ALL-AGE TALK SUPPLEMENTARY NOTES – HARVEST FESTIVAL, 2 OCT 2011
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Types of light bulbs for the most standard bayonet or screw fittings in homes:

- **Incandescent** - the old classic, clear or frosted glass with a tungsten wire filament - the most common choices are 60W and 100W. They're either filled with an inert, non-toxic gas or a vacuum. Energy efficiency class E and designed to wear out so you buy another.
- **Halogen** - really a kind of incandescent, but with a fancy capsule inside, not just a wire, and a more expensive inert gas. They use 70% of the power of a standard incandescent. Class C - will be phased out as soon as good replacements are widely available.
- **Compact fluorescent (CFL)** - looks like a twisted up tube; uses 1/8th the power of a standard incandescent. Contains mercury so you can't throw them in the normal bin and should air the room if you break one. Slow to start up and they don't come as bright - but the branded ones have improved since they were introduced, and they come twistier now to fit smaller fittings. Class A or B.
- **LED** - uses around 1/10th the power of a standard incandescent and isn't toxic, but not yet widely available; the highest just now is a good 60W replacement. Try the "passage overhead" lightswitch on the porch to see it. Class A or B.

A good compromise is to use CFLs for most things, and halogen where that's not bright enough (e.g., reading lamps), especially if you are elderly or have poor vision. A common problem is not being able to find bulbs that fit a constrained space - the manufacturers are working on it starting with the most popular existing bulbs. Almost all the bulbs on shop shelves are still incandescent or halogen (shops sell what the customer knows, and even the ones that care about the environment have trouble getting good bulbs in).

Our church lights - on this floor, 89 light bulbs, 44 lightswitches (in use), and roughly 10 kW - the equivalent of 100 old fashioned 100W light bulbs.

- area lighting for separate spaces (720W). 360W each for the back and side chapel, both using reflector bulbs (which just means a funny shape and with a coating that pushes the light one way). The back is standard incandescent, and the side chapel is halogen - which means they're next to go. Until last month, the side chapel had CFLs using 1/4th the power, but was only around half as bright.
- lighting to see by (2640W) - metal halide/low pressure sodium floodlights, like what used to be in stadiums and car parks but is now being replaced with floodlights that are banks of LEDs. Nave: 10 at 250W each (2 white, 2 pink in the back); chancel: 2 at 140W each. The back is already lit, but without them, it would be dark high up.
- theatre lighting (1680W). Fom the front - 14 halogen spotlights, 100W each. From the back: 4 50W halogen spotlights and 2 40W incandescent reflector bulbs. We can't just turn it off because the chancel floods are a bit dim for the choir and priests to read.
- display lighting (5000W) - The ambulatory glow is 3 58W fluorescent tubes, and also gets used to see by for people working in there during the week. The rest are halogen tube uplights:
  - pinnacle on the screen - 1 at 150W each
  - chancel ceiling - 2 at 150W each
  - 8 nave ceiling lights - 8 at 500W
  - rose windows - 2 at 500W each (I think)