

# Making Zero Carbon = Zero VAT

The low-cost way to kickstart the Retrofit Revolution



## **Making Zero Carbon = Zero VAT**

MCS Charitable Foundation,  
October 2021

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[www.mcscharitablefoundation.org](http://www.mcscharitablefoundation.org)

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## Foreword



**David Cowdrey**  
**Director of External Affairs, MCS Charitable Foundation**

MCS Charitable Foundation are interested in the role positive tax incentives can play in helping decarbonise our homes. We commissioned Tait Walker to conduct this research on our behalf to see how tax incentives could be used to help homeowners adopt energy efficiency measures, together with facilitating the move away from gas to electrification of heat and the adoption of other zero carbon options such as solar PV.

As the Committee on Climate Change has observed, the 29 million homes in the United Kingdom are not fit for the future. Research such as this is therefore vital to show how the cost of retrofitting our homes can be lowered to help kickstart the Retrofit Revolution, as well as creating a strong financial incentive to incorporate energy efficiency measures and zero-carbon heating into new builds. We are grateful for the work of Tait Walker in preparing this report, which provides a strong case for making Zero Carbon = Zero VAT.

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## About the Author



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Hydeam leads the VAT practice at MHA Tait Walker, an independent, award winning accountancy practice founded in 1937 and based in the North of England. MHA Tait Walker is a member of MHA, an independent member of Baker Tilly International Limited.

With nearly 20 years' experience as a VAT specialist including periods working for a FTSE100, HMRC and the Big 4, Hydeam has an extensive range of VAT experience covering industry, practice and Tax Authority as a former Head of Tax Professionalism in HMRC.

Hydeam is also an experienced management accountant, ACCA Fellow and Chartered Tax Advisor.



**“Today’s IPCC Working Group 1 report is a code red for humanity. The alarm bells are deafening, and the evidence is irrefutable.”**

**“If we combine forces now, we can avert climate catastrophe. But, as today’s report makes clear, there is no time for delay and no room for excuses.”**

**UN Secretary – General António Guterres (9 August 2021)<sup>1</sup>**

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**“The Government should use the latitude it enjoys following the UK’s exit from the European Union to reduce rates of VAT on repair services and products containing reused or recycled materials to increase the circularity of the UK economy. The Government should also adopt a VAT reduction on home upgrades to incentivise installation of low-carbon domestic technologies and improve energy efficiency of homes.”**

**House of Commons Environmental Audit Committee – (10 February 2021)<sup>2</sup>**

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**“Our homes account for 35% of all energy use and emit 20% of total carbon dioxide emissions. Widescale domestic retrofit is essential to the Net Zero agenda and backing a long-term strategy will help position the UK as global market leader in the low carbon economy ahead of the United Nations Climate Change Conference in November.”**

**Construction Leadership Council – (25 May 2021)<sup>3</sup>**

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<sup>1</sup> Statement on the Intergovernmental Panel on Climate Change (IPCC) Working Group 1 report on the physical science basis of the sixth assessment, 9 August 2021 - <https://www.un.org/press/en/2021/sgsm20847.doc.htm>

<sup>2</sup> House of Commons Environmental Audit Committee Growing back better: putting nature and net zero at the heart of the economic recovery Third Report of Session 2019–21 10 February 2021 <https://publications.parliament.uk/pa/cm5801/cmselect/cmenvaud/347/34702.htm>

<sup>3</sup> <https://www.constructionleadershipcouncil.co.uk/wp-content/uploads/2021/05/25.05.25-Open-letter-to-Rt-Hon-Kwasi-Kwarteng-MP.pdf>

# Executive Summary

MCS Charitable Foundation believes that existing VAT regulations act as a barrier to retrofitting our homes. The additional cost of VAT, charged at up to 20%, is discouraging the installation of energy efficiency measures and domestic renewable technologies at precisely the time we need to be kickstarting the retrofit revolution to make our homes fit for the future. We have commissioned this independent research to look at how positive tax incentives could be used by the Government in helping to decarbonise our homes. The research shows how zero rating VAT will send a clear signal to businesses and consumers that the UK is serious about retrofitting our homes with domestic renewables and energy efficiency measures.

While a reduced rate of 5% does exist for certain qualifying purchases, the current rules for the reduced rate can be extremely complex and have been the subject of numerous cases being brought before the UK courts. It is time to reform and simplify the system, and introduce a zero rate VAT on domestic renewables and energy efficiency measures, and remove the disincentives to retrofit existing homes. The findings are supported by research prepared for the Climate Change Committee in 2019<sup>4</sup>, and the 2021 Environmental Audit Committee report 'Growing back better: putting nature and net zero at the heart of the economic recovery',<sup>5</sup> that advised Government to:

***“Adopt a VAT reduction on home upgrades to incentivise installation of low-carbon domestic technologies and improve energy efficiency of homes.”***

The case study on page 21 in the report illustrates how existing VAT regulations can be a significant financial burden on retrofit projects - costing an additional £200,000 on the £1 million retrofit of an old Ministry of Defence building that was repurposed as an educational facility for The Earthworks Trust, an environmental charity promoting sustainable living.

The UK Government fought the European Union through the courts to try and prevent VAT rates from being

raised on domestic renewables and energy efficiency measures, but lost the case and was forced to raise rates in 2019. Post-Brexit, the UK can determine its own VAT rates, so there is an economic and social opportunity to rate VAT at 0% for a period of 10 years as part of a suite of additional incentives and measures to help the UK decarbonise our homes.

The research concludes that:

- The existing regulatory framework is confusing, often resulting in standard rate VAT at 20% being charged by suppliers to avoid possibly misinterpreting the existing regulations.
- The existence of a perverse incentive to demolish and rebuild, rather than retrofit existing properties to avoid paying VAT at 20%.
- The disincentive to DIY when energy efficiency measures are rated at 20% in shops, but may be 5% for certain residents qualifying on social grounds when supplied and installed by contractors.
- The existence of several precedents where temporary VAT reductions have acted as a fiscal stimulus, such as during the Covid pandemic.
- The low cost to the Treasury of a reducing in VAT on energy efficiency materials and domestic renewables – HMRC's own figures estimate it to be £25m-£43.3m per year – a small fraction of what Government has pumped into the economy to boost recovery post-Covid.

Given that the 29 million homes in the UK are not fit for the future,<sup>6</sup> the UK Government should be doing everything in its power to encourage the uptake of small-scale renewables and related energy efficiency retrofit measures. MCS strongly supports the conclusions of the research and recommends that VAT should be 0% rated for period of 10 years. This will create an environment that encourages the uptake of zero carbon technologies, stimulates the green economy, helps the UK transition to net zero, and will kickstart the retrofit revolution that is required to make our homes fit for the future.

<sup>4</sup> <https://www.theccc.org.uk/wp-content/uploads/2019/10/Behaviour-change-public-engagement-and-Net-Zero-Imperial-College-London.pdf>

<sup>5</sup> <https://publications.parliament.uk/pa/cm5801/cmselect/cmenvaud/347/34704.htm>

<sup>6</sup> <https://www.theccc.org.uk/wp-content/uploads/2019/02/UK-housing-Fit-for-the-future-CCC-2019.pdf>



# REPORT

Agile	Median	CMMI 3	Sign
c/c++	1000	4.80	c/c++
1000	4800	69.75%	1000
4.50	4500	81.90%	4.61
276	302	9.45	4613
13.11	7	11.82	66.49%
8	101	55.57%	80.10%
1%	84	23.88%	326
		20.56%	13.30

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**We need to make  
our homes fit for  
the future.**



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# 1. Introduction

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In June 2019, Parliament enshrined into law the net zero target, which commits the United Kingdom to reduce emissions by “at least” 100 per cent below 1990 levels by 2050.<sup>7</sup> The Climate Change Committee (CCC), an independent, statutory body established under the Climate Change Act 2008, reported that:<sup>8,9</sup>

- The UK’s legally binding climate change targets will not be met without the near-complete elimination of greenhouse gas emissions from UK buildings.
- The UK Government must take action to support developers and homeowners to retrofit the 29m homes in the UK to make them fit for the future.
- Given the scale of the challenge, retrofit must be viewed and supported by HM Treasury and the devolved administrations as a national infrastructure priority.

According to Office for National Statistics data for 2020, the residential sector accounted for 20.8%<sup>10</sup> of all UK carbon dioxide (CO<sub>2</sub>) emissions, rising from 19% in 2019.<sup>11</sup>

In 2019, Energy Performance Certificate (EPC) data showed that both the median estimated CO<sub>2</sub> and estimated energy cost for an existing house in England and Wales was more than twice as high as those for a new house,<sup>12</sup> highlighting the energy inefficiency of our existing housing stock.

Given that the 29m existing homes in the United Kingdom are not fit for the future, it is unequivocal that more needs to be done to encourage and incentivise retrofit of the UK’s existing housing stock to reduce carbon emissions and increase energy efficiency. To achieve this, the National Audit Office report on environmental taxes stated the scale of the Government’s environmental ambitions, particularly on net zero, means it must consider every tool at its disposal if it is to succeed.<sup>13</sup>

In line with the recommendations of the House of Commons Environmental Audit Committee report ‘Growing Back Better’,<sup>14</sup> this paper sets out in Section 2 why the current reduced rate of VAT on domestic renewables, installation costs, associated zero carbon heating systems and energy efficiency measures should be reduced to zero VAT rate for 10 years.

Section 3 sets out the current VAT treatment of energy saving materials and renewal heating systems and disparity of VAT treatment of retrofit with other construction zero-rate VAT reliefs e.g. for new build homes, and provides a case study to illustrate the perverse incentive to demolish and rebuild, rather than refurbish existing properties.

Section 4 sets out our conclusions and policy recommendations, in particular our call to make Zero Carbon = Zero VAT.

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<sup>7</sup> The Climate Change Act 2008 (2050 Target Amendment) Order 2019

<sup>8</sup> <https://www.theccc.org.uk/wp-content/uploads/2019/02/UK-housing-Fit-for-the-future-CCC-2019.pdf>

<sup>9</sup> <https://www.theccc.org.uk/2019/02/21/uk-homes-unfit-for-the-challenges-of-climate-change-ccc-says/>

<sup>10</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/972583/2020\\_Provisional\\_emissions\\_statistics\\_report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/972583/2020_Provisional_emissions_statistics_report.pdf)

<sup>11</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/875485/2019\\_UK\\_greenhouse\\_gas\\_emissions\\_provisional\\_figures\\_statistical\\_release.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/875485/2019_UK_greenhouse_gas_emissions_provisional_figures_statistical_release.pdf)

<sup>12</sup> <https://www.ons.gov.uk/peoplepopulationandcommunity/housing/articles/energyefficiencyofhousinginenglandandwales/2020-09-23>

<sup>13</sup> [https://www.nao.org.uk/report/environmental-tax-measures/?slide=1&utm\\_source=Twitter&utm\\_medium=social&utm\\_campaign=Orlo&utm\\_content=Environmental+tax](https://www.nao.org.uk/report/environmental-tax-measures/?slide=1&utm_source=Twitter&utm_medium=social&utm_campaign=Orlo&utm_content=Environmental+tax)

<sup>14</sup> <https://publications.parliament.uk/pa/cm5801/cmselect/cmenvaud/347/34702.htm>

An aerial photograph of a modern cityscape. In the foreground, a large, curved, metallic building with a ribbed texture dominates the view. To its left, another similar but smaller curved building is visible. The background shows a dense urban area with various buildings, a river, and a bridge. The sky is blue with scattered white clouds. The text is overlaid on the central part of the image.

**Removing VAT  
will kickstart the  
Retrofit Revolution.**

# 2. The Case for Change

## 2.1. Brexit and COP26

The UK will host the 26th UN Climate Change Conference of the Parties (COP26) as part of its presidency of COP26 in Glasgow on 31 October-12 November 2021. The eyes of the world will be on the UK. This gives the UK government the opportunity to use this spotlight to introduce a new zero-rate of VAT for energy saving materials and renewable heating, sending a strong signal to other world leaders, businesses, consumers, charities and NGOs that the UK is serious about its net zero ambitions, and is willing to introduce a wide-ranging set of policies to achieve it. Supporting homeowners through a change to the VAT tax system will have minimal impact on the Treasury but will send a strong signal to consumers and businesses alike that installing domestic renewables and energy efficiency measures makes financial and environmental sense.

Following the UK's exit from the European Union, this is an opportunity to demonstrate the tangible benefits of

sovereignty and allow the UK to act decisively to set its own course by reducing VAT on domestic renewables and energy efficiency measures to help kickstart the retrofit revolution, avert a climate catastrophe, and remove the effects of the "highly regrettable EU process of infraction and legal proceedings"<sup>15</sup> which in 2019 led the UK to reduce the scope of the VAT reduced rate relief for energy saving materials.<sup>16</sup>

EU Member States will have new flexibility to set their own VAT rates from 01 July 2022, when the new EU Definitive VAT system is scheduled to be introduced. Post-Brexit, the UK should take advantage of its newfound sovereignty and make the changes now. Hosting COP26, and the recent release of the Government's Net Zero and Heat and Buildings Strategies provides the perfect opportunity to show global leadership on the climate change agenda to introduce a new zero rate of VAT on domestic renewables and energy efficiency measures.

## 2.2. Temporary VAT rate changes work

VAT rate cuts have been used widely internationally, most recently in response to Covid.<sup>17</sup>

In the UK, the Government successfully reduced the VAT rate from 17.5% to 15% following the 2008 financial crisis. The current government also introduced a new VAT reduced rate for the hospitality and tourism sector on 15 July 2020 [along with Eat Out to Help Out] as a "*£4 billion catalyst for the hospitality and tourism sectors, benefiting over 150,000 businesses, and consumers everywhere all helping to protect 2.4 million jobs.*"<sup>18</sup>

The current government further announced at Budget 2021 that the temporary reduced rate would be extended for a further six-month period at 5% until 30 September 2021 after which a new reduced rate of 12.5% will then be introduced which will end on 31 March 2022.

There is, therefore, an existing precedent in the UK of a reduction in VAT being successfully introduced to stimulate demand in particular sectors of the economy.

<sup>15</sup> [https://hansard.parliament.uk/Commons/2019-06-24/debates/6eec7a17-d79f-4b50-8192-b390c5ba9ce9/TheValueAddedTax\(ReducedRate\)\(Energy-SavingMaterials\)Order2019](https://hansard.parliament.uk/Commons/2019-06-24/debates/6eec7a17-d79f-4b50-8192-b390c5ba9ce9/TheValueAddedTax(ReducedRate)(Energy-SavingMaterials)Order2019)

<sup>16</sup> <https://www.gov.uk/government/publications/vat-changes-to-the-reduced-rate-for-energy-saving-materials-2019/vat-changes-to-the-reduced-rate-for-energy-saving-materials-2019>

<sup>17</sup> <https://www.avalara.com/vatlive/en/vat-news/world-turns-to-vat-cuts-on-coronavirus-threat.html>

<sup>18</sup> Rishi Sunak 'A plan for jobs' 8 July 2020' <https://www.gov.uk/government/speeches/a-plan-for-jobs-speech>

## 2.3. The benefits of Zero Carbon = Zero VAT

### 2.3.1. Acceleration of purchases

Accelerating the purchase of energy saving material and renewable heating is critical to the UK meeting its net zero target and making the 29m existing homes in the UK fit for the future. Temporary VAT rate cuts on domestic renewables and energy efficiency measures will stimulate significant increase in demand for products and services benefiting from the VAT cut. This is because consumers will be encouraged to bring forward purchases to benefit from the reduced VAT rates.<sup>19</sup> Reducing VAT will therefore provide both an economic stimulus to the energy efficiency and renewables sectors, but also contribute towards making our homes fit for the future.

#### Switching to qualifying products

Along with encouraging consumers to bring forward purchases to benefit from reduced VAT rates, VAT rate cuts also lead to consumers or suppliers' switching purchases to products which qualify for a VAT cut from those that don't to take advantage of the VAT rate change.

The pass through of the VAT rate cut to consumers encourages consumers to switch to cheaper qualifying products or alternatively for products that remain more expensive the rate cut reduces the payback period, thereby increasing demand.

There is a significant body of evidence to support pass through of costs to consumers. For example during the UK VAT rate cut to 15% in 2008 it is estimated that 75% of the VAT cut was passed on to consumers<sup>20</sup>, and the more recent VAT rate cut in Germany in 2020 again is estimated to have led to 70% of the VAT cut being passed on to consumers<sup>21</sup>, with a higher percentage pass through for goods which are price sensitive .i.e. where price is a key factor in demand and choosing a specific product thereby leading to greater increase in demand (and consumption) in response to the reduced VAT rate.

In the age of the internet consumers can readily check prices and choose suppliers who pass through the VAT saving. Pass through could be readily monitored. It would also be anticipated that 'VAT free/No VAT' would provide a marketing opportunity to suppliers, increasing pass through.

Even where costs are not passed through to consumers

in full, the substitution effect will also encourage suppliers to switch to 'green' due to an overall increase in consumer demand, or the incentivisation to use energy saving materials and renewable heating due to the ability to enhance profitability, protect and create jobs, and fund research and development stimulating technological innovation etc.<sup>22</sup>

Importantly, irrespective of the split of the relevant benefits from a VAT rate cut between the consumer or supplier, for either to get the benefit of the VAT rate cut only qualifying energy saving materials and renewable heating products can be used. Through encouraging the switching to qualifying products, the usage and uptake of energy saving materials will increase, which is the key goal and required outcome for addressing our inefficient housing stock and tackling the climate emergency. Every sale and substitution from 'non-green' is a step closer to the net zero goal.

Furthermore, the Royal Institute of British Architects response to the Environmental Audit Committee inquiry on energy efficiency in existing homes highlighted that upgrading energy inefficient homes can stimulate the economy, create jobs, upskill workers, and alleviate demand on the NHS whilst mitigating climate risks.<sup>23</sup>

The Federation of Master Builders said that cutting VAT to 0% for the labour element of repair and renovation in the domestic building sector would stimulate investment in energy efficiency upgrades of private domestic dwellings.<sup>24</sup> Independent research by Experian found that in the first year of cutting VAT, a potential saving could be generated of up to 36,358 tonnes of CO2 by the retrofitting of 14,000 homes. Projected over five years, this could lead to an additional £1.08bn spent on energy efficiency measures.<sup>25</sup>

### 2.3.2. Low cost

A key benefit of VAT rate changes is that they are quick and low cost to implement.

Based on HMRC's own figures, the existing reduced rate VAT relief (i.e. the cost of the difference between the 20% standard rate of VAT and the reduced rate of 5%) on energy saving materials and renewable heating only cost the exchequer £75m in 2018/19, with the highest level in the six year period between 2013/14 and 2018/19 only being £130m.<sup>26</sup>

Reducing the VAT rate down to zero would therefore, based on HMRC's own estimates only cost the exchequer an additional £25m-£43.3m per year. This is based on the current legislative VAT relief and levels of spend between 2013/14 and 2018/19. The £43.3m upper cost assumes the measure delivers an increase in levels of spend on energy efficiency measures from 2018/19 levels (where the value of the relief was £75m) to levels of spend in 2014/15 and 2015/16 (where the value of the relief was £135m). It is also important to note the VAT relief values were under the wider VAT relief scope that existed pre-01 October 2019 when restrictions were forced on the UK by EU infraction proceedings. Putting that into context this would be:

- Circa a quarter of the annual cost of the abolition of the so called 'Reading Tax',<sup>27</sup>
- Only circa 2-3 times the annual cost of removing the so called 'Tampon Tax'<sup>28</sup>; and
- Circa 0.1% of the current temporary VAT rate cut for the hospitality and tourism sector pre extension.<sup>29</sup>

The above also does not factor in the wider fiscal benefits of the measure, for example through increased employment and associated increase in tax revenues.

As the UK already has an existing reduced rate in place for energy saving materials and renewable heating for certain qualifying purchases, implementing a new zero-rate in the UK is 'shovel-ready, with additional benefits including:

- Being familiar to businesses, consumers and HMRC.
- Not requiring significant legislative drafting and design as an existing legislative framework exists with known interpretation.

- No large upfront costs as would be associated with designing an entirely new environmental policy and delivery mechanism for the scheme involving a multi-agency scheme.
- Easier for consumers to access the benefits i.e. it is delivered at point of payment rather than an entirely new grant scheme with an application process, vetting etc.
- Consumers already have a clear understanding of what a VAT cut is, reducing the need for information campaigns.
- VAT cuts clearly signal to consumers and suppliers they 'are doing the right thing' and act as an unequivocal government endorsement for going green.
- There is a direct relationship between cost to the exchequer and the success of the measure. For consumers and suppliers to benefit from the VAT cut is predicated entirely on the increased use of energy saving materials and renewable heating.
- HMRC has extensive experience of dealing with compliance with the existing reduced rate and zero rate in the construction sector reducing the scope for fraud.
- The introduction of the zero-rate will make grant funding schemes go further, as grant monies for energy efficiency measure are not being reduced by an inbuilt VAT cost. This was the intention behind the historical widening of the scope of reduced rate of VAT for energy saving materials, with HMRC itself stating that it was "*done to make the grant-funding go further, allowing more vulnerable households to benefit*".<sup>30</sup>

<sup>19</sup> Institute for Fiscal studies- Using a temporary indirect tax cut as a fiscal stimulus: evidence from the UK -IFS Working Paper W14/16 Thomas Crossley, Hamish Low, Cath Sleeman (2014)

<sup>20</sup> <https://ifs.org.uk/publications/4479>

<sup>21</sup> <https://www.ifo.de/DocDL/wp-2020-341-fuest-neumeier-stoehlker-temporary-vat-rate-cuts.pdf>

<sup>22</sup> [https://ec.europa.eu/environment/enveco/taxation/pdf/vat\\_final.pdf](https://ec.europa.eu/environment/enveco/taxation/pdf/vat_final.pdf)

<sup>23</sup> <https://committees.parliament.uk/writtenevidence/9827/html/>

<sup>24</sup> <https://www.fmb.org.uk/news-and-campaigns/campaigns/cut-the-vat.html>

<sup>25</sup> <https://www.fmb.org.uk/asset/59771365-8155-423F-90E8F30F1D91E629/>

<sup>26</sup> HMRC Estimated costs of principal tax reliefs January 2019 <https://www.gov.uk/government/statistics/main-tax-expenditures-and-structural-reliefs>

<sup>27</sup> Budget 2020, HC 121, March 2020 p66 (Table 2.1 – item 17)- [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/871799/Budget\\_2020\\_Web\\_Accessible\\_Complete.pdf#page=69](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/871799/Budget_2020_Web_Accessible_Complete.pdf#page=69)

<sup>28</sup> Budget 2020, HC 121, March 2020 p66 (Table 2.1 – item 17) [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/871799/Budget\\_2020\\_Web\\_Accessible\\_Complete.pdf#page=69](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/871799/Budget_2020_Web_Accessible_Complete.pdf#page=69)

<sup>29</sup> Rishi Sunak 'A plan for jobs' 8 July 2020' <https://www.gov.uk/government/speeches/a-plan-for-jobs-speech>

<sup>30</sup> <https://www.gov.uk/hmrc-internal-manuals/vat-energy-saving-materials-and-grant-funded-heating-supplies/vensav2010>

The background of the image shows a document with the HM Revenue & Customs logo and text repeated several times. The logo consists of a crown inside a circle. The text 'HM Revenue & Customs' is printed in a blue, sans-serif font. Scattered around the document are several coins of various denominations, including a 10p coin, a 20p coin, and a 50p coin, all in shades of gold and copper. The overall scene is a close-up, shallow depth-of-field shot.

**The report highlights  
the unnecessary  
complexity of existing  
VAT rules.**

# 3.

## Current VAT Rules for Energy Saving Material and Renewable Heating

### 3.1. Background to the reduced rate

Value Added Tax (“VAT”) is a tax on the consumption of goods and services provided in the course or furtherance of business, intended to be ultimately borne by the final consumer. The UK introduced VAT in 1973 after joining the European Economic Community (“EEC”), abolishing the UK’s purchase tax regime.

With the creation of the European Union in 1993 and the Single Market, ‘transitional’ VAT reforms were introduced to harmonise VAT rates across the EU until agreement had been reached on the ‘definitive VAT systems’ for cross border trade (currently scheduled to be introduced in 01 July 2022). Broadly, member states were required to: Apply a standard rate of VAT for all goods and services of no lower than 15%.

- Member States could apply one or two reduced rates no lower than 5% but only to a specified list of goods or services. No new zero rates were permitted.
- By exception, Member States could maintain ‘special rates’ including zero rates that had been in place on 1 January 1991 for the duration of the “transitional period” where these rates were in accordance with EEC law, e.g. the UK zero-rating on new build dwellings.

In 1998, the UK government introduced a 5% rate for VAT for the grant-funded installation of energy-saving materials in the homes of those in receipt of certain specific benefits, under the EU VAT law derogation for the ‘provision, construction, renovation and alteration of housing, as part of a social policy’. This covered all the supplies made under the Government’s Home Energy Efficiency Scheme (“HEES”) (known as the Warm Front Scheme since 2000), to the extent that the installation was paid for by grant-funding.

The relief covered the following energy-saving supplies made on and after 1 July 1998:

- Insulation for walls, floors, ceilings, roofs, lofts, water tanks, pipes, and other plumbing fittings
- Draught stripping for windows and doors
- Central heating system controls
- Hot water system controls.

Between 1998 and 2006 various budgetary measure extended the scope of what was covered by the 5% to include:

- The supply and installation in all residential accommodation or charity buildings whether grant-funded or not.
- Additional energy-saving materials added to qualifying list:
  - Solar panels
  - Wind and water turbines
  - Ground source heat pumps
  - Air source heat pumps
  - Micro combined heat and power units
  - Wood-fuelled boilers

To reflect the extension of the HEES/Warm Front Scheme, the relief was extended to the grant- funded installations of the following heating system measures:

- Gas room heaters with thermostatic control
- Electric storage heaters
- Closed solid fuel fire cassettes
- Electric dual immersion water heaters with foam-insulated water tanks
- Gas-fired boilers
- Oil-fired boilers; and radiators
- Factory-insulated hot water tanks
- Micro combined heat and power systems
- Renewable source heating systems.

However, from 2013 the scope of the 5% reduced rate has been restricted, as a result of the EU Commission successfully bringing infraction proceeding against the UK, commencing in 2011, with the Court of Justice of the European Union (“CJEU”) in 2015 finding the UK’s 5% reduced rating rules for energy-saving materials went beyond what was allowed under EU law.

Prior to court proceedings in the CJEU the UK removed the 5% reduced rate for energy-saving materials installed in charity buildings.

From 01 October 2019 the scope of the VAT reduced rate (5%) for energy-saving materials was further restricted to comply with EU law.

## 3.2. Current VAT rules on energy saving materials

The VAT Act 1994; schedule 7A<sup>31</sup> Group 2 and Group 3 set out the goods and services eligible for the 5% VAT rate for the installation of energy saving materials and grant funded installation of heating equipment respectively. HMRC guidance is contained within Energy-saving materials and heating equipment (VAT Notice 708/6)<sup>32</sup> and HMRC internal manual VAT Energy-Saving Materials and Grant-Funded Heating Supplies.<sup>33</sup>

From 1 October 2019 the reduced rate only applies to the installation of energy-saving materials (and energy-saving materials supplied with installation), where the supply meets one of the new social policy conditions noted below, or a new 60% test is met in relation to materials.

### 3.2.1. Social Policy Conditions

#### Condition 1:

The supply of the installation is to a 'qualifying person' and in the qualifying person's sole or main residence. A qualifying person is a person who is:

- Aged 60 or over; or
- Is in receipt of certain benefits (e.g.) Child

Tax Credit (other than the family element), Council Tax Benefit, Disability Living Allowance, Disablement Pension, Housing Benefit, Income-based Jobseeker's Allowance, Income Support, War Disablement Pension and Working Tax Credit.

#### Condition 2:

The supply of the installation is to a 'relevant housing association' which includes registered social landlords and registered housing associations.

#### Condition 3:

The supply of the installation in residential accommodation is in a building or part of a building used solely for a 'relevant residential purpose'. This includes children's homes, care homes etc.

*Note: subcontractors are unlikely to meet Condition 1 or 2 due to who they supply i.e. a main contractor may need to rely on the 60% test below for reduced rating.*

### 3.2.2. New 60% Test

Where one of the above social policy conditions is not met, it is necessary to look at the new 60% test for materials.

If the open market value purchase price (excluding VAT) of all goods supplied to the customer (as part of the installation which remain in place once the job has been completed) is greater than 60% of the total value of the supply to a customer (excluding VAT), an apportionment is now required between materials (which become standard rated - 20% VAT) and labour (which remains 5% reduced rated).

#### Example 1:

A contractor pays £500 (excluding VAT) for material and charges its customer £1,000 (excluding VAT) for the installation. Since the cost of materials is only 50% of the value of the total supply, the contractor can charge the reduced rate of 5% on the total supply i.e. 5% of £1,000 = £50.

#### Example 2:

A contractor pays £7,500 for materials (excluding VAT) and charges its customer £10,000 (excluding VAT) for the installation. Since the cost of the materials is 75% of the value of the supply, the supplier will need to separately identify the value of the materials and charge VAT at the standard rate (20%) on the supply of those materials to its customers. The labour element of the supply qualifies for the reduced rate.

In addition, the reduced rate has been removed for:

- Wind turbines
- Water turbines

This applies even if the wind or water turbines are used in a residential setting such as a pole-mounted or building mounted wind turbines and micro hydroelectric water turbines.



### 3.2.3. Complexities and drawbacks

The current rules for the reduced rate for energy-saving materials can be extremely complex and have been the subject of numerous cases being brought before the UK courts. This complexity often necessitates the need for specialist VAT advice to be sought.

A key reason for this is that the current rules, unlike for other zero-rating and reduced rating VAT reliefs for building works, do not allow an apportionment where the supply of energy-saving materials is only a part of a wider supply which is subject to the standard rate of VAT at 20%. For example, when energy efficiency measures are supplied as part of a supply of a home extension, the whole supply will be subject to VAT at 20% despite the fact that had the energy saving materials works been supplied on its own it would have been benefited from the 5% reduced rate.

In October 2011, the VERD project team at the University of East Anglia began a two-year research project investigating homeowners' renovation decisions, funded by the UK Energy Research Centre (UKERC). The project found that efficiency measures are rarely done alone. Only 1 in 10 households were considering doing efficiency-only renovations.<sup>34</sup>

Therefore 9 out of 10 households looking to carry our works to existing homes including energy efficiency measure are unlikely to be eligible to benefit from the reduced rate and must pay VAT at 20% on the energy efficiency measures element. This significantly reduces the incentive to 'go green'.

#### Example 3:

A homeowner under 60 and not on benefits is looking to have a new heating system, heat pump and improve insulation as part of the construction of a residential extension. The works will be provided by the same contractor. This will not qualify for relief and effectively there is no VAT incentive to use more efficient energy-saving materials in such a scenario and will be charged 20% at the standard rate.

In practice, the calculations for working out the 60% test can be complex. In particular, identifying the appropriate split between materials and labour elements, especially in relation to working out profit and material mark up on specific jobs. Calculations are also subject to the risk of HMRC challenge.

The above complexity invariably leads to many contractors charging VAT at the standard rate (20%) to 'be on the safe side' to manage their own risk of HMRC challenge, at the expense of consumers. In addition, energy-saving materials supplied on their own are not covered by reduced rating, forcing consumers to use contractors if they wish to benefit from the reduced rate.

Another significant drawback with the current rules is that where the materials cost is likely to be a high proportion of the value of the supply e.g. solar panels, boilers, ground source heat pumps etc; they may not generally be eligible for reduced rating unless one of the above social policy conditions is met. This significantly limits the scope of relief and removes a VAT incentive to install these types of energy-saving material.

<sup>31</sup> <https://www.legislation.gov.uk/ukpga/1994/23/schedule/7A>

<sup>32</sup> <https://www.gov.uk/guidance/vat-on-energy-saving-materials-and-heating-equipment-notice-7086>

<sup>33</sup> <https://www.gov.uk/hmrc-internal-manuals/vat-energy-saving-materials-and-grant-funded-heating-supplies/vensav3080>

<sup>34</sup> Understanding Homeowners' Renovation Decisions: Findings of the VERD Project [https://tyndall.ac.uk/sites/default/files/verd\\_summary\\_report\\_oct13.pdf](https://tyndall.ac.uk/sites/default/files/verd_summary_report_oct13.pdf)

## 3.3. Current rules– Grant-funded heating

The 5% rate applies to the grant-funded installation of certain heating appliances, central heating and renewable source systems in the sole or main residence of a qualifying person and grant-funded leasing arrangements for central heating systems in the sole or main residence of a qualifying person.

### 3.3.1. Qualifying person

A qualifying person is a person who is:

- Aged 60 or over; or
- Is in receipt of certain benefits (e.g.) Child

Tax Credit (other than the family element), Council Tax Benefit, Disability Living Allowance, Disablement Pension, Housing Benefit, Income-based Jobseeker's Allowance, Income Support, War Disablement Pension and Working Tax Credit.

### 3.3.2. Heating appliances

The reduced rate applies to the installation of:

- Closed solid fuel fire cassettes
- Electric dual immersion water heaters with factory-insulated hot water tanks
- Electric storage heaters
- Gas-fired boilers
- Gas room heaters with thermostatic controls
- Oil-fired boilers
- Radiators
- Installation, repair and maintenance of a boiler, radiators, pipework, and controls forming a central heating system including micro combined heat and power systems. The reduced rate includes repairs and replacements of such equipment, whether or not the original system was installed under a relevant grant-funded scheme
- Installation, repair and maintenance of renewable source heating systems which use energy from:
  - Renewable sources, including solar, wind and hydroelectric power
  - Near renewable sources, including ground and air heat.

Generally, the reduced rate only applies to the extent that the supply is grant funded under a grant scheme that:

- Has as one of its objectives the funding of the installation of energy-saving materials in the homes of any persons who are qualifying persons, e.g. Warm Front Scheme and
- The scheme disburses, whether directly or indirectly, its grants in whole or in part out of funds made available to it to achieve that objective:
  - By the Secretary of State,
  - By the Scottish Ministers,
  - By the National Assembly for Wales,
  - By a Minister (within the meaning given by section 7(3) of the Northern Ireland Act 1998 (c. 47)) or a Northern Ireland department,
  - By the [European Union],
  - Under an arrangement approved by the Gas and Electricity Markets Authority, (including an arrangement approved by the Director General of Electricity Supply, or the Director General of Gas Supply, before the transfer (under the Utilities Act 2000 (c. 27)) of his functions to the Authority,
  - Under an arrangement approved by the Director General of Electricity Supply for Northern Ireland,
  - By a local authority.

### 3.3.3. Complexities and drawbacks.

The VAT position for the current Renewable Heat Incentive ("RHI") scheme aimed at encouraging the take up of renewable heating system is extremely complex as it falls within a number of complex areas of VAT and has been the subject of recent caselaw following HMRC challenge.<sup>35</sup> This complexity is made worse by the lack of formal guidance on VAT accompanying the scheme<sup>36</sup> and the lack of clarification by HMRC of its policy views in this area particular with regards to Assignment of Rights (which allows an investor to help fund the purchase or installation of a renewable heating system and in return receive the rights to RHI payments). This has led to a great deal of uncertainty for providers of renewable heating systems, homeowners and investors, especially in light of the recent challenges by HMRC to the sector and wider challenges made by HMRC in the courts on VAT recovery in relation to subsidies.<sup>37</sup>

Supplies under this relief must be to an eligible person at their sole or main residence and it is the eligible person that must contract for the supplies to qualify for VAT relief.

**Example 4:**


A vulnerable householder due to a medical condition cannot contract for works and enlists the help of a friend/carer to arrange grant funded works. As the works are not contracted for by the eligible person relief is not available therefore preventing some of the most vulnerable qualifying persons being able to take advantage of the relief.



<sup>35</sup> C Newell v HMRC [2021] UKFTT 199 (TC)

<sup>36</sup> <https://www.gov.uk/guidance/taxation-of-renewable-heat-incentives>

<sup>37</sup> <https://www.macintyreHUDSON.co.uk/news/article/farmers-dodges-a-bullet-as-hmrc-loses-case-on-vat-recovery-for-farm-subsidy>



**The bias for  
new build must  
be removed.**

## 3.4. Bias for new build homes

Where zero-rating is available this takes precedence over reduced rating.

The majority of complications set out above do not impact current zero-rating reliefs e.g. the zero rating for the construction of new dwellings

- Allows apportionment between qualifying and non-qualifying works,
- Zero-rating applies throughout the supply chain,
- Is not restricted by age, requirement to be in receipt of benefits or predicated on who is the contracting party.

There is a clear and stark disparity of VAT treatment between new build and retrofit despite the fact that both the median estimated CO2 and estimated energy cost for an existing house in England and in Wales were more than twice as high as those for a new house.

Change is needed to bring the VAT treatment of retrofit in line with zero-rating for the same works carried out on a new build home. The 2020 report of the Building Better, Building Beautiful Commission recommended the government should align VAT on housing renovation and repair with new build, to stop disincentivising the re-use of existing buildings.<sup>38</sup>

## The unfair cost of refurbishing and retrofitting – VAT at 20%

Longdown Lodge project is a recent example of how the current VAT rules impacted a refurbishment project which included energy efficiency and domestic renewables. VAT can lead to a significant extra cost. In this case VAT was charged at 20% for a refurbishment and retrofit project of an existing building.

The Sustainability Centre is owned and operated by the Earthworks Trust who are a VAT registered charitable organisation. As the building is classified as an asset, they were charged 20% VAT by the Treasury.

The building was refurbished by Ascia Construction and provides residential and eco-tourism accommodation, a common room, and staff flat. They installed solar panels, a ground source heat pump, and a heat recovery system as well as the energy efficiency measures to make this an eco-build.

The project was completed in April 2021, with the total value of the work £1.2M. This included VAT at 20% on all project costs, including the renewables and insulation used on the project.

The cost of VAT on this refurbishment was £200,000. This had a direct impact on the project, as the refurbishment, energy efficiency measures and domestic renewables which are aimed at creating a Net Zero building that could be installed were constrained by having to pay VAT at 20%.


As most social housing is provided by charitable trusts or organisations who may not be VAT registered, or if they are, have their properties treated as an asset, they could be charged up to 20% VAT on any refurbishment work of existing buildings. This one project removed £200,000 of charitable funds, just to pay the VAT.

The current VAT rules are signalling that it is cheaper to demolish existing buildings, thereby releasing the embodied carbon, and to rebuild from scratch at 0% VAT. Government policies are effectively working against the refurbishment and retrofit agenda. It is time to remove this anomaly from the tax system and introduce zero rated VAT for all energy efficiency measures and domestic renewables to help kickstart the retrofit revolution and make our homes fit for the future.



Figure 1 The refurbished 1960's former MOD accommodation (HMS Mercury in East Meon).

<sup>38</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/861832/Living\\_with\\_beauty\\_BBBBC\\_report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/861832/Living_with_beauty_BBBBC_report.pdf)



**The report findings are clear:  
make Zero Carbon = Zero VAT**

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# 4. Conclusions

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The research is clear that a strong economic and social case exists for making Zero Carbon = Zero VAT.

In section two, it set out why VAT on domestic renewables, installation costs, associated zero carbon heating systems and energy efficiency measures should be further reduced to zero VAT rate for 10 years. It noted that, as the UK already has an existing reduced rate in place for energy saving materials and renewable heating for certain qualifying purchases, implementing a new zero-rate in the UK is 'shovel-ready'. It highlighted the numerous additional benefits of a zero VAT regime, including being familiar to businesses, consumers and HMRC, not requiring significant legislative drafting and design as an existing legislative framework exists with known interpretation, the clear signal to consumers and suppliers they 'are doing the right thing', and the low cost to HM Treasury of between £25-43 million per year.

In section three, it set out the existing rules on the application of VAT on energy efficiency measures and domestic renewables. It highlighted the complexities of the existing regulations, along with the perverse incentive to demolish and rebuild to qualify for zero rated VAT on new builds, rather than retrofit and refurbish existing properties that attract up to 20% VAT rates.

As noted in the Introduction, in 2020 the residential sector accounted for 20.8%<sup>39</sup> of all UK carbon dioxide emissions, rising from 19% in 2019.<sup>40</sup> And with EPC data showing that both the median estimated CO<sub>2</sub> and

estimated energy cost for an existing house in England and Wales is more than twice as high as those for a new house<sup>41</sup>, there is a clear and urgent need to address the energy inefficiency of our existing housing stock.

Given that the 29m existing dwellings in the United Kingdom are not fit for the future, it is unequivocal that more needs to be done to encourage and incentivise retrofit of the UK's existing housing stock to reduce carbon emissions and increase energy efficiency. To achieve this, the National Audit Office report on environmental taxes stated that the scale of the Government's environmental ambitions, particularly on net zero, means it must consider every tool at its disposal if it is to succeed.<sup>42</sup>

The research findings support the removal of VAT for all domestic renewables, energy efficiency measures and retrofitting costs for a period of at least 10 years, highlighting the role that positive tax incentives have to play. Zero rating VAT will send a clear signal to businesses and consumers that the UK is serious about renewables and retrofitting, and will provide the necessary kickstart to the retrofit revolution required to make our homes fit for the future.

The Government need to show strong leadership on this issue, and make Zero Carbon = Zero VAT as one of the many tools to help retrofit at least 1 million homes per year between now and 2050 to help reach our net zero targets.

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<sup>39</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/972583/2020\\_Provisional\\_emissions\\_statistics\\_report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/972583/2020_Provisional_emissions_statistics_report.pdf)

<sup>40</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/875485/2019\\_UK\\_greenhouse\\_gas\\_emissions\\_provisional\\_figures\\_statistical\\_release.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/875485/2019_UK_greenhouse_gas_emissions_provisional_figures_statistical_release.pdf)

<sup>41</sup> <https://www.ons.gov.uk/peoplepopulationandcommunity/housing/articles/energyefficiencyofhousinginenglandandwales/2020-09-23>

<sup>42</sup> [https://www.nao.org.uk/report/environmental-tax-measures/?slide=1&utm\\_source=Twitter&utm\\_medium=social&utm\\_campaign=Orlo&utm\\_content=Environmental+tax](https://www.nao.org.uk/report/environmental-tax-measures/?slide=1&utm_source=Twitter&utm_medium=social&utm_campaign=Orlo&utm_content=Environmental+tax)

