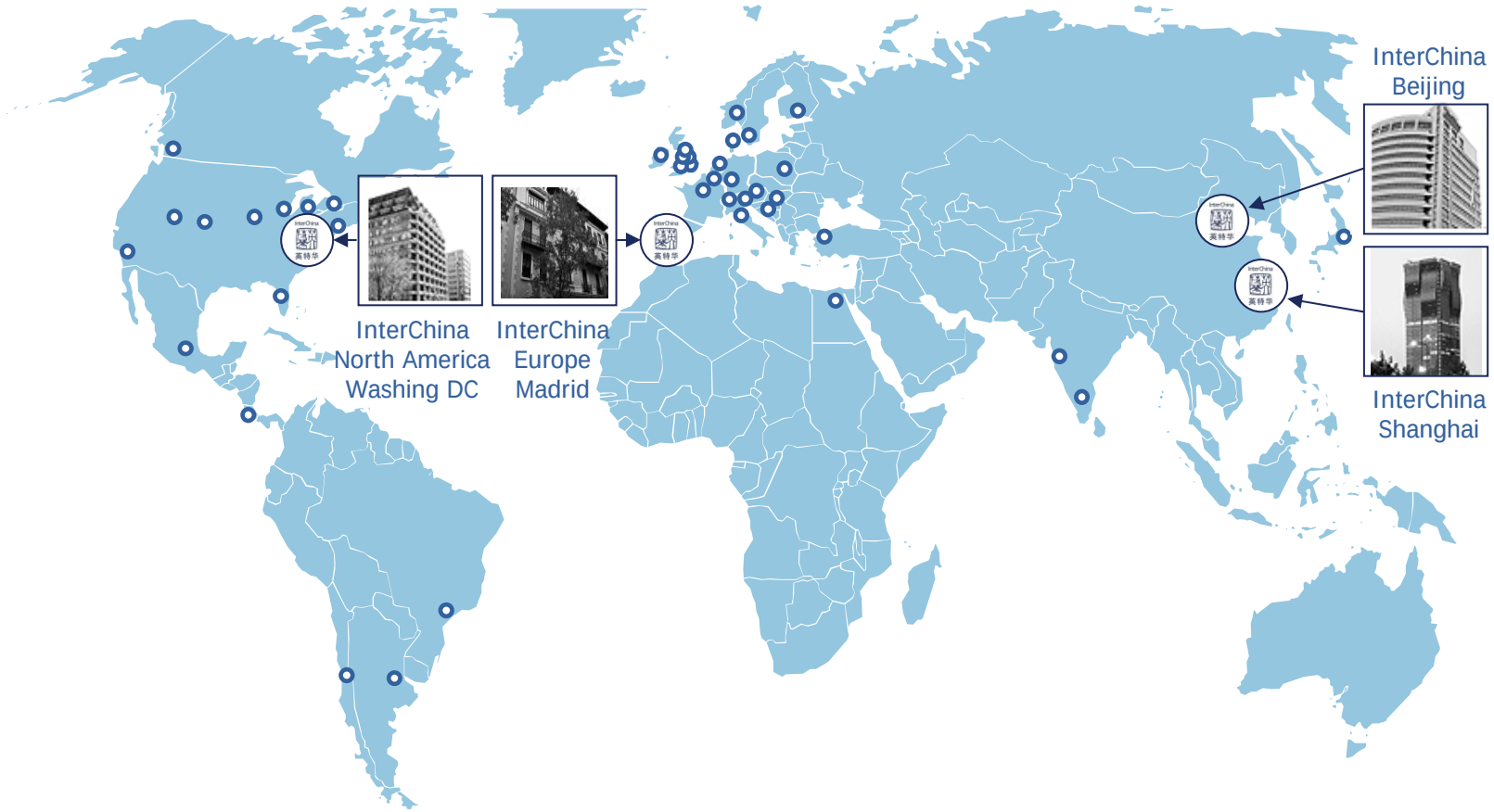
- Ex-big 4 (CFA, CPA).
- 5~10 years experience.
- 50~100 projects.
- Workstream leader.
- Search, DD, valuation.

Associates

- Overseas MBA.
- 3~5 years experience.
- 25~50 projects.
- Team member.
- Analysis.

Our Footprint

Capacity in China, liaison in EU and US, global M&A reach



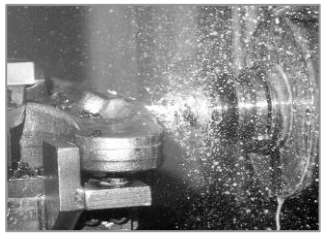
InterChina offices (4)

IMAP offices (40)

Sector Expertise

Experience, insight and networks in China's major growth sectors

Energy & Infrastructure



Machinery & Equipment

Chemicals

Automotive & Components

Healthcare

Consumer & Retail (Food & Beverage)

Our Differentiators

We know what it takes to succeed in China, and our clients benefit as a result

As China is a country where experience counts:
- We're among the first advisory firms on the Mainland.
- Stable senior backbone means retained experience.
- With a combined 250 years in China business.

→ Makes for a very solid foundation.

When investment in the long-term has benefits in the short-term:
- We treat each issue as unique, taking a fresh and tailored approach.
- Communicate openly, getting clients engaged, and showing flexibility.
- Provide an independent opinion, while working with client reality.

→ First client is still our client, and 2/3 of our projects are returning clients.

Given that current resources are a legacy of past projects:
- >500 strategy projects.
- >30,000 interviews.
- >150 transactions.
- >USD 3 bn investment.
- Broad, strong, senior network.

→ An advanced starting point for each new project.

Provided that strategy and M&A are symbiotic capabilities:
- Strategy with an execution mindset, based on fieldwork.
- M&A with a strategic mindset, using sector expertise.
- Excellence in core competencies: fieldwork, negotiation.

→ Results in smart choices, actionable results, and getting things done.

Where only China specialists really get the China perspective:
- All our projects deal with China issues.
- All our methodologies developed in China for China.
- All our consultants/advisors have China-based careers.

→ Provides the real understanding needed for sound judgment.

As business complexity should be reflected in team diversity:
- Career histories in services, industry and government.
- Traditional veterans paired with modern technicians.
- Held together by a deliberately strong company culture.

→ Results in a diverse yet functional team.

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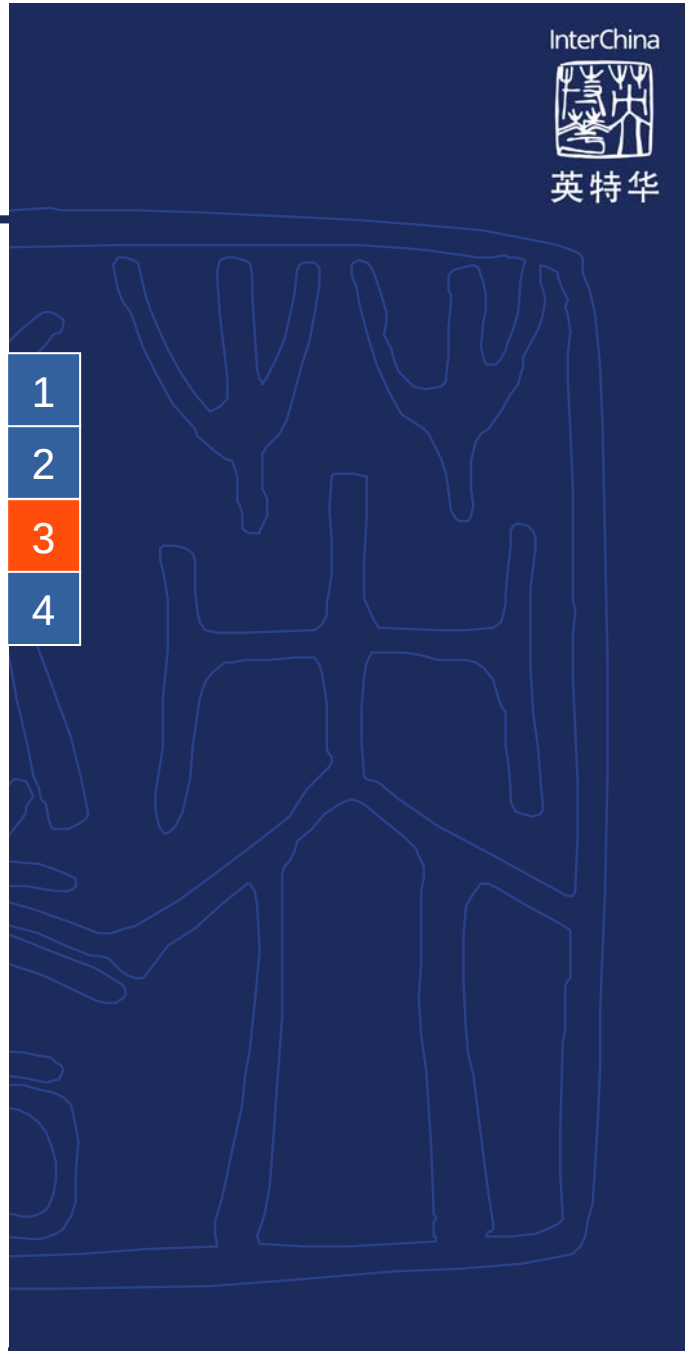

Our Clean Tech & Energy Sector Group

Specialist consultants put us in a unique position to support clients

Jan Borgonjon
Partner
President

James Sinclair
Managing
Partner

Eduardo Morcillo
Managing
Partner

David Hofmann
Director
North American

Simon Zhang
Manager
Strategy

Franc Kaiser
Director
Strategy

Tom Han
Principal
M&A

Matias Miao
Principal
M&A

Philip Deng
Consultant
Strategy

Jack Yu
Consultant
Strategy

16 Years Of Projects

- InterChina has been consulting in the Energy Sector since our establishment in 1994, participating in the rapid evolution of the sector.
- In the recent years, the focus shift more and more to Clean Tech sectors.

Retained Experience

- As we have maintained one of the most stable Consulting Teams in China, our Clean Tech Sector Group has also retained the valuable experience gained.

Diverse Backgrounds

- Our Clean Tech Sector Group comprises both of consultants from Clean Tech backgrounds and consultants with substantial Clean Tech project experience.

Typical Clean Tech Projects

The sector currently accounts for ~15% of our project work

Typical Clients		Typical Services
Renewable Energy	• PV. • Wind. • Hydro. • Biomass. • BOS or components (E.g. inverter, gearbox, blade, control system etc.).	• Market Intelligence. • Competitor Benchmarking. • Opportunity Assessment. • Strategy Development. • Regulatory lobbying. • Strategic Supplier Search. • Company Establishment (Joint Ventures and WFOEs). • Mergers & Acquisitions. • Company restructuring. • Distribution Structuring. • Recruitment.
Electric Vehicle	• Electric car. • Electric bus. • Components of EV.	
Water Treatment	• Both water supply and sewage. • Both concession projects and water treatment chemicals.	
Environmental Protection	• Solid waste disposal. • Environmental technology. • Less-toxic chemicals.	
Machines & Equipments	• The machines used in renewable energy sectors.	
Third Party Institutions	• Chambers of Commerce. • Sector Associations. • Government Bodies. • Tradeshows.	• General Sector Studies. • Syndicated Market Intelligence.

InterChina's Solutions (1/2)

We bring value to clients in highly challenging Clean Tech industries

	Client Issues	InterChina's Approach	Client Benefits
Opportunity Assessment	• What is the size of the addressable market? • What is the degree of readiness of the supply chain? • Regulatory monitoring? • What is the window of opportunity likely to be? • How to maintain competitive advantage in the long run? • What is the likely down side if no entry? • Whether to enter China or not?	• InterChina conducts in-depth evaluation of the value chain of specific sectors in China. • Scenario analysis will be applied to account for the fast and dynamic development of Clean Tech sectors. • In addition, the relevance of China will be carefully evaluated in the context of the client company's global strategy. • The analysis of both positive and likely negative effects of entry and non-entry will be analyzed and tested with senior industrial interviewees.	• Our client has a large degree of confidence in his GO / NO GO decision, which is based on a clearly developed picture of key strategic aspects of the value chain in China. • During the project execution, the client is extensively involved in the process to ensure that opportunity assessment is conducted in the context of the client's global planning. • In addition, the transparent view of China gained by the client through this well-designed structure, will provide a sold basis for continuous monitoring of its competition in the future.
Strategy Development	*The issues above, plus* • What is the market entry point (Target segments, product offering, and value propositioning etc.)? • What is the route-to-market? • Which investment model? • Expected financial return? • The role of China in their global strategy?	• Based on the understanding of the market opportunity, InterChina develops and tests a series of competitive and workable entry options for the client. • In addition, InterChina will work with the client to review the full range of issues needed for the client to be ready to start implementation of the strategy.	• Our clients benefit from a practical solution in a complex and challenging environment. • Due to the heavy involvement of the client in the process, the transfer of understanding to the client, and ultimately the buy-in of the client's organization into the strategy is achievable.

InterChina's Solutions (2/2)

We bring value to clients in highly challenging Clean Tech industries

	Client Issues	InterChina's Approach	Client Benefits
Strategic Alliance	• Which partner to work with? • Which form of alliance? • What trade-off in terms of what to pay and what to gain? • What implication in terms of the threat to the global market in future?	• InterChina will develop a comprehensive and practical framework regarding potential synergies and risks in the alliance, and conduct the target research process. • For each shortlisted alliance candidate, a tailor-made approach will be developed and tested. • Finally, the implications of the alliance in the global context will be jointly explored with the client (E.g. the alliance partner might become a threat in the future).	• Our clients benefit by identifying a good candidate for alliance, as well as a clear understanding of the plusses and minuses of cooperation. • Due to its in-depth understanding of both the synergies and risks, our client is confident in implementing this alliance plan.
Lobbying Strategy	• Why the necessity for lobbying? • What objectives to achieve through lobbying? • What stakeholders? • What procedures? • What lobbying framework?	• InterChina will conduct a comprehensive stakeholder analysis to explore all the possible issues in lobbying, and come up with a realistic action plan. • Then InterChina will adopt a hands-on approach in advising the client how to implement the lobbying strategy.	• Our clients benefit from a practical lobbying strategy that is tailor-made for the client's unique situation in China. • In addition, InterChina will leverage the accumulated experience of its prior government lobbying projects to advise the client regarding hands-on details of implementation.
Merger & Acquisition	• Which target profile from a strategic perspective? • Which key deal breakers? • What negotiation support required? • What process control? • How to close the transaction?	• InterChina will conduct the M&A process (Target search, due diligence, negotiation, and deal closure etc.), while taking into account strategic insights from the market and competition relevant to M&A. • In parallel, InterChina will work out the implications on post-acquisition integration, and take these issues into consideration when designing the M&A strategy.	• Our client receives the full complement of streamlined M&A services, as well as the support and confidence in post-acquisition implementation.

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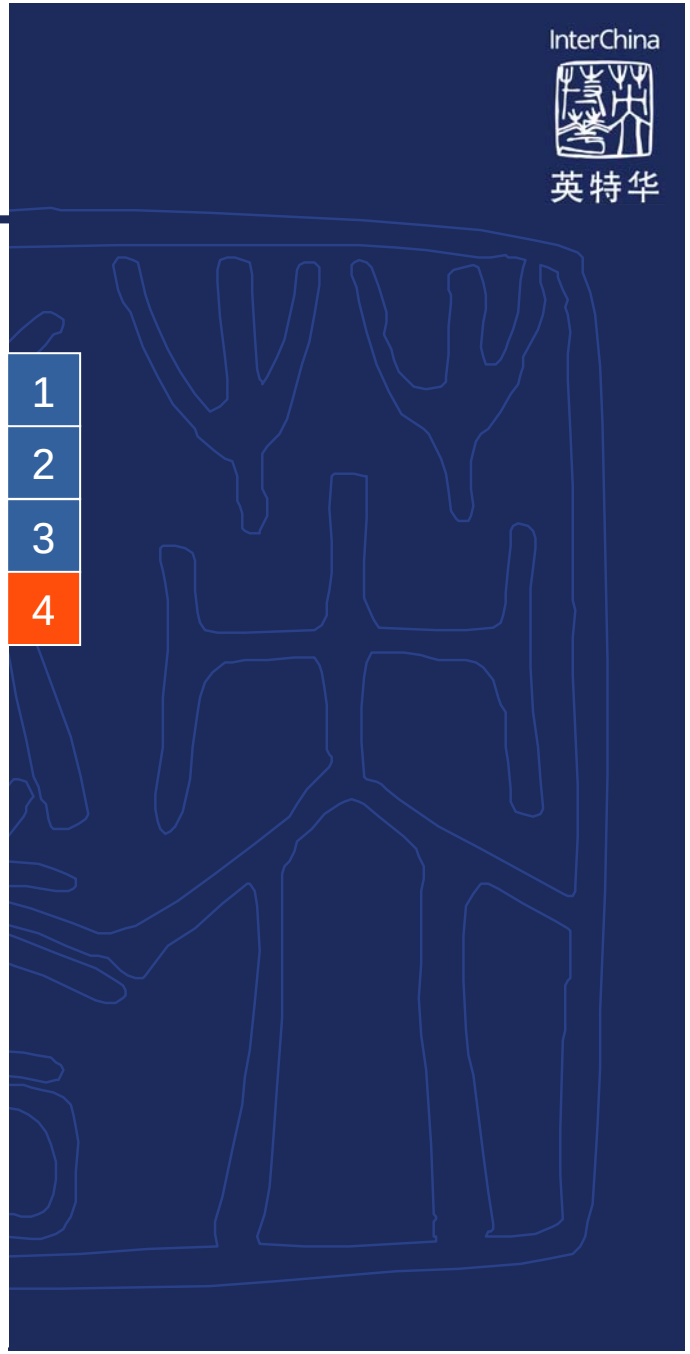


Perspectives On
Major Clean Tech Sectors In China

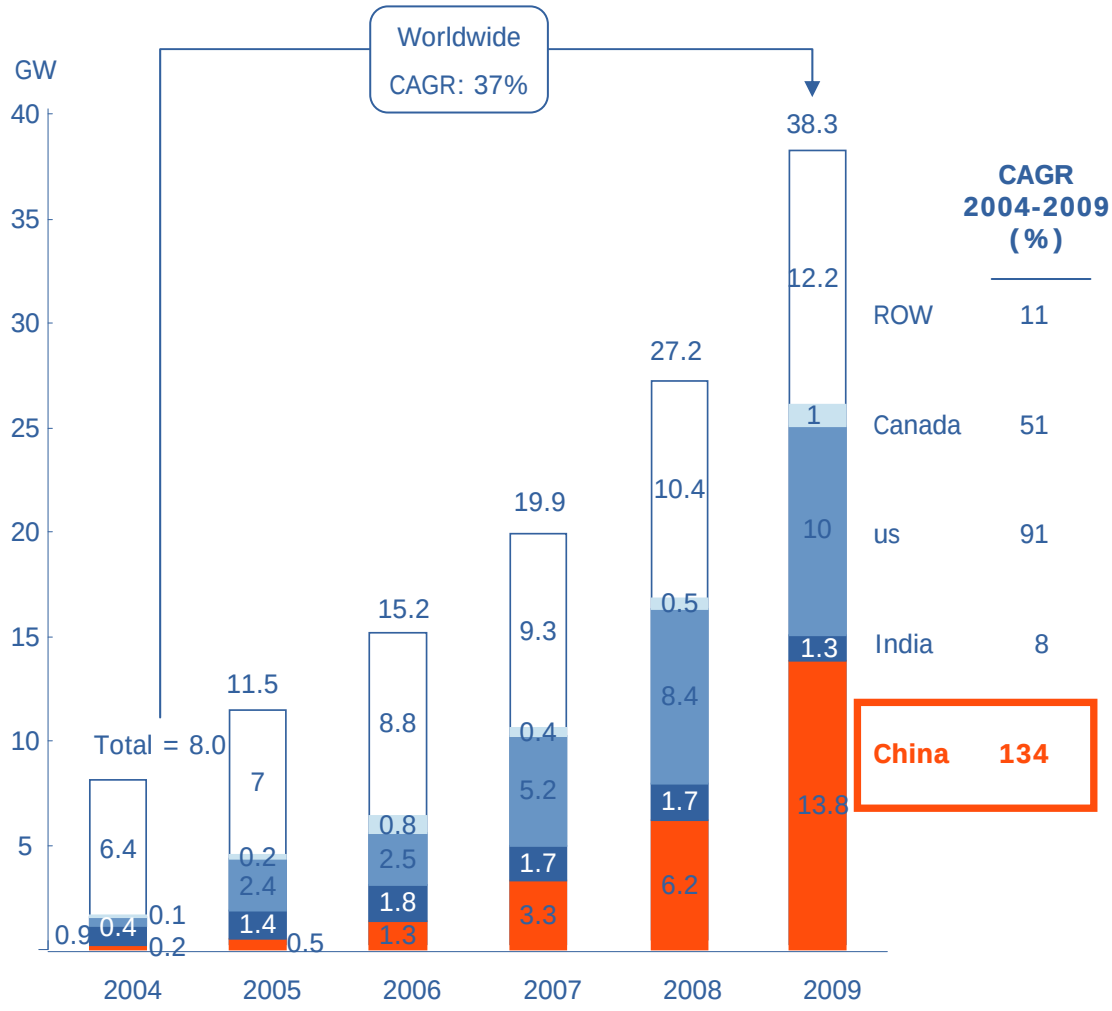
Wind Sector

- Ranked No. 1 in growth rate and newly installed capacity globally.
- The gov. is likely to increase the target in 2020 from 30GW to 150GW, with new hotspot of off-shore with 30GW target.
- Development trend towards multi-MW turbines, which raise demanding requirements on component supply.
- Implication on foreign player's global strategy.
- Opportunities is prioritized on manufacturing side (turbine, high-performance components) than project side for foreign players.

China's Wind Market Potential

Rank No. 1 in both growth rate and newly installed capacity

Annual Newly Installed Capacity By Country, 2004–2009



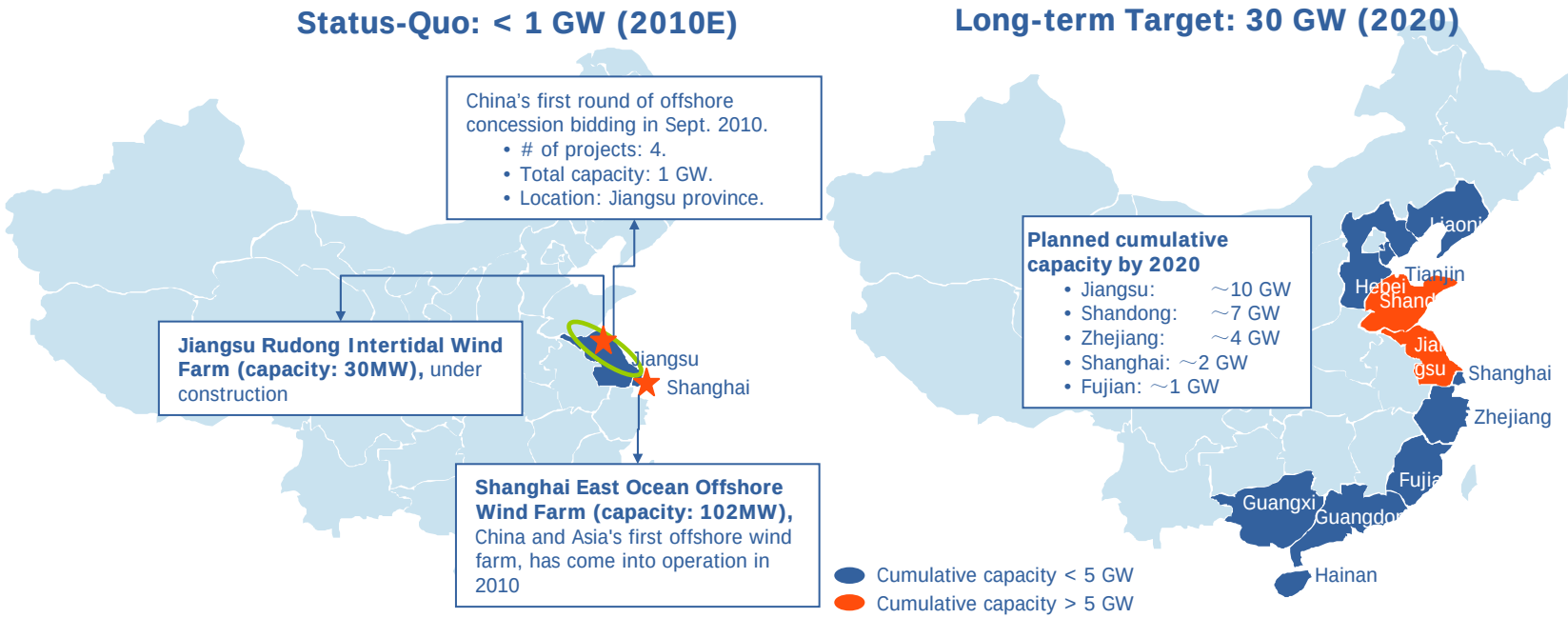
Note: CAGR = compound annual growth rate.

Source: Global Wind Energy Council.

- Key Role: One of the important components in China's RE sector development. China's policies and incentives strongly support development of the domestic wind power equipment manufacturing industry and wind farm development.
- 150GW Goal (2020): Central government is likely to increase the cumulative installed wind capacity to 150 GW by 2020 (incl. 30 GW off-shore), revealing the government strong ambition. The previous target of 30 GW of cumulative installed wind capacity will be achieved by 2010.
- Large Potential: Although China is exceptionally rich in wind resources, wind power currently represents a very small percentage of total energy generation. China's wind energy accounts for only 0.8% of total electricity generation capacity compared with 2% globally.

New Hot Spot Of Offshore Projects

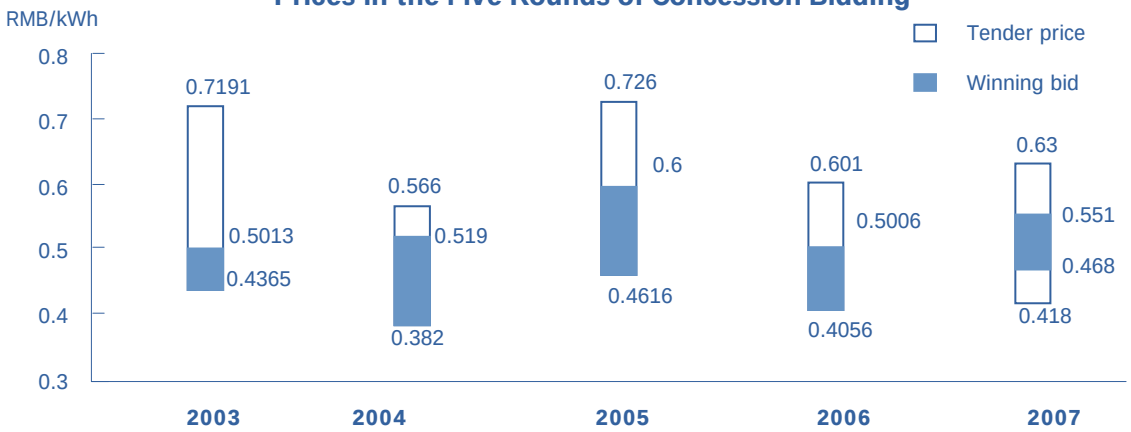
Geographically, Jiangsu and Shandong will be leading the market



- Target: With 30 GW as 2020 target, 11 coastline provinces are appointed by China's gov. as the mainstream provinces to develop offshore wind farm.
- Pilot: The government started the market from a pilot project in Shanghai now. One of the reasons for the pilot is due to that domestic players are still lack of possessing technologies, offshore project management experience and turbine service experience.
- Regulatory: During the first round offshore concession bidding in 2010, only domestic or JV firms (with at least 50% Chinese ownership) can develop and/or operate offshore wind farms as usual. As for equipment suppliers, there is no regulation to indicate that foreign players are treated differently than Chinese companies.

Impact Of Gov. Subsidy

A more market-oriented pricing system, driving health development of the sector



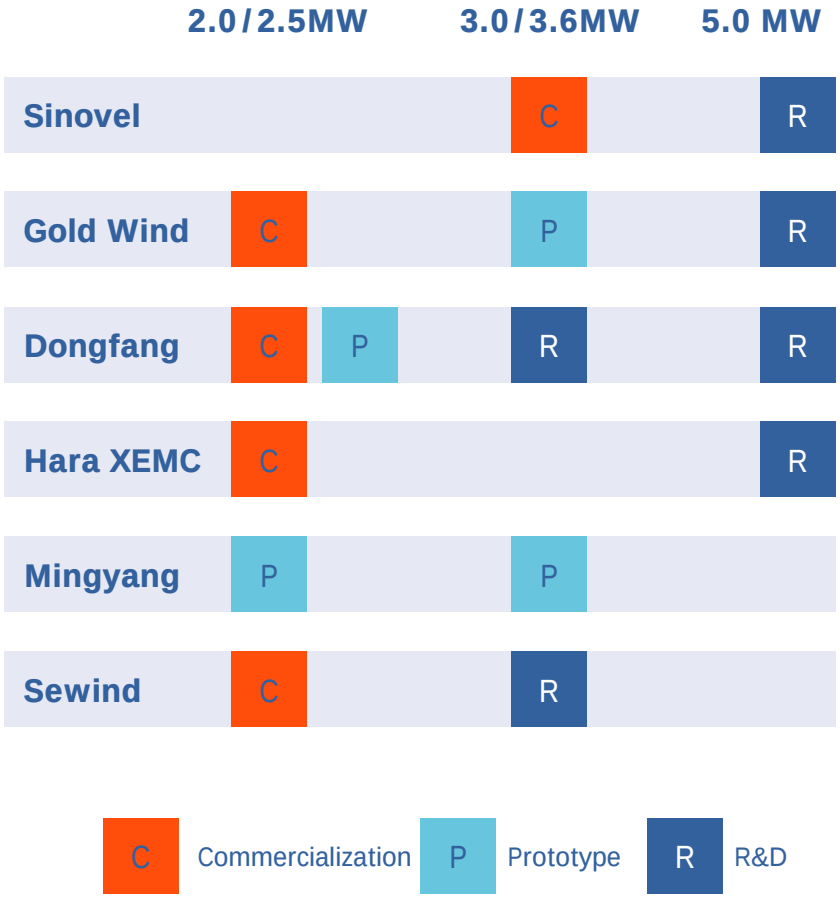
	2003	2004	2005	2006	2007
Total Contracted Capacity (MW)	200 MW (2 projects)	750 MW (3 projects)	600MW (3 projects)	1 GW (3 projects)	950 MW (4 projects)
Decision-making Criteria In Bidding	• The lowest price got the bid, as ordered by the government.		• Price (reduced weighting to 40%). • Another key parameter was the proportion of localized equipment.	• Price (the same weight of 40%). • Followed by localization comp ratio, technical score, financing capability and financial plan.	• Price (reduced weighting to 25%). • Followed by localization comp ratio, technical score, financing capability and financial plan.
Bidding Result	The lowest price won the bid. The successful bid price was far below reasonable cost at that time.		Lower price still was preferred. No big change from the first two rounds.		The price closest to average (assumed to reflect market level) was preferred.

- Subsidy Based On Power Generation: The gov. subsidy is based on unit electricity price sold to grid company, which is paid by grid companies, and financed by the gov. special funds.
- Scheme To Determine Level Of Subsidy: In July 2009, China's gov. introduced fixed regional on-grid prices for the wind, which is of international practice, and, to some extent, minimize the companies (usually state-owned companies) that try to win the project at unfeasible low price.
- Double-sword Effect: The subsidy system has a double-sword effect: To encourage driving the cost downwards through economy of scale and technology innovation, and to trigger the possibility of project and equipment quality concerns.

Mainstream Wind Turbines In China

Chinese players are moving quickly to multi-MW segment, favored by the market

Multi-MW Models Of Chinese Wind Turbine Players

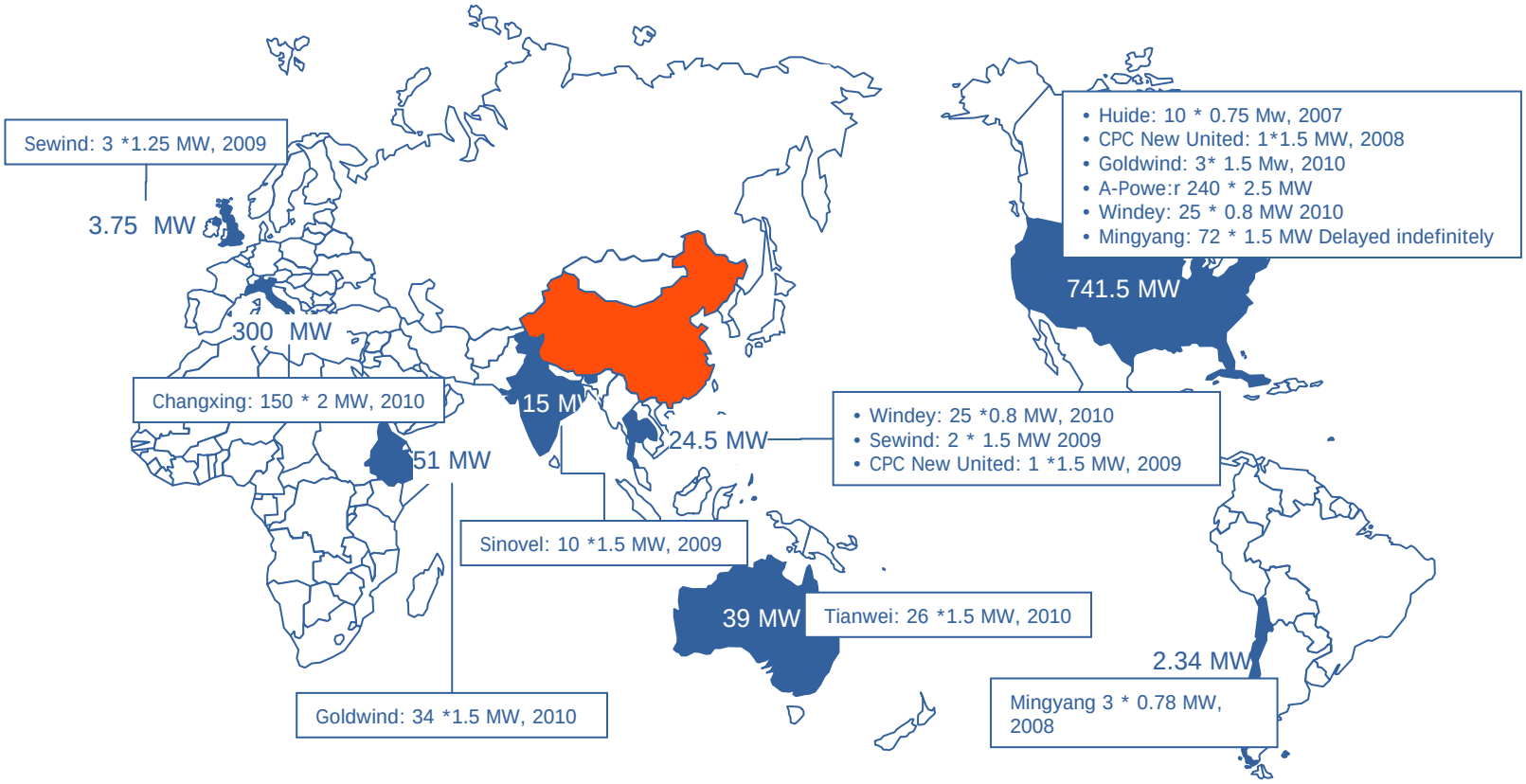


- Market Mainstream: The strong market growth in China is likely to continue with the driver of larger turbine size. In 2008, the 6th round of national bidding has required 1MW and above.
- Trend To 2-3MW: The mainstream demand in China is expected to move quickly into the 2-3MW segment within the next three years.
- Aggressive Chinese Players: Chinese players accelerated product development of 2.5MW and above, in order to target offshore opportunities and international market.
- Challenges: The supply chain is likely to become a bottleneck to meet increasing demand for larger and more advanced components. Examples are large-size bearings, blades, and gearboxes.

Global Threat

Chinese wind turbine players take initial steps into traditional and emerging markets.

Footprint Of Chinese Wind Turbine Players Overseas
(Examples of Contracted Exports)



MNCs Take Initial Steps into China Market

Across various parts of the value chain

Wind farm developer /operator	Honiton Energy	• *Honiton Energy*, a private company based in London, has invested 3 wind farms in Inner Mongolia since 2005.
Wind turbine players	Gamesa	• *Gamesa*, the accumulated installed capacity in China reached over 2GW plus. Now Gamesa announced to double sales in 2-3 years in China and invest 2 new plants in China.
	Vestas	• *Vestas*, the world leader in wind turbine, was the first wind turbine company to enter the Chinese market in 1986. It has its largest integrated manufacturing complex in Tianjin, a factory in Hohhot, a global procurement office in Shanghai, and is currently commissioning a new foundry in Xuzhou.
Component suppliers	ABB	• *ABB* has actively participated in a number of large-scale wind projects in China, such as providing converters to the "Three Gorges Wind Power Project" in Gansu, the Jiangsu coastal Wind Farm, the East Inner Mongolia Wind Farm, and the Zhangbei Wind Farm. The company also provided gas insulated switchgears (GIS) and motors to China's first offshore wind farm at Shanghai Donghai Bridge, and compact substations with distribution transformers and ring main units to the Jiangsu Rudong Wind Farm.
	Rexroth Bosch Group	• *Bosch Rexroth* entered China since 1978, the PV and wind-turbine components they produced in 2009 help to generate electricity for two million homes.

Implications for Foreign Players

MNC players need to take a strategic view of their presence in China

Useful check-list questions for foreign players (mainly manufacturing side) to think about in China's wind sector:

- Addressable Opportunity: What segments are addressable and what are not? How will the portfolio change in the medium term?
- Growth Strategy: In the context of challenging market and regulatory situation in China, do we adopt organic entry/expansion strategy, or do we grow via acquisition?
- Partnership: As one of the success factors in China to navigate through uncertainties, what partners might be available for business development in China, and how to develop a platform with mutual interests for both parties?
- Global Implication: What would be the role of China in our global strategy? It is not only about how to leverage China as a market, a production base, and/or a sourcing base, but also how to seek cooperation from Chinese companies in MNC's home markets and how to preempt the future threat of Chinese competitors against our global business?
- Localization Of Production: (Especially for component producers) is it the right timing to localize the production in China and for China?

Examples of what China needs from foreign players

- Wind turbine generator with capacity on multi-MW level.
- Direct drive wind generator.
- Low-speed permanent-magnet generator.
- High reliability gear box.
- Blades with high energy conversion efficiency.
- High-performance components such as inverter.
- Control system.
- Possibly, wind farm development.

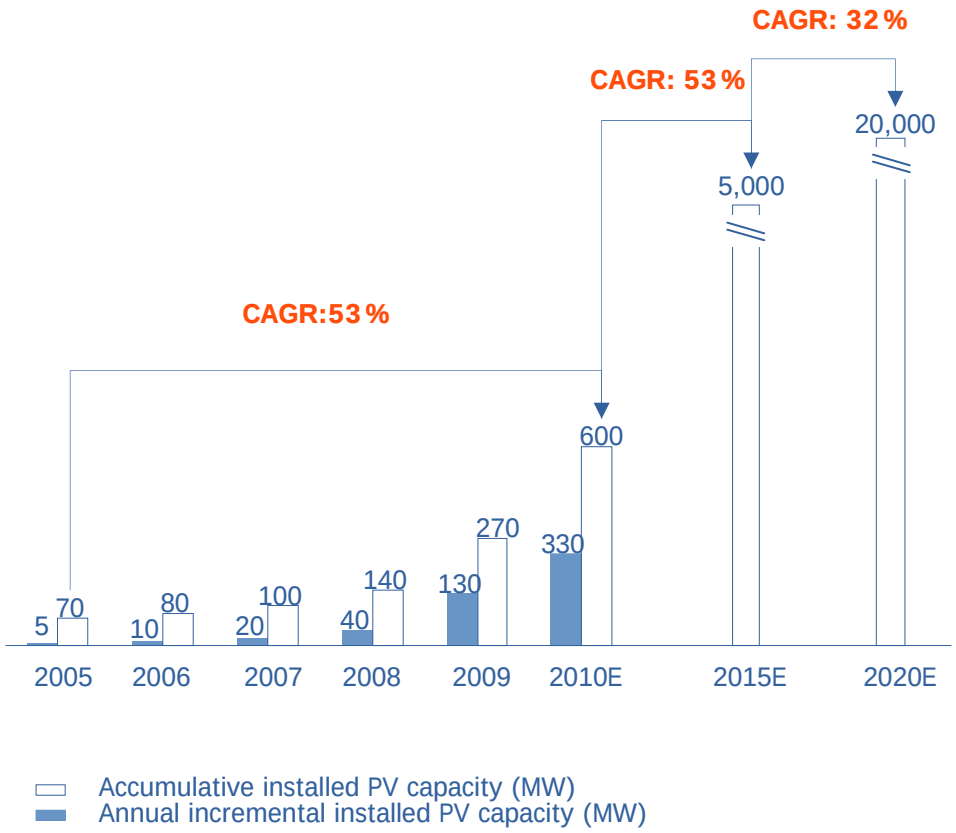
Perspectives On
Major Clean Tech Sectors In China

PV Sector

- Now on the tipping point of acceleration of the growth.
- The gov. is likely to increase the target in 2020 from 1.8GW to 20GW.
- Mainstream demand is likely to shift to MW projects and on-grid PV farms.
- Evolving regulatory environment.
- Opportunities is prioritized on both manufacturing side (PV cell/modules and high-performance components) and also project side for foreign players.

Tipping Point Of China's PV Market
On the starting point of frog-leap increase

Annually Newly Installed and Accumulated PV Capacity (2005 – 2020)



- Ambitious Goal of 20GW: China set up an ambitious plan for PV installation capacity with 20 GW accumulated capacity in 2020, which is 74 times than in 2009.
- Starting Point Of Frog-leap Increase Around 2010: Thanks to various gov. financing support policies since 2009, China's PV farm sector is likely to start the aggressive growth, after the wind.
- PV Farm Investment Cost: The decreased PV project investment cost, which makes the relatively-large-scale policy support feasible, has been resulted from largely decreased polysilicon price (compared with peak in 2007 / 2008), technology development and the economy of scale in the PV cell/module industry.
- Strong Manufacturing Capacity In China: Currently, China has the world's largest solar PV production capacity and in 2009, China's PV cell production was 4,382 MW, accounting for approximately 40% of the total global output. And only <5% is used in China's PV farm.

Source: CCID, National Energy Administration

Structure Change Of PV Demand

On-grid PV farm will take the leading role in 20GW plan

China's Accumulated Installed Capacity, 2005 Actual – 2020 Planned (Unite: MW)

Market Segments	2005	2010 E	2020E
Total	**70**	**600**	**20,000**
PV Farm	**<1**	**300**	**Majority, on-grid**
BIPV	<2	50	Important, a mixture of on-grid and off-grid applications to serve specific needs
Industrial Application	28	70	
Civil Application	10	30	
Rural Electrifi-cation	30	150	Minority, off-grid

- Trend Towards On-grid: The recent gov. support policy shifted to on-grid application, especially on PV farms.

- Example Policy 1:
  - Policy: *Interim Measures for Administrating Financial Subsidy Funds for Application of Solar Energy-Based Photovoltaic Buildings (March, 2009)*.
  - Applications: BIPV applications and rooftop systems.
  - Subsidy: RMB 13 – 20/Wp in 2009 / 2010.
  - Capacity: 91MW out of 500MW application was approved.

- Example Policy 2:
  - Policy: *Golden Sun Demonstration Project Financial Assistance Fund Management Interim Measures (June 2009)*:
  - Applications: MW PV pilot projects.
  - Subsidy: 50-70% of project investments.
  - Capacity: 650MW (300+ projects) including 35 utility-scale PV farms totaling 300MW.

Sources: InterChina Analysis and estimations

Impact Of Gov. Subsidy

Likely that the gov. will issue fixed price policy soon

Before 2009
Little Subsidy

- Principle: The gov. adopted case-by-case approval process, without transparent scheme available to the public.
- Few Cases: According to InterChina's statistics, only <10 projects received the gov. subsidy.
- Heavy Burden On Gov.: For one demonstration project in 2008, it is said that the on-grid price is RMB 4/Kwh, which is almost 10 + times of coal-fire power price.

2009 – 2010
Subsidy Based On Bidding

- Subsidy Form 1 – On Project Investment:
  - Still case-by-case approval principle.
  - Special programs to directly subsidize PV project investments, which are relevant for small-scale projects such as BIPV and demonstration projects. This is less likely to be the mainstream in future.
- Subsidy Form 2 – On Power Price Sold To Grid Companies:
  - China undertook 2 national biddings for PV farms of 290 MW (10MW – 30 MW per project) in 2009 and 2010 with the winner price below RMB 1/Kwh.
  - On the one hand, China's gov. expected to develop a market-driven pricing for PV farms, which will lead to the likely subsidy scheme based on fixed on-grid price.
  - On the other hand, China's gov. needs to carefully avoid the negative impacts that wind sector experienced before.

2010/2011 Likely
Fixed On-grid Price

- Likely Fixed On-grid Price Subsidy: It is very likely that China's gov. will introduce the subsidy scheme based on fixed on-grid price soon. Our estimation will be in 2011.
- Positive Impact: Only under this scheme, the uncertainties of sector development will be removed from Chinese and foreign players.
- Beneficiaries: This will be especially beneficial to PV farm operators and component suppliers into the project, including MNCs.

MNCs Take Initial Steps into China Market

Across various parts of the value chain

PV Projects	• *Enfinity NV* from Belgium, joint bidding with domestic SOEs, participated in both two rounds of national bidding and won the Dunhuang 10 MW project in the 1st round. • *First Solar* signed an agreement in September 2009 with Chinese government to build a 2,000MW solar farm in China's Inner Mongolia. • *Solar Infotech* from USA would invest USD 500 million in establishment of PV farm & Solar Energy-Based Photovoltaic Buildings, as well as manufacturing of PV components.
Cell/ Modules	• *BP Solar* established a JV with China Xinjiang SunOasis Co., a subsidiary of Tebian Electric Apparatus Stock Co., Ltd to realize domestic production. • *Applied Material*, signed an agreement in 2010 to sell equipment to manufacture thin-film solar panels to China's ENN Solar Energy Co. for a new big solar power farm in Inner Mongolia. Besides, it has reached an agreement with China Energy to monitor the performance of the solar panels.
Components	

Implications for Foreign Players

Opportunities are likely on both projects and manufacturing sides

Useful check-list questions for foreign players to think about in China's wind sector:

- Addressable Opportunity: What segments are addressable and what are not? How will the portfolio change in the medium term?
- Growth Strategy: In the context of challenging market and regulatory situation in China, do we adopt organic entry/expansion strategy, or do we grow via acquisition?
- Partnership: As one of the success factors in China to navigate through uncertainties, what partners might be available for business development in China, and how to develop a platform with mutual interests for both parties?
- Integration Of PV Farm & Manufacturing: (For cell/module players) Do we need to forwards integrate into PV farms as a strategic step to secure market potential? If so, what partners might be available?
- Global Implication: It is not only about how to leverage China as a market, a production base, and/or a sourcing base, but also how to seek cooperation from Chinese companies in MNC's home markets?
- Localization Of Production: Is it the right timing to localize the production in China and for China?

Examples of what China needs from foreign players

- Building integrated photovoltaic (BIPV) module technology.
- Rooftop systems.
- Technology for on-grid application.
- High performance components for on-grid and off-grid application.
- Other alternative technologies such as concentrated Solar Power (CSP) technologies.

Perspectives On
Major Clean Tech Sectors In China

EV Sector

- China is determined to take leap-frog to develop EV in order to lead automotive industry.
- Pioneering MNCs have taken strategic entry into China's market along various parts of the value chain.
- Various Stakeholders are steering the direction, which exerts a high degree of dynamics in market growth.
- Sourcing opportunities from China now.
- To take China as a market is likely to be an opportunity in the medium-to-long term.

China's Electric Car Sector

The sector is likely to rise to global prominence in the medium term

Market Drivers

- Potential to create a new sector, and leap-frog to global leadership in the auto industry.
- Opportunity to slowdown environmental pollution and energy security problems.
- Motivated players, including government, EV builders and component suppliers.

Market Challenges

- Need for technology maturation to provide performance and ensure safety.
- Need to bring electric car prices down significantly from starting point of ~RMB 200,000.
- Need to provide overnight recharging infrastructure for apartment owners.

Major Players

Government

MOST, NDRC, MII.

EV Builders

TQ, BYD, Wanxiang, Chery.

Motors

Dajun, No.21, Yineng, Time Huatong.

Batteries

BYD, Thunder Sky, Sky, Lishen, MGL, Phylion, Voltix.

BMS

Guantuo, ATJ, Keyertech, CET.

Infrastructure

State Grid.

Milestones

2001-2005	Included in 863 Program (EUR 300 million budget).
Nov. 2008	Strengthened MOST support.
Dec. 2008	Launch of BYD's F3DM PHEV.
Autumn 2009	Announced launch of TQ's Saibao EV.
Late 2009	Announced launch of BYD's E6 EV.
2011	Government plan to increase HEV & EV output from ~3,000 (2008) to 500,000 (2011).

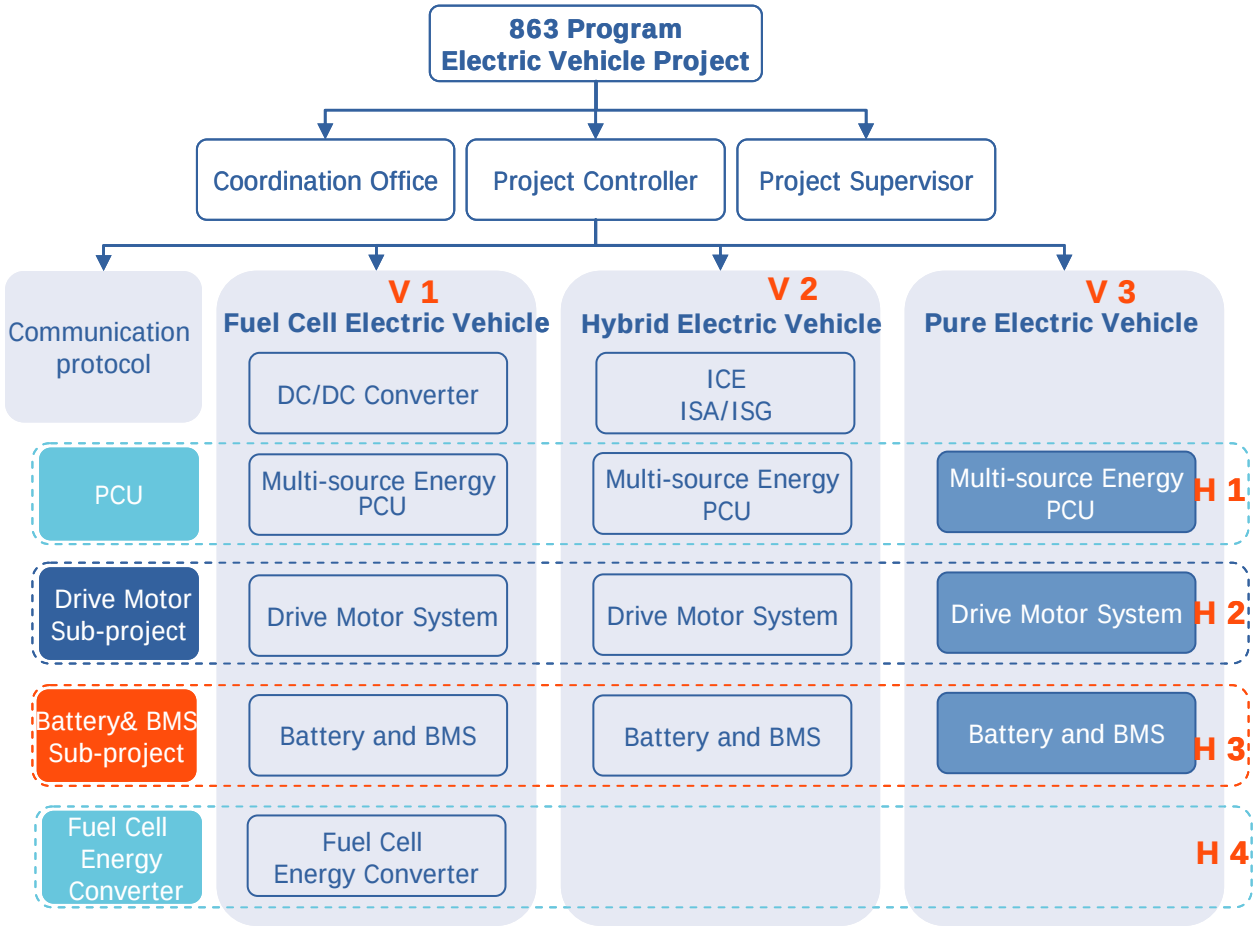
Note: 863 Program is a government sponsored program that focuses the study on hi-tech area.

Dedicated China's Government Efforts

The on-going 863 program achieved a solid framework of EV sector

The Roadmap of "863" Electric Vehicle Project In China

(The so-called "Three Verticals – V1, V2, V3, Four Horizontals" framework – H1, H2, H3, H4)



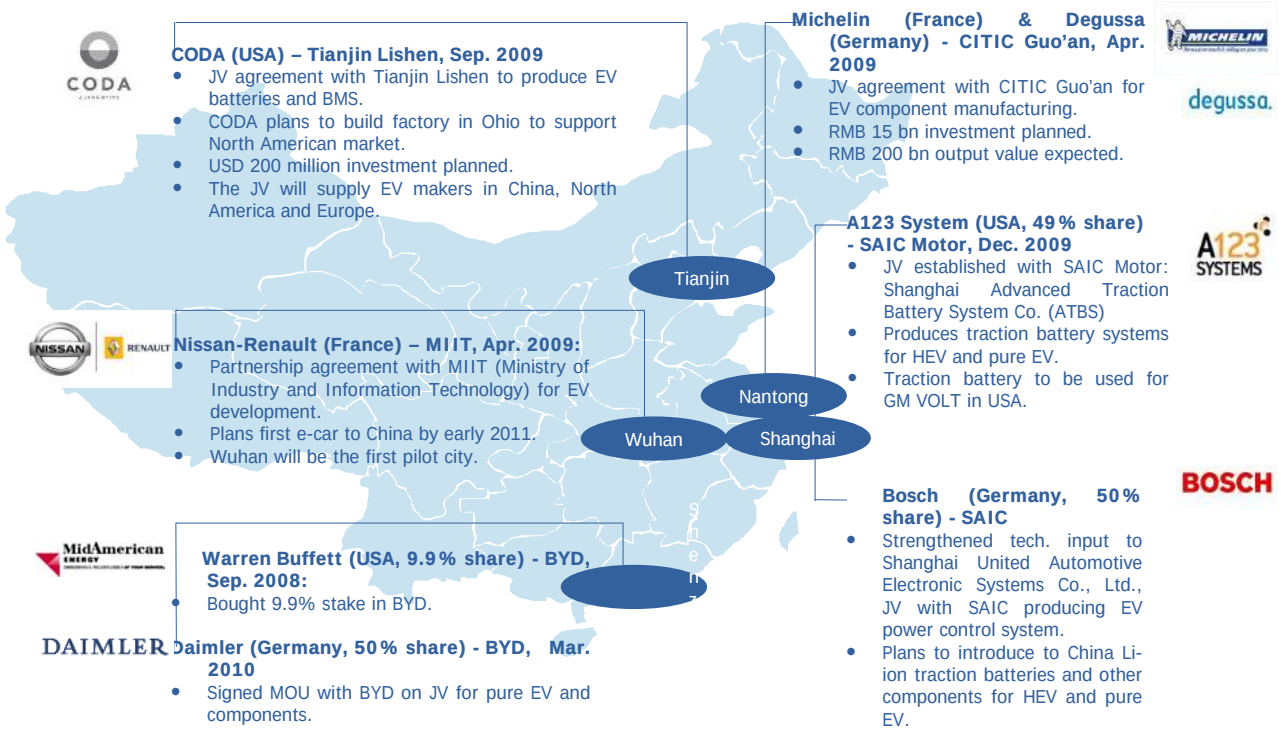
Source: MOST, China's NDRC, InterChina Analysis

Opportunities For Foreign Investors
Major foreign invested projects

Opportunities For MNCs

- Both vehicle makers and component suppliers.
- China is welcome foreign investors to help develop its own core technology.
- It is likely that China keeps control of that know - how. According to industry sources, a new policy document for fostering growth of the EV sector, to be released later in 2010, would likely require all foreign-invested EV cars or components companies in China to be JVs, with the local partner holding majority ownership.

Major Foreign Invested Projects



CODA (USA) – Tianjin Lishen, Sep. 2009
- JV agreement with Tianjin Lishen to produce EV batteries and BMS.
- CODA plans to build factory in Ohio to support North American market.
- USD 200 million investment planned.
- The JV will supply EV makers in China, North America and Europe.

Nissan-Renault (France) – MIIT, Apr. 2009:
- Partnership agreement with MIIT (Ministry of Industry and Information Technology) for EV development.
- Plans first e-car to China by early 2011.
- Wuhan will be the first pilot city.

Warren Buffett (USA, 9.9% share) - BYD, Sep. 2008:
- Bought 9.9% stake in BYD.

Daimler (Germany, 50% share) - BYD, Mar. 2010
- Signed MOU with BYD on JV for pure EV and components.

Michelin (France) & Degussa (Germany) - CITIC Guo'an, Apr. 2009
- JV agreement with CITIC Guo'an for EV component manufacturing.
- RMB 15 bn investment planned.
- RMB 200 bn output value expected.

A123 System (USA, 49% share) - SAIC Motor, Dec. 2009
- JV established with SAIC Motor: Shanghai Advanced Traction Battery System Co. (ATBS)
- Produces traction battery systems for HEV and pure EV.
- Traction battery to be used for GM VOLT in USA.

Bosch (Germany, 50% share) - SAIC
- Strengthened tech. input to Shanghai United Automotive Electronic Systems Co., Ltd., JV with SAIC producing EV power control system.
- Plans to introduce to China Li-ion traction batteries and other components for HEV and pure EV.

Sourcing Opportunities From China

China has already achieved some advantages in EV components

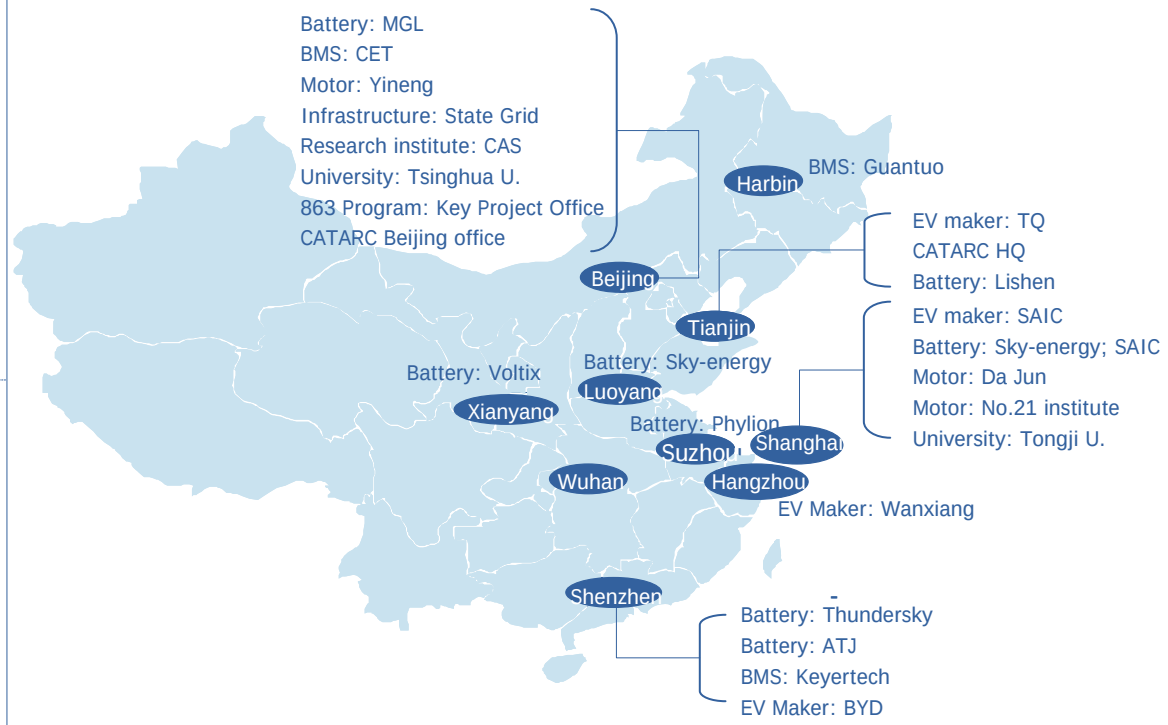
China Leads In Some EV Components

Strategic Comp.	Non-strategic Comp.
• Key for EV performance. • Battery cell, Electric motor, BMS, PCU.	• Other comp. are likely to be supplied by existing auto comp suppliers.

Examples Of China's Advantages

- Battery: Li-ion battery mass commercialization; Large scale of supply base.
- Electric motor: Good technology; On the threshold of commercialization; Cost advantage due to 'rare earth' reserves in China.

Example Map Of EV Makers & Comp. Manufacturers



Source: InterChina Analysis

Perspectives On
Major Clean Tech Sectors In China

Other Sectors

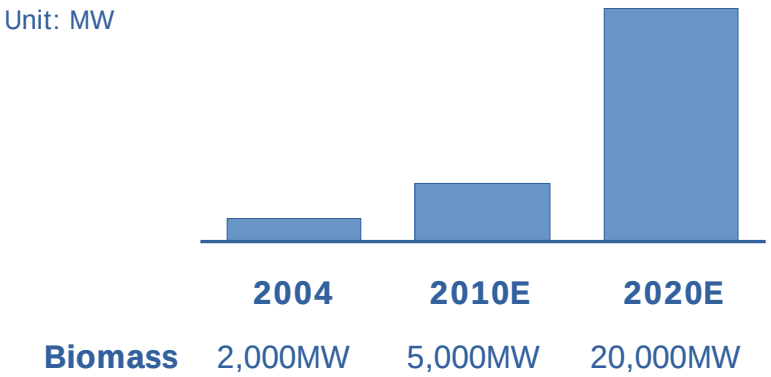
- Other Renewables: For example, biomass Will play important role in providing renewable energy resources to rural areas.
- Water Treatment: Population growth, urbanization & industrialization will continue to drive increasing demand.
- Sewage Treatment: The relatively weak infrastructure still asks for foreign technology and equipments into this sector.
- Solid Waste Treatment: China's weak solid waste management suggests a potential market for foreign players, considering China's continuous urbanization.

Biomass – Gov. Targets

Will play important role in providing renewable energy resources to rural areas

- Biomass resources in China offer potential for significant growth of the bioenergy industry. Bioenergy resources in China are rich, diversified and widely distributed.
- China's potential biomass sources include approximately 3.7 million metric tons of suitable agriculture waste, 1.2 billion metric tons of forestry residue and 150 million metric tons of municipal solid waste.
- The government has set ambitious bioenergy generation targets for 2010 and 2020, aiming to double the 2006 figure of total bioenergy generation by 2010, and increasing capacity by up to six times by 2020.

Development Targets for China Biomass Generation



Biomass Resources in China

Sort	Capacity
Waste	
Urban garbage	0.13 billion ton/year with high organic waste (approx. 60~80%)
Industrial organic waste	2.5 billion M^3, total waste water and waste residue
Agriculture waste	> 0.2 billion ton,
Forest machining waste	~ 40 million M^3,
Livestock waste	~ 1.8 billion ton for manure, ~ 20 billion ton for waste water
Unused Biomass	
Crop straw	0.6 billion ton, mostly from corn, wheat, rice etc

Sources: Renewable Energy Law, People's Daily

Biomass: Opportunities

What China needs from foreign companies: equipment & technology

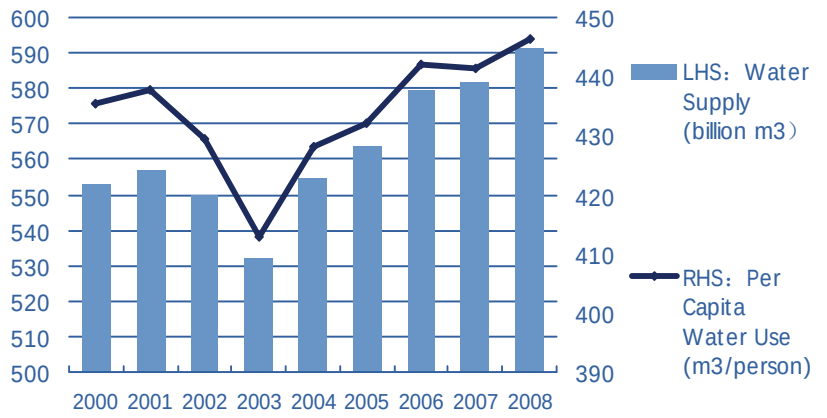
Sector	Equipment & Technology Opportunities
Biomass	• Biomass Co-firing: Combining biomass with coal to be burnt to generate electricity • Biomass Combustion: Burning of biomass to generate electricity • Bioethanol produced from cassava crop, sweet sorghum, wood, grasses etc. • Biodiesel produced from jatropha crop, microalgae, photosynthetic organisms

Water Treatment: Market Status-quo & Targets

Population growth, urbanization & industrialization will continue to drive increasing demand

- In 2008, China has 2,400 water treatment plants, with annual supply capacity of 590 billion m^3
- 80% population covered by water supply piping network.
- Uneven regional distribution of treatment facilities: majority in the east.
- Annual investment of RMB 60-70 bn
- According to China's 11th Five-Year Plan (2006-2010), the total investment of the water supply industry will soar to RMB 200 billion.
- Chinese government will continue to increase the spending on urban sewage treatment facilities and speed up the construction.
- Based on the estimation of the coming 12th Five-Year Plan (2011-2015), the total investment in the following 6 years would reach over **RMB 1 trillion.**

Overall Water Supply Situation in the Urban Areas in China



Content	Estimated Target in 2015
Total Planned Investment Amount	RMB 1 trillion
Urban sewage treatment	RMB 700 billion
Sewage recycling	RMB 30 billion
Urban sewage treatment capacity	120.13 million m3 per day
Urban sewage treatment rate	80%-90%

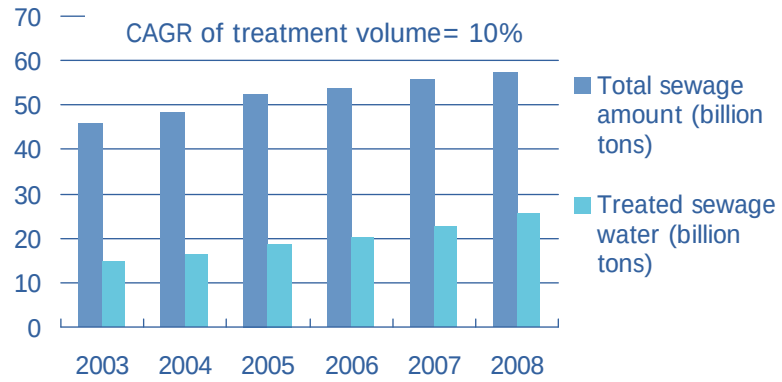
Source: China Statistics Yearbook

Sewage Treatment: Market Status-quo & Targets

The average treatment rate is still low: 36%

- By 2009, China has 1,993 sewage treatment plants, with daily treatment capacity of 100 million m^3.
- The average sewage treatment rate is around 36%; the rate in some big cities reaches 70%.
- Treatment capacity in 4 municipalities (Beijing, Shanghai, Tianjin, Chongqing) and some coastal provinces are higher than national average.
- Significant improvement as a result of heavy investment: RMB 30 bn with 27% growth.

Overall Sewage Treatment Situation in China



Content	Estimated Target in 2015
Planned Investment Amount	RMB 800 billion
Investment in waste power generation	RMB 80 billion
Proportion of Incineration	~20%
Added landfilling capacity	250,000 tons/day
Added Incineration capacity	150,000 tons/day

Water & Sewage Treatment: Opportunities

What China needs from foreign companies: equipment & technology

Sector	Equipment & Technology Opportunities
Water Treatment	• Biological denitrification and phosphorus removal technologies • Membrane separation and manufacturing technologies and equipment • Manufacturing technology of anaerobic biological reactors • High-concentration organic wastewater treatment technology and equipment • Series-standard water and wastewater treatment equipment with high efficiency • Water-saving technologies and equipment • Water treatment agents • Monitoring instruments • Natural water-body rehabilitation technology • High de-nitrogen and dephosphorization technology, immediate recycling technology of intermediate wastewater, and highly efficient filtering technology • High efficient bio-reactor technology, anaerobic biology treatment technology, chemical catalyzing oxidation technology, highly efficient grease-reducing technology, highly efficient decolouring technology, and wet-incineration technology.

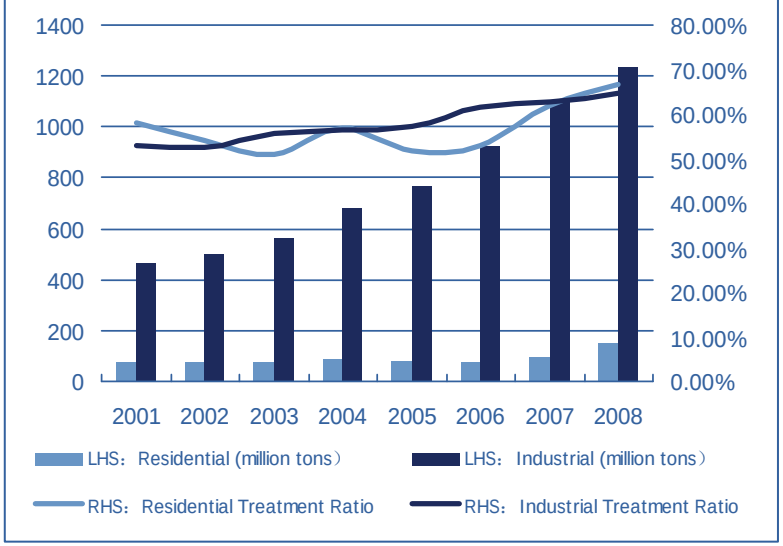
Urban Solid Waste Treatment: Market Status-Quo & Targets

China's solid waste management is still weak

- Over 40% of the residential solid waste collected in China was not properly treated. With respect to industrial solid waste, although the comprehensive utilization rate has increased steadily since 2001, only 60-70% of the total generation volume was utilized.
- Currently only three residential solid waste treatment methods are employed in China - landfilling, composting and incineration. Landfilling is by far the most popular method and accounts for over 80%. Most of the landfill centres were established with government funding and operated by local Environmental Sanitary Administration.
- Due to the generally weak infrastructure, limited resources and historically accumulated environmental problems, China's solid waste management is still weak.
- The investment in urban solid waste treatment is set to increase over the longer-term, from RMB 113.8 billion during the 11th Five-Year Plan to RMB 141.7 billion in the 12th Five-Year Plan and RMB 176.6 billion in the 13th Five-Year Plan.
- Total investment in harmless residential solid waste treatment facilities during the period of the 11th Five-Year Plan is RMB 86.29 billion. Of this total, RMB 71.36 billion will be spent on waste treatment facilities (RMB 57.93 billion for cities, RMB 13.43 billion for towns) and RMB 14.93 billion on collection and transportation facilities (RMB 11.66 billion for cities, RMB 3.27 billion for towns). Investment in the coming 12th five-year is estimated to soar to RMB 800 billion.

Source: China Statistics Yearbook

Urban Solid Waste Treatment Volume in China



Residential Solid Waste Treatment: Facilities & Methods 08

Type	Number of Facilities	Capacity (tons/day)	Volume (million tons)	Proportion
Landfill centre	407	253,268	84.24	82.8%
Incineration factory	74	51,606	15.7	15.5%
Composting factory	14	53,86	1.74	1.7%

Urban Solid Waste Treatment: Opportunities

What China needs from foreign companies: equipment & technology

Sector	Equipment & Technology Opportunities
Solid Waste Treatment	• Recycling and re-utilization of solid waste from chemical, metallurgy, mining and iron & steel industries. • Electronic waste treatment technology • Incineration technology for hazardous waste; • Autoclave, chemical, and microwave technology for medical waste; • Incinerator automatic control systems; • On-line emission control system; • Smoke control systems, web scrubber; • High-quality incinerator parts like feeder, spray nozzle, burner and seal parts; • High-quality blowers; • Advanced pyrolysis kilns. • Compressed refuse collectors; • Facilitated refuse dumpsters; • Movable cleaning vehicles; • High pressure cleaning machines; • Mechanical transfer station of refuse (and related equipment)

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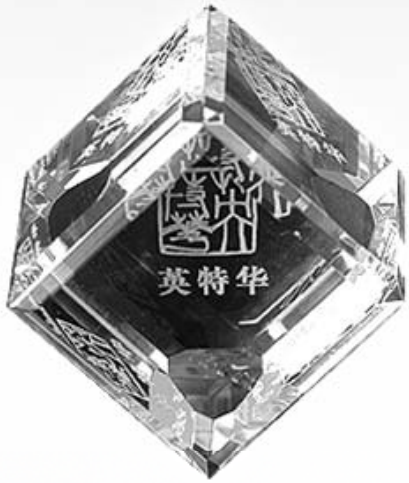

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