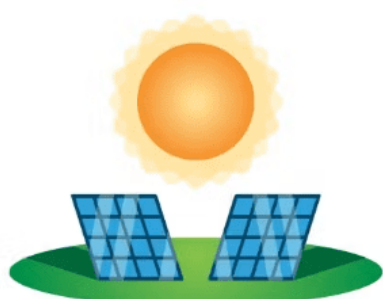


How Renewable Energy Works

Nowadays, it is important to understand how [renewable energy](#) works as nations around the world seek sustainable solutions to address their energy needs and fight climate change. The subject of renewable energy is getting a lot of momentum lately, and for the right reasons. For example, it allows us to recognize [clean energy sources](#) better than the use of [fossil fuels](#).

Renewable energy sources, such as [solar panels](#), [wind turbines](#), and [hydropower](#), have attained relevance for their [sustainable](#) attributes. These energy sources use natural resources, such as sunlight, wind, and water to generate electricity.



SOLAR



HYDRO



WIND



TIDAL



GEOTHERMAL



BIOMASS

Renewable Energy Sources

Source: [Inspire Clean Energy](#)

how the Three Renewable Energy Sources Work

- **Solar panels:** [Solar panels](#) capture sunlight and then convert it into

electricity. When the sunlight hits these [solar cells](#) or solar panels, tiny parts or electrons inside the panels get excited by the sunlight, start to move, and transform into electricity that we can use to power our homes, laptops, and businesses. The extra electricity generated is stored in batteries, to be sold to other countries or used when the sun is not shining and can be fed back into the grid, in other words recycling the energy.

- **Wind turbines:** Wind turbines are like enormous clean energy machines. Similarly, you can see them as modernised windmills that generate electricity from the power of the wind. The turbines have huge blades, which, when the wind blows, causes these blades to spin. As the blades spin, they capture the wind's kinetic or movement energy. This spinning motion of the blade starts the generator inside the turbine, which consequently, converts the kinetic energy into electricity. Individuals and businesses utilise this electricity for different purposes.
- **Hydropower plants:** this [renewable energy source](#) uses flowing water to produce electricity. Thus, when the water in the rivers and dams flows, it creates power, which is then utilised to produce electricity.

All these technologies are good for the environment, promote sustainability, and reduce our dependence on the use of [coal](#) to make electricity. [Renewable energy](#) sources are, therefore, changing the way we power our world, making it more eco-friendly and sustainable and contributing to a greener future.

What is Renewable Energy?

Renewable energy is the power we get from natural resources, such as water, the sun, or the air. As such, [natural resources](#) do not get depleted. So we can use them over and over for generations to come. They are clean and cause less harm to human health, our [environment](#), as well as the planet we live in.

Renewable energy is so important because it gives us the option to replace the current carbonised energy systems to produce electricity. The transition to renewable energy therefore has a number of various advantages:

- **It cleans the air:** All the toxic [greenhouse gases](#) emitted into the atmosphere during the burning of fossil fuels are not good for human health. Renewable energy helps countries reduce [air pollution](#).
- **It preserves natural resources:** Traditional energy sources are [limited](#),

unlike renewable energy sources, that use never-ending natural resources. This gives nations a variety of energy technology options to make electricity, instead of being reliant on unsustainable energy sources.

- **It promotes innovation and technological improvements:** With the use of renewable energy, new ideas are being created to improve the technology.

moving forward

Sustainable renewable energy source gives nations the hope to live a clean, [toxic-free planet](#). Our knowledge of this topic creates vast opportunities to meet the energy demands without harming the environment, endangering our species, and impacting human health negatively. The reduction of rising temperatures will cool the planet down, and the world will move from [global warming](#) to global cooling.

Why is it essential that we focus on How Renewable Energy Works?

It's important that nations advance their know-how of what and how [renewable energy](#) works. Clean and sustainable power generation is the future. The use of renewable energy addresses a lot of global challenges we face today. These include:

- Unemployment
- Afford everyone clean, inexpensive electricity
- Change the mindset of individuals and companies' choices that will impact the environment positively.
- Create awareness in communities that utilise renewable energy sources
- effects of climate change on the world's overall [carbon footprint](#)

Achieving a sustainable thrivable future requires the effects of all living beings, from species living in the [oceans](#) to the tiny little ants on land. The movement would benefit all, giving every individual, company, community, or country an opportunity to be part of a solution that improves the planet we live in.

achieving the United Nations Sustainable Development Goals (SDGs) and how they link to How Renewable Energy Works

When nations educate and share awareness on how renewable energy sources work in their communities, they contribute to variously achieving [sustainable development goals](#):



Achieving UN sustainable development goals: [Plant with purpose](#)

SDG 3: Improved Human-Health

With the reduction in [toxic emissions](#) from burning fossil fuels, renewable energy can result in clean air, which is good for the human respiratory systems and lungs.

SDG 4: Quality Education

The more and more we use renewable energy, people will want to gain more knowledge on how sustainable technologies work. This will ensure access to [quality education](#) on how to protect our environment and planet.

SDG 7: Access to cheap and clean energy

[Renewable energy](#) is more cost-effective than fossil fuels. As inputs, such as sunlight and wind, are free. While the inputs to create energy from fossil fuels require capital. And we all know that the prices of coal, oil, and gas fluctuate over time. This leads to high electricity tariffs.

SDG 8: Creation of job opportunities and

economic growth

The development of renewable energy technologies would require new skilled workers. As a result, [the economy](#) is boosted by creating new green jobs.

SDG 9: Innovation, Green Industries & Infrastructure

In recent years, governments have subsidized companies and individuals who transition to sustainable energy sources. The extra money injected into companies can be used to improve existing [technology](#), green our [infrastructure](#), and build smart industries, [cities](#), and communities. Therefore, advancing innovation, and supporting [SDG 8](#), through the creation of new green jobs and economic development.

SDG 13: Climate Action

The use of renewable energy technologies is a strategy that can be used to reduce [greenhouse gases](#) and mitigate [climate change](#). This will encourage overall global climate action and efforts to reduce rising temperatures, which lead to global warming.

SDG 17: Partnerships for the Goals

The implementation of [renewable energy](#) sources requires the involvement of various stakeholders. This will foster organisations, individuals, and governments to collaborate and form partnerships that address the global [climate change](#) and sustainability challenges.

A Thrivable Framework

The [THRIVE Framework](#) uses a holistic regenerative method to address sustainability. The goal is to include every ecosystem on earth to live a thrivable future. In this framework, the [THRIVE Project](#) seeks to conduct research and educate on sustainable solutions, that can protect the environment. Education on renewable energy can help the THRIVE project do just that. Renewable energy has the power to reduce greenhouse gases, regenerate the environment, and

indirectly encourage social inclusivity.

To explore more on how the [THRIVE project](#) research, educate, and creates awareness on [sustainability](#) and a thrivable future for generations to come, you can visit our [website](#). You can follow our informative [blog](#), [podcast](#) series, and regular live [webinars](#) featuring expert guests in the field. [Sign up for our newsletter](#) for updates on upcoming events.