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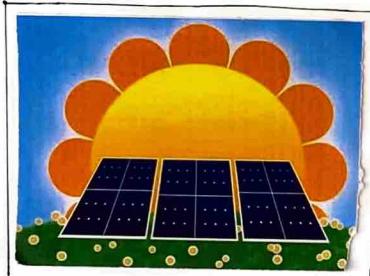
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AMTIES  
GROUP: 11  
CS - 02



# WORLD EARTH DAY

## SOLAR ENERGY



- GENERATE ELECTRICITY
- POWER SOURCE



USES:-

- SOLAR WATER HEATING
- SOLAR COOKING
- SOLAR FURNACE



ADVANTAGES:-

- Reduce Use of Fossil Fuel.
- No Toxic Emission In Air.
- Renewable Energy.





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# WORLD EARTH DAY CELEBRATION - 2022

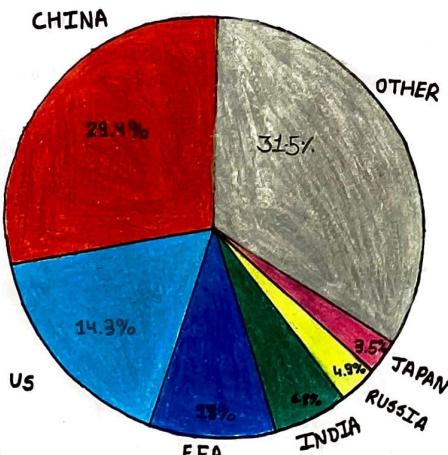
# Pollution Control



NATIONAL  
POLLUTION  
CONTROL  
DAY

## \* MILESTONES UNDER THE AIR ACTIONS \*

### CO<sub>2</sub> EMISSION PIE CHART



- 1981 Enactment of the Air Act
- 1984 Launch of the NAAQ
- 1987 Amendments to Air Act Renaming the Central Board for the Prevention and Control of Water Pollution to CPCB Provisions empowering the PCB's to issue directions to any person under s. 31A
- 1994 First National Ambient Air Quality Standards launched for SO<sub>2</sub>, NO<sub>2</sub>, PM, lead and CO.
- 1998 Standards for Ammonia added to NAAQS
- 2000 National Standards for Emission launched for 31 categories of industries
- 2009 NAAQS renamed to NAMP, extended to cover more stations, cities
- 2011 Categorisation of industries into red, orange and green
- 2014 The National Air Quality Index was launched
- 2016 Revised categorisation of industries into red, orange, green and white Non-attainment cities gives a set of 42 action points for improving air quality
- 2020 Deadline to implement city action plans

### POLLUTION CONTROL HIERARCHY



AMTICS , GROUP - 9



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Group-10

World Earth Day Celebration - 2022

# Government Initiative For

# Environmental Conservation



## Environmental Protection Sustains Development : Some Initiatives In Gujarat

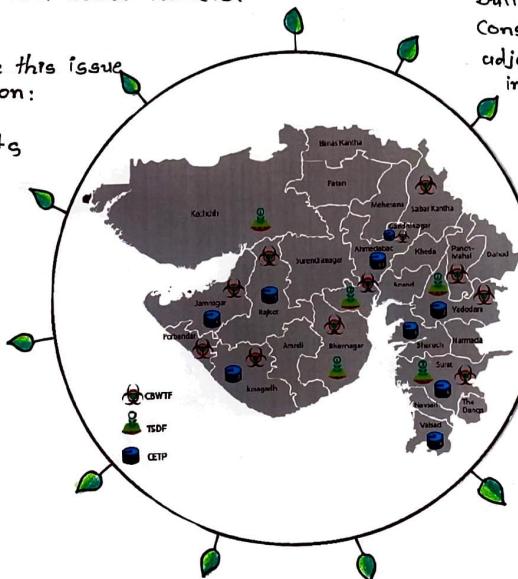
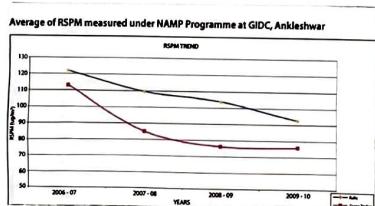
⇒ Air Action Plan for Industrial Clusters in the Ankleswar Region

⇒ Paryavaran Bhavan - Solar Building

Several of these industries have installed Cyclone / multi Cyclone separator / water APCM to tackle flue gas emissions. The problem of foul odour however continues.

A Odour Control Committee has been formed to Overcome this issue and Suggests & Industrial air pollution and its mitigation:

- Use of non-halogenated and non-aromatic solvents (e.g. Ethyl acetate, alcohols and acetone) instead of such toxic solvents as batch, chloroform etc.
- Contained and enclosed batch reactors and install close feed system.
- Lower operating temperatures if appropriate.



CBWT - Common Bio Medical Waste Treatment

TSDF - Treatment storage and Disposal

CETP - Common Effluent Treatment Plant

The government of gujarat is promoting the concept of green building in this regard the gujarat pollution control board is constructing its new Head office as a solar building this is located adjacent to its existing building. Environmental considerations were incorporated right at start

- The new building is designed and constructed by the R&B Division, Gandhinagar.
- Natural light and Cross Ventilation at every floor will be optimized and the quantum of electricity consumed shall be reduced.





Antics

# USE OF RENEWABLE ENERGY

Group - 3



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WHAT IS RENEWABLE?  
ENERGY THAT CAN BE USED AGAIN AND AGAIN IS CALLED RENEWABLE

## Wind Energy

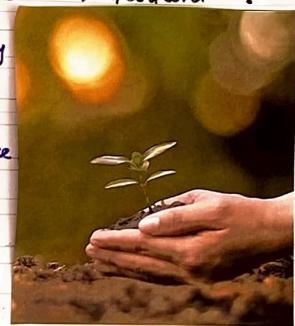


The Energy in the Wind turns two or three Propeller-like blades around a rotor. The rotor is connected to the main shaft, which spins a generator to create Electricity.



## Why Renewable Energy is Important?

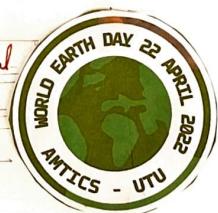
Using Renewable energy can help to reduce energy imports and reduce fossil fuel use, which is the largest source of CO<sub>2</sub> emissions.



## Hydropower

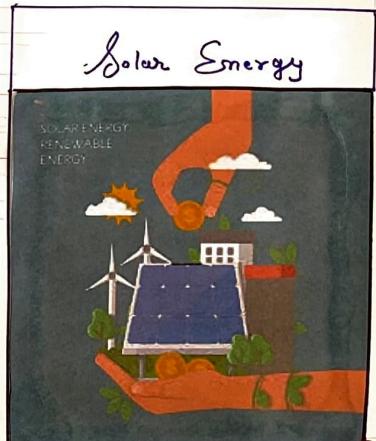


Hydropower uses the natural flow of moving water to generate electricity.



Solar energy is defined as the transform of energy that is present in the Sun and one of the renewable Energies

## Solar Energy





## RENEWABLE RESOURCES

A Renewable resource is one that can be used repeatedly and does not run out because it is naturally replaced. That is collected from renewable resources that are naturally replenished on a human timescale. Below are the types of renewable resources.

- WIND
- BIOMASS
- HYDROPOWER
- GEOTHERMAL
- SOLAR



### WIND

Wind power or Wind energy is mostly the use of wind turbines to generate electricity. China is the largest producer of wind energy. Wind power is cost-effective. Wind energy doesn't pollute the air like power plants that rely on combustion of fossil fuels, such as coal or natural gas.

Wind is a domestic source of energy. Wind turbines can be built on existing farms or ranches. Also, on other hand wind plants can impact local wildlife. Turbines might cause noise pollution.



### SOLAR

Solar energy is radiant light and heat from the sun that is harnessed using a range of technology such as solar power to generate electricity, solar thermal

energy include solar water heating, and solar architecture.

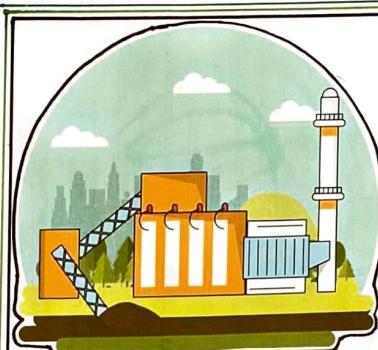
**Pros:-**

- Solar energy dependent on weather.
- Reduces Electricity Bills
- Solar energy can be used for diverse purposes.

**Cons:-**

- The initial cost of purchasing a solar system is high.

- Use a lot of space
- Toxic materials are used for manufacturing.



### BIOMASS

Biomass is plant-based material used as fuel to produce heat or electricity, like wood and wood residues, energy crops, agricultural residues, and waste from industry, farms, and households. About 32%

of the total primary energy use in the country is still derived from biomass and more than 70% of the country's population depends upon it for its energy needs. It reduces pollution of waste and creates energy. It's not completely clean. It has high costs in comparison to other alternatives.



### HYDROPOWER

Hydropower or Hydroelectric power, is one of the oldest and largest sources of renewable energy, which uses the natural flow of moving water to generate electricity. As of 31 March 2020, India's installed utility-scale hydroelectric capacity was 46,000 MW or 12.3% of its total utility power generation capacity. There are 197 hydro power plants in India. In India, Uttarakhand is the largest producer. This can impact fish and other animals. Due to this much collection of water, carbon and methane are emitted because of the plants in water.



### GEOTHERMAL

Geothermal energy is the thermal energy in the Earth's crust which originates from radioactive decay of material in currently uncertain but possibly roughly equal proportion. Geothermal is a Reliable Source of Renewable Energy. We can save up to 80% over conventional energy use.

- The extraction of geothermal energy from the ground leads to a release of greenhouse gases like hydrogen sulfide, carbon dioxide, methane, and ammonia.
- Possibility of Depletion of Geothermal Source.
- High investment costs for geothermal systems.



# AMTIIGS

## ES-2

# WORLD EARTH DAY 2022

## GROUP - 10



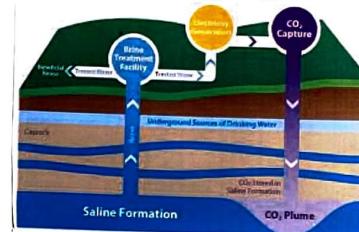
### AIR POLLUTION



#### PREVENTION!—

- Using public transport is a sure short way to contributing to less air pollution as it provides with less gas and energy.
- Implement Afforestation— Plant and grow as many trees as possible. The practice of planting trees provides a lot of benefits to the environment and helps with the release of oxygen.

### POLLUTION-CONTROL



### WATER POLLUTION



- Practice Water Conservation.
- Dispose of your Medication properly.
- Avoid the use of Pesticides and herbicides.
- Avoid water polluting recreational Activities.
- Avoid disposing of items into the toilet.



### LAND POLLUTION



- Stop throwing waste on land.
- Avoid use of toxic Materials and disposal on land.
- Buy Organic products especially cleaners, pesticides, insecticides and fertilizers.
- Recycle waste materials.



# AMTICS (03)

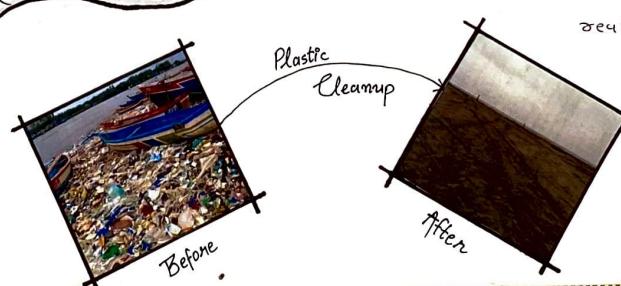
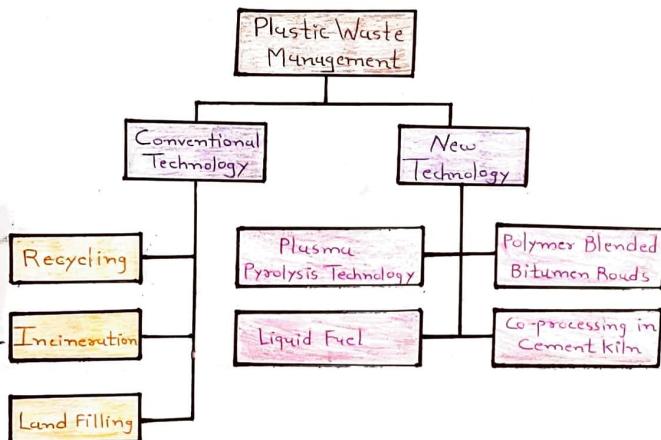
## WORLD EARTH DAY CELEBRATION 2022



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### Plastic Waste Management

- Disposal of plastic waste is a serious concern in India. New technologies have been developed to minimize their adverse effect on the environment.



### Ways to keep the Earth clean

- Bring a bag.
- Invest in a reusable water bottle.
- Bring your own reusable cup.
- Refuse single-use items.
- Avoid products with microbeads.
- Make sure your waste goes to the right place.
- Compost.

### Why is clean up important?

- Taking care of the environment is an important part of how children develop a positive sense of self and responsibility towards their surroundings, as well as real-life skills.



Dot..  
22

2022

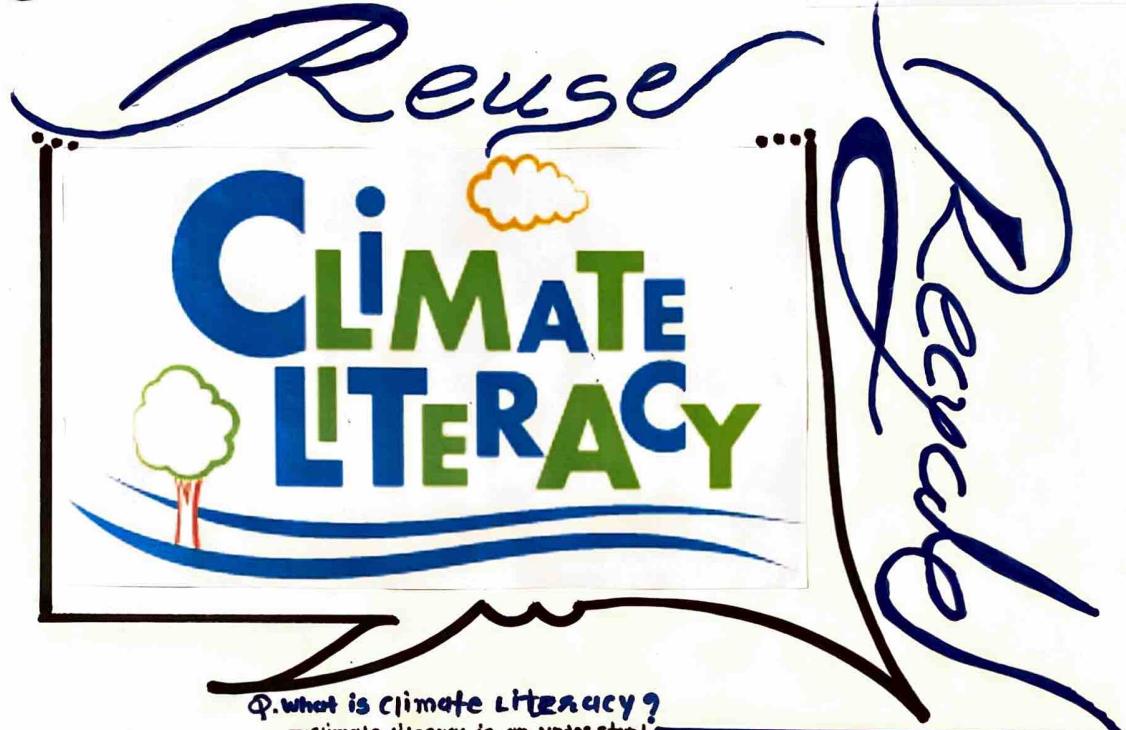
Apr.

# Celebration of world Earth Day

G  
L3



Reduce-

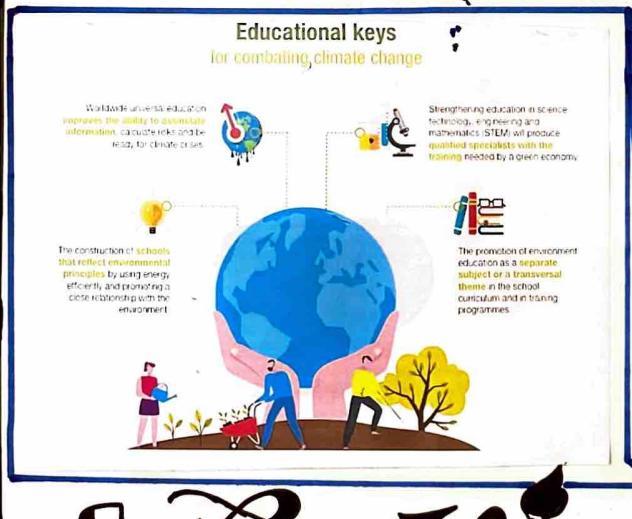


## Q. What is climate literacy?

- Climate literacy is an understanding of your influence on climate and climate's influence on you and society.

- A climate-literate person understands the essential principles of Earth's climate system.

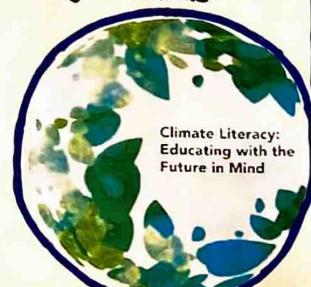
- Knows how to access scientifically credible information about climate.
- Communications about climate and climate change in a meaningful way.
- Is able to make informed and responsible decisions with regard to action that affects climate.



Save  
the  
Earth

## Q. Teaching climate?

- Each summary links to a more detailed discussion of what makes the topic important.
- Why it can be challenging to teach. Specific teaching strategies and links to relevant teaching materials.





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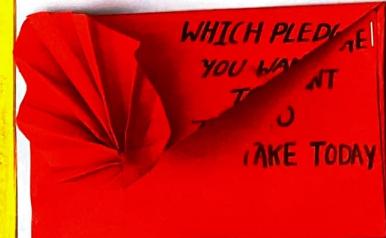
### Earth Day Facts

- Earth Day is April 22
- Institute by an US senator who felt that we need to pay more attention to the environment and our impact on it.

### Why did we begin to Celebrate Earth day?

- Globally celebrated holiday that is sometimes extended into Earth Week. A full seven days of events focused on green awareness.

"One of the first conditions of happiness is that the link between man and nature shall not be broken"



LET'S SAVE THE

# AMTICS -02

## WORLD EARTH DAY CELEBRATION 2022



"POLLUTION IS SUICIDE HARMFUL FOR EARTH AND FOR YOU"

GO GREEN

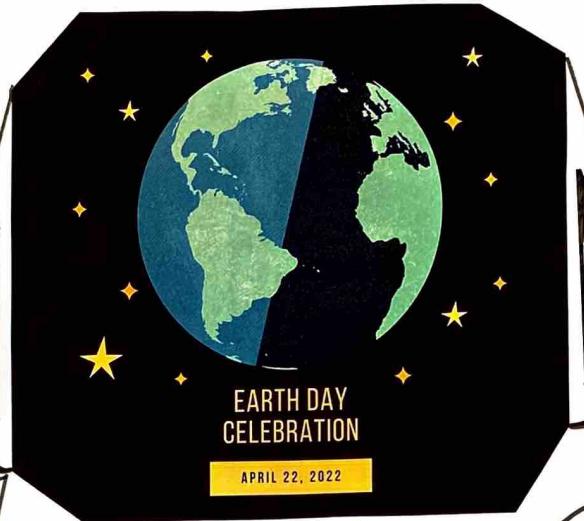
IT WON'T TAKE MUCH ENERGY TO CONSERVE ENERGY.



- Earth is one of the eight planets of our solar system that revolves around the Sun.
- Earth is the only known planet that supports life in the entire solar system.
- World Earth Day is celebrated on the 22nd of April every year. It is to increase public awareness of the Earth's sustainable environment.

"PROGRESS IS IMPOSSIBLE WITHOUT CHANGE AND THOSE WHO CAN'T CHANGE THEIR MINDS CAN'T CHANGE ANYTHING."

Earth is the God's best gift to us.  
We made it worse  
Let's care for it.  
Save the Green,  
Fight Global Warming



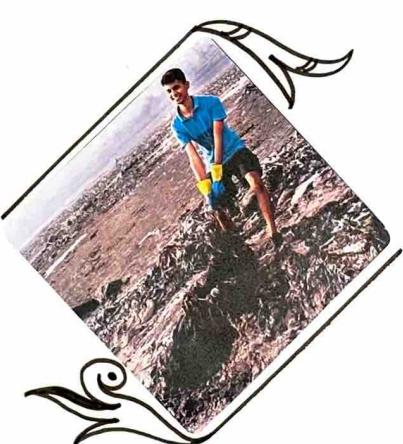
# Documents

*case.*

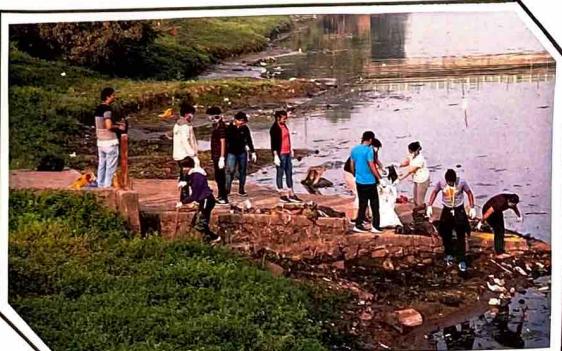


- Compliance with water consent clauses
  - Reports of treated wastewater analysis
  - Water cess returns
  - Effluent Treatment Plant report/Sewage treatment plant report

- Specifications of air pollution control facility
  - Drawing of monitoring facility
  - Report of emission analysis
  - Compliance with air consent clauses



# Study



Members of NGO 'Environment Life' with bags filled with trash that they collected from a waterfall at Tapalwadi Neral, Matheran, Maharashtra, October 2, 2018 (HT Photo)

AMTICS - GROUP 4

# WORLD EARTH DAY CELEBRATION - 2022



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CROPS BETWEEN  
CASH CROPS  
AS COVER



ADVANTAGES



PLANTS AS COVER

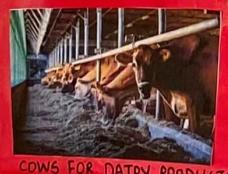
USE CROP  
COVERS



SHEEPS USED FOR WOOL



COW DUNG AS MANURE



COWS FOR DAIRY PRODUCTS



NO LANDTILLING

MINIMISE SOIL  
DISTURBANCE



NO OVER GRAZING



DISINFECTION

The Disinfection of Soil & Crop

STOP

WEED

SOIL

ORGANIC FARMING



ORGANIC FARMING

Agriculture of organic food and soil by working with nature



NO FERTILIZERS

NO  
CHEMICALS !!

5 Principles  
OF  
Regenerative  
Agrikulture



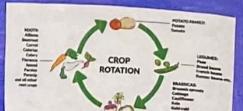
INTEGRATE  
LIVESTOCK



INCREASE PLANT  
DIVERSITY



PRACTICE  
AGROFORESTRY



USE CROP ROTATION  
METHOD



PLANTS WITH SAME GENES



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Golakiya Nirav Mahesh Bhai

# WORLD EARTH DAY CELEBRATION 2022



## REFORESTATION



AMICS-G5



# PLASTIC CLEANUPS



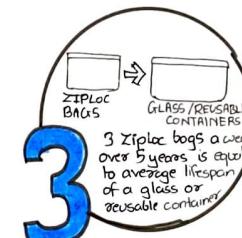
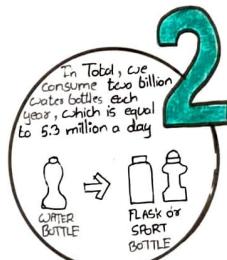
TO PLASTIC BAGS!



1. In general, say no to plastic.
2. Carry a reusable coffee cup.
3. Don't buy water: get a reusable bottle and fill it with tap water.
4. Bring your own shopping bag
5. Cook more & avoid take-away.
6. Avoid plastic packaging
7. Try to buy zero-waste products
8. Participate in a beach clean-ups.
9. Prefer sustainable companies which use upcycled materials
10. Wear reusable face masks.

## FOUR WAYS

TO REDUCE  
SINGLE  
USE PLASTIC





# AMTICS-12



E  
A  
R  
T  
H  
D  
A  
Y

GO FOR GREEN

Reverence for the Earth and Protecting Ecological Environment have related to the safety of human Beings. More Attention should be paid to Environmental Protection and try our Best to take good care of our UNIQUE EARTH



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Non-renewable energy comes from sources that will run out, or will not be replenished in our lifetimes — or even in MANY, MANY lifetimes. These sources include: Fossil Fuel Natural Gas, Minerals and Nuclear Energy



## FOSSIL FUELS....

India is witnessing acute shortage of fossil fuels leading to electricity blackouts in many states while the country swelters under record summer temperatures.

The coal inventories at Indian power plants have shrunk recently because of lower domestic output.

## NATURAL GAS

Natural gas markets are usually price-inelastic and thus volatile. Nonetheless, recent emphasis on the environment and affordability during the early part of energy transition may have led to less attention to energy security thus resulting in shortage of natural gas.

## EARTH MINERALS

The complicated recycling process and environmental impacts of these materials is one of the reasons why rare earth minerals are in short supply. Some minerals like gold can be extracted from legacy technology through recycling. But still it's harder to get earth minerals in the proper supply chain as we want.

## NUCLEAR ENERGY

A nuclear power phase-out is the discontinuation of usage of nuclear power for energy production. Often initiated because of concerns about nuclear power, phase-outs usually include shutting down nuclear power plants and looking towards fossil fuels and renewable energy.

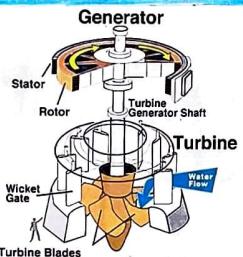


# AMTICS - 8

## The World Earth Day Celebration 2022



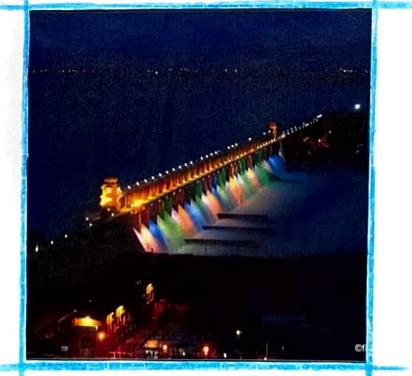
Let's work together towards greener Planet



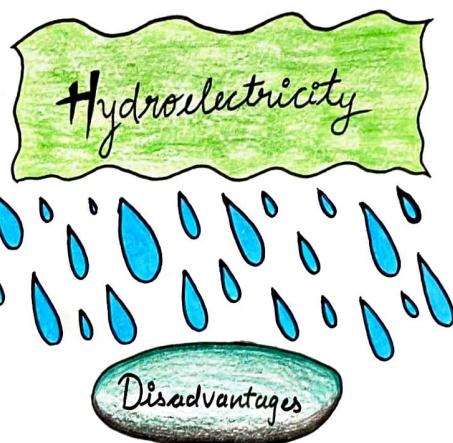
### Working

→ The water turbine changes the kinetic energy of the falling water into mechanical energy at the turbine shaft.

→ In simple words, falling water spins the water turbine. The turbine drives the alternator coupled with it and converts mechanical energy into electrical energy. This is the basic "working principle of hydroelectric power plant".



Utkal Dam



### Advantages

→ It does not pollute the air. It is a very reliable energy. Hydropower is also very easy to control so when they don't need a lot of energy they can slow down the waves. It is also very safe to use. It won't run out because of the water cycle. It can also prevent flooding.

→ Building a dam will change water flows. It will also destroy fishes habitats and the dam will block the movements of fish. It is expensive to build a dam. Also droughts can affect the water so there would be little amount of energy. We also have very limited reservoirs that have the technology that uses hydropower.



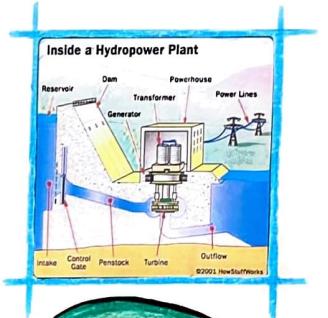
Sardar Sarovar Dam

### Restore Our Earth

#### what is it ?

→ Hydroelectricity is generated from the flow of water. It won't run out until a long time because the water cycle keeps on going. It is also known as Hydroelectric power.

→ It is one of the oldest and largest sources of renewable energy which uses the natural flow of moving water to generate electricity.



### Components

- Water Reservoir
- Dam
- Turbine
- Catchment area
- Generator
- Penstock
- Transformer



# WORLD EARTH DAY

GRP.NO:- 6



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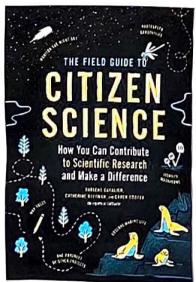
## HOW IT WORKS ?

### What Is Citizen Science?

Citizen Science dates back at least 17th Century but over the past 20 years, Citizen Science has become a buzzword among researchers, science educators, and political parliaments. In simple terms, Citizen Science is defined as the public participation in organized research. Citizen Science creates a way for Environment, Science educators, and scientists to come for the general public and contribute to the global goals for Sustainable Development.



- 5 Key Points of Citizen Science
- \* Observing
- \* Questioning
- \* Planning
- \* Analyzing
- \* Communicating



⇒ Book Recommendation on Citizen Science if you want to know about Citizen Science In Depth And More Details

- By Darlene Cavalier

### DATA

50 million observations were received by the "Galaxy Zoo" in its first year. Contributed by more than 150,000 people around the world.

### PAPERS

More than 60 scientific papers have been used Cornell Lab citizen science data collected by the BirdLearners since 1917.

### DISCOVERY

Fold Players discovered the most likely protein-based structure which cuts the enzyme produced by an AIDS-like virus in monkeys in just 9 weeks.

### A FEW WAYS YOU CAN PARTICIPATE

#### Donating Money:-

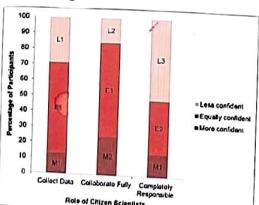
The easiest way to contribute towards Citizen Science is by donating money to verified sources which is working on the sustainable development goals and for the betterment of environment by planting trees (Mostly Non-profitable NGOs).

#### Set And Forget:-

Another easy way is to become a citizen scientist is to install a program in your surroundings which collects data on daily basis and you can monitor your progress after certain period of time.

#### Web-based :-

You can make your own website and do daily update about your installed Set And Forget program and its progress and help people to gain knowledge about your research.



Survey done by US Geological Department about Citizen Scientist for different purpose on how confident they are about their work



USA (California) 1990, when Citizen Science introduced for the first time by Rick Bonney

### WHAT DO I GET OUT OF IT ?

An Education! Learn about your favorite topic in depth while contributing.

Fun! You never know what you might find or what might find you.

A Purpose In Life! Online games, reality TV shows are great for sitting down, but Citizen Science projects provide a way to put your spare time in a more meaningful way.



# USE OF RENEWABLE SOURCES

## 'GEO THERMAL ENERGY'



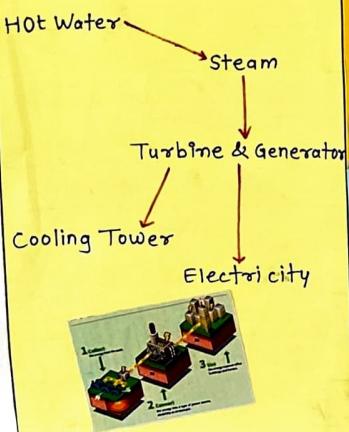
**WHO?** Geothermal energy is used in industrial application office buildings and homes electricity or to heat.

**WHAT?** Thermal energy is a renewable resource derived from the earth's internal heat, contained in the rocks

**WHY?** For the most part geothermal energy is a clean, widely available, resource. Geothermal power.

**HOW?** Geothermal energy is cultivated and converted for use by power plants. The three type commercial power.

## WORKING



### **Advantages:**

- o Available all the year around
  - o Does not involve any combustion of fuel.
  - o Independent of weather
  - o Clean Resource - very little emission or overall environmental impact
  - o Overall, geothermal energy is a sustainable resource.

## Disadvantages:

- Not Widespread source of energy
  - High Installation costs.
  - Can run out of steam.
  - May release harmful gases
  - Transportation
  - Earth quakes.



### Top 10 Geothermal power plant

- 1) Larderello Geothermal Complex
  - 2) Cerro Prieto Geothermal Complex
  - 3) Makban Geothermal Complex
  - 4) Salak Geothermal Plant
  - 5) CalEnergy Generation's  
Saton Sea Geothermal Plant



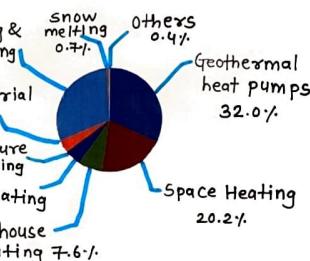
## “The WORLD”

# EARTH DAY

# CELEBRATION 2022 ”

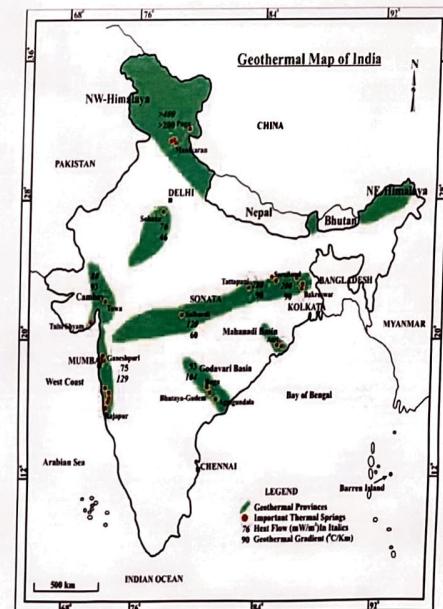


Geothermal energy is heat within the earth. The word geothermal comes from the Greek words geo and them. Geothermal energy is renewable energy source because heat is continuously produced inside the earth. People use geothermal heat for bathing, to heat buildings, and to generate electricity.



## CONCLUSION:-

Summarizing it all, the disadvantages to geothermal energy production. Consequently, many will argue against geothermal energy when it comes to reasons for investing in it.





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Group No: 09

# WORLD EARTH DAY

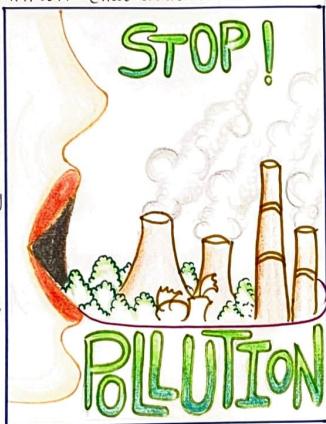
## POLLUTION · CONTROL · METHOD



### AIR POLLUTION

- Air Pollution is contamination of the indoor or outdoor environmental by any Chemical Physical or biological agent that modifies the natural Characteristics of the Atmosphere.

- Best Ways to Reduce Air Pollutants:
  - Using public transports
  - Turn off the lights when not in use
  - Recycle and Reuse
  - No to Plastic bags
  - Reduction of Forest fires and smoking
  - Use of Fans instead of Air Conditioner
  - Use Filters for Chimneys
  - Avoid usage of crackers
  - Avoid using of products with Chemicals
  - Implement Afforestation



### LAND POLLUTION

- Land pollution is the demolition of Earth's land surfaces which often cause by human activities and their misuse of land resources. It occurs when waste is not disposed properly.

#### POLLUTION CONTROL METHOD:

- More and More land should be brought under farming.
- Trees should be planted everywhere.
- Waste matter should be disposed immediately.
- Avoid drilling the Land for more underground water.
- Avoid using more fertilizers and Pesticides.
- Integrated Solid waste management.
- Good agricultural practices.
- Remediation of polluted soils.
- Prevention of erosion and silting.
- containment of hazardous waste and waste water treatment using treatment techniques.



### NOISE POLLUTION

- Noise can be simply defined as unwanted sound.
- The sound is pleasant or not depends upon its loudness, duration, rhythm and the mood of the person.

#### POLLUTION CONTROL METHOD:

- The Government should ensure the new machines that should be noise proof.
- Airport must be away from residential Area.
- The sound horn symbol is to be in school Roads.
- Control noise at source by proper choice of equipment, design modification, mounting and proper layout.
- Isolation or use of baffles.
- Use of ear protection devices.



### WATER POLLUTION

• Water pollution is the Contamination of water sources by substances which make the water unusable for drinking, cooking, cleaning, swimming and other activities.

#### POLLUTION CONTROL METHOD:

- \* Dispose of Toxic Chemicals properly.
- \* Shop with Water Pollution in Mind.
- \* Do Not Pour Fat and Grease Down the Drain.
- \* Use Phosphate - Free Detergent and Dish Cleaners.
- \* Check Your Septic pump or Cellar Drain.
- \* Dispose of Medical Waste properly.
- \* Report Water Polluters.
- \* Support Environmental Charities.
- \* Try to avoid Plastic Containers.
- \* Cut down on the Chemicals.
- \* Plant some trees.





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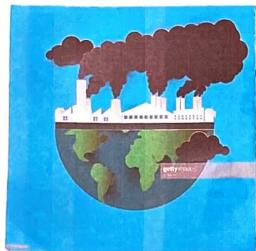
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# AMTICS

# CELEBRATION OF WORLD EARTH DAY - 2022

## Group - 4

# AIR POLLUTION



There are many methods to control air pollution. One of the main method is to use public transport whenever possible. It contributes less to air pollution as it provides with less gas and energy. The collecting of garbage

and getting it on fire in dry seasons or dry leaves catching fires is a huge factor for causing air pollution, moreover smoking also causes air pollution. Also use of Air condition, fans and other electrical appliances causes air pollution.

# RADIOACTIVE POLLUTION



There are four major methods to control Radioactive Pollution.

- ## (1) Radiation Exposure Protection

imation Protection. (g) Controlled Area (h) Collection, Storage and disposal. These methods are about distance and time for shielding from exposure of radiation. Also eating and smoking is prohibit near radiations.

# **WATER POLLUTION**



The Water (Prevention and control of pollution) Act was enacted in 1974 to provide for the prevention and control of water pollution, and for the maintaining or restoring of wholesomeness of water in the country. The Act was amended in 1988. Other ways to reduce water pollution is to reduce the use of chemicals when cleaning, dispose of your medications properly. Avoid the use of pesticides and herbicides.

# NOICE POLLUTION



Methods to control noise pollution are as follows :-

Turning off noisy appliances whenever not needed, Shutting the door while using noisy appliances,

Using of earplugs to bring down loud noises to manageable level, Planning trees near sensitive areas such as schools, hospitals. Making sound proof walls in theaters or auditoriums to suppress noise. Using proper lubrication in machinery.

# **THERMAL POLLUTION**



The diagram shows a factory emitting smoke and liquid waste into a river. The waste leads to several environmental problems: 'Suffocated fish' at the point of discharge, 'Altered flow' further downstream, 'Decreased fish population' in the middle reach, and 'Low dissolved oxygen' at the river's end.

The diagram shows a cross-section of a lake. On the left, a power plant with two smoking chimneys is situated. An arrow points from the plant to the lake, with the label 'Sulfurated fish'. Another arrow points from the lake down to the bottom, with the labels 'Decreased fish population' and 'Anoxic bottom'. A third arrow points from the lake up towards the surface, with the label 'Low dissolved oxygen'.

# LAND POLLUTION



A cartoon illustration of a hillside covered in trash. In the foreground, there's a yellow trash can. Two dogs are visible in the background, one near the trash can and another further up the hill. The sky is blue with white clouds.



# WORLD EARTH DAY AMTICS-07

## WORLD EARTH DAY

save the earth,  
respect the environment



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## WHAT IS EARTH DAY?

- ONE OF THE MOST WIDELY CELEBRATED EVENT ACROSS THE GLOBE.
- ORIGINALLY CELEBRATED AT SPRING EQUINOX AROUND 21 MARCH.
- UNITED STATE HAS DESIGNATED 22 APRIL AS THE INTERNATIONAL MOTHER EARTH DAY.
- CELEBRATED IN MORE THAN 192 COUNTRIES EACH YEAR

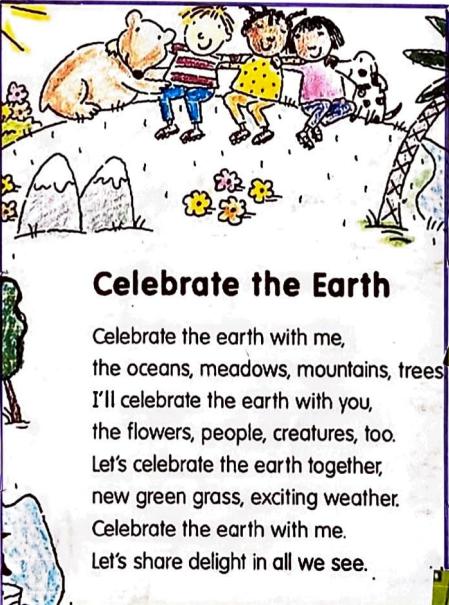
**BUT WHAT CAN I DO?**  
*A handy guide to saving the planet*

**SHOP LOCAL**  
The closer food is grown to you, the better as it won't require driving or flying to get to you. You don't need onions from New Zealand if you live in the UK! Check for local organic shops and local veg box schemes, you'll also be supporting someone's enterprise rather than a massive corporation.  
Even better, try and grow a few vegetables yourself. This also works for beauty products from small businesses, clothes and anything else. If it is made down the road, much better than it sailing or flying from somewhere like China. Support friends of friends, not corporations!

**BUY LESS**  
CHOOSE WELL. It is estimated that the clothing industry is responsible for 10% of carbon emissions. Buy quality items over quantity, and always check if you can get it second hand before buying new. Look out for items that have been made from recycled products such as recycled plastic lunchboxes, or recycled loo paper. Buy what you need in the biggest size that is practical to avoid packaging waste (it's usually cheaper too)

**BUY ORGANIC**  
Organic food production helps preserve local wildlife. By avoiding toxic chemicals, using mixed planting as a natural pest control measure, and maintaining field margins and hedges, organic farming provides a retreat for local wildlife rather than taking it away its natural habitat like conventional agriculture.

**CYCLE OR WALK**  
How far are you going? Can you ditch the car and walk? A second hand bike should be easy to come buy - it will save you money on petrol & you could do that instead of paying for the gym too! If it's too far to cycle, can you get a bus or a train?



## WHY CELEBRATE EARTH DAY ?

- ABOUT APPRECIATING THE UNIQUENESS OF OUR EARTH WITH ITS INCREDIBLE BIODIVERSITY.
- EARTH DAY IS DEDICATED TO INCREASING AWARENESS ABOUT EARTH, ITS ISSUES AND PROBLEMS.
- MORE THAN 1 BILLION PEOPLE NOW PARTICIPATE IN EARTH DAY, MAKING IT THE LARGEST CIVIC OBSERVANCE IN WORLD.
- MANY POLICY AND ACTS ARE SANCTIONED SUCH AS CLEAN WATER ACT, CLEAR AIR ACT.



AMTICS CS2 GROUP ~ 1

# THE WORLD EARTH DAY

## RE Duce Use Cycle

-2022



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REDUCE  
YOUR  
WASTE



Why Is It Imp...?

- \* Recycling Saves Environmental Conditions and Reduce Pollution
- \* Recycling Saves Space for Waste Disposal
- \* Economic Benefits
- \* Serves Energy and Natural Resources
- \* India Recycles Roughly 40% of their waste a year.



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## POLLUTION CONTROL METHODS



GROUP: 7

AMTICS



# THE WORLD EARTH CELEBRATION DAY 2022



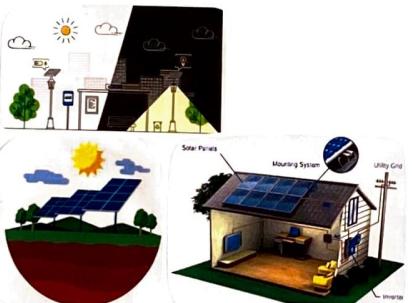
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Where should we use solar energy?

- Solar Electricity: We can use it in home, in Road lights.
- Solar Heating: We can use solar energy to produce HEAT instead of Using fossil fuel.
- Solar Ventilation: Solar ventilation solutions such as solar attic fans can reduce the burden of your HVAC by helping to cool your home during the summers.
- Solar Transportation: Can be used in Cars, Trains to Provide Energy in it.
- Portable Solar: Can be used in Portable Things like watch, Mobile.

Why should we use solar energy?

Solar energy does not emit toxic substance or contaminants into the air, which can be very damaging to the environment and to human beings. Solar energy does not generate waste or contaminate water—an extremely important factor given the scarcity of water. Unlike fossil fuels,

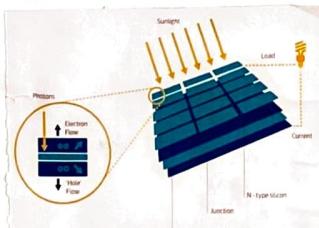


What Is Solar Energy?

Solar energy is radiant light and heat from the sun that is harnessed using a range of technologies such as solar power to generate electricity, solar thermal energy including solar water heating, and solar architecture.

How does solar energy work?

1. Sunlight activates the panels.
2. The cells produce electrical current. A silicon ingot and wafer.
3. The electrical energy is converted.
4. The converted electricity powers your home.



**Importance:-** No greenhouse gas emissions are released into the atmosphere. When you use solar panels to create electricity. And because the sun provides more energy than we'll ever need, electricity from solar power is very important source.

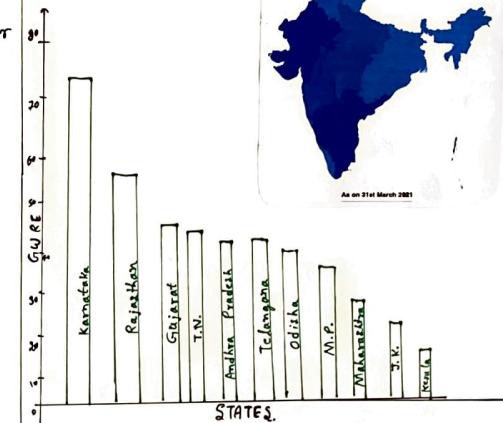
**Advantages of solar energy**

- Solar power is pollution-free and causes no greenhouse gases to be emitted after installation.
- Reduced dependence on foreign oil and fossil fuels.
- Renewable clean power that is available every day of the year, even cloudy days produce some power.
- Return on investment unlike paying for utility bills.

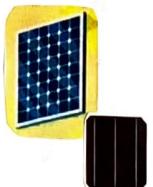
**Disadvantages of solar energy**

- Cost. The initial cost of purchasing a solar system is fairly high.
- Weather-Dependent. Although solar energy can still be collected during cloudy and rainy days, the efficiency of the solar system drops.
- Solar Energy storage is expensive.
- Uses a lot of space.

Statistics: 2022



Three Main Solar Panel Types



Monocrystalline

- Pure Silicon
- 24.4% efficiency
- Weather-Dependent
- Moderate Cost
- Longest lifespan
- 38.1g CO<sub>2</sub>-eq./KWh

Polycrystalline

- Melted silicon crystals
- 19.9% efficiency
- Least expensive
- Moderate lifespan
- 27.2g CO<sub>2</sub>-eq./KWh

Thin-Film

- Variety of materials
- 18.9% efficiency
- Most expensive
- Shortest lifespan
- As little as 21.4g CO<sub>2</sub>-eq./KWh





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# 3R's REDUCE REUSE RECYCLE ↗

AM.T.I.C.S

GROUP-12



## WORLD EARTH DAY



**REDUCE**

**NO**



**YES**



Reduce the Amount  
of Waste you  
Produce.



**RECYCLE**

Recycle the materials  
which can't be  
Reused.



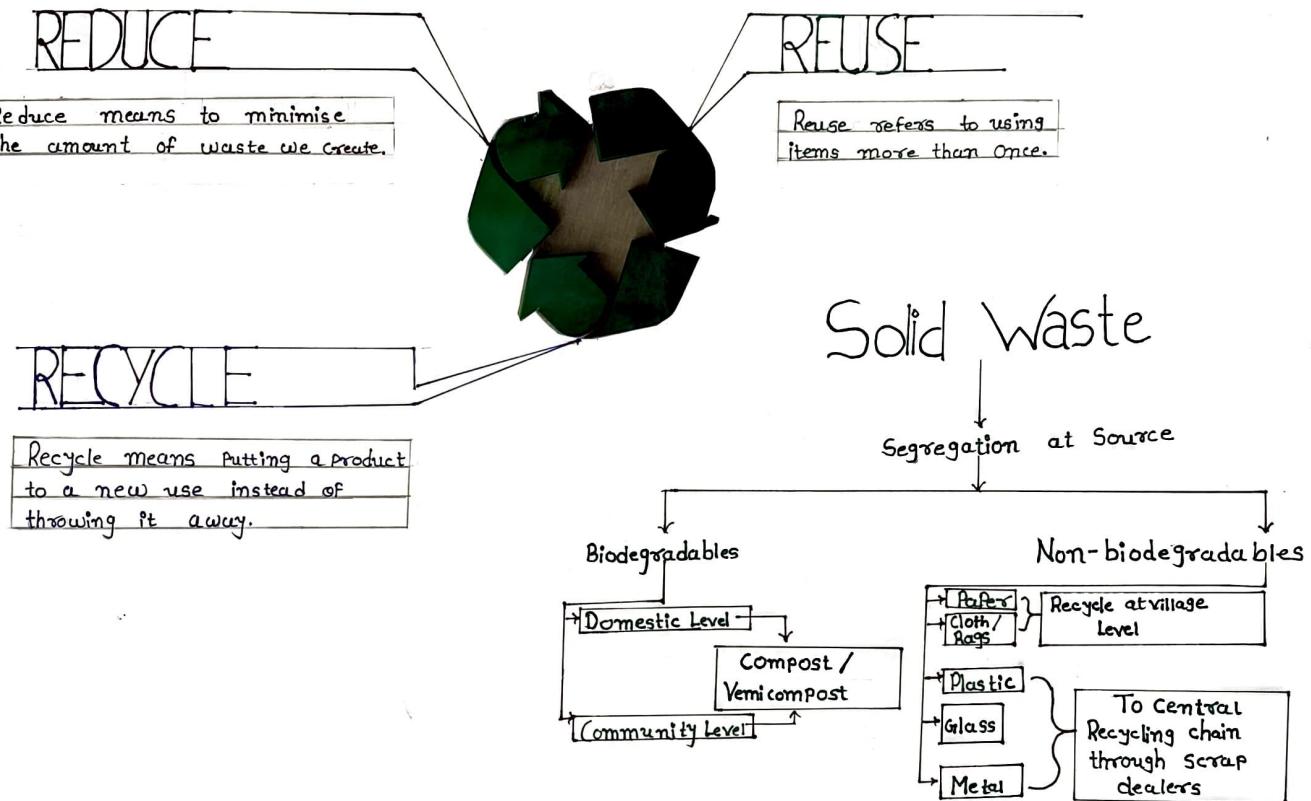
**REUSE**

Use the same  
Materials again  
and Again.





# WORLD EARTH DAY CELEBRATION 2022



**Table -1**  
**India's Waste Management Initiatives**

Policy and Regulation	
Institutional Framework	<ul style="list-style-type: none"> <li>Central Level</li> <li>State Level</li> <li>Other Organizations/Associations</li> </ul>
Legal Framework	<ul style="list-style-type: none"> <li>74th Constitutional Amendment Act, 1992</li> <li>Management and Handling Rules</li> <li>Environment (Protection) Act, 1986</li> <li>National Environment Tribunal Act, 1995</li> <li>National Environment Appellate Authority Act, 1997</li> <li>Water (Prevention &amp; Control of Pollution) Act, 1974</li> <li>Water (Prevention &amp; Control of Pollution) Cet. Act, 1977</li> </ul>
Environmental Norms	<ul style="list-style-type: none"> <li>Existing Environmental Standards</li> <li>Recently Notified Environmental Standards</li> </ul>
Policy Initiatives	<ul style="list-style-type: none"> <li>National Urban Sanitation Policy, 2008</li> <li>National Environment Policy, 2006</li> <li>Policy Statement for Abatement of Pollution, 1992</li> <li>National Conservation Strategy and Policy Statement on Environment and Development, 1992 <ul style="list-style-type: none"> <li>Law Commission Recommendation</li> <li>Ecomark Scheme, 1991</li> </ul> </li> </ul>
Key Government Programmes	
JNNURM	<ul style="list-style-type: none"> <li>Programme Scope and Structure</li> <li>Funding</li> <li>Experience So Far</li> <li>Experience on Reforms</li> <li>Issues and Challenges</li> </ul>
Total Sanitation Campaign	<ul style="list-style-type: none"> <li>Programme Scope and Structure</li> <li>Funding</li> <li>Experience So Far</li> <li>Issues and Challenges</li> </ul>
MNREGS Waste-to-Energy Programmes	<ul style="list-style-type: none"> <li>Programme Scope and Structure</li> <li>Experience So Far</li> <li>Issues and Challenges</li> </ul>
Other Programmes	<ul style="list-style-type: none"> <li>Integrated Low Cost Sanitation Scheme</li> <li>National Biogas and Manure Management Programme</li> </ul>
Technology and Practices	
Traditional Technologies	<ul style="list-style-type: none"> <li>Landfills</li> <li>Waste Incineration</li> <li>Sanitization</li> </ul>

<b>Key Projects</b>	<ul style="list-style-type: none"> <li>Kolkata: SWM Improvement Project</li> <li>Kanchipuram: Solid Waste Management Project           <ul style="list-style-type: none"> <li>Chennai: MSW Project</li> </ul> </li> <li>Navi Mumbai: MSW Management Project</li> <li>Gurgaon: Ultra Modern Waste Management Plant           <ul style="list-style-type: none"> <li>Namakkal: Zero Garbage Status</li> </ul> </li> <li>Suryapet: Dustbin Free and Zero Garbage Town</li> <li>Vishakapatnam: SWM Though Citizens Participation           <ul style="list-style-type: none"> <li>Thiruvananthapuram: Decentralised SWM</li> </ul> </li> <li>CIDCO: SWM System at Areas Adjoining Navi Mumbai</li> </ul>
<b>Key Initiatives</b>	<ul style="list-style-type: none"> <li>Chennai: GPRS Equipped Waste Bin</li> <li>Ahmedabad: Tapping Methane Gas</li> <li>Goa: Solid Waste Management Corporation</li> <li>Nagpur: Bye-Laws on Segregation of Waste Generated in Hotels</li> <li>Nagpur: Management of Construction Debris</li> <li>Akola: CBO for Waste Management</li> <li>Yavatmal: Door-to-Door Collection of Solid Waste</li> </ul>
<b>Rural Waste Management</b>	<ul style="list-style-type: none"> <li>Tamil Nadu: Zero Waste Mgt. at Vellore District</li> <li>Maharashtra: Shram at Dhamer Village</li> <li>Gujarat: Greywater Mgt. at Fathepura Village</li> <li>Maharashtra: Greywater Mgt. at Wadgaon Village           <ul style="list-style-type: none"> <li>Nashik: Wastepaper to Peppwood</li> </ul> </li> <li>Kerala: Post-NGP Initiatives at Kattappana Village</li> </ul>
<b>Industrial Solid Waste Mgt.</b>	<ul style="list-style-type: none"> <li>Andhra Pradesh: 3.66-MW Power Generation Project</li> <li>Uttar Pradesh: 6-MW Biomass Cogeneration Power Plant           <ul style="list-style-type: none"> <li>Other WTE Projects</li> </ul> </li> <li>Kolkata: Waste Minimisation of Small-Scale Industrial Units</li> <li>Himachal Pradesh: Waste Treatment Plant</li> </ul>
<b>Liquid Waste Management</b>	<ul style="list-style-type: none"> <li>Municipal Liquid Waste</li> <li>Other Noteworthy Water Reuse and Recycling Projects           <ul style="list-style-type: none"> <li>Industrial Liquid Waste</li> </ul> </li> </ul>
<b>Key projects</b>	<ul style="list-style-type: none"> <li>Municipal Liquid Waste</li> <li>Other Noteworthy Water Reuse and Recycling Projects           <ul style="list-style-type: none"> <li>Industrial Liquid Waste</li> </ul> </li> </ul>

# THERMAL POWER PLANT



## GROUP - 13 AMTICS 13 WORLD EARTH DAY - 2022



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Coal Power Plant Graphic With Electrical Power Station



A thermal power station is a power station in which heat energy is converted to electricity. Typically, heat is used to boil water in a large pressure vessel to produce high-pressure steam, which drives a steam turbine connected to an electrical generator. The low-pressure exhaust from the turbine passes through a steam condenser and is recycled to what it was heated. The design of thermal power stations depends on the intended energy source: fossil fuel, nuclear & geothermal power.



COAL-FIRED POWER PLANT



Coal - fixed plants produce

electricity by burning coal in a boiler to produce steam. The steam produced, under tremendous pressure, flows into a turbine, which spins a generator to create electricity. The steam is then cooled, condensed back into water and returned to the boiler to start the process over.

FOSSIL FUEL POWER STATION



A fossil fuel power station

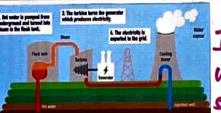
is a thermal power station which burns a fossil fuel, such as coal or natural gas, to produce electricity. Fossil fuel power stations have machinery to convert the heat energy of combustion into mechanical energy, which then operates an electrical generator.

NUCLEAR POWER PLANT



Nuclear Power plants use heat produced during nuclear fission to heat water. The heat produced during nuclear fission in the reactor core is used to boil water into steam, which turns the blades of a steam turbine. As the turbine blades turn, they drive generators that make electricity.

GEOOTHERMAL PLANT



It uses steam to produce electricity. The steam comes from reserves of hot water found a few miles or more below the earth's surface. The steam rotates a turbine that activates a generator, which produces electricity. 3 types: Dry steam, flash steam and binary cycle.

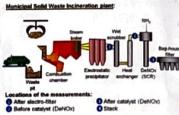
SOLAR THERMAL PLANT



Solar thermal power

plants are electricity generation plants that utilize energy from the sun to heat a fluid to a high temperature. The fluid then transfers heat to water, which then becomes super-heated steam. This energy is converted into electricity by generator.

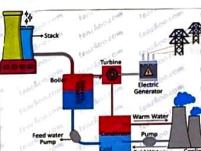
WASTE INCINERATION PLANT



In most and all

newly constructed ones, the heat released from burning waste is used to produce electricity. This electricity can help to offset the cost of building & maintaining the facility. Recycling of plastic atleast saves more energy than combustion generation. Plastic is challenge because of non-recyclable property.

PREVENTION FOR THERMAL POLLUTION



1. Heated water from the industries can be treated before discharging directly to the water bodies.

2. Heated water from the industries can be treated by the installation of cooling ponds & cooling towers.

3. Industrial treated water can be recycled for domestic use or industrial heating.

4. Through artificial lakes: In this lake industries can discharge their used or heated water at one end and water for cooling purposes maybe withdrawn from the other end. The heat is eventually dissipated through evaporation.

Hence, we can say any kind of pollution may directly or indirectly affect humans because the loss of biodiversity causes changes that affect all the aspects of the environment.

CREATED BY:-

NAIM  
MANTHON  
RAKESH  
RAJ  
EKTA

CLASS:- CS - 2.

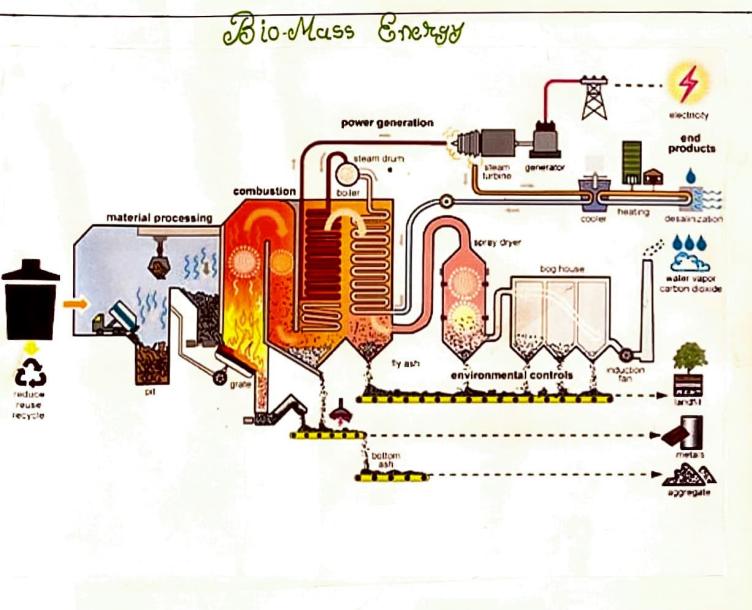


# AMT ICS-14

## WORLD EARTH DAY 2022

CS-2

RENEWABLE RESOURCES



### Solar Energy

5 types of renewable energy sources

#### Solar Energy

Solar energy comes from the sun, and is harvested with several technologies, including solar panels.



#### Wind Power

Wind turbines capture the wind's power as they spin and convert it to electricity.



#### Hydroelectricity

Hydropower turbines rotate as water flows through them, generating electricity.



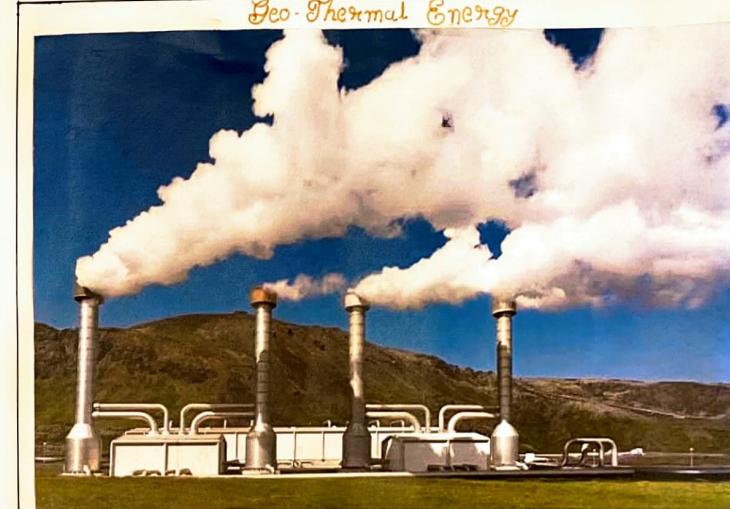
#### Geothermal Energy

Heat energy from within the earth can be harnessed to generate power.



#### Biomass

Biomass fuels are recently living organic matter (like plants and animals) that are burned for power.



### Wind Energy

