

# ENERGY MANAGEMENT “CIRCULATORY OF ENERGY”



# What is ENERGY?

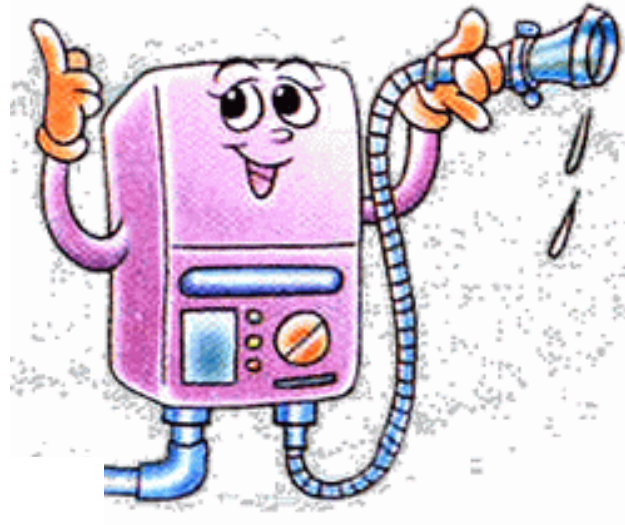
## Energy means

- The power to make things move, change, or grow.



# CIRCULATORY OF ENERGY

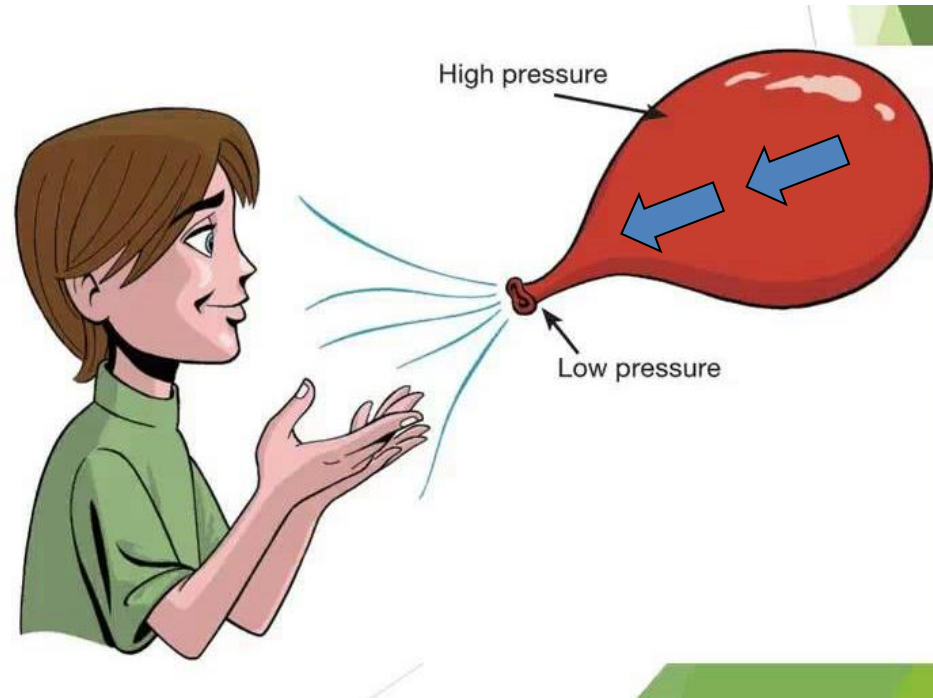
Energy is originated by moving from one place to another place.



When plugged in, electrical power will turn on the appliance.



# How was balloon go straight?

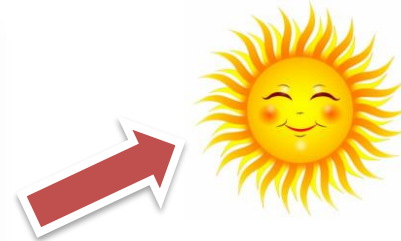


# What are the "ENERGY" around us?



- SOLAR ENERGY
- WIND ENERGY
- HYDRO ENERGY
- ELECTRIC ENERGY
- MECHANICAL ENERGY
- SOUND ENERGY
- LIGHT ENERGY OR RAY
- GEOTHERMAL ENERGY
- CHEMICAL ENERGY
- BIOMASS ENERGY ETC.

# BENEFITS OF SOLAR ENERGY



Heat and warm



Dry



Solarcell



Growing tree



Light



# BENEFITS OF WIND ENERGY



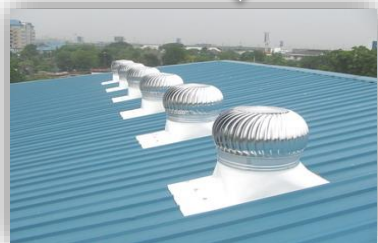
Sailing



Ventilate



Wind turbine



Wind



Wind turbine for pumping





# BENEFITS OF HYDRO ENERGY



Electricity



Water turbine



Rotating machinery



irrigation





How does ENERGY occur?

Where does it come from?



# How does ENERGY occur?



Push your hands up and rub your hands.

- Thermal Power



Raise your hands and blow your hands.

- Wind Power



Eating food in front of you.

- Energy from food



Ran away because someone farted.

- Kinetic Energy

# Sources of “ENERGY”





# Sources of ENERGY

that we use frequently in daily life

Solar power



Geothermal Energy



Coal power



Hydrogen power



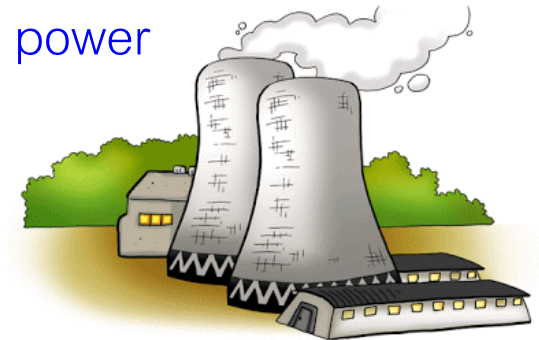
Energy from nuclear reactions



Water power



Wind power



Energy from fossil fuels

Energy biomass

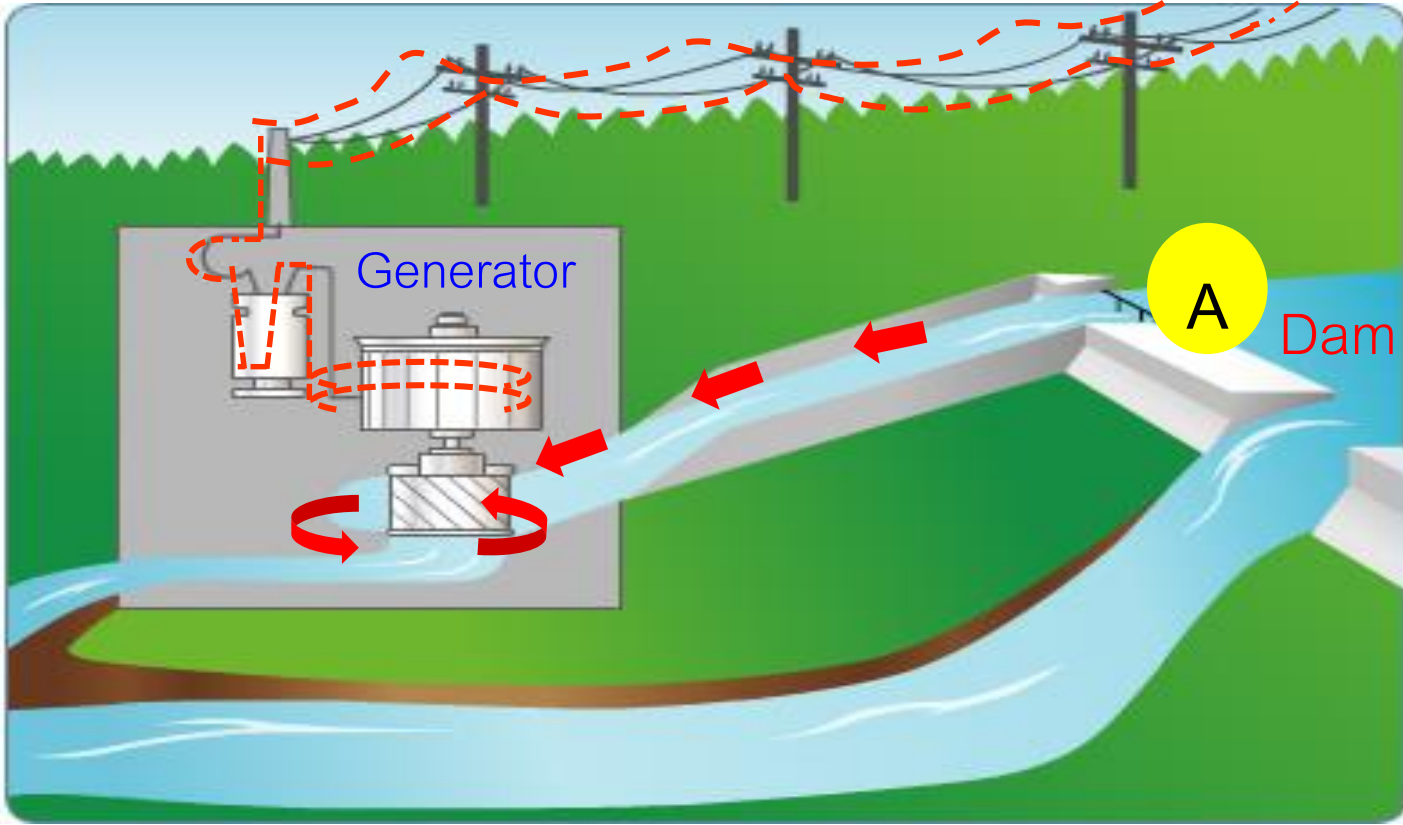


# How Thailand produce an ELECTRICAL energy?

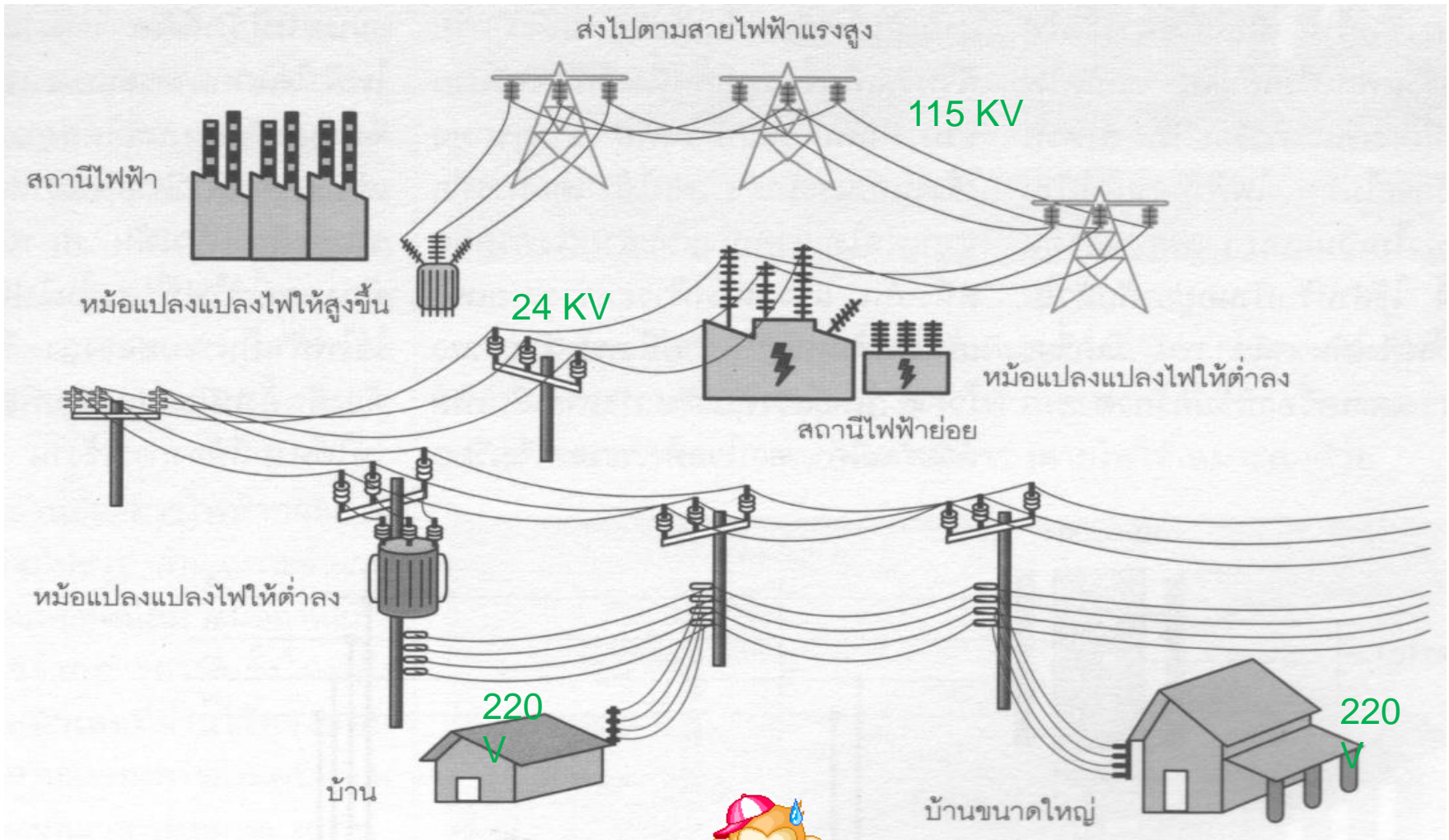




# Examples of energy flow in ENERGY SOURCES

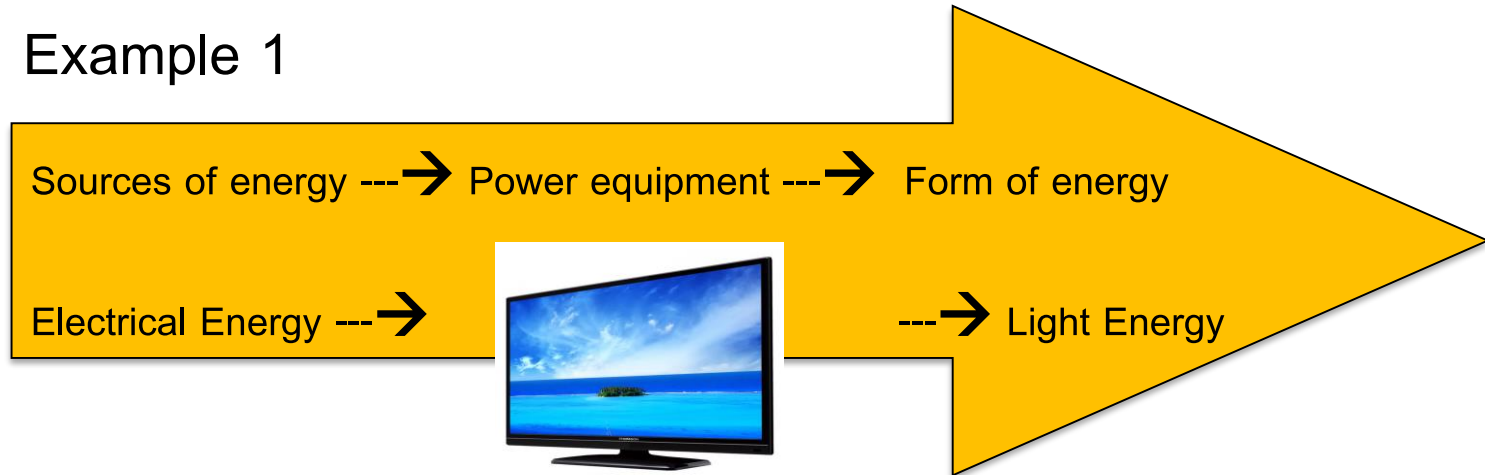




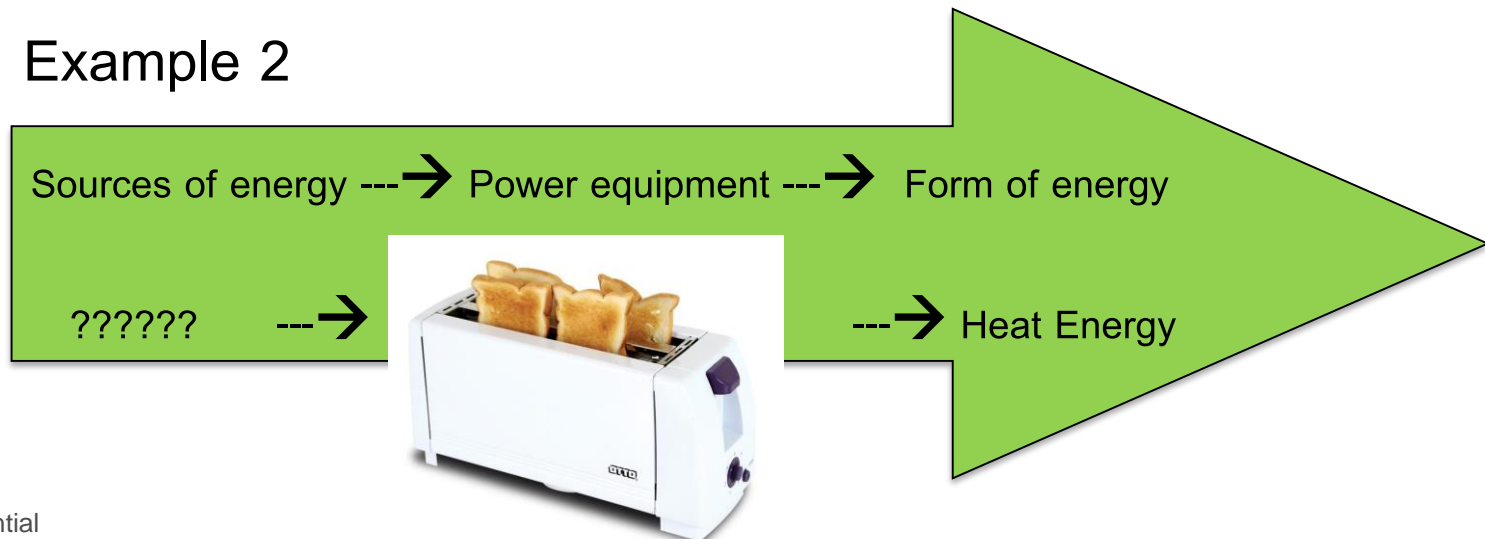


# Examples of ENERGY process

## Example 1



## Example 2





# END

Circulation Of ENERGY



# Chapter 1

## Fighting Air pollution.

### What we should do right now !



# What are the **most** common vehicles used in Bangkok?



# Where are the most congested areas in Thailand?





# Air pollution caused by vehicles is even more terrifying.



Vehicle exhaust is causing



Fine dust

Acid rain

Smog



# “PM2.5” The most dangerous level

PM2.5 stands for Particulate Matters is a standard term for small dust that is harmful to health.



Fine dust “PM 2.5”

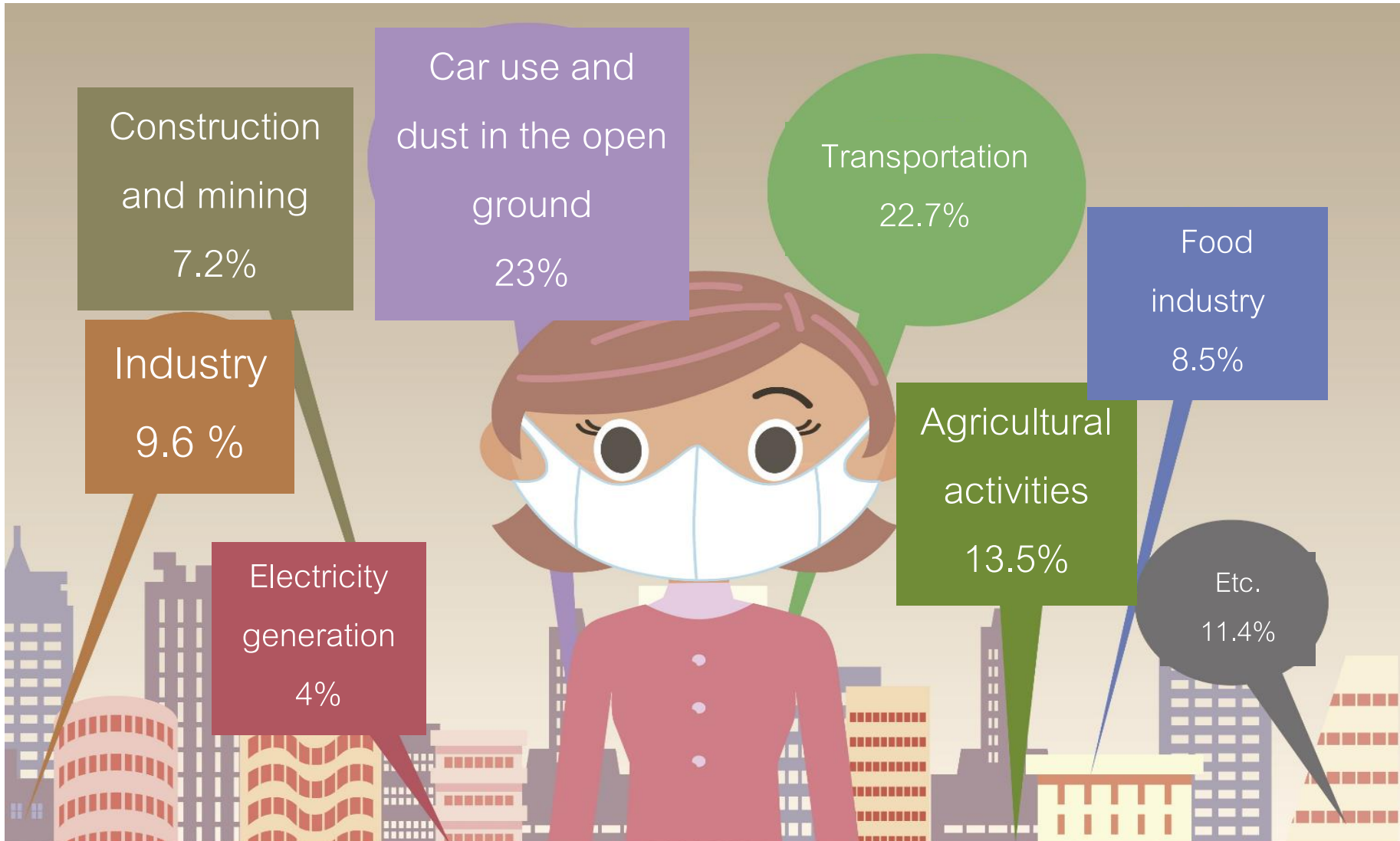


Human hair size is 70 microns



Sand size is 90 microns

# How **PM 2.5** comes from?

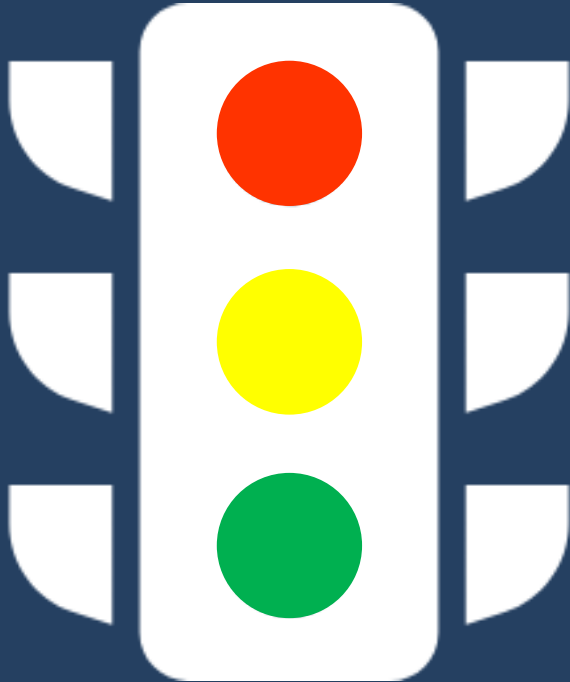


# AIR POLLUTION AFFECTS OUR LIVES






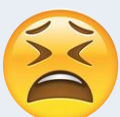




How does traffic light cause **air pollution**?



1. Air pollution, smoke, fine dust 2. Noise pollution 3. Emotional pollution

# Air Hazard Index

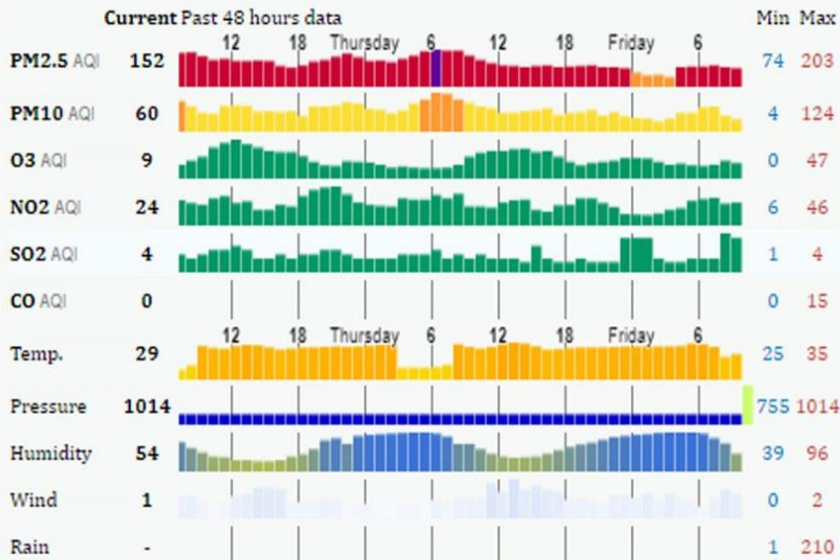
Air quality index		Definition, recommendations for relevant agencies
Good	 0 -50	☺ Good weather. No effect on people health.
Moderate	 51 -100	☺ Moderate weather. Be harmful to people with allergies.
Risky	 101 -150	☺ Risky weather. Be harmful to people with risk group but not for regular people.
Bad	 151 -200	☺ Maybe a serious danger to the health of the group and be harmful to the general public.
Worst	 201 -300	☺ Warning levels may be a serious danger to the health of the general public.
Hazard	 more than 300	☺ Emergency warning levels may be harmful to the health of all citizens.



# Air pollution index of BANGKOK

Bangkok AQI: Bangkok Real-time Air Quality Index (AQI).

**152** **Unhealthy**  
Updated on Friday 10:00  
Temp.: 29°C



0-50

51-100

101-150

151-200

>200

ออกไปเล่นอย่างมีความสุข  
Delta Confidential

ออกจากบ้านต้องเลือกไปที่  
มีพื้นที่สีเขียวเป็นส่วนมาก

คนที่มีภูมิแพ้ ต้องออก  
จากบ้านให้น้อยลง

ออกจากบ้านต้องสวม  
หน้ากากอนามัยละนะ

ห้ามออกจากบ้าน

Let's play the game!

VEHICLE CARDS.



Exhaust 80



Exhaust



Exhaust

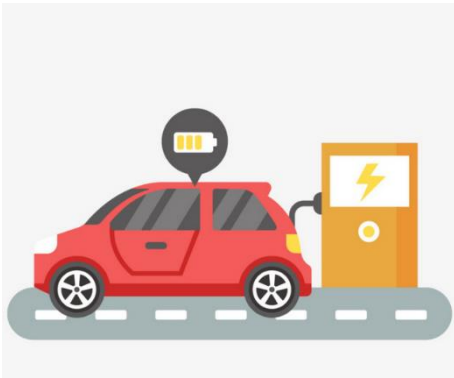


Exhaust 0

The level of EXHAUST OR CARBON DIOXIDE of each type of car.



# Use the green magic card!



Exhaust 0



Exhaust 0



Exhaust 0

Choose the vehicle wisely.

The air quality will be better.







# Guess! What is it?



Break 1



Ready...Go!

# 2 Syllables



# 2 Syllables





# 3 Syllables



# 2 Syllables



เกาะลำน

# 3 Syllables



ปัตตานี