

THE BIG QUESTIONS

What Can You Learn . . .

From a Building's HISTORY

- Name:
- Location (city and state):
- Type (commercial, school, government, etc.):
- Year built:
- Average number of people using the building each day:
- Average number of hours each week the building is used:
- Months per year the building is used:
- Square footage of the building's floor space that is heated/cooled:
- Is the building air-conditioned?
- What type of system heats and cools the building? (If the type cannot be determined, enter "constant volume," the most commonly installed system.)
- What updates have been done to make the building more energy-efficient (lighting, insulation, roofing, windows, heating/cooling systems, hot water heaters, etc.) and when?
- Besides electricity, what fuel(s) is/are used to heat/cool the building?

From a Building's BILLS

Electricity: When reading the annual or monthly electric bill, what is the total cost? What is the kWh or \$/kWh?

Natural Gas: On the natural gas bill, what is the total cost? What are the Therms or \$/Therms?

Propane: What is the total cost? What are the gallons or \$/gallons?

Fuel Oil: What is the total cost? What are the gallons or \$/gallons?

Get answers to as many of the questions on the next page as you can. The answer may be "I don't know"; that's OK. But the more questions you can answer, the more informative your audit will be!

INTERNET ACCESS

If your team has assigned the data inputting to a girl/adult pair, be sure they do so at <http://energy.trane.com> and then deliver the results to the full team so all the girls can analyze it.

Don't have online access? Check with a library or a school, or a Network member who might help.

Still no luck? Simply mail the team's answered questions to Trane. An analysis of your energy audit will be returned to you in two to three weeks. (Mail to: Trane, ATTN: Perri Richman, 1 Centennial Avenue, Piscataway, NJ 08855)

From a Building's EXPERTS

- Does the building have an automation system?
- How much do you lower the temperature at night or during off-peak times?
- Do you have any indoor daylighting sensors and/or occupancy controls?
- How many elevators and/or escalators are typically in operation in your facility?
- Do you have any service agreements on your HVAC or automation equipment?
- How is the facility's water heated?
- What is the average temperature setting for your hot water system?
- How do your facility's hot water needs compare to those of similar facilities? (For example, a hotel's hot water usage typically would be considered "high" if it had both in-house laundry and a swimming pool. If it had one or the other, it would be "average"; neither would be "low.")
- What type of fuel is used for commercial cooking?
- What is your overall interior lighting load?
- Looking at the outside of the building, what percentage of the wall area is windows?
- What type of windows do you have (overall window U-value)?
- What is the color or tint of the windows (average shading coefficient)?
- How are the walls constructed (overall R-value)?
- How is the roof constructed (overall R-value)?
- What is the efficiency of the heating system?
- How much of the building is mechanically cooled?
- How efficient is the cooling system?
- If the building has a chiller plant, what type of chillers are used?

TIME TO ANALYZE YOUR DATA

Now that you've gathered all this information, what can it tell you? Plenty! But first you'll need some help analyzing it all. With your team, go online and visit <http://energy.trane.com>. Log in using the name Girl Scouts and the password Trane.

Input all of your building's information and you'll receive your building's energy ratings.

The online program will tell you how well your building is doing on energy use compared to other buildings in your area and around the country. It will also tell you the environmental impact of the building. Be sure to name your building so that you can easily find your data whenever you revisit the Trane Web site.