**Review 1  
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**Comments for the Authors**  
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**Please fix formatting issues according to the template and correct reference errors in the text.**  
Fixed.  
  
**Review 2  
========  
Comments for the Authors**  
------------------------  
**1. Format issue: Please follow the paper template for Herrick Conference strictly (e.g., alignment, page limitation, required empty line, etc.).**

Fixed.

**2. Error bookmarks in equations 7-9.**

Fixed.

**3. The definitions of Qrad in model 1 and model 2/3 are different.**

I have made a clearer definition for Qrad, which is the required energy to heat or cool the water within the radiant slab pipes.

**4. The mean absolute percentage error of the hybrid model is still high and over 19%. How do you explain the accuracy of the model.**

I will start my explanation from the following example: Given 4 metered energy use values with 15 minutes as one time step: -1kw, -1kw, 1kw, 1.1kw. And the corresponding predictions are: -0.9kw, -1.1kw, 1kw, 1kw. How to calculate its **hourly** mean absolute percentage error (MAPE)?

Previously

|  |  |
| --- | --- |
|  | (1) |
|  | (2) |

Now,

|  |  |
| --- | --- |
|  | (3) |
|  | (4) |

In sum, absolute prediction difference is determined using signed energy usage values, whereas the prediction difference is normalized using absolute energy usage. The key point is I used the **absolute energy** uses to normalize prediction errors for the current revision. The current revision makes more sense than my first submission since we want to keep signs to evaluate if the prediction direction (cooling or heating) is correct or not. However, if we want to normalize the prediction difference, its reference base (denominator) should be calculated with **absolute** energy usage. To be specific, for the 4 metered values: -0.9kw, -1.1kw, 1kw, 1kw, we cannot say “its hourly energy use is **0**”.