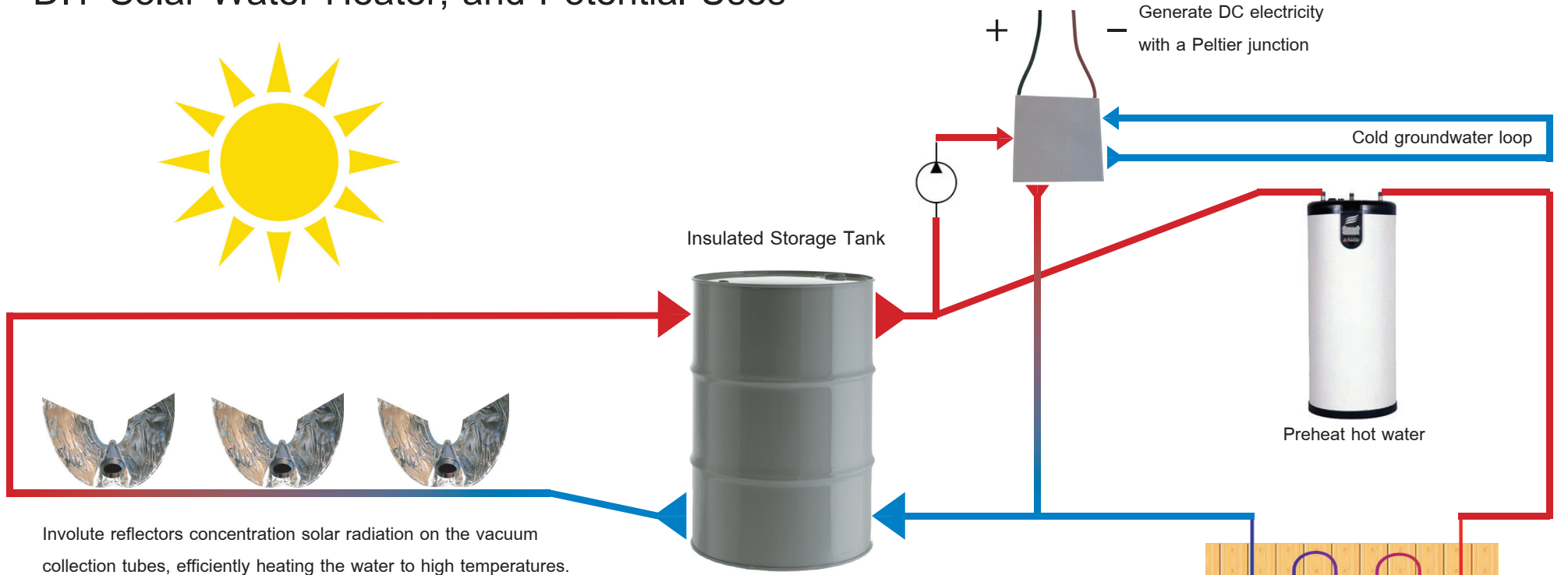
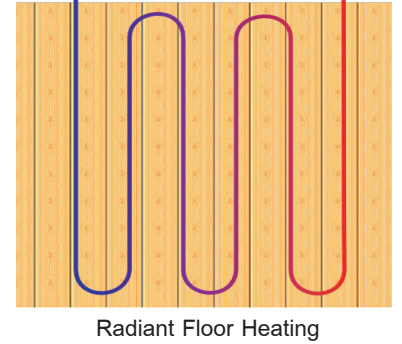


DIY Solar Water Heater, and Potential Uses

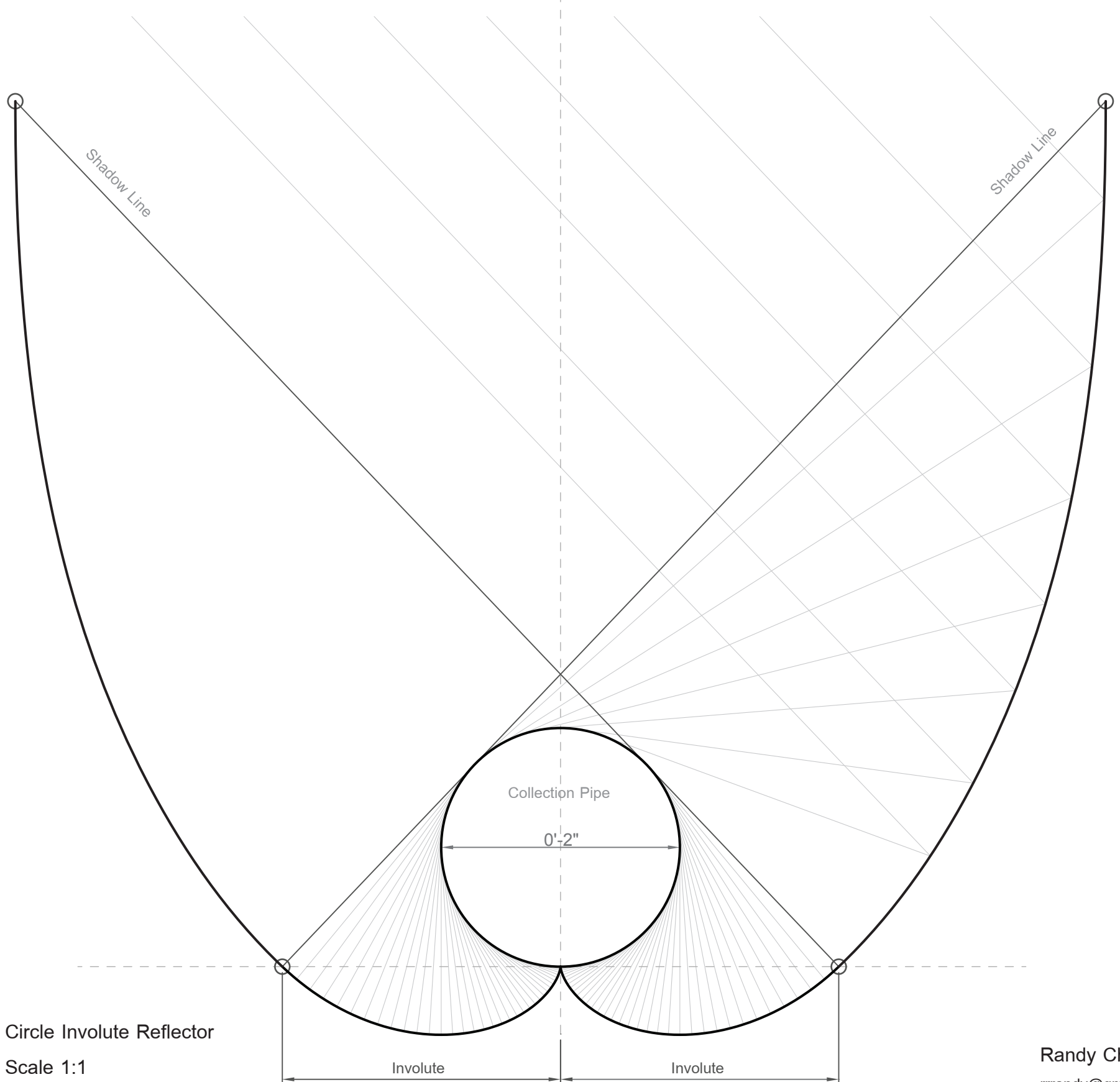


Involute reflectors concentration solar radiation on the vacuum collection tubes, efficiently heating the water to high temperatures.

The shape of this reflector has a special property: regardless of the angle at which light enters, the light is reflected into the same circular target area. When the target area corresponds with the vacuum collection tube, this means that the vast majority of the light falling into the trough is collected by the vacuum tube as usable heat. These reflectors, when properly constructed, will multiply the output of a vacuum collection tube by 3.5 to 4 times. Since the reflector collects light regardless of how it enters, that means this is effectively a stationary tracking system. Systems based on parabolas require precise motors to perform constant realignments, as being off by a few degrees means most of the energy will be lost; this system works with no motion at all, regardless of the season and the sun's position in the sky.



Radiant Floor Heating



Circle Involute Reflector
Scale 1:1

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Open Source Hardware,
Definition 1.0