



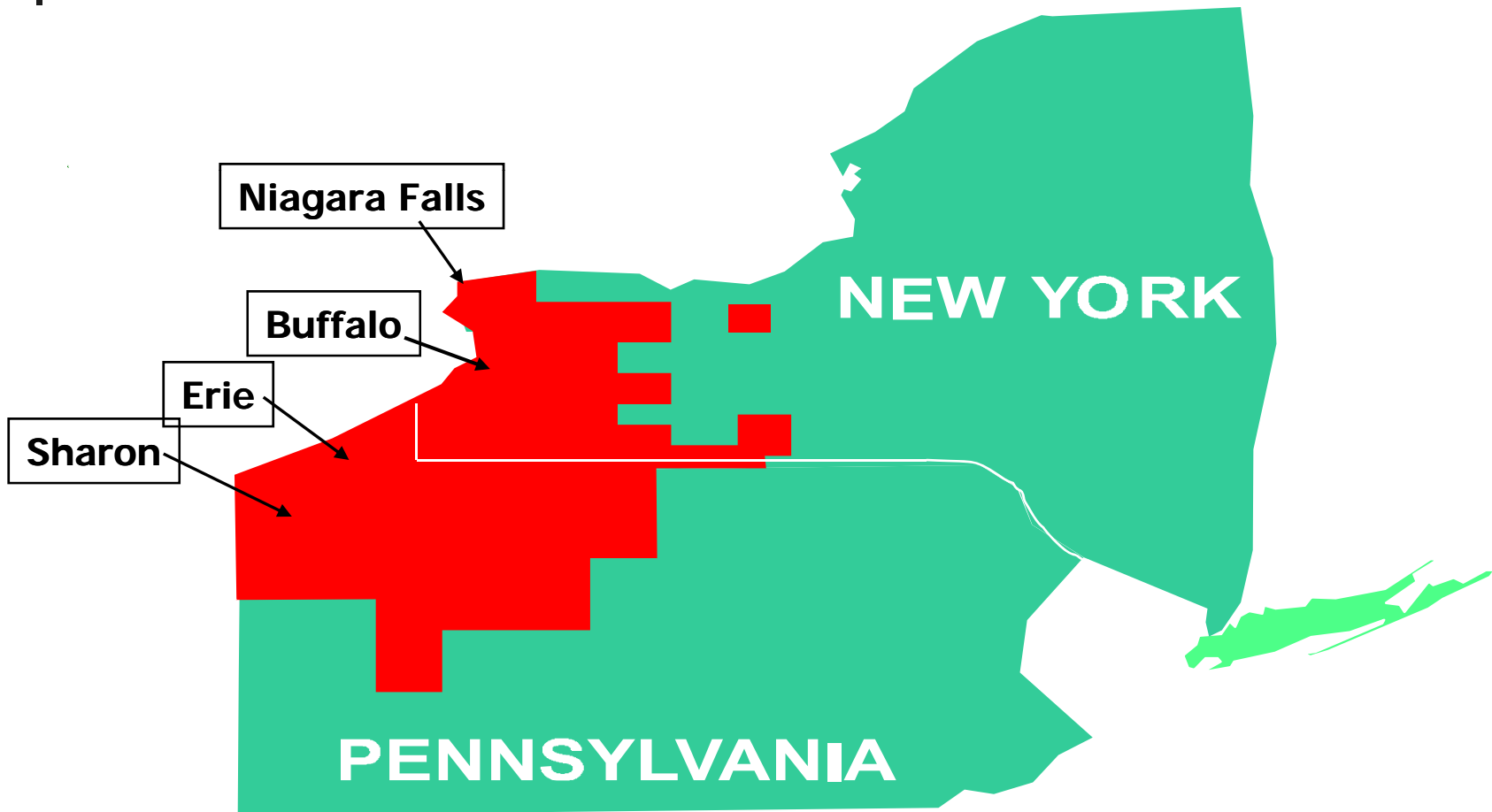
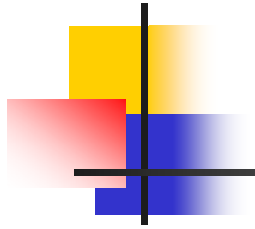
# **NYSERDA Second Biennial Conference** **“CHP in NY State – Two Years Later”**

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**Panel Session 4**  
**Support, Incentives & Financing**  
**June 24, 2004**



# National Fuel Gas Distribution Corporation Service Territory





# National Fuel Gas Distribution Corp. Market Size – FY 2003

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<u>Market Segment</u>	<u>No. of Customers</u>			<u>Throughput (Bcf)</u>		
	<u>NY</u>	<u>PA</u>	<u>Total</u>	<u>NY</u>	<u>PA</u>	<u>Total</u>
Residential	485,016	199,193	684,209	56.4	22.2	78.6
Commercial	32,454	15,537	47,991	25.6	9.8	35.4
Industrial	<u>604</u>	<u>628</u>	<u>1,232</u>	<u>22.9</u>	<u>14.9</u>	<u>37.8</u>
<b>Total</b>	<b>518,074</b>	<b>215,358</b>	<b>733,432</b>	<b>104.9</b>	<b>46.9</b>	<b>151.8</b>



# Current CHP Market Barriers

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- **Electric utility standby rates.**
- **Interconnection with electric utility.**
- **High capital cost of equipment/installation.**
- **Customer concerns about reliability, maintenance, etc.**
- **Volatile gas commodity costs.**



# National Fuel CHP Strategy/Action Plan

## CHP Support, Incentives & Financing

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### Sales

- **Identify best customer candidates.**
  - **Prospecting & qualification via sales calls, direct mail survey.**
- **Evaluate customer economics.**
  - **Free technical/economic feasibility assessment.**
- **Partner with 3<sup>rd</sup> parties for best applications.**
  - **ESCOs, equipment manufacturers, engineering firms.**
- **Reduce potential impact of electric standby charge penalties.**
  - **Standby insurance policy.**



# National Fuel CHP Strategy/Action Plan

## CHP Support, Incentives & Financing

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### Marketing

- Identify best customer types/market segments to pursue.
  - CHP market study.
- Develop and demonstrate emerging technologies.
  - Fuel cells and microturbines using R&D program, NYSERDA.
- Demonstrate NFG commitment to CHP.
  - 1.3 MW system at new corporate headquarters.
- Demonstrate proven performance of CHP reliability, economics.
  - Case studies, testimonials from current installations.



# National Fuel CHP Strategy/Action Plan

## CHP Support, Incentives & Financing

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### Regulatory

- **Reduce impact of electric standby charges.**
  - Intervention in NiMo and NYSEG standby proceeding.
- **Reduce cost of gas for CHP applications.**
  - Customized transportation & sales rates.
- **Develop incentives to reduce capital cost.**
  - DG Partnership Pilot Program.
- **Reduce other CHP market barriers.**
  - Disincentives proceeding, interconnection proceeding, microgrid filing with NYPSC.



## DG Partnership Pilot Program

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- **Approved by NYPSC on March 20, 2003.**
- **Permits NFG to give customer funding to buydown cost of CHP equipment, lowering payback.**
- **Pilot program with initial term of 3 years.**
  - **Annual cap of \$1 million/year, total of \$3 million.**
- **Proposed typical buydowns in range of \$50,000 - \$150,000. Actual buydown calculated based on incremental margin from each project.**
- **Customer must sign a performance contract with term of up to 6 years. May also be required to provide security.**
- **Requires semi-annual reporting of program results and individual project performance to NYPSC and NYSERDA.**



# DG Partnership Pilot Program Results

<b><u>Customer Type</u></b>	<b><u>Size (KW)</u></b>	<b><u>Application</u></b>	<b><u>Utility</u></b>	<b><u>Incremental Volume (Mcf)</u></b>
Industrial Printer	2,250	Grid Isolated	NiMo	54,000
Middle/High School	800	Grid Parallel	NYSEG	10,961
Middle/High School	700	Grid Isolated	NiMo	14,696
Middle/High School	900	Grid Isolated	NiMo	19,939
Ski Resort	<u>1,600</u>	Grid Isolated	NiMo	<u>25,000</u>
	<i>6,250</i>			<i>124,596</i>

- Total annual incremental margin of \$100,294.
- Total one-time buydown amount of \$433,000.



# Current CHP Installations

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<b><u>CHP Technology</u></b>	<b><u>Number of Installations</u></b>	<b><u>Size (KW)</u></b>	<b><u>Throughput (Mcf)</u></b>
Fuel Cell	1	5	105
Microturbine	3	240	13,071
Engine	20	10,500	452,251
Turbine	<u>4</u>	<u>110,500</u>	<u>4,153,214</u>
<b>Total</b>	<b>28</b>	<b>121,245</b>	<b>4,618,641</b>

# Current CHP Installations

<b>Customer Type</b>	<b>Technology</b>	<b>Size (kW)</b>	<b>Application</b>	<b>Location</b>	<b>Utility</b>
Residential Home	Fuel Cell - Plug Power	5	Grid Parallel	Lewiston	NiMo
NFG Service Center	Microturbine – Capstone	60	Grid Parallel	West Seneca	NiMo
University	Microturbine - Capstone	120	Grid Parallel	Amherst	NiMo
Nursing Home	Microturbine - Capstone	60	Grid Parallel	West Seneca	NYSEG
Bakery	Engine - Waukesha	200	Grid Parallel	Buffalo	NiMo
High School	Engine - Tecogen	300	Grid Parallel	Cheektowaga	NYSEG
High School	Engine - Tecogen	300	Grid Parallel	Cheektowaga	NiMo
Elementary School	Engine - Waukesha	300	Grid Isolated	Cuba	NiMo
Middle/High School	Engine - Waukesha	300	Grid Parallel	Cuba	NiMo
Car Wash (6)	Engine - Waukesha	300	Grid Isolated	Six Locations	NiMo & NYSEG
Nursing Home	Engine - Waukesha	450	Grid Isolated	Batavia	NiMo
Hospital	Engine - Tecogen	300	Grid Parallel	Batavia	NiMo
Hospital	Engine - Waukesha	400	Grid Parallel	Silver Creek	NYSEG
High School	Engine - Waukesha	200	Grid Parallel	Lewiston	NiMo
Printer	Engine – Waukesha	2,250	Grid Isolated	Buffalo	NiMo
Ski Resort	Engine	1,600	Grid Isolated	Ellicottville	NiMo
Middle/High School	Engine – Waukesha	800	Grid Parallel	Depew	NYSEG
Middle/High School	Engine – Waukesha	700	Grid Isolated	Eden	NiMo
Nursing Home	Engine - Waukesha	600	Grid Isolated	Amherst	NiMo
Power Generator	Turbine - GE	53,000	Grid Support	North Tonawanda	NiMo
Food Processor	Turbine - Solar	3,500	Grid Support	Buffalo	NiMo
Power Generator	Turbine - GE	50,000	Grid Support	Tonawanda	NiMo
Power Generator	Turbine - GE	4,000	Grid Support	Ellicottville	NiMo

**For more information on  
CHP Programs &  
Incentives, contact:**

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