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PLAN ZERO

The key to solving UK energy gridlock

Kev Sankar, Mitie Strategic Advisor and former MD, Rock Power Connections

If every organisation had robust decarbonisation plans, would the UK *really* reach net zero by 2050?

Imagine a perfect world in which every organisation has robust net zero plans. You'd be forgiven for thinking this would guarantee the UK reaching net zero by 2050.

In fact that's not quite the case.

One common way for organisations to lower emissions, save money and enhance security and resilience is to implement renewable technologies: solar, EV charging or even replacing inefficient transformers.

But the full potential of renewable energy in the UK is not being reached.

This is partly due to restricted grid capacity. According to the Carbon Tracker think tank, in just one year the UK squandered enough wind-generated energy to power 1m homes.

This is a big block on the road to reaching our net zero ambitions.

Considerations for organisations and Government

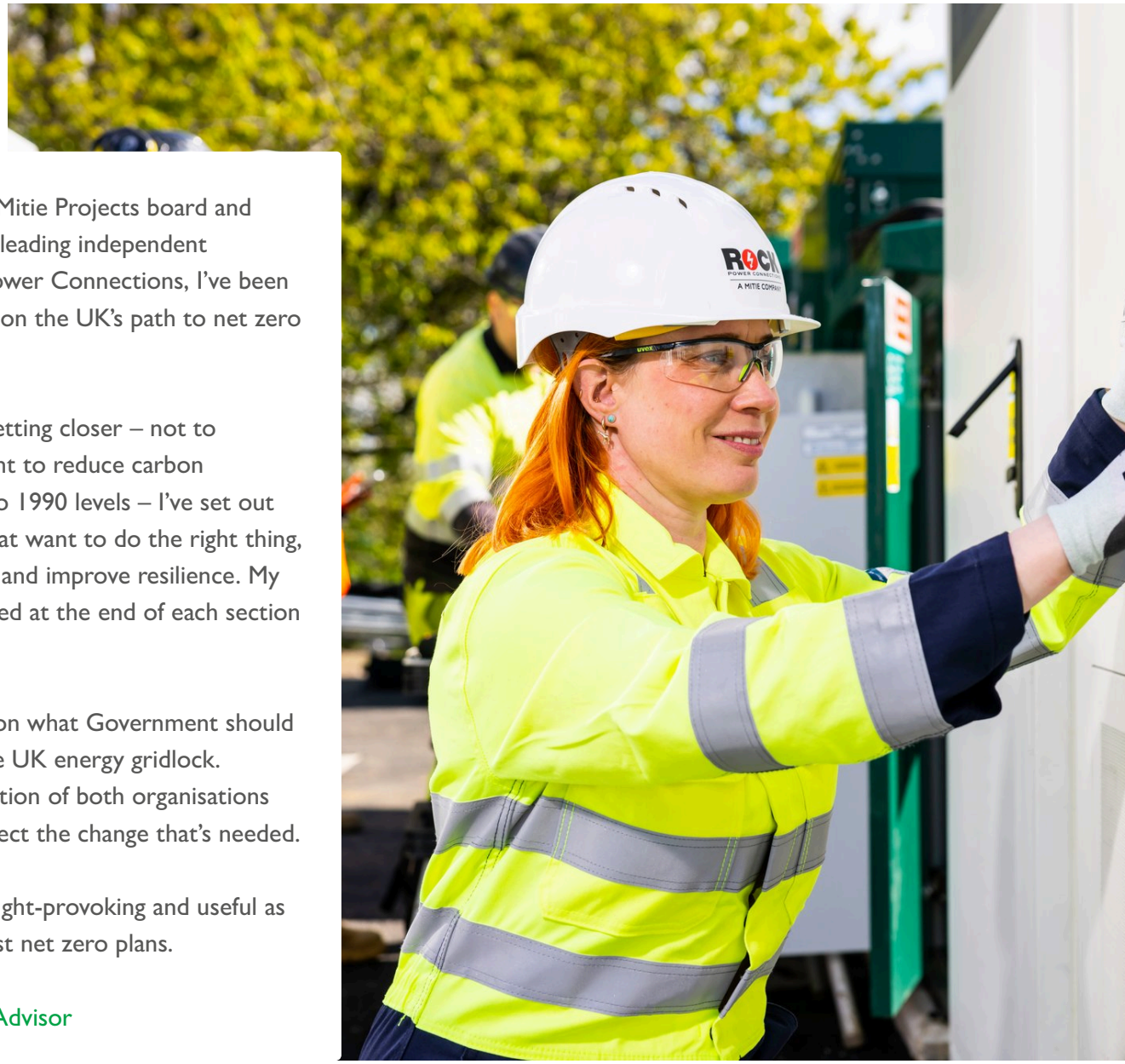
As a Strategic Advisor to the Mitie Projects board and former owner and MD of the leading independent connections provider, Rock Power Connections, I've been watching the twists and turns on the UK's path to net zero carefully.

And with the 2050 deadline getting closer – not to mention our 2030 commitment to reduce carbon emissions by 68% compared to 1990 levels – I've set out my advice for organisations that want to do the right thing, enhance their energy security and improve resilience. My suggested solutions are included at the end of each section of this mini-guide.

I also offer my own thoughts on what Government should consider to get us through the UK energy gridlock. Afterall, it will take the dedication of both organisations and our political system to effect the change that's needed.

I hope you find the guide thought-provoking and useful as you formulate your own robust net zero plans.

Kev Sankar, Mitie Strategic Advisor



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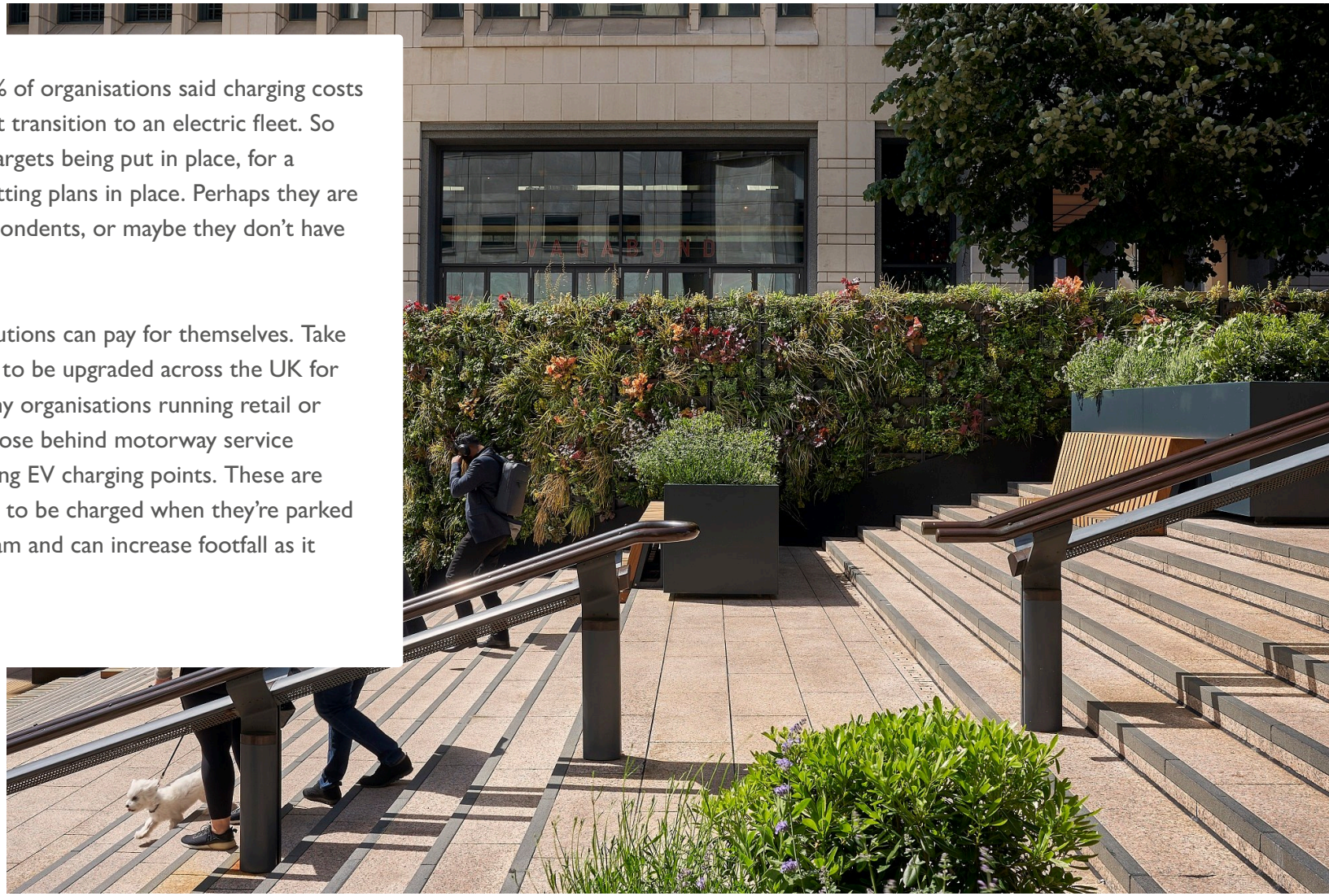
Create a revenue stream to mitigate decarbonisation costs

In a survey commissioned by Mitie, 35% of organisations said charging costs were a major reason why they wouldn't transition to an electric fleet. So despite all the tough decarbonisation targets being put in place, for a variety of reasons people still aren't putting plans in place. Perhaps they are capital constrained like our survey respondents, or maybe they don't have the expertise.

There are various ways low carbon solutions can pay for themselves. Take EV infrastructure for instance; it needs to be upgraded across the UK for cars, HGVs and buses. No wonder many organisations running retail or entertainment complexes, as well as those behind motorway service stations and garden centres, are installing EV charging points. These are conveniently located and allow vehicles to be charged when they're parked up. This provides a useful revenue stream and can increase footfall as it provides a handy place to recharge.



Another option is to combine solar with battery storage, which reduces reliance on the grid and enables clients to draw upon the stored power when electricity is at its most expensive.

So, there are solutions that tick the low carbon box and have their own financial incentive. And if there's battery storage that reduces dependency on a National Grid that's struggling to meet demand, even better.

Gridlock solution

Investigate ways your infrastructure could deliver an untapped revenue stream and reduce pressure on the grid.

Remember energy doesn't start with the flick of a switch

From solar power to EV infrastructure for cars, HGVs and buses, low carbon solutions are crucial for decarbonisation. But whatever the project, it's important to consider available grid capacity early on. For example, if you're installing a large EV charging facility, it could take up to 18 months for sufficient power to be brought to site. In some circumstances it can be significantly longer.
The relevant company needs to be familiar with the requirement; don't end up with infrastructure in place, but no energy to power it.

You also need to check if there are planning restrictions on how the land can be developed, plus whether a lease will be easily negotiable with the landlord if you don't own the site. In order to host sufficient power substations, one of Mitie's current projects requires a site one quarter the size of a football pitch. There are many inherent challenges to be overcome before it becomes operational. Remember that it's not a case of rocking up, installing EV chargers or other renewable infrastructure, and flicking a switch.

Gridlock solution

Have a comprehensive plan in place from the word go.

Check materials and appropriately qualified people are good to go

When it comes to decarbonisation, many countries are on the same trajectory. So it's not surprising there have been massive materials shortages, impacting everything from transformers to switch gear and cables. As an example, a large EV infrastructure project may require a substation and significant cabling. Failure to account for that could have a huge impact on project timelines. In the current climate, lead times for some items can increase from 12 weeks to more than 26.

Similarly, make sure you have enough qualified people on board. This also applies to your electricity company partners, who will be critical to delivering the project. Given the current demand for decarbonisation expertise worldwide, skills gaps can easily derail plans that are otherwise sound.

Gridlock solution

Gain a thorough understanding of the supply chain and work with partner organisations to mitigate risks and challenges. Make sure sufficient appropriately qualified people are in place. Upskill or recruit to fill gaps.

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Don't think of battery storage as a silver bullet (but it *does* help)

Battery storage for renewable energy, such as solar PV or wind power, is critical for resilience and energy security. Take EV charging infrastructure as an example. By installing a solar array nearby, the renewable power generated can be fed into a battery system, which in turn feeds into the EV chargers. This means the site is less reliant on the grid. It increases resilience as power to charge the vehicles can be drawn from an alternative source, flattening peak grid demand. This reduces the UK's reliance on imported power, which is typically purchased at such times.

By becoming more energy self-sufficient, the UK becomes less vulnerable to global events that may disrupt supply.

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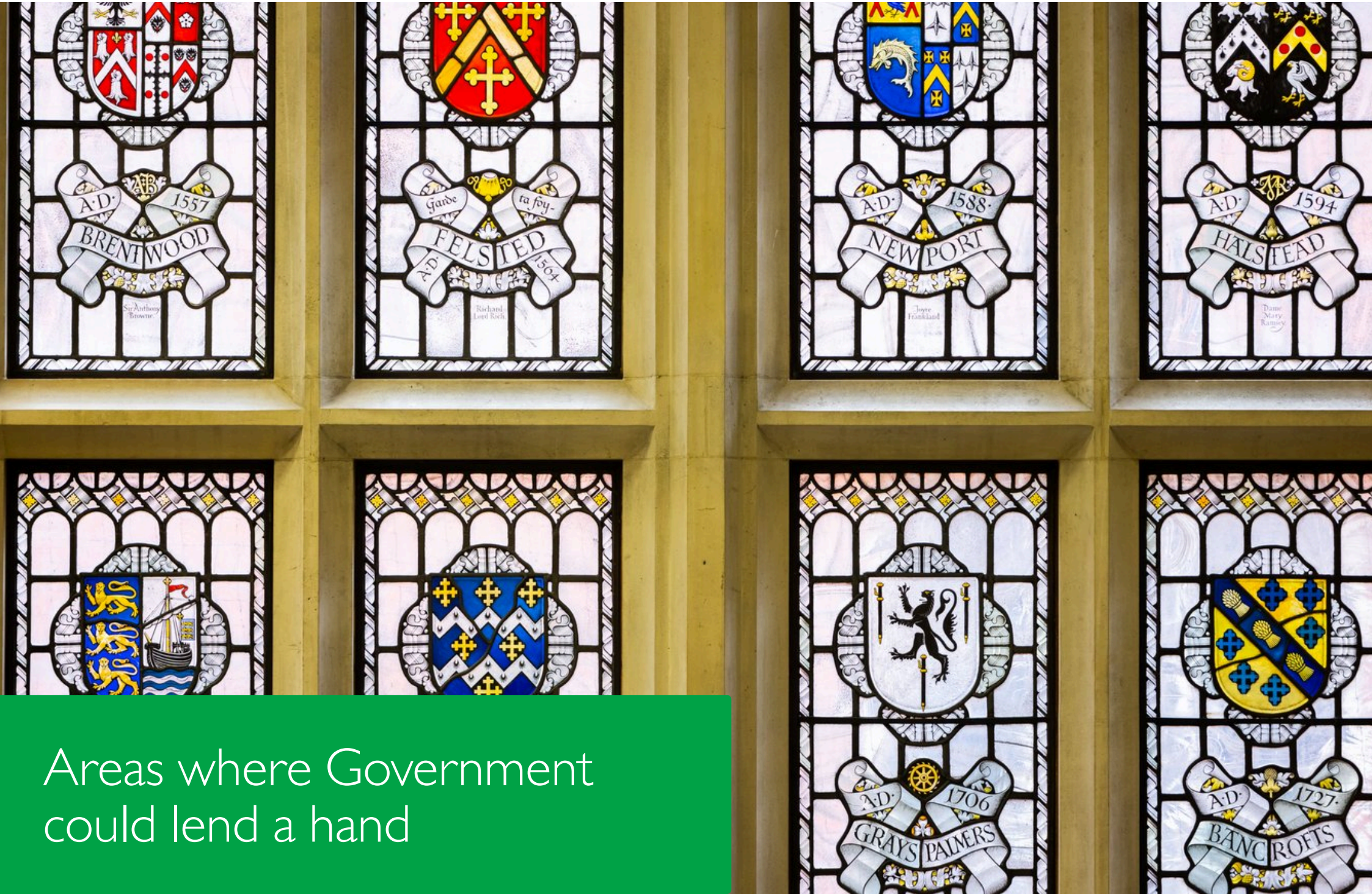
Gridlock solution

Explore how battery storage could increase your organisation's energy security and resilience.



Areas where Government could lend a hand

A recent article in The Guardian highlighted the need to incentivise private investment in the UK's journey to net zero. Infrastructure providers must keep up with the country's decarbonisation agenda. To make sure this happens, Government could incentivise utility company investors to continue their support. After all, a fair return on any investment paves the way for more – and that's important as the 2050 decarbonisation deadline draws closer. In fact, more investment is essential for the UK to keep its net zero commitment.

Gridlock solution

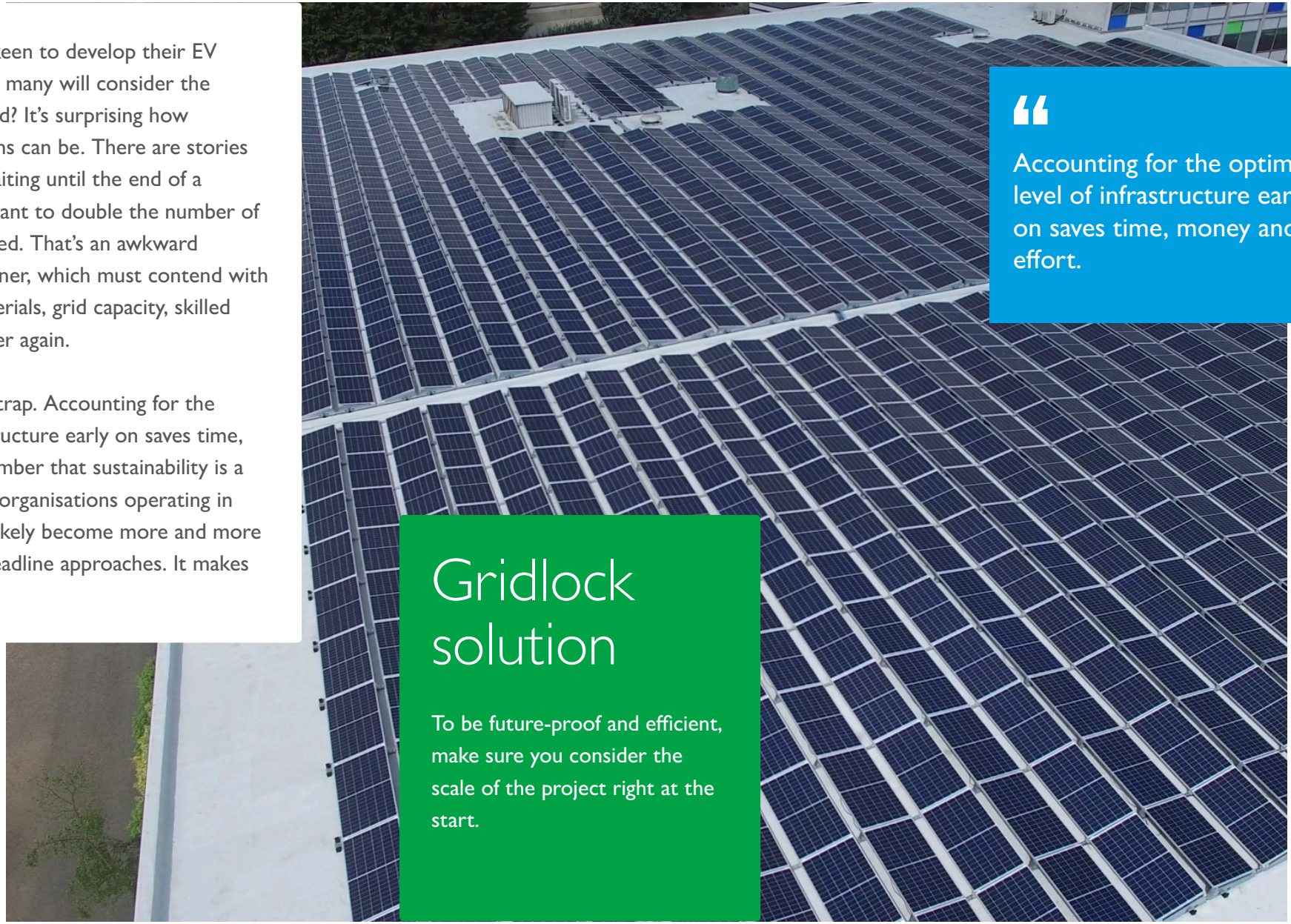
With Government support in place, there are three steps to improving energy security and resilience.

1. Reduce the volume of power used; power that isn't needed isn't a problem.
2. Generate more power from renewable sources.
3. Store excess power for use when grid demand peaks - this avoids relying on other sources and gets around grid capacity issues.

Think long-term over short-term

Many organisations are keen to develop their EV infrastructure – but how many will consider the appropriate level required? It's surprising how shortsighted organisations can be. There are stories of large cooperations waiting until the end of a project to decide they want to double the number of EV chargers being installed. That's an awkward situation for the EV partner, which must contend with the logistics around materials, grid capacity, skilled people, and more, all over again.

Don't fall into the same trap. Accounting for the optimum level of infrastructure early on saves time, money and effort. Remember that sustainability is a massive growth area, so organisations operating in this thriving sector will likely become more and more stretched as the 2050 deadline approaches. It makes sense to plan ahead.



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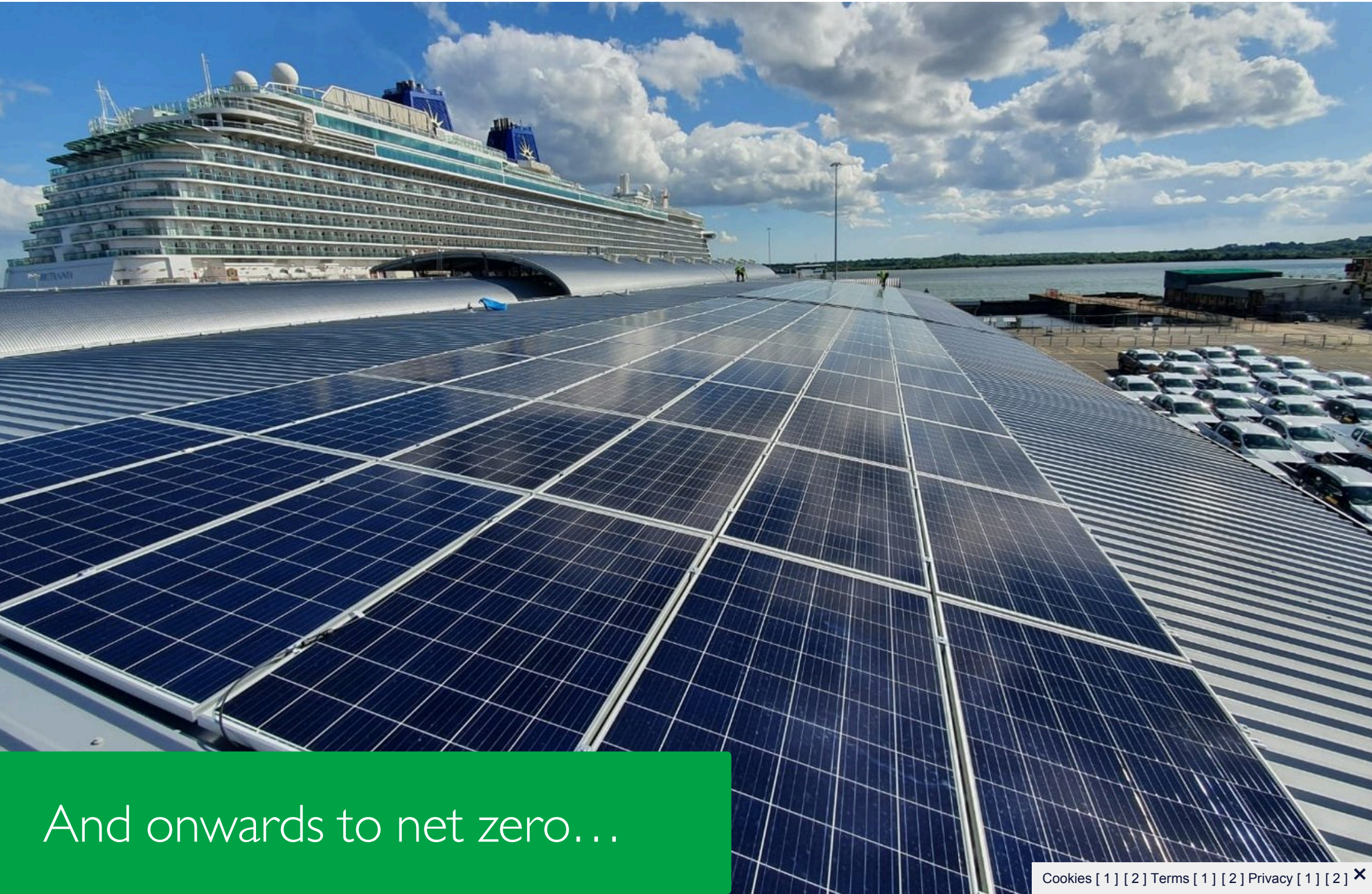
Gridlock solution

To be future-proof and efficient, make sure you consider the scale of the project right at the start.



And onwards to net zero…

In conclusion, multiple parties have crucial roles to play in achieving the energy security and resilience that will end UK energy gridlock. Utilities companies, their partners and Government must seize the opportunity presented by renewables and battery storage. Achieving the UK's 2050 net zero commitment depends upon it.

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If you'd like to know more about how Mitie can support with everything from an overarching energy strategy to EVs and battery storage, visit our website.

Find out more