

Canadian Nuclear Association

Competitiveness in the Marketplace

IPPs / Cogeneration

Dynamic New Players / Emerging
Markets

June 10, 1997

Overview of discussion

- Profile IPPs / Cogeneration developers
- Describe emerging market / market trends
- Describe the “fit” between the two

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Independent Power Producers

■ What we are

- utility sister companies or subsidiaries
- divisions of industrial companies
- opportunists
- innovators
- entrepreneurs
- business people

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Independent Power Producers

■ What we are not

- regulated
- slow to react
- undercapitalized
- indifferent to growth
- ambivalent to adjacent markets

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Cogeneration Developers

■ Profile

- joined at the hip with industrial customers
- sensitive to customer service
 - » L.D.s
- sensitive to market power prices
- sensitive to alternative costs
- interested in flexibility / constrained by obligations

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Who are IPPs / Cogenerators

■ 1995 est. over 7000MW of capacity

- 491,737 Gwh Utility / 43,133 Gwh NUG

■ 1905 - CNP

■ IPP examples

- 1650 MW purchase power in Ontario
 - » over 500 MW of other IPP / Cogen capacity
- Alcan
- Pulp and Paper companies

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Typical IPP / Cogenerators

- Supply to utility
- Load displacement
- Load displacement / surplus sales
- Merchant plant
 - betting on “spot markets”
 - some long term financial hedges
- Thermal supply to “hosts”
 - other services

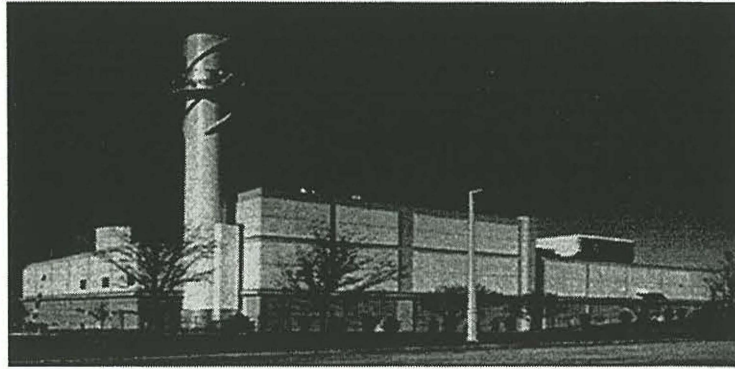
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IPP / Cogeneration opportunities

- Acceptable risk profile
 - prospects to sell power
 - » contract / pool
 - credit worthiness of power purchaser
 - credit worthiness of thermal purchaser
 - acceptable fuel supplier / transporter
- Competitive
 - against other IPPs / utility options

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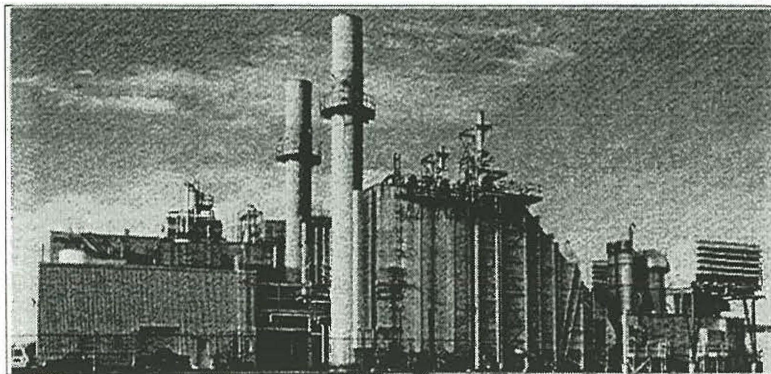
What do we look like?



Ottawa Health Sciences Centre
Cogeneration Plant

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What do we look like?



Mississauga Cogeneration Plant

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Emerging markets / trends

- Move towards deregulation / restructuring
- Trend towards customer choice
- Unbundling of services
 - transmission / distribution / generation
- Dissatisfaction with the status quo
- Customers need to compete globally
- Unusual market anomalies
 - Alberta - low winter / high summer

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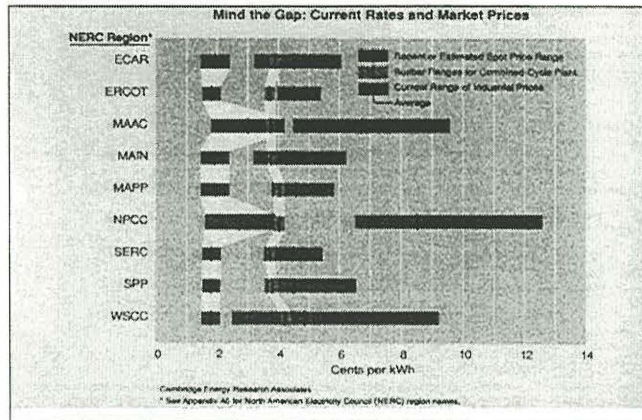
US Trends

- NUG Capacity
 - 1985 - 22,900 MW / 1995 - 75,013
- Power marketing transactions (Gwhs)
 - 1993: sales - 1, purchases - 2
 - 1994: sales - 6652, purchases - 6791
 - 1995: sales - 28116, purchases - 28532
- States considering retail wheeling
 - 1985 - 0
 - 1995 - 38

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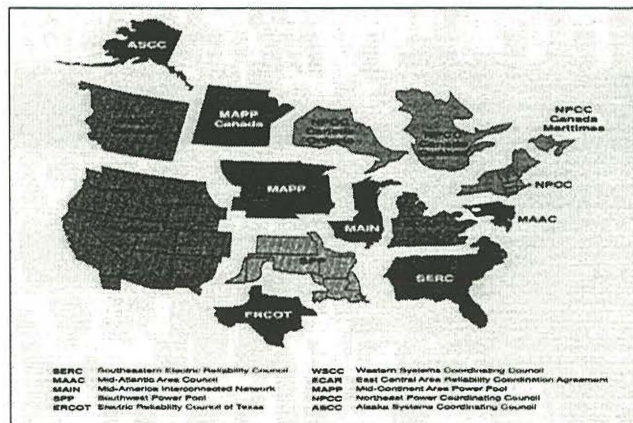
Info: Cambridge Energy Research Institute: 96/97 Trends

Current rates and market prices



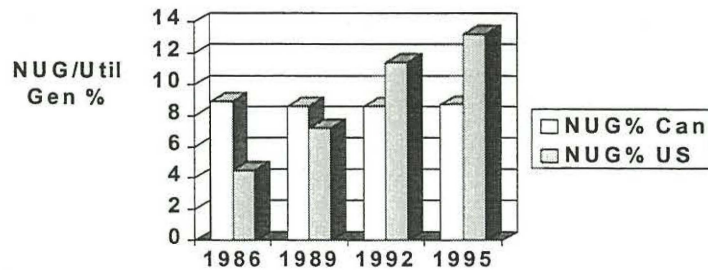
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NERC Regions



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IPP Growth: US / Canada



Inf. Electric Power Trends, Cambridge Research Institute - 96/97

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What is Deregulation / Market Price?

■ Deregulation

- “the act or process of removing restrictions and regulations”
- let the market decide price

■ Market price

- competitive power price + wheeling

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Why do customers want choice?

- Customers compete in global markets
 - other regions have “market priced power”
- Choice
 - leads to competition
- Competition
 - “sharper pencil” - forces innovation
- Innovation
 - better ways / lower prices

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Typical Canadian Status Quo

- Major Provincial Utility
- Limited access to competition
- Rules designed to protect existing players
 - EEMA / Ontario “regulator”
- Limited or no US access
- Questionable regulatory objectivity
- Fully bundled service
 - “take it or leave it”

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Canadian Trends

■ Ontario

- Macdonald recommendations on the table
- government evaluating, June announcement
- regulatory / competition / privatization

■ Alberta

- visible pool in place
- limited market liquidity
- more steps to come

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Canadian Trends

■ British Columbia

- ?

■ Maritimes

- high prices will drive change
- Sable Island gas

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Canadian Trends

■ Quebec

- selling externally
- transmission access
- low industrial rates

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General Canadian Trends

■ Low priced Provinces

- more open to “competition”
- already competitive

■ High priced Provinces

- protect status quo
- uncompetitive prices
- customers pushing for change

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Why will IPPs be successful?

- Already working in “real world”
 - paying taxes
 - construction within market horizon
 - large risks - manageable investment
- Quick to react
- Commercial offers
- Upgrades with known technology

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Conclusions

- Market trends and IPP characteristics will lead to IPPs being:
 - greater percentage of installed capacity
 - dispatched ahead of utility fossil
 - more likely industrial option
 - more / enhanced partnerships
 - » utilities
 - » fuel suppliers
 - » industrials

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