

China Market Status & Outlook

To
US NIC Global Markets Summit

KP Lau, PE

Fraser Energy Consulting, LLC

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China Electricity

- Installed capacity 1508 GW – 2015
- 73% Coal, 20% Hydro & Renewables, 3% Oil & Gas, 2% Nuclear
- Largest in the world. (70% built within last decade)
- Expected 1600 GW by 2020
- 2016 – Wind 22GW, Hydro 16 GW, Nuclear 6 GW, Solar 18 GW
- Per Capital-3500 kwh (5500 kwh by 2030 & 8500 kwh by 2050)

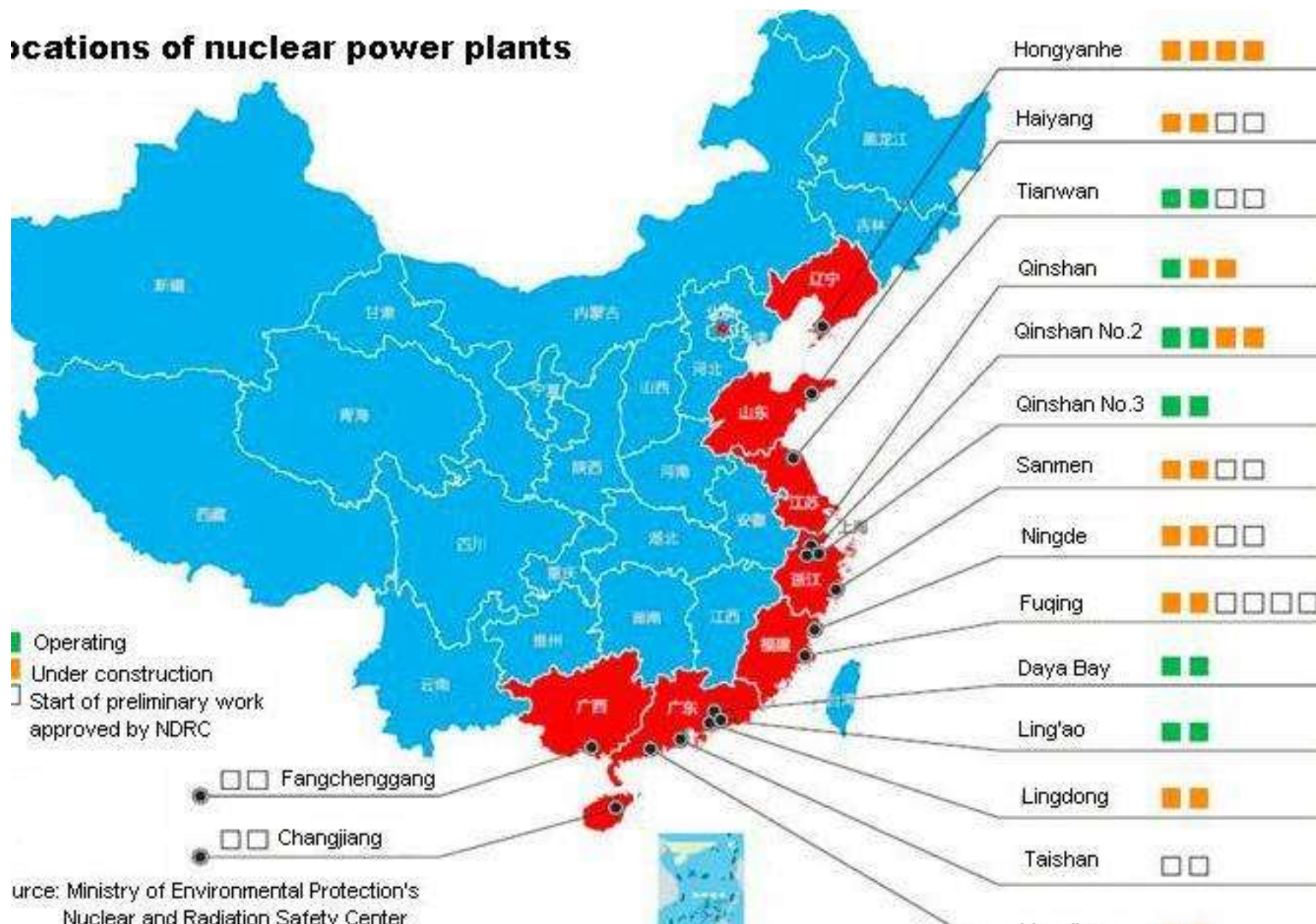
CO₂ Emission

- Overtook US in 2010
- 9.3 billion tonnes by 2030 (52 % world projected total)
- 2014 – Effort to reduce emissions, 40-45% from 2005 level by 2020
- COP21 – 60-65% by 2030
- Increase efficiency & renewables
- Vigorous Development of nuclear 120-150 GWe (8-10% of generation)

Reactors

- Operation: 23 in 2014 ; 33 in 2015 (3 more)
- Under Construction: 21 in 2015
- Construction Approval: 6/yr to 10/yr
- 85 GW by 2020, 100 GW by 2025 & 150 by 2030
- Self-sufficient in design & construction
- Go Global – Hualong One, CAP1000 & HTR

Locations of nuclear power plants



DOC-ITA Market Category

- New Emerging Market
- Existing Market & Expanding Fleet
- Mature & Maintaining Fleet
- Mature Market & Decommissioning

China falls between 2&3

China – Ranked top in Civil Nuclear
Market for US Export in 2014-2015

Major Players

- China National Nuclear Corp (CNNC)
 - China General Nuclear Power Corp (CGN)
 - State Power Investment Corp (SPIC)
- Focus on AP1000 – CAP1400

Technologies

- Hualong One
- AP1000
- CAP1400
- HTR
- AC100S & ACPR50S

13th 5 year Plan (2016-2010)

Continue to increase energy efficiency and to increase use of non-fossil energy (30 GW nuclear)

- * Complete construction of AP1000s
- Construction of Hualong One (Fuging #5 & #6)
- Construction of demo CAP1400
- Construction of phase III Tianwan Project #5 & #6 - ACPR1000
- Inland plants to be carried out
- Floating nuclear plants - SMR

Global Markets & Export

- NDRC - Determined to export nuclear Technology, global market focus on CAP1400, Hualong One & 600 MW HTR. AP1000?
- Heavy manufacturing - annual 8000MW
- Asia, Argentina, Brazil, Romania, Turkey, Egypt, South Africa & UK
- CPI & SNPTC merger

Conclusions

- China will continue nuclear vigorously & explore exporting
- Imported technologies & standards - help safety regulations & domestic technologies
- Localization successful - major equipment - ASME "N" stamps. QA & NEQ
- Partnership with SOE for access to new market
- Plant life extension
- Back end fuel cycle

Thank you!

Q & A