

## ENERGY

# 20,000 megawatts under the sea

Several ambitious projects are afoot to lay submarine cables that will enable renewable electricity producers to export clean power to consumers hundreds, if not thousands, of miles away

Natasha Khullar Relph

In the Guelmim-Oued Noun region of southern Morocco, plans are in place to construct a 10.5GW solar and wind farm. More than a third of the power it's set to produce will be sent to homes and businesses in the UK.

If all goes well, the £18bn Morocco-UK Power Project, which is scheduled to be up and running by 2030, will feed the national grid via four 2,400-mile subsea cables. This supply should deliver enough electricity to power 7 million homes, meeting almost 8% of the UK's electricity demand at a substantially lower cost than power generated by burning fossil fuels.

The project's developer is a company called Xlinks, founded in Billericay, Essex, in 2019. It points out that a solar array in the north-western Sahara can generate up to five times more power than a UK-based equivalent between January and March, given that even the shortest winter day there is likely to offer more than 10 hours of sunlight. The prevailing trade wind that blows from the desert into the Atlantic is particularly reliable too.

This means that the project should not only provide cheap renewable energy, but also improve the UK's security of supply.

To hit the government's 2050 net-zero target, this country must fully decarbonise its electricity generation by 2035, notes the project's director, Richard Hardy.

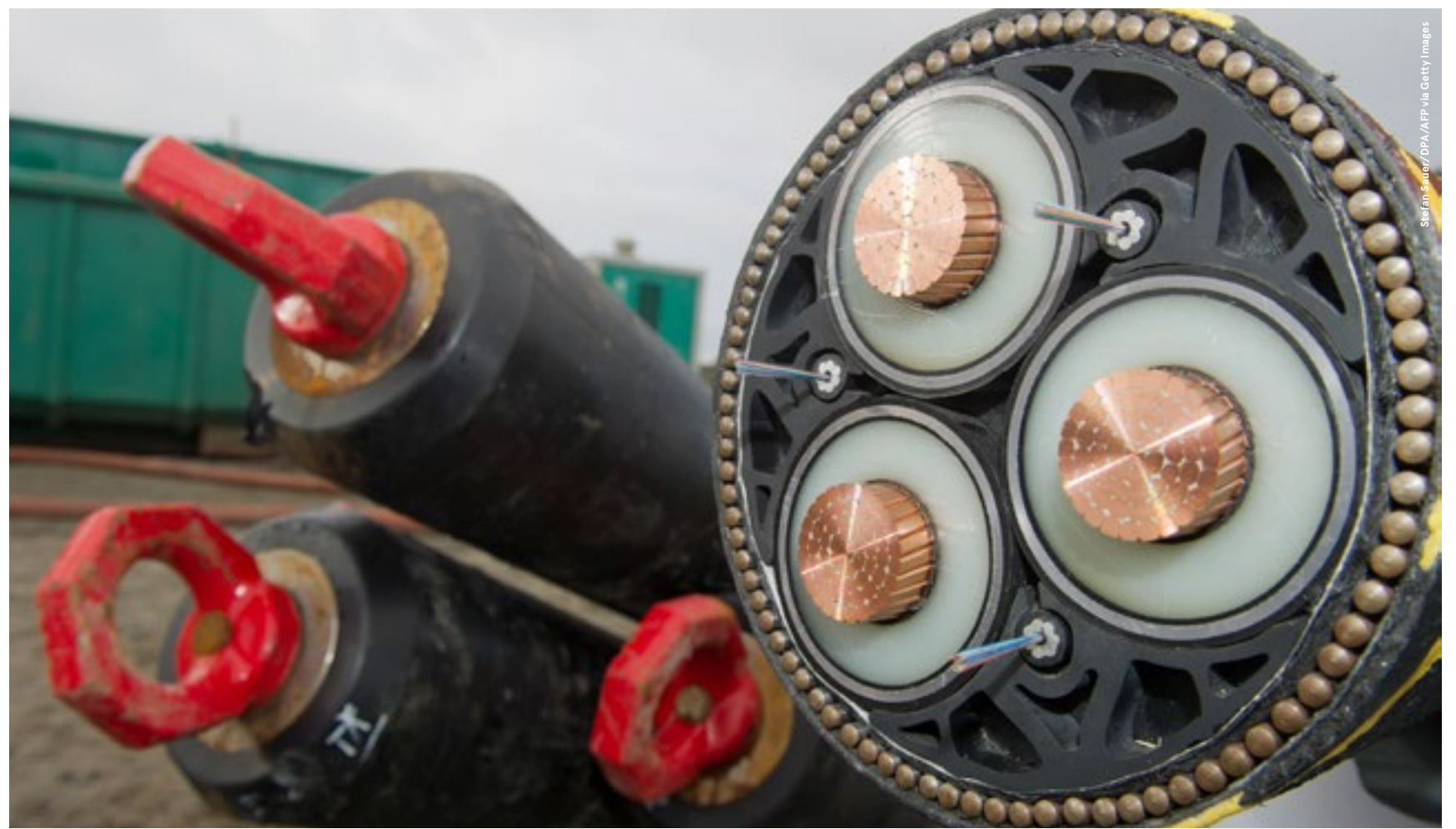
"While renewables in the UK will be the cornerstone of this transition, reliable generation is what's vital," he says. "Locating this in an area such as Morocco gives access to a far more consistent generation profile."

Morocco has become a leader in renewable energy over the past decade, developing innovative projects as part of its domestic strategy and its plans to become an international green energy hub. During its construction phase, the Morocco-UK Power Project will contribute nearly 10,000 jobs to that burgeoning industry, of which about 2,000 are expected to become permanent.

While harnessing the power of the sun and wind is nothing new, transferring this abroad via undersea cables is. Hardy reports that similarly ambitious projects are starting to emerge.

The ability to lay such long power lines "enables increased access to regions with better solar and wind resources", he says. "This means that a country is no longer dependent on meteorological conditions within a relatively limited area."

Another scheme is set to lay a cable under the Mediterranean that will be able to carry 3GW of solar power from Egypt to Greece. The £3bn Greyc Interconnection, as the project is called, has been deemed a "project of common interest" by the EU and is therefore eligible to receive public funding. Again,

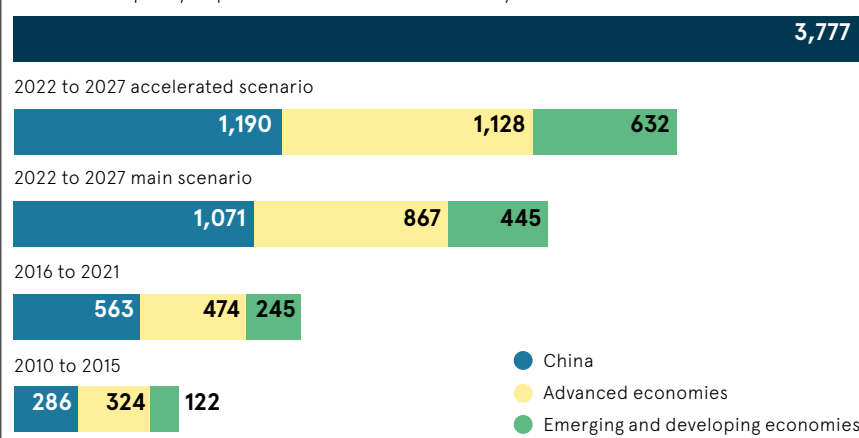


## DEVELOPING ECONOMIES HAVE A BIG ROLE TO PLAY IN INCREASING RENEWABLE CAPACITY

International Energy Agency, 2022

Renewable capacity growth in the International Energy Agency's main and accelerated cases, 2010-27 (gigawatts)

Renewable capacity required in 2027 to reach net zero by 2050



security of supply is a key objective, as the initiative should help Greece and other EU member states to reduce their dependence on Russian fossil fuels.

The UK has also signed a deal with Germany to connect their grids with a link under the North Sea. Italian cable manufacturer Prysmian started producing the 450-mile NeuConnect line in October. Once laid, this will allow 1.4GW of electricity to

pass in either direction. The UK will then be able to tap into Germany's vast energy infrastructure and also send excess electricity from its wind farms the other way.

And, in what is being touted as the world's biggest clean energy project, Australia will soon be transporting power more than 3,100 miles under the sea to Singapore. The project, which will feature the world's largest solar farm and battery storage facility to

date, is expected to cost £18bn and cut about 11.5 million tonnes of CO<sub>2</sub> emissions every year – roughly the equivalent of removing 2.5 million cars from the road.

David Griffin is the founder and CEO of Sun Cable, the company running the project. He envisages that "this will be the first of many. The need for a supply of renewable energy from resource-abundant regions to large growing loads will become more and more intense as years go by."

As the demand for renewable energy grows globally, many emerging markets are positioning themselves as leading exporters of clean electricity. Above even Morocco is Indonesia, where five solar power export projects have been proposed in recent months.

Jack Richardson is senior climate programme manager at the Conservative Environment Network, an independent forum for eco-conscious Tories. He believes that it's inevitable that there will be more schemes of this type.

This is partly because of the "need to transition away from oil and gas markets, which are controlled by the Opec cartel and countries such as Russia", and partly because renewable power is so cost-effective, Richardson says. "It's pretty crazy that a cable to Morocco is looking like it would cost less than building a nuclear power station here in the UK."

Alongside the potential benefits associated with such schemes, there are inevitably significant concerns to address, including

the need to protect delicate marine ecosystems – which was covered when planning the Morocco-to-UK link, Hardy confirms. One of the key questions to consider is whether large-scale export deals will enable wealthier countries to achieve their climate goals at the expense of emerging markets.

Take Indonesia, for instance. Although the country is planning to install 17GW of new solar generation capacity, less than a third of that has been earmarked for domestic use, which would still leave the country dependent on coal for its electricity needs.

Similar concerns have been raised on Morocco's behalf. A research report published by German environmental think-tank the Heinrich Böll Foundation recently questioned whether such an export-heavy approach would limit the country's own ability to shift to renewable energy. This is precisely why the government of Malaysia has banned exports of renewable energy until the country is in a good enough position to achieve its climate goals.

Despite this, many experts believe that, if emerging economies can strike the right balance between generating export revenue and ensuring their own transition, the net result is likely to be positive.

"I think there's a real opportunity here," Richardson says. "It's a chance to work with, and invest in, developing countries and deliver for the environment, while eroding the ability of petrostates and dictators to do us harm via the fossil-fuel markets." ●

“It's pretty crazy that a cable to Morocco is looking like it would cost less than building a nuclear power station here in the UK

Commercial feature

## How one company is ensuring a future for coffee production

Coffee is under threat from climate change. Regenerative agricultural practices are making an impact from the ground up

Almost 100 million cups of coffee are enjoyed every day across the UK, according to the British Coffee Association. But those cups of coffee – whether they are crafted in pod, instant, espresso or filter form – are in danger.

The International Coffee Organisation indicated this year that four of the top five coffee-producing countries around the world will see a decreased suitability for production before 2050 due to the effects of climate change.

To ensure a future for coffee production, something has to change. And, one of the world's biggest producers of coffee is taking a stand to make that change happen. Nespresso has been working for almost 20 years to transform the way coffee is farmed and produced in order to protect the environment and ensure a future for those who farm it.

"We really believe coffee can be a force for good," says Mary Child, sustainability lead at Nespresso. "We want it to have a positive impact on our customers and the farmers we work with, as well as nature and the environment. That's why regenerative agriculture is so important for us. We want to use the power of coffee to restore ecosystems and to protect the environment." She says this commitment will help coffee producers build resilience in the face of climate change.

By protecting the livelihoods of farmers, and supporting them in adapting to new climate realities, Nespresso is also safeguarding the future of coffee. To do so, Nespresso is working with the Rainforest Alliance, through its AAA Sustainability Quality Program, to support farmers in transitioning to regenerative agricultural practices.

A recently launched scorecard is making this simple by focusing on proactive changes farmers can make – like building a flood barrier in areas now prone to flooding – to safeguard their crops. The broad

range of initiatives are based on impact assessments carried out by the Rainforest Alliance. Thus, the programme is adaptable across different regions and can help farmers respond to different challenges posed by climate change.

Sarah Browne, marketing manager at the Rainforest Alliance, says education and awareness are crucial to the success of the programme. By working together, the two organisations are embedding regenerative agricultural practices throughout the coffee supply chain. "There's no one perfect solution. We also can't do it on our own," she says. "We have to build on the expertise of different organisations and work in collaboration to achieve what we all want to work towards." She adds that regenerative agriculture is almost like "taking farming back to its roots" in terms of repairing and restoring the earth as it is farmed.

Working in partnership is also crucial to Nespresso's overall sustainability objectives, like working towards net zero and offering recycling solutions for its coffee pods. It has recently become a certified B Corp in recognition of its work towards building a more sustainable future.

But it's not enough to simply do the work. Part of the success of Nespresso's sustainability programme has been its consumer-facing communications. In one example, a QR code on a coffee sleeve documents that coffee's entire agricultural and supply chain journey from the Democratic Republic of Congo, indicating the sustainable agricultural practices that farmers used to produce it.

Similarly, its recent 'Empty Cup' campaign, featuring brand ambassador George Clooney, highlighted to consumers the impact of climate change on coffee production.

"We need to see a big transformation in the way that coffee is cultivated so we can protect the future of coffee, protect the environment and protect the livelihoods of those communities," Child says.



Coffee may be under threat from climate change, but Nespresso is far from accepting that as a foregone conclusion. Working in partnership and building adaptable, practical strategies to support farmers is a crucial step towards protecting coffee far into the future. But the scope for greater sustainability ambitions is broad for Nespresso. The business will not only continue to embed its regenerative agriculture programme, but also keep striving for sustainability across all aspects of its operations.

For more information on how Nespresso is making coffee a force for good, please visit [www.nespresso.com/uk/en/sustainability/climate](http://www.nespresso.com/uk/en/sustainability/climate)

**NESPRESSO**

## 'To get going on sustainability, businesses must lead with strategy'

Piecemeal efforts to reduce emissions are doomed to failure if they aren't part of an actionable business strategy, says **Mike Peirce**, executive director of systems change at Climate Group

**Q** What's hindering businesses from taking more concerted action on sustainability?

**A** Hundreds of leading companies have committed to act on climate change, whether that's by adopting a comprehensive net-zero strategy or by attempting more targeted action on key emission sources, from the energy they buy to the materials they procure.

More businesses still need to take this step, but it's clear that the barriers to progress lie more in the doing than in the commitment. In short, this is about how to get organisations going and how to accelerate their action.

Earlier this year, alongside Oliver Wyman, we interviewed 30 corporate climate professionals and surveyed climate practitioners from more than 100 companies. What emerged from this study is that getting to grips with strategy is imperative and that, in its absence, the task of reporting can actually overwhelm the task of transition.

Reporting matters, of course, and metrics can provide the impetus for change. But, without a clear strategy, the changes needed can be too fundamental for this to work. Going without a strategy risks shifting an organisation's focus to near-term incremental efforts that won't achieve what's required.

**Q** What's the alternative to conventional carbon footprint measurement?

**A** There are increasingly sophisticated options available for defining and measuring climate impact, from science-based targets to more focused assessments on key issues such as the use of renewables, energy efficiency, materials procurement and supply chain emissions.

Yet alongside better measurement, to get going businesses must lead with

strategy. Focusing on how a company contributes to the transition, rather than its emissions outcomes, is vital for orchestrating the big shifts needed.

Instead of the climate agenda being viewed as the responsibility of specialist sustainability teams, it must be embedded across organisations and seen as part of business as usual.

**Q** What are the key drivers of action in the companies that are leading on these issues?

**A** Business transformation calls for strategic direction. Our interviews with the climate professionals uncovered four core enabling factors that make progress possible.

First, climate action needs to be given attention across the organisation at all management levels. The case for taking it should be framed in commercial terms.

Second, it's about creating an inspirational vision for the business – something that everyone can get behind and feel positive about. It's like putting a flag in the sand and showing everyone the direction of change.

Third, the vision must be embedded into the reality of the company's operations. This can be done by creating a 'glide path' to break down the vision into manageable, actionable steps while keeping the end goal in sight.

Lastly, it's about instilling accountability to incentivise the actions needed. Set out shared but clear responsibilities across the organisation.

**Q** What might a more effective sustainability strategy look like?

**A** The most successful of the companies we surveyed are breaking down their sustainability strategies into manageable, actionable steps. For

instance, PepsiCo has calculated its route to net zero by finding the annual reductions that must happen up to 2030, as set out by the Intergovernmental Panel on Climate Change, and then multiplying those to reflect its desire to lead the industry. These targets are then broken down by sector, with each CEO being held accountable for their business unit's reductions.

Another effective approach is to foster a learning environment that creates a network of champions. To this end, Novo Nordisk has set up an employee education programme called Circular for Zero. The learning path is based on the participants' level of expertise, depending on where their part of the organisation is on its climate journey.

These are only a couple of examples – we've heard many stories of what makes climate action possible. No matter what approach a firm takes, though, it's worth remembering that climate change is a collective problem. The sooner we all act, the better, because every fraction of a degree counts. ●

To read the full findings of the study, visit [theclimategroup.org/getting-going](http://theclimategroup.org/getting-going)



**Mike Peirce**  
Executive director of systems change, Climate Group