1. 5 City buildings are heated (and cooled) by a steam line connected to the Olmsted County Waste to Energy Facility (OWEF)

2. Steam line has reached the end of its useful life and costs ($30M) to replace

3. County decision not to replace the current steam line and to stop providing Steam October 2023
1. Provide an overview of the building heating and cooling options being considered by the Council.
   a. Gas Steam Heat and Electric Cooling – Building Based
   b. Gas Hot Water Heat and Electric Cooling – Building Based
   b. 180 Degree District Heating and Cooling – City Buildings
   c. 180 Degree District Heating and Cooling – City and County (downtown) Buildings

2. Answer Questions

3. Seek the Boards consensus
Study Evaluations

1. Building-Based Solutions
   • Install steam boilers and steam-driven chillers (where needed)
   • Install high efficiency gas boilers, hot water heat and electric-driven chillers (where needed)

2. District Energy Solutions (DES)
   • 180 deg F hot water and chilled water loop system (City Only)
   • 180 deg F hot water and chilled water loop system, including county buildings (Gov. Center /Annex)

Note: DES business case includes a $2M contribution from DMC Funds.
# Business Case Results

<table>
<thead>
<tr>
<th>PROJECT APPROACH (CITY BUILDING COSTS ONLY)</th>
<th>CAPITAL COST ($)</th>
<th>DEBT SERVICE &amp; OPERATING COST/yr ($000)</th>
<th>PV OF COST DIFFERENCE (30 yrs @3%)</th>
<th>CARBON EMISSIONS (METRIC TONS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUILDINGS – GAS STEAM HEAT AND COOLING</td>
<td>$6.3M</td>
<td>$1,317</td>
<td>-</td>
<td>4,647</td>
</tr>
<tr>
<td>BUILDINGS – GAS HOT WATER HEAT AND ELECTRIC COOLING</td>
<td>$6.6M</td>
<td>$1,320</td>
<td>$181K (ave $6k/yr)</td>
<td>3,814 (17.9%) $217/ton</td>
</tr>
<tr>
<td>DES – 180 DEG F SYSTEM CITY BUILDINGS ONLY</td>
<td>$10.7M</td>
<td>$1,552</td>
<td>$5,192K (ave $173k/yr)</td>
<td>3,563 (23.3%) $4,790/ton</td>
</tr>
<tr>
<td>DES – 180 DEG F SYSTEM – CITY + COUNTY BUILDINGS</td>
<td>$14.2M</td>
<td>$1,348</td>
<td>$722K (ave $24k/yr)</td>
<td>3,563 (23.3%) $666/ton</td>
</tr>
</tbody>
</table>
Benefits to the City of Rochester - DES

1. Aligns with City Council Priorities: manage growth, fiscal responsibility, sustainability
2. Value of local control run by municipal utility
3. Use of proven and safe technology that has been applied across US
4. Future chilling equipment will be electrified, contributing further to RPU’s 100% renewable commitment
5. Increases system redundancy, efficiency, and reduces maintenance routines across facilities
6. Increases individual building performance
7. Anticipated utility rates are comparable to current heating rates, outperform current cooling rates, will fall with additional buildings
8. Ability to add private development to system to meet other objectives: transit station development, affordable housing goals, environmental goals
Risks to the City of Rochester - DES

1. Initial cost of installation of DES – Capital Costs exceed projection. (street excavation)
2. No additional growth or expansion of the system for an extended period.
3. Rapid growth of the system would require significant capital investment.
4. Premature failure of cooling assets in the civic center and library that would be connected to the DES and become a utility asset.
5. Cost of capital rises significantly. Initial start up capital ($16 - $20M for DES)
6. County decides not to participate in DES (Increases the operating cost for City significantly)
7. Utility assets located in non-utility buildings (Access, Insurance, future dissolution or withdrawal)
8. Assume no additional capital cost for land and location of the energy plant.
Benefit to Development of District Energy System

1. Reduced capital cost
2. Reduced ongoing operations and maintenance cost, performed by third party
3. System redundancy and reliability
4. Reduced project design costs
5. More building space for program
6. Furthers progress toward City’s environmental goals
Next Steps

1. Continue discussion with County regarding DES including County buildings.
   (County Feb 19 discussion)

2. Update and make recommendation to City Council
   a. City Council Approves building heating and cooling option
   b. City Council directs management to implement approved option.

3. Move to implementation phase
RPU Board Recommendation

1. Council Selects Building Based Option
   No Action needed by RPU Board.

2. Council Selects District Heating and Cooling Option (DES)
   RPU Board express support for Council delegating the implementation and operating
   of the DES to Rochester Public Utilities by ordinance.

   Note: Actions if DES is approved
   a. Approve a new enterprise fund (by the Council)
   b. Secure long term service contracts from City and County (30 year)
   c. Obtain funding ($20 Million Bonds)
   d. Detailed construction and operational planning and execution.
Questions?

Thank You

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