

Drivers, opportunities and barriers for business cooperation

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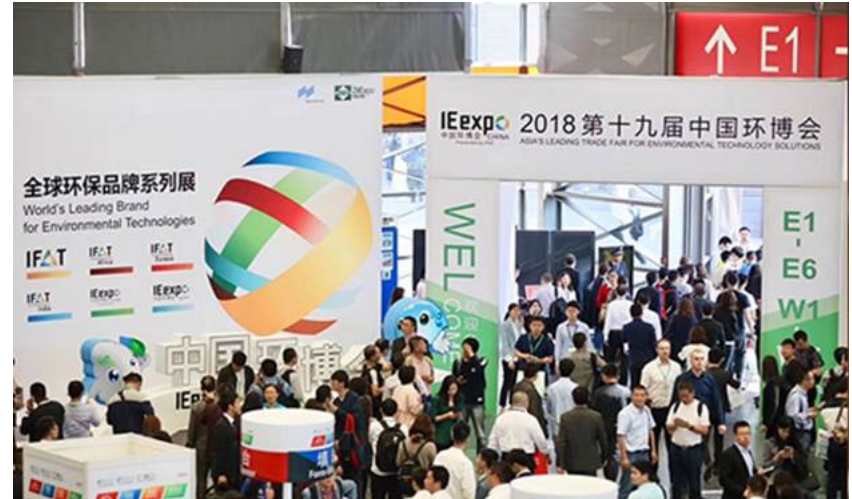
Brussels

15 May 2018

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Analytical Framework



Categories:

1. agricultural water management,
2. municipal water management,
3. industrial water management,
4. river basin management and flood control and
5. water for energy

Group by types of solution:

- Monitoring systems;
- Modelling and DSS systems;
- Control systems; and
- specific products, processes and technologies.

Analytical Framework

Commercial Potential



For each TWI an assessment is made of the commercial potential (CP) on a scale of 1 to 5 where

1. **No commercial potential** – basically just an idea that anybody could copy or no conceivable market / client,
2. **No commercial potential** – but some possibility that collaborative research funding could be found to develop to China specific needs, hard to avoid copying though – likely just publication of results
3. **Little Commercial potential** - But high chance for collaborative research that would produce outputs that would be valued in China and might be then commercialised, reasonable potential market
4. **Good commercial potential** – clear needs and patentable technologies with export or local manufacture possibilities – good potential market – some risk that could be copied
5. **High commercial potential** – A specific and developed technology that meets a pressing need in China and could be exported or manufactured / delivered locally at a premium rate and would be difficult to copy.

Analytical Framework

Routes to Innovation Promotion



Commercial potential:

High - Market route

Low – Research and Development
or Development Aid

Public Good Social and Environmental Benefit

Both: EU-China Policy Dialogues

Analytical Framework



- Major policies driving change.
- Technological Responses
- Incentives that support innovation
- Business models for delivering the change.
- Procurement models
- Agents for delivery

Barriers Opportunity

these target environmental, social and economic outcomes. New infrastructure and organisation will be required to deliver.

How scientific research and development can be used to develop the technologies that will deliver the policy outcomes - Private and public research and development

Mechanisms to help move research based ideas to be pilots of innovative technologies

building the commercial structures around the technologies and how they are implemented plus the economic regulation of the systems.

within the political and regulatory model what are the processes for procurement of contracts to deliver the infrastructure and organisation that will deliver the policy outcomes. This will need to take account of the investment and financing models employed – Public, Private or Public Private Partnership (PPP)

Clients, buyers, Contractors, distributors – the partners that ultimately buy, own and operate the technology to deliver service to the end user

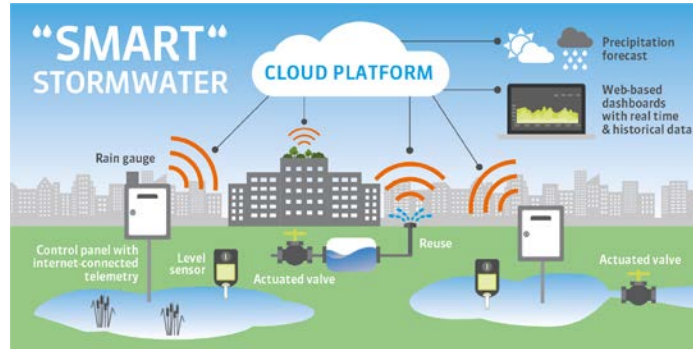
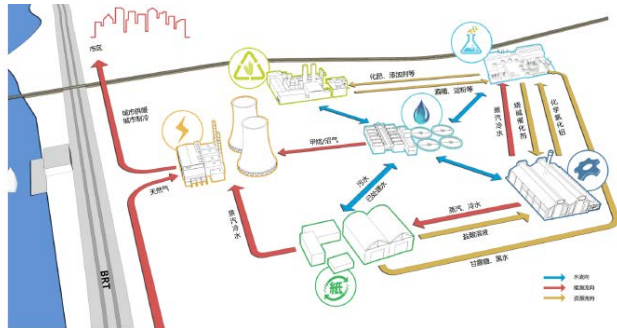
Drivers: China Policy Framework



1. Ecological Civilisation
2. Major Laws – Water Reform, 3 Redlines, Env Protection
3. Five Year Plans (13th)
4. Water Pollution Prevention & Control Action Plan, 2015 +\$
5. Ministerial Reorganisation – MEE + MNR
6. State owner Enterprises re-focussed on War footing
7. PPP Finance and Regulation
8. Party Cadre Performance assessments

Technology Response

1. Higher environmental Standards – Clean Tech
2. Circular economy
3. Nature Based Solutions
4. Integrated solutions
5. Monitor, Model, Control – SMART Infrastructure



Opportunities: Business models



- European Company has technology, market in EU is established, but relatively slow to adopt innovation
- China Market Huge
 - Sludge market alone in next 10 years estimated at €100 Billion
- Strong policy and investment framework
 - desire and opportunity but lacks developed technologies
- Weaker regulatory and business model framework
- Prove how you add value
- **PPP** and direct tenders from local government
- Partnering with Chinese SOE or private Co to develop and deploy through PPP tenders
 - Establish Joint venture company, build business, make profits
 - Exit by IPO??? – Limited Lifetime
 - Go Global

Barriers: General



- Market understanding / language
- Market / public acceptance of new technologies
- Promoted / Closed lists for imports and market access
- Localisation of technology – adapt to China
- Certification and approval of technologies - ETV
- Identification of Clients
- Procurement routes
- Business registration and Banking
- Reliable Partners for distribution, installation, training and operation.
- IPR Protection and copying
- **Financial and Human Capacity of Company**

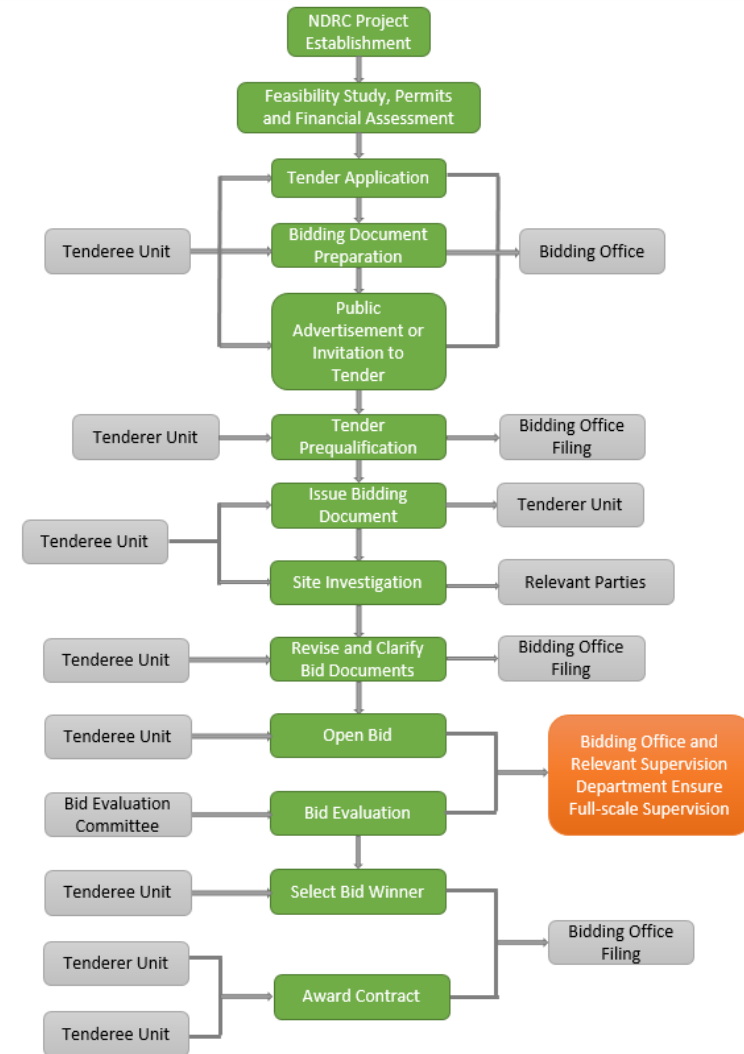


Barriers: Procurement

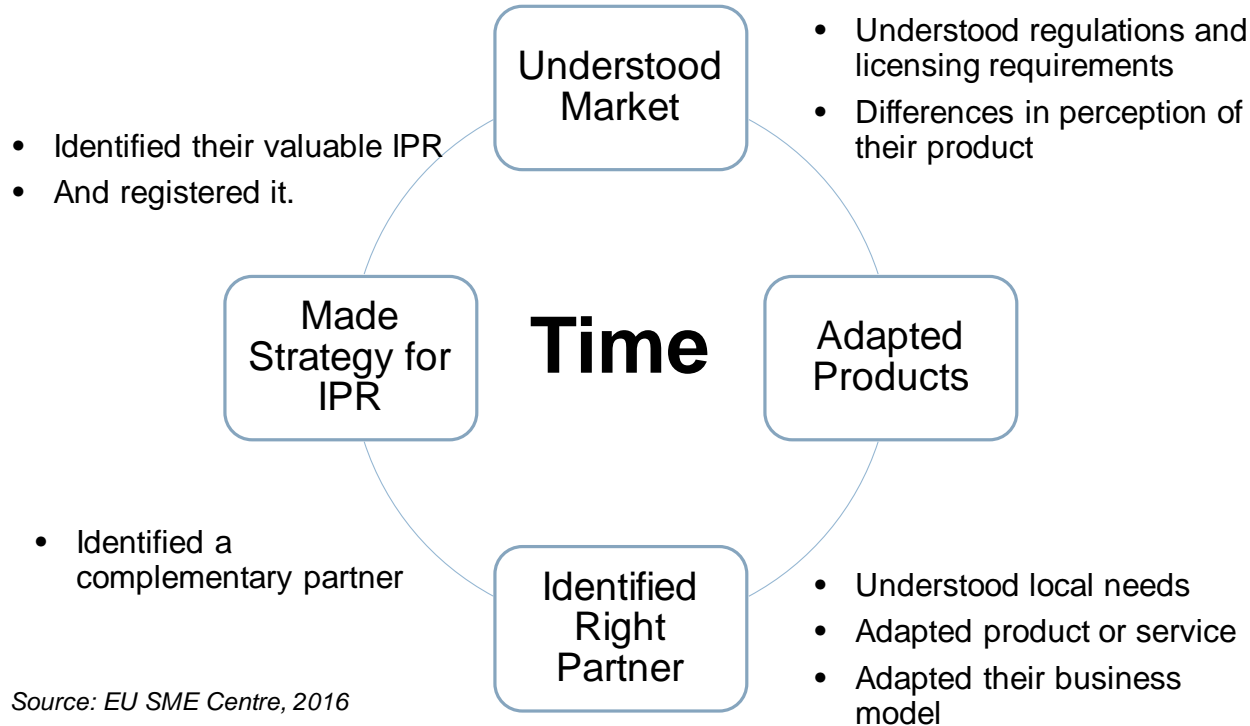
Top Down, Bottom Up - Top Down, Bottom Up

Identify potential difficulties for foreign competitors to win contracts in China

- The difficulty of obtaining timely, accurate information about upcoming projects.
- Liaison with various commissions, ministries, and departments.
- A lack of understanding of projects' evaluation criteria.
- Fail to link national and local development strategies to project opportunities.
- The trend towards decentralisation of tender information - leading to higher costs and less transparency.
- Potential unfair implementation of public procurement awards.



Success Factors



Source: EU SME Centre, 2016

Case Studies



Company	Technology	Partner
GreenTech	Membranes	BEWG
Cambi	Thermal Hydrolysis of Sludge	BGD
HTC Cycle	Hydrothermal Carbonisation of Sludge	...Looking
Hydro International	Sponge Cities Stormwater Management	Thunip
Mixel	Mixing paddles	WOFE
Atkins	Dam Leakage Monitoring Nuclear water treatment waste management Urban Planning - Green infrastructure Sponge Cities / Black Rivers	Various

Thank you

Q&A

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