

# ENABLING THE TRANSITION **TO NET ZERO**

Smart Energy Systems



**sse**  
Energy Solutions

For a better  
world of energy



# ENERGY IN TRANSITION

The energy market in the UK is going through unprecedented changes, with carbon reduction becoming a top priority for many organisations.

## NET ZERO STARTS WITH EFFICIENCY



The business case for Energy Efficiency is not only about reducing operating costs and meeting carbon reduction targets. Energy Efficiency will also contribute to a more comfortable and productive environment for your staff, customers, or the citizens using your services. It will also demonstrate your organization's commitment to act strategically and in the interests of long-term sustainability.

### The changing carbon attitude

UK industry is currently experiencing a seismic shift in attitude towards carbon emissions. A topic until recently considered more of a regulatory issue, carbon reduction has been propelled to the top of corporate agendas. It is now a significant branding and Corporate Social Responsibility issue which requires organisations to take radical action to achieve carbon objectives.

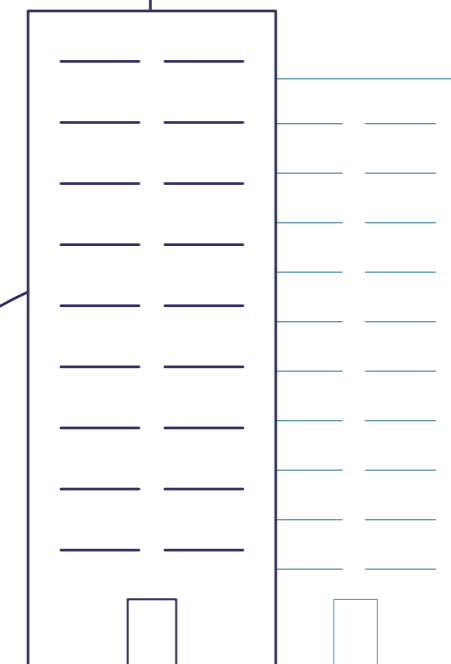
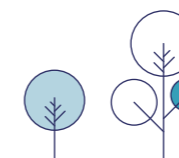
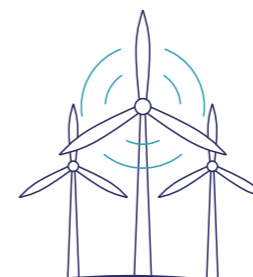
Networks that channel power out from the large central plants through increasingly smaller cables to towns, streets and homes are being put under pressure as more generation is connected at their outer edges.

### The changing energy economy

A decade ago, when renewable technologies first emerged, subsidies made their deployment an easy choice for businesses. Move forward to the current day and subsidies have been removed resulting in longer payback periods. Additionally, non-commodity (non-power) energy costs are increasing year-on-year and regulations are becoming ever tighter.

### The changing energy landscape

To enable zero carbon, the entire energy industry is in transition. Large scale, central coal and gas generation is being replaced by smaller renewable generation sets closer to demand. Predictable, controllable generation is being replaced by intermittent wind and solar.





# YOUR COMPLETE NET ZERO PARTNER

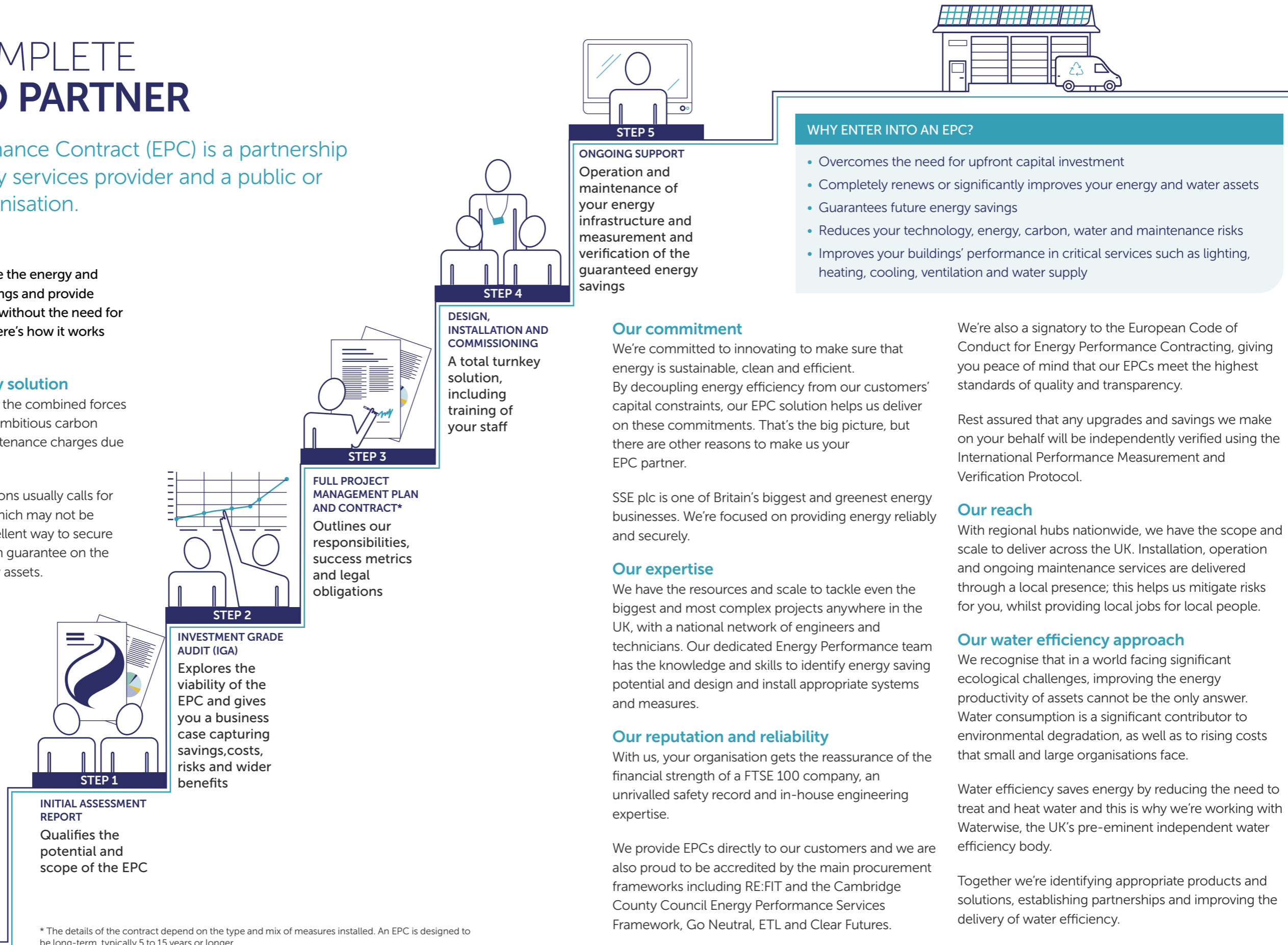
An Energy Performance Contract (EPC) is a partnership between an energy services provider and a public or private sector organisation.

It's designed to help you improve the energy and water productivity of your buildings and provide guaranteed energy savings – all without the need for upfront capital investment. So here's how it works step-by-step...

## Getting the right efficiency solution

Organisations across the UK face the combined forces of high energy and water costs, ambitious carbon reduction targets and rising maintenance charges due to ageing equipment.

Getting the right efficiency solutions usually calls for significant capital expenditure, which may not be easily available. An EPC is an excellent way to secure both the funding and a long-term guarantee on the energy performance of your new assets.



\* The details of the contract depend on the type and mix of measures installed. An EPC is designed to be long-term, typically 5 to 15 years or longer.

### STEP 5

**ONGOING SUPPORT**  
Operation and maintenance of your energy infrastructure and measurement and verification of the guaranteed energy savings

### WHY ENTER INTO AN EPC?

- Overcomes the need for upfront capital investment
- Completely renews or significantly improves your energy and water assets
- Guarantees future energy savings
- Reduces your technology, energy, carbon, water and maintenance risks
- Improves your buildings' performance in critical services such as lighting, heating, cooling, ventilation and water supply

### Our commitment

We're committed to innovating to make sure that energy is sustainable, clean and efficient. By decoupling energy efficiency from our customers' capital constraints, our EPC solution helps us deliver on these commitments. That's the big picture, but there are other reasons to make us your EPC partner.

SSE plc is one of Britain's biggest and greenest energy businesses. We're focused on providing energy reliably and securely.

### Our expertise

We have the resources and scale to tackle even the biggest and most complex projects anywhere in the UK, with a national network of engineers and technicians. Our dedicated Energy Performance team has the knowledge and skills to identify energy saving potential and design and install appropriate systems and measures.

### Our reputation and reliability

With us, your organisation gets the reassurance of the financial strength of a FTSE 100 company, an unrivalled safety record and in-house engineering expertise.

We provide EPCs directly to our customers and we are also proud to be accredited by the main procurement frameworks including RE:FIT and the Cambridge County Council Energy Performance Services Framework, Go Neutral, ETL and Clear Futures.

We're also a signatory to the European Code of Conduct for Energy Performance Contracting, giving you peace of mind that our EPCs meet the highest standards of quality and transparency.

Rest assured that any upgrades and savings we make on your behalf will be independently verified using the International Performance Measurement and Verification Protocol.

### Our reach

With regional hubs nationwide, we have the scope and scale to deliver across the UK. Installation, operation and ongoing maintenance services are delivered through a local presence; this helps us mitigate risks for you, whilst providing local jobs for local people.

### Our water efficiency approach

We recognise that in a world facing significant ecological challenges, improving the energy productivity of assets cannot be the only answer. Water consumption is a significant contributor to environmental degradation, as well as to rising costs that small and large organisations face.

Water efficiency saves energy by reducing the need to treat and heat water and this is why we're working with Waterwise, the UK's pre-eminent independent water efficiency body.

Together we're identifying appropriate products and solutions, establishing partnerships and improving the delivery of water efficiency.





# BEYOND ENERGY EFFICIENCY, SSE DEVELOP SMART ENERGY SYSTEMS THAT DELIVER SUSTAINABILITY



## FLEXIBLE GENERATION AND STORAGE

- PV (solar)
- CHP
- Battery storage
- PPA (power purchase agreement)
- Corporate PPA
- Private wire to load (i.e. buildings)



## ENERGY AS A SERVICE

- Energy management to lower carbon
- Virtual power plant (trade your flexible energy)
- Energy asset acquisition
- Asset service management



## ENERGY DATA AND VISUALISATIONS

- Energy analytics and insight
- Machine learning and AI
- Automated monitoring and targeting platform
- Energy legislation
- Energy management



## HEATING AND COOLING

- CHP
- Heat pumps
- District heat networks
- Waste heat exploitation
- Storage
- Optimisation
- as a Service options



## BUILDING ENERGY MANAGEMENT

- BMS installation
- Support and maintenance
- ESOS audits
- Refits
- Remote and managed services



## EV INFRASTRUCTURE

- Installation
- Operation, maintenance and management
- Fleet and taxi solutions
- Charge hubs
- Constraint management
- Charger agnostic (inc. rapid, smart)



## ELECTRICAL INFRASTRUCTURE

- Private networks acquisition
- Upgrade, operation and maintenance
- Point-to-point private wire
- Smart grid control



## SMART ENERGY BUILDINGS

- Building-connected energy assets
- Local energy balancing
- Grid connection management
- Energy optimisation



# SOLUTIONS THAT CAN MEET ANY NEED

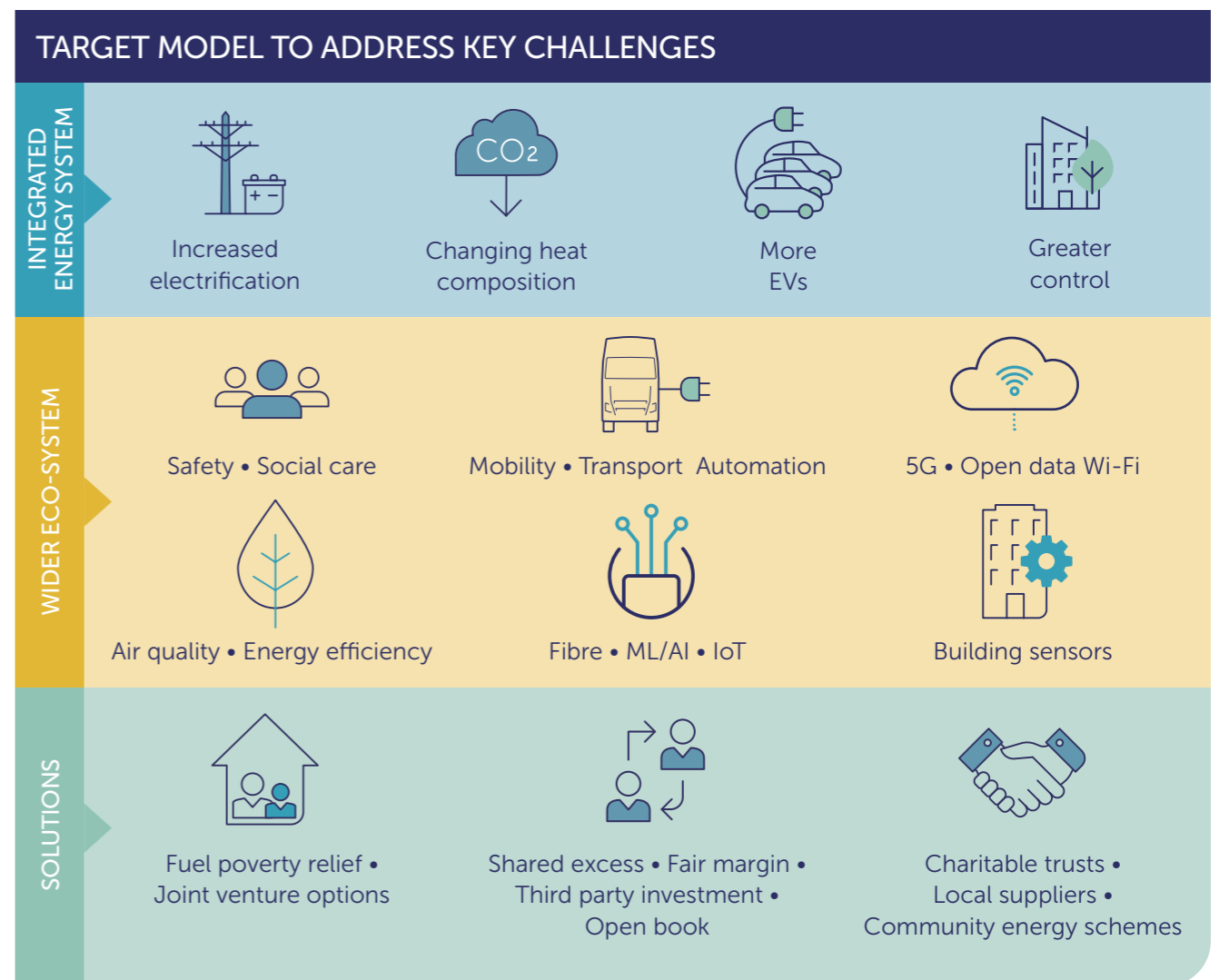
SSE has a portfolio of propositions to address the core driver to achieve Net Zero. We can design, fund, deliver and operate localised energy systems and the sub-systems within them to drive the transition to low carbon.

## A SMART ENERGY SYSTEM

Our solutions bring together a wide breadth of solutions that drive down costs and deliver cleaner air, technologies and services that can be uniquely healthier lives and sustainable futures. Tailored to the needs of the customer.

To create a Net Zero Carbon city or place requires:

- Zero carbon power, zero carbon heat and zero carbon transport
- Significant capacity increase in the underlying power network and increased local power generation
- Low carbon heat adoption to be maximised with a combination of local heat pumps, local heat networks and district wide schemes
- Heat and power storage to minimise the impact of electrified heat on electricity demand at peak times
- A control scheme that manages key energy assets connected to the system in order to ensure security of supply whilst minimising investment needed in the underlying energy infrastructure
- The ability to generate revenues through trading generation, storage and/or demand flexibility in all available markets



# SMART DISTRIBUTED ENERGY INFRASTRUCTURE SOLUTION

Designed to meet local energy needs and drive Net Zero.

SSE Energy Solutions is part of SSE plc, a UK based FTSE 100 company with 75 years' experience operating in the fast-changing energy industry.

SSE Energy Solutions plays a major part in the emerging consumer-led energy system, and provides key services to enable users to benefit from new ways to optimise and manage their low carbon energy use.

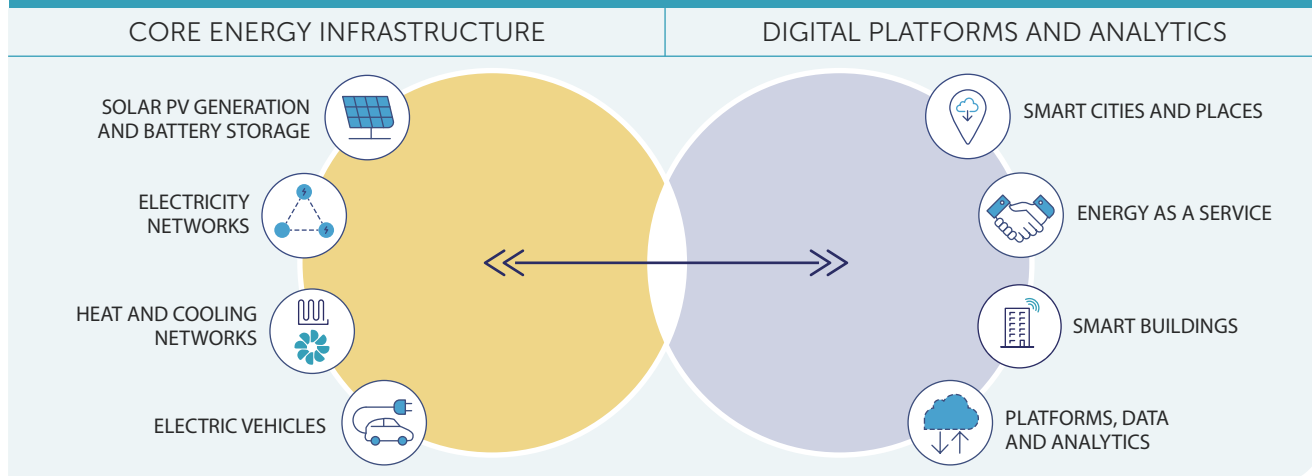
Our Distributed Energy business teams adopt a whole system approach by investing in, building and connecting your localised, flexible energy assets to accelerate your path to net zero and create a more resilient energy system for the long-term.

Right now, your decision to pick SSE Energy Solutions, part of an established renewable energy company investing in all our futures, will be the right choice for you and for our environment.

Our energy solutions include:

- Electric vehicle infrastructure for public transportation and vehicle fleets
- Local electricity infrastructure including building, owning and adopting private HV networks
- Heating and cooling networks for residential, commercial and industrial consumers
- Local energy generation, including funded offsite/ onsite solar PV
- Energy storage solutions, including battery storage
- Optimising building energy consumption and use
- In-house digital twin engineering team for modelling optimised energy flows
- Data platform services to support smart buildings, places and cities
- SSE Enhance, our aggregation and trading platform for small energy assets
- A growing suite of green energy supply solutions, including corporate power purchase agreements.

## WHOLE SYSTEM THINKING – ACCELERATING THE JOURNEY TO NET ZERO



## FOR A BETTER WORLD OF ENERGY

Get in touch with our team to find out how we can help you

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