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19 August 2016

Dear Sam Hall,

Call for written Evidence: The Future of the Green Deal

Thank you for the invitation to respond to the above document. Good Energy is a fast-growing 100% renewable electricity supply company, offering value for money and award-winning customer service. An AIM-listed PLC, our mission is to support change in the energy market, address climate change and boost energy security.

Please find below our response to the call for evidence. I hope you find this response useful. If you have any questions, please do not hesitate to contact me.

Kind regards,

Will Heinzelmann

1. The Green Deal suffered from a number of interrelated issues - there was no single thing responsible for the failing of the Green Deal. This means that a future pay-as-you-save policy will require some significant policy changes from the Green Deal.

High interest rates – it is now well-understood that Green Deal interest rates were too high, with consumers often able to access alternative sources of finance such as credit cards and conventional loans. Although cheap finance is a necessary feature of an effective pay-as-you-save scheme, it alone is not sufficient. There is little evidence that if the interest rate had been reduced, the Green Deal would have been successful.

Complexity - The Green Deal offering was highly complex, with the customer journey from becoming interested in the idea of energy efficiency measures, to making the first Green Deal payment being made, consisted of a 14-step process. This was not only daunting for prospective Green Deal customers, but also offered many opportunities for consumers to drop out of the journey mid-way through. Any future system must be simple for consumers to understand and interact with. Complexity was also an issue for prospective Green Deal providers. Originally it was envisaged that a number of high-street firms and other institutions would seek to become involved in delivering the Green Deal, however it soon became clear that this was not the case. It is essential to understand why those institutions who initially expressed an interest failed to take on the role, however there is anecdotal evidence suggesting this was at least in part related to the significant administrative burden which related to becoming a Green Deal provider. Not only must any future scheme be easy for consumers to understand and interact with, it must also be easy for those firms that may be needed to administer the scheme to interact with.

Eroded Economic Incentive - A significant drawback to the pay-as-you-save mechanism is that it works to erode (and in some cases entirely cancel out) any financial benefits from installing energy efficiency measures. Although *ceteris paribus*, consumers bills are reduced by installing energy efficiency measures, these savings are immediately offset by repayments. In the case of the Green Deal, this effect was exacerbated by high interest rates, means that consumers will see little or no financial benefit from installing the measures. This was further exacerbated in the Green Deal by the opportunity for suppliers to increase repayments over time to account for inflation.

The focus of the Green Deal's design and marketing was on the repayment method, not on the benefits of energy efficiency. This focus was fundamentally flawed, although an effective finance mechanism is important in allowing some households to access energy efficiency measures, it is necessary first to convince those households that energy efficiency measures are something that they want.

Energy suppliers should not be relied upon as the 'go-to' delivery route, the more institutions that are able to become involved in the scheme, the more avenues into more areas of society there will be.

Finally the repayment mechanism prevented consumers switching to a number of smaller energy suppliers, which now make up a significant portion of the retail market. It is essential that any future scheme does not become a barrier to switching, as in a competitive market, this is a prerequisite to accessing the best prices.

2. Although Green Deal assessments had some drawbacks such as often coming at a cost which may have put off some consumers. They did give households essential bespoke information regarding which measures might be most appropriate for them to improve energy efficiency standards, and what the costs and benefits of each of these measures was likely to be. This sort of information is key in unlocking opportunities in energy efficiency retro-fit. The Smart Meter rollout represents a once-in-a-generation opportunity, where every house in the country is being visited – training smart meter installers to carry out energy efficiency inspections on each home they visit (possibly excluding those that have an existing EPC) could yield significant benefits in offering information to households about energy efficiency opportunities.

3. The appropriate source of finance for the loans is driven by the need to deliver loans at low-cost to the end consumer. Whatever source of finance for the loans that is considered to be appropriate, this must be a central consideration.

It is clear that Government subsidies can encourage significant uptake of measures, particularly in the solid wall sector. Government finance is also necessary to ensure that the correct governance arrangements are put in place, therefore as with any policy area, a balance must be struck between encouraging uptake at the

outset, and ensuring that the correct governance arrangements are put in place to allow measures to continue to be delivered long-term.

4. It would be inappropriate to attempt to second-guess the outcomes of the Bonfield review, however all examinations of the failings of the Green Deal are likely to be valuable in helping to design its successor.

5. As is set out above, it is essential to communicate the significant benefits of energy efficiency to consumers, before attempting to engage them in a new financial mechanism. Just as when buying a new car – the consumer has to first be convinced of the merits of the car itself, before they will see any value in the finance package that supports the purchase.

It is also likely that given the widely-reported failing of the Green Deal policy, that any future policy should carry an entirely different name.

6. Progress on decarbonising heat in the UK has, to date, been very poor. The percentage of heating and cooling energy from renewable sources has increased from 3% in 2010 to just 4.8% in 2014ⁱ. The majority of this percentage increase is attributable to an overall decrease in heat generation, this being 17 times greater, in absolute terms, than the increase in renewable heat generated.

Over 70% of the UK's heat generation is attributable to domestic propertiesⁱⁱ. The UK has excellent gas-grid connectivity and some of the lowest domestic gas prices in Europe. Unfortunately, this carbon-intensive heating suits the UK housing stock, which is poorly built and poorly insulated, ranking amongst some of the worst in Europeⁱⁱⁱ. This makes many of the more efficient heating technologies such as low-temperature heat pumps and underfloor heating ineffective, as they rely upon well insulated properties.

Replacing a heating system is not a simple process. One of the least disruptive and most effective ways, as has been shown by progress to date, of decarbonising heat generation is to reduce overall heat demand. This is best done by increasing the energy efficiency of a property. Much of the UK's housing stock is quite old, making some measures difficult or even impossible. However, this just highlights the importance of building new properties to the best possible standards existing at the time. In light of this, the Government's decision to scrap its Zero Carbon Homes policy seems regressive and damaging.

Of course, improving the energy efficiency of homes and businesses alone will not be enough to decarbonise the heat sector. Given our 2050 obligations to reduce greenhouse gas emissions by 80% of 1990 levels, simply fitting more efficient gas boilers will also be insufficient. Replacing heating systems with those that use biomass as a fuel will be appropriate in some situations and count towards decarbonisation targets, but their wide-scale use is impractical. If the UK's original ambition of meeting 12% of heat demand with renewables in 2020^{iv} is to be met solely with biomass, it would require 14.4 million tonnes of wood pellets a year^v, or 55% of global 2014 production^{vi}. Using a decarbonised electricity supply to heat homes will therefore be essential to decarbonising the heat sector. It also has the practical advantage that the infrastructure is already in place – all homes have access to the electricity network meaning that on a national scale, switching to electric heating is relatively simple.

The most efficient way of using electrical heating is with heat pumps. Around 1.6 million gas boilers are installed in the UK each year^{vii}, presenting an excellent opportunity to quickly deploy heat pumps. Unfortunately, they are currently more expensive than conventional alternatives and public awareness of them is low, with just 33% reporting to have heard of them^{viii}. 73% of owner occupier applicants heard about renewable heat technologies from their installer^{ix}, which suggests the majority of households looking to replace their heating system are not aware of the renewable alternatives. It is important that people are aware of the alternatives before they are required to change their heating system. In an emergency situation (i.e., boiler break down), it is probable that householders will go for a like-for-like replacement – 84% of owner occupiers on the gas grid say they would be likely to install a gas condensing boiler in such a situation^x.

The installation of heat pumps is currently encouraged by the government's Renewable Heat Incentive (RHI). However, deployment under the scheme has been very low, with less than 10,000 systems being installed since April 2014^{xi}. This is largely due to the scheme not being widely publicised – just 12% of the public are aware of its existence^{xii}. This lack of awareness is reflected even in those who have installed a heat pump.

Recent analysis suggests that many heat pumps are underperforming to such an extent that just 55% of air-source heat pumps (ASHP) installations can be classed as renewable^{xiii}. A key factor affecting the performance of heat pumps is user operation. Trying to operate a heat pump in the same way as a gas boiler will deliver poor results, as is demonstrated by data collected from past trials^{xiv}. With just 12% of the public being aware of the RHI, it is not unreasonable to assume that there will also be a lack of knowledge around operating a heat pump in the most efficient manner.

An open government consultation has suggested that current RHI tariff rates are only sufficient to compensate an installation in the largest properties^{xv}. Good Energy analysis supports this. The heat demand required for RHI payments that are sufficient to cover the cost of installation are all significantly above those of the 'average' property. A small, 5kW ASHP would have to be installed in a property with a heating requirement of 20,000kWh a year in order to pay for itself. The consultation proposes capping the heat demand limits to prevent the largest properties from making unreasonable returns from the RHI. This will save significant amounts of money which could be used to give an uplift in tariff rates to those with the smallest heat demands, greatly widening the appeal of the scheme.

Even if the scheme were reformed to make it more attractive, the Chancellor's Autumn Statement saw the RHI budget slashed^{xvi}, meaning deployment would be capped at very low levels. The RHI originally set out to deliver 63TWh of renewable heat by 2020^{xvii}; the latest proposals for a 'reformed scheme' suggest just 24TWh will be achieved^{xviii}.

In order to decarbonise the domestic heat sector, the zero-carbon homes policy should be re-instated and there needs to be an increased focus on reducing national demand by improving the energy efficiency of new and existing homes and business. The RHI needs to be refocused and strengthened to target and encourage the deployment of the most efficient heat pumps amongst a wider range of properties. The public needs to be better educated on renewable heat and alternatives to conventional heating systems. However, for the RHI to be successful, priority needs to be given to decarbonising the UK's electricity, which will make an electrified heat system most effective.

7. A successor to the Green Deal scheme will only encourage take-up of renewable heat technologies if these technologies are themselves supported by a strong and effective scheme. As highlighted in response to the previous question, the Renewable Heat Incentive (RHI) has had limited success in encouraging the take-up of the most appropriate renewable heat technologies and is in need of reform.

Just 33% of the public have heard of heat pumps^{xix}, whilst 12% are aware of the RHI^{xx}. The Green Deal suffered from a similar lack of awareness, with just 25% of the public being aware of it^{xxi}. A successor scheme needs a strong public profile and should incentivise technologies that householders are comfortable with. Government should pay particular effort to raising awareness and advertising the merits of future schemes.

The failures of the Green Deal highlighted in response to question one resulted in limited take-up of renewable heat technologies under the scheme. To date, the RHI has largely incentivised technologies in the biggest properties with heat demands large enough to deliver a financial return under the scheme. However, people in such properties are unlikely to require a loan to finance home improvements, particularly at interest rates that are three to four times the market rate. The Green Deal could part-finance renewable technologies that received the Feed-in-Tariff (FiT) or RHI. The 'Golden Rule' meant that any income from these schemes could not be used to repay the Green Deal loan^{xxii}. Whilst this may have been in the best interests of those installing energy efficiency measures, for those receiving FiT or RHI it left an additional income that couldn't be used to pay off an expensive loan. A worked example from DECC^{xxiii} of solar panels being part-financed by the Green Deal shows an initial loan of £2,600 costing the household £5,100 over a 20 year period. This is because only the value of the 'electricity saved' can be counted towards loan repayments. If instead the total annual saving (including FiT payments) could be used to repay the loan, it would be paid off in 3.6 years at a total cost of £3,100. In the case of FiT and RHI, it is difficult to see how the latter (or higher repayments over a shorter period) is not preferable to the householder. A successor scheme should allow this flexibility.

A recent government consultation on reforms to the RHI has proposed allowing householders to assign their right to payments to a company that has financed their renewable heating technology^{xxiv}. If this is implemented, the government should consider what role the Green Deal can play in incentivising the take-up of renewable heat technologies; if indeed there is a role for it to play at all. Care must be taken to avoid overcomplicating access to these technologies for those who are least able to pay.

i https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/450069/dukes6_7.xls

ii https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/449103/1._overall_tables.xlsx

iii <http://www.ukace.org/wp-content/uploads/2015/10/ACE-and-EBR-briefing-2015-10-Cold-man-of-Europe-update.pdf>

iv https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/47871/25-nat-ren-energy-action-plan.pdf

v <https://www.cse.org.uk/pdf/guide%20to%20small-scale%20wood-fuelled%20heating.pdf#page=6>

vi <http://faostat3.fao.org/download/F/FO/E>

vii https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48574/4805-future-heating-strategic-framework.pdf#page=8

viii

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/474170/Wave_15_Summary_of_Key_Findings.pdf#page=7

ix https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/498808/RHI_evaluation_synthesis.pdf#page=11

x https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/498808/RHI_evaluation_synthesis.pdf#page=18

xi

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/512334/RHI_monthly_official_statistics_tables_29_February_2016_revised.xlsx

xii

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/474170/Wave_15_Summary_of_Key_Findings.pdf#page=7

xiii

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/499194/DECC_RHPP_160112_Detailed_analysis_report.pdf#page=16

xiv [http://oro.open.ac.uk/31521/1/Domestic_HeatPumpPaper_CairdRoyPotter\(Final27Jan12\)\).pdf#page=22](http://oro.open.ac.uk/31521/1/Domestic_HeatPumpPaper_CairdRoyPotter(Final27Jan12)).pdf#page=22)

xv https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/505972/The_Renewable_Heat_Incentive_-_A_reformed_and_refocussed_scheme.pdf#page=43

xvi http://budgetresponsibility.org.uk/docs/dlm_uploads/Renewable-heat-incentive_November2015.pdf

xvii https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48241/3775-renewable-heat-incentive-impact-assessment-dec-20.pdf#page=10

xviii https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/505132/Consultation_Stage_Impact_Assessment_-_The_RHI_-_a_reformed_and_refocussed_scheme.pdf#page=65

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https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/474170/Wave_15_Summary_of_Key_Findings.pdf#page=7

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https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/474170/Wave_15_Summary_of_Key_Findings.pdf#page=7

xxi https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/320364/gd_tracker_w4_report.pdf#page=6

xxii https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/48406/5504-which-energy-efficiency-improvements-qualify-for-g.pdf#page=7

xxiii <http://greenbusinesswatch.co.uk/fit-and-the-green-deal-for-solar-pv-installations>

xxiv https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/505972/The_Renewable_Heat_Incentive_-_A_reformed_and_refocussed_scheme.pdf#page=41