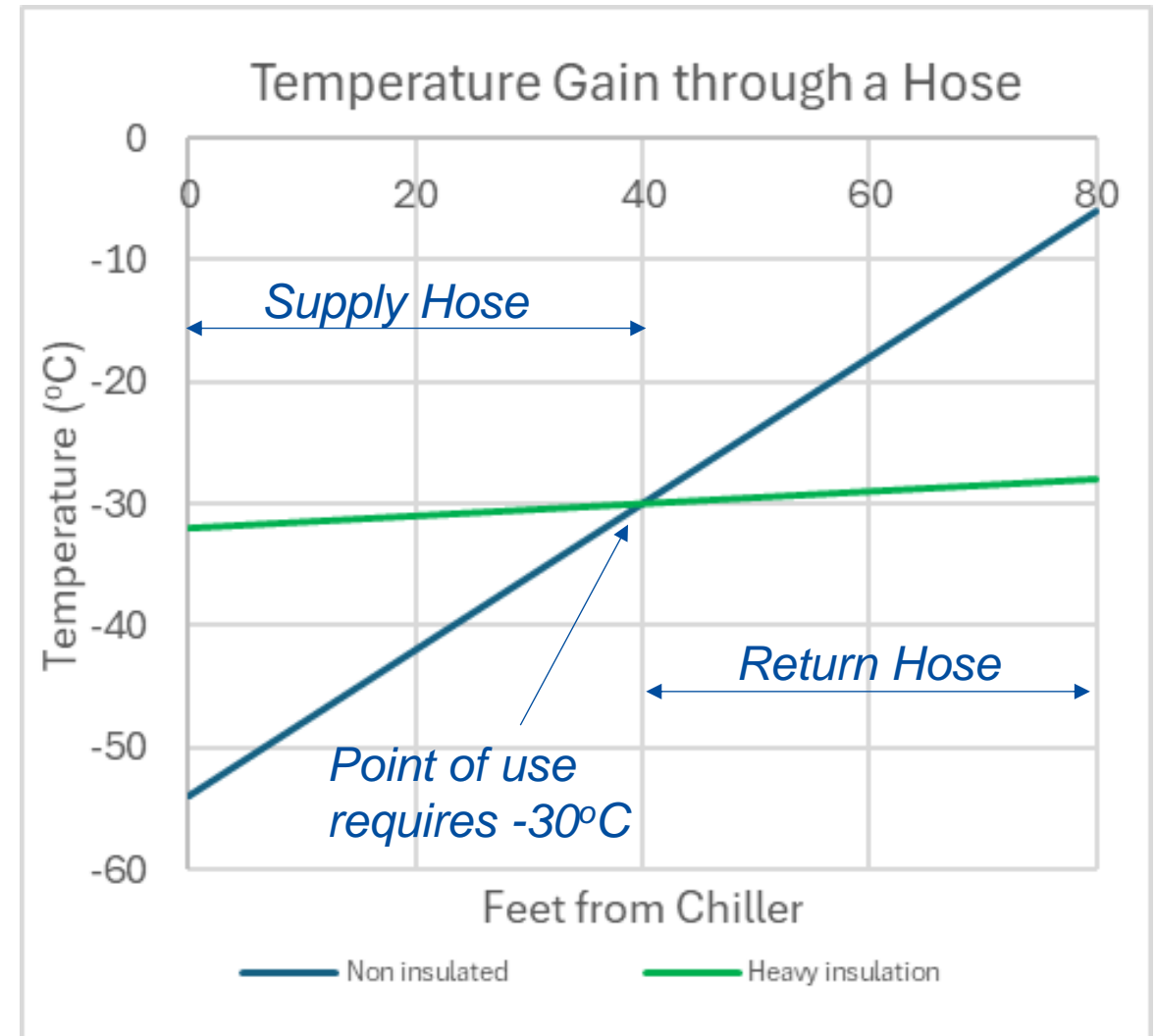


Insulation Improves Chiller Efficiency

- Typical processes need a particular temperature at point-of-use
- Chillers need to “over-chill” to accommodate temperature gain of media
- Non-insulated hose requires 48°C of chilling; (-6°C to -54°C)
- Insulation provides less “over-chilling,” which improves efficiency/lowers costs
- “Heavy insulated” hose requires 4°C (-28°C to -32°C)
- Each °C costs an extra \$0.27/hour assuming a more expensive chiller isn’t needed

This example resulted in \$11.88 of savings per hour



Thermal Stability Drives Higher Yield

- Thermal stability maintains consistent process parameters within the tool chamber
- Provides consistent molecular energy of gases flowing through the chamber
- Without thermal stability, chemical reactions are not predictable
- Point-of-use temperature control is needed to achieve desired yield rates
- Lack of insulation allows for parameters to affect point-of-use temperature stability
 - Flow rate
 - Room temperature
 - Conductive heat transfer

