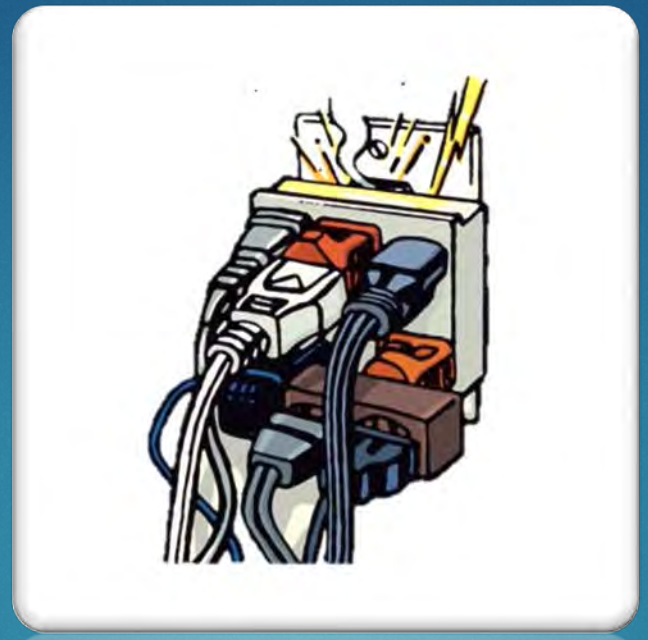
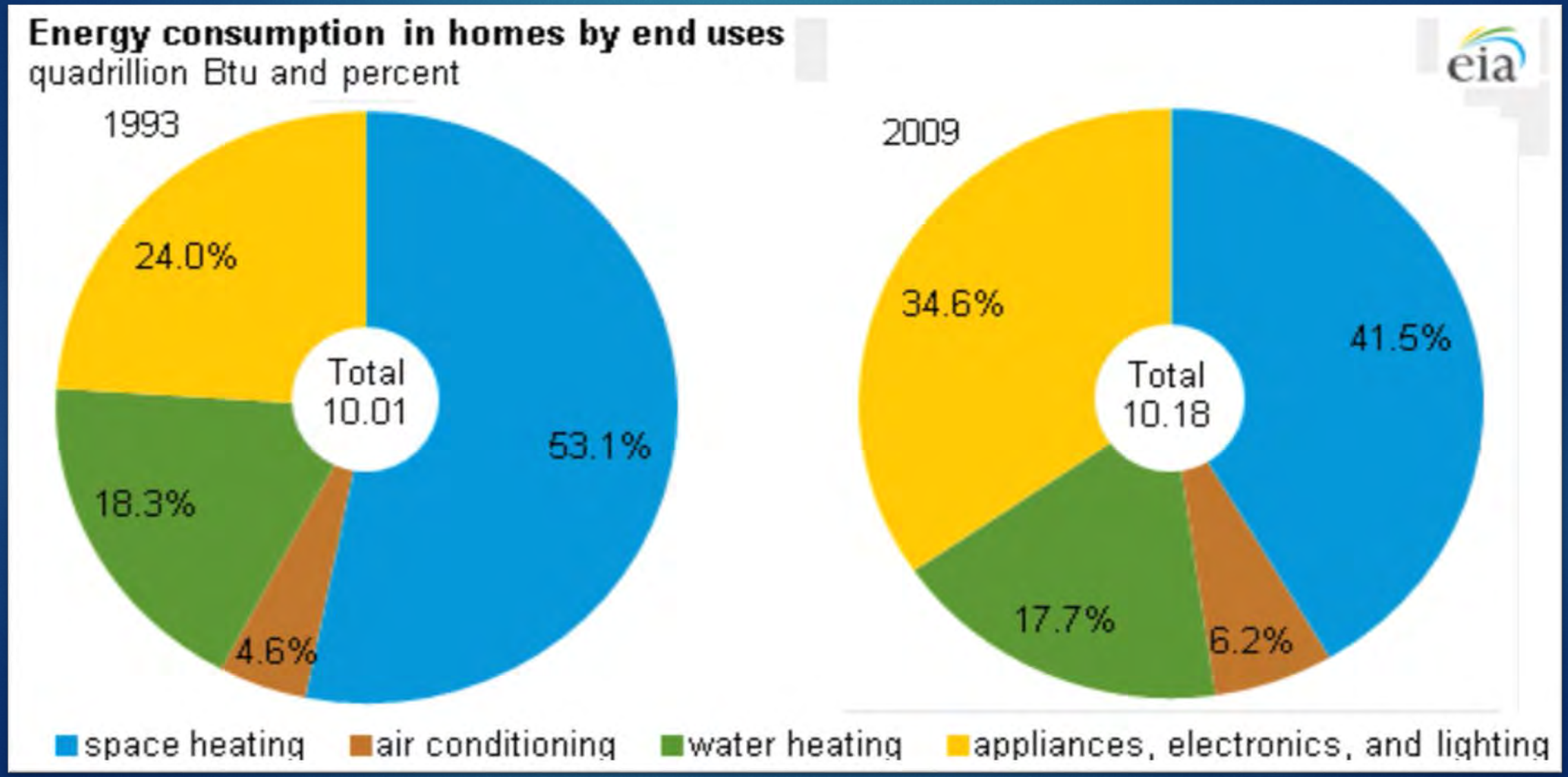


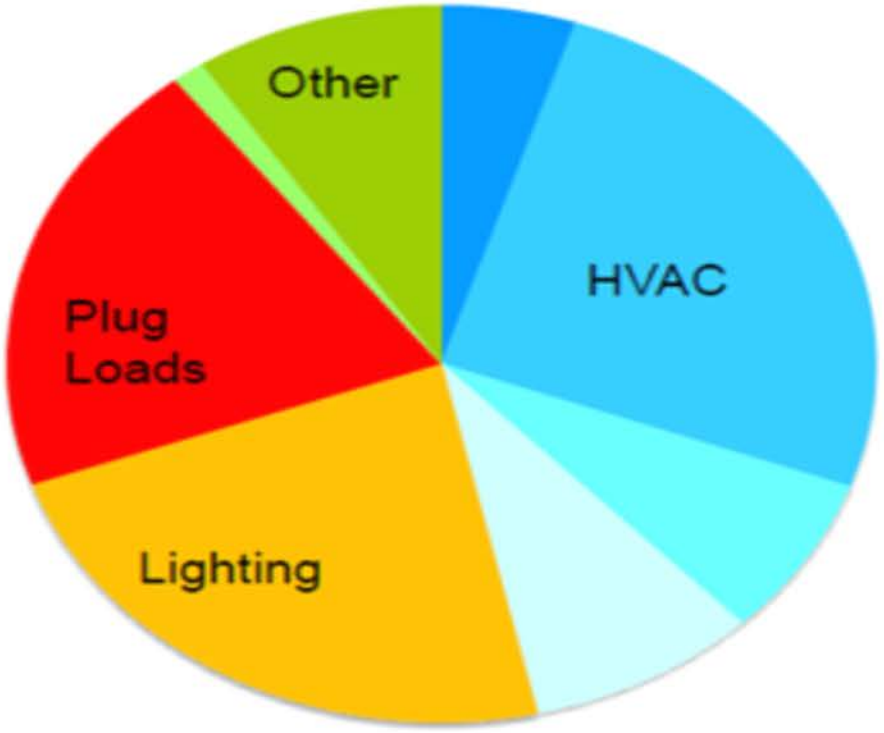
The Problem of Plugs

PLUG LOADS AND THEIR GROWING IMPORTANCE IN ENERGY CONSERVATION

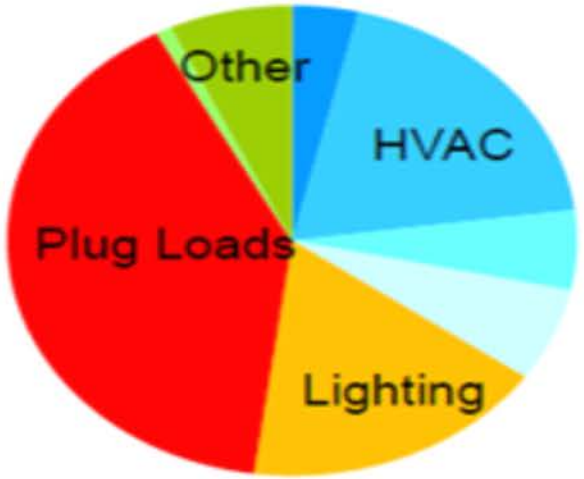
Home energy consumption



Commercial energy consumption

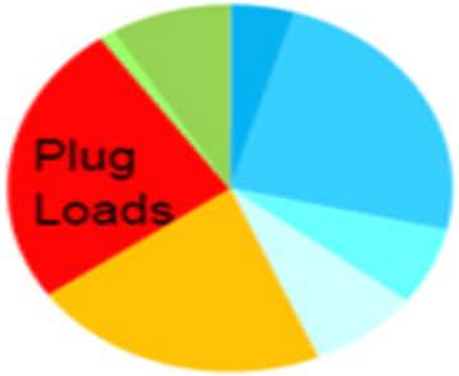


Standard Commercial Building



High Efficiency Design

~50% below standard

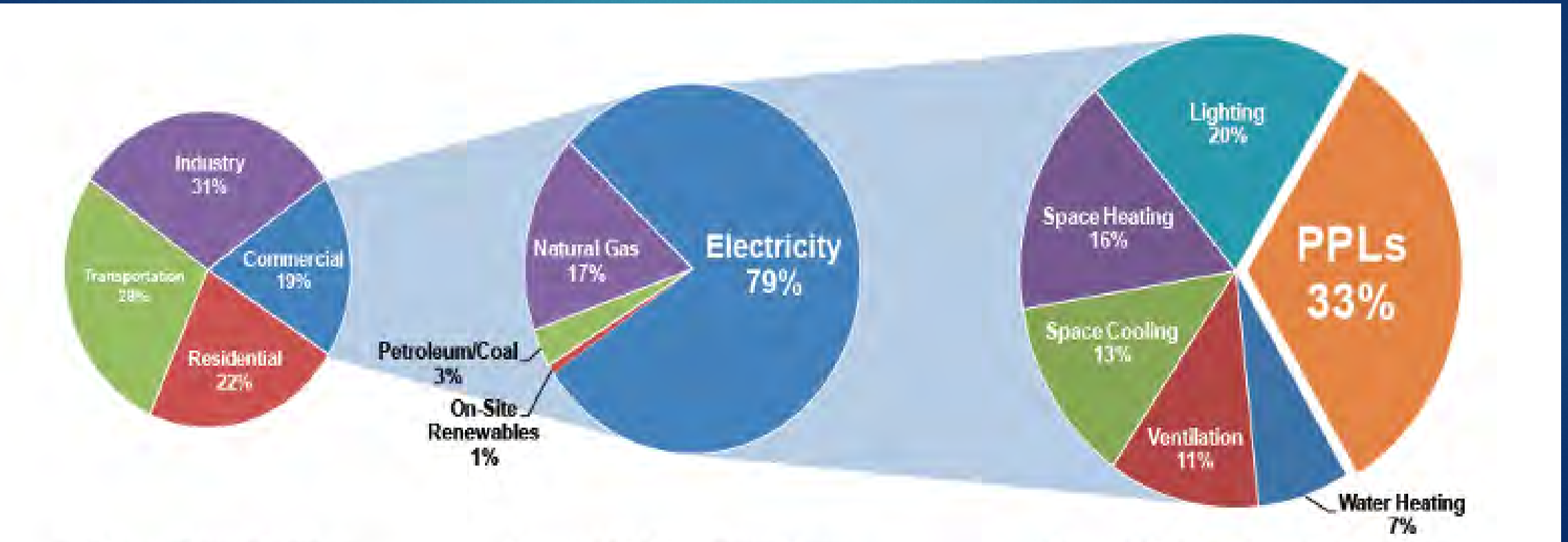


High Efficiency Building + Optimized Plug Loads

~60% below standard

More devices = More power

One third of all commercial buildings electrical energy use is plug loads.

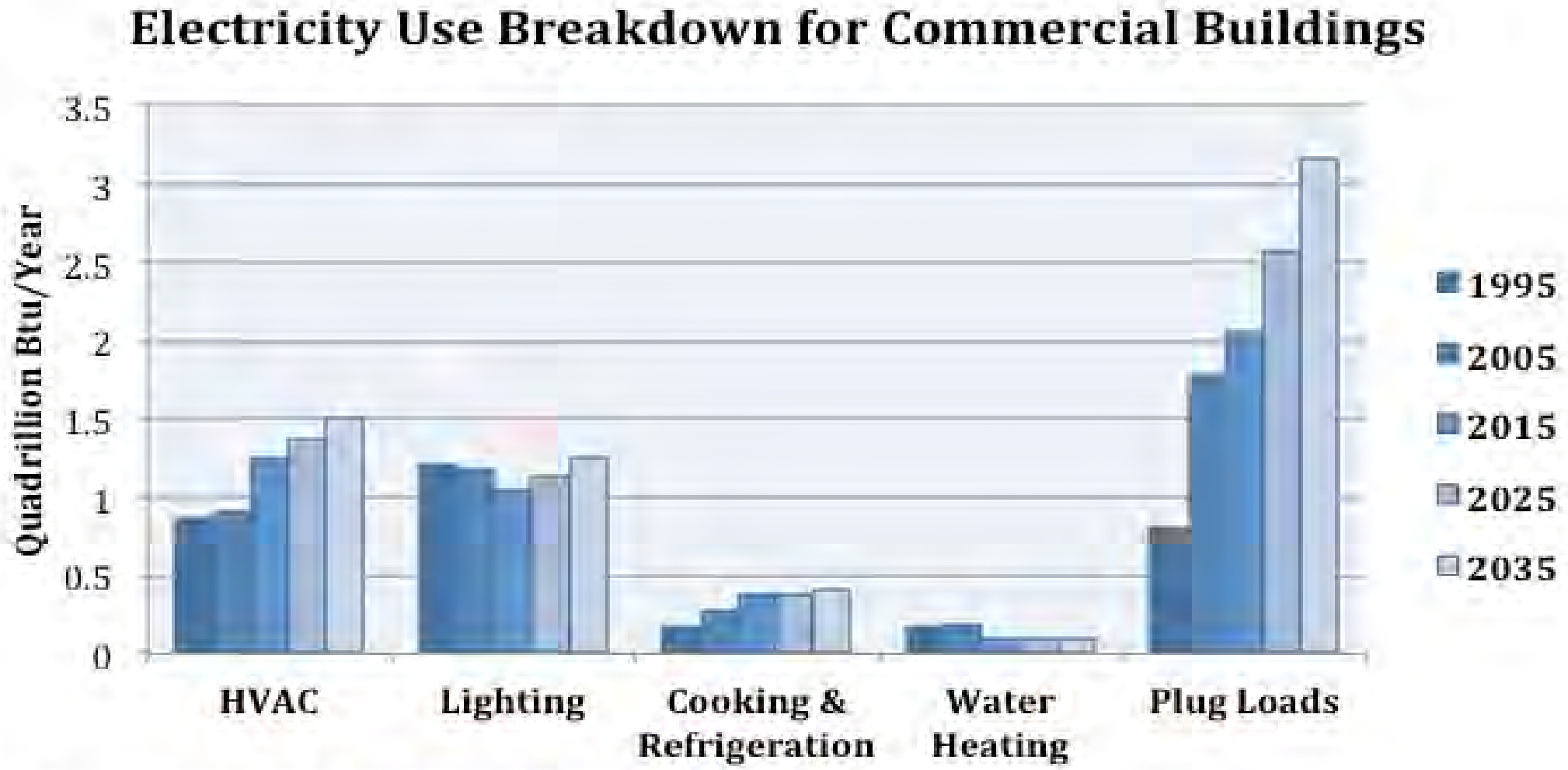


U.S. Primary Energy Breakdown

Commercial Buildings Energy Sources

Commercial Buildings Energy Use Breakdown

Projected energy use over time



(Graph was created from Annual Energy Outlook data)

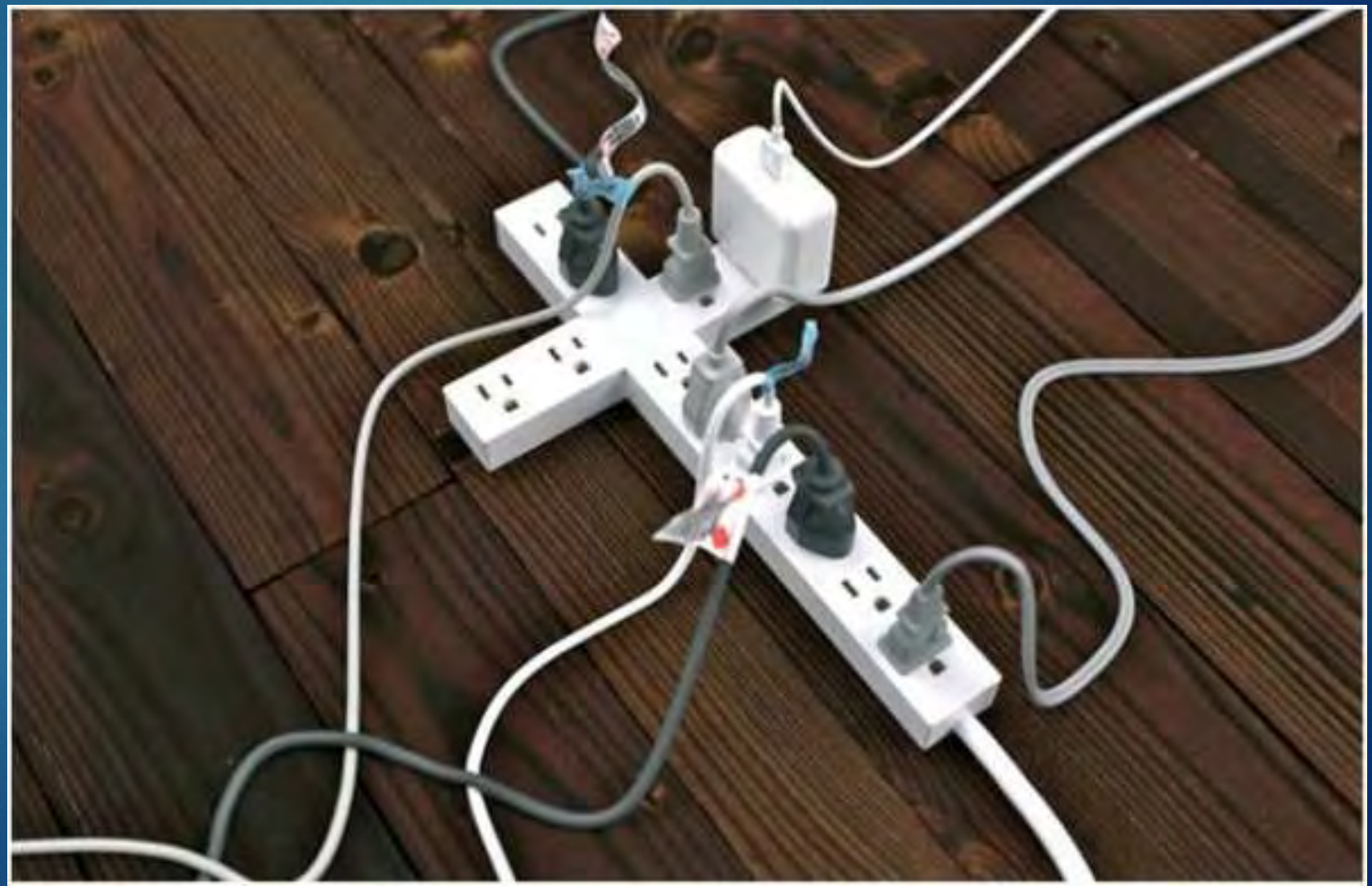
The Problem of Plugs is:

We feel we have a fundamental right to plug things in!

Power is “free” to the user.

“But it’s only a ____”

-Cell Phone
-Light
-Computer
-Fan
-Space Heater
-Refrigerator
-Whatever



Identify, Monitor, Remove, Reduce

- Identify problem plug loads
- Monitor energy use
- Remove the most egregious energy users
- Turn it off! Including the vampire power!
- Use smart controls
- Use more efficient appliances
- Educate the users that electricity is not free
- Use renewable energy

What home appliance consumes the most energy?

- Coffee Maker
- Hair drier
- TV
- Video Game
- Computer
- Toaster Oven
- Refrigerator

Residential energy use by appliance

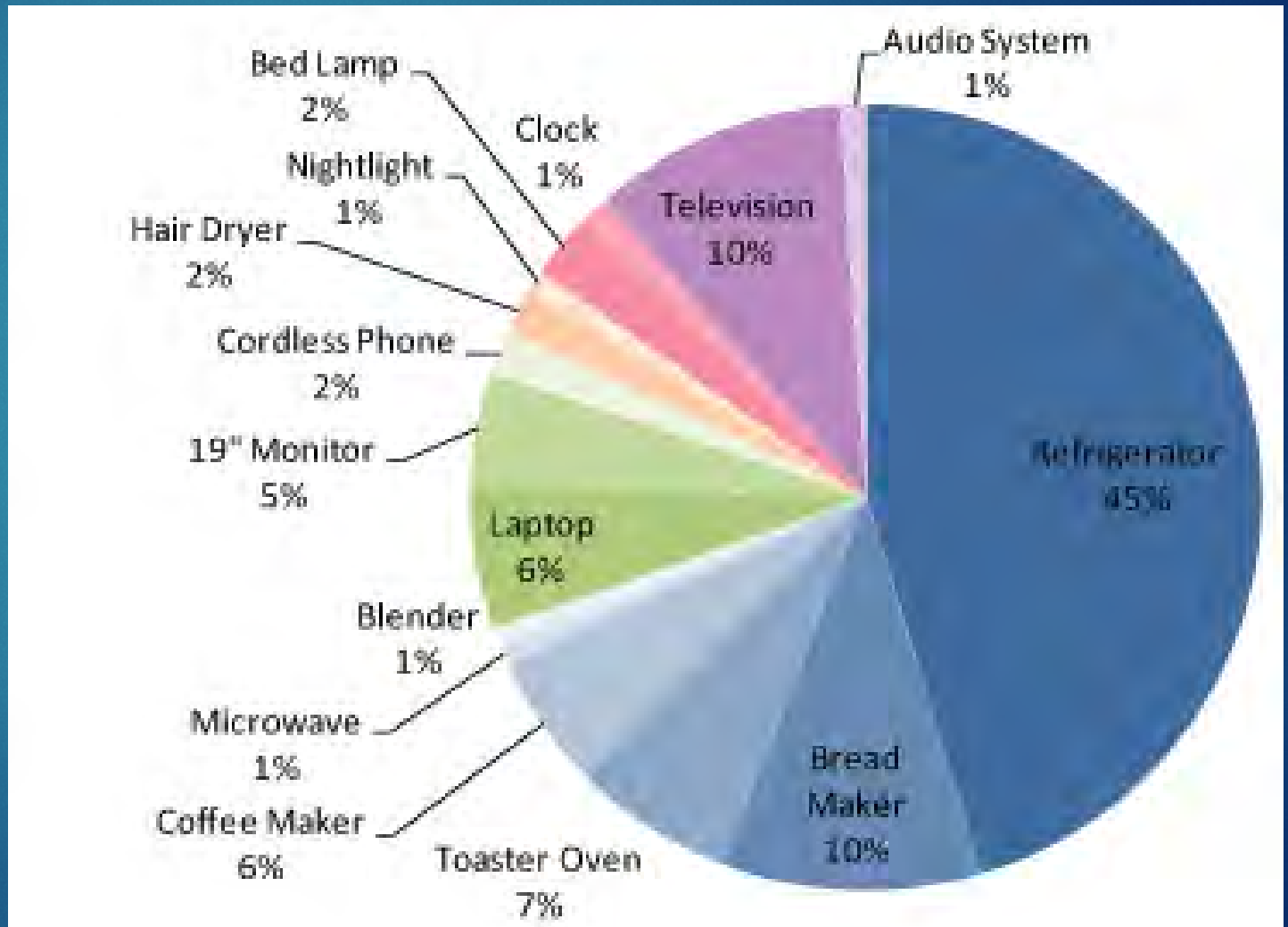
But the refrigerators one of the most essential appliances.

So we need to address the non-essential appliances first.

Turn the TV off when you are not watching it! Use the radio for background sound.

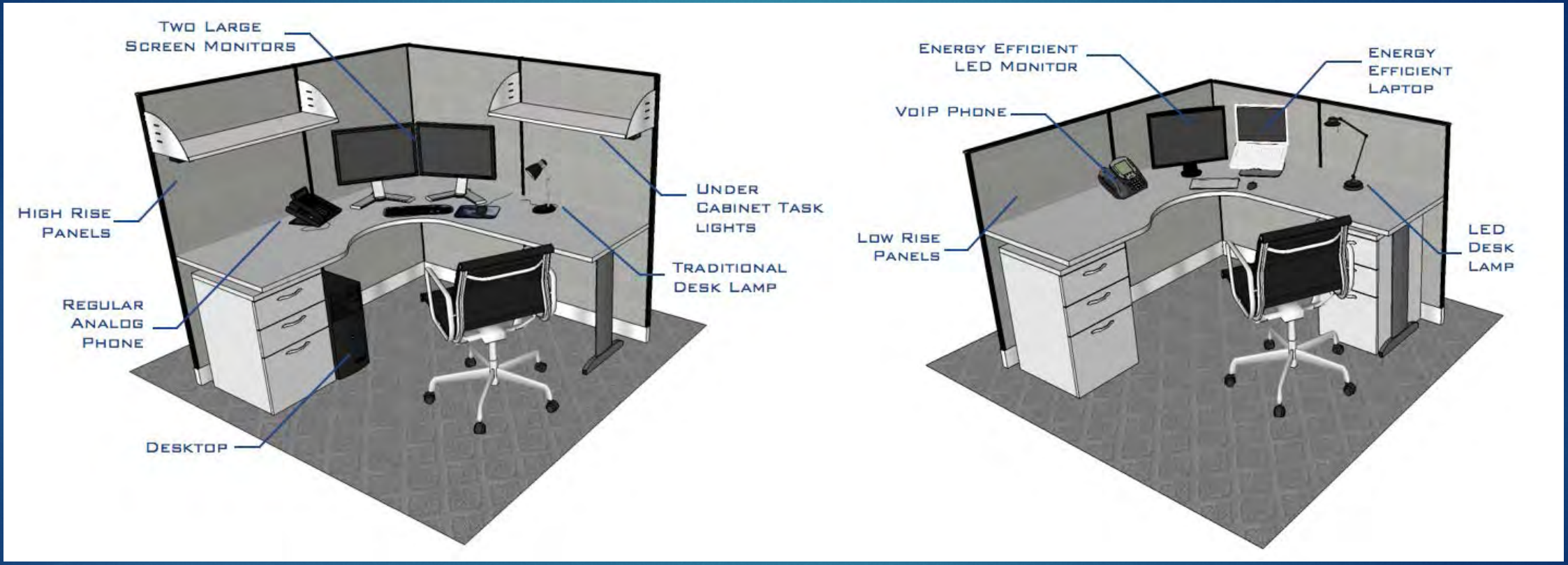
Use a laptop instead of a desktop

Use a one cup coffee maker or heat water in the microwave

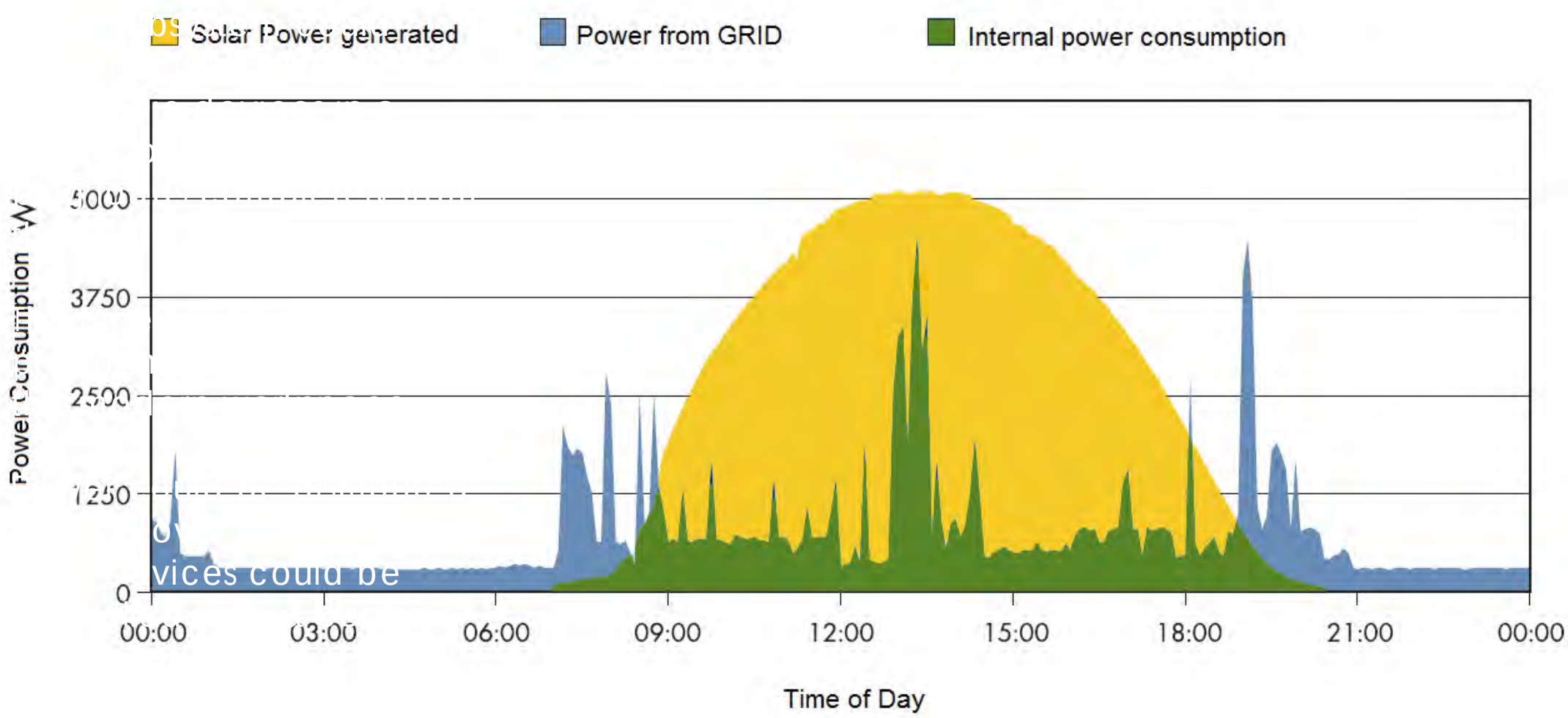


Two of the biggest office offenders

Efficient work stations



Renewable energy subsystem



Thank you!

Any Questions?

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