## THE CASE FOR SOLAR PV

## EARTH'S MOST ABUNDANT ENERGY SOURCE

There's enough solar energy hitting the Earth every hour to meet all of humanity's power needs for an entire year. Every drop of oil, every lump of coal, and every cubic foot of natural gas could be left in the ground if only we could capture one hour's worth of solar energy each year.

IMPROVING ECONOMICS Solar panel costs have fallen 99% since 1977. Back then it cost \$77 per watt for a simple solar cell. According to a 2017 Solar Market Insight Report\*, the cost of a solar cell now is \$0.21 per watt.

CHEAPER THAN FOSSIL FUELS A 2019 report by IRENA\*\* found that all types of renewable energy, including solar, are cheaper than nearly every option for new fossil fuel power plants. Solar energy costs as little as 4.3 cents per kWh whereas the cheapest fossil fuel (natural gas) costs between 4.2 and 7.8 cents per kWh.

LONG-TERM CLEAN POWER Once installed, the solar park will generate electricity for forty years or more. Components like micro-inverters will need to be replaced two or three times over the life of the site, but solar has great longevity and a 'light-touch' maintenance regime will help ensure it generates clean electricity for four decades. When the park's generating days are over it is simple to decommission: the majority of the site is made from steel, silicon, aluminium and copper – all of which are readily recycled.

QUICK ENERGY PAYBACK TIME As solar continues to increase its contribution to global energy demand its production continues to grow in efficiency. PV systems in Northern Europe need around 2.5 years to generate the amount of energy required to make them. \*\*\* So Solar parks will be net energy contributors for at least 93% of their operating life.

AND QUICK TO DEPLOY The UN Intergovernmental Panel on Climate Change \* \* \* \* \* warned there is only a dozen years for global warming to be kept to a maximum of 1.5°C, beyond which even half a degree will significantly worsen the risks of drought, floods, extreme heat and poverty for hundreds of millions of people. Switching to clean energy sources is a critical element to meeting the climate crisis and solar parks can be delivered faster than any other source of clean energy.

\*Solar Energy Industries Association and GTM Research's Q3 2017 report \*\* International Renewable Energy Agency \*\*\* March 2019, Fraunhofer \*\*\*\* 2018 IPCC report

## BUILDING A SOLAR FARM



Solar parks are quick to build, taking 3 to 6 months from start to finish. Spring will implement best practice during construction to minimise any nuisance to the local community where reasonably possible.

The majority of vehicle movements centre on the delivery of the panels and frames. We bring these to site using articulated lorries, requiring approximately 6 vehicle movements per MW of installed capacity. This will take 6 to 10 weeks.

Road safety is a key priority. We will follow the Traffic Management Plan that forms an important part of the planning proposal.

The legs of the solar framework are driven approximately 1.5m into the soil, removing the need for concrete foundations. This is the noisiest part of the construction

High voltage electrical equipment associated with the solar park such as substations and transformers are supported on small concrete platforms.

The fence around the perimeter of the site is installed along with security equipment such as motion-sensor cameras.

Waste material such as equipment packaging is sorted on site before being removed and recycled.

Once the installation is complete, the construction compound – often a stone hard-standing – is removed and any tracks used are made good or removed.

Any disturbed ground is reseeded using a site-appropriate mix of grass and wild flower seed.

electricity for 40 years and at the end of its life all the equipment is easily dismantled, removed from site and the majority of elements recycled.

"It may sound frightening, but the scientific evidence is that if we have not taken dramatic action within the next decade, we could face irreversible damage to the natural world and the collapse of our societies." Sir David Attenborough on climate change, 2019 ENABLING CLEAN GROWTH