



NON-DOMESTIC RENEWABLE HEAT INCENTIVE SCHEME – FUTURE OF THE SCHEME CONSULTATION DOCUMENT

**ANNEX A: CALCULATION OF NON-DOMESTIC
RHI SCHEME EARLY CLOSURE COMPENSATION
PAYMENTS – PROPOSED APPROACH**

CONTEXT

1. The NI Non-Domestic RHI Scheme was launched in 2012 with the aim of increasing the uptake of renewable heating technologies. It was intended that the Scheme would provide ongoing payments for a period of 20 years to compensate for the projected difference in cost between renewable heating systems and fossil fuels. Quarterly payments were to be based on heat generated by accredited installations, with tariffs set to provide for the additional costs of a renewable heat installation in comparison to a typical fossil fuel boiler. To incentivise uptake the tariffs were intended to also deliver an internal rate of return on the additional capital investment. The 20 year period was to apply from the date of accreditation of each individual installation.
2. The Scheme was suspended to new applicants in February 2016, but remains in operation for accredited installations. Each installation has approximately 12 to 15 years of potential tariff payments remaining, depending on the date of its initial accreditation.
3. In light of the commitment to Scheme closure within the New Decade, New Approach document, the Department for the Economy is consulting on options for the future of the Scheme. This annex sets out the approach to calculation of compensation payments for early closure of the Scheme, as per Option 4 of the consultation document

APPROACH

4. Installations accredited to the Scheme have a potential 12-15 years of RHI payments remaining for generation of renewable heat. Proposed early closure compensation payments are based on estimates of future tariff potential for typical installations on the Scheme, ensuring that each installation has 20 years accounted for in line with the Scheme's operating principles. Calculations include an allowance for inflation, and payments have been discounted to take account of the financial benefit to participants of early payment.
5. A relatively simple structure of closure payments is proposed, in which payments are broadly linked to the Scheme's existing technologies and tariff bands.
6. Two of the tariff bands – lower medium biomass (20-99kW) and large biomass (200-999kW) – support particularly diverse ranges of installation capacities. It is therefore proposed that for the purposes of closure payments, these bands be sub-divided.
7. Lower medium biomass sub-bandings of 20-59kW, 60-79kW and 80-99kW are proposed, along with large biomass sub-bandings of 200-630kW and 631-999kW. These ensure that significantly larger installations, likely to have incurred higher capital costs, and with the potential to generate greater levels of eligible heat from renewable sources, would receive higher payments than installations of small capacity.
8. Within these bandings, installations with a longer time remaining on the Scheme would receive higher payments. For example, an installation accredited in 2016 would receive a higher payment than an installation accredited in 2012.
9. The calculations are based on reference installations with capacities at the top of each sub-banding. For example, within the 80-99kW sub-banding, the calculations are based on a 99kW installation – the typical installation on the Scheme. As tariffs have been designed based on typical reference installations, this approach avoids adverse impacts on those installations towards the lower ranges of each tariff banding.
10. Proposed payments are informed by typical levels of observed heat production, based upon data submitted by accredited owners under the Scheme when making claims for payment, and relevant tariffs for each technology type. The following paragraphs provide further detail on these parameters.

TARIFFS

11. In April and May 2020 the Department for the Economy consulted on an increase in the tariffs for medium biomass installations (20-99kW and 100-199kW), based on Cornwall Insight’s review of these tariffs which concluded in February 2020.
12. In response to the consultation many respondents commented that the relative prices of kerosene and biomass had moved significantly since the conclusion of Cornwall Insight’s work. Cornwall’s proposed tariffs have been updated to take account of the significant movement in oil prices observed, along with evidence of biomass prices over the same period. Detail on this work is contained within Annex B of the consultation document.
13. The updated medium biomass tariffs have been included within the calculations of proposed closure compensation payments. For all other technologies, the present tariffs (i.e. those in place since 1 April 2020) have been used.
14. The tariffs applied to each technology within the calculations are set out in Table A1 below.

Technology	Tariff (pence/kWh)
Small biomass	Tier 1: 7.5
	Tier 2: 1.8
Medium biomass (lower capacity)	Tier 1: 3.6
	Tier 2: 0.5
Medium biomass (upper capacity)	Tier 1: 2.2
	Tier 2: 0.4
Large biomass	1.6
Solar collectors	10.3
Small heat pumps	10.2
Medium heat pumps	5.2

Table A1: Tariffs applied within closure compensation payment calculations

15. At present the tariffs for small and medium biomass installations are adjusted annually by the percentage increase or decrease in the CPI for the previous calendar year. Other technologies are annually adjusted by the RPI for the previous calendar year. In calculating proposed closure compensation, the Department has assumed annual inflationary uplifts to all payments at a rate of 0.9%, based on the November 2020 RPI, for the appropriate number of years remaining on the Scheme.

TYPICAL HEAT GENERATION

16. An installation's load factor is the amount of heat generated by an installation expressed as a proportion of its maximum output. For example, an installation operating for 15% of the time, at maximum capacity, would have a load factor of 15%. Proposed closure compensation payments are informed by typical load factors appropriate to each technology type, based upon actual returns made by accredited participants under the Scheme.
17. While each installation will have its own circumstances and individual level of heat production, consideration of typical load factors is the approach also taken in calculation of tariffs themselves. Use of typical load factors aims to deliver reasonable outcomes across the range of installations on the Scheme.
18. Small and medium biomass technologies, i.e. 0-19kW, 20-99kW and 100-199kW, have been subject to tariff reviews and the introduction of cost control measures, including tiering. The Tier 1 tariffs, payable up to 15% of maximum usage (1,314 hours per annum), are designed to include the 12% prospective internal rate of return on additional capital investment in renewable technology, while the Tier 2 tariffs are designed to compensate for only any additional running costs. It is therefore considered appropriate to base compensation payments on usage up to the Tier 1 threshold of 15%, unless observed usage under appropriate tariffs supports application of a higher load factor.
19. Average usage of small biomass (0-19kW) and upper medium biomass (100-199kW) installations is below the Tier 1 threshold. The threshold of 15% has therefore been applied in respect of these technologies. For lower medium biomass (20-99kW), an average load factor of 24% has been applied, based on participants actual usage as observed and reported by Cornwall Insight in its 2020 review of the medium biomass tariffs.
20. For all other technologies, average observed load factors have been applied.

21. The load factors applied to each technology are set out in Table A2 below.

Technology	Load factor
Small biomass	15%
Medium biomass (lower capacity)	24%
Medium biomass (upper capacity)	15%
Large biomass	18%
Solar collectors	5%
Small heat pumps	37%
Medium heat pumps	18%

Table A2: Load factors applied within closure compensation payment calculations

DISCOUNTING

22. Proposed closure payments have been calculated based on payments that might have typically been expected to have been paid over the remaining years of the Scheme. Upon closure, participants would receive payment as a lump sum rather than quarterly over a period of approximately 12-15 years. For this reason it is appropriate to discount payments.
23. A discount rate of 15% per annum has been applied. This is considered reasonable to both participants and the taxpayer.
24. The concept of the discount rate applied within the closure payment calculations differs from that of the Scheme's targeted internal rates of return on the additional capital investment in a renewable technology. The Scheme's targeted internal rates of return informed calculation of the tariffs, which are themselves factored into proposed closure payments. The closure payment discount rate of 15% acknowledges the time value of money and the benefit of early payment to the individual.