



Circular Economy Lab & Observatory

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SUSTAINABILITY

Waste management: calculation of benefits
in circular processes (reduce, reuse and recycle)
in front of linear processes

Lithuania-6.1



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Circular economy and sustainability are one of the most important things these days. Circular economy is a renewable economic system in which consumption, emissions and energy losses of resources and waste are reduced by their correct management and connection in closed chain.

The goal of a circular economy is to reduce waste and consumption through sharing, leasing, reusing, repairing, refurbishing, and recycling existing materials and products as much as possible. In a circular economy, products are designed to be long-lasting, durable, and upgradeable. The transformation to a circular economy requires three fundamental principles: eliminating waste and pollution, circulating products and materials, and regenerating nature.

“Looking beyond the current take-make-dispose extractive industrial model, a circular economy aims to redefine growth, focusing on positive society-wide benefits.

It entails gradually decoupling economic activity from the consumption of finite resources and designing waste out of the system. Underpinned by a transition to renewable energy sources, the circular model builds economic, natural, and social capital. It is based on three principles: design out waste and pollution; keep products and materials in use; regenerate natural systems.” – Ellen McArthur Foundation’s Definition of Circular Economy.



<https://pixabay.com/illustrations/nature-earth-sustainability-leaf-3294632/>

¹ Circular economy is closely related to sustainability. Sustainable living is a way of life that aims to decrease the use of Earth's natural resources by individuals and societies. It is often called "earth harmony living" or "net zero living".



² Sustainable living means understanding our choices importance, and the impact they make to the world around us. It means making a real difference in society by finding ways to change our daily lives to live more sustainably and this way helping everyone to live a better life.

"Sustainable living is to seek to act pro-socially within our communities, serve others, and make pro-environmental choices towards our planet. At the same time, we should stand connected across the world." (Stavros Triantafyllidis).

Sustainable living is achieved by making choices that aim to reduce our individual and collective environmental impact by making positive changes to offset climate change, reduce environmental damage and make a positive impact to the planet in the future.³ However, why exactly circular economy and sustainable lifestyle are so important?



<https://www.pinterest.com/pin/1970393577089195/>

Every day we face numerous problems that affect our planet Earth in a negative way.

Although several problems affect the world, pollution, greenhouse effects, global warming, resource depletion, and biodiversity loss are the most important and harmful ones.

Pollution is discharge of pollutants into the natural environment that causes damage to ecosystem, human health, and life quality. Pollution can take the form of any substance: solid, liquid, or gas.⁶

Air, water, and soil pollution lead to the deaths of more than 9 million individuals every year. The world produces approximately 1.3 billion tons of garbage each year, of which plastic waste accounts for around 300 million tons – nearly equivalent to the weight of the entire human population. Pollution also poses a threat to biodiversity. This pollution also threatens biodiversity.¹¹ Biodiversity loss is reduction or extinction of varied species worldwide.⁹ Other reason why some species may become extinct or endangered in the near future is global warming.



<https://pin.it/ISkiDvY>

Global warming is the ongoing increase in global average temperature and its impacts on Earth's climate system.¹⁰ Because of changing temperature, some of species are not capable of adapting to the environment anymore so they become extinct.

Global warming is caused by greenhouse effect, which is a process that occurs when energy from a planet's host star goes through its atmosphere and heats the planet's surface, but greenhouse gases in the atmosphere prevent some of the heat from returning directly to space, resulting in a warmer planet.⁸

Soil also plays a vital role in either limiting or exacerbating climate change. When soil becomes damaged or degraded, it can release CO₂ or methane back into the atmosphere, thereby accelerating – rather than decelerating – the impact of climate change. There are multiple human-made threats to soil health.



https://unsplash.com/photos/7_TSzqJms4w

These include deforestation, urbanization, agricultural intensification, soil compaction, acidification, salinization, pollution, landslides, wildfires, and soil erosion.⁵ Soil pollution affects human health in a negative way. So does water pollution. Water pollution arises when harmful substances, including chemicals or microorganisms, contaminate a stream, river, ocean, aquifer, or other water bodies, rendering them toxic to humans and the environment, and degrading water quality.

Polluted water can make you ill and even cause death. In fact, it caused 1.8 million deaths in 2015, according to a study published in The Lancet. Every year, unsafe water sickens about 1 billion people. In addition, low-income communities are disproportionately at risk because their homes are often closest to the most polluting industries. So, what can we do to lessen the damage caused by these problems?

“If not now, then when?” – said Hillel the Elder. We need to start doing something today before it is too late. There are various ways to reduce the damage caused by the problems mentioned above. First, we need to make the first step ourselves. We need to start living more sustainably.

Using reusable coffee mugs, straws, shopping bags, bottles can reduce plastic waste. That way we will reuse things instead throwing them away. In addition, instead of using products that are harmful for environment we should change them to eco-friendly products: buy items made using recycled materials or designed to be zero-waste.

Many cosmetics companies produce items in bottles and jars made from recycled products. You can also find clothing, bedding, and furniture made from recycled materials.³ Buy higher-quality clothing rather than trendier, cheap clothing.



<https://pin.it/5uCuW2T>

If you aim at more upfront purchases, you actually end up saving cash in the long run, because of durability.⁴

Look for digital ways to reduce waste (eBooks, magazines, movies). Reuse whatever you can instead of throwing them in the trash. If you have enough creativity, you can reuse almost anything. For example, jars can be used as flowerpots, plastic bottle ends as pencil holder and many more. You can also give them to someone else who can reuse them.

Use your cell phones, computers, and tablets for as long as possible. Electronic or e-waste is a growing environmental problem.⁴ Before you throw something away, think about whether all or part of it could be recycled. “When you put the whole picture together, recycling is the right thing to do.” (Pam Shoemaker).

A good way to contribute to helping the environment is reducing all kinds of waste in your daily life. A good way to do that is to use public transport or bike instead of driving a car, reducing power usage when it's not necessary, using less water and consuming fewer products overall.



Reduce, reuse, recycle – these three ‘R’ words are an important part of sustainable living, as they help to cut down on the amount of waste we have to throw away. Nevertheless, we are not the only ones that can help the environment. There are not many things that a person can do alone.

Only the government can do something to help and make a bigger change. For example, the best solution for reducing waste is circular economy. To make it more efficient government should produce more items made from recyclable materials, so they can be recycled in the future. To reduce rubbish waste government can reuse already used materials to make new products.

Countries should focus more on practicing circular economy. So far, economy in the world is only 9% circular.¹ Circularity represents a decoupling of economic growth from resource consumption. For businesses, a circular economy involves conserving materials, extending product lifespan through repair and reuse, and recycling. Circular economy would help to make a big step towards cleaner environment.



<https://pixabay.com/photos/recup-coffee-to-go-plastic-cups-4481723/>

In conclusion, there are countless of problems in the world that affect Earth in a negative way and threaten to destroy our planet. Luckily, there are various ways to reduce the risk and lessen the damage that is being done.

Most of the damage is caused by human activity (waste of energy and resources). “The greatest threat to our planet is the belief that someone else will save it.” (Robert Swan). Everyone needs to start doing something themselves first. “Small acts, when multiplied by millions of people, can transform the world” – Howard Zinn. The best way to make a change and reduce the damage is sustainable lifestyle and circular economy.



Nevertheless, the circular economy goes beyond fixing environmental problems and can bring positive impacts and significant opportunities across sectors, industries, and lives. The circular economy concept aims to make better use of natural resources such as forests, soil, water, air, metals, and minerals.

The big “R” (reduce, reuse, recycle) is the key to the better world. If we focus on sustainability, the entire world will benefit and will get to live in cleaner and healthier living conditions. By doing this we assure that our future generations will suffer less than if, we did nothing and left the damaged Earth for them to save.

By providing proper education for our children in schools, we will teach them to appreciate and value our Mother Nature from young age and it potentially could help them avoid doing the same mistakes that the previous generations had made in the past.

We need to inform people and make them aware about importance of their decisions and how they affect the fertility of soil, water clearness, pureness of air, condition of whole planet and humanities quality of life overall. People must step out of their comfort zone and stop thinking that they don't have to worry about anything and that their problems will be fixed by others.



<https://unsplash.com/photos/x8ZStukS2PM>

They need to do something not only for themselves but for others too. Small things that we do can help to achieve the goal little by little. We can start by replacing our everyday items into more environment friendly: recyclable and reusable.



<https://pin.it/IEOkYRz>

Instead of driving to work or school we can change it to walking or driving a bicycle to lessen toxic materials like carbon monoxide and dioxide, ammonia, sulfur dioxide and other emitted into the air.

To reduce the usage of resources we can use energy-efficient light bulbs, save water, use renewable energy sources like sun energy produced by solar panels. Overall, there are various ways to save our planet, but if we want to actually achieve something we have to make the first step ourselves.



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GROUP

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