Electricity Market and Renewable Energy Diffusion in China

Tian Tang
Flash Talk for EEPR Workshop
3/28/2014
Electricity Generation by Fuel Types in China and US (2011)
Electricity Market Reforms in China

**Before reform:**
- No Market
- Centrally Planned

**1st Phase: Gradually open generation sector**
- local SOE and foreign investors can invest in generation
- Central government set the tariff

**2nd Phase: Market-oriented restructuring**
- Establish “State Power Corporation” (SPC) to replace administrative agency
- SPC’s subsidiaries operate transmission and generation in different provinces
- SDPC regulates the tariff

**3rd Phase: Separation of transmission and distribution**
- SPC is divided into 2 major transmission companies and 5 SOE power generation companies
- Tariff depends on bidding or negotiation
Current Electricity Market Structure

Transmission and Distribution

State Grid Co.

China Southern Grid Co.

Other local grid network

Generation

IPPs: Central SOEs, Local SOEs, Private Generators

North

Northeast

Northwest

Central

East
Mismatch between Energy Supply and Electricity Demand

Challenges to Connecting Renewable Energy to the Grid

• Inadequacy of transmission and distribution network

• Distributed generation does not get approval for connection
National Grid Plan for 2020

Source: State Grid Corporation of China