

**From:** [Harvey Sachs](#)  
**To:** [Dave Schryver](#)  
**Cc:** [Andrew deLaski](#); [Hunt, Marshall](#); [Daniel Lapato](#)  
**Subject:** RE: Gas heating needs of "Philadelphia Row Houses"  
**Date:** Thursday, May 28, 2015 6:12:11 AM

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Excellent, and thanks. I'm not available Monday or Tuesday of next week, pretty flexible the rest of the week.

harvey

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**From:** Dave Schryver [mailto:[dschryver@apga.org](mailto:dschryver@apga.org)]  
**Sent:** Thursday, May 28, 2015 8:30 AM  
**To:** Harvey Sachs  
**Cc:** Andrew deLaski; Marshall B Hunt; Daniel Lapato  
**Subject:** RE: Gas heating needs of "Philadelphia Row Houses"

Harvey, thanks for the email. I think it would be good to work together on this and we very much appreciate the offer. Philadelphia Gas Works is one of our members and a good first step may be to set-up a conference call with our groups to discuss the row houses in their community. If that sounds like a good first step to you we can try and set that up for next week. Dave

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**From:** Harvey Sachs [mailto:[HSachs@aceee.org](mailto:HSachs@aceee.org)]  
**Sent:** Wednesday, May 27, 2015 5:03 PM  
**To:** Dave Schryver  
**Cc:** Andrew deLaski; Marshall B Hunt

**Subject:** Gas heating needs of "Philadelphia Row Houses"

As part of the process, it seems useful to understand the parameters and heating loads of the iconic row houses for which there is concern about preserving the ability to continue offering non-condensing furnaces. We can have solid simulations done, but it would be much more meaningful if we could agree on the basic parameters. The kinds of things we would need to agree on and include in load or energy models would include:

- Most common size of individual unit (square feet).
- Most common number of floors.
- What's insulated and how well? We'd assume worst case with moderate (R-15?) insulation between ceiling and roof, unless we can get better data.
- Windows. Number and size (or total window area) and whether to assume double-glazed, better, or single-glazed.
- Fraction that are end units, as opposed to having similar units on both sides.

I don't think we need to get to details such as ratio of units on streets that run N-S vs. E-W, which affects winter solar gain, but our modeler will tell us what I've missed.

I only have one data point, and it's not completely applicable. About 1980, we thoroughly retrofitted a village farmhouse near Princeton, NJ, of about 2000 heated sf. That involved very good "house-doctoring" and some wall insulation, but it was a free-standing house. On our worst winter day (24 hr @0F, strong NW wind), the 75,000 Btu non-condensing furnace used a measured 35,000 Btu/hr (input). In real engineering, we call such "data," an "anecdote." So I want some real data to replace my belief that the critical capacity is probably smaller than 50,000 Btu/hr.

Can we work with you on this?

Thanks,  
harvey