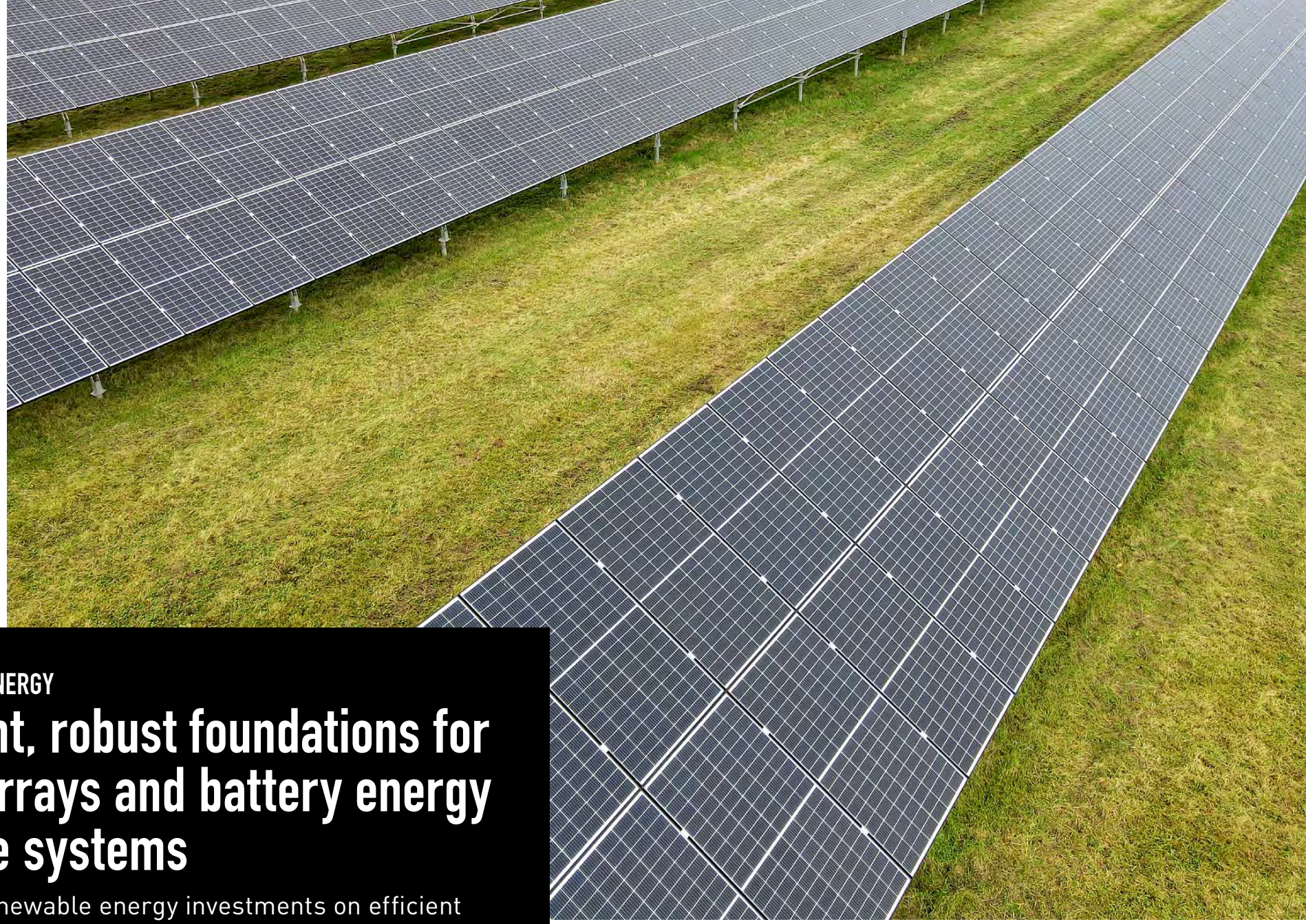
RADIX



RENEWABLE ENERGY

Efficient, robust foundations for solar arrays and battery energy storage systems

Securing renewable energy investments on efficient and robust screw pile foundations, solar racking systems and bespoke structural steel frames.

Trustpilot

Contents

THE UK'S LARGEST SCREW PILE FOUNDATIONS COMPANY

INTRODUCTION

We believe the future of construction must be efficient and sustainable

We combine years of construction, engineering and manufacturing knowledge with existing and emerging technologies to produce effective, low-carbon base systems that positively impact our environment.

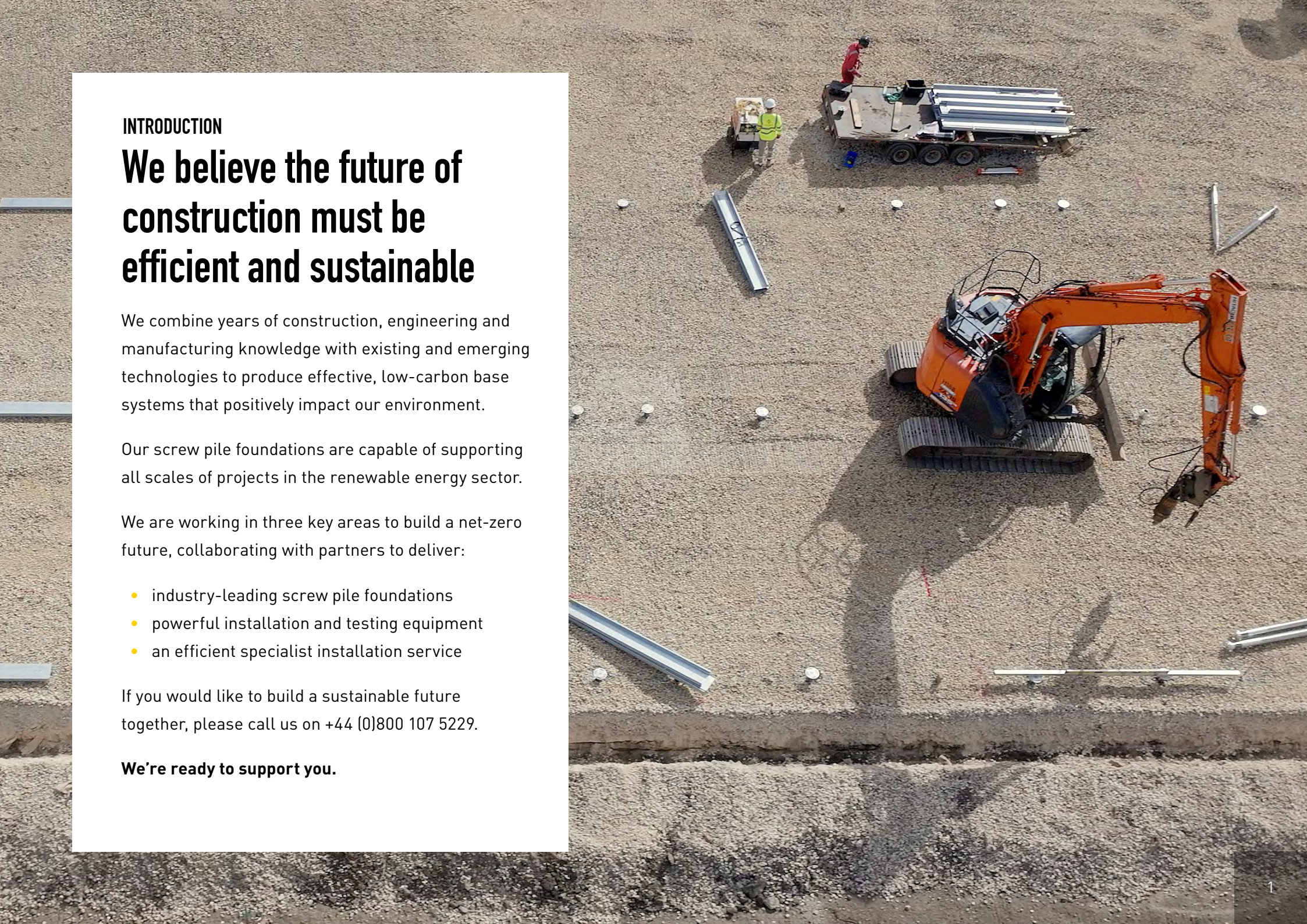
Our screw pile foundations are capable of supporting all scales of projects in the renewable energy sector.

We are working in three key areas to build a net-zero future, collaborating with partners to deliver:

- industry-leading screw pile foundations
- powerful installation and testing equipment
- an efficient specialist installation service

If you would like to build a sustainable future together, please call us on +44 (0)800 107 5229.

We're ready to support you.



A TURNKEY FOUNDATION SOLUTION

Efficient and robust foundations for solar arrays and battery energy storage systems

We provide a turnkey solution to ensure your renewable energy projects run smoothly.

Our dedicated teams can plan, survey and install the specialist foundations for all scales of solar arrays and battery energy storage systems.

Capable of testing and installing any time of the year and in any weather, you can be confident you get the right solution for even the most time-critical project.

We design your foundation layout specific to your project requirements, considering site location and ground conditions.

We can also streamline your project by supplying and installing robust racking systems or designing, manufacturing and installing bespoke structural base systems to meet your needs, enabling you to mount solar panels and battery energy storage units without delay.

Efficiency

+70%

Screws piles can be installed 70% faster than concrete and are ready to build on immediately after installation.

Excavations

0

Avoid costly excavations, removal of spoils from sites, and the need for large piling mats.

SITE SURVEYS & GROUND TESTING

Supporting your renewable energy projects with empirical data

We can conduct site-specific surveys and ground tests across multiple locations to support your renewable projects, with tensile testing up to 120kN and compression testing up to 150kN per screw pile.

We test RADIX Screw Piles according to BS EN 1997-1:2004 (Eurocode 7.7) and to meet with engineers' specifications.

This empirical data ensures your solar array or battery energy storage system is built on the right foundations, with complete structural analysis and comprehensive reports available where required.

> *The team were great to work with, understanding the brief from the outset and providing a complete package without the need for employing multiple trades.*
>
> – 50kW Solar Array, Brechin

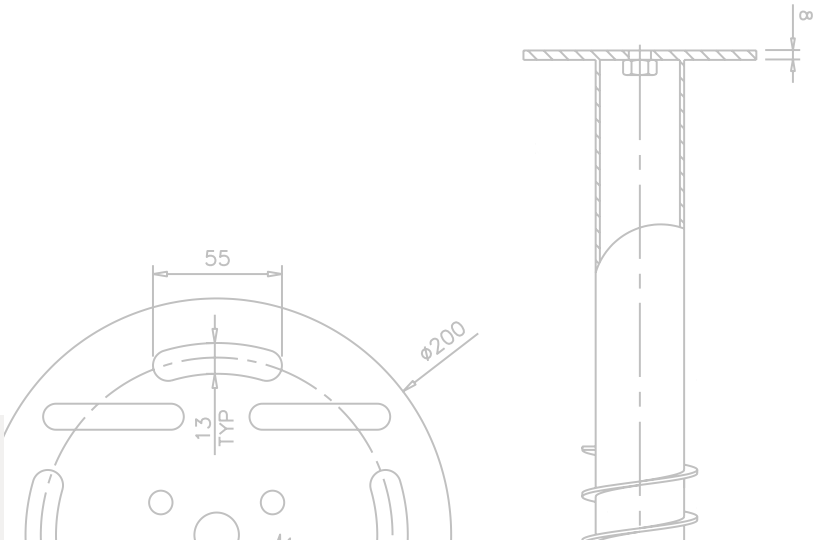
SCREW PILE FOUNDATIONS

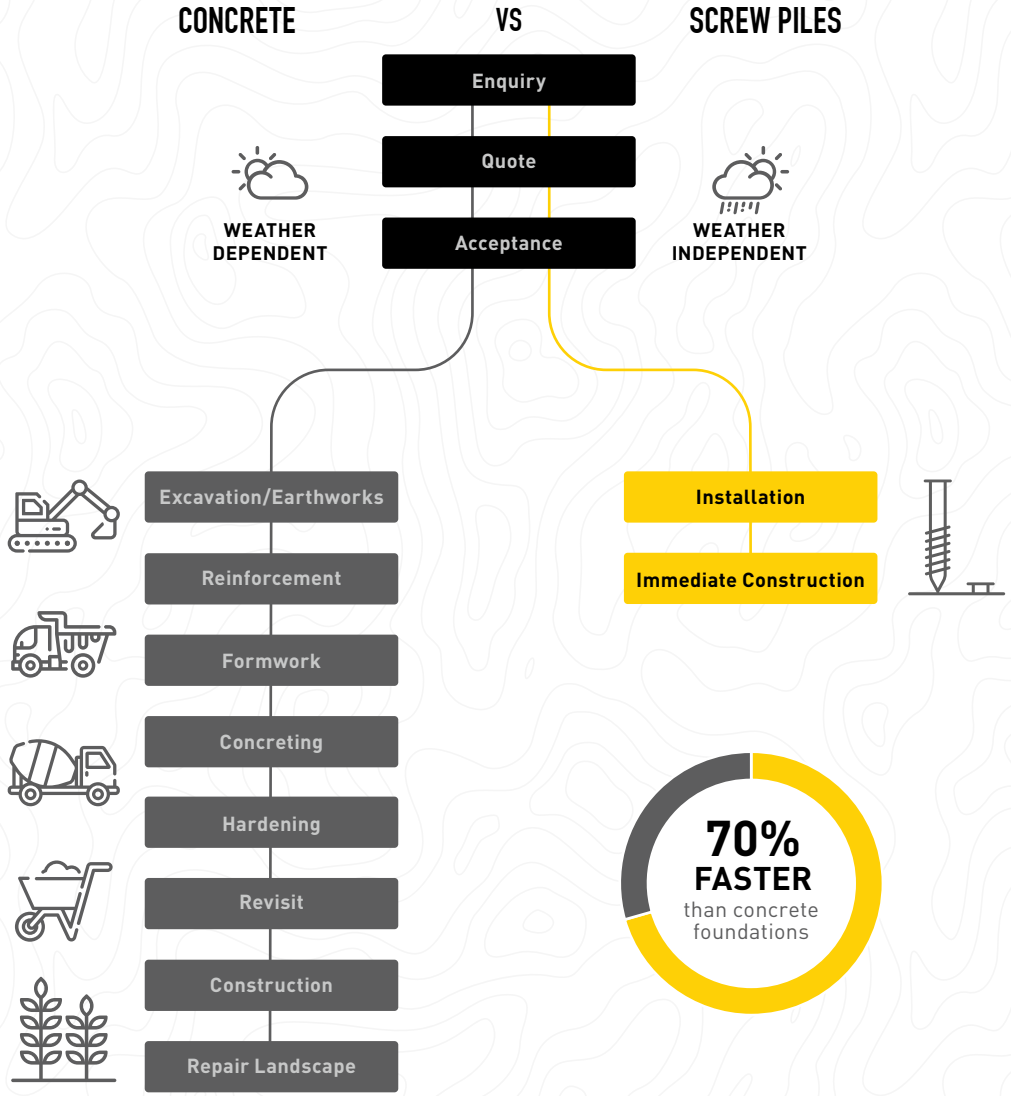
Efficient foundations for renewable energy projects

Screw piles allow for the rapid installation of secure foundations for solar arrays and battery energy storage systems of all sizes, significantly reducing programme lengths and with minimal impact on our environment.

There are several benefits to choosing screw piles for your renewable energy projects.

- Increased wind and uplift resistance
- Easy to remove at the end of project lifespan
- Install any time of the year, in any weather
- Install in hard-to-access and off-grid areas
- Install on sloping, uneven and soft ground
- Install without digging or impacting natural habitats
- Save time, money and the environment

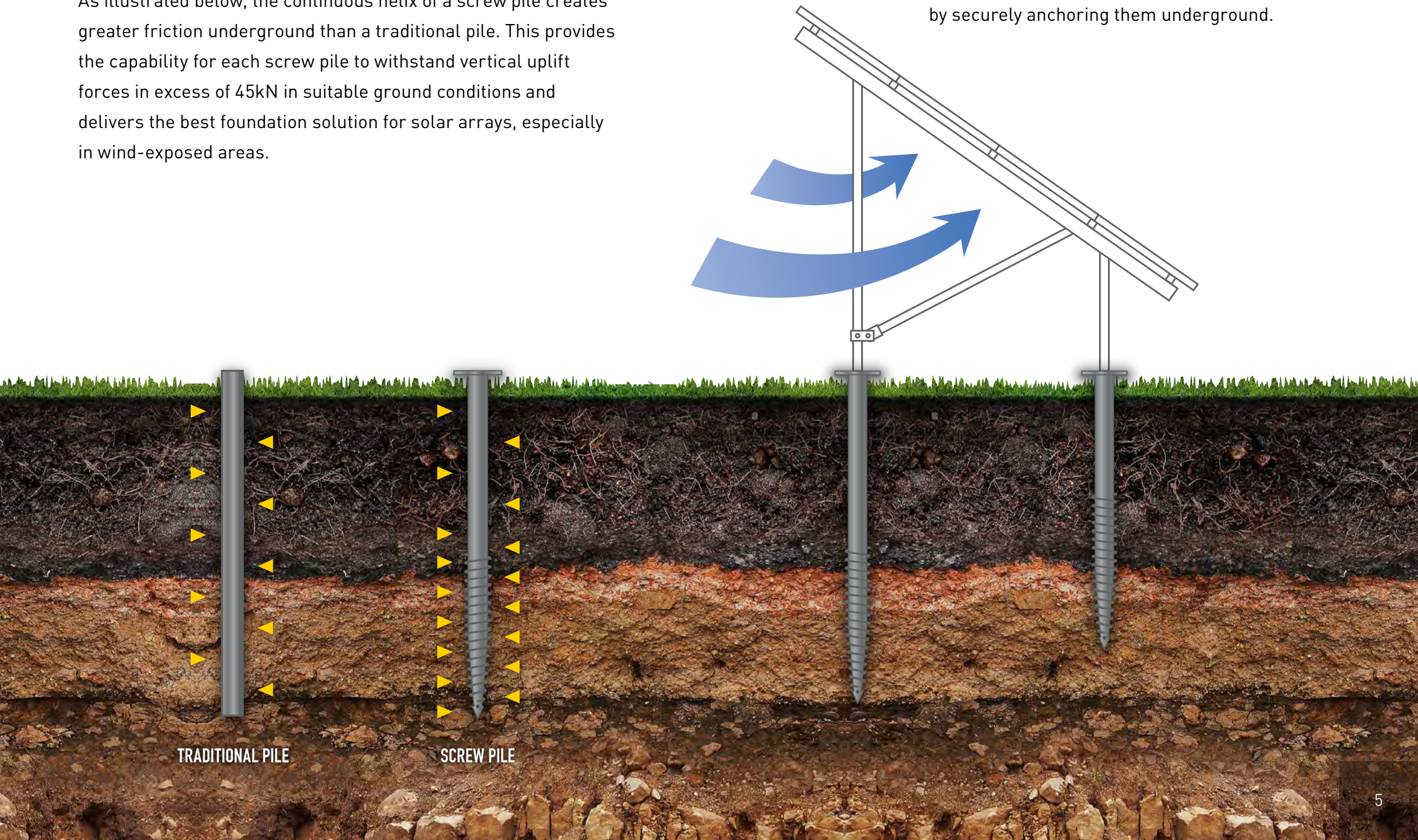




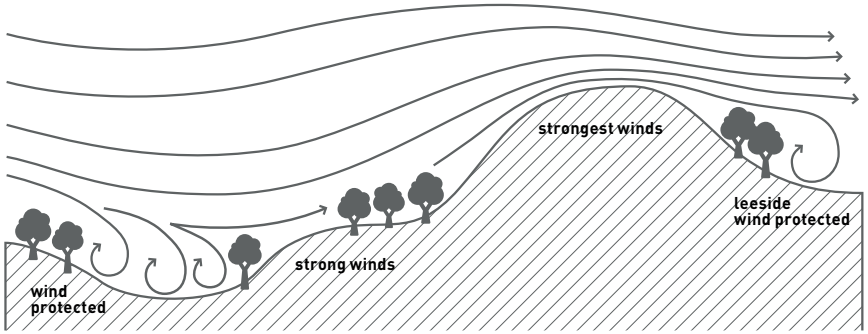
One of the significant strengths of screw piles for solar arrays over traditional piles is the increased uplift forces they support.

As illustrated below, the continuous helix of a screw pile creates greater friction underground than a traditional pile. This provides the capability for each screw pile to withstand vertical uplift forces in excess of 45kN in suitable ground conditions and delivers the best foundation solution for solar arrays, especially in wind-exposed areas.

Solar panels naturally have a large surface area to capture the sun's rays, and this will be affected by the wind. Screw piles protect your solar array by securely anchoring them underground.



Having installed thousands of screw piles for renewable energy projects across the UK and Ireland, paired with our solar racking systems and bespoke structural base solutions, we have the experience and knowledge to rapidly deploy complete systems that withstand the most challenging conditions.



During the planning and designing for your project's foundations, we fully consider your site's location, the land's topography, and prevailing wind directions to ensure your foundations support the forces your solar panels will experience.

Securing solar arrays against

+45kN of vertical uplift

RADIX Professional and Extendable Screw Piles

50kW Solar PV, screw piles and racking installed in three days

SOLAR RACKING SYSTEMS

Versatile and robust racking designed for efficiency

Our robust racking systems secure all scales of commercial and residential solar arrays, providing a complete foundation solution to protect your solar investment.

- RADIX SolarTerrace
- RADIX SolarTripod

With each component of our racking systems designed with efficiency and precision of installation in mind, we can rapidly deploy complete solutions for all scales of solar arrays while significantly reducing programme lengths, avoiding costly delays, and allowing you to mount solar modules immediately.

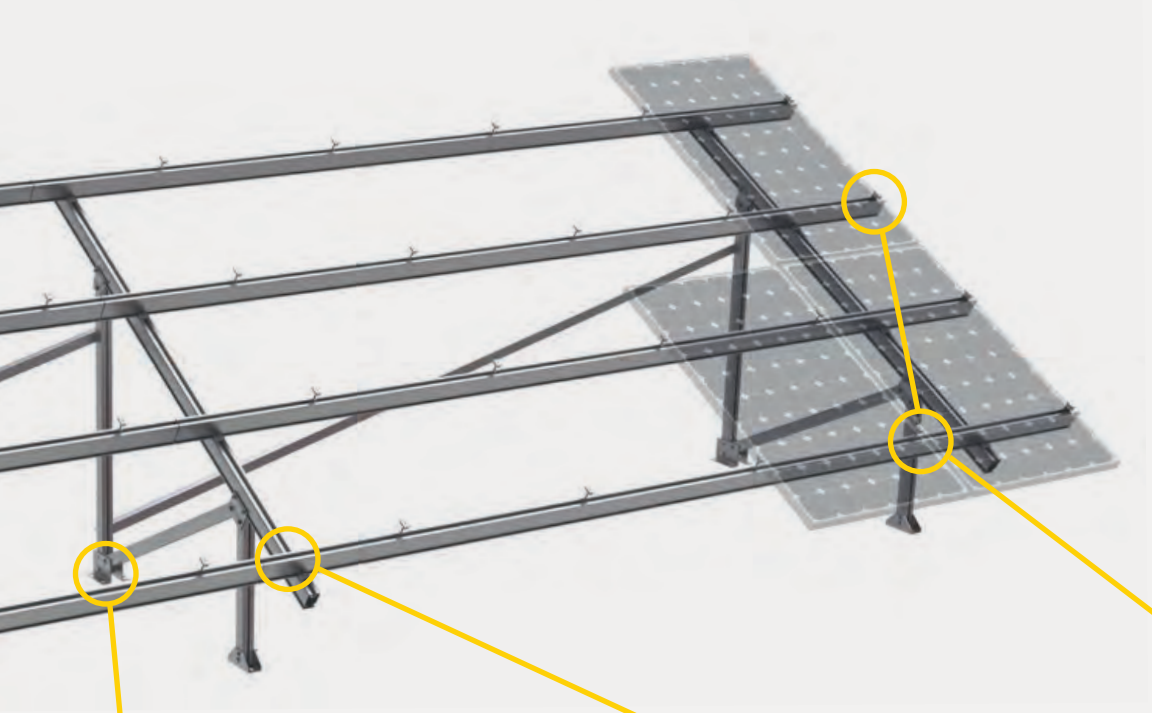
The RADIX SolarTerrace and SolarTripod racking systems come with a 10-year guarantee.

10 YEAR GUARANTEE

Suitable for all sectors

COMMERCIAL

RESIDENTIAL



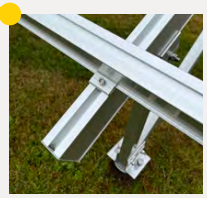
RADIX SolarTerrace

The RADIX SolarTerrace is a pre-assembled aluminium ground mount system capable of supporting small and large-scale arrays.

Using high-quality engineered components designed for fast and efficient installation, the RADIX SolarTerrace significantly saves time and costs.

Robust Anchoring
Securely fixed to RADIX Screw Piles for speed of installation and withstanding significant wind speeds.

Corrosion Resistant
Components are manufactured from stainless steel (SUS304) and aluminium (AL6005-TS) with 10µm anodisation, eliminating any corrosive reaction in even the harshest of environments, including areas with higher salinity.



Solar PV Panel Rails
The innovative rail design offers sections in various sizes to deliver a strong structure at an economical cost.

Rapid Installation
Pre-assembled supports greatly reduce installation time and costs, offering a user-friendly solution that is easy to install for all scales of commercial and residential projects.

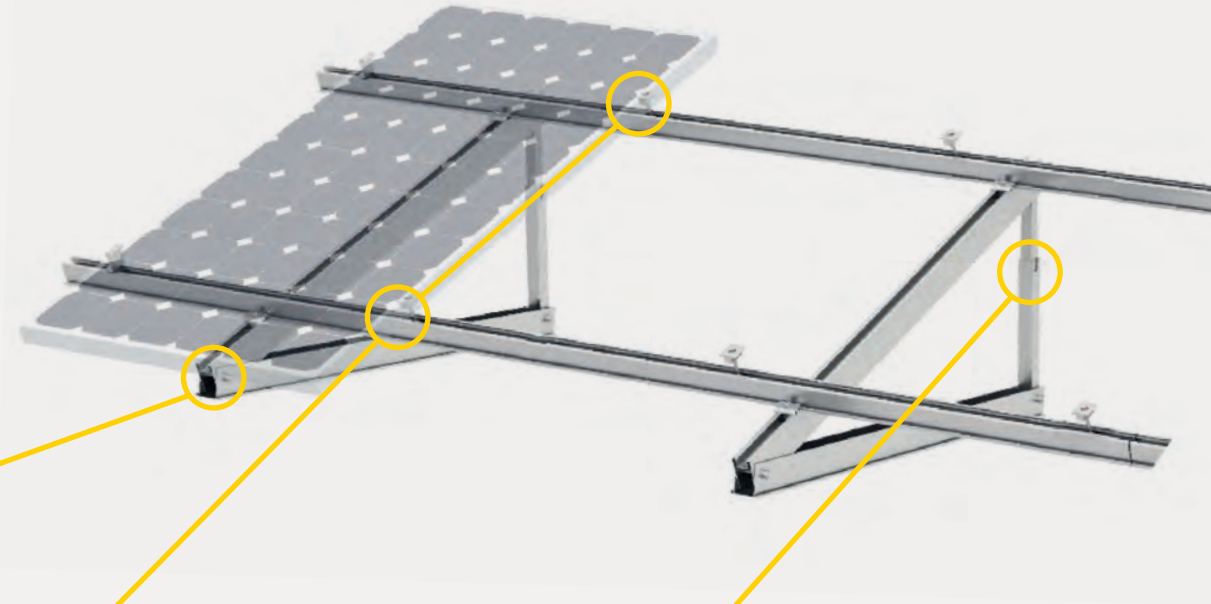
Secure Fixings
The patented clip design delivers an easy and robust fixing to secure PV modules to the rails, saving time on site during installation.

Economical
The SolarTerrace system optimises the surface area for mounting a range of PV solar panels while delivering a solid structure at a lower cost.

RADIX SolarTripod

The RADIX SolarTripod is a single-panel ground mount racking system that allows you to utilise small and hard-to-access areas while maximising the potential use of space with portrait-orientated PV modules.

Equipped with adjustable supports and rails, your solar array can be positioned precisely with tilt angles between 15º and 30º.



Robust Anchoring
Securely fixed to RADIX Screw Piles for speed of installation and withstanding significant wind speeds.

Quick Installation
Pre-assembled supports reduce labour time and costs, offering a user-friendly and easy installation solution for all scales of commercial and residential solar arrays.

Secure Fixings
The patented clip design delivers an easy and robust fixing to secure PV modules to the rails, saving time on site during installation.

High Performance
The RADIX SolarTripod's T-Rail system spans up to 2.4 metres to provide optimal racking space while withstanding significant wind speeds and maximum snow loading of 0.05 KN/m.

Precise Adjustment
Utilising flexible supports, your solar array can be positioned with tilt angles between 15 and 30 degrees.

Built to Last
Components are manufactured from stainless steel (SUS304) and aluminium (AL6005-TS) with 10µm anodisation to eliminate any corrosive reaction in even the harshest environments.

BESPOKE STRUCTURAL BASE SYSTEMS

Battery energy storage systems

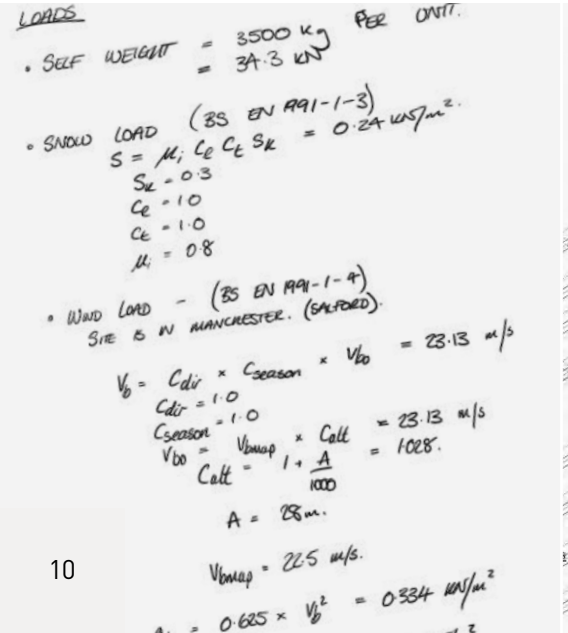
Our team can design and manufacture structural frames and platforms to meet your project requirements, considering each unit's measurements and load-bearing capacities.

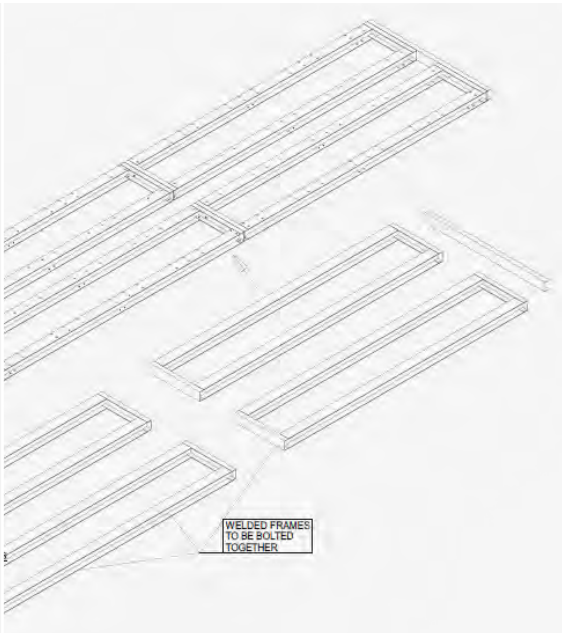
Our ability to rapidly design, manufacture and install bespoke structural frames on RADIX Screw Piles in a turnkey service significantly reduces programme lengths, allowing you to energise faster and release project funding sooner.

Units can be installed and secured on their structural bases to schedule, allowing you to control complete programme delivery.

All screw piles and structural steel bases are manufactured in BBA-certified workshops under EN ISO 9001:2015 and galvanised according to BS EN ISO 1461:2009 for increased durability and protection against the elements for up to 35 years.

- Reduce programme lengths by up to 70%
- Energise faster and release project funding sooner
- Avoid costly excavations, removal of spoils and large piling mats
- Elevated platforms provide easy access to install BESS units, increase flood prevention and offer natural cooling
- Get units on site sooner and connected immediately
- Avoid expensive delays due to bad weather





RADIX Screw Piles installed with a bespoke structural steel platform to hold a 60-tonne transformer, with a bund to be completed at a later date.

Supporting all capacities of battery energy storage systems

A single RADIX Screw Pile can offer a safe load-bearing capacity in excess of 75kN in suitable ground conditions to support all scales of battery storage units and their structural bases.

Whether your project comprises individual components or all-in-one units, you can trust our screw piles and structural bases to support your investment in renewable energy.

- Battery Management Systems
- Power Conversion Systems
- Batteries & Battery Containers
- Transformers

Reduce programme lengths by up to 70%

CASE STUDY

75KW Solar Array

The ground conditions and exposed site of this 140-panel solar array alongside a railway line required a robust, secure, low-impact foundation solution.

RADIX Screw Piles provided more significant tensile support over traditional piles to cope with the strong wind conditions, installed without impact and avoiding damaging the closeby railway line.

We supplied and installed the RADIX SolarTerrace racking system to streamline the project in a turnkey solution.

The complete installation of screw pile foundations and solar racking system was completed in three working days, allowing the client to begin mounting solar panels immediately and to the programme schedule.

Location: Scottish Highlands

Services: Survey and tensile load-testing; supply and installation of screw pile foundations; supply and installation of solar racking system.

CASE STUDY

100MW Battery Energy Storage System

Approached to deliver a complete foundation solution for this 100MW Battery Energy Storage System, we supplied and installed 98 RADIX Extendable Screw Piles to depths of 3.5m, leaving 500mm above ground for bespoke galvanised steel platforms to support a total of 11 PCS units.

Bespoke structural platforms for eight 12m units and three 6m units were designed, manufactured and installed to specification, with platforms holding up to 10 tonnes.

The entire programme was completed in seven days, allowing for the installation and connection of units to begin on schedule.

Concrete Foundations
A WORK PROGRAMME OF 17.5 DAYS

Screw Piles
COMPLETED IN 7 DAYS

60% FASTER

Day 7 Day 17.5

Location: Cuxton, UK

Services: Survey and ground tests; supply and installation of screw pile foundations; design, manufacturing and installation of bespoke structural steel platforms.

CASE STUDY

50MW Battery Energy Storage System

Yorkshire-based Smith Brothers approached us to provide screw pile foundations and steel subframes for 28 Battery Storage units, one transformer, and 14 PCS and TX units. Once completed, the 132kV development will provide over 50MW of flexibility and balancing services to UK Power Networks (UKPN).

We supplied and installed the 168 RADIX screw piles, with six screws supporting each unit, and manufactured and installed the steel c-sections for supporting each of the 28 2m x 10m battery storage units on site.

These were installed in seven working days and were ready for the battery storage units immediately, cutting the programme length by over half.

Location: Suffolk, UK

Services: Survey and ground tests; supply and installation of screw pile foundations; design, manufacturing and installation of bespoke structural steel platforms.

CASE STUDY

20MW Battery Energy Storage System

We were approached to provide the foundation solution for six strings, each consisting of a 3.63MVA PCS Power Electronics inverter unit, Power Electronics single MV skid and 3,700KVA transformer.

Each skid unit required foundations capable of bearing 280kN and each PCS inverter to hold 90kN.

Conducting a point load test to understand the ground conditions fully, RADIX 76x2050 Screw Piles were supplied and installed, with eight screws supporting each skid and six screws allocated to hold the lighter inverter units.

Not only did using RADIX Screw Piles expedite the delivery of this project, it also sat well with the end customer's business ethos of working towards a Net Zero UK.

Location: Oldham, UK

Services: Survey and ground tests; core drilling; supply and installation of screw pile foundations.

Sites near railway lines

Removal of screw piles

DIVERSIFYING AND RESTORING LAND

Making more renewable projects possible with minimal impact

Our screw piles and equipment can go where traditional foundations cannot, making installing solar and renewable energy projects in hard-to-access and remote areas possible.

Screw piles produce a strong and level base over significantly sloping, uneven or soft ground, making them the perfect solution for even the most challenging and off-grid projects.

If land ever needs to be further repurposed or returned to its original state when the life of your solar array expires, screw piles can be removed as efficiently as they were installed, all without digging up or damaging the environment.

Overcoming soft, waterlogging ground

Installation in the depths of winter

Building a better future together on the right foundations.

As the UK's largest stockist, supplier and installer of screw pile foundations, we are ready to support you.

- Industry-leading screw pile foundations
- Installation machines and testing equipment
- Robust solar racking systems
- Bespoke base system design and manufacturing
- Specialist screw pile testing and installation

Learn about our efficient and low-carbon solutions and sustainability goals at radixgroup.co.uk/sustainability

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