Xcel Energy®

Wrap up Energy Savings with Pipe Insulation

Our easy pipe insulation program offers big rebates and fast paybacks with rebates that cover up to 60% of the project costs

To help you offset the costs of making efficiency improvements to your heating equipment, we offer prescriptive rebates for natural gas pipe insulation on existing commercial heating systems*. Commercial systems used for space heating and water heating can account for approximately 20%–64% of energy costs. Other heating load (such as humidification, swimming pools, laundry, kitchen, industrial processes or other uses) is an additional large load.

Insulation installed on non-commercial systems or on pipes larger than 12" in diameter may qualify for our Custom Efficiency rebates, which require preapproval prior to purchase and installation.

*Insulation installed on new piping is not eligible.

Suggested actions to save:

- Conduct a survey of your steam distribution and condensate return piping. (If you need to hire this out, or need help identifying opportunities, we offer an energy assessment which can provide guidance in how to move forward with energy efficiency improvements for your facility.)
- Insulate pipes with no insulation or replace damaged insulation and apply for a cash rebate.

Savings potential

Distribution line diameter, inches	Heat loss per 100 feet of uninsulated steam line, MMBtu/yr			
	Steam pressure, psig			
	15	150	300	600
1	140	285	375	495
2	235	480	630	840
4	415	850	1,120	1,500
8	740	1,540	2,030	2,725
12	1,055	2,200	2,910	3,920

Based on horizontal steel pipe, 75 °F ambient air, no wind velocity, and 8,760 operation hours per year.
Source: U.S. Department of Energy

Why insulate?

From the U.S. Department of Energy: Uninsulated distribution and condensate return lines are a constant source of wasted energy. The table shows typical heat loss from uninsulated steam distribution lines. Insulation can typically **reduce energy losses by 90%** and help ensure proper steam pressure at plant equipment. **Any surface over 120 °F should be insulated, including boiler surfaces, steam and condensate return piping and fittings.**

Insulation frequently becomes damaged or is removed and never replaced during steam system repair.

Benefits of commercial and industrial insulation

- Conserves energy by reducing heat loss or gain
- Controls surface temperatures for personnel protection and comfort
- Facilitates temperature control
- Prevents condensation on cold surfaces
- Controls noise

Source: NAIMA (North American Insulation Manufacturers Association)

Avoid energy waste:

- Damaged or wet insulation should be repaired or replaced immediately to avoid compromising the insulation value.
- Eliminate sources of moisture prior to insulation replacement. Leaks from valves, external pipes, tubes or adjacent equipment can cause wet insulation.
- After steam lines are insulated, changes in heat flows can influence other parts of the steam system.

Get started

- Contact your Xcel Energy account manager or our Business Solutions Center at **855.839.8862**.
- Find more information at **xcelenergy.com/HeatingEfficiency**.
- Consult a Trade Partner to find the right equipment for your building.

Pipe insulation rebates

Pipe diameter	Average fluid temp: 105 – 200 °F Conductivity 0.21 – 0.29 BTU In /(H ft² °F)		Average fluid temp: 201 – 250 °F Conductivity 0.27 – 0.30 BTU In /(H ft² °F)		Average fluid temp: 251 – 350 °F Conductivity 0.29 – 0.32 BTU In /(H ft² °F)	
	Minimum insulation thickness	Rebate $/ft	Minimum insulation thickness	Rebate $/ft	Minimum insulation thickness	Rebate $/ft
0.5" to < 1.0"	1.0"	$5	1.5"	$6	2.0"	$8
1.0" to < 1.5"	1.0"	$5	1.5"	$6	3.0"	$8
1.5" to < 4.0"	2.0"	$6	2.5"	$8	4.5"	$9
> 4.0"	2.0"	$6	3.0"	$8	4.5"	$9