



# **The Untapped Resource**

*Michael Burke, P.Eng*

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*Fuel gas conservation - the efficiency resource*

*Panel presentation, January 16, 2007*

*Kananaskis, Alberta*



Natural Resources  
Canada

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Canada

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# The untapped resource of industry's energy waste is huge

- Independent studies of the Canadian industry sector estimate a realistic achievable potential of 20% reduction in energy consumption
- There are several industries where savings are in the order of 30% or more
- The upstream oil and gas sector has opportunities for energy savings in the order of 10-50%





# Reducing Energy Waste is a Win-Win Scenario

- Improved bottom line and competitiveness
- Better use of Canada's finite resources
- Improved environmental performance





# Barriers to EE action are well documented

- Access to capital
- Perceived low return on Investment
- Insufficient human resources
- Lack of knowledge of potential
- Poor understanding of opportunities
- Lack of confidence in outcomes
- EE a low corporate priority





# What tools and services are available to tap into the waste energy resource?

- Canadian Industry Program for Energy Conservation (CIPEC)
- Energy Audit Incentive
- Dollars to \$ense Energy Management Workshops
- Class 43.1/.2 accelerated capital cost allowances
- R&D
- Others





# Dollars to \$ense Workshops

- **Spot the Energy Savings Opportunities**
  - Identify and capitalize on immediate savings opportunities through practical exercises and hands-on demonstrations.
- **Monitoring and Tracking**
  - Receive a complimentary CD-ROM of OEE's CEETrak software and learn to collect relevant data; create an energy consumption baseline; analyze energy consumption; assess your operation to pinpoint anomalies and much more.
- **Energy Management Planning**
  - Learn the fundamentals of developing, implementing and benefiting from a comprehensive energy management plan.
- **Financing Workshop**

Developed and regularly being offered for the first time this year

***1/3 Discount for Industrial Energy Innovators***



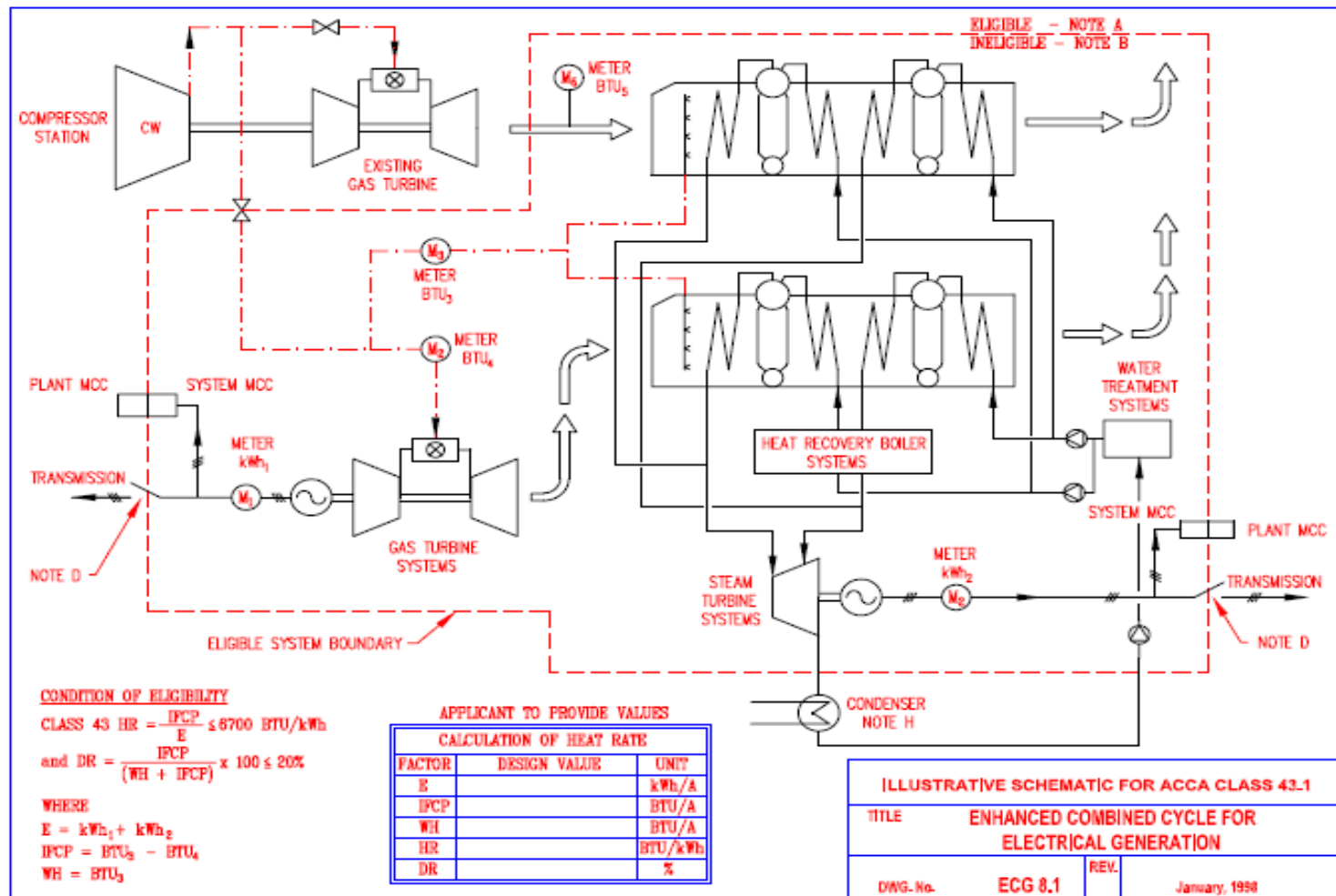


# Categories of Systems in 43.1

- 1) Cogeneration and specified waste-fuelled electrical generation
- 2) Active solar
- 3) Small-scale hydroelectric
- 4) Heat recovery
- 5) Wind energy conversion
- 6) Photovoltaic electrical generation
- 7) Geothermal electrical generation
- 8) Specified-waste fuelled heat production
- 9) Other qualifying systems



# Schematic of Typical Class 43.1 Qualifying Cogeneration System: enhanced combined cycle for electrical generation







# CETC - Devon

The CANMET Energy Technology Centre (CETC) - Devon is the federal government's primary research group for the development of hydrocarbon supply technologies and related environmental technologies, with an emphasis on oil sands and heavy oil.

It is comprised of two S&T groups: Advanced Separation Technologies and the National Centre for upgrading Technology, delivering a range of S&T programs consistent with energy efficiency and sustainable development.





# CETC - Ottawa

## R&D – International Flare Consortium

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### Objectives:

- Provide emission factors for upstream and downstream flares:
  - incorporating wind speed, fuel composition and flow, steam flow.
  - flaring natural gas, ethylene, propylene, hydrogen, propane, etc.
  - emissions of GHGs, HRVOCs, BTEX, PAHs in particulates.
- Set Best Practices for flares.

### Flare Test Facility:

- Single pass wind-tunnel, unique in world
- Previous work on solution gas flares – efficiency, tip design.

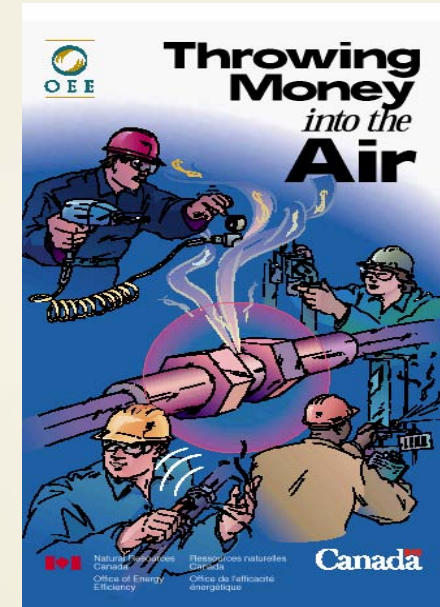
**Members:** ExxonMobil, BP, Total, Chevron, Saudi Aramco, NovaCHEM, John Zink.





# Other Tools & Services

- **Technical Guidebooks, newsletters**
  - Energy-Efficiency Motor Systems
  - Boilers & Heaters
  - Heads Up CIPEC electronic newsletter
- **Employee Awareness Programs**
- **FleetSmart Program**
- **Personalized Attention**
- **Up-to-date information on the latest products and services for energy efficiency offered by Natural Resources Canada**





# Do the tool and services get results?

CIPEC sectors make up over 98 percent of Canadian industry. By adopting better energy management practices since 1990, these sectors saved approximately \$3.1 billion in energy costs and avoided 29.5 megatonnes of GHG emissions in 2004.

- 2006 CIPEC Annual Report





# Where do we go from here?

- NRCan will continue to work with industry to help reduce energy waste and improve environmental performance





# THANK YOU FOR YOUR ATTENTION !

To follow up on these opportunities, contact me at:

Industrial Programs Division

Office of Energy Efficiency

Natural Resources Canada

580 Booth Street (15D7)

Ottawa, Ontario K1A 0E4

tel: 613 996-6872      e mail: [mburke@nrcan.gc.ca](mailto:mburke@nrcan.gc.ca)



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