



DULUTH ENERGY
SYSTEMS

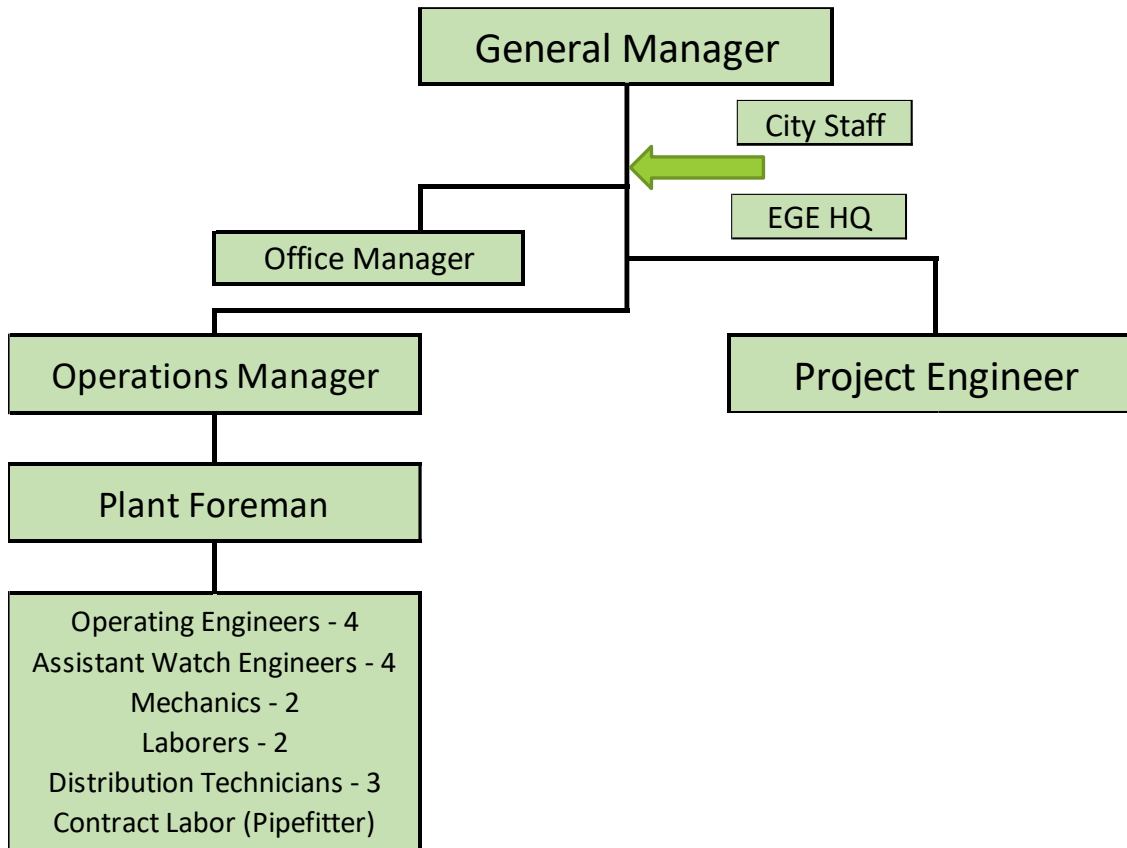
Proposed 2025 Budget & Customer Charges



EVER-GREEN
ENERGY™



Duluth Energy Systems Org Chart



Staffing 2025 & 2024

Onsite FTE

FTE	2025 Budget	2024 Budget	Net Change
Office and Supervisory	3.5	4	-0.5
Bargaining Unit	16	16.75	-0.75
TOTAL	19.5	20.75	-1.25

Duluth Energy Systems

Total Revenue

<i>\$ in thousands</i>	2025 Budget	2024 Budget	(25B-24B)	2024 Forecast	(25B-24F)
REVENUE					
Capacity, Consumption and Energy					
Steam & HW Capacity Related Charges	\$ 5,907	\$ 5,562	\$ 345	\$ 5,743	\$ 164
Steam & HW Consumption Charges	\$ 4,772	\$ 5,091	\$ (319)	\$ 3,465	\$ 1,307
Canal Park & DECC Hot Water Charges	\$ 139	\$ 138	\$ 1	\$ 305	\$ (166)
Chilled Water Charges	\$ 151	\$ 184	\$ (33)	\$ 282	\$ (131)
Subtotal Capacity, Consumption & Energy Rev	\$ 10,969	\$ 10,976	\$ (6)	\$ 9,795	\$ 1,175
Non-Energy Revenue			0		0
Customer Finance Charges	\$ 9	\$ 9	\$ -	\$ 15	\$ (6)
Pass Through Grants	\$ -	\$ -	\$ -	\$ -	\$ -
Miscellaneous	\$ 22	\$ 12	\$ 10	\$ 22	\$ (0)
Subtotal Non-Energy Revenue	\$ 31	\$ 21	\$ 10	\$ 37	\$ (6)
TOTAL REVENUE	\$ 11,000	\$ 10,997	\$ 3	\$ 9,832	\$ 1,168

Duluth Energy Systems Expenses and Net Margin

<i>\$ in thousands</i>	2025 Budget	2024 Budget	(25B-24B)	2024 Forecast	(25B-24F)
OPERATING EXPENSES					
Energy Operating Expenses					
Steam & HW	\$ 4,772	\$ 5,091	\$ (319)	\$ 3,465	\$ 1,307
Canal Park Hot Water	\$ 95	\$ 104	\$ (10)	\$ 181	\$ (86)
Chilled Water	\$ 173	\$ 71	\$ 101	\$ 99	\$ 73
Subtotal Energy Op Expenses	\$ 5,039	\$ 5,266	\$ (227)	\$ 3,745	\$ 1,294
Non-Energy Operating Expenses					
Maintenance Costs	\$ 580	\$ 513	\$ 67	\$ 627	\$ (47)
Labor Costs	\$ 2,963	\$ 2,883	\$ 80	\$ 2,717	\$ 245
General & Administrative Costs	\$ 403	\$ 387	\$ 16	\$ 395	\$ 8
Management Fee	\$ 314	\$ 309	\$ 6	\$ 307	\$ 8
Subtotal Non-Energy Op Expenses	\$ 4,260	\$ 4,091	\$ 168	\$ 4,046	\$ 214
TOTAL OPERATING EXPENSES	\$ 9,299	\$ 9,358	\$ (59)	\$ 7,791	\$ 1,508
NET BEFORE INT & D	\$ 1,701	\$ 1,639	\$ 62	\$ 2,041	\$ (340)
Non-Energy Operating Expenses					
Depreciation	\$ 1,764	\$ 1,800	\$ (36)	\$ 1,797	\$ (33)
In Lieu of Tax	\$ 210	\$ 210	\$ -	\$ 205	\$ 5
Interest Expenses	\$ 630	\$ 456	\$ 174	\$ 416	\$ 213
Bond Expense, Agent Fee & Other	\$ (45)	\$ 28	\$ (73)	\$ (49)	\$ 4
Subtotal Non-Operating Expenses	\$ 2,559	\$ 2,494	\$ 65	\$ 2,369	\$ 190
NET MARGIN	\$ (858)	\$ (855)	\$ (3)	\$ (328)	\$ (530)

Duluth Energy Systems Budget Appropriation

<i>\$ in thousands</i>	2025 Budget	2024 Budget	(25B-24B)	2024 Forecast	(25B-24F)
BUDGET APPROPRIATION					
Expenses					
Operating Expenses	\$ 9,299	\$ 9,358	\$ (59)	\$ 7,791	\$ 1,508
Non-Operating Expenses	\$ 211	\$ 210	\$ 1	\$ 205	\$ 6
Depreciation & Amortization	\$ 1,718	\$ 1,800	\$ (82)	\$ 1,747	\$ (29)
Subtotal Expenses	\$ 11,228	\$ 11,368	\$ (140)	\$ 9,743	\$ 1,485
Debt Service					
Principal	\$ 1,195	\$ 1,160	\$ 35	\$ 1,160	\$ 35
Interest	\$ 630	\$ 456	\$ 174	\$ 416	\$ 213
Subtotal Debt Service	\$ 1,825	\$ 1,616	\$ 209	\$ 1,576	\$ 248
Subtotal Capital Improvements	\$ 2,850	\$ 1,845	\$ 1,005	\$ 925	\$ 1,925
Capital Improvements Funded	\$ -	\$ -	\$ -	\$ 316	\$ (316)
TOTAL BUDGET APPROPRIATION	\$ 15,903	\$ 14,829	\$ 1,074	\$ 12,561	\$ 3,342

Duluth Energy Systems Steam & HW Revenue Changes

2024 Budget to 2025 Budget	Component Change	Percent of Total Revenues	Net Change
Consumption Charge	4.9%	44.7%	2.2%
Capacity Charge Rate	3.5%	55.3%	1.9%
Total Steam & HW Revenue Change			4.1%

Duluth Energy Systems

Canal Park HW and Chilled Water Rates

2024 Budget to 2025 Budget	Component Change	Percent of Total Revenues	Net Change
Canal Park HW Rate	10.1%	100%	10.1%
Total Canal Park Hot Water Rate Increase			10.1%
Total Chilled Water Capacity Rate Increase			0%

2024 Successes



DULUTH ENERGY
SYSTEMS





DULUTH ENERGY
SYSTEMS

Regulatory and Safety

No lost time accidents

No environmental incidents

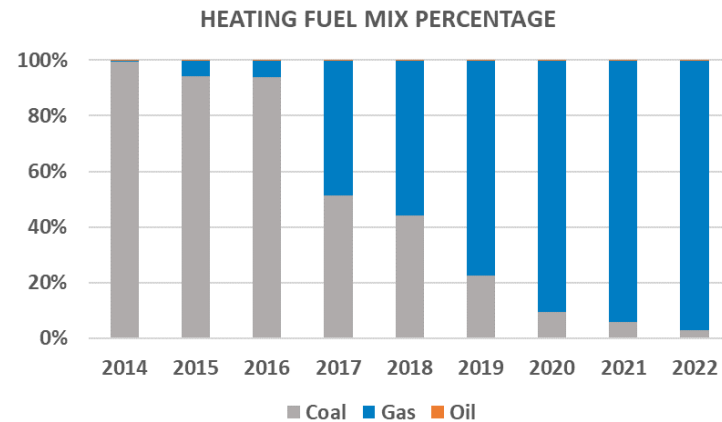
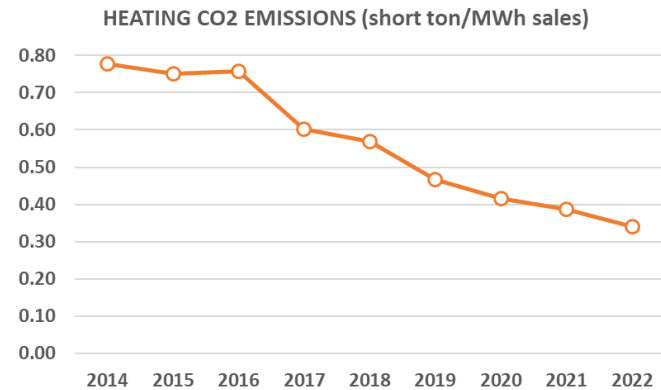
Lowest coal use year in history





Climate Action Work

- Coal usage reduced by 98% since 2012
- Greenhouse gas emissions reduced by 20%
- Identify clean energy resources to replace fossil fuel inputs; eliminate coal in the next 5 years
- Encourage a transition to more efficient hot-water loop for new and existing customer of Duluth Energy Systems





Fuel Transition

Natural gas is primary fuel and is combusted in 2 boilers

- Ability to dispatch Essentia SMMC Plant increases natural gas production capacity for the system

Coal used as backup fuel

- Necessary for maintenance and redundancy
- Required during severe cold when gas capacity is insufficient
- Consumed a record low 250 tons
- Stockpile balance = 5,052 tons

Engineering RFP issued to upgrade burners to eliminate coal by 2026



DULUTH ENERGY
SYSTEMS

Hot Water Conversion

Hot Water Benefits:

- Hot water customers energy savings is over 25% on average
- Conserve over 20 million gallons of Lake Superior water every year
- Position the system for integration of renewables
- Improved temperature control within building (setback schedule)

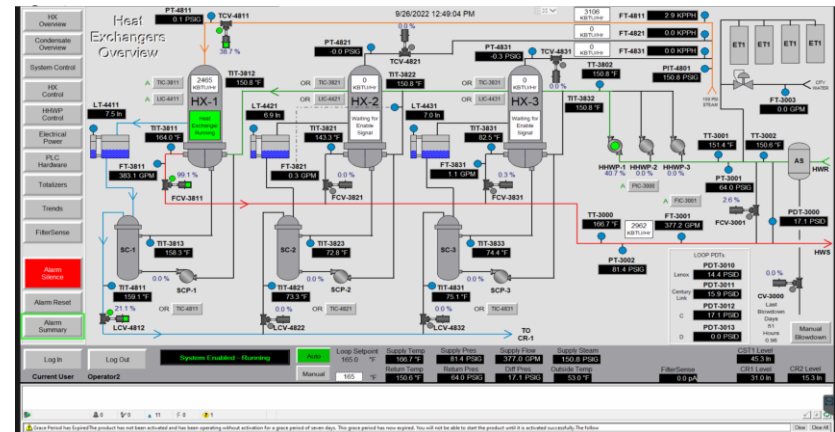




DULUTH ENERGY
SYSTEMS

Plant Conversion

- 35% of energy transmitted now in the form of hot water
- Installed capacity more than sufficient to satisfy hospital expansion and future developments
- System performing as expected and expansion to new customers and conversions from steam to hot water continue





DULUTH ENERGY
SYSTEMS

Duluth Medical District

Medical District HW Update:

- St. Mary's Medical Center Connected and utilizing hot water
- Contract provisions for dispatch of SMMC Boiler Plant to support Duluth Energy
- St. Luke's Building A connected to hot water





DULUTH ENERGY
SYSTEMS

2024 Capital Projects

(7) Steam Manholes received an insulation upgrade

Completed (4) steam to HW building conversions

Hot water extended to Aquarium



Future Capital Projects



DULUTH ENERGY
SYSTEMS





DULUTH ENERGY
SYSTEMS

Future Capital Projects

- HW Customer Connections
- Eliminate coal as backup fuel
 - RFP for engineering issued
 - Add natural gas burners to boiler 1 and 4
 - Add fuel oil backup to boilers 1, 2, 3, and 4
 - Plant to implement in 2025





Eliminate Coal

DULUTH ENERGY SYSTEMS HEAT PRODUCTION ASSETS

	Current		Post-5-Year Plan Implementation	
	Fuel	Capacity	Fuel	Capacity
Boiler 1	Coal	55 kpph	Natural Gas & Fuel Oil	70 kpph
Boiler 2	Natural Gas & Coal	70 kpph	Natural Gas & Fuel Oil	70 kpph
Boiler 3	Natural Gas & Coal	70 kpph	Natural Gas & Fuel Oil	70 kpph
Boiler 4	Coal	55 kpph	Natural Gas & Fuel Oil	70 kpph
Essentia Boiler	N/A	0 kpph	Natural Gas & Fuel Oil	70 kpph
TOTAL		250 kpph		350 kpph

Add Low-Carbon & Renewable Energy Sources

- Electrification – Hot water can be made with waste heat and heat pumps. Notably, WLSSD has significant opportunity, but cost would require grants
- Local biomass/forest residuals – a baseline boiler that operates most of the year to provide 25% of DES customer load (estimate of \$17 million based on 2016 proposal)
- Renewable fuel oil
- Solar thermal
- HW storage

2025 Goals

- Upgrade 500ft of DECC HW piping
- Complete (4) HW conversions
- Initiate coal elimination project
- Building Energy Audits
- Upgrade meter systems to provide real-time data
- Continued development of carbon reduction strategies





DULUTH ENERGY
SYSTEMS

Questions?

