



Enviro Notes

Environment Periodical for change makers

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How Does Recycling Help The Environment

There are loads of statistics on how much or how little we recycle and plenty of information on how to do it. Before you explore these details, it's useful to understand how does recycling help the environment?

Our responsibility is to preserve and protect the earth for ourselves and future generations and all the other living things that call earth home.

Recycling and waste facts?

Did you know these facts about recycling and waste?

- " Plastic will outnumber fish by 2050
- " About 269,000 tons of plastic waste floats in the ocean.
- " A plastic bag is used for only 15 minutes on average but can last for a millennium.
- " 91% of plastic isn't recycled
- " It takes as little as 30 days for the recycled glass to appear on a store shelf.
- " People have used more resources in the last 50 years than in all of history.
- " Recycling one tonne of paper saves 13 trees and 31,780 litres of water.

How does recycling help the environment?

How does recycling help the environment? There are many ways that the environment and our planet benefit from recycling. Below we take you through the key areas and explain why recycling is important.

Recycling saves energy

Recycling helps the environment by saving energy for the future.

We can save a great deal of energy by properly recycling metals, plastics, glass, and paper.

How does recycling save energy? Energy is saved by reducing the amount of virgin materials extracted, processed, manufactured, and transported to create new products. Recycling correctly helps keep resources that have already been

extracted in use and reduces our need for more resulting in less energy use overall.

Some great examples are:

- " Recycling aluminium is an energy-efficient process that saves 95% of the energy required to manufacture it. Recycling also eliminates dangerous chemicals and greenhouse gases from being produced, making it a much better option for the environment than producing new aluminium..
- " Plastic recycling can save up to 80% of total petroleum use. This reduces the amount of virgin plastic used and, therefore, the amount of fossil fuels.
- " Using recycling glass can reduce energy use by 75% compared to making new glass.

Recycling Conserves Resources

The amount of natural resources such as fossil fuels and mineral ores available on the planet is limited. These natural resources will eventually run out. When products made from these natural resources are discarded in landfills, they are potentially lost forever. Recycling keeps materials in circulation and ensures that we get the full value from them. It takes a great deal of energy and resources to extract and process these materials, so it seems ridiculous to use them once and simply throw them away.

Recycling creates jobs

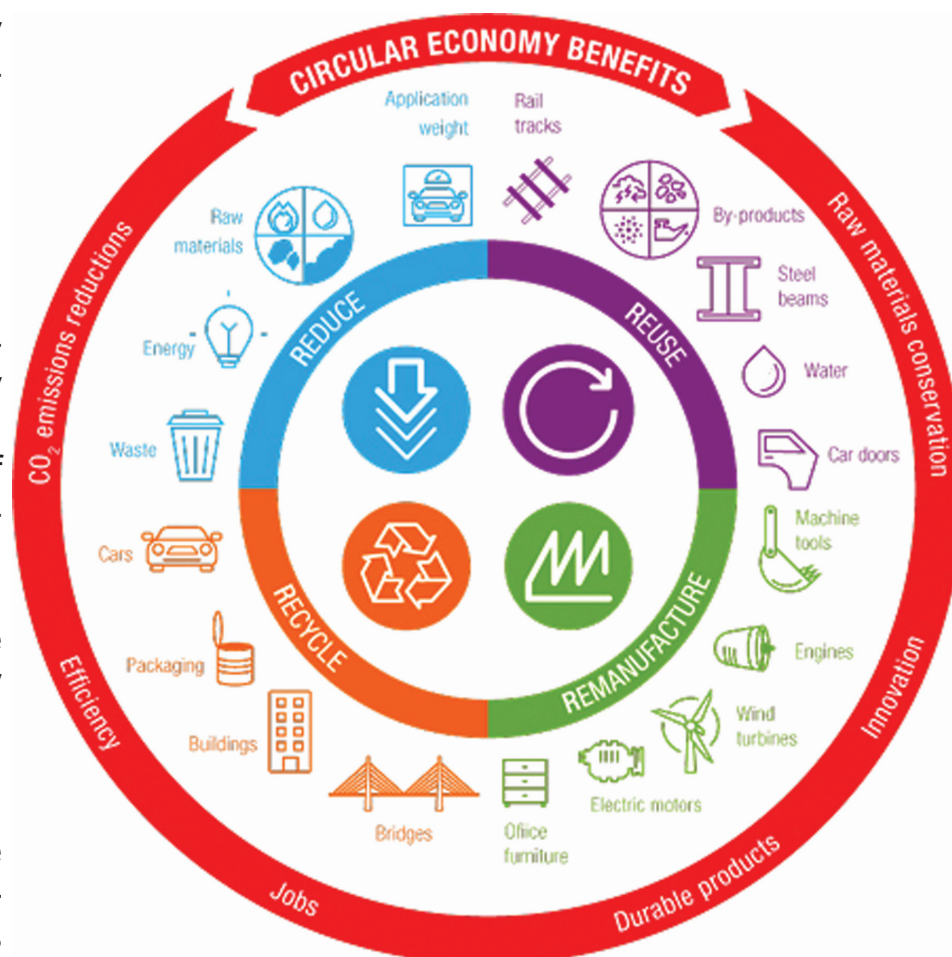
Recycling generates jobs such as for collectors, segregators etc. Recycling facilities train and employ four workers for every worker that a landfill maintains, which provides a significant number of jobs. Recycling also helps create new industries and businesses that find a use for recycled materials.

Recycling supports the SDGs

Recycling is one of the best ways to support the Sustainable Development Goals developed by the United Nations.

The United Nations created these goals in 2015 as a call to action to end

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poverty, protect the environment and ensure that people worldwide enjoy peace and prosperity.

Recycling supports these goals by reducing our use of natural resources, protecting the natural environment from waste and pollution, and creating new economies for prosperity and growth.

Recycling supports a circular economy

Our current way of producing, consuming, and disposing of materials is reaching its limits. Waste's piling up, resources are running out, and every corner of the globe suffers from the impacts.

A circular economy model can help. If you haven't heard the term before, a circular economy is a model that regenerates as natural systems do. A circular economy is not just about reducing waste and increasing recycling. It's about creating a more natural economy that can benefit society and the environment.

A circular economy is based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems.

The three principles of the circular economy are:

- " Design out waste and pollution
- " Keep products and materials in use
- " Regenerate natural systems

In a circular economy system, products are designed with the end in mind. They are also built to be repaired and recycled into new products once they are no longer useful.

Recycling supports a circular economy by keeping materials in use longer.

Recycling protects ecosystems and wildlife

To protect ecosystems and wildlife, we must recycle plastic waste. This waste is having a devastating effect on our oceans and waterways. Recycling plastic helps decrease the pollution in our rivers and oceans.

It's not all about plastic either. Recycling reduces the number of trees cut down and the minerals and resources we extract from the earth. All of which harm the environment.

We must take these steps to protect our beautiful environment and protect the animals that live in it.

Recycling reduces landfill

Recycling helps reduce the volume of waste in landfills and diverts tons of hazardous waste away from landfills every day.

This reduces the risk of landfill sites releasing toxic chemicals and other harmful materials into the environment.

Why is recycling important to future generations?

Recycling is vital to future generations because it saves non-renewable materials from going to waste and prevents pollution. It supports circular economy principles for keeping materials in circulation.

Recycling also protects and preserves the natural environment for future generations to enjoy. We already see the devastating effects our overconsumption and waste creation has on the oceans, rivers, and land.

We need to not only stop the flow but reverse it by making materials valuable at the end of their life.

How to Manage Waste in the Community Environment?



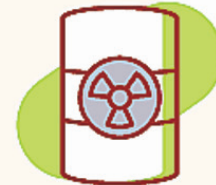
Separate waste according to its type (organic and inorganic).



Process organic waste. (degradable waste) such as organic waste can be processed into compost.



Process inorganic waste (waste that is difficult to decompose and decomposes by itself). For example, process plastic bottle waste into flower vases.



Process hazardous waste properly (waste containing chemical substances) so as not to cause pollution that damages the environment.



Treat e-waste properly. E-waste can't dispose of carelessly, most components of electronic devices are not easily destroyed and can explode, so it has to separate into an electronic waste processing facility.



Do not use plastic straws because plastic straws are inorganic waste that is difficult to decompose.



Bring your shopping bags that can be washed and used repeatedly to reduce the amount of plastic waste that is difficult to decompose.



Bring your drinking bottle to reduce plastic bottle waste.

What is Green Hydrogen & why is it important?

Introduction to Hydrogen:

Hydrogen is the most abundant chemical element in nature. As noted by the IEA, the global demand for hydrogen for use as a fuel has tripled since 1975 and reached 70 million tonnes a year in 2018. In addition, **green hydrogen** is a clean energy source that **only emits water vapour** and leaves no residue in the air, unlike coal and oil.

Hydrogen has a long-standing relationship with industry. **This gas has been used to fuel cars, airships and spaceships since the beginning of the 19th century.**

Decarbonisation - why is it important?:

Decarbonising the planet is one of the goals that countries around the world have set for 2050. To achieve this, decarbonising the production of an element like hydrogen, **giving rise to green hydrogen**, is one of the key goals, as this is currently responsible for more than 2 % of total global CO₂ emissions. The decarbonisation of the world economy, a process that cannot be postponed, will give hydrogen more prominence. In addition, if its production costs fall by 50 % by 2030, as predicted by the World Hydrogen Council, we will undoubtedly be looking at one of the fuels of the future.

How is Green Hydrogen generated:

"Green Hydrogen" is the generation of **Hydrogen (a universal, light & highly reactive fuel) produced by splitting water by electrolysis (a method that uses an electrical current to separate the Hydrogen from the Oxygen in water).** This produces only hydrogen and oxygen. We can use the hydrogen and vent the oxygen to the atmosphere with no negative impact; and electrolysis needs electricity (i.e power). If this electricity is obtained from renewable sources we will, therefore, produce energy **without emitting carbon dioxide** into the atmosphere.

Our way of life needs an increasing amount of **Watts** to function. The latest estimates by the International Energy Agency (IEA), published at the end of 2019, predict that **global energy demand will increase by between 25 % and 30 % by 2040**, which in an economy dependent on coal and oil would mean more CO₂, exacerbating **climate change**.

However, decarbonising the planet suggests a different world in 2050: one that is more accessible, efficient and sustainable, and driven by **clean energies** such as green hydrogen.

Additional facts about Green Hydrogen:

As the IEA points out, this method of obtaining green hydrogen **would save 830 million tonnes of CO₂ that are emitted annually when this gas is produced using fossil fuels.** Likewise, replacing all grey hydrogen in the world would require **3,000 TWh/year from new renewables** - equivalent to the current demand of Europe.

Advantages & Disadvantages of Green Hydrogen

This energy source has pros and cons that we must be aware of. Let's go over some of its most important **good** points:

"100 % sustainable: green hydrogen **does not emit polluting gases** either during combustion or during production.

"Storable: hydrogen is easy to store, which allows it to be **used subsequently** for other purposes and at times other than immediately after its production.

"Versatile: green hydrogen can be **transformed into electricity or synthetic gas** and used for commercial, industrial or mobility purposes.

However, green hydrogen also has negative aspects that should be borne in mind:

"High cost: energy **from renewable sources**, which are key to generating green hydrogen through electrolysis, is more expensive to generate, which in turn makes hydrogen more expensive to obtain.

"High energy consumption: the production of hydrogen in general and green hydrogen in particular **requires more energy** than other fuels.

"Safety issues: hydrogen is a **highly volatile and flammable element** and extensive safety measures are therefore required to prevent leakage and explosions.

Climate Change and animals

Changes in temperature - and the other impacts of climate change - are becoming more apparent. We're already seeing the effects of climate change around the world. These include:

Natural disasters - like floods, hurricanes, fires and tornadoes - are occurring more frequently.

And climate change seriously affects animal species too:

- " **More animal species are becoming extinct** due to the effects of climate change on the ecosystems and habitats they live in.
- " Animal habitats are becoming less comfortable, sometimes even inhospitable.
- " Animals are affected by increases in pollution that affects the food they eat and the habitats they live in.
- " Some animals have to alter their breeding and feeding patterns in order to survive the impacts of climate change.

When animals can't migrate to areas with more favourable climates, their chances of extinction increase significantly. Below are seven animal species that are affected by climate change today

To cite a few examples, these animals are affected in following ways:

Cheetahs : numbers are declining and in some areas their prey is also dwindling. As a result, cheetahs have had to change their diets and prey on other animals that live in the same environment. Often, these animals don't have the same nutritional value as cheetahs' usual prey - **affecting its ability to produce healthy sperm**. In fact, cheetahs sperm counts are ten times lower than your average house cat. And this is due to higher temperatures caused by global warming, which have led to the development of abnormal coils in cheetahs' sperm. And, rising temperatures also affect the big cat's ability to reproduce by causing **lowered testosterone levels** in male cheetahs.

Green Turtles : And, because a **baby turtle's sex depends on the temperature of the sand** where their egg is laid, climate change has an impact on turtles' development, too. The warmer areas produce female turtles. So, with climate change causing an increase in temperatures, more females than males are hatching. And this reduces the number of male green turtles around. This may affect the population growth of green turtles in the future since it means fewer mating partners for female turtles.

Jaguars: While **studies** have shown that jaguars are fairly resilient to extreme drought and flood over the short term, the jaguar population will crash if there are a number of extreme droughts or floods in a short time period, which is extremely likely due to climate change. In addition, jaguars are already under pressure from hunting both of themselves and of their prey as well as habitat loss through deforestation, which is a key concern in Central and Latin America where these cats live.

Adelie Penguins: These birds live on the Antarctic continent and feed on krill - shrimp-like creatures that live under the ice sheets. Climate change is causing the ice in this area to melt. And, as the ice melts, krill populations decrease and the penguins have to migrate from their natural habitat to find alternative food sources. This makes it harder for them to settle down and mate during the breeding season because they sometimes run short of food.

FACT ABOUT THE EARTH

Mass: 5,972,190,000,000,000 billion kg

Equatorial Diameter: 12,756 km

Polar Diameter: 12,714 km

Equatorial Circumference: 40,030 km



01

It takes 8.20 minutes for sunlight to reach the earth

02

The surface on the earth rotates on its axis at a speed of 1,000 miles per hour

03

Water cover 155.6 million square km of the earth's surface

04

Earth is the only planet in the solar system not to be named after a mythical God

05

if you drilled a tunnel straight through the Earth and jumped in, it would take you about 42 minutes to get to the other side