NEW ECONOMICS FOUNDATION

# Reducing interest rates for clean energy investments

**Policy briefing** | Theo Harris | November 2024

## How the Bank of England can better protect against inflation and contribute to lower energy bills

Fossil fuel prices were the primary factor in the recent spike of inflation and the ensuing cost of living crisis.[1] The Office for National Statistics has shown that energy-price effects (direct and indirect) accounted for three-quarters of the 10.4% consumer price index (CPI) inflation witnessed in the 12 months to February 2023.[2] Fossil fuel price rises were also the trigger for the UK's previous major inflationary bouts in the 1970s.[3]

Yet this obvious point is disregarded in our prevailing framework for considering inflation. Using a single headline interest rate to respond post-hoc to fossil price shocks is a reactive policy that can at best limit second-round inflationary effects. However, such an approach cannot mitigate the severity of the shocks themselves. In fact, the recent rate rises have made it costlier to finance the very investments that would protect the economy from fossil price shocks.[4] For example, the failure of the 2023 Contracts for Difference (CfDs) auction for offshore wind projects was due in large part to high interest rates reducing the profitability of renewables projects.[5]

The Bank of England's Monetary Policy Committee can more effectively fulfil its primary mandate to maintain price stability (i.e. to control inflation) by taking measures to aid the swift and smooth decarbonisation of the economy. To achieve this, NEF recommends that the Bank should implement a temporary Term Funding Scheme for Energy Price Stability (TFSEPS), which would promote medium-term price stability by providing a lower interest rate to encourage clean energy loans.

---

[1] OBR. (2023, October 19). *Why has recent inflation been stronger than we forecast?* obr.uk/box/why-has-recent-inflation-been-stronger-than-we-forecast

[2] ONS. (2023, April 17). *The energy intensity of the Consumer Prices Index: 2022*. ons.gov.uk/economy/inflationandpriceindices/articles/theenergyintensityoftheconsumerpricesindex/2022

[3] OBR, *Inflation stronger than forecast,* 2023.

[4] Wood Mackenzie. (2024, April). *Conflicts of interest: The cost of investing in the energy transition in a high interest-rate era*. woodmac.com/horizons/energy-transition-investing-in-a-high-interest-rate-era/

[5] RenewableUK. (2023, September 8). *Industry warns urgent action needed to restore investor confidence following renewables auction.* renewableuk.com/news-and-resources/press-releases/industry-warns-urgent-action-needed-to-restore-investor-confidence-following-renewables-auction

Via the TFSEPS, the Bank would offer commercial banks long-term loans, at a rate below Bank rate, to refinance their lending towards clean energy projects and buildings retrofits. This would increase clean energy supply and reduce the demand for fossil fuels, insulating the economy from fossil fuel price shocks and smoothing energy price fluctuations.

The scheme would also result in a reduction in electricity bills. The government's clean power mission requires unprecedented levels of capital investment in the power system over the next five years. Included in this, up to 55GW of renewables capacity might be secured via CfDs which effectively lock in electricity prices for 15 years. Therefore, this is a crucial period for ensuring low energy bills far into the future. NEF estimates suggest that a 2.5% decrease in interest rates for renewables and grid upgrades in the years 2026-30 could result in £29bn of savings in system-wide electricity costs from 2026-45, or £24 per household per year (in 2024 prices).[6]

## Fulfilling the Bank's primary and secondary mandates

The primary motivation for the scheme would be to fulfil the Bank of England's primary mandate to maintain price stability (i.e. to control inflation). The scheme protects price stability by insulating the economy against fossil fuel shocks and reducing the cost of electricity.

Facilitating a swift and smooth energy transition would also help avoid the worsening of climate-related financial risks, both from the further direct impacts of extreme weather events, and the heightened "transition risks" posed by a disorderly transition.[7] In this way, a TFSEPS would also support the other half of the Bank's primary mandate: to maintain financial stability.

The secondary motivation of the scheme would be to fulfil the Bank of England's secondary mandate to support the government's economic policy objective: "to restore broad-based and resilient growth built on strong and secure foundations".[8] The TFSEPS, in addition to enhancing price stability, pertains especially to the following points specified in the chancellor's remit letter to the Monetary Policy Committee:

- "Supply-side reform and targeted industrial strategy to remove the barriers to our productive capacity and increase productivity-enhancing investment, increasing access to high-quality jobs across the UK."
- "Growing the financial services sector and increasing its international competitiveness, while enhancing its role in financing growth, safeguarding financial stability and consumer protection, and supporting the transition to a net zero economy."[9]

---

[6] NEF analysis of NESO pathways. See *Quantitative impacts* section for methodology and sources

[7] Batten, S., Sowerbutts, R., & Tanaka, M. (2016). Let's talk about the weather: the impact of climate change on central banks. *Bank of England Working Paper 603*. bankofengland.co.uk/-/media/boe/files/working-paper/2016/lets-talk-about-the-weather-the-impact-of-climate-change-on-central-banks.pdf

[8] Chancellor of the Exchequer. (2024, November 14). *Monetary policy remit: Mansion House 2024*. gov.uk/government/publications/monetary-policy-remit-mansion-house-2024/monetary-policy-remit-mansion-house-2024

[9] Chancellor of the Exchequer, *Monetary policy remit,* 2024.

Though often neglected, the secondary mandate is nonetheless a legal requirement. Without impairing its primary mandate to maintain price stability, the Bank of England's monetary policy is legally required to support the government's economic policy.[10] To this end, the TFSEPS could support the government's economic objectives by directly reducing the cost of credit for clearly defined clean energy activities, something the Bank is better equipped than the Treasury to achieve.

## Historical and international precedents

In the post-war period, it was commonplace for the Bank of England to guide bank lending towards where it was needed for the rebuilding and expansion of industrial capacity, while placing limits on household lending to prevent excess credit and inflation.[11] This fell out of practice from the 1970s onwards with the growing preference for the Bank to exclusively use a single interest rate.

However, reliance on a single interest rate is not fit for purpose in an era characterised jointly by increasingly frequent supply-side shocks driven by geopolitical disruption and climate impacts, and time-sensitive need for large-scale investments in the energy transition. Our inadequate toolkit leaves the economy in a catch-22: control short-run inflation by hiking rates (but undermine investment in the transition, impairing medium and long-term price stability), or keep rates low to encourage transition investments (but risk exceeding inflation targets in the short-term). The TFSEPS offers a way out of this double bind by maintaining the headline Bank rate to control overall inflation, while continuing to incentivise priority clean energy activities with a preferential lower rate.

The TFSEPS is modelled on a previous Bank of England scheme, the Term Funding Scheme with Additional Incentives for SMEs (TFSME). The TFSME was introduced in 2020 to support the economy during the pandemic by incentivising banks to lend to the real economy, with preferential treatment for lending to SMEs.[12] With the TFSME, the Bank was already steering credit flows towards specific parts of the economy, but without prioritising investments that would protect against inflation in the medium to long term. Given the known risk to price stability posed by fossil fuel price spikes, there is a strong rationale, on the basis of the primary mandate, to pursue a scheme similar to the TFSME but with a clean energy focus.

Targeted refinancing schemes incentivising clean energy and energy-efficiency lending have already been implemented in Japan, China, Bangladesh, Malaysia and Hungary and are under

---

[10] *Bank of England Act 1998*. (1998). Section 11. legislation.gov.uk/ukpga/1998/11/section/11

[11] Aikman, D., Bush, O., Taylor, A. M. (2018). Monetary versus macroprudential policies: causal impacts of interest rates and credit controls in the era of the UK Radcliffe Report. *Bank of England Working Paper 610*. bankofengland.co.uk/-/media/boe/files/working-paper/2016/monetary-versus-macroprudential-policies-causal-impacts-of-interest-rates.pdf

[12] Bank of England. (2020, March 11). *Term Funding Scheme with additional incentives for SMEs (TFSME) – Market Notice*. bankofengland.co.uk/markets/market-notices/2020/term-funding-scheme-market-notice-mar-2020

consideration by the Bank of Korea and the European Central Bank (ECB).[13] In China, the "Carbon Emission Reduction Facility" provides discounted central bank loans to financial institutions to support their green lending, catalysing over ¥670bn (£76bn) in loans from 2021-23 and facilitating emissions reductions of over 150m tonnes CO2e.[14] In its Green Home Programme, the central bank of Hungary (MNB) provided banks funding at 0% which could be lent on to customers at a maximum rate of 2.5%.[15] The programme enabled 8,600 new energy-efficient homes, avoiding roughly 40 kilotonnes of greenhouse gases annually.[16] The central bank of Malaysia (BNM) has introduced two financing facilities that, as of 2023, had supported lending to more than 550s SMEs to fund their green and high-tech transition investments, with a 5% cap on interest rates.[17] The Bank's Monetary Policy Committee member Megan Greene has spoken in favour of dual interest rates, as has the French president Emmanuel Macron, while ECB president Christine Lagarde has suggested the ECB will consider them.[18]

## Quantitative impacts

The TFSEPS would reduce the cost of capital for renewables and retrofitting projects, resulting in a faster and cheaper energy transition. The precise impacts of the scheme are dependent on its scope and calibration. However, here are some illustrative examples to demonstrate the scale of the potential savings. All values are given in real 2024 prices, in line with the National Energy System Operator's (NESO) Clean Power Pathways report.[19]

### Insulation from fossil fuel price shocks

[13] Bank of Japan. (2024). *Funds-supplying operations to support financing for climate change responses,* boj.or.jp/en/mopo/measures/mkt_ope/ope_x/index.htm ; Gang, Y. (2023). *Proactively implementing the philosophy of green development to peak carbon emissions before 2030 and achieve carbon neutrality before 2060.* [Speech]. bis.org/review/r230622h.htm; Monnin, P. and Barkawi, A. (2015). Monetary Policy and Sustainability. The Case of Bangladesh. *United Nations Environment Programme inquiry into the design of a sustainable financial system*. https://ideas.repec.org/p/ceq/discno/1501.html ; Bank Negara Malaysia. (2024, March 20). *BNM annual report 2023.* www.bnm.gov.my/documents/20124/12142010/ar2023_en_book.pdf ; Magyar Nemzeti Bank. (2024, April). *The Magyar Nemzeti Bank's climate-related financial disclosure.* mnb.hu/letoltes/tcfd-jelente-s-2024-eng-0508.pdf ; Bank of Korea. (2021, October). *Bank of Korea's Response to Climate Change*. bok.or.kr/eng/bbs/E0000634/view.do?nttId=10067642&menuNo=400076&pageIndex=1 ; European Central Bank. (2022, June 9). *Monetary policy statement press conference.* bit.ly/4eA9uLG

[14] Gang, Y., *Proactively implementing green development,* 2023.

[15] Matolscy, G. (2024). The green booklet of sustainability. *Magyar Nemzeti Bank*. mnb.hu/letoltes/the-green-booklet-of-sustainability.pdf

[16] Magyar Nemzeti Bank, *Climate-related financial disclosure*, 2024.

[17] Bank Negara Malaysia, *Annual report,* 2023.

[18] Greene, M. (2022, September 12). Why central banking must go green. *Project Syndicate*. project-syndicate.org/magazine/green-central-banking-in-keeping-with-price-stability-by-megan-greene-1-2022-08 ; Mouterde, P. (2023, December 3). Macron lists France's priorities for tackling climate change at COP28. *Le Monde*. lemonde.fr/en/environment/article/2023/12/03/macron-lists-france-s-priorities-for-tackling-climate-change-at-cop28_6308707_114.html# ; European Central Bank, *Monetary policy statement,* 2022.

[19] NESO. (2024, November 5). *Advice on achieving clean power by 2030*. www.neso.energy/document/346651/download

Scenario modelling can give an indication of how a faster clean energy pathway protects the economy from fossil fuel price spikes, while a slow transition leaves us exposed to future shocks and a repeat of the 2022-24 cost of living crisis. Modelling results published by NESO show that a rapid rollout of clean power would offer significant protection against a gas price spike similar to that experienced in 2022. In NESO's 2030 clean power scenarios, a 2022-style gas price spike would cause an increase in the yearly electricity bill (including EV charging costs) of just £40 per household, compared to the counterfactual business-as-usual scenario in which electricity bills would jump by £270 per household.[20]

## Impact on electricity bills

Lower interest rates significantly reduce the cost of electricity projects. Reducing interest rates on loans for offshore wind power projects by 2.5% can reduce the lifetime levelised cost of electricity by as much as 11%.[21] In NESO's recently published clean power pathways "further flex and renewables" scenario, 55GW of new wind and solar capacity must be contracted between 2025-30.[22] On top of this, £72bn will need to be invested in system upgrades between 2026-30.[23] Using NESO's cost assumptions, but with a 2.5% reduction to interest rates on debt, NEF analysis suggests that the system-wide electricity cost savings resulting from a TFSEPS could reach over £1.9bn per year by 2030, equivalent to £24 per household.[24] To gain a ballpark figure for total lifetime savings, these figures can be multiplied by 15, on the basis that CfDs, which fix prices for 15 years, will be the majority financing mechanism. This would amount to total savings from 2026-45 of £29bn (or £360 per household), purely from reducing the cost of debt by 2.5% for investments made in the period 2026-30.

## Impact on the costs of retrofitting

---

[20] Per MWh figure given by NESO converted to average yearly household figure using total domestic and road transport electricity demand in the "Further flex and renewables" pathway and dividing by number of households in GB in 2023 (from ONS). This gives 3.9 MWh per household per year in 2030.

NESO. (2024, November 5). *Annex 4: Costs and benefit analysis*. neso.energy/document/346806/download

[21] NEF analysis using DESNZ 2023 LCOE calculator

DESNZ. (2023). *Electricity generation costs 2023: Annex B: Example levelized cost of electricity (LCOE) calculator.* gov.uk/government/publications/electricity-generation-costs-2023

[22] Figure estimated from NESO "Further flex and renewables pathway", subtracting generation capacity that has already been contracted for in CfD auctions to date.

NESO. (2024, November 5). *Clean Power 2030 Data Workbook.* neso.energy/publications/clean-power-2030 ;

DESNZ. (2024). *Collection: Contracts for Difference.* gov.uk/government/collections/contracts-for-difference

[23] Includes transmission, distribution, and offshore network cap-ex. 2025 cap-ex is removed on the basis that this would not be affected by a TFS EPS introduced in 2025.

[24] A 2.5% reduction in interest rates is assumed to give a 10.5% reduction in LCOE across offshore wind, onshore wind, and solar PV. The per MWh saving is then multiplied by the total capacity in 2030 for each technology in NESO's 'Further flex and renewables' pathway, using the same load factors as NESO. For network cap-ex, the total cap-ex 2026-30 is annuitised using a WACC of 2.6%, compared to NESO's assumed 4.1%. This reflects a reduction of 2.5% in the cost of debt, holding the cost of equity constant and using NESOs assumptions for gearing. The annuitised cap-ex costs with the lower WACC is compared to NESO's annuitised cap-ex costs for the same categories to give the yearly system-wide saving resulting from the reduction in interest rates.

Data from the second phase of the Home Upgrade Grant scheme, alongside future government cost targets, suggest that the average cost of a heat pump installation in the period 2025-30 will be in the region of £8,300.[25] For a loan worth £8,600 with a constant 20-year payback schedule, an interest-rate reduction of 2.5% would save £1,058 on interest payments in the first six years of the loan. The UK has a target of 600,000 heat pump installations per year by 2028.[26] If this approximates to the average installation rate for the period 2025-30, that would amount to 3.6m installations. Using an illustrative roll-out schedule, and assuming 69% of installations are debt-financed (following IEA ratios for typical debt-financing ratios in the built environment), a 2.5% interest-rate discount would result in a total reduction in customer interest payments of £1.1bn from 2025-30, on heat pumps alone.[27]

## How to design the TFSEPS

### Scope of eligible lending: what categories of bank lending should be eligible for the scheme?

NEF recommends the scheme to target new loans to UK customers for renewable energy projects, power network upgrades, and for clean energy and energy efficiency measures in the buildings sector (e.g. heat pumps and insulation).

Additionally, the scheme could be combined with the creation and promotion of a new green loan product, in collaboration with the Department for Energy Security and Net Zero (DESNZ) and private banks. For example, following the development of a new definition of a "Green Home Loan" for retrofitting, the scheme could refinance banks' portfolios of these specially labelled loans.

The Bank, in consultation with the government, could define eligibility on a narrower or broader basis depending on the intended size of the scheme, the balance between the different objectives, and the ease of classifying particular types of lending. The scheme could start lending in 2025 towards a limited list of carefully defined activities. Once it is available, the UK's Green Taxonomy could then be used to harmonise the guidelines for classifying loans for specified clean energy activities.

### Rate differential: how far below Bank rate should the scheme's interest rate be set?

---

[25] NEF Analysis of Home Upgrade Grant 2 data, assuming successful pathway towards heat pump cost parity with boilers by 2030 as laid out in the government's Heat and Building Strategy.
DESNZ. (2024). *Green Homes Grant and Home Upgrade Grant statistics.* gov.uk/government/collections/green-home-grant-statistics ; BEIS. (2021). *Heat and buildings strategy.* gov.uk/government/publications/heat-and-buildings-strategy

[26] NESO, *Advice on clean power,* 2024.

[27] IEA. (2021, December 17). *The Cost of Capital in Clean Energy Transitions – Analysis.* iea.org/articles/the-cost-of-capital-in-clean-energy-transitions

NEF recommends calibrating the scheme to target a feed-through discount of at least 250 basis points (2.5%) on banks' eligible loans to customers. This is a sufficient differential for the scheme to make a material increase to investment volumes and a material decrease to interest costs and, by extension, energy bills.

## Duration of scheme

NEF recommends the scheme should initially be scheduled to last for five years. This sustained period of operation is important in order for markets to adjust and for the economic benefits to be realised. The energy bill reduction effects of the scheme will be especially high in the 2025-29 period as the UK plans to contract a historically unprecedented volume of renewables capacity via the CfDs programme, which will lock in prices for the following 15 years. The case for extending the scheme beyond the fifth year could be examined based on an evaluation of its impacts and an assessment of changing economic circumstances.

## Frequency of operation

NEF recommends that the refinancing window would open twice yearly for banks to submit their portfolio of new eligible loans made during each six-month period. A frequent cadence is needed to give banks the confidence to offer lower rates to customers in the knowledge that they will receive discounted refinancing within six months, but this must be balanced against the administrative burden for the Bank.

## Term-length of loans

NEF recommends the refinancing loans should have a term-length of six years. A long term-length is important to ensure that the scheme offers banks reduced funding costs for a significant proportion of the lifetime of their clean energy loans to the real economy. If the term-length is too short, the pass-through of reduced rates to customers could be impaired. For comparison, the TFSME had a term-length of four years.[28]

## Measures to ensure pass-through of reduced interest rate

It is crucial to ensure the scheme achieves its desired outcome of a reduction in interest rates for, and an increased volume of, clean energy loans. Without careful design consideration, there is a risk that banks pass through only a small amount of the scheme's rates reduction to their clean energy loan customers and keep more of the differential as a boost to their profits or to subsidise lending elsewhere in their portfolios.

This risk would manifest if there were little competition between banks to win clean energy loan customers, as competition would put downwards pressure on the rates they must offer. Therefore, further incentivising banks to compete to increase their eligible loans would help ensure that the reduction in funding costs is passed onto customers. For example, the scheme's headline rate reduction could be increased by a further small amount proportional to the period-

[28] Bank of England, *TFSME,* 2020.

on-period percentage increase in a bank's new qualifying loans (similar to the mechanism used in the TFSME).

A firmer measure to guarantee pass-through would be to implement a cap on interest rates for scheme-qualifying loans. This was the case for the Hungarian scheme for green mortgages (with a cap of 2.5%) and for the Malaysian schemes for SME transition financing (with caps of 5%).[29]

For a thorough discussion of the design considerations in the context of the eurozone see Sustainable Finance Lab's paper 'A Green Interest Rate for the Eurozone'.[30]

## Enhancing price stability through clean energy investments

The TFSEPS provides a mechanism to simultaneously support price stability and the UK's clean energy objectives. By reducing financing costs for green energy projects, the scheme would address the inflationary pressures associated with fossil fuel dependence, enhancing the resilience of the UK economy against future energy price spikes. It could also significantly reduce the system-wide cost of electricity far into the future. As other central banks increasingly adopt sector-specific interventions, the Bank of England must also implement tailored financial tools to strengthen monetary policy and meet broader public objectives.

[29] Matolscy, G., *Green booklet,* 2024 ; Bank Negara Malaysia, *Annual report,* 2024.
[30] Jourdan, S., Van Tilburg, R., Simić, A., Kramer, B., Bronstering, G. (2024, October 1). A green interest rate for the eurozone. *Sustainable Finance Lab*. sustainablefinancelab.nl/wp-content/uploads/sites/334/2024/09/A-green-interest-rate-for-Europe.pdf