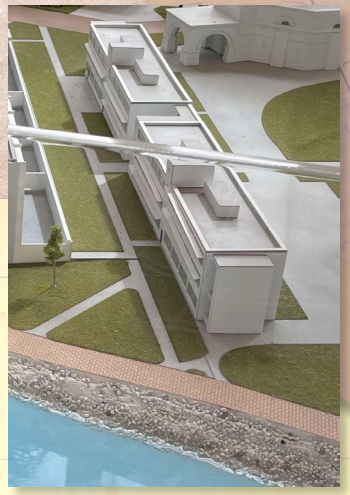
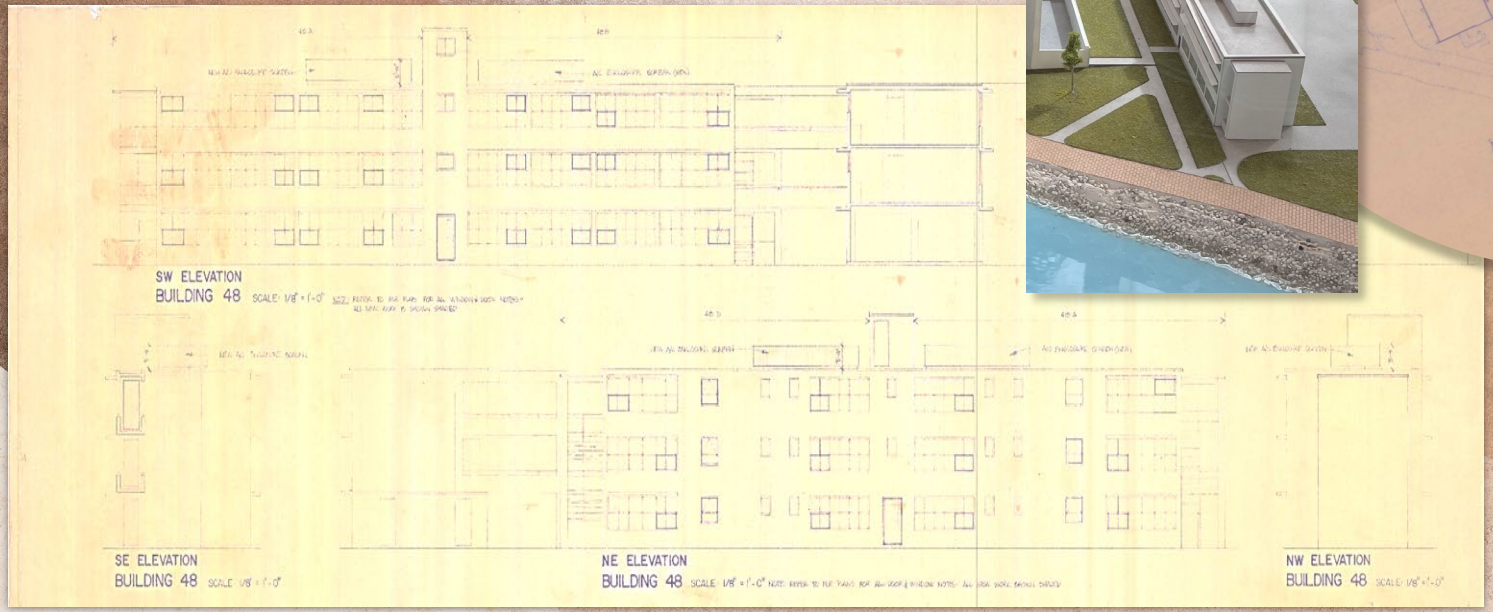
BUILDING 49 TO NET ZERO

FLINT PORTER
LE QUAN
HALEH MOGHADDASI
ARC 685

BUILDING 49 STATICS

Area (SF): 16200
Floor (s): 3
Number of Inhabitants/User: 300
Hours of Operation: 24h/day, 7 days/week
Energy Sources: Electricity

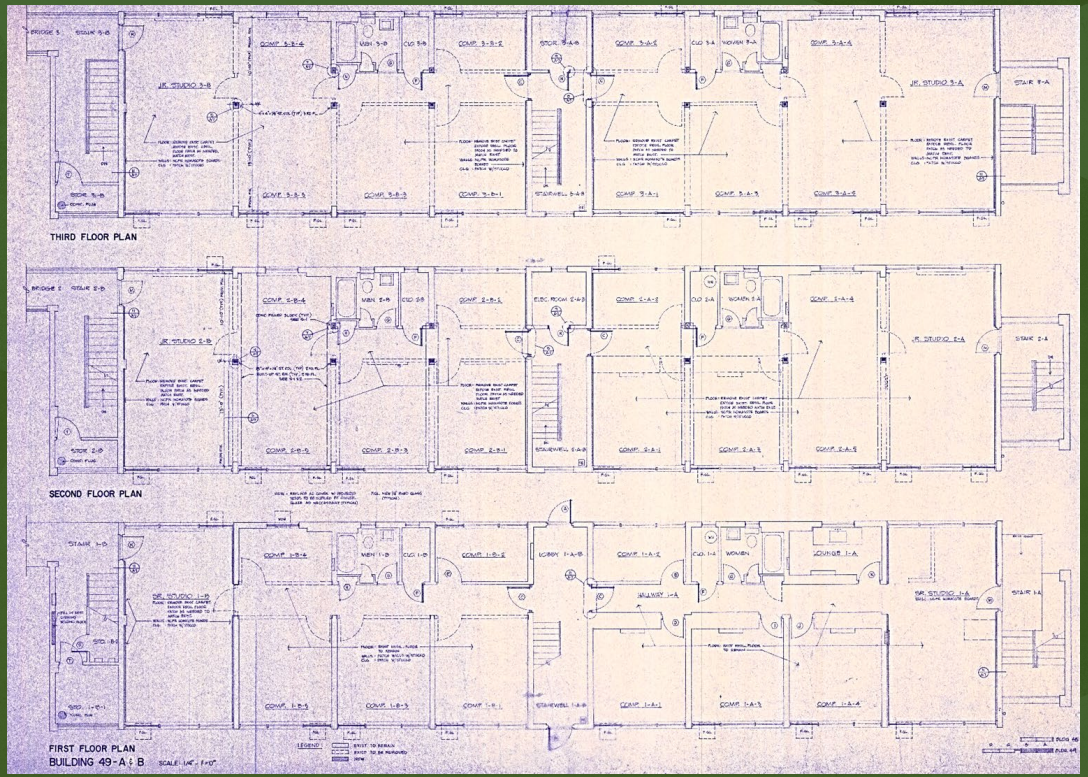




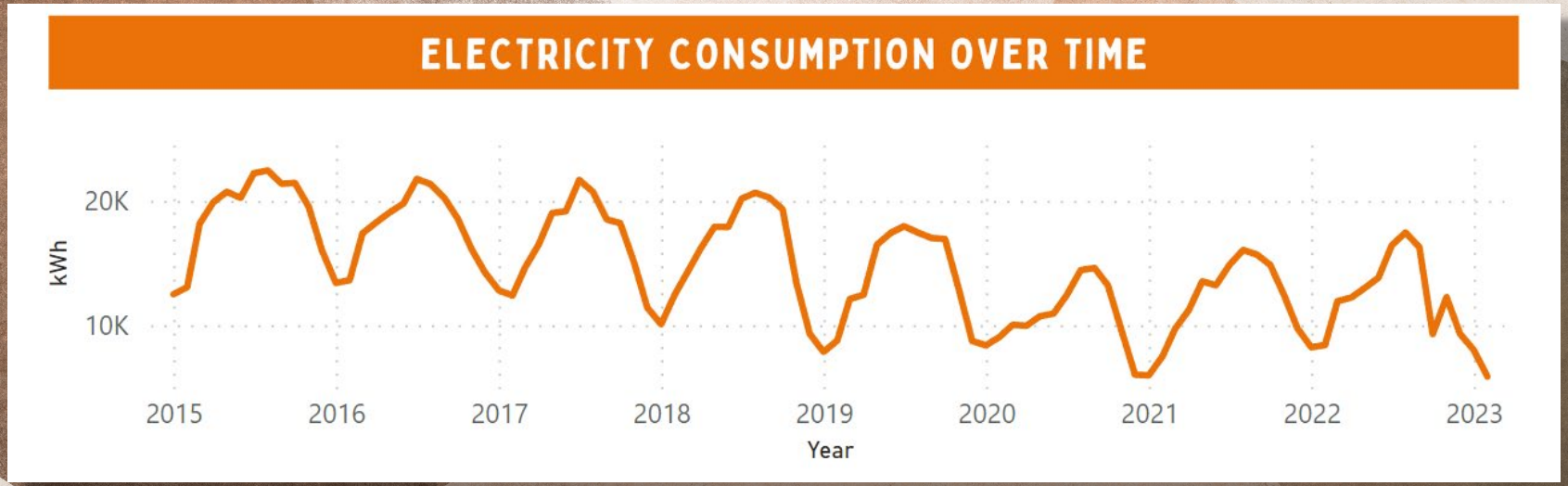
BUILDING 49 EXISTING INFRASTRUCTURE

BUILDING 49 ELECTRICITY USAGE

Heating	12
Cooling	12
Hot Water	x
Cooking	N/A
Oven	N/A
Refrigerator	2
Dish washer	N/A
Printers	5
TV/Computer/Screens	67
Lighting	594
Microwave	1
Fire Alarm	60
Vending Machines	2

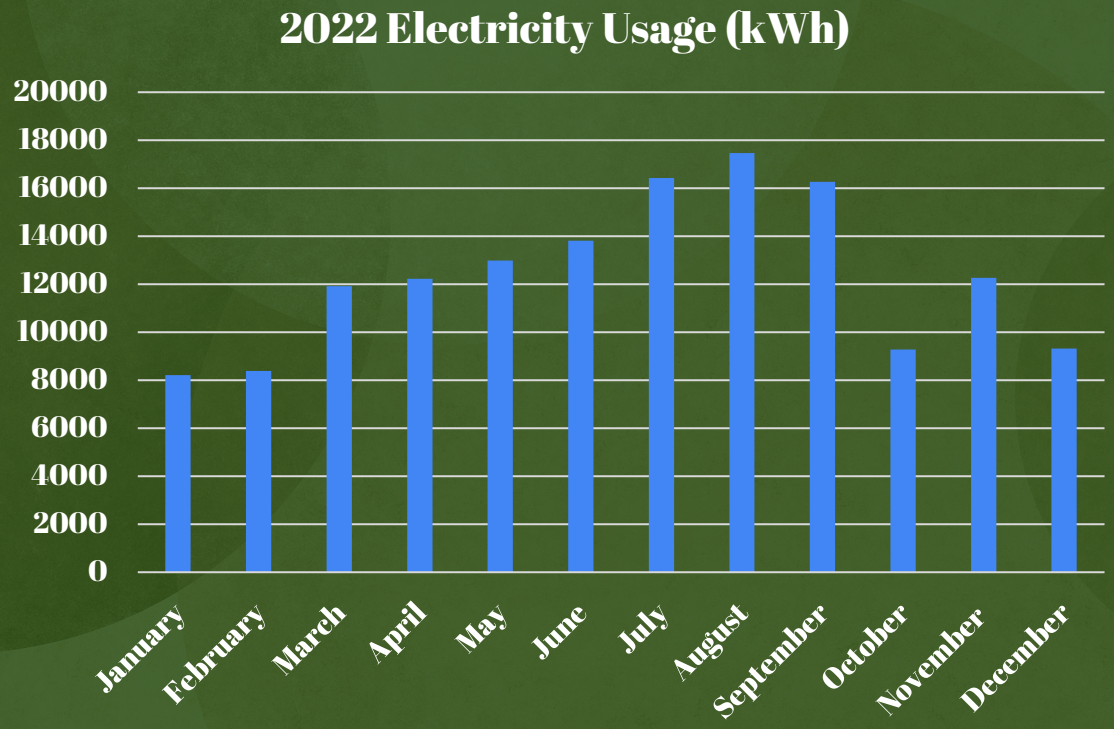


BUILDING 49 ELECTRICITY CONSUMPTION GRAPH



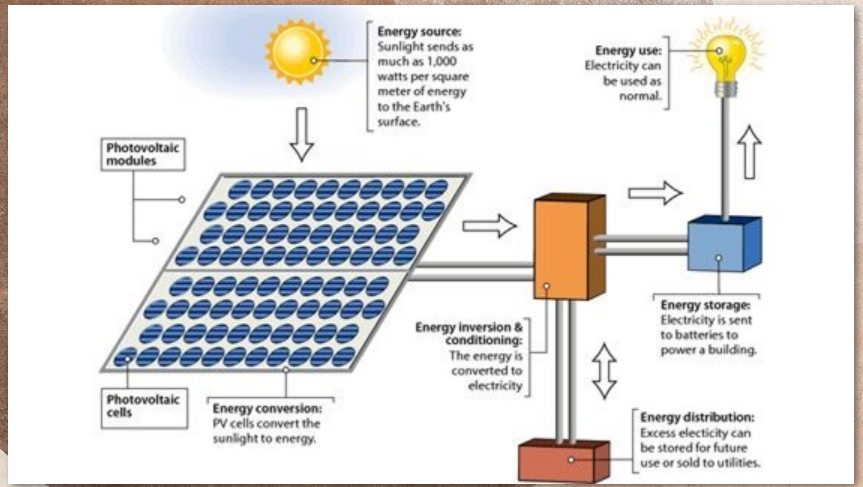
BUILDING 49 2022 CONSUMPTION CHART

YEARLY CONSUMPTION: 148,517.75 kWh



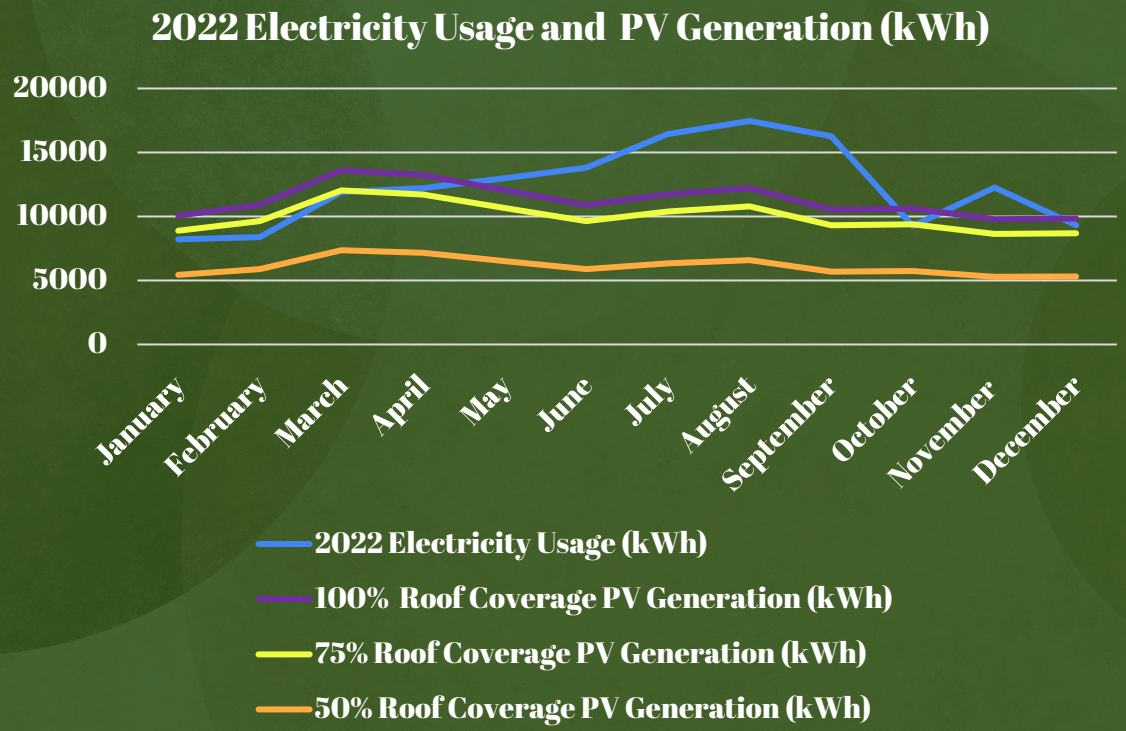
RECOMMENDATION 1

SOLAR PANELS



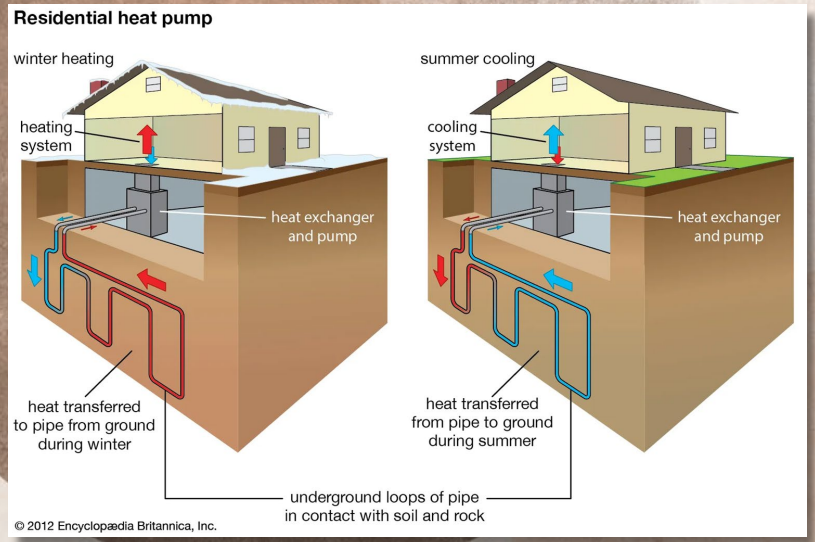
BUILDING 49 PV GENERATION CHART

YEARLY GENERATION: 135,555.87 kWh (100%), 119,853.18 kWh (75%), 73,225.81 kWh (50%)



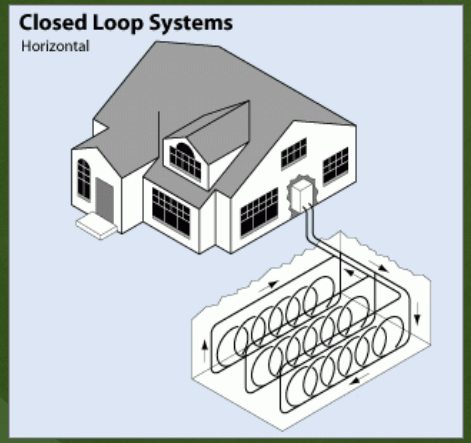
RECOMMENDATION 2

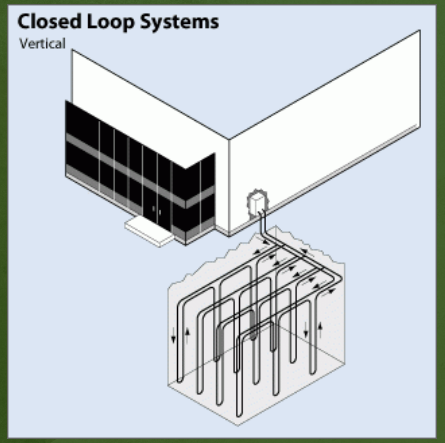
GEOTHERMAL HEAT PUMPS

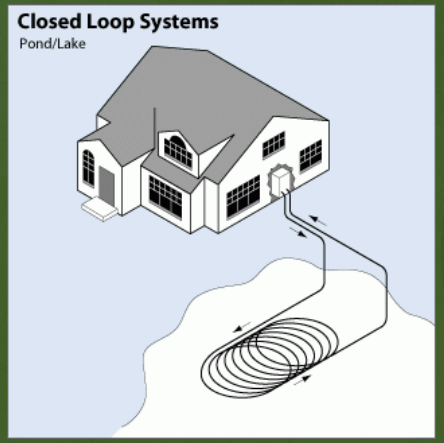


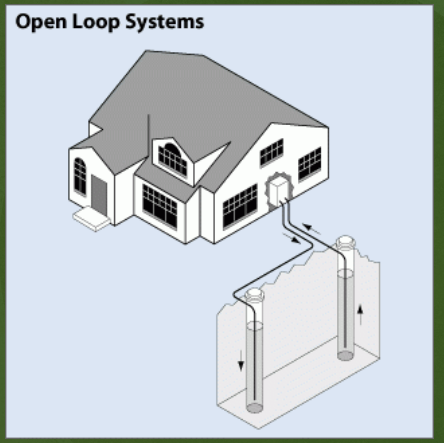
GEOTHERMAL

GEOTHERMAL HEAT PUMPS USE 25% TO 50% LESS ELECTRICITY THAN CONVENTIONAL HEATING OR COOLING SYSTEMS







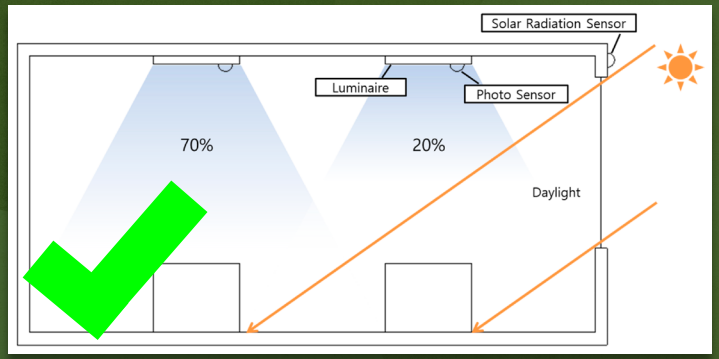


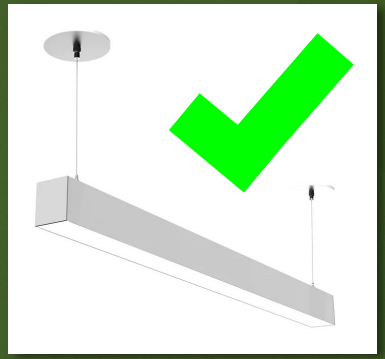
RECOMMENDATION 3

- **LED LIGHT**

A CFL uses 15 watts and costs $75 of electricity per year. LED uses 8 watts of power, and costs $30, a year and last 50,000 hours, possibly more.

	LEDs 10W/800 LUMENS	CFLs 10W/450 LUMENS
ENERGY EFFICIENCY	Best	Good
TYPICAL LIFESPAN	25,000 hrs	8,000 hrs
YEARLY COST	$1.34/yr	$1.73/yr

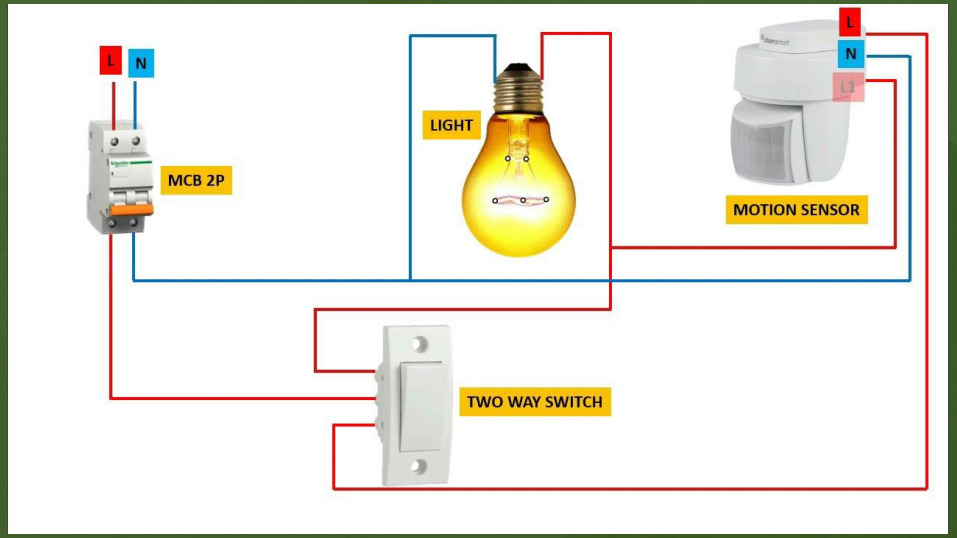




RECOMMENDATION 3

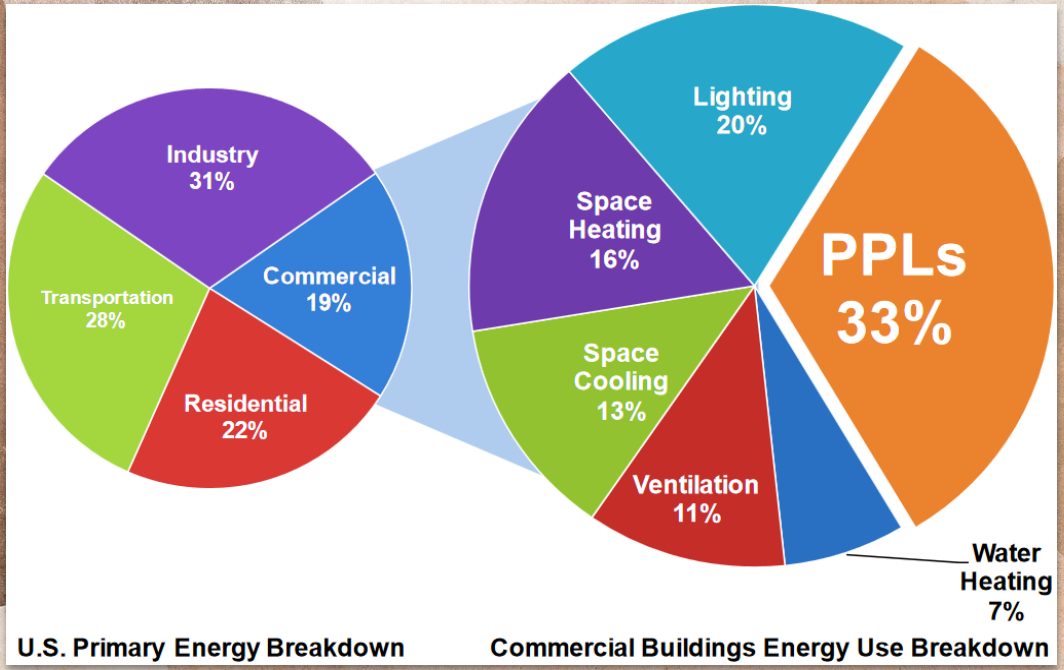
- **DIMMERS**

- **SENSORS**



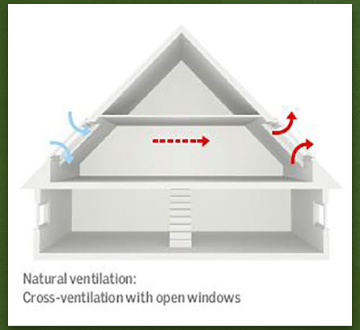
RECOMMENDATION 4

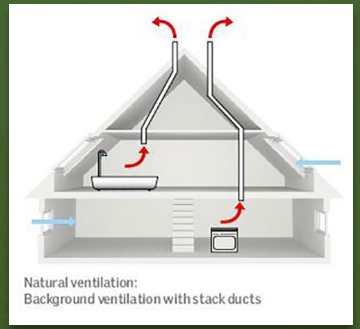
- REDUCE PLUG LOADS LEAKS



RECOMMENDATION 5

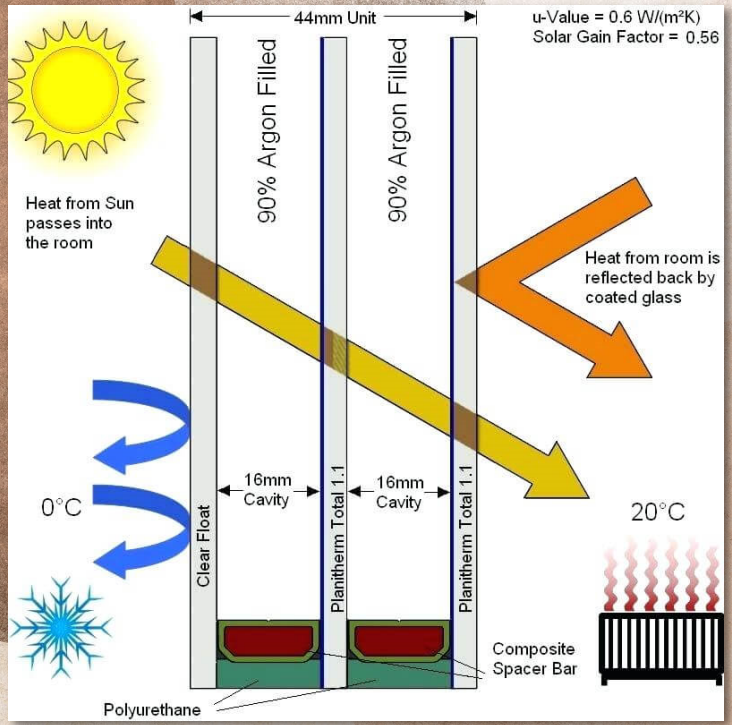
- **PASSIVE VENTILATION**





RECOMMENDATION 6

- TRIPLE GLAZED WINDOWS



FIN

GRACIAS Y DE NADA

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