



Some like it hot!

University of Toronto
District Heating System
St. George Campus
Fall 2004



History

- U of T has had a central steam plant (CSP) and a district heating system (DHS) since the early 1900's
- In the late 1990's, discussions were held with TDHC (now Enwave) about a possible interconnection of the two distribution systems, but no deal was concluded.
- In mid 2004 we were approached by Enwave about selling our Central Steam Plant and the associated Distribution System.



Advantages of a District Heating System (DHS)

- Lower energy and operating costs.
- Environmentally friendly - lower levels of greenhouse gases than stand alone systems.
- More reliable than stand alone systems.
- Additional buildings can easily be added to the system.



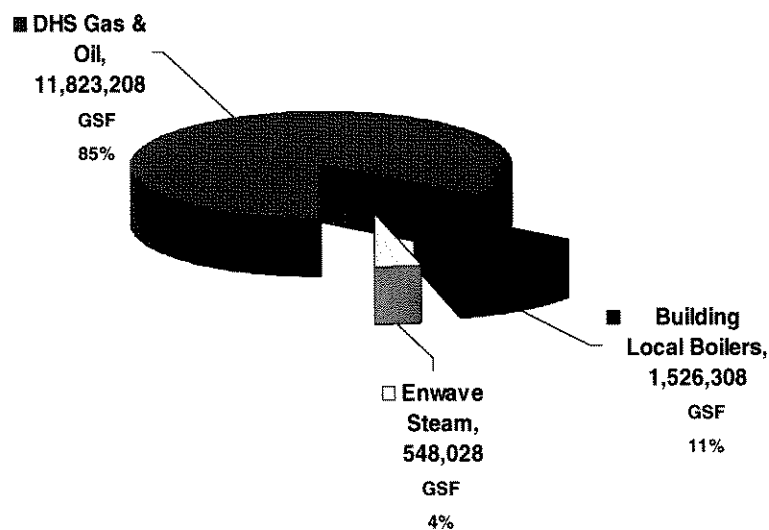
Disadvantages

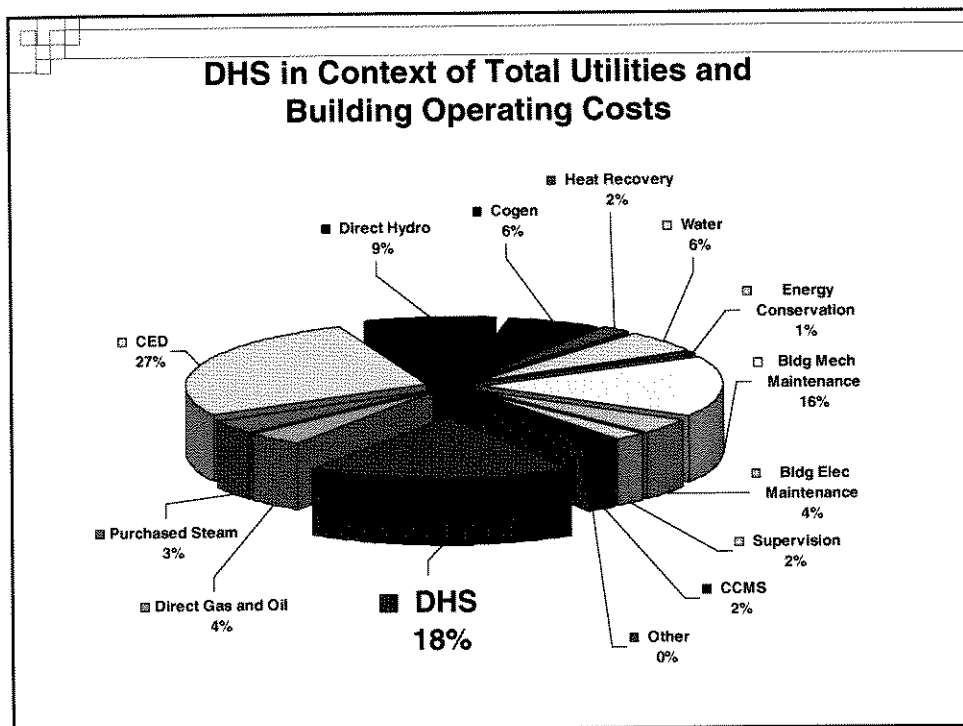
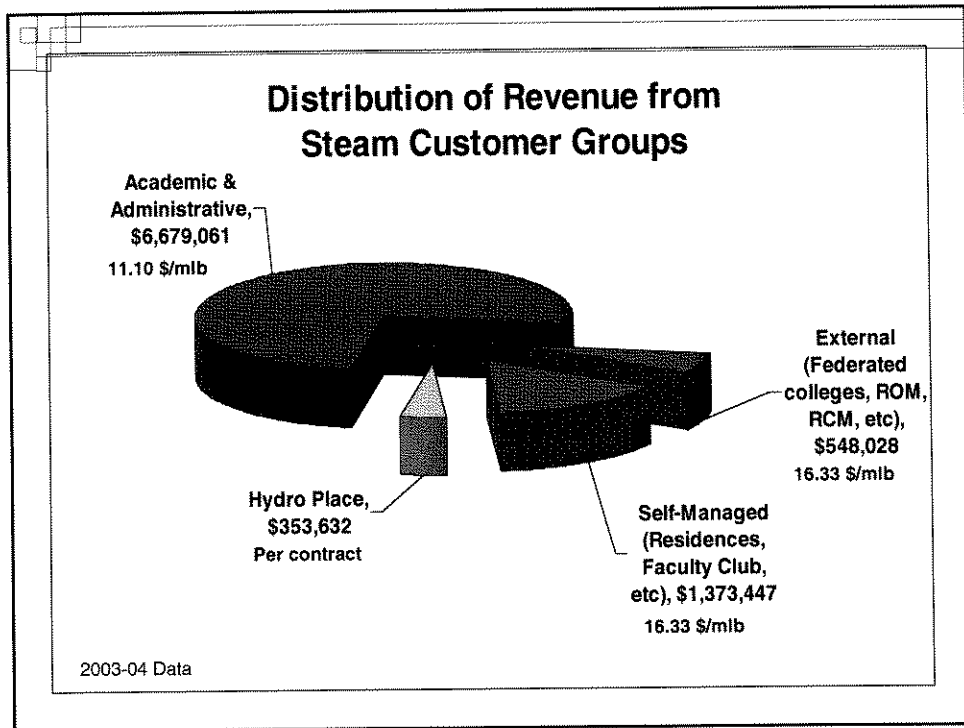
- Although the overall costs are lower, renewal and major replacement costs tend to occur in very large increments.
- While we have redundancy in many of the components of the system, we do not have complete redundancy of the system.
- By law the steam plant requires a First Class Engineer – not many available.

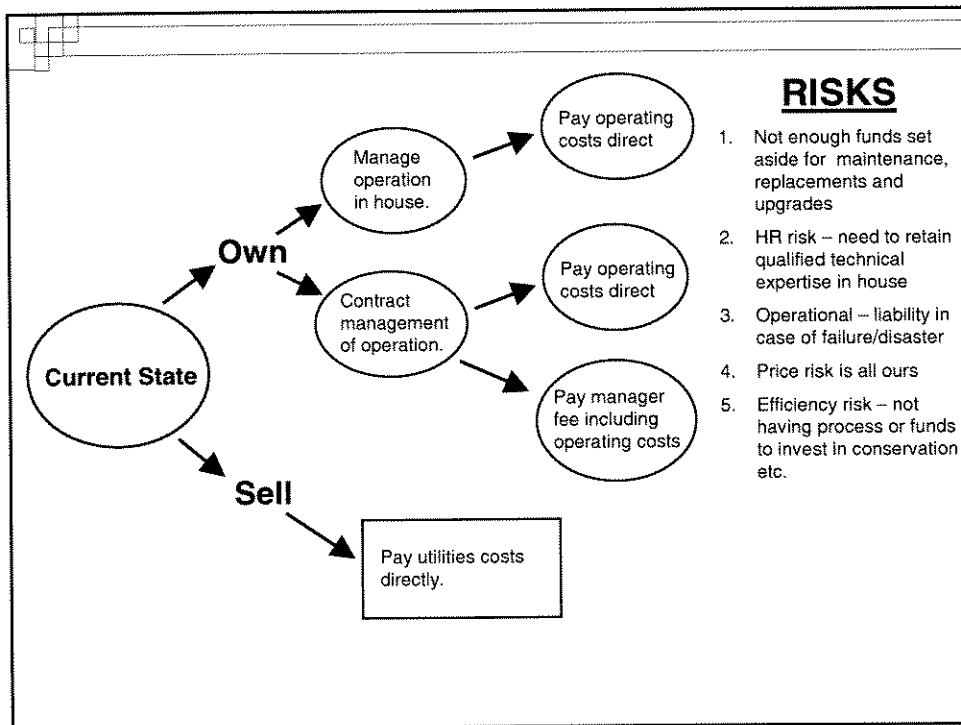
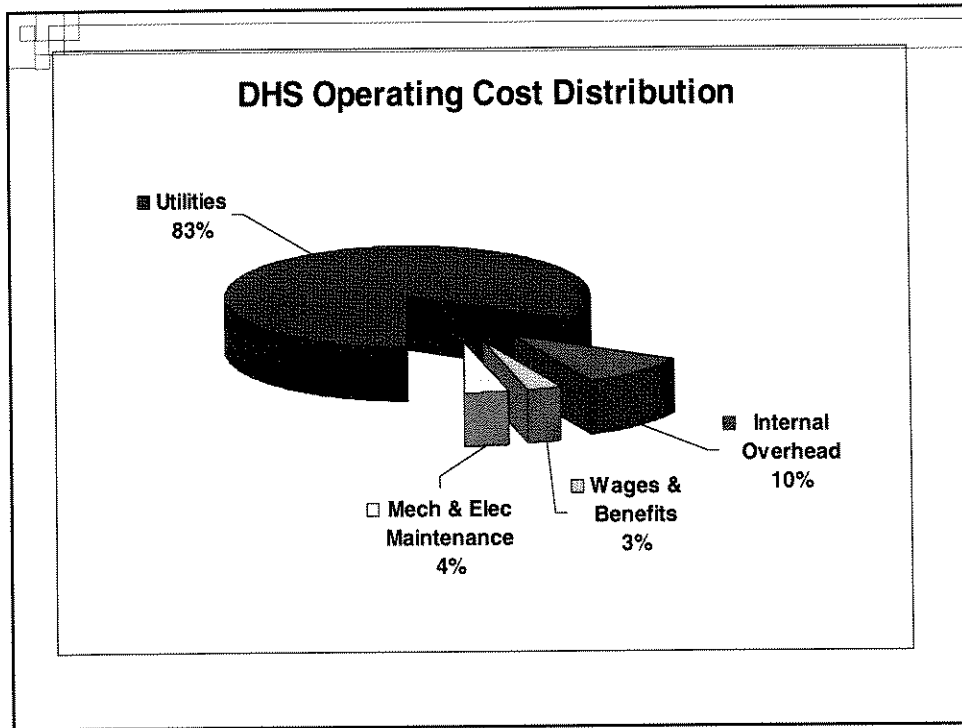
Current Situation

- Our system is well maintained but it requires significant capital investment now to ensure future reliability.
- The DHS has enough capacity to meet short to mid term planned buildings.
- When capacity is hit we have options:
 - expand our system,
 - direct connect buildings to Enwave,
 - install independent boilers.

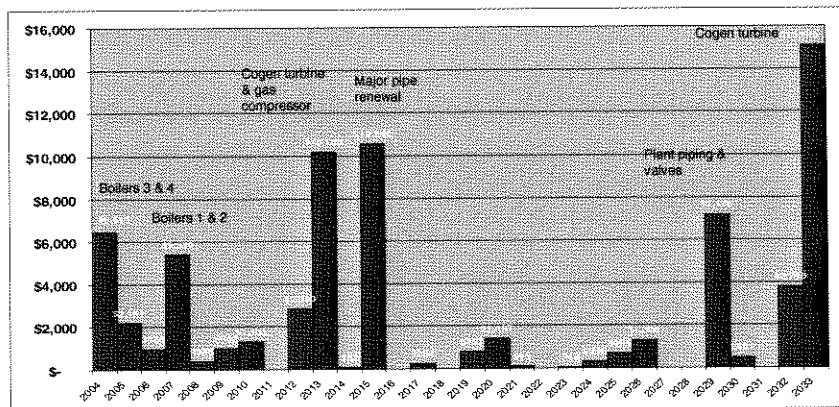
Distribution of Building Heating Area







DHS Recommended Capital Renewal Forecast KPMG Study



Options

- Sell the system outright and enter into a long term supply contract with the purchaser.
- Keep the system, invest now in the infrastructure and allow future rates to include a renewal component for capital needs.



Selling the System

■ Advantages:

- ☐ Eliminates current debt and the need for capital investment,
- ☐ Reduces risk of service interruption
- ☐ Solves specialist staffing requirements
- ☐ Reduces environmental risk

■ Disadvantages:

- ☐ Impact on staff
- ☐ Loss of direct control,



Running the system in house

■ Advantages

- ☐ Maintain control of system and operation
- ☐ Control price charged to all units
- ☐ We already have staff in place

■ Disadvantages

- ☐ Need for major capital investment - \$30 mm
- ☐ Risk of service interruption, no backup
- ☐ Asbestos and other environmental costs
- ☐ Need for utilities buying expertise