eco2solar

THE COMPLETE GUIDE TO

Starting a career in solar energy

Power your future

Welcome

Have you been considering a different career lately? If so, you're not alone. During the pandemic, many people re-evaluated their jobs; some have realised their industry isn't sustainable or future-proof, while others are simply burned out.

But if the pandemic has given us any professional positives, it's a reason to take a long, honest look at our careers. Many of us have asked ourselves the same questions: "Does what I do actually matter? Does it really make a positive difference in the world?"

If you feel it doesn't, maybe it's time for a change. Working in solar energy could be the career path you've been looking for; read on to learn why.

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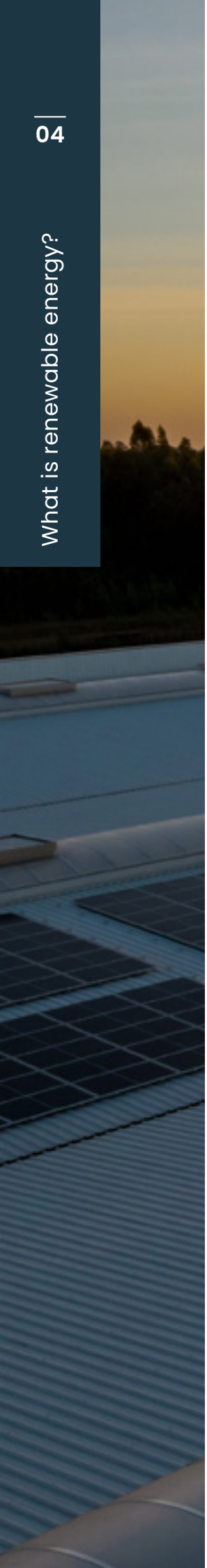


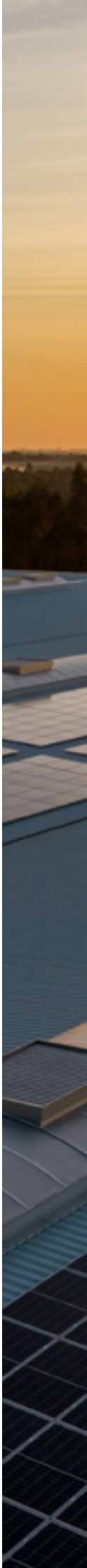
WHAT IS

Renewable Energy?

Renewable energy refers to energy that comes from natural, sustainable sources like the sun, wind or earth. Renewable energy sources are often thought of as a ‘new’ technologies, but they’ve been in use for centuries.

Over the last 500 or so years, humans have used cheaper and dirtier energy sources like gas from fracking, coal, oil and nuclear power. These sources have significantly contributed to the effects of climate change, and we need to reverse them – quickly.

Transitioning to cleaner, greener energy sources, which the government pledges to do by 2050 to meet its Net Zero target, is our only hope.



What is renewable energy?

Clean energy and climate change

Deforestation, greenhouse gasses and intensive agriculture have each contributed to climate change, but by far the main cause is burning fossil fuels like oil, coal and gas.

When they're burnt, they release significant amounts of carbon dioxide into the air, which causes the planet to heat up. This is having a catastrophic effect on our natural world; icebergs are melting, sea levels are rising, flooding is increasing and wildfires are spreading.

Vast, polluting power stations which rely on coal and other fossil fuels are, thankfully, becoming redundant. Governments around the world are divesting from coal-powered plants and investing instead in renewable energies.

Renewables are an essential part of meeting our climate change agenda, now and into the future. From 2025, all new homes will no longer be able to install gas heating – so electric heating, ideally powered by renewable sources like solar, will be our main option.

Over the next few years, the UK government aims to more then halve the carbon emissions of each new home, and from 2030, we'll no longer be able to sell petrol and diesel cars in the UK - meaning a widespread move towards electric vehicles.

Most significantly, from 2050, the UK aims to be Net Zero, meaning none of our energy can come from emission-creating fossil fuels. Renewables will become the new standard.

The four main types of renewable energy

1 **Solar Energy**

Solar energy is, quite simply, power generated by the rays of the sun. When filtered through photovoltaic panels (solar panels), this energy can be captured and used to power any electrical device in a building.

2 **Geothermal Energy**

Technically, geothermal energy from deep beneath the earth's surface is difficult to harness but ground source and air source heat pumps use compressor technology to extract heat from the ground and the air. While the source temperatures are not high, the process provides enough energy to heat homes and hot water.

3 **Wind Energy**

Wind energy is created by harnessing the wind. It can be used to generate power for big industrial processes, or converted into electricity. Wind farms are on-shore on land, or off-shore at sea.

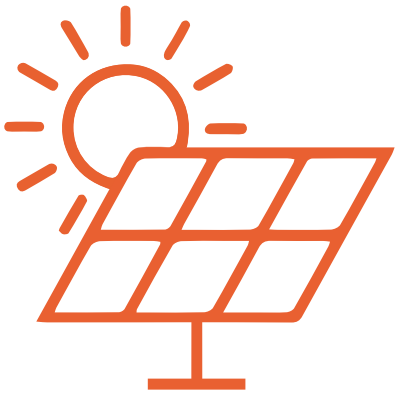
4 **Hydroelectric Power**

Hydroelectric power is created when a hydraulic turbine converts the energy of flowing water into mechanical energy. A hydroelectric generator converts this energy into electricity.

While batteries aren't sources of renewable energy or renewables, they're critical for storing and releasing the energy generated by renewables.

WHAT IS

Solar PV and how does it work?

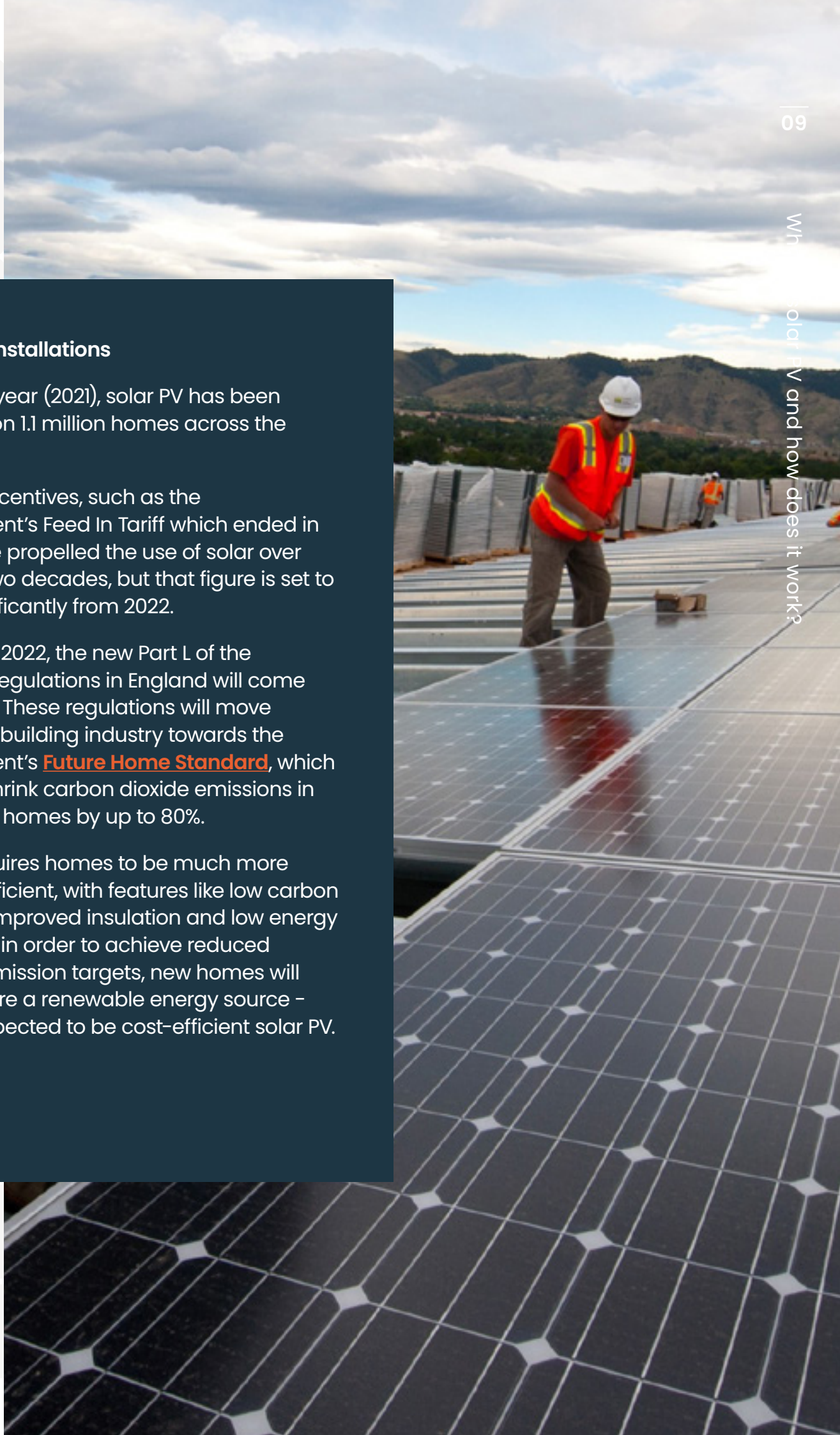


Did you know that 5,000 times as much energy as we need at any one time hits the earth as solar energy? If we harness and store that energy, it could provide 100% of our global energy needs within the next decade.

That's where solar panels, or 'solar PV' comes in. PV stands for 'Photovoltaics' and means converting light into electricity. The solar panels generate DC electricity from sunlight which is fed through an inverter to convert it into AC electricity.

The inverter is connected to a property's consumer unit (fuse board) so the electricity can be used within the home.

Solar panels work in most daylight conditions but the more direct sunshine the receive, the better the generation will be. Solar power can be used immediately, such as to run a washing machine, or stored using a battery for use later on.



Solar PV installations

As of this year (2021), solar PV has been installed on 1.1 million homes across the country.

Various incentives, such as the government's Feed In Tariff which ended in 2019, have propelled the use of solar over the last two decades, but that figure is set to soar significantly from 2022.

From July 2022, the new Part L of the Building Regulations in England will come into force. These regulations will move the housebuilding industry towards the government's **Future Home Standard**, which aims to shrink carbon dioxide emissions in new build homes by up to 80%.

Part L requires homes to be much more energy efficient, with features like low carbon heating, improved insulation and low energy lights. But in order to achieve reduced carbon emission targets, new homes will also require a renewable energy source - widely expected to be cost-efficient solar PV.

The solar jobs market

As world leaders clamour to kick-start environmental initiatives in the fight against climate change, the volume of jobs in renewable energy sectors has soared.

In 2018, there were almost 5,500 jobs in solar and over 11,000 jobs in energy storage* in the UK. With the recent moves towards carbon-zero and the introduction of Part L, these figures have since rocketed.

Now more than ever, we need a workforce with the right skills. While solar installation companies draw their staff from a broad range of professions – including legal staff, administrators, salespeople and marketeers – there's a growing skills gap in many of the more technical roles.

For those considering a switching from similar roles, roofers, electricians, heating engineers, CAD designers, supervisors and project managers are greatly in demand.

Other roles in solar PV include field sales engineers, design engineers, energy analysts, business development managers, planning managers, data scientists, customer service, stores and administration, and accounts.

* https://medium.com/@skillta/2018-demand-for-renewable-energy-skills-3d7379c0f67

"There's really never been a better time to embark on a career in solar. We're at a critical point with climate change, and solar power is a key part of the solution."

— Paul Hutchens, CEO of Eco2Solar

Training courses and opportunities

The qualifications you'll need to embark on a career in solar will vary depending on the type of role, but many people come through degree courses or apprenticeships.

The Engineers Salary Survey found that almost 30% of renewables workers come through training and apprenticeships, while around 60% have qualified with a Bachelors or Honours degree. Some may also have transferred from similar roles in non-renewables like oil and gas.

Even if you've worked in a similar field, you'll still need to do specialist training for technical roles. Apprenticeships are expected to become much more in-demand in the coming years.

Here are just a few of the growing number of courses available:

- **The European Energy Centre** (ECC) provide a range of courses, including a Solar PV Qualification Course, an Energy Storage Course and an Electronics for Renewables Course.
- **The Open University** offers a free introductory course to solar energy which can count towards specialised OU qualifications.
- **TradeSKills4U** provides City & Guilds and BPEC courses in Solar PV Installation and EV Car Charging Point Installation.
- **Eco2Solar** has an in-house training facility which provides specialist solar panel installation training to roofers, and upskilling for electricians.

What are the career benefits to working in solar?

The benefits to working in solar are wide-ranging. First and foremost, you'll be in a meaningful career that's greatly needed in the world, and contributing to something huge; reducing emissions and fighting climate change. For that reason, those in solar PV tend to report consistently high levels of job satisfaction.

Because it's also a relatively young industry, solar is also fast-paced and exciting. New technologies are being created all the time as scientists and engineers find ever more ingenious ways to connect the homes of the future.

You'll hold skills few others do, and you'll be very much in demand throughout the course of your career. This demand will also give you a good salary. The average salary for a solar installer in the UK is just under £34,000, rising with experience. Some solar industry professionals can earn upwards of £50,000.

More than that, it's stable. Like other renewables sectors, solar energy is not affected by economic downturns and pandemics; it's essential to the world living more sustainably - and that kind of job security is priceless.

What are the career benefits to working in solar?

Doing your own research

Whether you're looking to embark on a new career path in renewables or you're considering a switch from another sector, knowledge of the industry is important.

You probably won't need extensive knowledge; just a broad overview of the solar PV sector and the increasingly vital it plays in protecting the environment and making our world more sustainable.

Keeping an eye on news, politics and current affairs, especially in and between the world's major economies, will give you an invaluable understanding of how solar could develop in the months and years ahead.

It's also useful to understand what causes climate change, the impact it's having on our environment and how we can halt its effects through our everyday actions. The BBC, Solar Energy UK, Edie.Net, Renewable UK, Green Energy News and the Met Office are all useful resources, while Bloomberg carries important global news.

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"The nation that leads in renewable energy will be the nation that leads the world."

— James Cameron

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