



Radiant Floor Heating

How it works

Radiant floor heating uses **conduction**, **radiation** and **convection**.

- Some systems use an electric wire system. In Saskatchewan, electricity has high greenhouse gas emissions and is not recommended for heating when natural gas is available.
- The example here uses a mix of water and anti-freeze circulated through copper pipes.
- The solar thermal evacuated tubes or the solar flat panel heats the liquid.
- As the liquid circulates, its heat is **conducted** through the copper pipes to flooring that is usually a material with high **thermal mass** like concrete.
- The heat **radiates** from the floor, warming our feet, walls and furniture. Radiation never warms air. It can only warm another surface.
- Air picks up heat from the floor by **convection**. The heat then travels with the air to warm the room.

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