The Energy Saving Trust is pleased to respond to the Energy and Climate Change Committee’s inquiry into the 2020 renewable heat and transport targets.

We are the leading, impartial sustainable energy organisation. We work on behalf of governments and businesses across the UK providing services in the area of data, assurance, consumer engagement, advice and grant administration.

For the Department of Energy and Climate Change (DECC) the Energy Saving Trust delivers the telephone-based Energy Saving Advice Service in England and Wales. We also undertake other research and awareness-raising work for DECC on a project-by-project basis. In Scotland we are the principal delivery partner of the Scottish Government for home energy efficiency. We run comprehensive local and national advice and grants programmes.

Energy Saving Trust does a significant amount of work on EU projects and policy: we undertake work for the European Commission and frequently collaborate with energy agencies and other NGOs as a part of this.

On transport, the Energy Saving Trust is funded by the Department of Transport (DfT) and the Office for Low Emission Vehicles (OLEV) to provide a range of services to help organisations reduce their transport fuel spend and emissions. We are the leading independent organisation supporting the uptake of ultra low emission vehicles amongst fleets and work across the sector to promote the acceleration of plug in vehicle sales. The areas we work on do not form a significant part of the 2020 renewable transport targets and we are therefore not able to comment in depth on the targets themselves. We have however provided general comments on the progress, opportunities and challenges relating to electric vehicles (EVs) and ultra-low emission vehicles (ULEVs) in this submission.

Public engagement on energy is at the heart of our work. In total each year the Energy Saving Trust handles just under half a million energy efficiency advice calls on behalf of UK and Scottish governments. We have a unique relationship with the public around energy saving and renewable energy and our response reflects that.
Main points

- Is the reformed RHI intended to produce enough renewable heat to meet the 2020 renewable heat target? This is not clear in the consultation document and if not then we hope that DECC will either explain its alternative plans or clearly state that it does not intend to meet the target.
- Awareness of both the RHI and of renewable heating technologies is very low. With an RHI budget expected to exceed £1bn in 2020/21 DECC should consider investing in boosting the awareness of the scheme and of renewable heat to ensure better deployment and maximise the impact of the scheme.
- Energy efficiency goes hand in hand with the electrification of heat: heat pumps only work well with well-insulated properties and as demand from heat pumps and electric vehicles puts added pressure on the grid there is an ever growing need to counteract this by improving the energy efficiency of the UK housing stock.
- The most effective tools to encourage people and businesses to switch to cleaner vehicles are fiscal: the tax regime needs to more clearly reflect the priorities of the carbon budgets to stimulate the move to low carbon and low emission vehicles.

Heat

The 2020 Renewable Heat Target

As the Committee will be aware the Committee on Climate Change in its 2015 progress report found that:

“Low-carbon heat made up 1.6% of all heat used in buildings in 2014, or 2.1% if agricultural buildings are included (Figure 2.3). On this basis, the Government ambition of 12% of heat from low-carbon sources by 2020 no longer looks achievable“ (p79)

Equally, in the European Commission’s most recent progress report, published last June, concerns were raised about the UK’s ability to meet our 2020 targets as a whole:

“some Member States, including France, Luxembourg, Malta, the Netherlands and the United Kingdom, [...] need to assess whether their policies and tools are sufficient and effective in meeting their renewable energy objectives.“ (p5)

The UK government’s most recent progress report finds that renewables accounted for 4.5% of heating demand in 2014. The Report states that in “[...] heating and cooling the UK continues to

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exceed the deployment trajectory set out in our National Renewable Energy Action Plan, reaching 4.5% in 2014, against a target level of 2.0% for that two year period.”

However, it is recognised that, “In order to maintain progress on renewable heat for the rest of the decade, we recognise that we need to do more beyond 2016.”

The need to do more was then re-emphasised when the Energy Secretary spoke to the Committee in November. Policies take time to design, implement and to take effect. We are concerned that we may have reached a point in time where even if a swathe of new policies were brought in to fill the expected shortfall it is too late for significant progress.

It is our view that the UK will not be able to meet 12% of its heat demand from renewable sources by 2020. But we can still make very significant progress - providing the renewable heating sector with the necessary launch pad for the 2020s and beyond, and ensuring we remain on the cost effective decarbonisation path to 2050.

In addition in all likelihood we will fail to meet the 15% renewable energy target unless the UK Government changes its stance of not compensating for this shortfall through renewable electricity deployment. Amber Rudd said to the ECCC in November⁴ that “I would much rather address the issue of heat and transport than just say “let us step up electricity.” It is not the answer just to do more electricity.”

**The Renewable Heat Incentive and the 2020 target**

We are encouraged that the Department for Energy and Climate Change (DECC) has launched a consultation⁵ on the Renewable Heat Incentive (RHI) and is looking at ways to boost deployment among smaller and the less-able to pay households. So far the RHI has not achieved the level of deployment that was hoped⁶ however the fact that it is was kept in place at the Spending Review and funded until 2021 was a positive step.

Based on the changes that the government is proposing to introduce under the RHI, DECC’s projections⁷ indicate that it expects the scheme to support between 7.4TWh and 13.7TWh of additional renewable heat by 2021 (compared to today). This adds to the 31TWh baseline and the 10TWh that has been installed under the scheme to date. This means that in total DECC estimates to have between 48 and 54TWh of renewable heat in place by 2020/21.

To our understanding, and according to statements in the impact assessment: “RHI is the key policy mechanism that DECC has put in place for heat’s contribution towards the EU Renewable Energy Directive Target (RED) and also develop the low carbon heating market for mass deployment in the 2020’s and 2030’s” (p7) however in the consultation it is not explicitly stated whether the proposed

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changes will result in the 12 per cent target being met. We find this concerning. So far the energy secretary has recognised that more needs to be done on heat but we are unclear whether the proposed RHI is expected to meet the 2020 target.

We would ask the committee to seek clarification on whether the reformed RHI is intended to produce enough renewable heat to meet our target. If the RHI will not then we hope that DECC will either explain its alternative plans or clearly state that it does not intend to meet the target.

**DECC’s proposed changes to the Renewable Heat Incentive**

We will be responding to the RHI consultation and are currently in the process of finalising our response, as such we are unable to share it in full yet. Many of the changes proposed in the consultation, such as assignment of rights, removing the requirement for a Green Deal Assessment Report and increasing the tariff for heat pumps should help boost uptake and are therefore supported by the Energy Saving Trust. We are slightly more concerned about other proposed changes however, namely the level of the tariffs for small biomass, which according to DECC’s own analysis produces a return of less than 2 per cent.

We are concerned that DECC seems overly cautious and preoccupied with the costs of the scheme and budget overspend rather than supporting the most effective technologies. The consultation seems to be putting a very strong emphasis (in the domestic scheme) on heat pumps at the expense of biomass – where it predicts only very low deployment. This is despite the recognition that “biomass offers a good value for money route to delivering renewable heat generation and contribution to the UK’s renewable energy target”.

Although broadly the reformed and refocused RHI consultation document proposes changes that would simplify the scheme and boost deployment we remain unclear whether this represents a sufficient scaling up of activity – if not to reach the 2020 12% target, at least to put on the right path to 2050. In light of the renewable energy policy changes that have been implemented over the past year we hope the Committee will understand our trepidation.

There are challenges in the renewable heating industry in the short term that need addressing and that are being looked at as part of the RHI consultation but also through the Bonfield Review. Quality and standards issues are going to be looked at as part of the Bonfield Review and we ask the Energy and Climate Change Committee to closely follow DECC’s progress in taking forward its findings. We welcome the work being undertaken as part of the RHI consultation to improve performance of heat pumps. We agree that this is an important part of improvement deployment of the technology and is currently a barrier.

The main challenges to decarbonisation have largely been identified already and include the strain that electrification of heat will place on the grid, retrofitting homes so that heat pumps can be installed, addressing the lack of awareness around renewable heating technologies, the behaviour change that is required to make best use of certain renewable heating systems and getting people used to heating controls.

Awareness of renewable heat and of the support available through the RHI remains an issue but could be boosted through awareness campaigns. DECC’s most recent Public Attitude survey that looked at renewable heat, published in November 2015, found that awareness of the RHI was very
low (12%) and that only 33% and 40% of those surveyed reported awareness of air source heat pumps and ground source heat pumps, respectively. With an RHI budget expected to exceed £1bn in 2020/21 it would be worth considering investing in boosting the awareness of the scheme and of renewable heat. Strong awareness among the general public will be necessary to achieve mainstream deployment.

**Electrification of heat**

Electrification of heat is going to be an important part of decarbonising heat; it is not only viable but will be crucial if we hope to meet our decarbonisation targets. As the Committee will know the CCC’s fifth carbon budget stated that 13% of domestic heating and half of heating for businesses would need to come from renewable sources to be on the low cost path to the 2050 decarbonisation target: strong uptake of heat pumps will be vital.

Electrification of heat presents its own set of challenges as it will increase demand on the grid significantly. As such investment in the grid and other steps (energy efficiency, demand side management, smarter grids, etc.) will be necessary to deal with this effectively. Joined-up thinking between the parties involved in this will be crucial: Ofgem, the National Infrastructure Commission, National Grid, District Network Operators and energy suppliers all have a role to play. We would highlight the importance of energy efficiency in this process: as demand from heat pumps and electric vehicles puts added pressure on the grid there is an ever growing need to counteract this by improving the energy efficiency of the UK housing stock. In addition, good levels of insulation are a prerequisite for heat pumps to perform well: energy efficiency cannot be ignored when looking at the electrification of heat. We have outlined our concerns on energy efficiency policy in previous submissions to the Commission and would reiterate our ask of having effective policy instruments in place to promote energy efficiency for all households.

**Aligning energy efficiency with renewable heat – going beyond minimum targets**

We have a more general concern that DECC’s activities are solely being driven by its legally binding targets (even though we are unlikely to hit all of them) and that it is failing to take action in other important areas. Obvious examples of this are the fact that the RHI and the Energy Company Obligation (to fulfil Article 7 of the Energy Efficiency Directive) were both extended whereas support for renewable electricity was cut once the UK appeared to be on course to hit the 30% target.

We are particularly concerned that this means that DECC is missing opportunities to promote home energy efficiency.

Focussing solely on heat without addressing building fabric means missing out on tremendous opportunities. This was highlighted in the CCC’s 2015 progress report and formed one of the recommendations:
“Develop an action plan to address the significant shortfall in low-carbon heat, ensuring a better integration with energy efficiency and fuel poverty. Commit to the Renewable Heat Incentive to 2020, or until a suitable replacement is found.”

It has been increasingly recognised that fuel poverty is most acute in rural off gas households, as the government is currently planning for the next entirely fuel poverty focussed ECO after 2018, we are awaiting clarity on how RHI will work alongside ECO to alleviate rural fuel poverty.

We believe that there is a lot of potential around a whole systems approach as there is of course a lot of interaction between the power sector, renewable heat and transport. Changes in all three sectors create challenges and opportunities moving forward, areas that will need to be dealt with effectively if we hope to not only meet our 2020 targets but also our carbon budgets and our 2050 decarbonisation target. We were encouraged by the Committee’s efforts to seek clarification around the cross-departmental working groups on to renewable energy. The only way that the UK will be able to make an effective transition to a low carbon economy is through joined up action across government, taking a whole systems approach is the first step as part of this process.

**District heating**

We would highlight the contribution that district heating can make to decarbonising heat. The Committee will be aware that district heating delivers a large proportion of the heat demand in many EU nations: we are aware that the Committee visited Denmark not long ago where district heating is well established. We would also flag up the work being undertaken closer to home: we believe that there is significant untapped potential in the UK. We are pleased that DECC has recently opened a new round of support for the Heat Networks Delivery Unit in England and Wales. The Energy Saving Trust administers the Scottish Government’s District Heat Loan Fund which has seen encouraging uptake. We welcome the support for district heating across England, Scotland and Wales and believe that district heating has an important role to play in decarbonising heat.

**Renewable heat across Europe**

We would highlight the work being carried out as part of the cross-Europe FRoNT project which may be of interest to the Committee. The Energy Saving Trust is one of the delivery partners of this project which:

“[...] aims at promoting a level playing field for Renewable Heating and Cooling (RHC) in Europe and to develop both strategies for RHC deployment, and improved understanding of the costs of RHC vs fossil fuel use. It analyses both existing support schemes and end user decision factors, in order to help establish strategic policy priorities for RES-H&C”

We believe that this project can provide useful insight and that the findings that can be used to help address the challenges of renewable heat in the UK. The project is ongoing and will come to an end in September. One of the end products that may be of interest to the Committee is a best practice

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manual for renewable heating and cooling support schemes, designed for policy makers across Europe.

So far through the FRoNT project key success factors for heating and cooling support schemes have been identified, they are:

- Quality and performance assurance
- Transparency and measurability
- Financial adequacy and flow support rate
- Contribution of different stakeholders in planning the policy and support mechanisms
- Predictability, stability and time frame

We would be happy to provide further information to the Committee relating to the FRoNT project and outputs to date, or put you in contact with our European partners. Further findings will be published over the next few months as the project moves towards its end date.

**Transport**

In its transport work the Energy Saving Trust focuses on personal road transport which is not a significant part of the 2020 renewable target (less than 1%). Though electrification of road transport is very important for the longer term, the role of electric vehicles in achieving the 2020 renewable targets is minor - the majority of the focus is on biofuels. In the UK Government’s third progress report submitted to the European Commission – as referred to above – renewable electricity for road transport accounted for 1ktoe out of a 1179ktoe total. As such electrification for transport although important in the long term is a minor part of achieving our 2020 renewable target.

We are not aware of any formal basis to judge the progress or indicative contribution of electric vehicles (EVs) in the context of the 2020 target; as such we are unable to comment on the UK meeting the transport target.

Electric vehicles and ULEVs generally are going to be crucial in the long term decarbonisation of transport but current market penetration is minimal with ULEVs only making up 2% of the market. Despite very strong growth in the ULEV market, as a proportion of total sales ULEVs still only play a very minor role. Strong and sustained growth in ULEV sales will be required to have a significant impact. There are already ambitious 2040 and 2050 ULEV penetration targets with a strategy attached to them. It is our opinion that broadly DfT and the Office for Low Emission Vehicles (OLEV) are applying the policy levers that are available to them.

However, HM Treasury could perhaps do more.

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9 The UK’s National Renewable Energy Action Plan, submitted to the European Commission in 2011, estimated that road transport renewable electricity would account for just 29ktoe of the total of 4472ktoe of renewable resources in the transport sector in 2020 – less than one per cent.

Our concern is that the most effective tools to encourage companies and individuals to switch to low emission vehicles are company car tax and vehicle excise duty, respectively. As we stated in our fifth carbon budget submission: fiscal policy is key to creating the right environment for commercial investment in low emission vehicles. The tax regime needs to more clearly reflect the priorities of the carbon budget, further stimulating the move to low carbon and low emission vehicles. In line with the need for greater cross-departmental cooperation on renewable energy, fiscal incentives need to be lined up with other departmental targets.

Our experience indicates that the electrification of road transport is a viable way forward but doing so is a long term process as it is determined by vehicle purchasing cycles. Individuals and companies replace their vehicles only on a periodic basis which means that between now and 2050 there is only a finite number of cycles.

Furthermore, the amount of renewables in EVs can vary immensely and it is very much dependent on the renewable capacity in the electricity generation. As such it is crucial to take a whole systems approach across power and EVs. The pressure on the grid of transport electrification will be a challenge going forward, as referred to above.

Other long term challenges in decarbonising road transport remain education and awareness, market choice, driver behaviour and vehicle and fuel mix used by companies. We would point to the Energy Saving Trust’s previous submission on the fifth carbon budget for more detail.