

Canadian Oilsands and Sino- Canadian Energy Cooperation

- **1.Outlook of Canadian energy**
- **2.Current situation of Sino-Canadian energy cooperation**
- **3.Trend of Canadian energy policy**
- **4.Probability and necessity of bilateral energy cooperation**

1.Outlook of Canadian energy

- **Reserve and its constitution**
- **Production and technology**
- **Import and export**

Reserve and its constitution

- Canada's area is 9,900,000 , Alberta's area is 660,000
- Alberta:80% of reserves in Canada
- Oilsands:173.2 billion barrels, conventional oil: 1.6 billion barrels (2006).
- Saudi Arabia: 264.3 billion barrels
- Former Soviet Union: 128 billion
- R/P is 144 years (Saudi Arabia:90 years)

Production and technology

- **Production:**

- 3.31 million barrels per day(bpd):2007
- 62% of product from oilsands
- Alberta takes 68%, Saskatchewan gets 20%.
- China: 3.74 bpd; the USA: 6.88 bpd
- 3.6 million bpd: 2030

- **Technology:**

- Open Pit Mine :less than 75 meters , 10%

- In Situ/Cyclic Steam Stimulation(CSS) :75-200 meters , 20-25% oil

- Steam Assisted Gravity

- Drainage(SAGD) :deeper than 200 meters , 50-70% oil in place recovery

Import and export

- Refining capability :1.36 million , 41% of production
- 4 refineries in Alberta 437,000 bpd
- Refinery:Ontario and Quebec 919,600bpd
- EIA:99% of 59%to the USA
- East: import from Norway, Algeria(crude)
from US(gasoline, diesel)

2. Current situation of Sino-Canadian energy cooperation

- Pitiful situation
- CNPC :260 square acres to explore
- Sinopec :40% share of Syneco's Northern Lights Project ; 100,000 bpd in 2010
- CNOOC :Christina Lake Project ,with EnCana's subsidiary MEG Energy

- Two purchase:
- PK:Petro-Kazakstan , USD4.18 billion,
October 26,2005 ,CNPC
- TYK:Tanganyika Oil C\$2.07 billion,
Sept. 26, 2008,Sinopec

3. Trend of Canadian energy policy

- Why to shift policy?
- Imbalance of export and import
- Heavy dependence on the States
- Dirty oil

- The policy to respond?

- (1) Diversification of export: pipeline to the west coast, Enbridge Gateway pipeline ; equity export guarantee

- (2) Increase of refining capability : “bitumen in kind” , 15% of crude oil(SCO) in Alberta

4. Probability and necessity of bilateral energy cooperation

- a win-win game
- long term export: the sole OECD country
- Attraction for investment: law system, social safety, transportation system, educated labor, acceptable taxation
- Most energy companies in it, Shell makes it a focus of future development, 40 billion, 150,000 bpd → → 1,000,000 bpd

Attraction to China

- structure of primary energy consumption(SPEC) :coal -69.7%
- Increase import: 50% (2007)to 75%(2050)
- indispensable area for diversification of supply
- Pay attention to China market
- Chinese companies hesitate to step in?

Structure of Primary Energy Consumption

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	Oil	Natural Gas	Coal	Nuclear Energy	Hydro-electricity	Total
China	21.1%	3.0%	69.7%	0.7%	5.5%	100.0%
World	35.8%	23.7%	28.4%	5.8%	6.3%	100.0%