HEAT PUMP ASSOCIATION

ACCELERATING HEAT PUMP DEPLOYMENT: INTERIM DOMESTIC HEAT PUMP TARIFF

January 2024

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INTRODUCTION TO THE HEAT PUMP ASSOCIATION

The Heat Pump Association is a dedicated voice for the UK heat pump sector and works to drive widespread deployment of heat pump technology throughout the UK. Our membership comprises a broad range of stakeholders, including the UK's leading manufacturers of heat pumps, components and associated equipment, utility companies, installers, certification bodies, awarding organisations, training providers, and others with an interest in heat pumps.

The Association supports policymakers in the development of effective heat decarbonisation policy and other matters that affect the interests of end users, wider stakeholders, and the industry. In addition, the HPA coordinates technical and market research into areas of mutual interest identified by members, the aim of which is to improve market opportunities and help markets transform to low carbon heating solutions and technologies.

HEAT PUMP ASSOCIATION DELIVERABLES:

- **Advocacy and Policy:** Provide informed, well-constructed, evidence-based policy advice to support heat pump market growth within the UK. Lobbying and advocating for favourable government policies, incentives, and regulations that promote the adoption and deployment of heat pumps in the UK, including incentives for consumers and businesses to switch to heat pump technology.

- **Quality, Training and Standards:** Through establishing training standards and feeding into certification standards, the HPA works to improve the quality and safety of heat pump installations whilst promoting best practice amongst our members and the wider industry.

- **Sector growth:** Developing strategies and initiatives to expand the market for heat pumps including consumer awareness initiatives, industry collaborations and efforts to increase adoption rates.

- **Unity:** Provide a united industry voice, collaborating with key stakeholders to align policy proposals, calls for action and be representative of the heat pump supply chain.

- **Data and Analysis:** Develop thought provoking, workable policy proposals underpinned by detailed analysis, create unique market updates, and undertake analysis created to suit member needs.

OVERVIEW

The UK[1] Government's policy to decarbonise domestic heating during this decade is centred on heat pumps being increasingly used instead of gas boilers, with an ambition of 600,000 being installed per year by 2028. A series of policy levers will be required to enable this market growth and deliver a range of economic, technical, and social enablers as outlined in our 'Unlocking Widescale Deployment of Heat Pumps in the UK' report, published in November 2023[2]. Many of these enablers will support the deployment of heat pumps by allowing the high efficiencies and flexible potential of heat pumps to result in long-term running cost savings which can offset higher capital costs, a key objective if the UK is to meet decarbonisation targets.

However, this ambition for the heat pump market will be jeopardised without action, due to Great Britain (GB) having one of the highest electricity to gas price ratios (3.97[3]) in all of Europe[4]. This compares unfavourably to the European Heat Pump Association's recommendation that a price ratio of 2 should be aimed for, to accelerate the electrification of heat[5], and results in a risk that heat pumps could cost more to heat homes and hot water relative to fossil fuel boilers. On average across Europe, for every increase to the price ratio of 1, the sales per 1,000 households decrease by 6.4. This is a significant impact considering that only 1.9 heat pumps were sold per 1,000 households in the United Kingdom in 2022.

A significant contributor to high electricity prices is the disproportionate application in Great Britain of Environmental and Social Obligations – often referred to by Government as "policy costs" and known commonly as "levies" to domestic electricity consumers. We estimate around 85% of these costs are borne by electricity consumers. Placing levies on electricity bills to the current extent distorts the domestic heating market, disincentivising consumers to adopt electrical heating systems, such as heat pumps, and runs counter to the overall decarbonisation agenda. The removal of these levies from electricity bills would address this imbalance and bring heat pump running costs below those of a gas boiler.

The Government has indicated it will consult on the future treatment of levies during the financial year 2023/24. However, the process of consultation and subsequent legislation change is unlikely to yield changes in sufficient time for the rapid acceleration in heat pump deployment needed to reach the Government's ambition of 600,000 heat pumps being installed per year by 2028, which requires a 10-fold increase from 2023 sales figures.

1 This report contains references to both the UK and to Great Britain. Climate policy and several other statistics are reported at a UK-wide level, whereas others are reported for Great Britain only. This report uses the appropriate term in each case. In particular, the detailed analysis and the principal focus of this report relates to levies on electricity bills which apply only in Great Britain. Northern Ireland is subject to a different regulatory regime and is outside the scope of the detailed analysis and principal recommendations of this report.

2 Heat Pump Association (2023) Unlocking widescale heat pump deployment in the UK

3 Ofgem (2023) Energy price cap (default tariff): 1 October to 31 December 2023. Price ratio for direct debit consumer. Not inclusive of standing charges.

4 Nesta (2023) How the UK compares to the rest of Europe on heat pump uptake

5 EHPA (2023) EU Heat Pump Accelerator

The Heat Pump Association is therefore proposing that the Government introduce a temporary fix – an interim **Domestic Heat Pump Tariff Discount.** We propose that this should be introduced quickly to bridge the gap between today's situation, and the time when all levies can be removed from electricity bills. This Domestic Heat Pump Tariff Discount would reduce the price of electricity used for hot water and heating produced by a domestic hydronic heat pump, to an amount equivalent to exempting that proportion of electricity from levies.

This Heat Pump Tariff Discount would reduce the price of electricity used by a hydronic heat pump in Great Britain for domestic heating or hot water by 5p/kWh in 2024/25 and 2025/2026 rising to 6p/kWh in real terms in 2026/27.

We estimate this will require a maximum of £533m of discounted costs over three years, or around £177 million per year, to be moved from heat pump consumers electricity bills in Great Britain to other sources. Funding options are for Government to consider, but as an illustration, our analysis suggests this is equivalent to an annual increase of £2.59 for an average gas consumer, an annual increase of £2.49 for an average electricity consumer, or, as an illustration, an amount equivalent to 0.073% of the annual revenue raised from income tax.

HOW ELECTRICITY PRICES CURRENTLY DISTORT THE HEATING MARKET IN GREAT BRITAIN

Despite heat pumps being three times more efficient than conventional fossil fuel boilers[6], potential higher running costs exist as retail electricity prices are around four times higher than retail gas prices[7].

Current high electricity prices mean that a consumer with an air source heat pump (ASHP) could pay £600 more in heating bills compared to a consumer with a gas boiler across 15 years, an average of £40 per year (see Figure 3). Without levies on electricity bills, this would be reversed by 2025, with heat pumps able to deliver running cost savings compared to a gas boiler. The status quo is unlikely to encourage heat pump uptake at the pace necessary to meet the Government's ambition of an annual heat pump installation rate of 600,000 by 2028.

Many factors influence electricity prices. One factor controlled by Government is the disproportionate application of Environmental and Social Obligations (hereinafter referred to as levies). The levies considered within this report are detailed in Appendix 3 of the supporting analysis to this report[8]. These levies account for £218 and £49 of the annual heating costs of the typical bills of a household using a heat pump and gas boiler respectively, as illustrated in Figure 1 below. The levies mean a typical heat pump consumer pays £170 more than an equivalent gas boiler consumer in levy costs per annum. Removing the levies from gas and electricity bills entirely would make a heat pump £50 cheaper to run per year than a gas boiler[9]. Our analysis suggests that a consumer installing an air source heat pump in 2025 could expect to pay £2,812 in levy costs over a 15-year lifespan.

6 Energy Systems Catapult (2023) Electrification of Heat UK demonstration project
7 Ofgem (2023) Energy price cap
8 HPA (2024) HPA Reports
9 Assumptions and methodology can be found in Appendix 4 of background and analysis paper - HPA (2024) HPA Reports

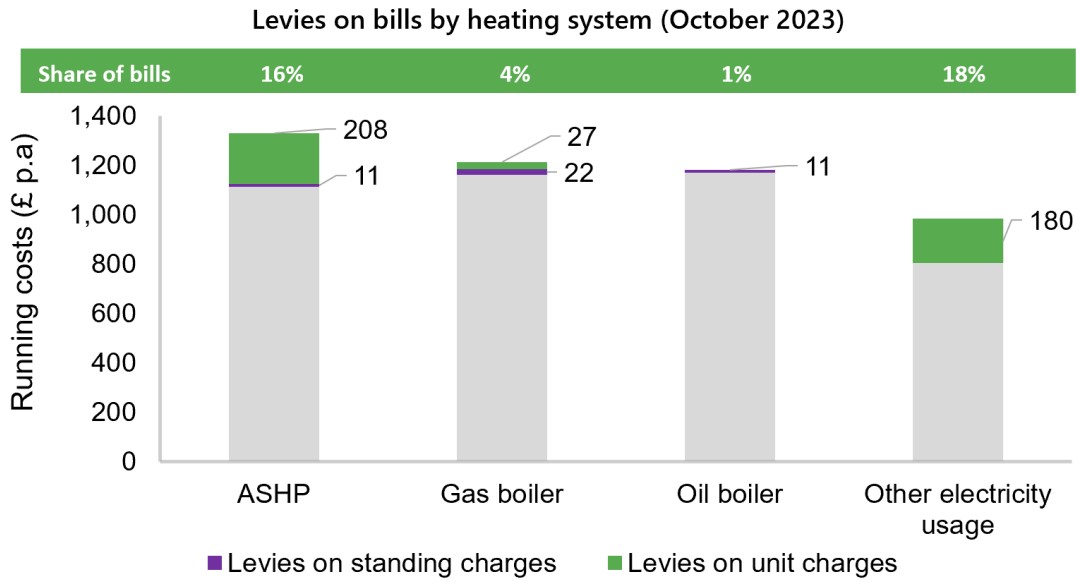


Figure 1- Levies on bills by heating system (October 2023) (inclusive of VAT) (standing charges assumed to be part of heating costs)[10]

The current structure of energy levies means consumers who make the positive decision to decarbonise their heating face higher levies on their energy bills. Early adopters of electrical heating systems, such as heat pumps, are forced to bear a disproportionately high share of the burden of energy levies, leading to an increased incentive to stick with fossil fuel heating, especially when considering the higher capital costs of a heat pump and the current cost of living crisis. These higher upfront costs can be partially subsidised for homeowners in England and Wales via a £7,500 Boiler Upgrade Scheme grant. In Scotland, upfront cost support is available in the form of a grant of up to £9,000 for homes eligible for a rural uplift and £7,500 for those not eligible as well as access to a 0% finance loan through the Home Energy Grant and Loan. However, it is vital to address distortions in running costs alongside capital support to achieve long term growth in the heat pump market.

10 Includes all levies detailed in Table 1 - Summary of levies placed on energy bills (October 2023). Assumes that heat pump consumer does not pay gas standing charge. Standing charges included under heating system and not included in "other electricity usage". Inclusive of VAT. For remaining assumptions please see footnote number 21.

OPTIONS FOR PERMANENTLY TACKLING LEVIES ON BILLS

The supporting analysis to this report[11] investigates the impact on energy bills for several long-term options for addressing levies that range from complete removal of levies from bills altogether, to all levies on electricity being moved onto gas. Heat pumps become cheaper to run than gas boilers in all the scenarios modelled where levies are in some part removed from electricity bills. The more levies are reallocated away from domestic electricity bills, the lower the relative running cost of heat pumps compared to fossil fuel boilers, and therefore the greater the number of consumers likely to make the switch[12]. However, we acknowledge there are social policy considerations for each of the alternatives, so the analysis here is provided to inform the forthcoming debate, with the Heat Pump Association taking the back-stop position that at a minimum, levies should be removed from electricity bills as swiftly as practicable. This paper and its supporting analysis[13] do not take a view on how specific options may be funded but provides an illustration of various options and the impacts on bills and/or the exchequer.

A description of the alternative funding options we have considered is given in Figure 2, and the summary results of the impact on heat pump vs boiler running costs for each are given in Figure 3. Different funding approaches have been explored for each scenario, including options to protect vulnerable households from higher energy bills, as detailed in the "analysis of alternative funding options" chapter which can be found in the supporting analysis paper.[11]

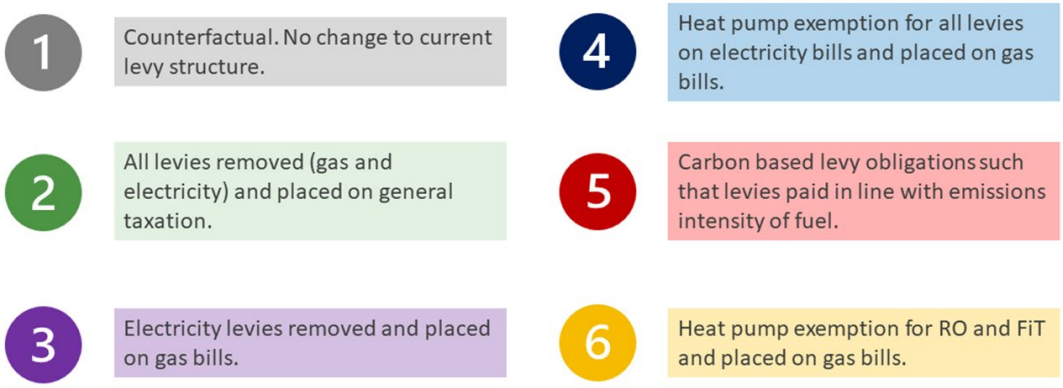


Figure 2 - Summary of levy rebalancing scenarios[14]

11 HPA Supporting Analysis - Accelerating heat pump deployment: Interim Domestic Heat Pump Tariff
12 Behavioural Insights team (2022) Behavioural Insights Team, "How much are we willing to pay to make home heating greener", 9 March 2022
13 HPA (2024)HPA Reports
14 "RO" = Renewables Obligation. HPA Supporting Analysis - Accelerating heat pump deployment: Interim Domestic Heat Pump Tariff

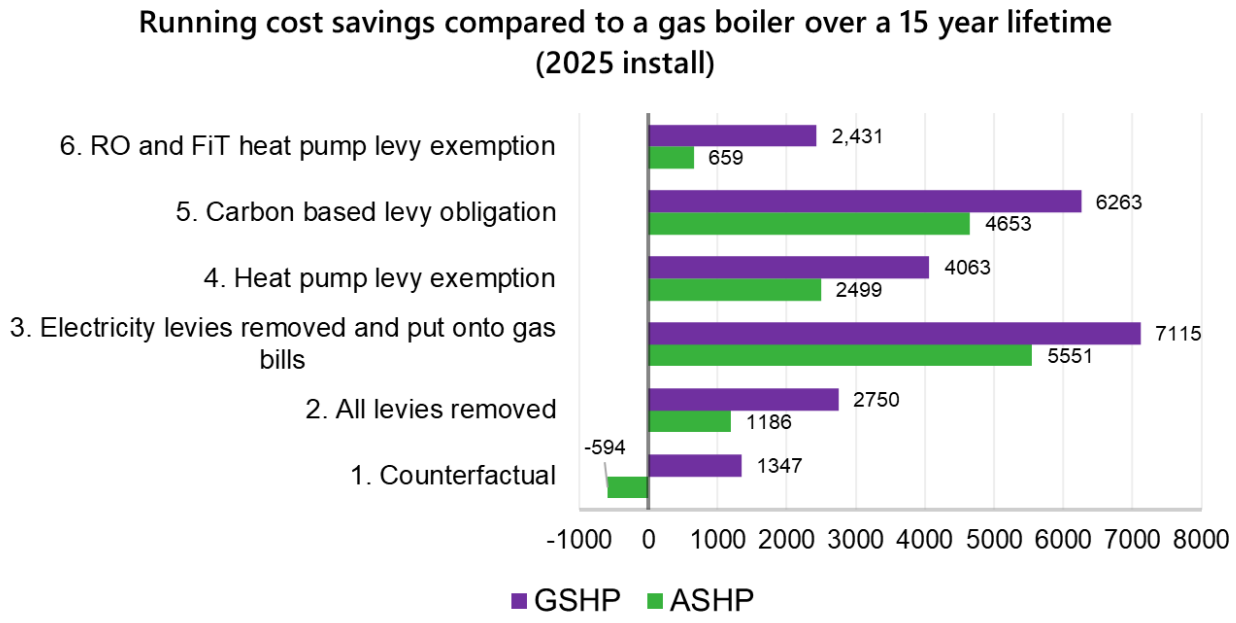


Figure 3- Running cost savings compared to a gas boiler over a 15-year lifetime (2025 install)

Our analysis suggests that the blanket removal of all levies on both gas and electricity bills, option 2 above, would result in the running costs of a typical air source heat pump over 15 years becoming just under £1,200 less than a natural gas boiler, with the equivalent running cost savings for a ground source heat pump being £2,750.

PROPOSAL FOR AN INTERIM DOMESTIC HEAT PUMP TARIFF DISCOUNT

The Government is set to consult during the 2023/24 financial year on how it proposes to address levies on bills. Whilst the HPA welcomes the Government's commitment to tackling the distortive impact these have on the heating market, many of the levies are legislatively complex and will therefore likely take considerable time to address.

We propose a short-term fix, namely an interim electricity **Heat Pump Tariff Discount,** to be implemented as quickly as is feasible considering the time required for suppliers to develop the processes needed to deliver a discount, to last until levies are fully removed from electricity bills.

We propose the **Heat Pump Tariff Discount** should have the following features:

1. Require Licensed Electricity Suppliers to reduce the price of electricity used by a heat pump for domestic heating or hot water by **5p/kWh in 2024/25 and 2025/2026 rising to 6p/kWh in real terms in 2026/27.** Heat pump electricity consumption could be determined via a deemed or metered approach, as described in the "Ensuring the tariff is only applied to the appropriate electricity consumption" section within the supporting analysis[15].

2. Provide the **same tariff discount for air source, water and ground/water source heat pumps** to avoid internal distortions within the heat pump market.

3. Apply to all **hydronic heat pumps**, including when heat pumps form part of a hybrid heating system, in line with National Grid ESO's Consumer Transformation scenario[16]**.**

4. Be implemented as a **temporary measure, starting in the financial year 2024/25**, and tapered progressively as different levies are removed from electricity bills until the complete removal of all electricity bill levies has been achieved.

5. Have the scope to **extend the scheme beyond the above 3 years** if removing levies from electricity bills takes longer.

6. **Allow the tariff discount levels for new consumers to be reviewed quarterly** upon publications of the Price Cap, with a **consumer's tariff discount locked in and indexed** at point of application for the tariff.

15 HPA Supporting Analysis - Accelerating heat pump deployment: Interim Domestic Heat Pump Tariff

16 National Grid ESO (2023) Future Energy Scenarios. Inclusive of air-to-water heat pumps, ground-to-water heat pumps and hybrid heat pump systems where an air-to-water heat pump or ground-to-water heat pump is included. Air-to-air heat pumps and domestic hot water heat pumps are not included.

7. **Be available for all domestic heat pump consumers**[17] with an MCS certificate, Building Regulations Compliance Certificate or appropriate building control sign-off being used as the means to provide proof of a heat pump installation.

8. **Strike the right balance between speed of implementation, versus accuracy and limiting scope for gaming or fraud**.

We estimate this **Heat Pump Tariff Discount** will require up to £533m of discounted total funding for Great Britain over three years (2024/5-2026/27), or around £177 million per year, to be moved from heat pump consumers electricity bills to an alternative source. For illustrative purposes only, our analysis suggests this is equivalent to an annual increase of up to £2.59 per annum for an average dual fuel household's gas bill, up to £2.49 per annum for an average dual fuel household's electricity bill[18] or up to 0.073% of the revenue currently raised from income tax. We have analysed a range of options for alternative funding sources, and these are summarised in Table 4, duplicated below:

*Table 4 - Summary of funding options for interim **Heat Pump Tariff Discount** (2024-2027) (Domestic consumers in Great Britain only)*[19]

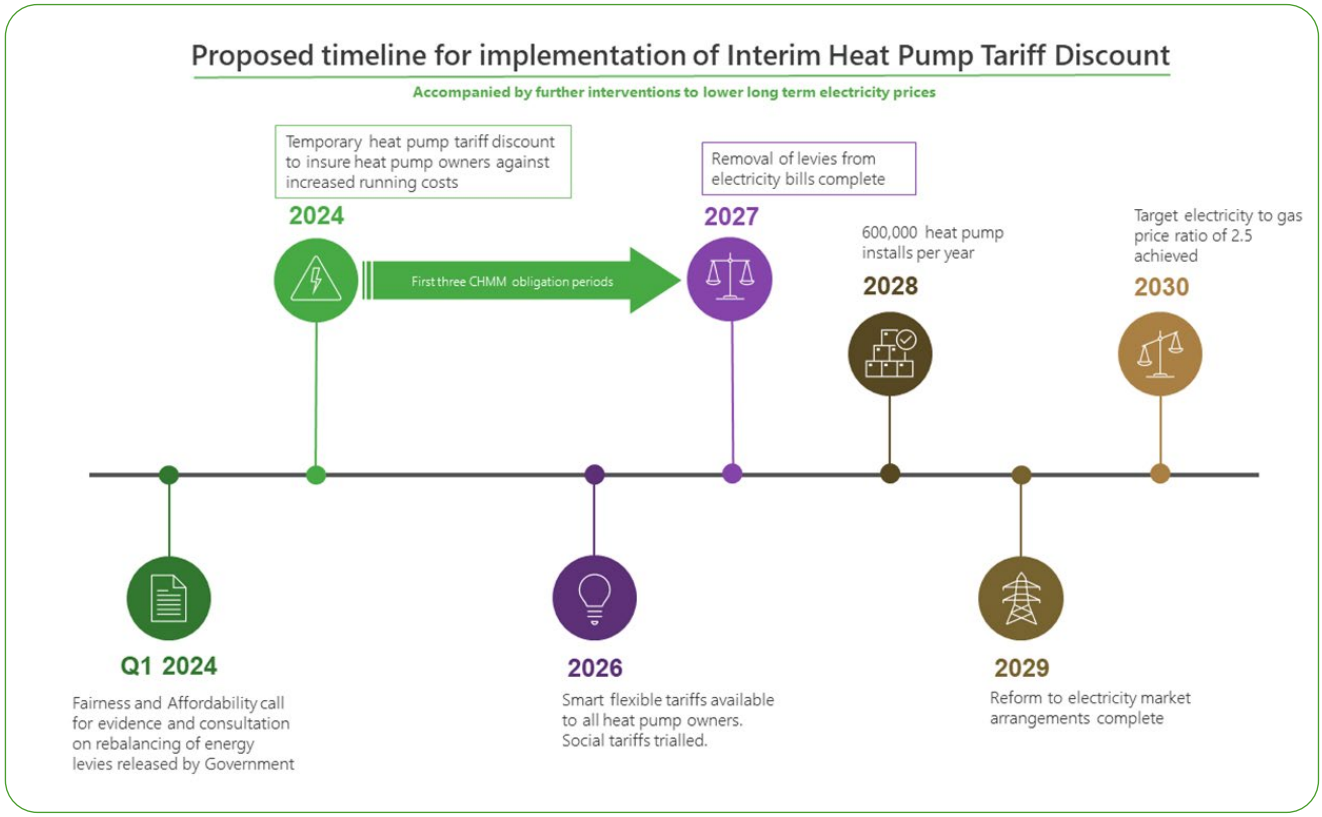
Funding source	Maximum total average impact per consumer over 3 years. £575 million of undiscounted revenue over three years (£533m discounted), or around £192 million per year (£177m discounted).	Maximum average impact per consumer per year
Non-exempt electricity usage (all bill payers)	£7.46 (range of £6.42-8.07) over three years.	£2.49 (range of £2.14-2.69)
Non-exempt electricity usage (exclusive of vulnerable households)	£10.41 (range of £8.97-11.26) over three years.	£3.47 (range of £2.99-£3.75)
Gas bills (all bill payers)	£7.78 (range of £6.70-8.42) over three years.	£2.59 (range of £2.23-2.81)
Gas bills (exclusive of vulnerable households)	£10.86 (range of £9.35-11.75) over three years.	£3.62 (range of £3.12-3.92)
Funded by the Exchequer	£575 million required from the Exchequer over three years.	An average of £192 million is raised by the Exchequer each year. (As an illustration this is equivalent to 0.073% (0.063-0.079%) of annual income taxation revenue).

17 Inclusive of heat pumps in new build properties, the rental market and consumers in properties with existing heat pump installation.
18 Non exempt electricity usage only.
19 Assuming an average dual fuel household with gas consumption of 12,000 kWh and electricity consumption of 3,100 kWh.

Options for where these costs are moved should consider social policy implications and we note that Government has established the precedent of short term energy price intervention via the Energy Price Guarantee, the implementation of which will share many of the operational considerations of the proposed interim tariff discount[20].

POSSIBLE TIMELINE

The current levies on electricity bills are of varying legislative complexity. Securing time and resource to debate and modify primary legislation can be difficult and so the proposed discount offers an interim solution whilst the process of delivering enduring solutions is ongoing. We have set out an indicative timeline for implementation, from which we have concluded that the **Heat Pump Tariff Discount** should be put in place for an initial period of 3 years. Prior to implementation an appropriate period of consultation with key stakeholders, such as licensed energy suppliers must be undertaken, and sufficient notice given by which to implement the scheme robustly and sustainably**.** There must be scope to extend the Heat Pump Tariff Discount should levy removal from electricity bills not be complete by within the proposed initial 3 years.



20 HMG (2022) Help with your energy bills

WIDER RECOMMENDATIONS

This **Heat Pump Tariff Discount** does not and should not:

- Negate the urgent need for the Government's consultation intended to address the current imbalance between levies on gas and electricity bills. A consultation would be useful in providing market participants, such as appliance manufacturers, investors, and energy suppliers, with a clear roadmap for change helping to address market uncertainty.
- Prevent or slow down medium – long term progress on electricity market reform, following the Government's consultation in 2022[21].

Given that levies placed on electricity bills work counter to the Government's policy on heat electrification, and distort the heating market, levies on electricity bills should be excluded from becoming a source of funding for any future policies.

21 DESNZ (2022) Review of Electricity Market Arrangements.

REFERENCES

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20. HMG (2022) Help with your energy bills
21. DESNZ (2022) Review of Electricity Market Arrangements.

Disclaimer

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