2025

Renewable Cost Analysis Report

REA

The REA is the UK's largest trade association for renewable energy and clean technologies with over 400 members operating across heat, transport, power and the circular economy. The REA is a not-for-profit organisation representing 14 sectors, ranging from composting, biogas and renewable transport fuels to solar, storage and electric vehicle charging. Membership ranges from major multinationals to sole traders, giving the organisation a unique perspective on the challenges and opportunities facing the sector. The REA is one of only two UK energy trade associations with official observer status to the UNFCCC, enabling it to provide Blue Zone accreditation at COP30 and to represent UK clean energy on the international stage. For more information, please visit: www.r-e-a.net.

EXECUTIVE SUMMARY

The REA's analysis indicates that by 2028 to 2029 renewable energy will be the most economically favourable option for electricity generation compared with continued reliance on natural gas. This remains the case even when accounting for associated infrastructure costs such as grid, transmission, storage and system upgrades, offering a realistic assessment beyond traditional Levelised Cost of Energy estimates.

Two scenarios were modelled. Clean Power 2030 involves annual investment of around forty billion pounds to scale renewable infrastructure and reduce unabated gas use to below five per cent. In contrast, the No New Renewables scenario maintains current renewable capacity to 2040 and relies on natural gas to meet additional demand, resulting in lower initial costs but higher ongoing expenses through increased fuel imports.

While energy generation will be costly across all technologies, renewables are shown to be the most cost effective and prudent long term option. Nearly one hundred and forty five thousand jobs are expected between 2024 and 2030 under the Clean Power 2030 pathway, particularly in engineering, electrical work and maintenance.

The modelling assumes flat natural gas prices for five years. If prices fall by twenty five per cent between 2025 and 2030, the economic advantage of renewables, excluding jobs, is delayed by only one year. Additional benefits such as reduced exposure to volatile gas markets, improved energy security and environmental gains further strengthen the case.

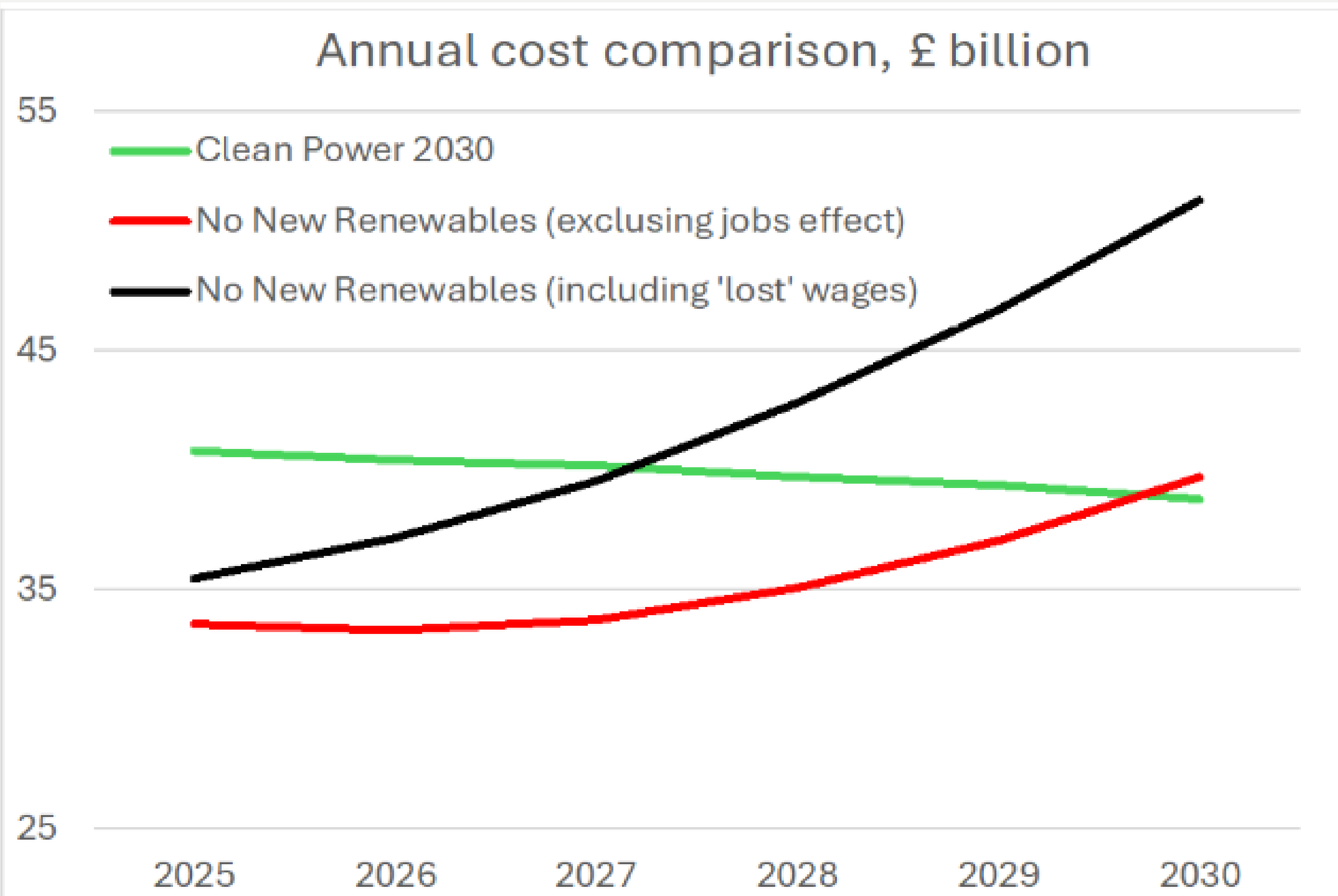
Continued government commitment and interim measures, including potential reductions to green levies and value added tax, are recommended to manage near term electricity costs. Stable policy will support investment and deliver clear economic benefits.

In summary, investing in renewables now will secure long term economic gains, skilled domestic employment, cleaner energy and greater energy security. Despite high overall generation costs, renewables represent the most economically sound long term investment for the United Kingdom.

03 Renewables: The Clear Economic Winner

Including jobs, generating electricity from renewables will become the net economic winner by 2028-2029. The REA's in-depth analysis includes all the additional costs associated with heightened renewables – such as grid, transmission, storage and system upgrades – to give the most accurate 'real world' analysis of how renewable electricity generation performs, economically, compared with continued fossil fuel use (specifically natural gas in this example). The 2028-2029 predicted turning point – in favour of renewable electricity vis-à-vis natural gas – occurs without including the additional benefits domestic renewables bring with regard reducing exposure to volatile international gas prices, increased energy security and environmental benefits (i.e. cleaner air and lower carbon emissions). These additional factors further add to the conclusion that investing in renewable generation is the most economically prudent long-term investment strategy.

Renewables to become the net-economic winner from 2028-2029



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REA's analysis examines two alternative scenarios.

The depth of this analysis is crucial – i.e. whereby we have factored in all the additional grid, transmission, storage and system costs of renewables – as previous oft-quoted Levelised Cost of Energy (LCOE) analysis (which has already shown solar to be the cheapest form of electricity) fails to account for all the 'real' costs of switching to renewables. The REA's analysis explicitly includes the additional costs to provide a more comprehensive/ realistic assessment of the options available to policy makers. The REA's analysis examines two alternative scenarios.

The first scenario – Clean Power 2030 – draws on NESO forecasts for Clean Power 2030 and assumes annual investment cost of around £40 billion through 2030, scaling up solar, wind, storage, transmission and grid, with unabated gas reduced to below 5%.

The second scenario – No New Renewables – maintains current wind and solar numbers, out to 2040, instead relying on natural gas to meet any additional power demand – a path with lower upfront capital costs but higher ongoing expenses (e.g. extra LNG4 imports).

05

Renewables: cost-effective & economically prudent

It is clear from analysing these two scenarios that in today's global energy landscape, no form of generating reliable, stable electricity can genuinely be described as 'cheap'. Rising capital demands, supply chain pressures and geopolitical volatility mean all forms of generation are going to ultimately be costly.

However, over the medium to long-term, renewables emerge as the most cost-effective and economically prudent choice, particularly when additional labour market benefits are included (this is without even factoring in the additional support renewables bring by sheltering the UK from volatile international gas prices, providing extra energy security and cleaner air). Furthermore, in our analysis we have assumed that wholesale natural gas prices remain flat over the next five years (in a further alternative scenario, where gas prices fall by 25% 2025-2030, only the predicted turning point in the 'excluding jobs' scenario changes, delayed by one year).

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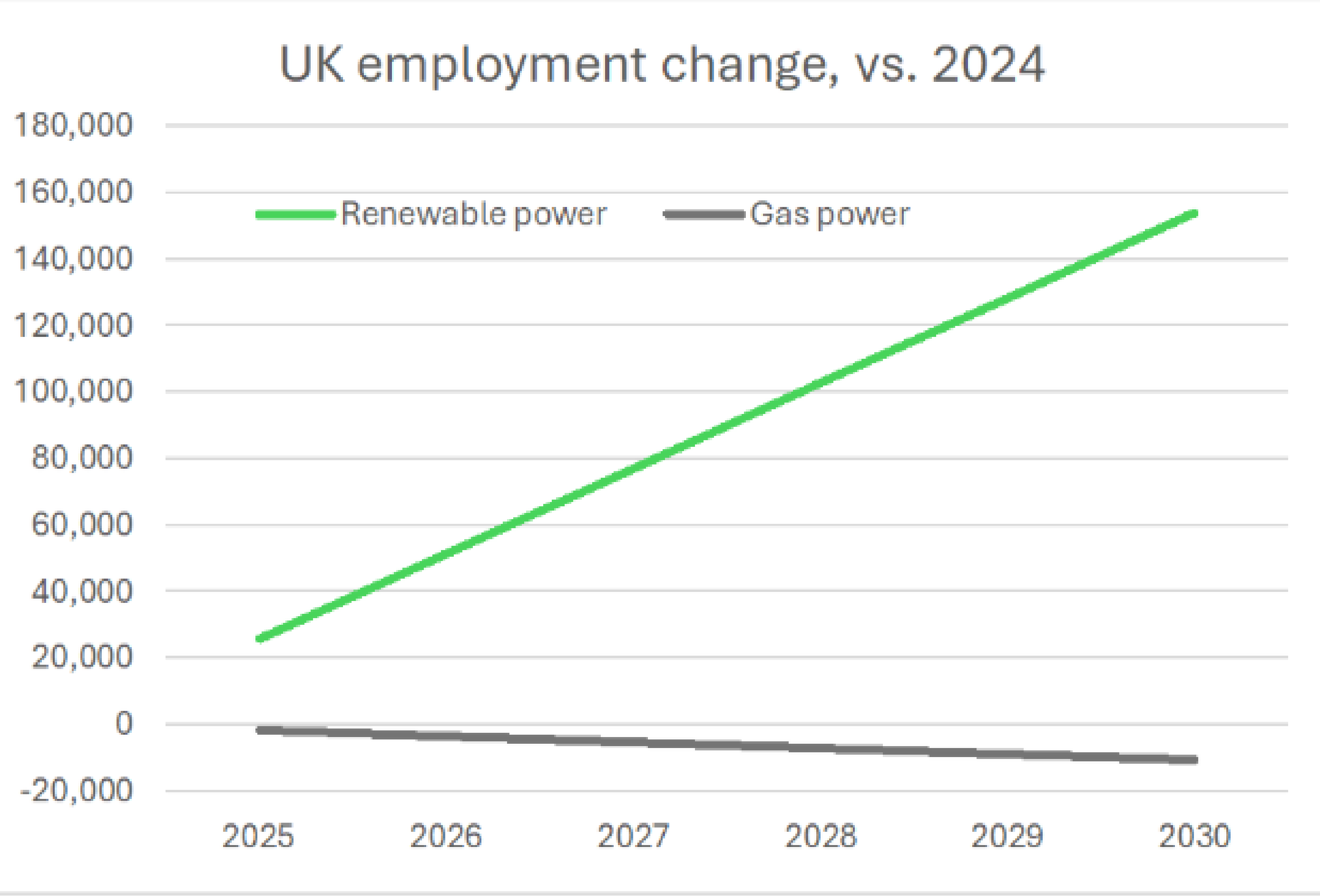
Clean Power 2030 scenario creates nearly 145,000 new jobs

Crucial to our forecast of renewables becoming the optimum long-term investment strategy by 2028-2029 – and indeed even earlier when the additional energy security of having energy supplies increasingly located in the UK and having much lower carbon emissions – are the additional jobs that will be created by having a large domestic renewable energy sector. REA modelling depicts that between 2024 and 2030, the Clean Power 2030 scenario creates nearly 145,000 new jobs with extra employment prospects opening in fields such as engineering, electricians and maintenance. These additional, often high-value, roles support long-term UK employment and redirect spending away from imported fuels, such as LNG, into domestic industries and communities.



05 The sector requires stable policy to continue attracting

REA modelling clearly demonstrates that the financial benefits of the UK's current Clean Power 2030 strategy will begin to accrue from 20276 onwards. It is therefore imperative that the government remains steadfastly committed to this approach. Recognising that the UK has some of the highest electricity bills in the world, we encourage the government to take additional steps to help bring bills down (such as reducing green levies on electricity bills, particularly social levies, and VAT), at least until the full economic benefits are felt from 2027. The renewable energy sector requires stable and predictable policy frameworks to continue attracting the necessary investment, which will start to yield tangible rewards from 2027. This date marks a significant milestone, signalling the point at which the UK's renewable buildout delivers clear net benefits across the economy as a whole. In essence, investing in renewables today secures sustained growth, skilled domestic employment, cleaner energy and greater energy stability in the years ahead. Even in an era where all generation carries substantial costs, the evidence clearly shows renewables are not just the cleanest choice but the smartest medium- to long-term economic investment for the UK.

06 Endnotes

1. Or in 2030 if employment benefits are excluded.

2. National Energy System Operator

3. Transmission, grid and network costs, in the status-quo scenario, are assumed to be roughly 75% of the investment assumed in the Clean Power 2030 scenario

4. Liquified natural gas

5. Net of any associated closures in gas; 155,000 new jobs created in renewable electricity generation, 10,000 lost in gas

6. When additional jobs benefits are included, or from 2030 when only costs are analysed; note: both outlooks exclude the extra benefits renewables provide to energy security and to the environment.

Find out more & Support the sector

For further information, please contact:

mparry@r-e-a.net

If you're interested in REA membership, please contact:

Lindsay Barnett - Membership, Marketing & Events Director, REA

lbarnett@r-e-a.net

The report is available on the REA website, here:

https://www.r-e-a.net/resources/renewable-energy-cost-analysis-report-2025/

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REA - RENEWABLE ENERGY ASSOCIATION

York House, 23 Kingsway, London WC2B 6UJ

Tel: +44 (0)20 7925 3570 | Email: international@r-e-a.net | Web: www.r-e-a.net

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