

Veolia Energy North America

CHP and Microgrids

Presentation for
Sallan Foundation
September 28, 2012



Creative Solutions for our Environment

Sustainable Solutions Around the World



The only company in the world able to cover the entire range of environmental services

(NYSE: VE)

2011 Global Revenue
\$38 billion



The standard for water services

2011 Revenue
\$16.3 billion



The standard for energy efficient solutions

2011 Revenue
\$9.4 billion



The standard for waste management and resource recovery

2011 Revenue
\$12.6 billion

Veolia Energy

The World's First Energy Services Company

- 152 years of experience. Founded in 1860.
- 52,700 employees in 40 countries.
- Dalkia is the European brand name.
- 837 district and local heating and cooling networks.
- 123,500 energy systems managed.
- 4,640 industrial sites managed.
- 23,800 education, culture, sporting and leisure establishments.
- 5,770 healthcare institutions managed (467,000 beds).



2011 Global Revenue
\$9.4 billion



Largest Portfolio of District Energy Systems in North America

District energy networks in 14 cities (cities with white letters)
9 networks powered by Combined Heat and Power (CHP) plants



District Energy

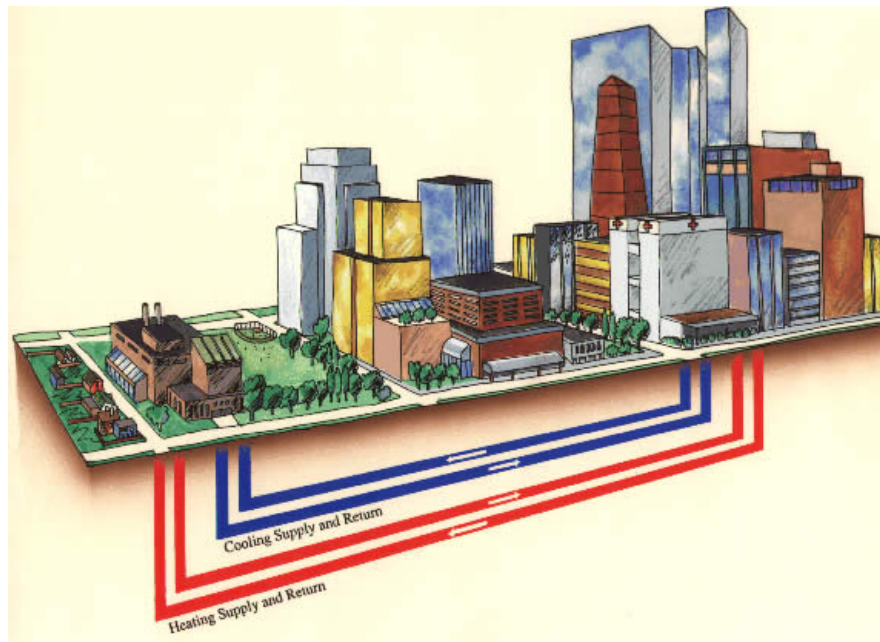
Thermal energy is produced at central plant(s) and distributed to the community

- Heating networks supply steam and hot water
- Cooling networks supply chilled water
- Often generate electricity from Combined Heat & Power (CHP) plants

Eliminates capital costs, interest payments, property taxes, insurance costs, and maintenance contracts for new in-building boilers and chillers

Demonstrated reliability to support mission critical requirements

Lower ongoing O&M and labor costs



Increase revenue generating space (removal of mechanical rooms for boilers and chillers)

Transfer of energy risks to district energy provider

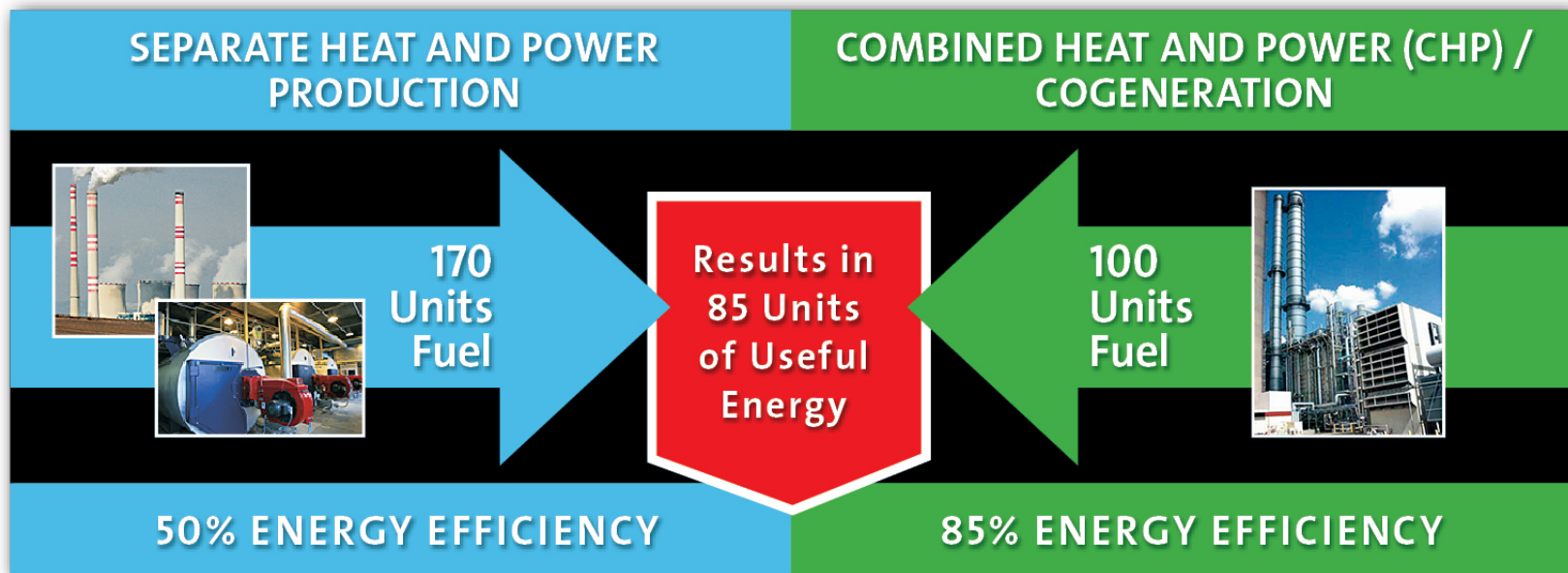
Reduced initial capital cost investment

Improved safety by removing on-site fuel and chemical storage



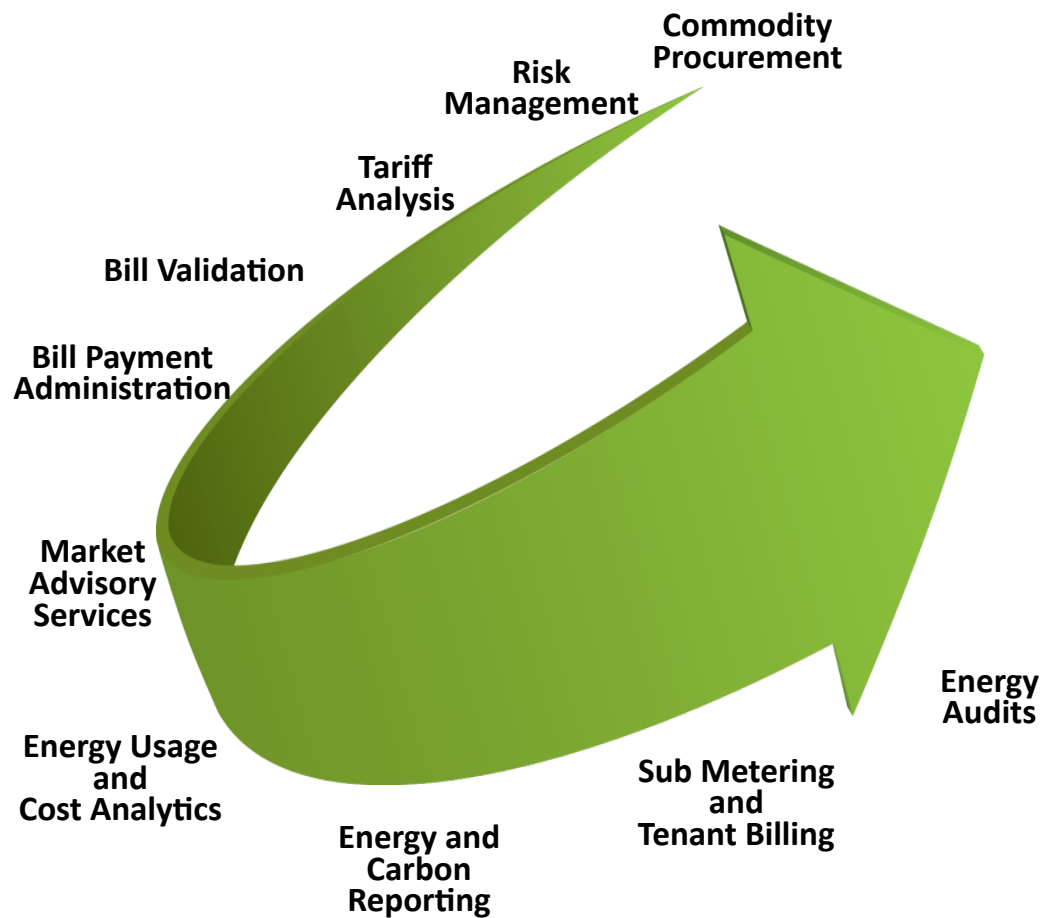
Benefits of Combined Heat & Power (CHP)

CHP converts a significantly higher percentage of fuel to useful energy



CHP conserves fuel while producing energy

SourceOne Energy and Carbon Management Services

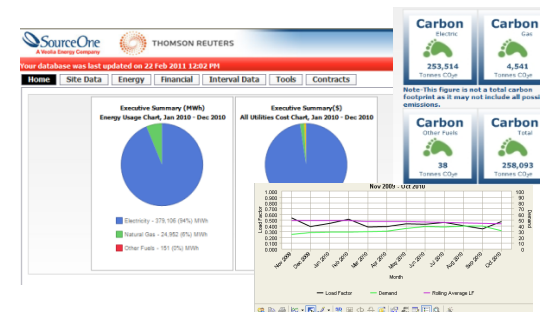


Key Figures

- 900 MW of electric power and 3 Bcf of natural gas under management
- 10,000 + invoices managed each month
- 10,000 + meters under management each month

Select Customer References

- City of Boston
- Genzyme
- Town of Belmont
- Amazon.com
- Thomson Reuters
- Vornado
- Tishman Speyer
- State of Connecticut



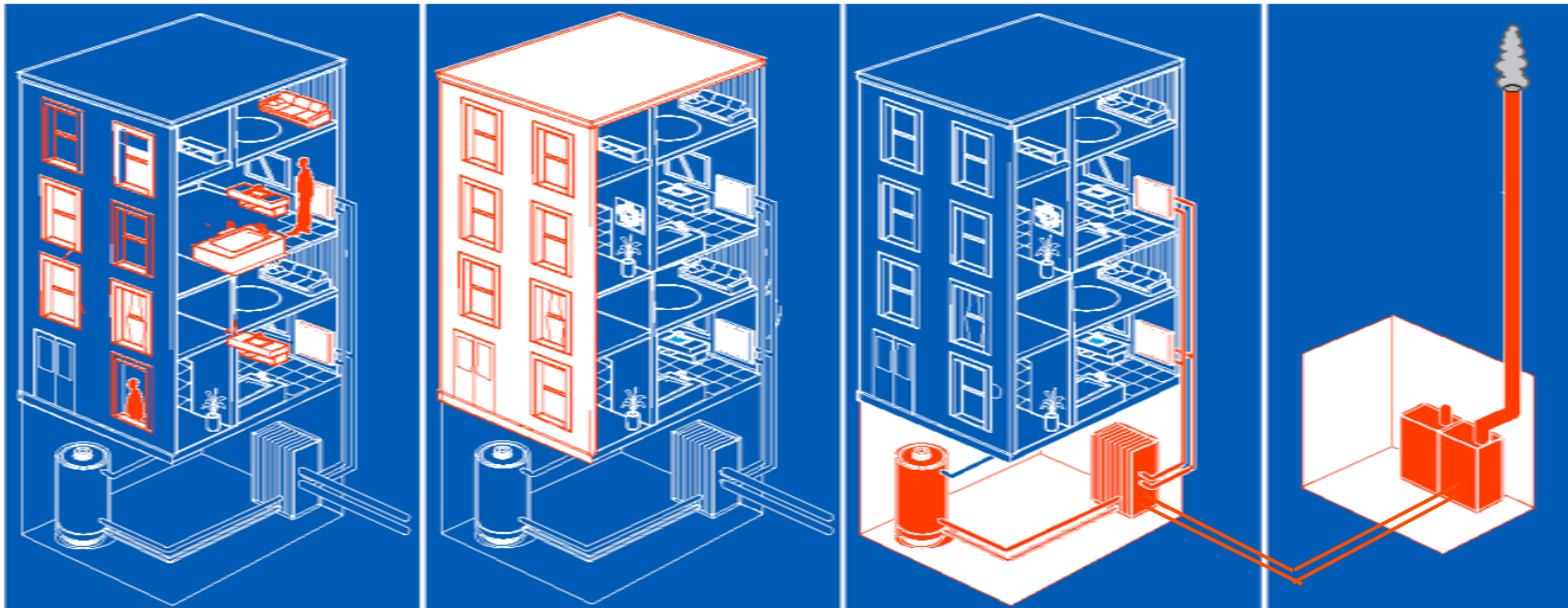
Energy System Life Cycle

OPERATING
EFFICIENCY

BUILDING
EFFICIENCY

DISTRIBUTION
EFFICIENCY

PRODUCTION
EFFICIENCY



Energy smart buildings, grids, and plants have improved efficiencies and communications – from resource to usage.

Grays Ferry Cogeneration Facility

Philadelphia, PA



Context

Grays Ferry Cogeneration Facility

Recovered waste heat from this facility is used to serve the heating, hot water, process and cooling needs of approximately 300 customers, including the University of Pennsylvania, in the central business district of Philadelphia and surrounding area. Over 90% of the system's steam demand is supplied from the CHP heat recovery systems.



Large combined heat and power plant that produces steam for Veolia Energy Philadelphia's district energy network and electricity for the grid, while reducing the carbon footprint of the City of Philadelphia through its efficient use of fossil fuel.

Recognition for Environmental Impact

- U.S. Environmental Protection Agency's Leadership Award for its role in reducing greenhouse gas emissions.
- Power Plant of the Year Award from Power Magazine.

Production Capacity

- 175 megawatts of cogeneration / CHP
- Heat Recovery Steam Generator ("HRSG") has duct firing capability
- Steam capacity of 711 Mlbs. per hour
- 735 Mlbs. per hour high-pressure superheat boiler

MATEP, Boston

Total Energy Plant: District Energy and CHP



Context

MATEP

The Longwood medical area in Boston, is home to six prominent hospitals that are affiliated with Harvard Medical School. Medical Area Total Energy Plant (MATEP) supplies the hospitals with steam, chilled water, and electricity, serving more than 9 million square feet of space.

Services

Heating
Cooling
Electric Power
Cogeneration / CHP



Long-term operations and maintenance for a mini-utility providing the energy requirements of six hospitals, and encompassing electricity, heating, cooling and distribution.

Customer's Challenges

- Critical requirement for highest level of energy reliability at the hospitals served by MATEP.
- Need for ongoing investment to maintain the mini-utility and its energy infrastructure.

Veolia Energy's Solution

- Acquired MATEP with an infrastructure fund financial partner.
- Deliver long-term operations and maintenance of the energy assets.

Production Capacity

- 966,000 lbs. per hour of steam
- 41,975 tons of chilled water
- 84 MW of electric generation / CHP
- 1.3 miles of steam pipe distribution network
- 0.8 miles of chilled water pipe distribution network

The Durst Organization, New York, NY

Oversight of Cogeneration / CHP O&M and Energy Consulting



Context

New York, NY

The Durst Organization is one of New York City's largest and most successful developer/owners of commercial office buildings.

It has been recognized nationally for the creativity of its building designs and has been the recipient of numerous energy efficiency/energy innovation awards and accolades from federal and state energy entities, including the EPA/DOE Energy Star and multiple New York State Energy Research and Development Authority ("NYSERDA") awards.

Services

Oversight of Cogeneration / CHP
Energy Audits
Bill Auditing
Energy Procurement
Rate and Tariff Analysis

Oversight of operations and maintenance of CHP plant inside a sustainable Manhattan skyscraper.

Customer's Challenges

- The Durst organization, in developing the One Bryant Park Building, made a commitment to achieving the lowest environmental footprint.

Veolia Energy's Solution

- Operation management support services for a 4.5-MW CHP plant on-site, including start-up, commissioning, and implementation of best practices and standard operating procedures.
- Economic dispatch advice to maximize CHP value delivery.
- Energy consumed on-site is supplied by a gas turbine-based facility located on the 7th floor.
- Energy audits, bill auditing and metering, energy procurement and rate and tariff analysis.



Questions?



Kristin Barbato
Director of Business Development
Veolia Energy North America
kbarbato@veoliaenergyna.com

