

Destination Medical Center Coordinated Energy Planning

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Energy in the Health Sector



Practice Greenhealth
Award Winner
Greening the O.R.



LEED Gold Standard
Advanced Building Controls

**The operation
and construction
of hospitals
equates to 5% of
all of the energy
consumed in the
United States.**



La Crosse, WI

Energy Independence
supplied by renewables



13 LEED buildings
20% energy reduction



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Destination Medical Center

- Establish Rochester as a global destination for health and wellness
- Over \$6 billion of public and private investment
- Over 12 million square feet largely dedicated to the health care industry
- Hospital, biotech, hospitality, and medical research



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**An opportunity for Rochester, Mayo,
and the DMC to be recognized for
sustainability worldwide.**



DMC Climate and Energy Visions

- **Climate** - To achieve carbon neutrality across the Destination Medication Center
- **Energy** - To implement the most progressive, responsive, and resilient district energy network in the country



Master Planning Goals

- **Formulate options** for advancing DMC energy & climate goals
- **Coordinate** on energy infrastructure investments & operating principles
- **Identify metrics** by which benefits can be measured

Heart of the City



Discovery Square



District Energy in Rochester



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Mayo Clinic



- Mayo Clinic plans to reduce energy use in existing buildings by 20% by 2020 - 11% reduction to date
- Mayo Clinic considering options for district system expansion
- Master Utility Planning underway



Franklin Station



Rochester Public Utilities



- RPU has a supply relationship with SMMPA until 2030, flexible thereafter
 - SMMPA installing increasing amount of renewables – 17% by 2016, 25% by 2025
- RPU is planning to commit significant resources to clean energy opportunities
 - Energy Efficiency: Averaging \$2.7M / year since 2009
 - Renewable Energy: Planned solar additions in 2015, 2021, 2028, 2031, 2033, 2035; significant wind energy addition planned in 2031



Olmsted County



- 270 tons of solid waste per day – ability to grow to 400 tons
- Cogeneration – 2.5 to 4 MW of electricity and 55,000 lbs of steam
- Serves 37 buildings in eastern Rochester



Other Key Considerations:

- Energy Commission initiated an energy action plan
- Mayoral proclamation to have Rochester be served by 100% renewable energy by 2031
- DMCC energy and climate implementation steps will need to be practical and cost-effective



Primary Master Plan Recommendations

- Establish Heart of the City and Discovery Square as the Sustainable Energy Zone.
- Capture all cost-effective efficiency improvements in the Zone.
- Optimize district energy investments that serve buildings within the Zone for reliability, energy cost, and carbon savings.
- Maximize renewable energy serving the Zone.
- Pursue broad engagement to promote and develop a culture of sustainability.
- Form an Energy Integration Committee between EDA, City, RPU, MERC, and Mayo Clinic.



Sustainable Energy Zone

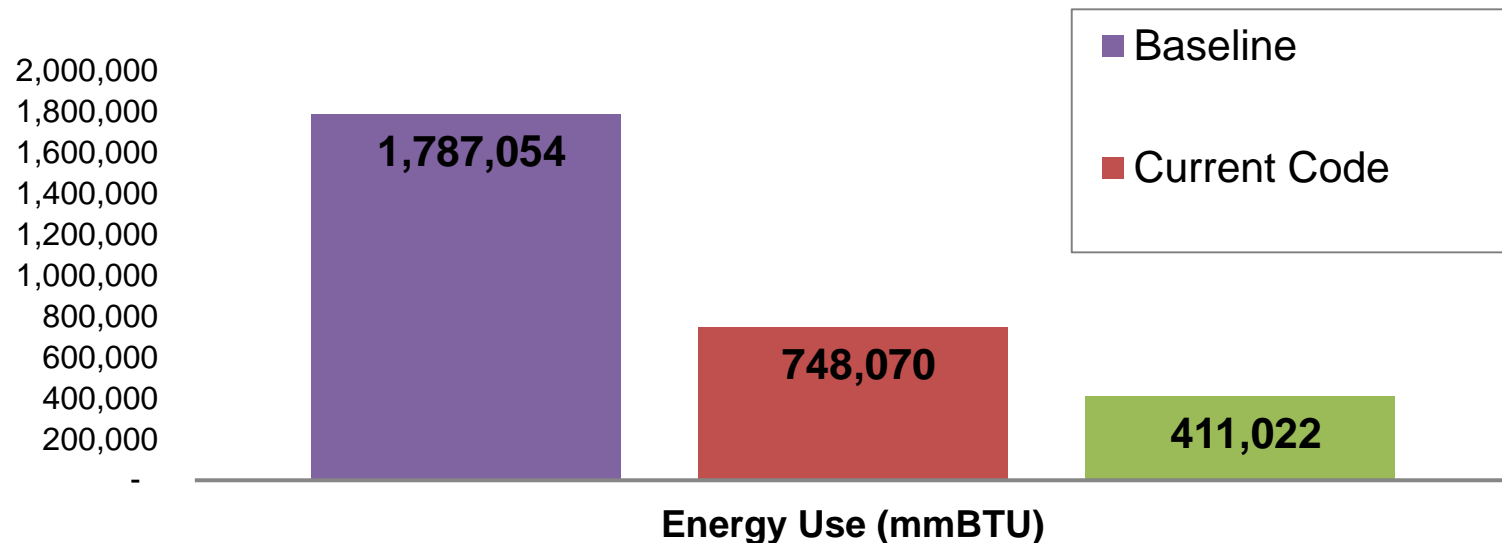
- Focus attention on all energy opportunities within the geographic area
- Able to be broadened to other parts of Rochester
- Carbon neutrality within the Zone after 2031 for non-transportation electric use



Energy Efficiency

- Existing buildings in the Zone will reduce energy use by 20% by 2020
- New buildings in the Zone will be built and operated in accordance with Architecture 2030 standards

Annual Energy Use Scenarios



District Energy

- Build upon Mayo's existing cogeneration and district system
- Leverage excess capacity from existing systems
- Identify opportunities for expanding RPU energy services
- Establish a foundation for a future microgrid



Renewable Energy

- Maximize utilization of existing renewable systems
- Explore options for integrating renewable fuels into the district energy systems
- Request that RPU and partners plan for sufficient renewable electricity and Renewable Energy Credits to offset carbon emissions associated with remaining electricity use in the Zone after 2031
 - RPU currently offers a carbon offset program using RECs



Culture of Sustainability

- Actively promote local and global health benefits of DMC's energy initiatives to enhance DMC brand
- Provide engagement and visibility around energy use
- Provide educational opportunities to catalyze broad regional improvements
- Promote DMC's global leadership on climate change to national and international audiences



Energy Integration Committee

- Assure successful implementation of energy vision within the Zone
- Ongoing accountability to the DMCC Board
- Provide transparency to the public
- Help building developers with easy-to-use technical assistance
- Coordinate utility and city programs that serve DMC



Progressing with Implementation

- Establish the DMC Sustainability Zone
- Invite EDA, Mayo Clinic, RPU, MERC, and the City to form an Energy Integration Committee (EIC)
 - EDA is adding a staff member to shepherd the recommendations of this plan



Going Forward

- Set a schedule for an initial plan by the EIC designed to take advantage of early opportunities
 - Work on energy reductions in existing buildings
 - Plan for energy efficiency and renewables in new buildings
 - Monitor the 2016 Mayo Master Plan for district energy opportunities
- Integrate adopted energy recommendations into external engagement efforts



Thank you

Questions?



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