



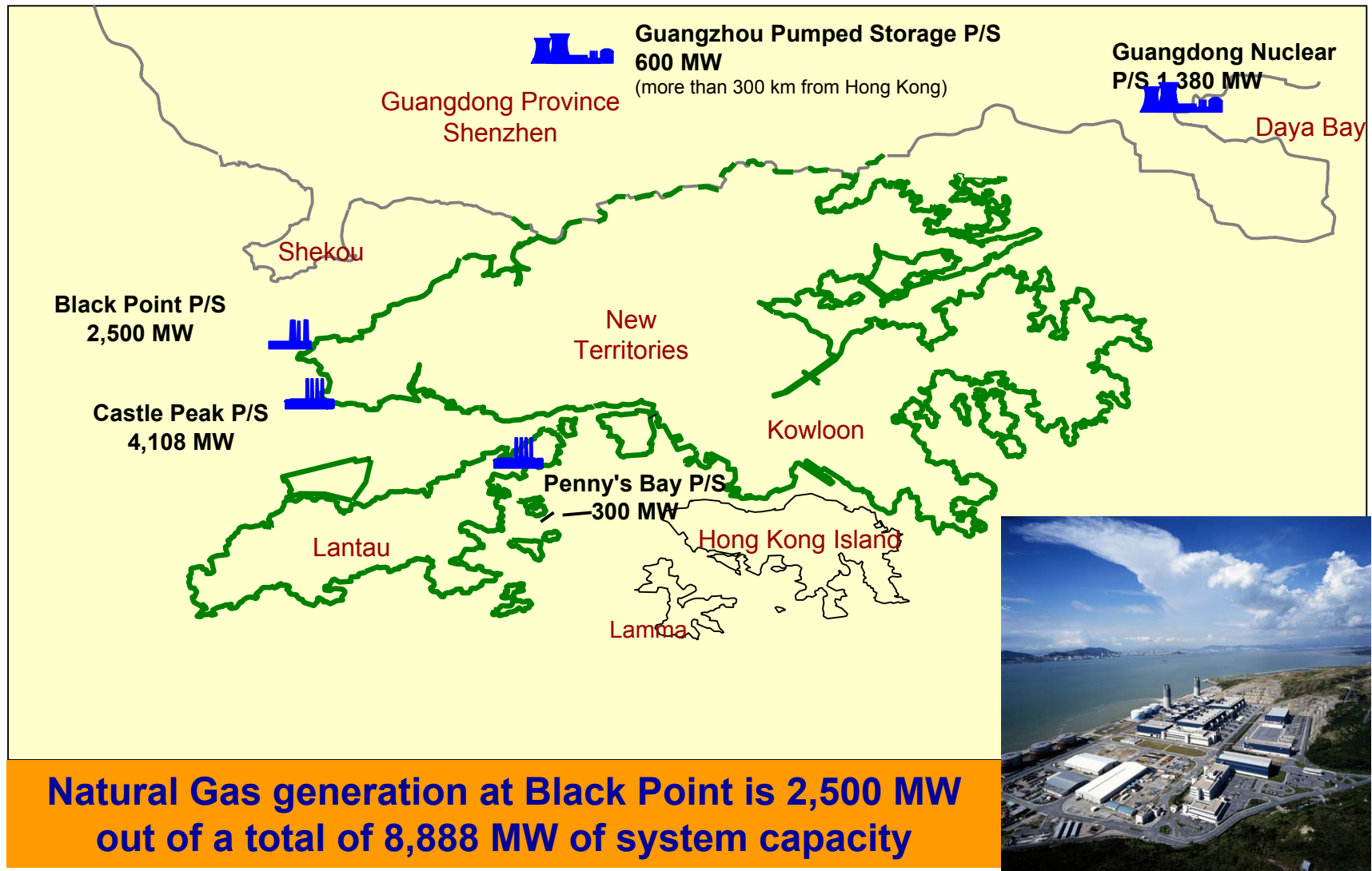
The Challenges of Bringing LNG to Hong Kong

**1 September 2006
APGAS Forum
Perth, Australia**

**Edward Chiu
CLP Power Hong Kong Ltd**



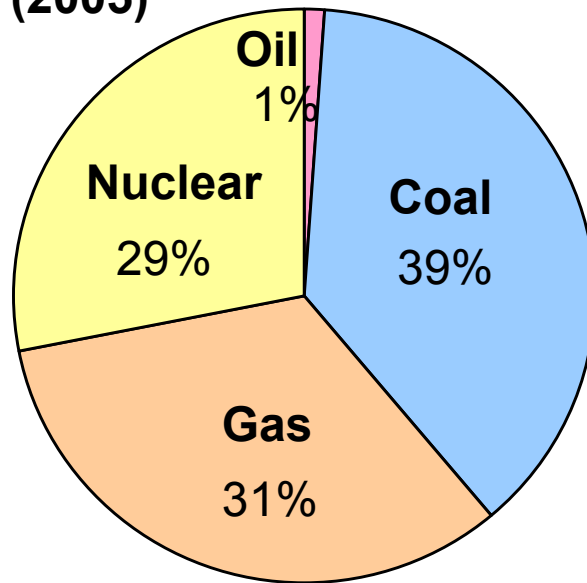
Overview of Electricity Supply






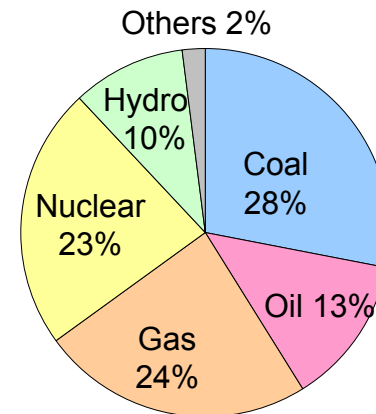
Fuel Diversification is the Prevailing Practice

**CLP
(2005)**

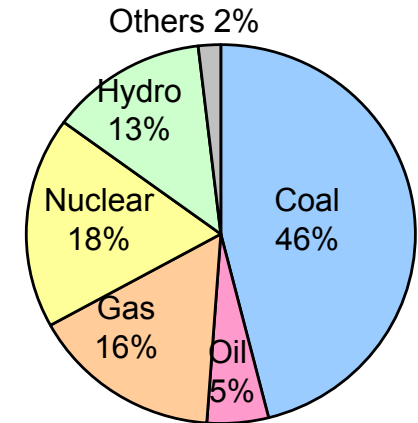


 A balanced fuel mix is important for supply reliability and tariff management

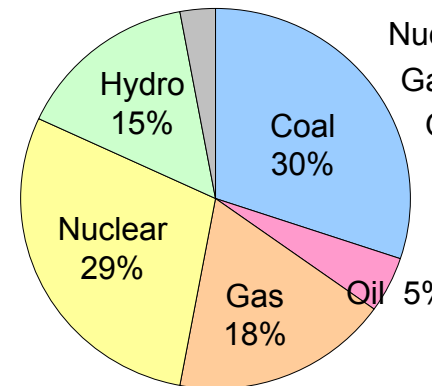
Japan *



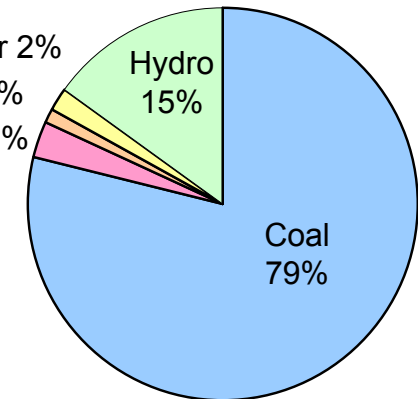
North America *



Europe *



Mainland China *



* Percentages quoted for fuel combination are 2003 figures
Source: International Energy Agency



The Need to Refuel Black Point

- ❑ In 1996 CAPCO started taking gas from Yacheng field in South China Sea; original volume of 273 Gbtu/d for a 20-year contract period
- ❑ BPPS has helped CLP's emissions to decline since 1996 despite increasing electricity demand
- ❑ The existing gas supply to Black Point, the Yacheng gas field, is expected to deplete early next decade
- ❑ A secure, reliable and robust long-term replacement is needed to refuel Black Point, a highly efficient CCGT plant providing 1/4 of Hong Kong's electricity

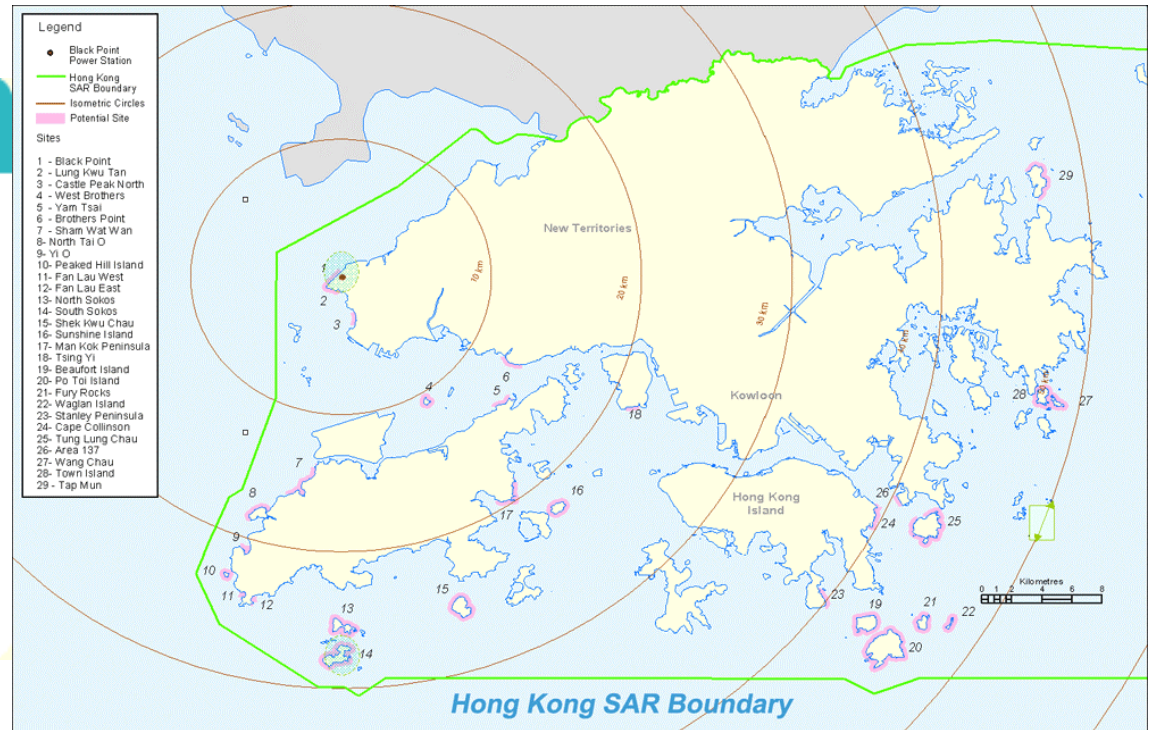
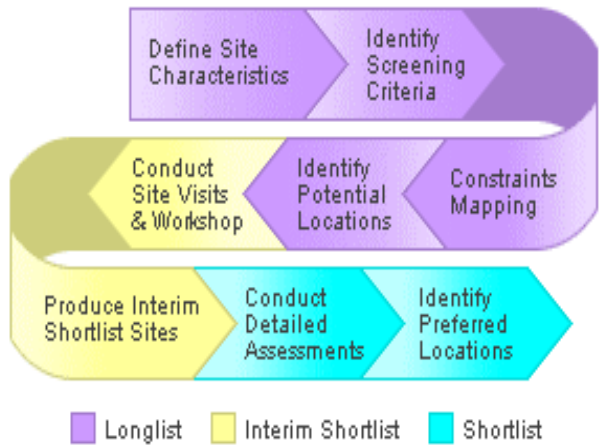


A timely replacement gas supply is critical to maintaining electricity supply reliability, keeping emissions down to meet tightening emissions reduction targets



Site Selection Process

Extensive site selection process



Rigorous and transparent screening process

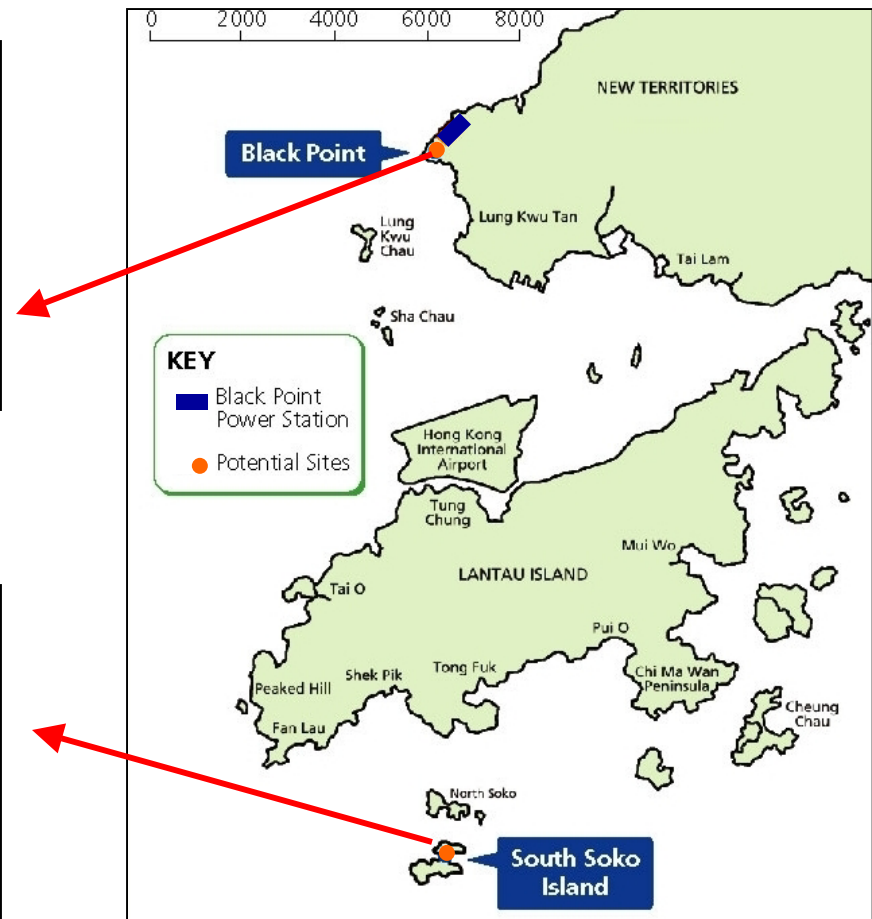


Two Potential Sites

Black Point



South Soko Island





Receiving Terminal Development

- ❏ Extensive studies commenced in 2003:
 - Engineering design
 - Seabed surveys
 - Soil tests
 - Environmental studies
 - Risk assessments
- ❏ Gov't policy announced; maximize gas usage for power generation
- ❏ EIA report to be submitted to government by 3Q2006
- ❏ Workshops and meetings with relevant stakeholders held
- ❏ LNG supply negotiations advancing



Project progressing on schedule targeting for all necessary approvals by early 2007 to ensure LNG supply in 2011



Government Approval Processes

Key approvals required in Hong Kong

- 📄 Economic Approval
- 📄 Environmental Approval
- 📄 Planning and Lands Approvals
 - Zoning changes; Land Acquisition; Seabed Reclamation Approval

Challenges?

- 📄 Statutory processes are clear with timetables set for Gov't action, public consultation periods included but need to be well managed.
- 📄 Education process
 - all stakeholders need to be engaged early
 - permitting authorities are dealing with something new
- 📄 Gov't relies on project proponent to bring the Community along
 - resources need to be dedicated to gain community support
- 📄 Approval processes need to be progressed concurrently – coordination through inter departmental Environmental Study Management Group (ESMG)

Timely Government Approval is Critical



Successful Terminal Development

Suppliers and their lenders need to see :

- ❑ Certainty of receiving terminal (e.g. EIA / regulatory approvals, land etc.)
- ❑ Market/demand certainty over contract term
- ❑ Ability to pay over contract term
- ❑ Stable political and regulatory regime



Project Proponents require :

- ❑ Clear, comprehensive, efficient approval process
- ❑ Approval process with clear timeline, including clear provisions for appeal and final resolutions
- ❑ Approval process which adopts accepted industry engineering and safety standards



Approval Delays and Uncertainties

Factors that can Contribute to Delays and Uncertainties

- ❑ Lack of clear high level government support
- ❑ Multiple governmental department reviews without close coordination
- ❑ Addition of newly required assessments/studies during the approval process
- ❑ Sequential review vs. concurrent review process

Potential Consequences

- ❑ Uncertainty in fuel supply planning – Impacting fuel supply security
- ❑ Security of electricity supply concerns
- ❑ Environmental benefits of gas generation delayed
- ❑ Inefficient use/allocation of engineering resources
- ❑ Impacting project credibility in attracting competitive supply terms



The Challenges for All – Industry and Government

Conclusions

- ❑ A concise, well planned, government approval process key to timely implementation of LNG receiving terminal projects
- ❑ Approval delays and uncertainties can having wide ranging impacts, from supply security, environmental performances, to economic and commercial implications

Recommendations

- ❑ Clear energy policy determining the long term role of natural gas in the country – with environmental, cost, and supply security considerations
- ❑ Appointment of single lead government agency oversight and facilitation, with a clear, streamlined approval process
- ❑ Early establishment of accepted industry engineering and safety standards to be applied during the approval process