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CHP Development in Shanghai

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Status of CHP in Shanghai

- Capacity of CHP is over 2000 MW, which accounts for 18% of total capacity of local power plants in Shanghai
- Most of CHP Style is Coal fired boiler+Steam turbine, now one 600 MW combined cycle CHP plant is building
- Big-scale CHP mate with district heating
- A few of buildings begin to adopt gas-fired small-scale CHP (decentralized energy), the capacity of total gas-fired small-scale CHP is just over 5000 KW



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The chance we face to develop the CHP

- Shortage of power in summer.

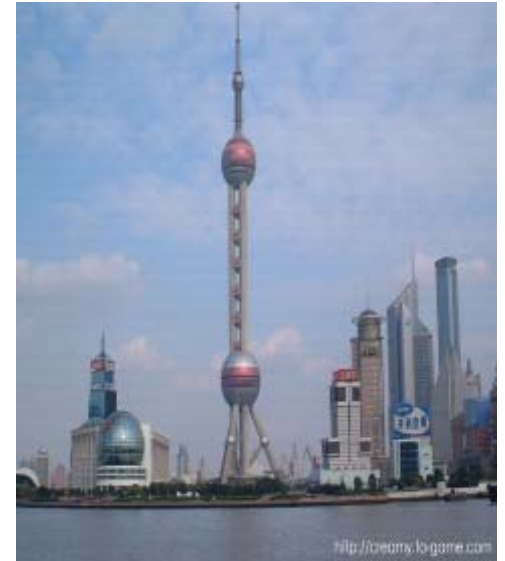
The Shortage is about 2000MW during peak period this summer

- Optimal utilization of natural gas from the west China.

The natural gas consumption will over 2 billion m³ this year.

Value of expanding use of CHP in Shanghai

- Improve security and reliability of power supply
- Consumer, power and gas utility multi-win
- Promote the energy efficiency and reduce the emission



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Barriers for CHP Developing in Shanghai

- Lack of competitive ability of gas-fired CHP in selling power and heat
- It consume time and money for small-scale self-used CHP to sign the contract of access to the grid, buying and selling electricity etc.
- The environmental benefits of CHP can not become the economic benefits.
- Lack of experience to advanced CHP technology design, operation and management
- Gas turbine depend on oversea countries

One combined cycle CHP in Shanghai Chemical Industry Park

Invested by JV of Shanghai Municipal Electric Power Co.,Ltd(36%), Shenergy Co., Ltd(30%), SCIPDC (4%), and Singapore SembCorp Utilites (30%) with the capital of RMB ¥2, 81 billion.

- Power capacity: 300MW × 2
- steam output: 660t/h
- No.1 set has run this summer
- No. 2 set will run by the end of 2005



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Definition of Decentralized Energy (DE) in Shanghai

- **Natural gas-fired**
- **Power capacity is between 6MW and 0.2MW**
- **Energy efficiency >70%**
- **Ratio of heat to power >55%**

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Incentive policy focus on DE in Shanghai

Because:

- Developer of small-scale CHP is not strong enough to negotiate the interconnection with power grid utility.
- Decentralized energy has good economic benefits and is environment friendly.

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Milestones of DE in Shanghai

- 1995, First DE run in a hospital
- 2003, The feasibility and policy study of DE in Shanghai finished
- 2004, a incentive policy is issued by Shanghai Municipal Government
- 2005, “Technical Specification for Decentralized Energy System Engineering” is issued by Shanghai Municipal Construction Commission

DE in Shanghai Tindian Hotel



- Run on 2005
- Gas engine (MDE)
- Power capacity: 357kw
- Heat capacity: 529kw



DE in Shanghai Jinqiao Sports Center

- Run on 2005
- Gas Engine
(Cummins)
- Power Capacity: 315kw
- Heat Capacity: 464kw





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DE in Shanghai Pudong International Airport



- Run On 2000
- Gas Turbine (Solar)
- Power capacity:
4000KW
- Heat output: 11t/h

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Main items of incentive policy in Shanghai

- Capacity Subsidy: 700RMB/KW
- Give favorite gas price
- Free of custom tax
- The rule of interconnection is relative simple if the DE is certified and do not input the electricity to the public grid

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Thanks !

For more information you can contact me:

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