When Ms Bakewell relocated from the Midwest to the Southwest, she fell in love with the historic charm of the early-1900’s adobe homes. She purchased a small bungalow with plans to expand the footprint of the home, including guest quarters. With heat used minimally in the Southwest region, Ms Bakewell wanted an efficient and no maintenance solution. She opted for electric underfloor heating throughout the house’s tile and concrete floors. With electric radiant heating, Warmup® created zones between the main residence, each bathroom and the detached guest suite separately. Warmup’s 4iE Smart WiFi controls allow the Bakewells to heat only the zones that are in use - for seamless management when at home or away.

**Results**
- 900 sqft bungalow increased to 2,000 sqft.
- 652 sqft of heated floors for a total of 9,788 Watts
- 6 zones; each controlled with its own 4iE Smart WiFi thermostat

**Consumption & Photovoltaics**
- 845 Heating hours annually - Heating period of 13 weeks and 65 hours weekly
- Total of 8,270 KwH**; 845*9,788 the actual measured draw in 2014/15 averaged 2,757 KwH.

This is because: (1) not all zones are on at all times. Spaces are programmed at different times. (2) During programmed heating periods, the heat bank created by the tile, stone and thinset allow the heat to cycle “on” at about 1/3 of the time and keep the floors at the desired temperature.

**Cost: $0**
As actual measured EFH consumption represents just over 35% of total system production.
The 4iE® Thermostat
The 4iE® is an intelligent thermostat that learns from your manual heat settings and time periods, then creates an automatic heating schedule based on them. The 4iE® is ideal for use with line voltage heating sources such as baseboards and electric underfloor heating systems.

MyHeating.com & App
Use your smartphone, tablet or computer to control your heating online. Connect to the web portal on My.Heating.com or through the Warmup app. The 4iE® gives you more control – it allows you to evaluate your energy usage and optimize your heating using tips.

SmartGeo™ Technology
But the real innovation lies in its SmartGeo™ capability, which uses cell phone location technology to determine whether your home needs heat or not. With SmartGeo™, the 4iE® can control your home’s heating and can reduce your energy usage up to 25%. Using the location services technology from your smartphone, it learns your routines and creates the most efficient settings for your home. So your home is always at the right temperature without ever having to touch the thermostat.

High Style Design
The 4iE® sleek design looks great in any home. It can be customized to match decor with overlays available in bold colors, textured metal and wood effects. The large color touchscreen displays the 7-day weather forecast and can be customized with different themes and backgrounds.

Voice Commands with Natural Language Programming™
Natural Language Programming™ uses familiar terms and phrases to understand the requirements for your heating program, for example ‘What time do you wake up?’ Your inputs then build a simple sentence that summarize your programming choices.