

Renewable Projects Portal for CLP Group

for OSIsoft European User Group Meeting in Dusseldorf -
20 January 2011

Frank Ni, Information Systems Manager – Asia,
CLP Group

Agenda

- 1. About CLP Group & business environment**
 - 2. Why Renewable Focus ?**
 - 3. Challenges on Wind Projects**
 - 4. How – Wind Portal**
 - 5. Demonstration**
 - 6. Project Highlights**
- Q & A**

1. About CLP Group

Largest investor-owned power businesses in Asia Pacific

Revenues: US\$6.5B (2009)

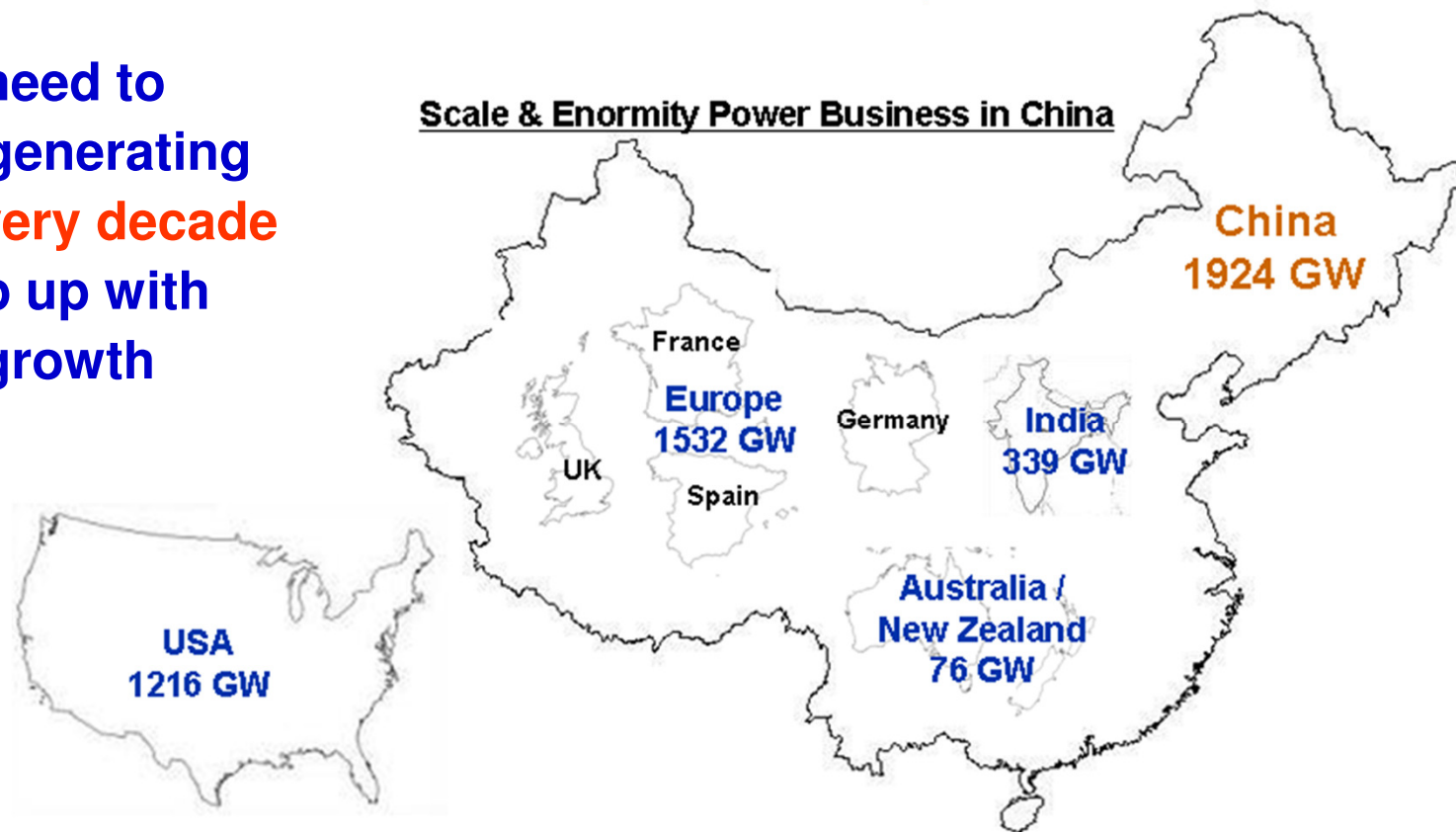
Staff Approx: 9,000

Generating Capacity: Over 17,000MW



Key Facts on Asian Energy Utility Environment (1/3)

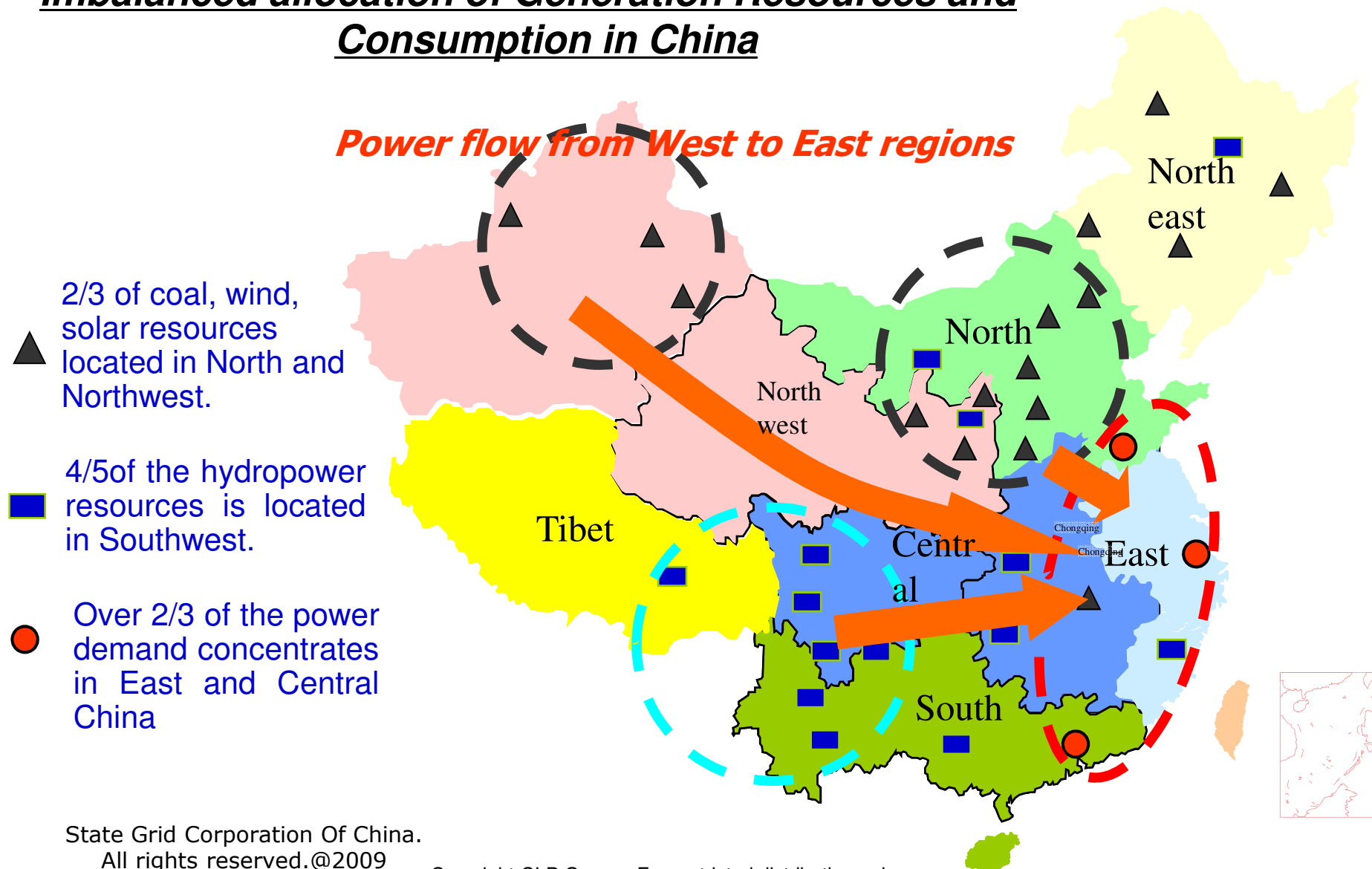
- China will have the world's largest generating capacity by 2035 #
- China will increase 15-fold its nuclear capacity by 2030
(9GW in 2010 – 60GW in 2020 – 150GW in 2030)
- China will need to **double** its generating capacity **every decade** just to keep up with economic growth



Source: US Energy Information Administration / International Energy Outlook 2010

Key Facts on Asian Energy Utility Environment (2/3)

Imbalanced allocation of Generation Resources and Consumption in China



Key Facts on Asian Energy Utility Environment (3/3)

China Renewable Focuses :

▪ Wind Power

- Potential to be world largest producer of wind energy
- Significant growth in capacity from 20GW in 2010 to 150GW by 2020
- Increasing production of small-scale wind turbines



▪ Hydro Energy

- About 20% of China's current electricity supply
- #1 in world, 350GW by 2020
- Target to be self-sufficient



▪ Biomass Energy

- Target 30GW by 2020
- Fuel ethanol increase from 6M tpa in 2010 to 15M tpa by 2020

2. Why Renewable need special focus in CLP ?



Conventional Generation

- ❖ Indoor Equipment
- ❖ Weather independent
- ❖ LOW # of Generators / site

- ❖ Operational support concentrated in fewer locations
- ❖ Diversified Equipment supplier base



Renewable Energy

- ❖ Outdoor Equipment
- ❖ Weather Driven
- ❖ HIGH # of Generators / site

- ❖ Operational support distributed over wide area
- ❖ High technology risk exposures to core OEM

3. Background - Challenges for Wind projects

- ❑ Rapidly developing technologies
- ❑ Fast growing portfolio in CLP
- ❑ Wind is UN-controllable and need to harness **TIMELY**
- ❑ High reliance on OEM vendors
- ❑ Merits for capturing / sharing Wind Projects know-how internally
- ❑ Leveraging common processes & management systems for business performance monitoring
- ❑ Synergy for Solar projects



4. Wind Portal : Key Features

- ❑ **Group / Asset Overviews – Financial & Operations Performance and KPIs accessible on a common, Group hosted, easily accessible platform**
- ❑ **Stakeholders-specific Views in Details / Knowledge Sharing by Geography & Assets**
 - ✓ Financial
 - ✓ Business Development
 - ✓ Asset Management
 - ✓ Trading

Group

Country

Wind Farm

Cluster

Unit



- ❑ **Trending / Comparison and Forecasting of Business Performance**

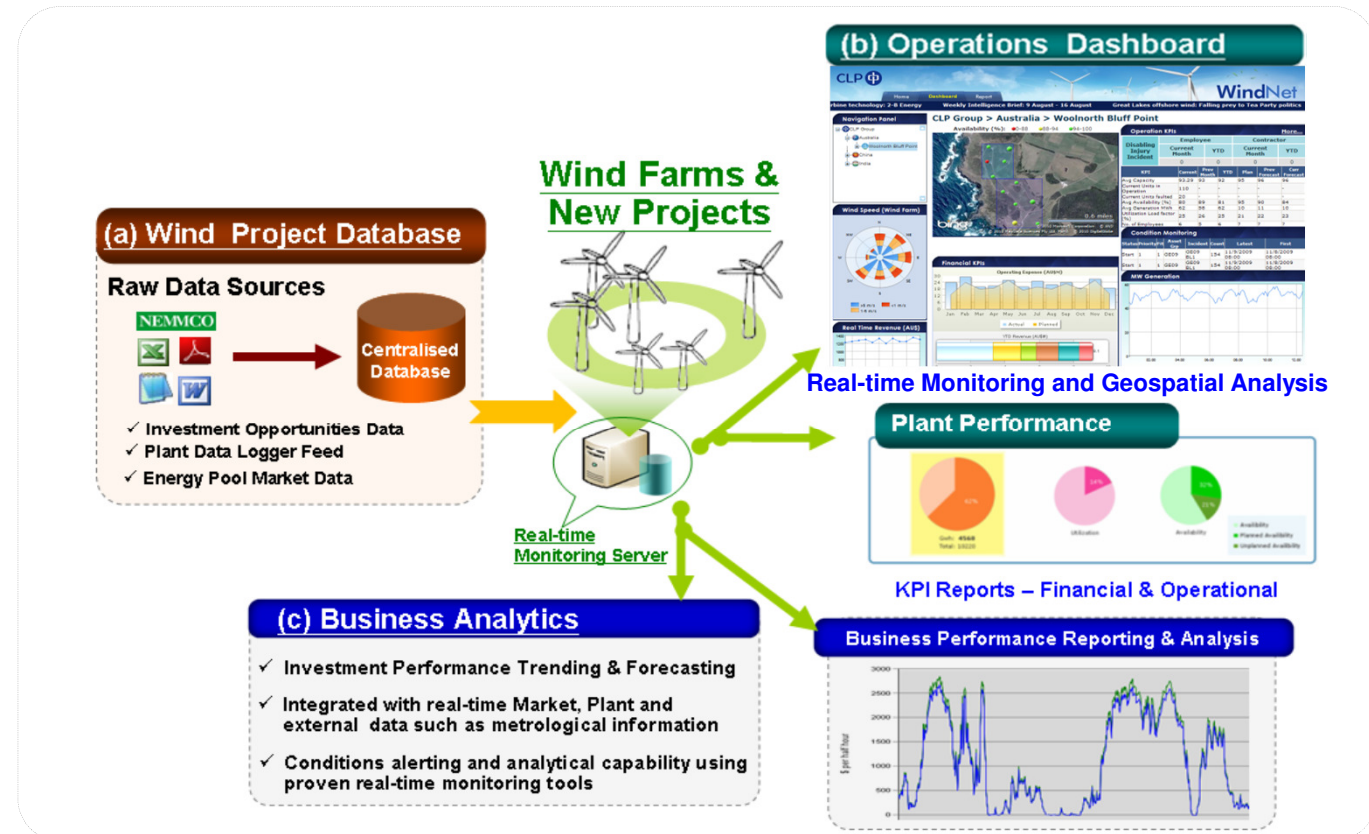
5. Demonstration



6. Project Highlights

Core Platform

Pilot completed in India and China wind-farms



Next Stage

- Further rollout to wind farms
- Asset Management Integration with SAP/ Maximo



Q & A

