

Public Accounts Committee

Oral evidence: Decarbonising home heating, HC 653

Wednesday 24 April 2024

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Members present: Dame Meg Hillier (Chair); Olivia Blake; Mr Jonathan Djanogly; Peter Grant; Ben Lake; Anne Marie Morris; Ms Marie Rimmer.

Gareth Davies, Comptroller and Auditor General, and Marius Gallaher, Alternate Treasury Officer of Accounts, HM Treasury, were in attendance.

Questions 1 - 121

Witnesses

I: Jeremy Pocklington CB, Permanent Secretary, DESNZ; Ben Rimmington, Director General, Net Zero Buildings and Industry, DESNZ; David Capper, Director of Net Zero Buildings, DESNZ.

Report by the Comptroller and Auditor General Decarbonising home heating (HC 581)

Examination of witnesses

Witnesses: David Capper, Jeremy Pocklington and Ben Rimmington.

Chair: Welcome to the Public Accounts Committee on Wednesday 24 April 2024. Today we are examining the Department for Energy Security and Net Zero's plan for decarbonising home heating by 2050. Some of us who have been around a while have seen many promises by different Governments about net zero housing and talk of decarbonising our home heating sector. That is really because heating homes accounts for around 18%—nearly one in five—of UK greenhouse gas emissions.

Decarbonising home heating is therefore one of the biggest challenges to net zero. To achieve it, nearly all households in the UK will have to switch from fossil fuels to low-carbon alternatives. The Government have, among other things, aimed to install at least 600,000 heat pumps in households by 2028. That is only four years away.

One of the reasons we are here today is that fewer households than expected have installed heat pumps. This Committee has looked at this in the past and highlighted some of the challenges for consumers in different types of property and the main barriers in the way to delivering it. We want to tease out with our witnesses how realistic the targets are and, if they are not, what plan B is.

I would like to welcome our witnesses. We have Jeremy Pocklington, the Permanent Secretary at the Department for Energy Security and Net Zero. Welcome back to you. He is joined by the director-general for net zero buildings and industry at the Department, Ben Rimmington, and a first-time witness at the Committee, David Capper, who is the director of net zero buildings at the Department. A warm welcome to you all.

Before we go into the main session, Olivia Blake wanted to chase up progress on some information that you should be providing to us.

Q1 Olivia Blake: I also have a quick declaration of interest. My husband is the company secretary of a community benefit society called Sheffield Renewables that funds, develops, owns and operates renewable energy systems in South Yorkshire.

My question relates to the publication of the plan to decarbonise the power sector. Previously we heard that it should have been published by spring 2024. Is there any update on when that will be published?

Jeremy Pocklington: Very soon, the Department will be commissioning the system operator—when we last had a hearing, it was called the



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Future System Operator; it is now called NESO, the National Energy System Operator—to start to produce a spatial energy plan, which will be a key plan for decarbonising the power sector. The Government's ambition is to do that by 2035.

Ms Blake, once we have formally done that in public, perhaps I should write to the Committee, at that point, with an update of how all these things fit together.

Q2 Chair: Roughly tell us when you will be writing to us.

Jeremy Pocklington: I cannot give you a precise time, but it is in the next couple of months. It is that sort of timescale.

Chair: We are aware that an election is coming. We are all keen to know this stuff before that point. Thank you for that.

We now move into the main session, looking particularly at this challenging issue of why it has taken so long to get heat pump uptake to the levels that the Government have expected. I am going to ask Olivia Blake MP to kick off.

Q3 Olivia Blake: My first question is a simple one. Why has demand for heat pumps been lower than expected? That is to David Capper, please.

David Capper: Do you want me to do it?

Jeremy Pocklington: The question is to Mr Capper.

Chair: It is your debut.

David Capper: You are correct. We have not spent all the budget for the boiler upgrade scheme, which is the main grant scheme for heat pumps. We had a budget of £150 million in each of three years. In the first year, we spent about £50 million. In the second year, the projection is that we will spend around £88 million, subject to final reconciliation.

The main challenge is the capital cost issue. The grant level was £5,000 to start with, but we have now increased that to £7,500 in response to levels of demand. We have the running cost issue. For many people it is still cheaper on a running cost basis to have a fossil fuel boiler than it is to have an electric solution like a heat pump.

We have supply chains to grow from very low levels, both manufacturing in the UK and numbers of installers. There are issues in the installation process that we have been addressing, such as the energy efficiency requirements, the planning requirements and the requirements that the distribution network operators have in terms of the installation process. These are all things that we are looking to address in order to increase uptake.

Q4 Olivia Blake: Following up on the energy efficiency requirements that you mentioned, it was interesting that the Department has changed the



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goalposts on what people should expect in terms of loft insulation. There was this response, which came out last month.

David Capper: That is correct.

Chair: For the record, Ms Blake, just read the title of the paper.

Olivia Blake: It is called *Boiler Upgrade Scheme Consultation Response*. It outlines that people no longer need to have the minimum standards for loft and cavity wall insulation before being able to put a heat pump in. Can you explain why that decision has been taken? What are the positives and negatives of that decision?

David Capper: The Government have decided to make it a choice for consumers. At present—we have not yet changed the rules; that rule change will come in next month—if you have an EPC recommendation for loft or cavity insulation, you need to do that in order to be able to access the boiler upgrade scheme grant.

The Government are changing that. While we are still recommending that householders do cavity and loft insulation in line with the EPC recommendations, we are not making that a requirement to access the grant. We are leaving it as a choice to the householder to decide whether they want to do cavity and loft insulation beforehand, at the same time, afterwards or, indeed, maybe never, when installing a heat pump.

This is in response to new evidence that shows that a very high proportion of UK homes, 80% to 90%, do not need additional insulation in order to be able to install a heat pump and for that heat pump to work effectively.

Q5 **Olivia Blake:** Can you just talk a bit more about the evidence for that? That seems like quite a shift in policy so I would like to understand that a bit more clearly.

David Capper: We have looked at studies of the building stock in the UK and the extent to which insulation is needed or not. The evidence is that, as I say, 80% to 90% of homes do not need to have additional insulation for the heat pump to work well.

Clearly, if you put in additional insulation, it will have other effects. It will help reduce your bills, for example. There very much are benefits to doing that, which is why the Government are still recommending that people do it. It is not a requirement to access the heat pump grant because you can have a heat pump and it can work well in your home without the additional insulation.

Q6 **Olivia Blake:** Quite a lot of the evidence that we have had has advocated a fabric-first approach. This is not that approach. Are you concerned about the potential impact on future energy supplies if people do not take energy efficiency measures as a result of this policy change?



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David Capper: The Government are definitely not saying that fabric is not important. Fabric is important. It is just that in this particular instance, when we looked at the barriers for heat pump deployment, we found that one barrier was where households that were trying to put in a heat pump found that they had EPC recommendations for either cavity or loft insulation. Those EPC recommendations either were not what they wanted to do in their home or were not, in their view, suitable for their home.

The Government have put this choice in the hands of householders and allowed householders to decide what is best for their own home.

Jeremy Pocklington: Mr Rimmington would like to add something.

Ben Rimmington: I have a minor point. The requirement to take action on EPC recommendations in certain circumstances was complicating the customer journey quite significantly in terms of having to sequence the work. That was one of the factors impacting the uptake of the grant. There was a very practical reason. It does not indicate a wholesale shift in policy away from the importance of fabric.

Q7 **Olivia Blake:** Mr Pocklington, is this decision more about meeting the target for heat pumps, in that case, than what is ultimately best for consumers in the longer term?

Jeremy Pocklington: I would not agree with that characterisation. This is really about making the customer journey as simple as possible and maximising choice for householders. Getting a heat pump in a property is a big change. Everyone will know this. We want to make sure that is as simple as possible for consumers. As my colleagues have said, we are still recommending cavity and wall insulation in properties.

Q8 **Olivia Blake:** Could the Department do more on energy efficiency?

Jeremy Pocklington: Energy efficiency is a very important topic. My Department is investing considerable sums on energy efficiency, including on the heat pump. We are spending about £12 billion in this Parliament. Including consumer funding and taxpayer funding, £7.5 billion has been allocated for the next Parliament on this broad agenda of energy efficiency and clean heat. It is a very important agenda. There is a range of policies to support a range of building types and a range of households.

Q9 **Olivia Blake:** Moving on—this question is to all of you—we have had a range of consumer energy schemes in the past with rather patchy outcomes, such as the green homes grant and smart meters. Have you learned any lessons from the poor performances in those schemes? How are you applying those lessons to the current schemes?

Jeremy Pocklington: We do seek to learn from our experience in the delivery of previous schemes, although I would note that every scheme is



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slightly different and you need to adapt your learning for the circumstances that you are in.

There are two things that I would highlight, which I am sure we will be covering in the Committee today. First of all, new schemes start slowly. That is because you are working with a supply chain. You need to think about how that supply chain will adapt and how contracts will be negotiated. That is why we took a staged approach with the introduction of the boiler upgrade scheme, for example to ensure that the payment system worked before we expanded it.

Secondly—it will be a common theme for this Committee—there is always a trade-off between simple schemes and more complex schemes that can be more precisely targeted. Again, a lesson here is that the simpler model is often the better model to go for. I recognise that there are choices and trade-offs there. That is why the boiler upgrade scheme, to take that example again, has a relatively targeted scope. It is a flat-rate grant. We have gone for an installer-led application process to provide support on that. We are trying to go for a simpler scheme.

Finally, we have to think about the customer journey as well. I am sure these are themes that we will be returning to during this hearing.

Q10 Olivia Blake: Mr Rimmington, are there any lessons that you have learned from the rollout of the boiler upgrade scheme that you are applying in flight?

Ben Rimmington: We have already learned some lessons, including some of the points that David was referring to previously in terms of the amendments that we are making to the scheme. One key lesson that was learned was about the level of grant in terms of driving demand. We will continue to evaluate the scheme and the rollout of it, and see whether there are further refinements that we can make to increase uptake further.

Q11 Olivia Blake: When do you think you will hit the £150 million spend in year?

Ben Rimmington: That is something of a crystal-ball question. David made clear the numbers in terms of outturn so far this year. We have £150 million in the budget. It is far too early in the year to give you a serious forecast about what we will hit, but that is the budget. We will be heading as close to that as we can. Over the coming Parliament, we then have a further rising trajectory because we have very ambitious rollout targets.

Jeremy Pocklington: It is in the report, but, just to emphasise for those who are watching, there have been very encouraging signs from the increase in the uplift in the grant. Applications to the boiler upgrade scheme are 75% higher this February compared to the previous February. That is a very significant increase.



I accept the point that it is still relatively early days. We need to keep monitoring this closely and not be complacent, but there are encouraging signs. On a three-month average, there is about a 45% uplift compared to the previous period.

Q12 Olivia Blake: Do you think you will tip the balance and have consumers who will be missing out because the scheme runs out of money?

Jeremy Pocklington: We secured an additional £1.5 billion for the boiler upgrade scheme last autumn, so we have secured additional funding. It is a demand-led scheme. Managing a demand-led scheme in a budgetary system based on DEL—departmental expenditure limits—is always a challenge. I am sure the Committee will understand that.

Q13 Olivia Blake: That was the reason behind my question. Finally, I have a general question. Why is it not that attractive for people to install heat pumps at the moment? Is there more that the Department could be doing to promote them?

Ben Rimmington: There were two questions there. First of all, our evaluation from the renewable heat incentive scheme showed that 92% of the people who get heat pumps were either satisfied or very satisfied. When people have a heat pump, the experience is a positive one. The evidence is increasingly showing that.

Our attitudes tracker work also shows that the awareness of heat pumps as a technology is increasing quite quickly. Some 20% of people say that when their boiler next needs replacing they would consider getting a heat pump. We are making progress in that area.

There is a fair bit of myth busting that we need to do about the quality of the consumer experience when living with a heat pump and various initiatives are in train to speak to that. There is a particularly interesting new initiative by Nesta, which is a “visit a heat pump” service. You can log on and find a heat pump that is being used in a property like yours near you, and then you can go and talk to the owner of that heat pump. That is a really nice initiative for learning from how other people are doing this. I can talk a bit more, if you wish.

Chair: We have lots of questions about the consumer side of it.

Ben Rimmington: I thought you might.

Q14 Chair: It is a big barrier. There is a strand I wanted to pick up on. I think Mr Pocklington talked about the supply chain and so on. I should say thank you to the more than 50 individuals and organisations that gave us evidence. We have a lot to draw on. There are opportunities for the supply chain and industry. Are you looking at how you can use this taxpayer injection to make sure you are building a steady and positive policy that will encourage those installers and manufacturers to invest in technology?



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Jeremy Pocklington: We absolutely are. That is a key plank of our overall strategy. We are also starting to see the benefits of innovation happening in the sector. There is an important role for Government and for the private sector. I will start with the manufacturers and then go on to the installers, so the two that you mentioned.

On the manufacturers, it is a global supply chain. There are some key players that already manufacture in the UK. Mitsubishi, Vaillant and Ideal are examples of companies that are already manufacturing in the UK. The Government have introduced a programme called the heat pump investment accelerator competition. That is a competition to secure UK manufacturing of heat pumps. We have offered up to £30 million, which we have in our budgets. Our aim is to secure about £200 million of investment through that.

The process is going well so far. We have received bids. We are currently evaluating those bids.

Q15 **Chair:** Is that for existing manufacturers?

Jeremy Pocklington: It is existing or new manufacturers.

Q16 **Chair:** Are there any geographical locations that you are particularly focusing on?

Jeremy Pocklington: I cannot comment too much on the bids or the process, but there is an interesting selection of bids in a range of locations.

Q17 **Chair:** Will you be evaluating what jobs and wealth for local areas will come out of that process? Mr Capper, would you like to comment? If the Permanent Secretary is looking at you, I guess I am too.

David Capper: I am sorry. I did not quite catch the question.

Q18 **Chair:** I appreciate that you are not going to tell us exactly where these might be at this point, but, if manufacturing is boosted or a plant is created in a particular area, are you going to evaluate what jobs are created and what happens to the local economy?

David Capper: Yes, those are very much criteria that we are looking at. We are going through the due diligence on each of the bids, as we speak.

Q19 **Chair:** You are funding an evaluation programme for this scheme.

David Capper: We will evaluate the programme, yes. At the moment, we are in the due diligence process—assessing the bids. Once we have made a determination on which bids are successful, we will evaluate the programme.

Q20 **Chair:** As Ms Blake touched on, there have been other failed or not so effective programmes. Stop-start approaches are not good for industry. If the evaluation is done well, it could be an opportunity for UK business to invest, grow and create jobs.



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Jeremy Pocklington: Yes, absolutely. There are similarities between what we have started here and what we are now doing under a different scheme for networks for offshore wind as well, the GIGA fund, which some of the Committee may have heard of. This is an important tool in our armoury, which we are very focused on as a Department.

Q21 **Chair:** That is the manufacturing.

Jeremy Pocklington: Yes, I will do installers next. This is important. To give the Committee a number, the Heat Pump Association, the trade body, estimates that we need to train 30,000 new installers by 2028. This is a growing industry. There are lots of people working incredibly hard in the gas boiler sector at the moment. That is the obvious field, but there will be new people wanting to come into this sector.

The Department is investing £29 million over this Parliament. That covers installers training to work in the heat sector, energy efficiency and retrofit. As an example of what we are doing, I would highlight the heat training grant, which is supporting the training of 3,000 installers in the first year, 2,000 on heat pumps and 1,000 on heat networks. It will support the training of 10,000 installers by 2025.

Q22 **Chair:** Does the money go to companies or FE colleges?

Jeremy Pocklington: I will bring in Mr Capper to comment on the money flows.

David Capper: The discount on the training is £500.

Q23 **Chair:** That is to the individual.

David Capper: Yes, to the individual.

Q24 **Chair:** It goes to the companies that are training and the education establishments.

David Capper: Yes. It is done through industry. We spent some time talking to the industry about what was the best way to do this. The challenge is to retrain perhaps 110,000 gas heating engineers, which we have in this country already, to be able to install heat pumps. That can be done very quickly. We engaged very closely with industry on the design of the scheme.

Q25 **Chair:** In some cases it is upskilling or reskilling.

David Capper: Yes, a lot of it is reskilling. That can be done relatively quickly. Sometimes people think we have to train all these people to do something that they have no experience of. Actually, we have a very skilled workforce already. It is relatively straightforward to convert it to be able to install heat pumps.

Jeremy Pocklington: In terms of where we are, our estimate—I think the Heat Pump Association agrees—is that we are on track and we are doing what we need to do for 2025, but we need to keep going and keep investing in this space after that. It is a very important space.



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The other thing that I would note is that there is a lot of interesting activity in the private sector as well to attract, recruit and retain the installers we need.

Q26 Ms Rimmer: Just on the heat training grant, what progress has been made? Do you know how many you have? Where is the training? Is someone checking who is carrying out the training? We have had some upsets with unsuccessful trainers in franchises and things like that.

David Capper: As Jeremy says, in the first year we trained 3,000 people. There is budget, at the end of the spending review, to allow us to train 10,000 people. It has been going very well. We have had good feedback from companies that have taken on people who have been retrained and individuals who are undertaking the retraining. So far, so good on this programme. It is going well.

Q27 Ms Rimmer: Do you have enough trainers?

David Capper: As Jeremy was saying, the Heat Pump Association estimates that we need about 12,000 trained installers by 2025. We already have 7,000. We have just trained 3,000. We have places for up to 10,000. In the medium term, out to 2025, we are in a good place. This is an issue that we have to stay on, but we are on it. We are good on the 2025 timeframe. The decisions after that will be for the next spending review in terms of the money that is available for the heat training grant or other similar training grants.

Q28 Ms Rimmer: Are you content that you are going to get a sufficient number to meet the increased demand for these heat pumps in the future?

David Capper: We are certainly confident about the 2025 timetable. There is more to be done for 2028.

Q29 Ms Rimmer: On the manufacturing side, getting access to semiconductors has been a problem for manufacturing. Has that been resolved? Can we do anything? Is the supply chain good enough to meet the manufacturers' need in terms of timing and everything else?

David Capper: You are right: semiconductors has been an issue. It is one of those that is also dependent on what is going on in the economies around us. One or two years back there was a very strong increase in demand for heat pumps in continental Europe, which meant that supply chains started to get stretched. That level of increase was not seen last year. It gave the supply chain time to catch up. One of the reasons why we are doing the heat pump investment accelerator competition is to build domestic capacity. We are less dependent on other markets if we are manufacturing a higher proportion of them here.

Q30 Chair: I want to move on a bit to the consumer. Even with 60% of the cost being covered, as you highlighted earlier, there are some myths and challenges. As a Committee, we have looked at this before. There are lots



of buildings where it is very challenging to put heat pumps in. There are still some barriers. How are you trying to overcome those barriers for the consumer?

Jeremy Pocklington: You have to start with cost because that is the key issue. A new gas boiler is £2,500 to £3,000. An air-source heat pump without any support from Government is £8,000 to £15,000. That is a wider range; it depends on what work needs to be done in the home. There needs to be a thermal heat source; the radiators need to change. There are those sorts of issues. The average for a three-bedroom house on the gas grid is around £11,600. That is the key factor.

What are we doing? We have increased the support offered through the boiler upgrade scheme to £7,500. That does mean—you can read about this in the newspapers—there are now people in the right property who are getting an air-source heat pump for £500, so very cheaply indeed, but they are in a minority. Most people will still need to pay more than that.

Comparing an air-source heat pump on the boiler upgrade scheme with a fossil fuel boiler, the difference is now quite small. We are paying 80% or 85% of the difference between the two. There is a lot of support on the capital cost.

The other issue is the running cost, which I do need to mention. That is a key issue. Electricity is more expensive than gas. Per unit, electricity is about four times more expensive than gas. That is what people in the business call the spark spread. That is offset by the fact that heat pumps are three times as efficient as gas boilers. That helps a lot. There are examples where it can be cheaper to run an air-source heat pump, if it is absolutely optimised and it is in the right property.

The other thing that I would note is that there is interesting innovation happening in the sector around tariffs being offered that are going some way to start to guarantee the fact that you will be better off with a heat pump. It is early days on that—I do not want to overstate that—but we are watching that closely. That is the sort of thing that we want to see. However, heat pumps can be more expensive to run.

That gets us to the difficult question of rebalancing. What can you do to address this? Some of the difference between electricity and gas is to do with big structural issues in the sector, but there are questions around rebalancing and how Government issue their levies.

Last year, the Government set out their intention to look at this issue. That is what we are doing at the moment. We have not taken a decision on this, but we are looking very much at our options and at what is fair and affordable for consumers and taxpayers.

Q31 **Chair:** We know it is a difficult balance. We want to see decarbonisation, but the taxpayer has to get that balance. What you have just described is a very complicated picture for consumers. Other colleagues will be picking some of this up, but it is quite headache-making for someone who



is trying to make this decision. You then add in what Ms Blake raised about not necessarily having to have the cavity wall insulation and loft insulation beforehand. That can affect the running costs. How is someone expected to understand the running costs of a heat pump, which will depend on whether they put it in before or after the insulation and on the type of property? There are a lot of variables. Choice is all very well if you know what you are choosing.

Jeremy Pocklington: Can I bring in Mr Rimmington on the transparency issue?

Ben Rimmington: We are very conscious of this. Both those questions, about calculating what the running costs will be and working through the process, are issues of complication and complexity for consumers at the moment. On the question of running costs and what the overall lifetime costs will be, there is an increasing number of really good offerings from digital companies that will calculate that and really help you through it. Many of them will then link you through to installation solutions and financing solutions. We are working on making the Government digital offering in this space much better. We have already taken some steps.

Q32 **Chair:** When you say “the Government digital offering”, what do you mean?

Ben Rimmington: It is on GOV.UK. Forgive me.

Chair: We could look on GOV.UK and you would signpost us to some of those companies. You would have done some assessment that their work was accurate.

Ben Rimmington: At the moment on GOV.UK we have an enhanced service to help you find ways of progressing the decarbonising journey for your property. It is called “Find ways to save energy in your home”. We also have a simplified means of accessing Government support and accessing different types of Government grant.

We are looking at enhancing all of that further to bring it into one place so you can put in the information about your property and all the questions will be answered in terms of options, places to go and sources of support. That is not in place yet. We are working through discovery at the moment, but we know it is a place where there is a role for Government to do more. That is why we are taking that work through.

Q33 **Chair:** You are trying to get a trusted portal, which people can use to check and have some confidence about this. There have been snake oil salesmen in different areas of insulation and net zero over the years. There are people who come in and do fake cavity walls. There are cowboys out there. How are we going to make sure the consumer gets proper information so that they can make investment decisions and they know about the running costs? Is GOV.UK going to be it?



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Ben Rimmington: We are very conscious of the importance of Government's role in this.

Chair: Exactly, yes.

Ben Rimmington: The attitude trackers show that, after your heating technician, the next place you would go, on average, would be Government advice, which these days is via the internet. That is why it is really important that we work together. Whenever we do any Government programme, we are very clear about making sure we have the right standards in place in terms of the people who must access it. David can tell you more about the approach that we take to that under the boiler upgrade scheme, but we do that on all our schemes coming forward.

There is a trade-off to balance between that level of assurance of quality and not putting more barriers in the way in terms of the customer journey and therefore impeding demand. We are absolutely sighted on that as a key challenge, yes.

Q34 **Chair:** Mr Capper, how are you going to make sure you keep the cowboys out?

David Capper: Could I just add to that? Under the boiler upgrade scheme, we require assurance from the Microgeneration Certification Scheme, which is the body that ensures installers are doing what they are supposed to be doing. We require that for all the installations under the boiler upgrade scheme.

Q35 **Chair:** Does that mean there is a sampling of inspections?

David Capper: In fact, it is phoning up consumers afterwards to check that the experience has been as it should have been. In answer to your question, it also ensures that installers provide an accurate assessment of running costs as part of the consumer decision to go ahead. The consumer will have a heat loss survey. That will estimate their running costs. Then the consumer can decide whether they want to go ahead. These are all things that MCS guarantees.

Chair: It sounds like things are improving, but it is still quite confusing, is it not? There is still a messaging issue here. I will just bring in Mr Lake.

Q36 **Ben Lake:** Just on that particular point, I represent a constituency where one third of the housing stock is over 100 years old. It is also a rural area so many of them are detached old cottages and farmsteads. There have been schemes recently to encourage the take-up of air-source heat pumps as a method of heating some of these homes.

To your point about heat loss surveys and estimates of running costs, Mr Capper, who checks to see that those surveys are accurate? I have had sadly a number of cases where the estimated costs do not match up to the reality post installation.



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David Capper: That is the Microgeneration Certification Scheme. If you have constituents who are concerned about that, they should refer that to MCS, which should look into it.

Q37 **Ben Lake:** What sort of powers does the MCS have?

Chair: What is the redress?

David Capper: It is able to kick installers off the scheme. If an installer is kicked off the scheme, it is outside the market. Most of the market is funded or supported through Government schemes. The installer would not be able to install a heat pump with support from the boiler upgrade scheme, for example.

Q38 **Ben Lake:** I see. For the consumers who have received work to their properties, there is no real redress to them.

David Capper: This perhaps points to your point about the simplification of the landscape, but we require both MCS and for the installers to be members of a consumer code. There are two consumer codes in this area. It depends on exactly what has gone wrong, but there is redress through various mechanisms under those consumer codes. That is the other place that consumers can go if they are unsatisfied with the installation that they have received.

Q39 **Chair:** It sounds like MPs need a crib sheet for where we can refer our constituents. The final one from me is really piggybacking on what Ms Blake was raising about the change in the rules. You can retrofit your loft and cavity wall insulation. Are you going to do an evaluation of how many people have done that? Ideally, you would look at what the different running costs are pre and post loft and cavity wall insulation. Is that something that is planned?

David Capper: We are going to evaluate the boiler upgrade scheme very carefully. We are looking to do the first interim report on that later this year. A lot of that data will be before these changes come in, but we are very keen to assess the effect of the changes we have made, such as this one, on people's experience. As we talked about right up front, this should make the upfront change for people cheaper because they do not need to install additional insulation, if they choose not to. We want to assess the consumer experience, and we will do that through the evaluation.

Q40 **Chair:** In cost terms, they do not have to pay for it all at once. On the other hand, the running costs could be higher, but you have the opportunity to have an absolute comparison between a heat pump with no insulation and a heat pump with insulation. You are going to have some real data, if you are clever about how you collect it. Is that part of the evaluation plan?

David Capper: Yes. It is also what the installers should be doing under MCS. They should be showing consumers these choices.



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Q41 **Chair:** Presumably they will have it in real time, though. If the installer installs a heat pump without installation and then you put in the insulation, you will have a direct comparison on the running costs.

David Capper: Yes. After the fact, we can do exactly what you are suggesting. We can evaluate the impact on running costs for people who do not do the insulation as well as for people who do. We can absolutely do that. You get into issues of sample size.

Chair: I appreciate that.

David Capper: We will try our best to look at what the consumer experience was for people who chose to go ahead with the insulation and people who did not.

Chair: Presumably, you will look at the consumer experience and the cost.

David Capper: Yes.

Q42 **Chair:** In terms of publicity and trying to bring people on board to the idea of a heat pump where that is appropriate, this will be real information for people: "Someone who lives in a Victorian terrace paid this much. They got the roof insulation and the bills went down by this much". I imagine that they would go down. That would be an example for other consumers. Is that something that you are going to feed into GOV.UK?

Ben Rimmington: We will definitely take account of all the findings that we do in the evaluation when thinking about all the guidance in this space.

Chair: It is such a minefield for the consumer. It is really challenging. We are going to cover some more of that.

Q43 **Mr Djanogly:** I want to look a little bit more at this demand-cost dynamic. From earlier questions, we have established that most of the heat pumps installed are not fully covered by the boiler upgrade scheme. Perhaps because of that, would it be fair to say that they will be installed by people who may have switched to a heat pump anyway, perhaps more affluent households? What would you say to that?

Jeremy Pocklington: It is a really good question. It is really a question of deadweight, is it not? You are asking, "Would these people have installed a heat pump anyway?"

I have two observations. First of all, when we increased the subsidy offered through the boiler upgrade scheme for an air-source household from £5,000 to £7,500, we saw a significant increase in applications through the scheme. As I mentioned earlier, the figures from this February are 75% higher than the previous February. That is a big increase for a scheme like this.



You rightly raised the question of deadweight. It is possible to design a scheme in a different way. You could link it to income, if you wanted. There are other countries that have these more complicated schemes that are done in that way.

The lesson from everything that my Department and its predecessors have done is the need for simplicity. We have made a very conscious choice to have a simple flat-rate scheme to do that. We think the evidence supports that approach, given the very significant increase in applications that we have seen.

- Q44 **Mr Djanogly:** On that basis, how can it be reasonable to assume that providing subsidies above the equilibrium demand for heat pumps will stimulate demand sufficiently to reduce the installed costs of heat pumps and therefore vindicate public investment in the technology?

Jeremy Pocklington: First, I would say a positive outcome in itself is the impact we are having on emissions and people moving to low-carbon heating.

Secondly, we are building a market. That is the key thing that we are seeking to do as a Department. That is about attracting more manufacturers in the UK, training installers in the UK and having more companies innovating, offering new proposals and making new offers to consumers, which will help build the market. Government have a very important role here to play, but often it will be an offer from the private sector—that could be somewhere on the web or something on your energy bill; I do not know—that attracts people to do it.

That requires action from us and action from the private sector. We are seeing encouraging signs, but there is definitely further to go. There are new entrants and there are interesting tariffs being offered, but there is further to go.

- Q45 **Ms Rimmer:** If I can just go back to the charts here, to what extent has delaying the clean heat market mechanism to 2025 reduced the chances of success in reaching the targets? The net zero announcement in September 2023 delayed the phaseout of fossil fuel heating systems for off-grid homes. What impact has that had? Are you aware of any?

Jeremy Pocklington: Let me start with the clean heat market mechanism, which was your first question. That is correct. We did move back the implementation date to April 2025, as you said, because we wanted to take a pragmatic and proportionate approach that supported families and did not impose unnecessary costs.

- Q46 **Ms Rimmer:** Has it had a negative impact?

Jeremy Pocklington: We do not foresee a negative impact from that because the target for what is now the first year of the clean heat market mechanism is going to be the same as what was the second year of the original plan. The target for 2025 is going to be 6%. We are reverting



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back to the schedule that we had previously. We also have the impact of the increase in the boiler upgrade scheme as well. It is a subtle shift in the approach.

Q47 Ms Rimmer: Is the 600,000 an over-optimistic target? Is it a practical target? You have shifted it now.

Jeremy Pocklington: No, the 600,000 target is for 2028. We are still committed to that target. It is demanding; I am sure we will come on to that. It is a very big increase, but it is achievable.

From the combination of what we did in September and subsequent decisions, we have slightly shifted our approach in order to provide that additional support in the short term through the increase in the boiler upgrade scheme.

Q48 Ms Rimmer: There is no doubt that the upfront grant and the increase encourage more, but a significant amount of the spike was re-applications. If you look at it, the grant was being paid out and the vouchers were not being used. When they reapplied, they got £7,500. You cannot blame them.

That brings me to sales. If we look at sales—it is a great pity—I cannot understand why we do not have a mechanism to look at installations. Sales were 55,168 in 2022. We will require an 11-fold increase from 2022 to 2028. How are 2023 sales looking? More importantly, why are we not looking at installations? Why do we not have a measure of what has been installed?

Chair: Ms Rimmer, could you point us to the page number that you are referring to so people can follow?

Ms Rimmer: I am looking at pump sales. It is page 29 of the NAO Report.

Jeremy Pocklington: You are asking about the distinction between sales and installations.

Ms Rimmer: Yes, exactly.

Jeremy Pocklington: It is about the precise data that we collect. There are challenges. No one is required to tell the Department whether they have installed a heat pump. That is the essence of the challenge that we have. That would be overly regulatory. Mr Rimmington, do you want to comment on the data challenges?

Ben Rimmington: I will start and we can see whether David wants to add. We collect data from a range of sources.

Ms Rimmer: I understand that.

Ben Rimmington: We give our best estimates on the basis of that data. We are looking at how we can turn it into a more regular data series that



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we could publish in a way that the Committee and others could access. We are not there yet, but we are looking at it very seriously.

We have to take account of the numbers that we have from the Heat Pump Association. At the moment that is a very good source of data in the marketplace. That sits alongside what we have from the installations that we support under Government schemes.

There are two further factors from our perspective. First, there are significant numbers of installations going on in the devolved Administrations, which would not come through in our data. Secondly, there are new-build installations, which would not always get caught. It is not a straightforward statistical job, but we are looking at how we can do something on a more rolling basis.

Q49 Ms Rimmer: If we could get a proper mechanism for installations, which I am more interested in—I am sure we all are, really—that would be very encouraging. If we look at the boiler upgrade scheme, the budget was for 30,000 installations for that year. The underspend was £100 million. That is on page 20 in paragraph 1.9. Figure 3—that is very useful—shows it out. We have the figures down there. There were 673 heat pumps installed in 18 months. If you look at the ECO scheme, there were 14,087. Those seem to be the only facts that we have on installations.

How frequently are you monitoring the spend of these budgets? Is there any opportunity or appetite to vire the underspend or increase the spend more on one thing versus another, without detracting from the overall achievement. Is that looked at frequently?

Ben Rimmington: You touched on a few points in that question. On the underspend, the key challenge there is the demand-led point that Jeremy was making. When you set up a new scheme like this, you cannot be sure what your level of demand is. Given the development of the market, it has to grow. David was talking about this as well. That is why we are in the position that we are in.

We do not vire the underspend into the following year because that is not consistent with standard Government—

Q50 Ms Rimmer: You cannot vire an underspend.

Ben Rimmington: It is not the way that the budgets are set. The budgets are set from year to year. We of course talk to the Treasury about future funding requirements.

Q51 Ms Rimmer: In the second year, you cannot automatically use the £100 million that was underspent in the first year, even though it is in the overall budget.

Ben Rimmington: This is not unusual for the way Government schemes are funded.

Chair: Just to be clear for anyone following, these are Treasury rules, but



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it is up to the Department and the Treasury to have a negotiation. That will either allow a virement, which is unusual, or, realistically, will add an extra allocation in the following year.

Q52 Ms Rimmer: I would have thought you could put some weight behind that because this target is so important.

Jeremy Pocklington: It needs to be agreed.

Chair: Perhaps we should get the Treasury Officer of Accounts, Marius Gallaher, to explain the rules on this so that anyone following is understanding.

Marius Gallaher: If there are underspends in one particular year, you cannot automatically assume that you can take them forward and spend those underspends in the following year. Those rules have been in place for a long time. They have helped to regulate and to bring discipline to spending.

Q53 Ms Rimmer: I can understand needing discipline and I would expect discipline to apply, but it is worth a chance when it is such an important policy.

Chair: Ms Rimmer is making the Department's case.

Jeremy Pocklington: I am delighted.

Q54 Ms Rimmer: It is very important. This money is not being spent. I am not only talking about wasting it or throwing it away. It is also about value for money for the people out there. It is very important. If you look at the different schemes that are coming forward, the social heating scheme did 673; the ECO scheme did 14,087.

The budget that was applied was for 30,000 installations. There were applications for 31,000; grant was paid out to 19,000; and yet there were only 18,000 installed. It just shows you that the figures can be so misleading.

On applications, it is great, is it not? If you look at the spike in the applications after it went up to £7,500, a good chunk of those were reapplications. It is about knowing what the truth is. I am not saying that you are misleading us deliberately, but it is about knowing the actual facts, what is going on on the ground and what the impact is.

Jeremy Pocklington: I want to make one very important distinction, which is between those programmes that are funded by taxpayers—that includes the boiler upgrade scheme and the social housing decarbonisation scheme, which you mentioned—on the one hand and those schemes that are funded by consumers via their energy bills.

The energy company obligation is the key one there, so the ECO scheme. That is a very different scheme that is managed in a different way over multiple years. It does not have the same restrictions. Essentially, companies are obligated to introduce a certain series of measures. A lot



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of heat pumps are being installed through the ECO scheme. Last year, approximately 12,600 heat pumps were installed through the ECO scheme.

The boiler upgrade scheme is very important. That is for the able-to-pay market. Combined with the clean heat market mechanism, we are driving change in that market. For other people like the vulnerable and those in other households, schemes like ECO are very important for the delivery of the mission.

David Capper: Could I also comment on this point about installations versus applications? We publish monthly statistics for the boiler upgrade scheme. We publish both the application numbers and the installation numbers under the scheme. We publish the redemptions, so whether an actual application is redeemed. We publish both sets of numbers at the same time.

Q55 **Ms Rimmer:** The cost of installation to the public is very important. You are more inclined to buy if you have a chunk to pay out. The better-off are more inclined to get there first. It is important to look at some mechanism for social housing or the lower economic groups.

Jeremy Pocklington: I strongly agree with that. That is what I was just trying to start to move on to in my previous answer. We have a range of schemes that support both energy efficiency and the shift to clean heat in social housing, for the fuel-poor and those in vulnerable housing.

Mr Rimmington oversees the wider programme for that. I do not know whether you want to comment on social housing decarbonisation.

Ben Rimmington: I certainly can. The social housing decarbonisation fund is running well and is proving very successful in attracting matched funding from social housing providers, which, to your value point, makes the Government money go substantially further. We are getting more than 100% matched funding into that. That is rolling out, through housing associations and councils, across social housing right across the country. It has sustained funding at a substantial level through the next spending review period as well.

In addition, we have the ECO scheme that Jeremy was just explaining. We also have the home upgrade grant, which is focused specifically on low-income households off the gas grid. We have been driving that through local authorities. On top of that, we have help with the cost of living and help with the cost of paying your energy bills, with the warm home discount and so forth.

We have a rounded package, speaking to the point that you are making.

Q56 **Ms Rimmer:** Is private rented accommodation ever considered?

Ben Rimmington: Where people in private rented accommodation are struggling with their fuel bills, they will come within scope of the warm



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home discount scheme. You can also get help via ECO in private rented accommodation. It depends on the various criteria.

Q57 Ms Rimmer: The other one is communication and selling it to people. That is very important. I have to confess that I would much rather see a face than listen to someone. I am more inclined to be bought that way. Older and perhaps less fortunate people are not really into IT. What consideration is given to communication for those people who need it face to face?

Ben Rimmington: We are very aware of this issue. I was talking before about our Government digital offering—that is what we call it in the jargon—but that is backed up with a helpline. For people who do not want to use a digital way of finding out the answer to their questions about how to heat their home or how to access the grants, we have a national helpline that is available, which people can call to get support with that.

We have also been piloting some face-to-face advice demonstrator things. We have had 35 projects across the country that have been specifically trying to get to these hard-to-reach consumers and working in community centres or with local charities and so forth on a range of things, from the provision of advice to going in and giving people whole-house retrofit guides.

Like all of this area, it is a space where you could do more, but that is the range of activity that we are undertaking at the moment.

Q58 Chair: Have you been piloting that across the UK or has it been in particular areas?

Ben Rimmington: It is across England. In all regions of England, we have this range of schemes going on.

Q59 Chair: How are you evaluating the effectiveness of that pilot in reaching the people Ms Rimmer was talking about?

Ben Rimmington: They are ongoing until March 2025. We will then be evaluating them and considering what we want to do on a more ongoing basis.

Chair: You might have a bunch of MPs bidding for face-to-face events in their local community hall.

Q60 Ben Lake: Forgive me. I am having a little bit of difficulty grasping the progress or otherwise made against the 600,000 installation target for 2028. You have mentioned already the unavailability of data on actual installations. If I have understood things correctly, we have a clear idea of the number of installations that have been made through various Government schemes, but we depend on sales data for those that might have been installed privately.

Do we have any idea as to how close or otherwise the proxy of sales is to the reality? How confident are we that it offers a useful proxy?



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Jeremy Pocklington: It is a useful mechanism. We think there were 60,000 sales last year. We know from the Microgeneration Certification Scheme that installers accredited by it installed about 40,000, but not everyone who installs a heat pump is certified by the Microgeneration Certification Scheme. That gives you a boundary.

We think it is closer to 60,000, but we do not have an absolutely precise number. There is still a long way to go to 600,000, even if it is 60,000 or closer to that.

Q61 **Ben Lake:** In terms of the target of 600,000 a year, that includes all installations, no matter how or where they are funded.

Jeremy Pocklington: That is all installations UK-wide in 2028.

Q62 **Ben Lake:** In that case, how confident are we that we are going to hit that 600,000 target? What is the plan? As you mentioned, if we had 60,000 in 2023, that is a 5,000 increase on 2022, which is welcome, but it is a smaller increase than between 2021 and 2022, if you look at sales.

Jeremy Pocklington: We think it is achievable. It is demanding. We are not telling the Committee otherwise. I am not going to repeat everything that I have already said so far about what we are doing for the able-to-pay market and for the vulnerable.

What things have we not covered so far that are also going to help us reach the target? Probably the bigger item to mention here is the future homes standard, which my former Department, DLUHC, leads on. That is mandating low-carbon heating for new-build properties. We are on track to introduce that in 2025. We think that will make a very big difference because that is roughly 200,000 new-build properties a year. For the vast majority of those, heat pumps will be the appropriate technology for clean heating. That will also make a difference.

We have also talked about all the things we are doing to support the sector and noted the innovation that is happening in the sector as well. There is a lot that we are doing. I will just offer two further observations. First, I said that it is demanding. We might need further policy in the next Parliament. There will be future spending reviews. We do not have all our budget allocations to 2028, for example.

The other thing I would say, looking back at the history of this sort of thing, is that, when sectors or markets change, they can—I am not saying they will—change quickly. If you look back at the history of the transition to condensing boilers, there is a similar pattern: it took a number of years to get going and then eventually it changed quite quickly. I am not complacent about this. I do not want to understate the challenge here, but it is right that we continue to drive forward progress towards that target.

Q63 **Ben Lake:** That is very useful. If we take as granted and as given that, once the future homes standard kicks in in 2025, that will take 200,000



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or thereabouts installations from the target, we are still looking at 400,000 against, I think you said, 60,000 sales last year. Appreciating that we are only one quarter into 2024, are the number of sales and installations aligning with what you would hope to see if we are to hit the 2028 target? It seems to me as though we do not have much time to see that spike.

Jeremy Pocklington: For 2024, it is still quite early days at the moment. We will get another month's data, I think, in the coming days, so it is a little bit early in the year. I would come back to the very significant increase that we have seen in the boiler upgrade scheme. Then you have to think, "What will be the impact of the clean heat market mechanism next year as well?" We covered that as well in the hearing. We are continuing to look at this closely.

Q64 **Ben Lake:** In that case, if the anticipated increase does not materialise, at what point, in view of the 2028 target, would you go to Ministers and Government and say, "We need further interventions. We need other policies"? Would it be this year or perhaps next year? Again, we are running out of time.

Jeremy Pocklington: It would be an ongoing review. I do not think that I want to put a single moment on it. We keep this under ongoing review through the Department's governance, as you would expect, at a programme level monthly and departmental level essentially quarterly. We will be continuing to monitor and oversee this, as the Committee would expect.

Q65 **Chair:** You used an example there, Mr Pocklington, of the condensing boilers and how the market can take off, but from when we have looked at this before nothing really has changed. There are things like blocks of flats and certain types of properties for which it is just physically difficult to install heat pumps. Figure 3, as Ms Rimmer has referred to, has the hydrogen heating programme in it. There are other options being explored. What progress is being made on those? I know that you have your targets for 2028 and so on, but there will be a percentage of properties that will never be able to have heat pumps. What do you do about them?

Jeremy Pocklington: That is absolutely right. For the significant majority of properties, we think that heat pumps would be an appropriate technology. We have estimated that now at about 80%. It may actually be higher.

Q66 **Chair:** In your calculations, which are the types of properties or regions where this might be harder?

Jeremy Pocklington: Then you come into where it is going to be more challenging. Dense urban areas will be the most challenging area in terms of heat pumps. There is the density and lack of outside space. People living in flats would be key.



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Q67 **Chair:** In my constituency more people live in flats than in anything else.

Jeremy Pocklington: I am acutely aware that in Hackney, and Westminster, there will need to be other technologies. Heat networks would be the next major technology. There are other technologies as well that we can come on to. Heat networks is the other thing that we should focus on initially. We will come on to hydrogen as well at some stage, I am sure.

The first thing to say is that we have taken significant steps to build the market and the regulatory oversight we are going to need over heat networks. The Energy Act last year is giving us the powers to regulate heat networks and introduce heat network zoning for when it is required.

The second thing to say is that we are also investing considerable funding in heat networks. It is the other part of Mr Capper's role as well as heat pumps. In this spending review I think that it is £338 million we have invested in support for heat networks. Between 2025 and 2028 we are investing £530 million in heat networks.

Q68 **Chair:** When you say "investing in", what is the money going to?

Jeremy Pocklington: The key live fund at the moment is the green heat network fund. That is the key thing. So far, we are providing grants of £268 million to support 20 projects. There is another round of that opening later this year. That is the key vehicle.

Q69 **Chair:** You have only spent 40% of that, have you not?

Jeremy Pocklington: Yes, there was quite a lot of catch up on heat networks towards the end of the year, after the report was published. I do not know whether Mr Capper has more detail.

David Capper: Yes, we spent over 90% of the budget for green heat network fund by the end of the year.

Q70 **Chair:** That was not a rushed "get it out the door" spend. It was a big jump.

David Capper: No, it was expected. We have been in a process of catching up after the first year and then this was the second year with the scheme. We have a very strong pipeline of projects for heat networks. We might have the problem that you were alluding to, which would be a nice problem to have, on the boiler upgrade scheme of us potentially running out of budget. On heat networks, we are more in that kind of space where there is a really strong pipeline of projects. This is why we have allocated even more money for the years 2025 to 2028.

Q71 **Chair:** Could you walk it through for people? A lot of people are on heat networks. There has been an issue about the bills and access to some of the subsidies from Government on support for those. I should declare that I live in a block of flats. Someone could be a typical Hackney flat dweller, whether council, housing association or private. Around the



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country, for example in Cardiff or Manchester, other places have similar high rises. You have flats. You have a shared heat network, so there are disadvantages at the moment. If you are a leaseholder or a tenant, are there any particular impacts on you financially of this, or will the green heat network fund cover the costs?

David Capper: Affordability is a key criterion under the green heat network fund in order to be able to provide the funding. There are different parts to your question. We have been providing support through the energy bills discount scheme to consumers who are on heat networks. We are at the tail end of that, but there have been about 13,000 applications for that, with consumers benefiting broadly to the tune of £1,200 per consumer from that support over the last year or two.

The main way on heat networks in future is, as Jeremy was saying, that in the Energy Act we introduced the regulatory framework for heat networks, with Ofgem to become the regulator. This is really important in ensuring that there is fair pricing and quality of service. The things that mains gas and electricity consumers have come to expect should be true for heat networks as well. That is why we are bringing in the regulatory framework.

Q72 **Chair:** To draw it right back to the individual, you have an individual. You can think about what has happened to leaseholders, for example. I am a leaseholder but this is not to talk about myself. Leaseholders have often had cladding and other material defects of their properties. They have had heat network issues, service charge issues and insurance issues. There is an awful lot going on if you are a leaseholder. To be clear to people, you are saying that there is no additional burden to green their heat network if they already have one.

David Capper: Yes. Certainly if the project is coming through the green heat network fund, the fair price for consumers is absolutely critical. We will ensure that there is fair pricing through the Ofgem regulatory framework, which is why we are appointing it as the regulator.

Q73 **Chair:** I wanted to touch on getting this clean heat to market. We have a decarbonised power sector. We have looked at that plan by the Department to do it by 2035. We think that that is a big challenge. I think that we would all acknowledge that it is a challenge. All of the heat pumps will be using electricity rather than gas. There is going to be a huge amount more demand, so how far on track are you? Let us be honest, Mr Pocklington. What are the challenges now in getting that clean heat to market so that there is going to be enough green electricity to cover the demand for green heating?

Jeremy Pocklington: It is a very important question. We looked at this at our previous hearing on this issue. In the Department, when we are thinking about the power sector we start with demand. We want to take into account what the impact will be on demand of electrification of heat and increasing use of electric vehicles as well.



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We then look at a range of scenarios. We do not know exactly what will happen. We may touch on hydrogen as well at some stage. We look at a range of demand scenarios and we need to make sure we have a plan to meet the generation needs in those different scenarios.

I will not summarise everything that we are talking about, but there are two things perhaps to highlight in this context. The first is the importance of what is happening within each day. Heat pumps may change the patterns around that and we need to make sure we have a system that can manage peaks and troughs throughout the day. That is partly what the smart meters programme that we touched on previously is designed to enable.

The second issue I would highlight is the important role of the distribution network operators, the so-called DNOs, that run the system at the end of the chain. You have the transmission operators running the big grid, like the national grid, and then the DNOs run the regions and actually connect you to your individual home. That is where we have work underway. The National Infrastructure Commission is looking at this issue of how we build capacity in the DNOs so they can manage the increase in demand, not at the national level with big plans, but on the street level as well.

Q74 Chair: Are you also engaging local authorities and the larger landlords in those decisions?

Jeremy Pocklington: That is another really important aspect to this. The Energy Systems Catapult—I was up there only a few weeks ago—is doing some work at the moment working closely with local authorities on local energy plans. That is looking at a whole range of issues, such as heat networks as well as ultimately things such as industrial decarbonisation, perhaps some retrofit and how we handle on-street parking for EVs. There are also these questions around how you really start to think about the demand at a local level as well. That is an evolving picture. There is a lot further to develop on those, but it is a really interesting development.

Q75 Chair: It is interesting, but it is also hugely challenging, is it not? You could end up with very big needs in areas where, let us say, you need a car to get around so you have an electric vehicle. You have some of the other demands on the grid. How are you matching your planning for the grid? We know that that is a big infrastructure project in its own right, regardless of any changes.

Jeremy Pocklington: It is a big issue. I am almost opening up a whole other hearing of issues there.

Q76 Chair: They are so interconnected.

Jeremy Pocklington: There is national system planning. The other thing I would add, because we are talking more about the local level, is that Ofgem has started work looking at regional system planning as well, to



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look at those areas where we think there will be particular high levels of demand.

Q77 **Chair:** In west London it is hard to build housing.

Jeremy Pocklington: That is the classic example.

Q78 **Chair:** Do you want to explain that?

Jeremy Pocklington: UK Power Networks is the distribution network operator in west London. There have been some issues with getting connections in west London for new housing. That is the example that is often given as well, just because of the constraints of the system.

Q79 **Chair:** It is because of the data processing centres.

Jeremy Pocklington: There is more demand coming in from others as well. Regional system planning will help, but it is also about having a system that is sufficiently flexible to manage this and shift demand at different times of the day, and to have some demand-side response. This is not telling people that you cannot do things at a certain time of day, but it is about using automation and digitisation wherever possible in order to optimise the system locally.

Q80 **Olivia Blake:** I was a member of the Bill Committee that looked at the Energy Act. I was wondering what indications there are that the changes in the Energy Act are helping to enable heat networks. If you do not know yet, when will you know what impact that legislation is having?

Jeremy Pocklington: Can I bring Mr Capper in? This is the implementation, as it were, of the Energy Act.

David Capper: There are two parts to it for heat networks. One is the regulatory framework, which we have touched on already, where we are working with Ofgem. We have already consulted on the consumer protections that will be needed. That consultation just closed in February and we are looking at the responses to that now.

On heat network zoning, which was the other main part of the provisions in the Energy Act, again, we have consulted on that. We are looking to bring forward the Government response and the secondary legislation that is needed to allow local authorities to start designating zones later this year.

Q81 **Olivia Blake:** Can I ask a bit about emerging technologies that could help green heat networks and if you see any of them on the horizon? What technology would a green heat network use at the moment? A lot of them are district heating networks that burn rubbish, for example, or are gas-powered. What does a green heat network look like?

David Capper: A lot of the applications that we are getting under the green heat network fund are essentially for large heat pumps. It is a single really big heat pump—or maybe two—that is then servicing a range of buildings within a heat network. That is not the only source. You have



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mentioned energy from waste. There are a fair number of schemes that are energy from waste at the moment.

We are seeing other sources of heat. There is mine water in Gateshead. We have a heat network in Gateshead that uses mine water. We have announced a heat network in Cornwall that is based on geothermal. There are a range of sources of heat other than just large heat pumps.

One thing that we have consulted on in the consultation on heat network zoning is sources of heat within or adjacent to a heat network zone required to commit to connect to the heat network, so to provide heat into the heat network. It is one thing from international learning. The Danes are right out there in front on heat networks. They found that, when they put these kind of requirements in place, they had a lot of different sources of heat looking to be able to join the heat network. Some of them are more unexpected than you would think. You have waste heat from industrial processes, power stations and so on. That is one of the things we have consulted on, and the heat network zoning, to try to get a range of heat sources, including waste heat, into heat network zones.

Q82 Olivia Blake: In Sheffield, for example, we have a very large district heating network, which does not only households but also businesses, hospitals and public buildings in the city. At the moment, that is powered by waste. How would you support a big, monolithic heating system like that to go green? Would it be eligible for some of the grants that you have been describing?

David Capper: The green heat network fund is available for new schemes but also for retrofitting existing schemes. At the moment, about 3% of heat is supplied to buildings through heat networks but there is potential to expand that to around 20%. While you would expect the balance to be new schemes, the money in the green heat network fund is definitely available for retrofitting existing schemes where they are currently using fossil fuels. Most of them are using CHP, so they are gas-based at the moment, but the money is available to convert to clean sources such as the ones I have talked about, including large heat pumps.

Q83 Peter Grant: Can I apologise to the witnesses? I had to nip out for a few minutes. I have a couple of other Select Committees on this afternoon, one of which was in danger of losing its quorum. I am grateful to colleagues on the Committee for allowing me to get away for a wee while.

Mr Pocklington, I want to talk first of all about engagement with the public in all of this. I will come on to some specific projects in a minute, but, to begin with, why is it that you have not already established a UK-wide public engagement plan to make sure people understand why we need to do this and why we need to start doing it now?



Jeremy Pocklington: We touched a little bit on this in your absence, Mr Grant, but I will summarise what we have done. We have actually done a lot to set out and provide information to the public. I would highlight in particular the “Welcome Home to Energy Efficiency” campaign. There is a very significant budget to do that. That opens up further tools that provide support and advice to people in terms of how to improve energy efficiency in your home.

Chair: Mr Grant was here for some of this.

Jeremy Pocklington: Our focus now is developing an additional tool to enable people to have further detail and more specific advice on what they can do to improve their home. That heat tool is in the digital discovery phase.

That has been our focus to date and that is the choice that we have made. We are not underplaying the importance of consumer engagement, but we are trying to prioritise what we think is the right thing to do next. I am obviously aware of the recommendation in the NAO Report to do more and to have a fuller and even bigger consumer engagement campaign than we have done so far.

Q84 **Peter Grant:** We have people, and I suspect most members of the committee will have been lobbied by some of them since this inquiry was announced—I certainly have been—who either openly or covertly are representing very big financial vested interests and who see it as their job to tell people that climate change does not exist, net zero is a waste of time, and oil and gas are going to be there forever. If the general public believe that, we are in trouble.

What specifically have your Department or the Government generally done to recognise the threat that this misinformation creates and to be prepared to tackle it at scale? Frankly, so far, encouraging people or showing them how they can cut their energy bills is not where it is at. This is not about the cost of energy. This is about the possibility that energy will not be there if we do not find alternatives.

Jeremy Pocklington: The importance of providing clear information is absolutely at the heart of what my Department does, including on the importance of tackling net zero and delivering the Department’s overall strategy and our ambitious plans to deliver our carbon budgets. Also, you need to think about it a little bit differently when you are thinking about supporting consumers to make individual decisions that affect their lives and homes. That is where you need to provide more targeted and specific support on the choices that they have and the benefits that they can see from making change. That is what we have done. I am not saying that there is not more that could be done in this space, but the Department has already done an awful lot.

Q85 **Peter Grant:** If we look at some specific examples, the two hydrogen village projects were abandoned. In one, the Government were quite



clear that it was largely because the residents in the area concerned refused to have anything to do with it. In another, although a different reason was given, there was also very significant public resistance.

At the same time, at H100 in Methil in my constituency, thanks to a very careful and well-resourced public engagement programme, if anything the biggest problem we have now is people outside the pilot area asking why they are not allowed to be involved. How can some players in the field get their public engagement so right and others get it so wrong that the entire project has to be abandoned as a result?

Jeremy Pocklington: We are following closely the H100 trial that you are referring to, which I know is in your constituency, and the work of Scotland Gas Network to help manage that and bring consumers with us. It is a really important thing to be done. On the village trials, you referred to Whitby, where it is well known that there was opposition. The issue with the other trial, the other proposed area—I think that we were only planning to do one and they were the final two—was in Redcar. Ultimately, we did not have the hydrogen source that we needed, so we were not able to proceed with that one, although we still got a lot of evidence from that.

You are right. The importance of bringing consumers with us, particularly on key issues such as safety, is key. What are we doing? As part of our work towards the 2026 decision, we are working very closely with the Health and Safety Executive on this issue, because ultimately it is the HSE and the regulators that will be trusted, making sure that there is a proper evidence base around the safety and appropriateness of hydrogen and what mitigations will be needed to ensure that it is safe.

Q86 **Peter Grant:** How did you get into the position where you had so much depending on the project at Redcar and then discovered that it did not have a reliable source of hydrogen? What went wrong in the selection and assessment process?

Jeremy Pocklington: We still have to look after value for money.

Chair: It was a simple question.

Jeremy Pocklington: The issue is that the proposed hydrogen project for that trial was one of the candidates that applied for what we call the HAR1 scheme, which was the hydrogen allocation round 1 scheme. In our evaluation of those proposals, we took account of the strategic value of that project. Ultimately, the judgment that we made was that the benefits did not outweigh the core value for money considerations around the economic terms for that project. That is what happened there. We have explained that and set it out as a Department.

Q87 **Peter Grant:** I am still trying to understand. It is the equivalent of a key vacancy being filled in an organisation and you quickly find yourself in the position where there is only one candidate left and they do not meet the minimum criteria to be appointed. How did the Redcar project get so far



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so that it became literally the last project standing without there being a reliable and proven supply of the hydrogen that was necessary?

Jeremy Pocklington: It is important, but the other thing that we have taken into account as the Department is that we have other sources of evidence as well. Yes, our plan was to look at the outcomes of the village trials, but it is not the only thing that we are reliant on.

Q88 **Chair:** You are moving off from the very question that Mr Grant is asking, which is about why the village programme ran into the sands like this. Whatever else you are doing, can we keep back to the village programmes?

Jeremy Pocklington: It is material to the answer. Ultimately, the Department decided that there were other sources and ways of getting the evidence that we needed in order to make decisions around the role of hydrogen. That is what I am saying. We have discussed what the position was with the two candidates for that trial. There was strong local opposition to the Whitby proposal. Ministers decided that it was not appropriate to proceed. That is well known. The Redcar proposal was the other proposal. There, ultimately the project was not viable because that is connected to the source of hydrogen.

Q89 **Peter Grant:** Have you learned or sought to learn any lessons from SGN and its partners about good practice for engagement on this?

Jeremy Pocklington: We are working very closely with SGN and following very closely what is happening with its trial in Fife. That is looking at some of these key questions around consumer acceptability of hydrogen and what you need for customers not just to be safe but to feel safe with that fuel source.

Q90 **Peter Grant:** Obviously I have a very keen constituency interest in the hydrogen pilot, but we are in a situation where, if we want to be delivering carbon-free energy sources to people's homes, at the moment we have electricity produced by sustainable methods and the possibility of hydrogen. That is about it, is it not? Is there any other source of fuel that we are looking at?

Jeremy Pocklington: They are the two majorities. There are other things at the margin, for example hydro-treated vegetable oil and things such as that, but that is almost a distraction.

Q91 **Chair:** They are the big players.

Jeremy Pocklington: They are the big players.

Q92 **Peter Grant:** We are going to have to rely on hydrogen to some extent. We are not going to fix it all by doing clever things with electricity, even within the time that it might take to develop some of the other technologies that you have mentioned. We now have the smallest-scale pilot, H100, which has been delayed a bit but is still making good progress. That is exclusively for supply to the domestic market. Part of



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the intention with the hydrogen villages and towns was to take that a step further and look at what happens when we try to fuel non-domestic premises at the same time. Hydrogen villages have gone. They have both been cancelled. On hydrogen towns, we are now 13 months past the date of an announcement as to a successful bidder. When can we expect an announcement on that?

Jeremy Pocklington: The Department is considering next steps on the hydrogen town trial. We will set out our plans shortly. I cannot give you a precise date, because I know that that is always the follow-up question.

Q93 **Chair:** Can you give a window of time? Is it months or weeks?

Jeremy Pocklington: It is relatively soon. It is coming up—I hope—before summer, for example, but I cannot give you a precise timeline.

Chair: We understand that there may be things that get in the way, but you are hoping before the summer, so reasonably soon.

Q94 **Peter Grant:** Do you still expect to be in a position to come to an overall decision in 2026? By that time there will not actually have been a live trial of hydrogen supply to non-domestic premises, will there? It is too late for hydrogen towns to have done that. What evidence are you going to base it on if you do not have evidence in the field?

Jeremy Pocklington: That is a good question. There are two things. First, it is important to understand what the Government position is currently on the use of hydrogen. Yes, we are still working towards a strategic decision on the future of heating in 2026. That is what we set out in 2021. That remains unchanged. Last year we set out, in response to the Climate Change Committee, that we expect heat pumps to be the primary means of decarbonising heating in the near term. Anyone looking to install a heat pump should do so, irrespective of where they live. Then we said that hydrogen could play a role in slower time in some locations.

That was the position we set out then and we are working towards thinking about what those use cases might be, so what building types, areas and locations, for example near blue hydrogen production. That is production in CCUS—carbon capture—clusters. We have a lot of evidence that we are collating as part of that. You have mentioned the trial in Fife. There are also trials in other countries that are interesting and that will be very relevant. The Netherlands and Germany are examples of that. We have learned a lot from our experience in Redcar.

There is a programme of work underway with the Health and Safety Executive. We know that the issue of safety will be absolutely crucial here. What is the evidence that we need as well? Then there is a lot of modelling as well that we are doing, because ultimately there will be a lot of decisions to be taken around that in house. Also, we will be working with the National Energy System Operator—NESO—on that.



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I would note that the National Infrastructure Commission—you will know this—has recommended that we do not use hydrogen and that we move to electrification for heat, essentially using heat pumps. It is further ahead of where the Government decision is, but there is work underway. We are continuing to work towards that decision. You rightly observed, Mr Grant, in your question that electrifying heat for all parts of the country will require us to reinforce the network. It will lead to some big challenges on that front as well. These are important decisions.

Q95 Peter Grant: For clarification, and maybe for the benefit of those watching at home, I sometimes get concerned that it looks as if we are suggesting that hydrogen and heat pumps are alternative solutions. They are not. The heat pump is a machine that turns energy into heat or that uses energy to get heat. How does the heat pump operate? I am assuming that heat pumps will all be electrically operated.

Jeremy Pocklington: The vast majority will be air-source heat pumps, ninety-something percent, I think, but there may be some other ground-source heat pumps as well. To answer your question, they are not mutually exclusive though. That is your key point. It is not a choice of using electrification or hydrogen. The question is what the combination of the two is.

Peter Grant: The question is that the heat pump needs electricity to make it go. The simplest explanation of a heat pump is that it is an inside-out fridge, effectively.

Jeremy Pocklington: Yes, exactly.

Q96 Peter Grant: A fridge does not work without electricity. The strategy relies heavily on heat pumps, even given the questions that have been raised earlier. There are a lot of domestic properties in the UK that are never going to be suitable for a heat pump. There are a lot of them that do not have access to the electricity grid, for example.

Jeremy Pocklington: There are 15% that do not have access to the gas grid, but there are very few that do not have access to the electricity grid.

Q97 Peter Grant: The question might be whether they have access and the capacity that they are going to need. The problem with most—in fact all—genuine renewable sources of electricity is that the electricity is produced when nature decides to produce it, when the wind blows or the sun shines. Is it not the case that we are always going to need some way of storing the energy created.

Jeremy Pocklington: Yes, sorry. I understand the question now. This is going back up to look at the electricity sector as a whole and how we generate electricity. I agree that low-carbon flexible sources of generation will be important to help us manage a grid that is very reliant on a lot of renewables, particularly offshore wind and solar. The big technologies will be carbon capture, hydrogen to power and long-duration



storage. A big focus of the Department is developing these areas. At a shorter-term level, things like batteries also matter, but these are at scale long term to get us through the winter months. We are going to need those technologies.

Q98 Peter Grant: We have had the delay in the announcement about hydrogen towns, the abandonment of the hydrogen villages and the uncertainty facing the market in some other, I suppose, niche sectors. For example, at Westfield on the other side of my constituency I have Melton Renewable, which has a power station that uses chicken litter. That means that it is effectively taking the waste product from about half of poultry farming in Scotland and turning it from a pollution problem into an asset that can produce energy. It still does not know what Government policies are going to be in place when it wants to start making significant investment to keep Westfield and some of its other stations open.

Do you understand the concerns among particularly some of the small to medium-sized producers, which are going to be an important part of the overall picture, and among some potential customers? On so many fronts the Government seem to be delaying decisions, putting back decisions and slowing down the pace of decisions being taken. An increasing number of businesses are getting close to the critical point where they need to take investment decisions. If they do not know what the Government position is going to be, the investment decisions are likely to be unfavourable. Is your Department aware of that and are you in discussions with the Department for Business and Trade to make sure that we do not start to lose the technological advantages we have in some of this new technology simply by discouraging businesses from continuing to invest?

Jeremy Pocklington: We work very closely with the Department for Business and Trade. I do not accept that there are, to use your phrase, so many things that we are slowing down. My Department is continuing to focus to deliver its ambitious plans to maintain energy security and achieve net zero.

We need to take decisions in the right order at the right time. In the Department's view, it remains the case that this crucial strategic decision should be taken in 2026. We think that that is around the right time to do that. That was what we set out in 2021. We are still working towards taking that decision on that timescale. We are learning things all the time and there is a risk if you take decisions ahead of the appropriate time that you may lock yourself into a suboptimal path. We need to take the appropriate decisions on the right timescale, taking into account investment cycles, yes, absolutely, in order to make sure that we are attractive for the investment that we need.

Q99 Mr Djanogly: I would like to look at this from the consumer perspective, if I may. Worcester Bosch and Baxi are already producing hydrogen-ready boilers at the same cost to the consumer as a methane



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combi boiler. To convert to hydrogen, a £25 part is installed, which can be done by any Gas Safe fitter at an annual service in under 15 minutes. Would it be fair to say that hydrogen is consumer cost friendly?

David Capper: You have to look at the overall cost to the system rather than just the cost of the heating appliance.

Q100 **Mr Djanogly:** I am looking at the cost to the consumer. There are no production costs.

David Capper: The cost to the consumer is not just the cost of the appliance. It is going to be the cost of the fuel and the system that sits behind that, so the networks that would be needed for that. There are a whole range of system costs that need to be considered when you are comparing the cost that the consumer will face.

This is why we have said that we want to take the decision in 2026 on hydrogen. That is to allow us to properly assess these costs. We have had cost estimates from the National Infrastructure Commission. It has said that hydrogen as a system would be somewhere around 11% to 16% more expensive for consumers than a fully electric system. That is based on one set of analysis. Through the evidence that we are gathering on how you would deploy hydrogen and what you would need to do to make it safe and feasible, including mitigations in people's homes and changes to the networks, we are keen to assess those costs in order to have an overall sense of the system costs, which will drive people's energy bills in future.

Q101 **Mr Djanogly:** The comparison I was going to make was with heat pumps. We have been discussing the installation costs of heat pumps, where the cost is at the consumer end, unlike with the hydrogen. That raises a further question. At the end of the heat pump's lifespan, will the customer be required to find the full cost of replacement, or would Government subsidies be needed in perpetuity?

David Capper: At present, the boiler upgrade scheme is for replacing fossil fuel systems with a heat pump. Heat pumps have quite long lives, so the average life of a heat pump is longer than a gas boiler. A gas boiler's lifespan is about 15 years. For a heat pump, it is more like 20 years. We are still in the first cycle of heat pumps in this country, given we have come from a relatively low base. When you get into a second cycle, there will be decisions in future Parliaments as to the support that is available for consumers at that point.

Jeremy Pocklington: There is a fundamental issue with hydrogen being a derived fuel. That is really important. It takes energy to produce hydrogen, either through electrolysis or via gas and carbon capture through steam methane reformation. There is an efficiency loss every time you produce hydrogen and that is a key issue here.

There are also the demands on the use of hydrogen to achieve net zero more broadly. Hydrogen is very valuable. It can be stored. The question



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will be what the optimal use of hydrogen is. Is it for the power sector? Mr Grant, you highlighted the importance of intermittency. Is it for our industry? Is it for other aspects of heavy transport? Ultimately, there will be a merit order. That is what economists would call it. We need to use hydrogen. It is a scarce resource, not cheap to produce, and we will need to use it where it is most efficient. We need to discover that as a Department.

Q102 **Chair:** There are just a couple of quick ones from me. As we move towards more green electricity, there will be a reduction in the use of the gas network. There is potentially going to be a value for money element to it as gas use reduces. Ultimately, there will be some decommissioning costs, one would imagine. How are you going to handle that value for money issue and who is responsible for funding decommissioning of the gas networks? Who is going to be responsible?

Jeremy Pocklington: You are right that there will be issues around the future of the gas network. Can I say at the outset that we are going to need the gas network for some considerable time to come? The National Infrastructure Commission has talked about starting decommissioning in the 2040s. Other people have slightly different estimates. We need investment as well.

Q103 **Chair:** We have looked at all the gas decommissioning. We have looked at other areas. If you do not have plans for decommissioning early, we know that you can hit problems.

Jeremy Pocklington: That is agreed. I absolutely understand that and we will need to be increasing our work as a Department to look at this. Ofgem currently has a consultation underway. It has closed and Ofcom is considering the responses. That is looking at the early issues around decommissioning the gas network.

Q104 **Chair:** Work is underway.

Jeremy Pocklington: There is work underway. Ultimately, there are some big questions for future Parliaments around where decommissioning costs should fall. The National Infrastructure Commission has estimated those costs at £25 billion in its recent report. That is the NIC's number, not mine. We will be looking at this as part of our strategic decision as well.

Q105 **Chair:** The options are that the taxpayer funds it through the Exchequer, the gas networks do it or there is a levy somewhere on customers or other energy users.

Jeremy Pocklington: They are the sorts of things you could look at. There is always a balance between current and future, and timing decisions as well.

Q106 **Chair:** Timing is key. If there is a decommissioning cost to continuing to use, whichever way that falls, that might affect future behaviour.



Jeremy Pocklington: Ultimately, it is a policy decision.

Chair: Absolutely, of course, yes, but you are thinking about all these options.

Q107 **Olivia Blake:** Circling back a bit to my first question, what impact do delays to establishing an overarching plan to decarbonise the power sector have on your aims to decarbonise other sectors that rely on electrification, including home heating?

Jeremy Pocklington: We are working incredibly hard to proceed with decarbonising the power sector. For our major projects that the Department is working on, we are continuing to work on the timetables that are, I think, well known to the Committee. We will be having a further auction round for renewables this year. The starting process of that, of AR6, has begun. We are in the middle of a capital raise process for Sizewell at the moment. I do not want to say more about that. That is underway. We are continuing to work towards final investment decisions on the carbon capture projects that are underway and the clusters are underway.

There remains a lot of activity underway in the Department. We are implementing the transmission acceleration action plan that the Government have set out and tackling the issue of connections. There is more work underway. I do not accept that we have delayed that. We are working incredibly hard to make progress on decarbonising the power sector.

Q108 **Olivia Blake:** I guess that the lack of an overarching plan that is public is probably the issue here. Are there any areas that you feel are falling through the gaps at the moment that you are concerned about?

Jeremy Pocklington: Another way of thinking about it is whether any emphasis has shifted since the Committee last met on this. The thing that I would say, and I alluded to this at the start, is that we are putting greater focus on the importance of spatial planning being absolutely at the heart of this. That is why we have made the decision to commission the system operator—we think that it is best placed to do this—to develop a spatial plan. It recently published an update to its plan for the core networks, the transitional centralised strategic network plan. Sorry, there are lots of acronyms here. That needs to be now embedded in a strategic spatial energy plan as well. That is the key thing that we need to do.

Q109 **Olivia Blake:** How much confidence do you feel the public have about the capacity of electrification, given some of the reports we have heard around planning applications that are not going to be accepted for new housing because there will not be enough electricity? We have seen these kinds of headlines over the past couple of years. How do you think that is affecting consumer sentiment?



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Jeremy Pocklington: The reassurance is that energy security is key and is the most fundamental thing that we, as a Department, need to continue to do. That is at the heart of everything that we do as a Department, making sure that we have the generation we need to meet demand.

Q110 **Olivia Blake:** Circling back to hydrogen as well, do you think that the dropping of the idea of a hydrogen levy on households has impacted wider Government policies? That was a mechanism of raising funds, I suppose.

Jeremy Pocklington: The policy shifted to a different way of ensuring the support, with a levy on gas shippers.

Olivia Blake: I agree with that, by the way.

Jeremy Pocklington: It starts to get very technical. We are still working towards bringing that forward in that way. We are not saying we are not going to support hydrogen, but we are going to support it in a different way. That was the key thing that we did there.

Q111 **Olivia Blake:** Going back to the schemes and learning lessons, have you considered the potential pros and cons of a street-by-street approach? Do you think that the smart meter rollout demonstrates that ad hoc approaches have not really worked in the past?

Ben Rimmington: Street by street has its advocates. The challenge is that street by street is less good in terms of consumer choice and flexibility. There are also economic inefficiency risks, because the strategy that we have is around boiler replacement. You should use your boiler until it needs replacement. At that point we would ask people to consider getting a heat pump. If you do a street-by-street approach, you are taking out that point of flexibility and that point of economic efficiency as well.

On smart meters, because you touched on it, progress has meant that overall we are now at 60% in terms of the meters in the country that are now smart meters. We look at lots of issues in terms of learning lessons between the two programmes, because we see the similarities. We also see the differences. That is the point on street by street.

Q112 **Olivia Blake:** What would make the current approach of demand driven by individual households unviable and requiring a switch to an alternative such as street by street?

Ben Rimmington: Maybe I should have said more actually, because there could be some circumstances in which it makes perfect sense. There could be certain types and tenures of housing, particularly in a social housing context, where that may be exactly the right thing to do. You might have technology that was all installed at the same time. You are going to replace it all at roughly the same time. We definitely do not rule that out. Indeed, under the social housing decarbonisation fund,



effectively, there are micro versions of that approach that we are already supporting. Like so much in this space, it is not a one size fits all in terms of the way that you manage the transition.

Olivia Blake: If communities or local authorities wanted to approach you with that approach as an alternative, would that be welcomed?

Ben Rimmington: As Jeremy mentioned, we do an awful lot with local authorities in all kinds of ways, delivering our schemes. The pathfinder deals that we are doing with West Midlands and Greater Manchester are precisely to enable some places to experiment with different ways of doing things. We are going to devolve money that currently comes through national schemes in a single-pot way to enable them to do more across different types of housing. Frankly, we will want to look at the detail of what they come up with in their plans, but developing their plans will be up to them. If, for instance, they want to come forward with those approaches, that is something we can definitely look at in that context.

Q113 **Olivia Blake:** Going back to Mr Pocklington on the auction rounds, they have not been that successful in previous rounds. How are you ensuring that there is going to be confidence in the market for this current round?

Jeremy Pocklington: I think that you are referring to the fact that, in last year's auction round, AR5, there were no successful offshore wind projects. There were successful projects and a lot of low carbon generation was procured, but I think that that is the point you are referring to.

In this auction round, we have taken a different approach. There is a separate pot, if you like—that is what we call it—for offshore wind projects in this auction round. We have significant budget for the auction as well. That will help ensure that there are successful projects.

The other thing that we did was, using latest market data, to change what is called the administrative strike price, essentially the reservation price in the auction, to significantly higher than it was in the previous auction. I think that it has been accepted by stakeholders that that move was the right move. If we had more budget it would be great, but we need to ensure that there is competition in the auction as well. We will continue to monitor that through the auction process. That is what we will do.

Q114 **Ben Lake:** If I can turn your attention to paragraph 11 in the NAO Report, that touches on the 20% or so of homes that might be exempt from the 2035 phaseout of new fossil fuel boilers. The Government already mentioned that some of the homes that fall into that 20% may not be suitable for heat pumps for various reasons, including—we have mentioned it and talked about it—lack of space for the heat pumps, requiring energy efficiency upgrades and so on and so forth. What information will the Department be using to identify whether a home is unsuitable for a heat pump and therefore exempt from the 2035



phaseout?

David Capper: We are some way away from this, in that the ambition to end the sale of new and replacement fossil fuel boilers is 2035. The rules around exemptions to that would be at the same time. Obviously we would consult in detail on what the rules would be, how that would be applied and so on well ahead of that juncture.

The key test that we used in assessing what the broad level might be, so how we got to the 80%, was looking at the heat loss survey that we touched upon earlier and making an assessment of the amount of additional insulation or the fact that a house could not have a sufficiently sized electricity connection. Those are the kind of main factors in coming to the 80% broad number. Clearly, in the time between now and 2035 one very key thing we are keen to do is to look at the alternative technologies. It is important to distinguish that that assessment is made on a low-temperature heat pump. There are higher-temperature heat pump models, which we have yet to assess properly.

Q115 **Chair:** When you say new technologies, we are not talking here about hydrogen. You are talking about new technologies for heat pumps.

David Capper: It is most likely to be an electrification pathway. A lot of these properties are actually off the gas grid so would not be suitable for hydrogen, even if hydrogen was part of the mix. We are keen to consult on alternative technologies. Higher temperature heat pumps are one possibility, but there are others. There are people developing heat batteries that are starting to be deployed. Jeremy mentioned HVO or bioLPG earlier. There may be a role in some properties for hybrid heat pumps. It might be that the combinations of these technologies become important in niche cases where a heat pump is not the solution that is going to work for that property. We have more work to do and we are keen to consult on these and do additional trials, where appropriate, of these technologies.

Q116 **Ben Lake:** I appreciate that that is a lot of work to undertake. Do you have a timeline in mind?

David Capper: We are keen to consult this year on alternative technologies, following on from the announcement about the 80% and the exemptions. It is important for us to have this conversation about what this 20% is and the ways in which we can help people decarbonise their homes for those people where a heat pump might not be the most appropriate solution.

Q117 **Chair:** In terms of alternative solutions, what about domestic solar? Solar has had its ups and downs depending on the feed-in tariff. It is still popular but not universal. Is that something that you are considering for the sorts of properties that Mr Lake was highlighting?

David Capper: It is not going to provide a year-round heat decarbonisation solution for the property as a whole. Solar can play a



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role. An increasing number of people have it on their roofs, but you need something else. You cannot just rely on the solar in order to decarbonise your home, which is why, when we moved from the domestic renewable heat incentive to the boiler upgrade scheme, we moved away from solar thermal and more towards heat pumps.

Q118 Chair: If you are using solar to generate electricity and the sun is shining enough—it does not have to be shining completely for it to be useful—there could be very large periods of time when the property does not need to use it from the grid, or there is battery storage. Over a decade ago I was asking these questions about battery storage and we have still not progressed as much as we should have. Mr Rimmington, can you reassure us at all?

Ben Rimmington: We would not disagree for a second. Increasingly, people are doing solar panels as they do the heat pump. They do a whole-house decarbonisation approach.

Q119 Chair: It is expensive for someone to do solar panels, heat pump and all the insulation, and they might not live there. This is adding to the amount.

Ben Rimmington: All of this involves cost and consumer journey questions.

Jeremy Pocklington: Also, there are tariffs increasingly in the market that optimise in the consumer's interest to take account of all these different factors in their house as well.

Q120 Chair: They get less per unit for the electricity, yes.

Ben Rimmington: The only other point I was going to make was that, in terms of heat pump innovation, it is not only about high-temperature heat pumps. Some of the practical constraints around space and so forth are being addressed increasingly interestingly by different operators and manufacturers.

Q121 Chair: It is a bit like mobile phones. We moved from the very big to the very small.

Ben Rimmington: Who knows? I do not think that you will have a folding heat pump.

Chair: There is a challenge for British manufacturers. It has been a very interesting conversation. It is slightly depressing that we go round these circles over and over again about consumers needing to buy in when it is expensive to do so. There are huge challenges for all parts of the sector and lots of moving parts to bring together, but it is critical to deliver on this given the 18% of emissions that come from our domestic housing, some of which is very aged.

We will continue to keep a close eye on this. We are moving to the point where we are saying that it is our successor committee that will do that,



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so we do not absolutely have control over that. I think that it will be an important factor for the Public Accounts Committee and the National Audit Office going forward.

Can I thank you very much indeed for your time? Thank you to our witnesses. David Capper, it was your first time. You acquitted yourself very well, Mr Capper. I hope the Permanent Secretary does not tell you off for being straight with us afterwards. Jeremy Pocklington, the Permanent Secretary, and Ben Rimmington, thank you very much indeed. We will be publishing a full report on this, probably at some point after the May Whitsun recess. Can I thank you very much indeed for your time?