


*IDEA, EESI*  
*Congressional Briefing on*  
*District Energy/CHP*  
*April 21, 2009*



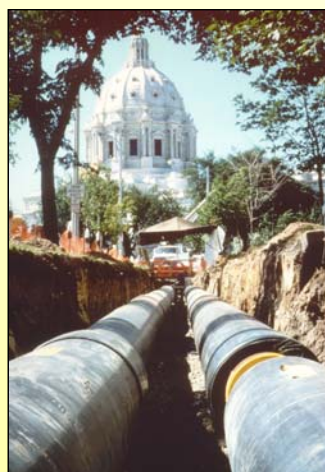
**DISTRICT ENERGY**  
ST. PAUL™

*Anders J. Rydaker*  
*President and CEO*

## Our mission

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*“Be the preferred provider of  
community energy services  
that benefit our customers,  
the community and the  
environment.”*

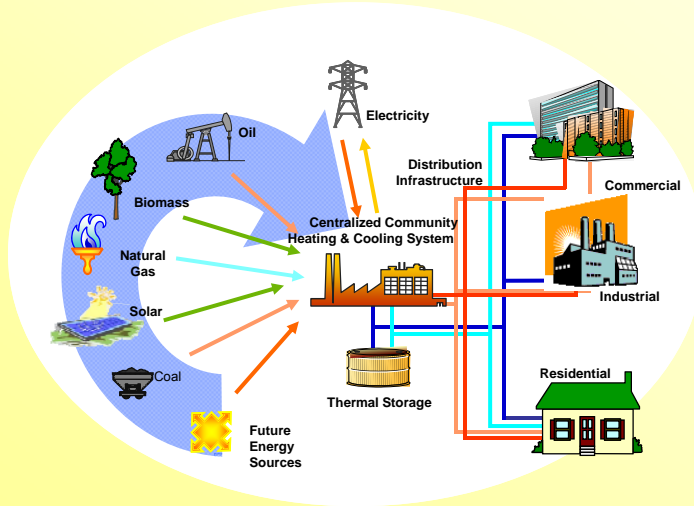


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# Saint Paul's community energy system



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# City of Saint Paul

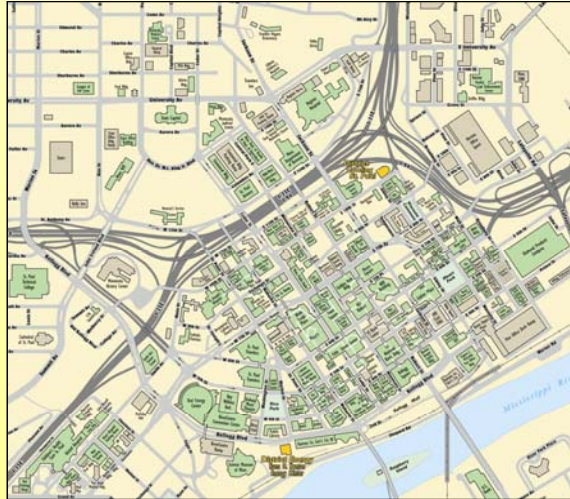


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## Heating and cooling Saint Paul

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## District Energy today

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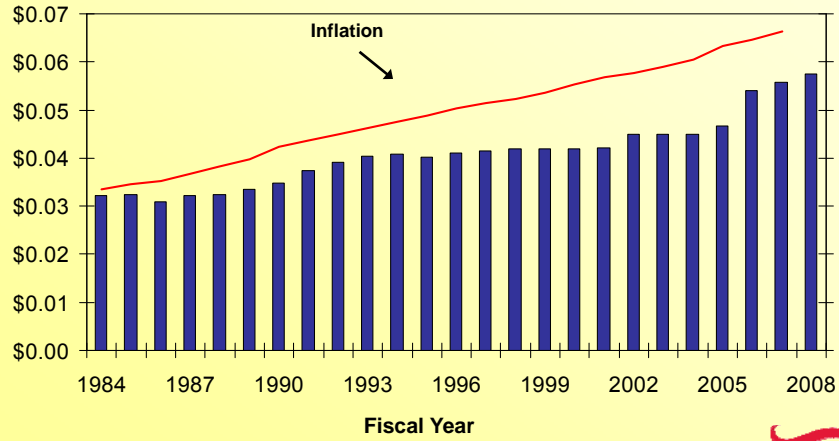
- Serves more than 80 percent of the downtown area - over 31 million sq. ft.
- Eliminated more than 150 smokestacks
- Reduced sulfur dioxide and particulate emissions by more than 60 percent
- Twenty-five years of outstanding reliability and rate stability

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### Customers are paying less for heating service today than they did 25 years ago (adjusted for inflation)

Combined Rate Summary, 1984-2008  
\$ Per kWh



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### District Energy's Tenth Street plant



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## District Cooling results today

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- Chilled-water demand started at 2,900 tons and has increased to 29,000 tons
- Serving more than 60% of the downtown area – approximately 19 million sq. ft.
- The chilled water system includes 6-million-gallons of storage capacity
- The thermal storage reduced peak-electric demand by as much as 9,000 kilowatts

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## Bringing “green energy” to Saint Paul

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## St. Paul Cogeneration

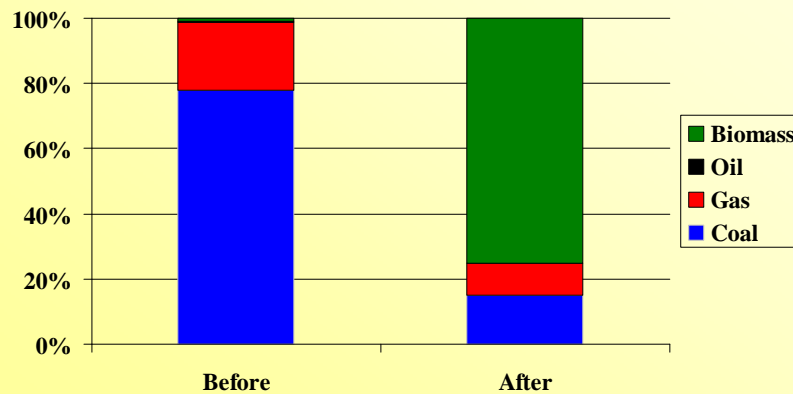
- 25 MW of electric and 65 MW of thermal capacity
- Renewable, clean, urban wood waste
- Double the efficiency of conventional electricity-only power plants
- Greenhouse gas CO<sub>2</sub> reduced by 280,000 tons per year

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## Fuel diversification (2009)

Before and after wood-fired CHP project...



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## Why wood waste?

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- Large quantities in metro area
- Disposal problem
- Economically viable
- Community based



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## Wood waste processing

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## Benefits of CHP & biomass

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### ✓ Community



- Community based
- Competitive energy prices
- Marketing opportunities
- Keeps energy dollars local
- Fuels economic growth
- Improves power grid

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## Benefits of CHP & biomass

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### ✓ Environment



- Decreased emissions
  - Air contaminants
  - Green house gases
- Decreased waste

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## Honolulu SeaWater Air Conditioning



- Reducing electricity needs for air-conditioning by

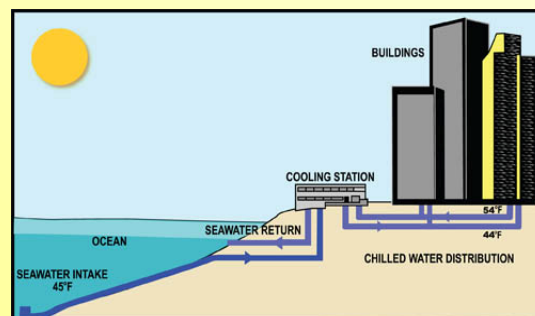
75 %

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## Project Description

- SWAC is comprised of four basic components
  - Seawater intake and return
  - Heat exchanger/cooling station
  - Chilled fresh water distribution pipeline system
  - Customer Connections



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*Thank You!*



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