

The Clean Heat Market Mechanism Regulations 2024

Lead department	Department for Energy Security & Net Zero
Summary of proposal	The proposal is to introduce a Clean Heat Market Mechanism (CHMM), which will obligate manufacturers of gas and oil boilers to hold credits corresponding to qualifying installations of heat pumps in proportion to their relevant UK boiler sales.
Submission type	Impact assessment (IA) – 1 December 2023
Legislation type	Secondary legislation
Implementation date	April 2024
Policy stage	Final
RPC reference	RPC-DESNZ-5055(2)
Opinion type	Formal
Date of issue	8 January 2024

RPC opinion

Rating¹	RPC opinion
Green	Overall, the IA provides a sufficient assessment of the proposal. The IA makes a good identification of direct impacts on business of the policy, consistent with RPC guidance, and provides a reasonable level of monetisation of these impacts. The IA would benefit from further justification to support some assumptions, including the counterfactual position, and sensitivity analysis to test this. The SaMBA is sufficient with the IA stating that the regulations will establish a <i>de minimis</i> threshold, which will exclude micro businesses based on their relevant oil and gas boiler sales. There are some areas for improvement, specifically explaining further how the assumptions have changed since consultation, to result in the now positive monetised NPSV, and providing a more detailed assessment of household/consumer impacts.

¹ The RPC opinion rating is based only on the robustness of the EANDCB and quality of the SaMBA, as set out in the [Better Regulation Framework](#). RPC ratings are fit for purpose or not fit for purpose.

Business impact target assessment

	Department assessment	RPC validated
Classification	Qualifying (IN)	Qualifying (IN)
Equivalent annual net direct cost to business (EANDCB)	£18 million	£18.5 million <i>(2019 prices, 2020 pv)</i>
Business impact target (BIT) score	£92.5 million	£92.5 million
Business net present value	-£86 million	
Overall net present value	£121 million	

RPC summary

Category	Quality²	RPC comments
EANDCB	Green	The IA makes a good identification of direct impacts on business of the policy, consistent with RPC guidance, and provides a reasonable level of monetisation of these impacts. The IA would benefit from further justification to support the counterfactual, and sensitivity analysis to test this. The IA should also set out how future targets (since they are only firmly established for the first two years of the policy) will be appraised and accounted for.
Small and micro business assessment (SaMBA)	Green	The SaMBA is sufficient as the IA states that the regulations will establish a <i>de minimis</i> threshold, which will exclude micro businesses based on their relevant oil and gas boiler sales. The IA explains that smaller businesses may face higher upfront familiarisation costs and higher ongoing administration costs. The IA would benefit from providing further assessment of the disproportionate costs on small and micro businesses and, if relevant, consider mitigations. The Department should expand its assessment to include medium-sized businesses.
Rationale and options	Satisfactory	The IA outlines a sufficient rationale for intervention explaining the market failures existing in the current market for heat pumps. The IA would benefit from providing evidence to support some assumptions, such as low consumer awareness explaining the low adoption. The IA states the CHMM is intended to sit alongside targeted spending and other regulatory measures and argues that these other measures would be insufficient in achieving the policy objectives in the absence of CHMM. The IA would benefit from further discussing non-regulatory options.
Cost-benefit analysis	Weak	The IA provides a sufficient level of monetisation and a reasonably comprehensive list of key modelling assumptions. However, it is not clear how all the total costs and benefits have been calculated. The IA must be explicit about the calculations behind its NPSV figures, as it is currently not intuitive how they are derived.
Wider impacts	Satisfactory	The IA provides some discussion on a reasonable range of wider impacts, including innovation, competition and trade, distributional impacts, and

² The RPC quality ratings are used to indicate the quality and robustness of the evidence used to support different analytical areas. The definitions of the RPC quality ratings can be accessed [here](#).

equality impacts. The IA would benefit from further discussion and consideration on some wider impacts on consumers and the public sector.

Monitoring and evaluation plan	Satisfactory	The IA includes a commitment to a robust monitoring and evaluation (M&E) approach. The RPC understands that a statutory post-implementation review will be undertaken, and published, within five years of implementation of the regulations. The IA would benefit from clearly stating this within the M&E plan. The M&E section helpfully outlines the aims, expected key monitoring metrics, the types of evaluation that will be conducted, and provides an overview of the potential approach and methodology.
--------------------------------	---------------------	---

Summary of proposal

The Government have an ambition to grow the market for heat pumps to approximately 600,000 installations per year by 2028. This level of heat pump deployment is considered strategically important for any of the potential routes the Government's 'net zero' policy. The proposal is expected to continue to form part of a wider policy framework supporting heat decarbonisation.

The Department considers the following options:

- **Option 0:** Do nothing (counterfactual). Under this option heat pump deployment will be driven only by the current targeted spending and regulatory measures.
- **Option 1:** Preferred option. Introduce an obligation on the manufacturers of gas and oil boilers sold on the UK market to hold credits corresponding to qualifying installations of heat pumps in proportion to their relevant UK boiler sales. The Clean Heat Market Mechanism (CHMM) will be introduced through secondary legislation under the primary powers granted by the Energy Act 2023.

The IA estimates costs and benefits of clean heat installations over the period between 2024/25 to 2028/29, appraised until 2045/46 when all the appliances installed are assumed to have reached the end of their lifetime. The Department estimates the preferred option to have an equivalent annual net direct cost to business of £23 million and a total business net present value of -£109 million across five years, in 2023 prices and 2023 present value. Direct costs to business are identified as familiarisation, administration, and obligation costs.

The monetised benefits of the CHMM include lower long-run variable costs, non-traded carbon savings, and air quality impacts, resulting in an estimated net present social value (NPSV) of £145 million. Key non-monetised benefits of the scheme include supply chain development, supporting green job creation, innovation and cost reductions, and health benefits associated with moving away from fossil fuel usage.

EANDCB

Overall, the IA makes a good identification of direct impacts on business of the policy, consistent with RPC guidance, and provides a reasonable level of monetisation of these impacts, drawing on relevant data and evidence.

Counterfactual/baseline

The IA states that there is a wider range of schemes and policies to support heat pump deployment and meet the targets set by the Government, including CHMM. The Department recognises the difficulty in accurately estimating the impact of CHMM in isolation of other policies. To attempt to estimate the additional impact of the market mechanism on low-carbon heating appliances, in the counterfactual the Department assumes that heat pump installations driven primarily by other policies

will contribute to 60,000 credits in 2024/25 and 80,000 credits in 2025/26 (paragraph 60), and the difference between these credits and the target for each year is made up by the CHMM. Whilst the counterfactual should account for the impact of other policies, the IA would benefit from providing further justification for the estimated number of credits generated by other policies. Given, as stated in paragraph 60, that these estimates are subject to a high degree of uncertainty at this stage, the IA would benefit from conducting sensitivity analysis on these estimates. The IA would also benefit from clarifying whether, if the other policies underperform in relation to their targets, CHMM would be expected to make up the difference.

Generally, the IA would significantly benefit from providing further detail in relation to the interdependencies of the CHMM and the suite of other measures, given that the success of the CHMM appears to be dependent on the effectiveness of these policies. In particular, providing more detail on the policies aimed at improving consumer demand and awareness as the CHMM is focussed on the supply side.

Assumptions

Overall, the IA clearly outlines key assumptions underpinning the EANDCB calculations and provides a sufficient level of sensitivity analysis to test these assumptions. In some instances, the IA would benefit from further justification and evidence to support assumptions. For example, the Department assumes familiarisation time of 100 hours per business (footnote 14). Whilst this impact accounts for a relatively small proportion of the total impact on business, the IA would be strengthened by providing justification for the time assumption. The Department also assumes that the maintenance costs for different heating systems are the same in the policy scenarios and the counterfactual. Whilst this may be reasonable to assume for simplicity, the IA would benefit from drawing on relevant data to support this assumption.

Obligation costs account for the largest proportion of total direct costs to business. The IA explains helpfully the various factors affecting these costs and the uncertainty surrounding them, and provides a range of estimates (£0 million to £16 million per year) to reflect this uncertainty (Table 12). The Department states that it cautiously uses the maximum of £16 million. Whilst this approach is reasonable, the IA would benefit from stating explicitly the assumptions underpinning the range in estimates, in particular clarifying the cost assumptions used in the central estimates.

Appraisal period

The IA states that a 22-year appraisal period is being used from 2024/25 to 2045/46 when all the appliances installed are assumed to have reached the end of their lifetime. Given that the costs on business of clean heat installations are incurred between 2024/25 to 2028/29, when the obligation is imposed, the EANDCB is calculated over a 5-year appraisal period. This approach is consistent with RPC guidance on appraisal periods for time-limited measures³. However, the IA would benefit from further justification for the appraisal periods used for the EANDCB since

³ See RPC case histories – appraisal periods [here](#).

the calculations use different length appraisal periods for the three “lenses” i.e. scenarios for the preferred option (see below).

Further assessment

As mentioned above, the Department considers the preferred option through three “lenses”. This is to attempt to illustrate the potential different annual targets for heat pump installations. The policy intention is that the target for manufacturers will increase year-on-year over a period of at least five years, in line with an overall growth trajectory towards 600,000 installation per year in 2028. However, the initial regulations firmly establish the target levels for only the first and second years of the scheme. Amending legislation will be required to establish the targets for years three to five of the scheme. To illustrate the effect that the annual targets have on the EANDCB, the IA considers the following three lenses:

- Lens 1: The Clean Heat Market Mechanism Scheme Regulations 2024 as introduced. Targets are defined for years 1 and 2 and held at the year 2 rates for years 3, 4 and 5.
- Lens 2: Years 1 and 2 only. This lens shows the impact of the targets as defined in the regulations for the first two years of the scheme only.
- Lens 3: Targets for years 3, 4 and 5 will be increased to be consistent with the Government’s ambition of 600,000 heat pump installations per year by 2028.

The Department presents appropriately, lens 1 as the EANDCB for the proposal as it covers the first two years and is then held constant for a further three years, as set out in the regulations. However, the policy ambition of 600,000 per year in 2028, is higher than the targets proposed in lens 1 and is reflected in lens 3. Given amending legislation will be required to establish the targets for years three to five of the scheme, it is appropriate at this stage to appraise the constant targets set out in the proposed regulations for the purposes of this IA. The Department should explain how future targets for years 2026/27 to 2028/29 will be appraised and accounted for to ensure full (but not double) counting of impacts. The RPC will, subject to better regulation framework requirements expect to see a new IA reflecting this.

SaMBA

The SaMBA is sufficient as the IA states that the regulations will establish a *de minimis* threshold, which will exclude micro businesses. These businesses are defined as manufacturers of fossil fuel appliances with fewer than 20,000 relevant gas boiler sales or fewer than 1,000 relevant oil boiler sales, as well as businesses that meet the criteria of the small company regime under the Companies Act of 2006 (paragraph 117). This threshold applies to all manufactures regardless of whether the manufacturing takes place in the UK or of whether the company has a UK corporate presence. This could result in businesses, which ordinarily would be considered small, or micro based on number of employees, to be in scope of the regulations. However, the IA argues that whilst businesses which have fewer than 49 employees may be in scope of the regulations, they will still generally be larger

entities in global terms with more employees in their headquarter and/or manufacturing locations.

The IA explains it is possible that smaller businesses in scope of the obligation will face higher upfront familiarisation costs and higher ongoing administration costs. However, the Department argues that the tradeable nature of the credits will be particularly beneficial to smaller businesses as they will be able to purchase credits from other heat pump manufacturers which are more likely to benefit from economies of scale. The IA would benefit from providing further assessment of the potential disproportionate costs on small and micro businesses and, if relevant, consider any further exemptions or mitigations.

Medium-sized business considerations

The IA would benefit from taking specific account of the Government's widening of presumed exemptions on regulation on businesses with fewer than 500 employees.

Rationale and options

Rationale

The IA outlines a sufficient rationale for intervention explaining the market failures existing in the current market for heat pumps such as the emerging nature of the market meaning it cannot benefit from economies of scale in the same way as more conventional heating technologies. The IA also identifies the negative environmental externalities associated with oil and gas boilers and the positive externalities associated with heat pumps. The IA suggests that there are information asymmetries in the market, with consumers not being aware of the advantages of heat pumps partially explaining the low adoption. The IA would benefit from providing evidence to support this, given that low take-up may be explained by the much higher up-front costs of heat pumps relative to fossil-fuel boilers.

The IA would also benefit from drawing on lessons learned from similar sectors, such as electric vehicles or condensing boilers, and/or drawing on international comparisons where relevant. This would strengthen the rationale for intervention as well as provide supporting evidence for estimating the impact.

Options

The IA considers one policy option alongside a do nothing counterfactual. The IA states that the intention is for the target of heat pumps to steadily increase year-on-year over a period of at least five years, however, the initial regulations set a target for only the first two years. Amending legislation will be required to establish the targets for years three to five of the scheme. Therefore, the profile of targets across the appraisal period is unknown. As discussed above, the IA considers three "lenses" i.e. scenarios that vary in their assumptions with regards to targets (see paragraph 19).

The IA states that CHMM is intended to sit alongside targeted spending and other regulatory measures as part of an overall policy framework to support the development of the low-carbon heating market. The Department argues that these other measures, without also having the CHMM, would be insufficient as they are less likely to achieve the policy objectives. The IA would benefit from discussing further, non-regulatory options, such as information campaigns to address consumer awareness and the potential additional subsidy-based measures alluded to.

Cost-benefit analysis

Methodology

There has been a significant change in the net present social value since the consultation stage, increasing from -£2.4 billion to £145 million. This appears to be due to a large increase in carbon savings and a switch to a positive long-run variable cost saving. The IA should explain further how the assumptions have changed since consultation to result in the now positive NPSV. The IA would also benefit from further discussion on consumer/household impacts (see wider impacts section below).

Assumptions, risk and uncertainty

The IA includes a reasonably comprehensive list of key modelling assumptions. However, it is not clear how all the total costs and benefits have been calculated. The IA must be explicit about the calculations behind its NPSV figures, as it is currently not intuitive how they are derived. There is some reference to risks throughout the IA, for example, the risk of non-compliance (paragraph 72), however, the section on risks and uncertainties focuses more on modelling risks than implementation risks. The IA could benefit from a more explicit summary of the key risks affecting the delivery and outcomes of the scheme and the relevant mitigations. For example, the IA would benefit from considering the risk that there will be low household demand for heat pumps (see 'household impacts' below), and the impact that this will have on businesses which may have to purchase credits to meet the targets.

Whilst the IA provides sufficient sensitivity analysis to test how changes to key assumptions affect the NPSV (Table 11 and Figure 1), which is explained in more detail in the annex, it would benefit from further sensitivity to analyse the impact on businesses and households if the targets are not achieved.

Wider impacts

The IA provides some discussion on a reasonable range of wider impacts including, innovation, competition and trade, distributional impacts, and equality impacts. The IA would benefit from further discussion and consideration on some wider impacts on consumers and the public sector.

Household impacts

The IA states the intention is to ensure that low-income households are not disproportionately affected by the move to net zero and to ensure the transition is affordable across society. The IA would benefit from further consideration of consumer affordability of up-front costs of low-carbon boilers as well as further discussion on the overall net impacts on consumers. This could consider in particular, the longer-run impact on consumer heating bills, and other associated ongoing costs, relative to gas boilers.

Distributional impacts

Whilst the IA states the proposal is unlikely to have negative distributional impacts, the IA would benefit from considering geographical distribution impacts. For example, economies of scale might not be possible in rural areas and small towns, and there may be installation challenges in urban, dense low-rise housing. The IA would benefit from discussing these risks and how they may be mitigated.

Public sector impacts

The IA would benefit from discussing how the obligation would be enforced and any cost implications for the public sector.

Monitoring and evaluation plan

The IA includes a commitment to a robust monitoring and evaluation (M&E) approach. The RPC understands that a statutory post-implementation review will be undertaken, and published, within five years of implementation of the regulations. The IA would benefit from clearly stating this within the M&E plan. The M&E section helpfully outlines the aims of the M&E, expected key metrics used to monitor the scheme including the frequency of data collection (see Table 15), the types of evaluation that will be conducted, and an overview of the potential approach and methodology. The approach and methodology section usefully sets out indicative timeframes for the various phases of the evaluation, including when findings are expected to be available. The IA states the evaluation of the scheme will require a theory of change. The IA would benefit from including this theory of change either within the M&E section or to aid the rationale for intervention.

Regulatory Policy Committee

For further information, please contact regulatoryenquiries@rpc.gov.uk. Follow us on Twitter [@RPC_Gov_UK](https://twitter.com/RPC_Gov_UK), [LinkedIn](https://www.linkedin.com/company/rpc-gov-uk/) or consult our website www.gov.uk/rpc. To keep informed and hear our views on live regulatory issues, subscribe to our [blog](#).