

ONTARIO POWER AUTHORITY

September 3, 2008



The Critical Need for Local Electricity Supply: *A presentation to York Region Planning and Economic Development Committee*

York Region Electricity Supply—Key Themes

Supply Security

NYR is stranded electrically—needs backup supply

Adequate Supply

NYR is growing faster than rest of province—Plan enables growth

Replacing Coal with Cleaner Generation

Enables province to meet GHG and renewable energy targets

Best Technology Choice

Simple-cycle generation—highest value, smallest environmental footprint

OPA Process precedes required final approvals

Process will choose one capable, competitive company that can get the job done

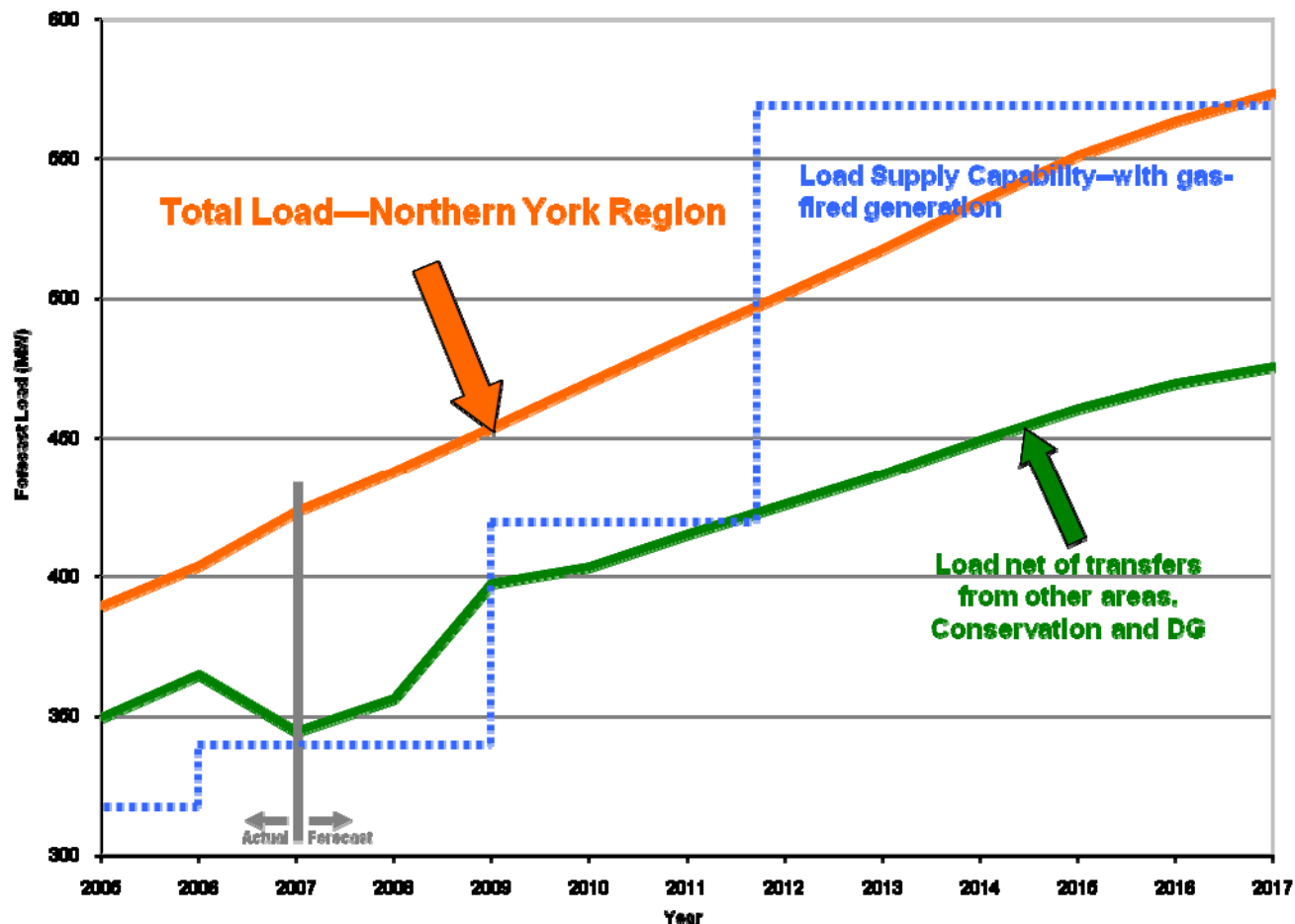
Supply Security

- NYR electricity service does not meet provincial standards set by the province's system operator (IESO)
- In effect, NYR is connected to the rest of the province by one long extension cord.
- With only a single transmission link to NYR's rapidly growing load, any interruption could have serious, widespread and potentially longstanding impacts

***Entire York Region will benefit from strong
NYR infrastructure—total solution
supports regional system standards***

Adequate Supply

- Region growing at twice the provincial rate—as planned
- Lack of adequate supply threatens growth targets
- Gas-fired generation supplements conservation and distributed generation to balance supply



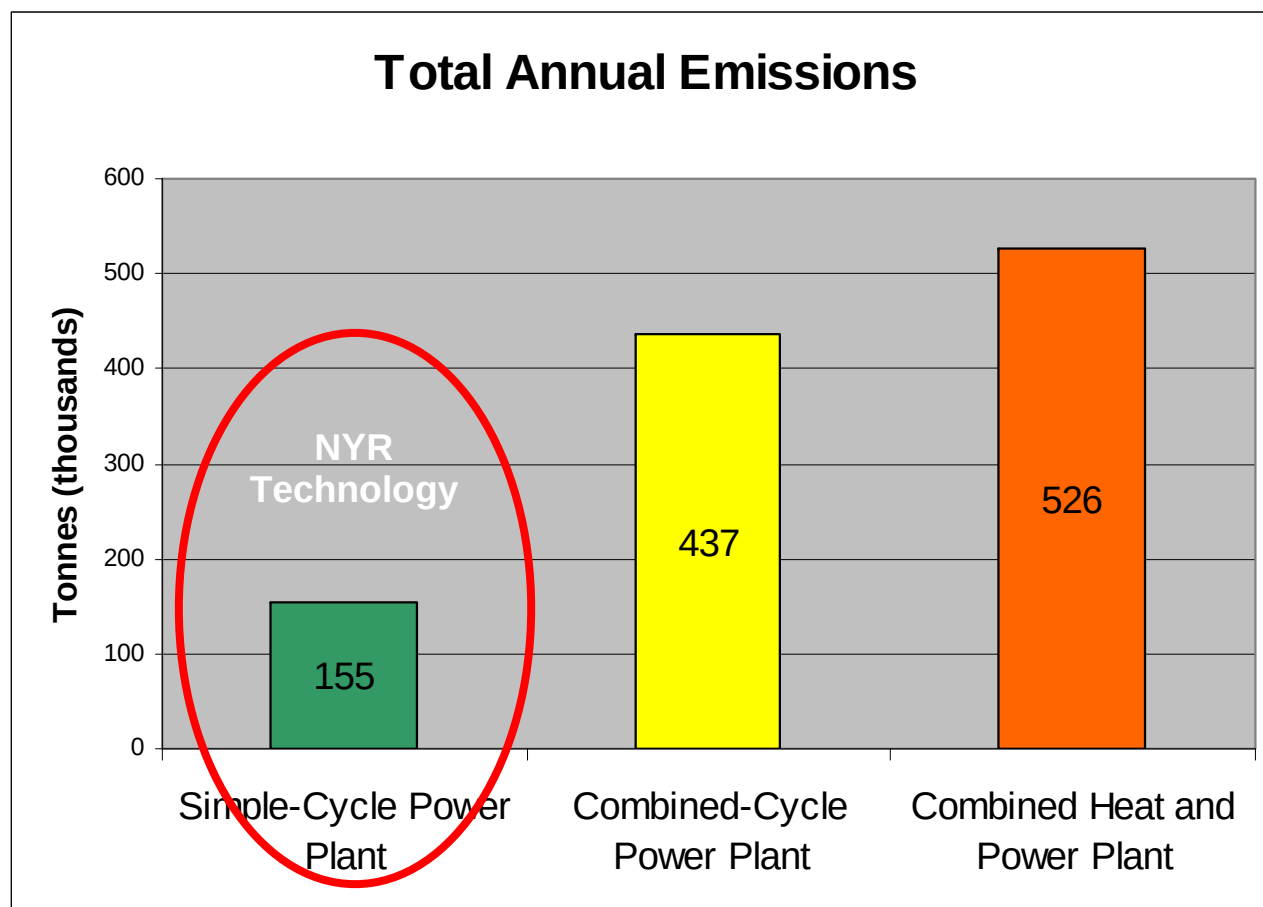
Replacing Coal with Cleaner Generation

- Only gas-fired generation has the flexibility to replace the special duty of coal in Ontario's electricity mix
- The new plant will produce less than half the greenhouse gases, less than a third of the nitrogen oxides and about one per cent of the sulphur dioxide of an average coal-fired plant
- Gas-fired generation also supports Ontario's commitment to incorporate more renewable energy into the province's supply mix
- Gas-fired generation can respond quickly to variations in renewable production; e.g., wind and solar

Best Technology Choice

- The proposed facility will provide the power you need, when it is needed...at a competitive price, with the smallest overall environmental impact

- Enables provincial coal phase out and renewable energy targets



- Part of an integrated plan including other GTA-area gas-fired generators—Toronto, Halton Hills, Brampton, SWGTA, Kitchener-Waterloo-Cambridge-Guelph...

OPA Process precedes required final approvals

What the OPA does:

- Confirm regional power needs
- Reconcile solutions with integrated provincial plans
- Establish technical solutions
- Community consultation
- Competitively select single proponent that brings:
 - Best technical solution
 - Highest value to consumers
 - Greatest likelihood of achieving service

What the OPA does not do:

- Own, build or operate generation or transmission assets
- Influence siting—other than setting technical connection parameters
- Provide any municipal, provincial or environmental approvals for the contracted proponent—***final approvals follow the contract process***

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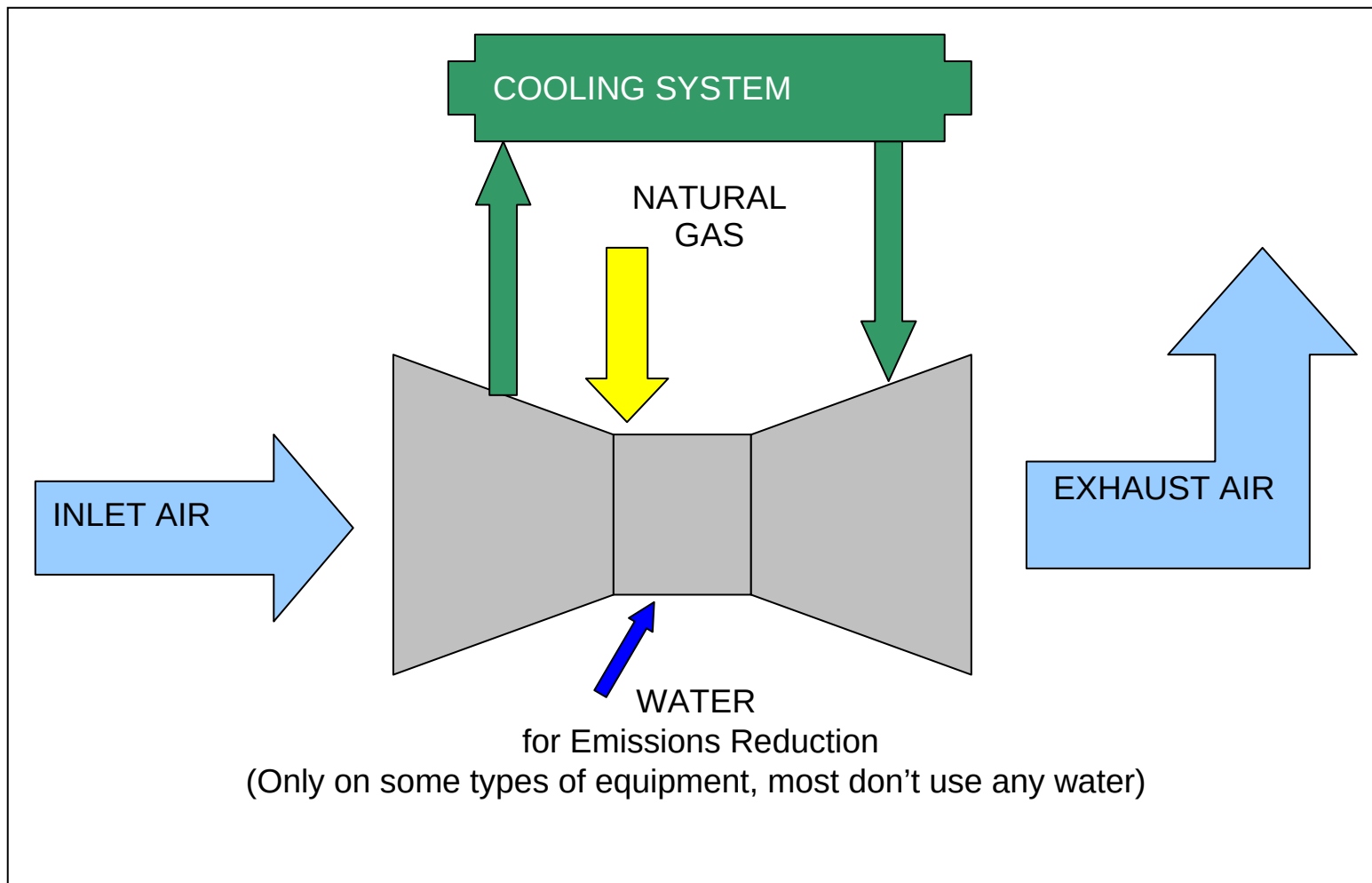
Answers to Concerns

ANSWERS TO SOME POPULAR QUESTIONS

Answers to Concerns – Exhaust Stack Height ?

- Stack height depends on several factors, including:
 - Location of the facility
 - Topography of the land
 - Type of equipment selected, etc.
- When designing a facility, a developer examines all of these and other factors to determine the stack height **to meet the Ministry of the Environment Regulations**
- Stack heights will be in the range of 50 – 200 feet
- Developers will have more specific numbers the further they get with the design of their projects

Answers to Concerns – Water Use ?



Answers to Concerns – Water Use ?

- Steam is NOT used for a peaking facility
- Equipment is Cooled by either:
 - Air-to-Air; or
 - Closed-loop Water-to-Air (similar to a car radiator)
- Water may be used for emissions control (only needed when operating)
 - Most equipment uses no water
 - Equipment that uses water needs less than 13,000 gallons/hour
- When not operating (approx. 90% of the time), a facility requires less than 2,500 gallons/day
 - Equivalent to the water use of 15 homes/day

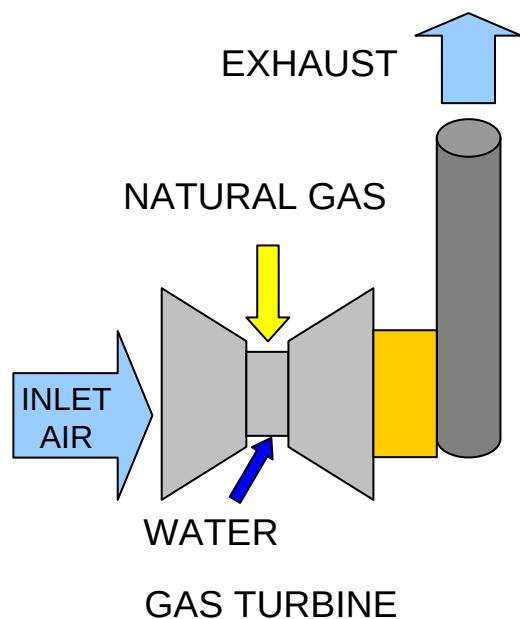
Answers to Concerns – Emissions ?

- The facility will be fuelled by natural gas, one of the cleanest fossil fuels for power generation
- Emissions consist of:
 - Air
 - Carbon Dioxide (CO₂)
 - Carbon Monoxide (CO)
 - Nitrous Oxides (NO_x)

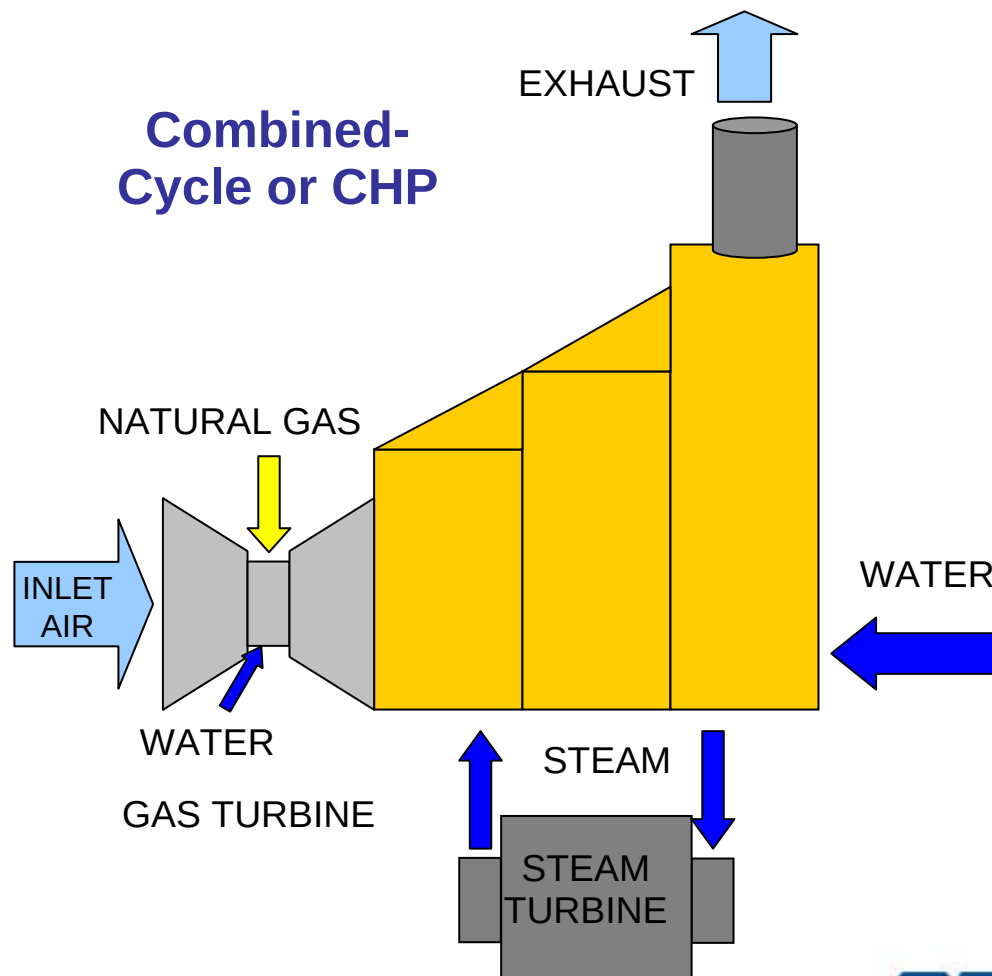
Answers to Concerns – Emissions ?

- Based on the equipment required and to recover the costs of building and operating a facility, the different types of facilities are expected to operate differently:

Simple Cycle



Combined-Cycle or CHP



The Bottom Line for the Region...

- Reliable energy supply – able to meet provincial standards
- Greater ability to attract investment, employment
- Allows for continued growth to meet Official Plan and Places to Grow projections
- Avoids need for alternative large-scale transmission line, which the Region rejected
- State-of-the-art technology, lowest possible emissions
- Turned on only if and when needed