Energy & Electricity

DATE: XXX

VENUE: XXX

XXX

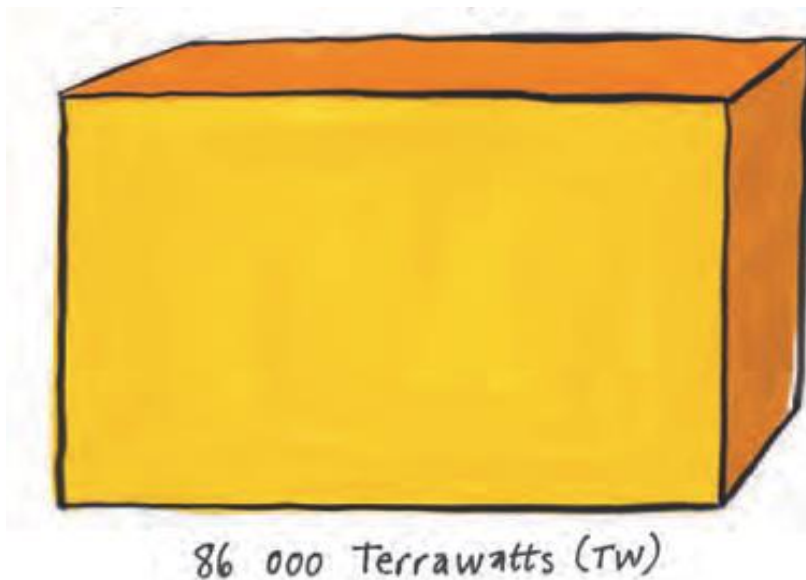Job Title: XXX

There are different sources of energy

- **SUN**
- **WIND**
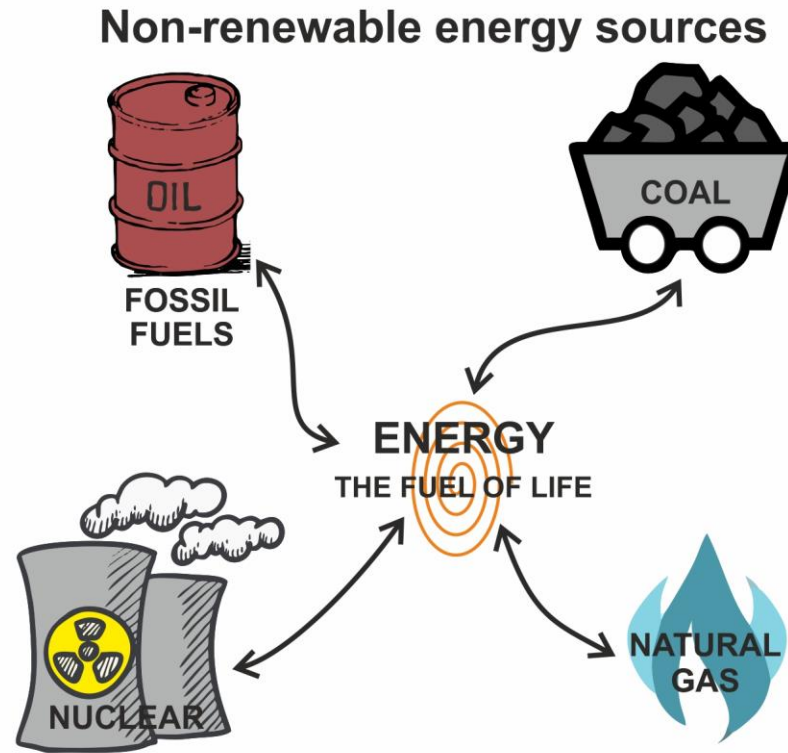- **WATER**

Energy is measured in Watts

86 000 Terrawatts (TW)

Wind 870 TW

geothermal 32 TW

hydro 7.2 TW

global human energy consumption 15 TW

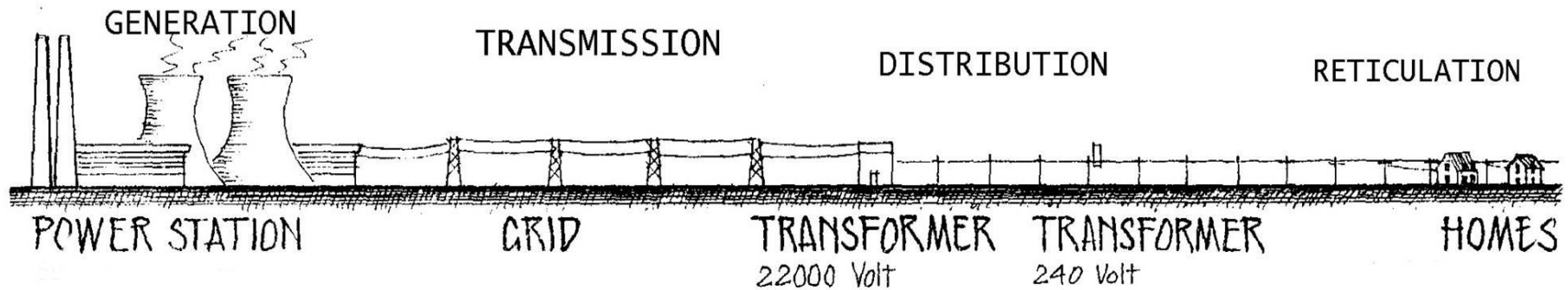# Energy can be renewable or non-renewable

NON - RENEWABLE

- From the remains of dead sea animals. 10% of oil used today is 541 – 252 million years old!

- Uses a rare type of uranium – non renewable

Non-renewable energy sources

OIL

FOSSIL FUELS

COAL

ENERGY
THE FUEL OF LIFE

NUCLEAR

NATURAL GAS

Supported by: Landsvirkjun

- Comes from the remains of prehistoric vegetation – energy that plants absorbed from sun MILLIONS of years ago

- Formed from the remains of tiny sea and plant animals that dies 300-400 MILLION years ago

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- Most of South Africa's electricity comes from coal and is generated in Mpumalanga.

- It is expensive as it takes a lot of infrastructure, including transmission through power lines
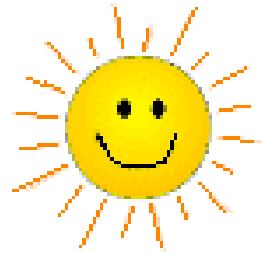
GENERATION   TRANSMISSION   DISTRIBUTION   RETICULATION

POWER STATION   GRID   TRANSFORMER   TRANSFORMER   HOMES
                        22000 Volt   240 Volt

IS THERE NOT A BETTER WAY?

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Energy can be renewable or non-renewable

RENEWABLE

Solar Power

- The average household uses 600kW sun <u>each day</u> but only uses 774 kWh a <u>month</u>!

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Wind

Biofuel

- Windfarms produce clean electricity and don't deplete natural resources

- These fuels can be made from sunflowers, wheat, potato etc.

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Hydro power
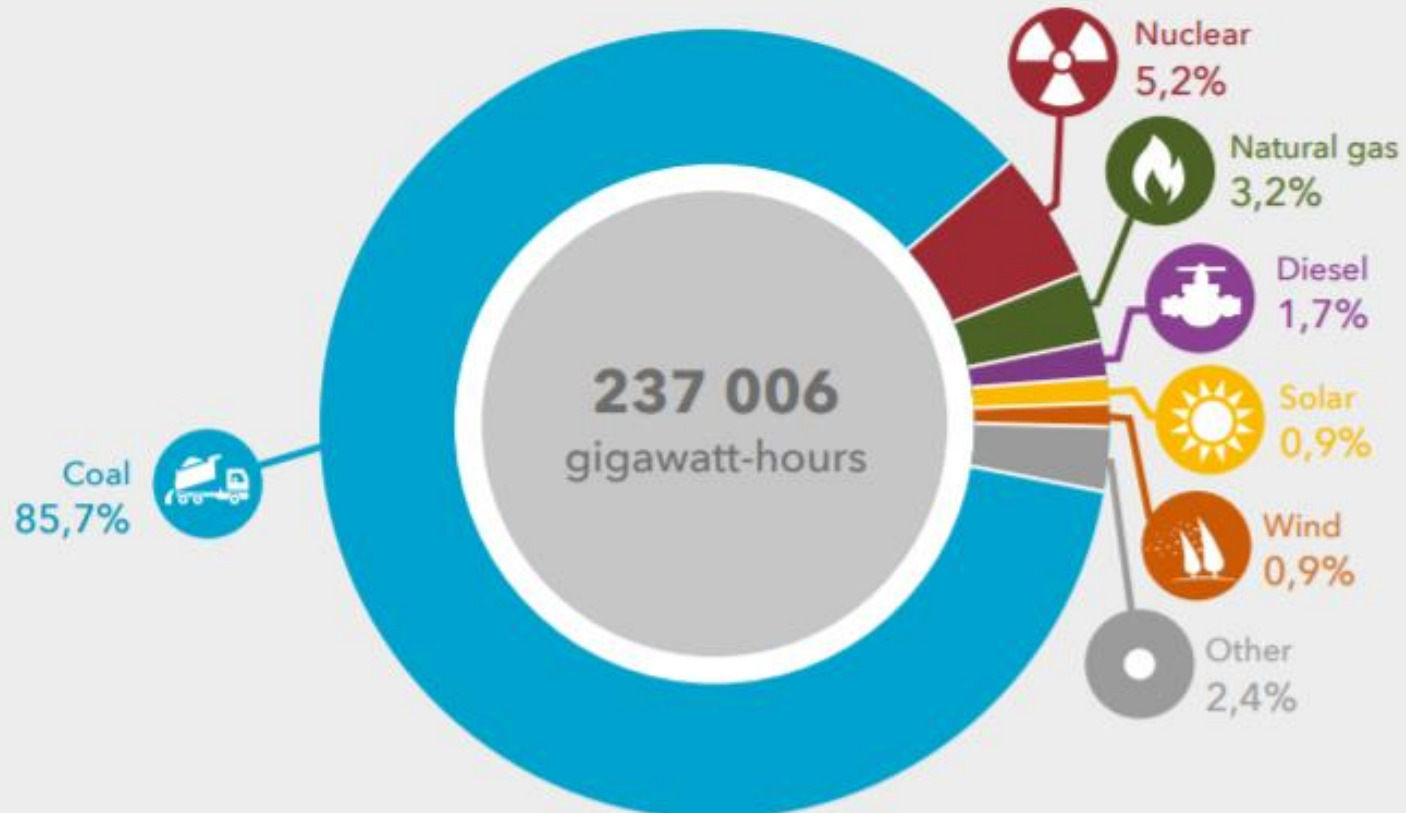

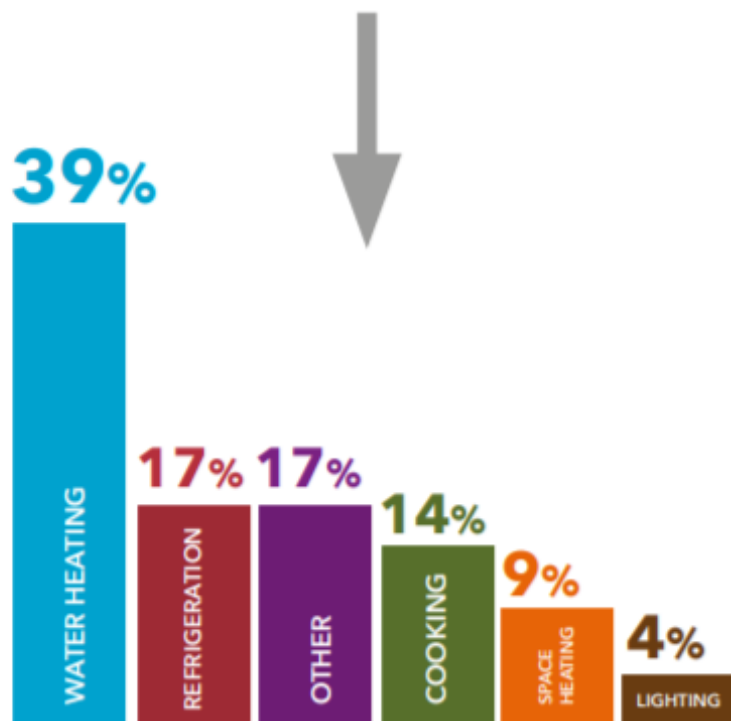- Produced by energy from water falling through turbines

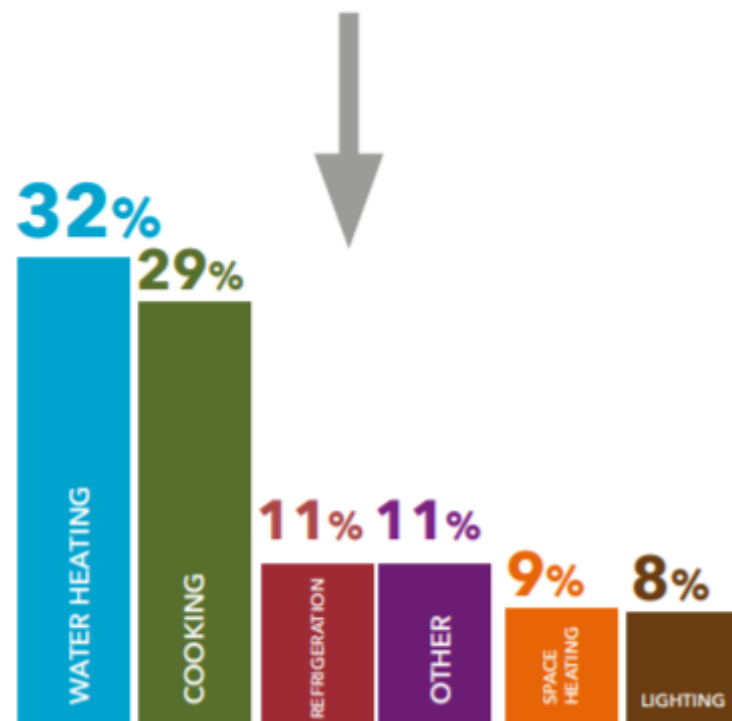SO…WITH ALL THIS ALTERNATIVE ENERGY OUT THERE…WHY ARE WE NOT MAKING BETTER CHOICES?

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Coal remains South Africa's dominant source of energy
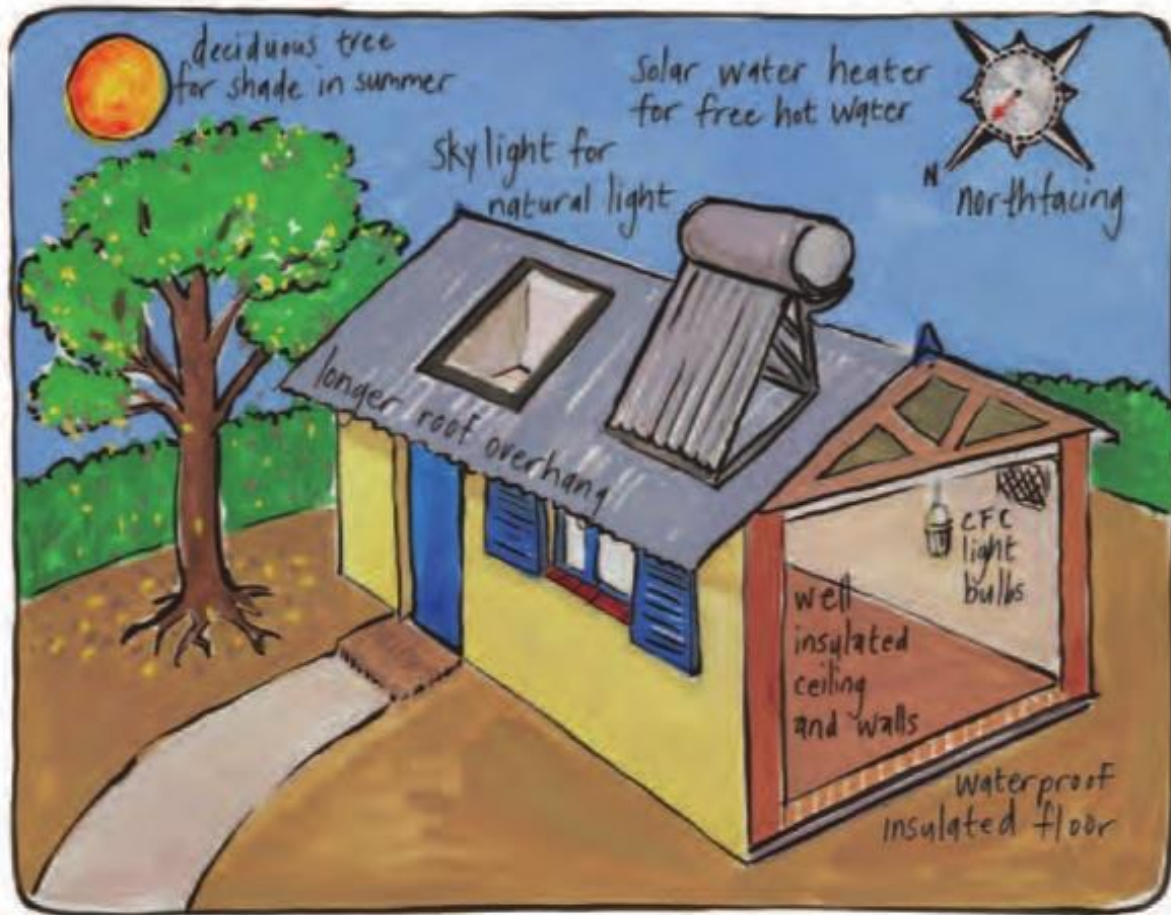Total electricity generated by source, 2016

237 006 gigawatt-hours

Coal 85,7%

Nuclear 5,2%

Natural gas 3,2%

Diesel 1,7%

Solar 0,9%

Wind 0,9%

Other 2,4%

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MID-HIGH INCOME
HOUSEHOLD ENERGY CONSUMPTION

LOW INCOME
HOUSEHOLD ENERGY CONSUMPTION

- Water heating
- Cooking
- Refrigeration
- Space heating
- Other
- Lighting

Making our homes more energy efficient

Buying and using alternative energy and more energy efficient equipment

Incandescent VS Compact Fluorescent VS LED

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Changing wasteful behavior into energy saving behavior

Turn
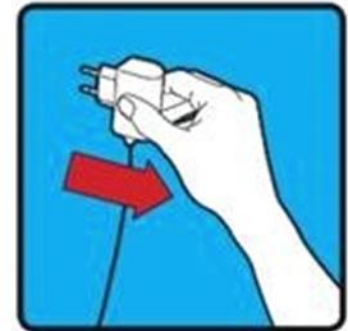Turn down your geyser temperature to 60°C. This will save you up to 5% on your electricity bill.

Flip
Rather take a shower. You'll save up to 80% in water and use 5 times less electricity than heating a bath of water.

Fit
Install an energy-saving showerhead. It's designed to use up to 40% less hot water and will save you money on your electricity bill.

Pull
Switch off appliances at the wall and pull out chargers. Leaving them in standby mode could cost you up to 6% more electricity.

WHAT ELSE?

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THANK YOU.

* Images and credit to the City of Cape Town – Smart Living Handbook