PARLIAMENTARY DEBATES

HOUSE OF COMMONS
OFFICIAL REPORT
GENERAL COMMITTEES

Public Bill Committee

ENERGY BILL [*LORDS*]

Sixth Sitting

Thursday 8 June 2023

(Morning)

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Monday 12 June 2023

The Committee consisted of the following Members:

Chairs: Dr Rupa Huq, James Gray, Mr Virendra Sharma, †Caroline Nokes

† Afolami, Bim *(Hitchin and Harpenden)* (Con)
† Blake, Olivia *(Sheffield, Hallam)* (Lab)
† Bowie, Andrew *(Parliamentary Under-Secretary of State for Energy Security and Net Zero)*
† Britcliffe, Sara *(Hyndburn)* (Con)
† Brown, Alan *(Kilmarnock and Loudoun)* (SNP)
Clarkson, Chris *(Heywood and Middleton)* (Con)
† Fletcher, Katherine *(South Ribble)* (Con)
† Gideon, Jo *(Stoke-on-Trent Central)* (Con)
Jenkinson, Mark *(Workington)* (Con)
Levy, Ian *(Blyth Valley)* (Con)
McCarthy, Kerry *(Bristol East)* (Lab)
† Morrissey, Joy *(Beaconsfield)* (Con)
† Nichols, Charlotte *(Warrington North)* (Lab)
† Owatemi, Taiwo *(Coventry North West)* (Lab)
Shelbrooke, Alec *(Elmet and Rothwell)* (Con)
† Western, Andrew *(Stretford and Urmston)* (Lab)
† Whitehead, Dr Alan *(Southampton, Test)* (Lab)

Sarah Thatcher, Chris Watson, *Committee Clerks*

† attended the Committee

Public Bill Committee

Thursday 8 June 2023

(Morning)

[Caroline Nokes *in the Chair*]

Energy Bill [*Lords*]

11.30 am

The Chair: Before we begin, I remind Members that *Hansard* colleagues will be very grateful for speaking notes to be emailed to hansardnotes@parliament.uk. Please have all electronic devices on silent. Tea and coffee—none of you are sinning today—are not allowed during sittings; the only refreshment permitted in Committee is water.

I understand that the Government wish to move a motion to amend the programme order agreed by the Committee on 23 May and amended on 25 May, to change the order of consideration of the provisions of the Bill.

Motion made, and Question proposed,

That paragraph 2 of the Order of the Committee of Tuesday 23 May (as amended on 25 May) be amended—

(a) by leaving out "132; Schedule 7; Clause 133; Schedule 8; Clauses 134 to 137; Schedule 9; Clauses 138" and inserting "131; Clauses 140";

(b) by inserting, after "273;", "Clause 132; Schedule 7; Clause 133; Schedule 8; Clauses 134 to 137; Schedule 9; Clauses 138 and 139;". —*(Andrew Bowie.)*

Dr Alan Whitehead (Southampton, Test) (Lab): The Government motion will remove some of the discussion we would have had this morning on the independent system operator from this part of the Bill to the end of it, in effect—in terms of our proceedings. I have no objection to that happening, but I would like to know why.

While we are on matters of procedures, I also ask the Minister about his intentions for the new clauses tabled yesterday. They are clauses on the support of—

The Chair: Order. Dr Whitehead, I query whether that is in scope of this particular motion.

Dr Whitehead: I will raise it as a separate issue.

The Chair: I think that would be better. The Minister will respond to the substantive point.

The Parliamentary Under-Secretary of State for Energy Security and Net Zero (Andrew Bowie): The hon. Member for Southampton, Test was right to ask for an explanation. The motion is to delay consideration of clause 132, schedule 7 and so on, which might otherwise have been reached in the course of today were we to proceed as planned originally. The Ways and Means resolution agreed by the House immediately after Second Reading needs to be supplemented before the Committee can consider the provisions. I understand that the Ways and Means resolution will be tabled as soon as possible in the coming days.

The Chair: The motion has not been agreed by the Programming Sub-Committee, so it may be proceeded with only if everyone is content. Does anyone object to the motion being considered? No objection.

Question put and agreed to.

Dr Whitehead: On a point of order, Ms Nokes. I was trying to slip this into our previous conversation, but I am happy to do it as a point of order. By the way, welcome to chairing the Committee; it is a pleasure to serve under your chairmanship. You are my next-door neighbour in Southampton, Ms Nokes—sorry, not Southampton, but near Southampton—

The Chair: Definitely in Southampton.

Dr Whitehead: A little bit—a road at the top of my constituency has you, Ms Nokes, as MP for half of it, while I am the MP for the other half. We are indeed close neighbours.

As has been discussed, the Government have kindly tabled a number of new clauses relating to Great British Nuclear and energy-intensive industry assistance. That brings to four the number of areas on which the Government have introduced new clauses while the Bill has been proceeding. This is beginning to resemble those episodes where people book a holiday in Spain, thinking they have a nice hotel, only to get there and find that it is a building site, with no rooms booked in sight.

That aside, given that the clauses have been tabled, it would be helpful to have an indication of when the Government intend to consider them. I say that because the Opposition need to properly scrutinise them, and may want to introduce amendments. The Minister will know that the deadline for tabling such amendments is today, so if the Minister was considering dropping those clauses into the Bill next week, that would obviously prevent us from tabling amendments in the usual manner. I would be grateful if the Minister clarified his intentions.

Andrew Bowie: I guarantee that the new clauses will be debated at the end of our process in Committee. I am sure there will be adequate time to debate them in depth. It may resemble a building site, but we are on the route to building a luxury, all-inclusive, five-star resort through this Bill, so he has nothing to worry about in that regard.

The Chair: I remind the Minister that it is not for him to make guarantees about when amendments might be grouped, but for the Chair.

Andrew Bowie: Of course. Sorry.

Clause 106

Setting of targets etc

The Chair: We resume consideration of the Bill with amendment 91 to clause 106, with which it will be convenient to debate clause 106 stand part. I call Dr Whitehead to move the amendment.

Dr Whitehead: I do not wish to move or speak to amendment 91 because it is factually deficient. I have a few words to say in the clause stand part debate.

Question proposed, That the clause stand part of the Bill.

Alan Brown (Kilmarnock and Loudoun) (SNP): I know that the shadow Minister said he did not want to speak to amendment 91, but for pure indulgence I would like to say a few things. The shadow Minister admitted that the amendment is not quite factually correct. It is clear that it was actually more on message for the Government than the Government are themselves in terms of heat pump installations. If it had been moved, I would have supported the amendment because it would set a much more ambitious target for the installation of heat pumps: at least 600,000 per year by 2025, instead of the Government's target of 2028, which is completely out of kilter with the recommendations of the Climate Change Committee. I urge the Government to reconsider that and adopt a more ambitious programme.

Will the Minister say how many heat pumps were installed in 2022? What is the plan to get up to the Government's target of 600,000 heat pump installations a year? This is an important Bill but it also shows the need for the Government to think in the round in terms of legislation. The clause and the amendment are all about heat pump installations. We are still awaiting the future homes standard. Will the Minister outline what will happen with that? Last year more than 200,000 houses were built in the UK—the largest number completed since the 2008 housing crash—and the majority of them are going to be connected to the gas grid and will not have heat pumps installed. Year in, year out, the number of houses that will need to be retrofitted with heat pumps will increase until the Government bring forward the future homes standard. I would like more clarity from the Minister on that, and about targets the Government are looking to set to drive it forward.

Dr Whitehead: The clause relates to the question of the installation of heat pumps, as the hon. Member for Kilmarnock and Loudoun correctly drew attention to. The intention of the amendment, had it been moved, was to place the Government's own targets in the legislation. There is a question about the difference between those targets and what has actually happened so far with the boiler upgrade scheme, for example, with 30,000 heat pumps per year being underwritten for a three-year period, leaving a difference between the target and the number of heat pumps likely to be installed under that scheme of more than 500,000.

There is a considerable difference between Government targets, how many heat pumps have already been installed and how many heat pumps are likely to be installed over the next few years. One of the purposes of the amendment, which was not moved, was to stiffen the Government's resolve in that respect by placing those targets on the face of the Bill, so that the question of how the gap is made up is rather more focused in the minds of the Government now and, indeed, any future Government.

It is important that we start the process of filling in the gap between target and actuality. I would be grateful if the Minister could give us a few brief views on how that might be done, and what he intends to do, possibly on the basis of this legislation, to make that gap clearly reachable and incorporate it into the progress that has already been made with heat pump installations.

Andrew Bowie: To answer the hon. Gentleman's substantive point on why we are not incorporating the Government's own target of 600,000 heat pumps per year by 2028, there are compelling reasons why we believe it would be unwise to set any particular target in the enabling powers in the Bill. The setting of scheme targets is best suited to the making of regulations. That is in part because that is when the best assessment of the relevant market conditions can be made, so that targets do not exceed what is viable and result in unintended consequences, which we would be worried about had we put the target on the face of the Bill.

Alan Brown: Will the Minister give way?

Andrew Bowie: I will come to the hon. Gentleman's questions in a moment, if he will be so patient. It is also because it is very possible that the scheme, under those powers, might be best focused not on any entire ambition for the deployment of one or more low-carbon heating technologies, but on a particular subset of that overall aim, such as retrofit properties but not new builds. That would ensure flexibility.

Alan Brown: I understand that the Minister does not want the targets to be on the face of the Bill; does that mean the Government plan to bring forward secondary legislation to facilitate the targets?

Andrew Bowie: That will be a matter for secondary legislation. I am sure that the hon. Gentleman and other Committee members cannot wait for the Secondary Legislation Scrutiny Committee to debate the detail of that.

I will answer the hon. Gentleman's original questions. He asked why the Bill does not introduce the 900,000 heat pump installations recommended by the Climate Change Committee's balanced pathway to net zero. Indeed, he asked why our aim is to introduce two thirds of that number, 600,000. The Government's ambition for developing the heat pump market this decade is strategically compatible with all future heating scenarios, including those where hydrogen plays a major role. I know that the hon. Gentleman is fully aware of that, given his interest in hydrogen.

The CCC pathway, which suggests a market of 900,000 installations by 2028, assumes a minimal role for hydrogen in 2050. By contrast, it is interesting that the CCC's hydrogen-led pathway suggests a much more modest deployment rate of heat pumps in earlier years. The Government believe that the step-change ambition for building a heat pump market as set out, which does not pre-empt wider strategic decisions in the middle of this decade, is the most prudent approach to this investment.

In answer to the hon. Gentleman's second question, the building regulations will continue to set a performance-based standard, rather than mandating or banning the use of any technology if we do not want to head down that route. However, homes built under the future homes standard will be zero-carbon ready, with low-carbon heating and high levels of energy efficiency. I can confirm that 70,000 heat pumps a year are now being installed in the United Kingdom.

Question put and agreed to.

Clause 106 accordingly ordered to stand part of the Bill.

Clause 107

FURTHER PROVISION ABOUT SCHEME REGULATIONS

Question proposed, That the clause stand part of the Bill.

The Chair: With this it will be convenient to discuss clauses 108 to 113 stand part.

11.45 am

Andrew Bowie: It is a pleasure to serve under your chairmanship, Ms Nokes. Clauses 107 to 113 detail the administration, enforcement, penalties and appeals related to the low-carbon heat schemes. Clause 107 sets out the various operational, administrative and monitoring features of the scheme that the regulations may provide for. As set out in a recent second policy consultation, the Government believe that it is important that the scheme enables participants a degree of flexibility to meet the targets. To that end, the clause allows the regulations to specify how scheme participants may meet or partially meet targets, other than directly selling low-carbon heating appliances themselves, such as through trade in certificates with other parties. The clause also provides for regulations to specify the consequences and options for scheme participants who fail to meet a target under the scheme.

Clause 108 enables the appointment in regulations of an administrator for a low-carbon heat scheme and the conferral of functions on that scheme administrator. The clause sets out that one or more public authorities may be appointed as scheme administrator. That would include the Secretary of State, as well as public bodies and regulators such as the Environment Agency and Ofgem. The clause also provides for regulations to authorise an appointed administrator to arrange for functions to be carried out by a third party.

Clause 109 provides for the assessment, enforcement and sanctioning of non-compliance with a low-carbon heat scheme. It enables the administrator to conduct a range of enforcement activities and provides for the regulations to establish sanctions for non-compliance, such as the failure to produce the required documentation or to make a necessary payment. That could be in the shape of both civil penalties, and potentially criminal offences where warranted. Clause 110 sets out that regulations may determine how any payments made by virtue of the penalties set out in clause 109, or by virtue of the payment framework provided for by clause 107, are to be used.

Clause 111 provides for the regulation to establish an appeals process against decisions by the administrator of a low-carbon heat scheme, or against penalties or other enforcement action taken for non-compliance by a scheme participant. Such an appeals process is relatively commonplace for obligations and trading schemes of that kind, so that disputes can be settled, enhancing confidence in decision-making processes related to scheme administration.

Clause 112 establishes procedural requirements for the making of low-carbon heat scheme regulations. The affirmative parliamentary procedure will be used for statutory instruments that first establish a low-carbon heat scheme. The affirmative procedure will also apply for regulations that make substantive changes to the fundamental parameters of a scheme—that is to say, the parties in scope of the targets or the heating appliances that the scheme is designed to encourage. Where the regulations are more administrative in nature, and the fundamental elements of a scheme are not being altered, the negative resolution procedure will apply. That will include, for instance, adjustments to the requirements for the keeping or provision of information, year-to-year adjustment of targets, or adjustments to the rules around the certificate trading between parties.

The clause also stipulates a requirement that before making scheme regulations the Secretary of State must consult the relevant Ministers in the devolved Administrations, so far as the regulations apply in relation to those respective nations. The Government have constructive engagement with our counterparts in the devolved Administrations at both official and ministerial level on the development of the clean heat market mechanism. We look forward to continuing to work closely and consultatively as we move forward with the scheme's development. Finally, clause 113 provides definitions of key terms within the chapter.

Dr Whitehead: These are sensible provisions, following the initial clauses about low-carbon heat schemes, and they will help greatly with the regulation of the schemes generally. I have nothing to say about the clauses, other than that I was so excited by the Minister's oratory a moment ago that I knocked my glass of water over.

The Chair: I am not sure that the Minister needs to respond to that.

Andrew Bowie: I will respond only to compliment the Opposition Whip, the hon. Member for Coventry North West, on the great job that she did clearing the water up.

Question put and agreed to.

Clause 107 accordingly ordered to stand part of the Bill.

Clauses 108 to 113 ordered to stand part of the Bill.

Clause 114

MODIFICATIONS OF THE GAS CODE

Question proposed, That the clause stand part of the Bill.

The Chair: With this it will be convenient to discuss:

Amendment 118, in clause 115, page 106, line 23, at end insert—

"(4A) Provision under subsection (4), where a gas transporter is conducting a trial involving a fully alternative grid for the purpose of hydrogen delivery, must include guaranteed installation of other forms of low carbon heating by the gas transporter where a household does not wish to take part in the hydrogen grid conversion trial."

This amendment seeks to ensure that no household will be forced to take part in the trial and will be given an alternative heating solution by the gas transporter (the DNO).

Clause 115 stand part.

Andrew Bowie: The clause defines what we mean by a hydrogen grid conversion trial and expands the duty of the gas transporter running the trial to participants to undertake work without charge. It also extends certain powers of entry contained in the Gas Act 1986 so that they apply for the trial. That will facilitate the effective

and safe delivery of a large village hydrogen heating trial by 2025, which will provide crucial evidence to inform future decisions on the role of hydrogen in heat decarbonisation.

Taking timely strategic decisions on heating is critical to meeting future carbon budgets and the UK's net zero target. Subsection (1) allows the Secretary of State to designate a hydrogen grid conversion trial and ensures that both clause 114 and clause 115 are narrow in scope and would apply only for the purposes of such a trial. Clause 114 also makes certain modifications to the Gas Act 1986 to build on existing provisions concerning powers of entry. That will ensure that the organisation running the trial has clear grounds to enter private properties to carry out any essential works, including replacing appliances and installing and testing safety valves; undertake inspections and tests for the trial, such as safety checks; and safely disconnect the gas supply in a property.

Gas transporters already have powers of entry into properties through the Gas Act. We are extending those powers in a very limited way to conduct the necessary work to set up and deliver the trial. Gas transporters will use the extended powers only ever as a last resort, once all other attempts to contact property owners and reach an agreement are exhausted. The existing rules on powers of entry requiring the gas transporter to obtain a warrant from a magistrates court will continue to apply. No one in the trial location will be forced to use hydrogen.

The gas transporter delivering the trial will develop an attractive consumer offer for participants, as well as viable alternative options such as electric cookers and heating systems, for consumers who do not wish to or cannot participate in the trial. Finally, I draw the Committee's attention to the fact that most responses to the Department's 2021 public consultation on facilitating a hydrogen village trial were broadly supportive of our proposals to change the legislation in this way.

Clause 115 focuses on establishing consumer protections for people taking part in this first-of-its-kind hydrogen village trial. It will do so by giving the Secretary of State two delegated powers to make regulations that require the gas transporter running the trial to follow specific processes to engage and inform consumers about the trial and ensure that consumers are protected before, during and after it.

Consumer engagement and support are vital for the successful delivery of the trial. The Department is working closely with the gas transporters as they develop their plans for consumer engagement and protection. Regulations will ensure that the gas transporter running the trial takes the necessary steps to inform consumers about how they will be impacted. That means that people will have the information they need to make an informed choice about whether to connect to hydrogen or accept the alternative offer during the trial. The gas transporter will also need to give adequate notice about the requirement to disconnect properties from natural gas.

The power to introduce regulations for consumer protections will work alongside existing protections such as the Consumer Rights Act 2015 and the Gas (Standards of Performance) Regulations 2005. I am sure that Members of the Committee will agree that the provisions in clause 115, which were well received by stakeholders when we consulted on them in 2021, are crucial to ensure the fair treatment and protection of people in the trial area. The powers will also allow the Department to set out the enforcement requirements for the regulations, which may include civil penalties but will not create any new criminal offences.

Dr Whitehead: The clause addresses some very important issues with the process of hydrogen trials, which are in fact already under way in a couple of parts of the UK. It relates to the first part of the ambition that the Government set out in the energy security strategy: to have village trials, leading perhaps to town trials later and, by the end of the decade, a city trial. Of course, to some extent that is subject to what may be decided in 2026 about whether hydrogen will go into heating systems in general. Even if the decision ends up as a negative and the Government decide not to universalise hydrogen for heating at that stage, the trials will of course be necessary should there be circumstances in which hydrogen can be used on a grid-isolated basis for heating in particular places, and it will be necessary to have the appliances and equipment capable of taking that hydrogen. The Minister will be aware that a number of boiler companies are already producing hydrogen-ready boilers and the like, some which are being used in the village trials.

There are two village trials under way at the moment: one in Ellesmere Port and one in Redcar. Interestingly, public appreciation of those trials is markedly different. One is trying to get everybody on board straight away. In the other, the company running the trial has taken a different approach to universal involvement. We might think that all the properties in a particular area need to be in the trial for it to be entirely valid, but that is not necessarily the case. One company is intending, at rather a late stage of the trial, to introduce a separate hydrogen main into the area. The other trial company is trying to get people on board without modifying the main and will use what was the gas main for carrying the hydrogen. That creates a considerable issue for participation in the trial.

The Minister said that no one would be forced to take part in trials, but at the same time spoke about enhanced powers of entry and various other things, which suggests that the powers could be used to force everyone to take part. That is what amendment 118 is concerned with. It states:

"where a gas transporter is conducting a trial involving a fully alternative grid for the purpose of hydrogen delivery".

If we wish to adhere to the principle that not everybody has to take part in a trial—there might be many good reasons why people do not want to do so—there must be guaranteed arrangements for the installation of other forms of low carbon heating or indeed for no low carbon heating at all if an alternative main is put in place for people who do not wish to take part in grid conversion trials. Under subsection (4), the amendment would require companies undertaking trials to guarantee the installation of other forms of low-carbon heating, such as heat pumps or low-carbon gas heating. That would enable the trials to bring valid results, and give people in those areas the ability not to take part if they do not wish to do so.

12 noon

I am sure the Minister will agree that one of the problems being encountered in the hydrogen trials is the question of precisely what the Government think they

are doing in relation to participation under these clauses, and the extent to which that is clouding the ability to conduct the trials reasonably in the first place. With at least one of the trials, there has been considerable push-back from the local population because of how they fear it will be conducted. The amendment would enable trials to proceed much more expeditiously, and potentially more successfully, because the people being asked to take part would have guaranteed routes forward if they did not wish to participate. I, for one, wish the trials success—I do not wish to see them undermined—but they need to be conducted on the basis of a clear understanding of how to address the local population's concerns. That would ensure the trials are a success and shape our thinking about hydrogen and local heating policy for the future.

Olivia Blake (Sheffield, Hallam) (Lab): It is a pleasure to serve under your chairship, Ms Nokes. I rise to support the amendment, because this is a fundamental issue. The Minister talked about households only, but will the offer that he outlined be available to businesses? That is important, because businesses have different energy needs, even in residential areas.

It is important that we take people with us. They must have the option to say no to such trials and get low-carbon heating by another means. That is all I wanted to say on the amendment.

Alan Brown: There is another hydrogen trial ongoing—the H100 project in Fife, which is the world's first trial of green hydrogen for heating and hot water. Like the hon. Member for Southampton, Test, I hope that that experiment is successful.

That trial in Fife highlights the issues that we are debating today. Will the Minister update the Committee on the number of properties signed up to H100? Investigative journalists have reported that the £1,000 sign-up offer was not enough of an inducement to make households sign up. That is the conundrum: it is fine to say that there will be a financial incentive or a consumer offer—the Minister says that we will never need to resort to using the powers in these clauses—but it is clear that some people are reluctant to sign up. If the financial inducement is not enough, how will the Government and the gas operators take those people with them and get this over the finishing line?

It is absolute critical that we take people with us. It is critical that consumers understand the offer they are getting, the risk and the way that the hydrogen trials are being undertaken. It is important that there is transparency in the reporting of the trials. In particular, we need to understand how risks and leakages will be reported. The worst thing that can happen is for rumours or wrong perceptions to circulate.

Amendment 118 is intended to give people an alternative to being part of a hydrogen trial. I support that principle, but that still leaves us with the dilemma of what happens if a household says, "I don't want to be part of a hydrogen trial and, by the way, you can forget these heat pump things. I am quite happy with my methane gas, thank you very much." What would happen in that circumstance?

That brings me to the Minister's argument on Second Reading that the powers will not be used to either force people into the hydrogen trial or leave them disconnected from the gas network. What happens if not enough people are signing up? Frankly, the Government will then have a dilemma. If they want to facilitate these hydrogen trials, they need enough people on the hydrogen network, otherwise the trials will not be sufficient to get an understanding of, or see, the proper operation and benefits of hydrogen.

What will the Government do if not enough people are signing up? How will they facilitate people signing up without forcing them, and how will they get these powers to be successful in terms of mass criticality? There is the old phrase, "You can't make an omelette without breaking some eggs." It might well be that the Government are going to upset some people, but they will have to be honest about it. Just saying, "There is no way we will use the powers in the Bill" might be unintentionally disingenuous. I am curious what the Minister's thoughts are. It is fine to say that the Government will not use them, but that remains to be seen.

Andrew Bowie: I thank hon. Members for their comments. The hon. Member for Kilmarnock and Loudoun is absolutely right that there is a third village trial, which has not been referenced this morning. That is, of course, the H100 trial in the kingdom of Fife. I will endeavour to get an answer to him on how many households have chosen to take part in that. I do not have the figure to hand, but I will write to him with an updated number.

On the other two trials, final decisions have yet to be made on the locations, and details of the exact processes are a matter for the companies and operators engaging in the trial. I thank the hon. Member for Southampton, Test for his amendment. It is very important that we discuss the issues he raised. We have always been very clear that nobody will be forced to use hydrogen, and alternative heating solutions and appliances such as electric heating systems and cookers will be offered for those who do not take part in the trial. As my noble Friend Lord Callanan confirmed in the other place, all consumers in the trial location will have the right to decide whether they use hydrogen or an alternative heating solution for the duration of the trial.

The requirement was clearly established in a joint letter from the then Department for Business, Energy and Industrial Strategy and Ofgem to the gas transporters, which set out the requirements that will have to be met before any funding is provided to the next stages of the trial. It is on the shoulders of the operator to prove that they have community consent to proceed with the trial in a given location. This is a fundamental requirement for the trial. The gas transporters need to demonstrate that they have a viable plan for providing alternatives, otherwise His Majesty's Government will not proceed with the trial proposal. This obligation will also form part of any future funding agreement.

Alan Brown: I think that goes to the heart of what I was getting at. The Minister is saying that the Government will not proceed if not enough people sign up and give consent to the gas network companies. Are the Government basically saying that people effectively get their own referendum or mandate to decide whether the Government's trials on hydrogen go ahead? It seems to me that it is fundamental to Government policy to test this out, but they are actually saying that by default citizens will decide whether the trials are going ahead or not. That could completely derail Government policy.

Andrew Bowie: I hasten to suggest that what we are doing through this Bill is legislating to facilitate for the operation of those trials within the United Kingdom. The merits of such trials and the procedures through which operators convince or make the case for those trials going ahead will be a debate following our establishment of the frameworks through which we would like to see the trials develop. That is what we are debating through the Bill today.

I would like to say again that there is already an effective way to ensure that the networks provide an alternative to hydrogen. As such, we do not believe that adding to the Bill is necessary for the success of any of the trials. I fully appreciate the intention of the hon. Member for Southampton, Test to ensure that the trials are conducted properly, with alternative systems offered to those who take part.

I realise that I have not answered the hon. Member for Sheffield, Hallam's question; the same offer will be made to businesses as households. Businesses will be protected in the same way as individual households are as a result of how we have drafted the Bill. I hope hon. Members are reassured that there are already steps in place to ensure that everybody is protected and that there is a choice. I hope the hon. Member for Southampton, Test will find it within himself not to press his amendment to a vote.

Question put and agreed to.

Clause 114 accordingly ordered to stand part of the Bill.

Clause 115

REGULATIONS FOR PROTECTION OF CONSUMERS

The Chair: I would like to check with Dr Whitehead whether he wishes to move his amendment formally?

Dr Whitehead: I would like to move the amendment formally and explain briefly why the Opposition would like the amendment.

The Chair: The debate has already taken place. It is down to you, Dr Whitehead, to move the amendment formally.

Amendment proposed: 118, in clause 115, page 106, line 23, at end insert—

> "(4A) Provision under subsection (4), where a gas transporter is conducting a trial involving a fully alternative grid for the purpose of hydrogen delivery, must include guaranteed installation of other forms of low carbon heating by the gas transporter where a household does not wish to take part in the hydrogen grid conversion trial."—*(Dr Whitehead.)*

This amendment seeks to ensure that no household will be forced to take part in the trial and will be given an alternative heating solution by the gas transporter (the DNO).

The Committee divided: Ayes 6, Noes 6.

Division No. 3]

AYES

Blake, Olivia	Owatemi, Taiwo
Brown, Alan	Western, Andrew
Nichols, Charlotte	Whitehead, Dr Alan

NOES

Afolami, Bim	Fletcher, Katherine
Bowie, Andrew	Gideon, Jo
Britcliffe, Sara	Morrissey, Joy

The Chair: In accordance with precedent, I give my vote to the Noes.

Question accordingly negatived.

Clause 115 ordered to stand part of the Bill.

Clause 116

FUSION ENERGY FACILITIES: NUCLEAR SITE LICENCE NOT REQUIRED

Question proposed, That the clause stand part of the Bill.

The Chair: With this it will be convenient to discuss new clause 51— *Fusion energy facilities: nuclear site licensing—*

> "The Secretary of State must consult on and establish a revised nuclear site licence regime for fusion energy which will not be subject to the full range of safeguards associated with the use of fissionable materials but must have regard to the residual radioactivity of the proceeds of fusion activity."

Andrew Bowie: Clause 116 clarifies the regulatory framework for fusion energy facilities by explicitly excluding them from nuclear site licensing requirements. That will provide certainty for the public, regulators, and fusion developers and investors. We are acting now to deliver on the Government's fusion strategy, which was published last year and set out how the UK aims to commercialise fusion energy, which could provide a source of low carbon, safe, secure and effectively unlimited energy.

The UK is widely recognised as a world leader in the most promising fusion technologies. For example, the UK's ambitious spherical tokamak for energy production programme—STEP— aims to develop and build a fusion prototype powerplant in the UK by 2040. That is only 17 years away. We announced in October 2022 that the site for STEP would be at West Burton in Nottinghamshire, which will help to bring high-skilled jobs and investment to that region.

Experimental fusion facilities currently operating in the UK are regulated under a framework that is separate from the nuclear site licensing regime. Under that framework, the Environment Agency and the Health and Safety Executive have, since 1983, successfully regulated the Joint European Torus, which is currently the most powerful operational fusion device in the world. It is run by the UK Atomic Energy Authority in Oxfordshire, which I have had the pleasure of visiting.

Following consideration of the responses from last year's consultation on fusion regulation, the Government have decided that this framework would provide proportionate and appropriate regulation of future fusion energy facilities. It is a position supported by the current regulators. Clause 116 makes the UK the first country in the world to legislate for fusion energy. It will enable the sector to plan with confidence, based on a regulatory framework that will continue to maintain public and environmental safety, helping to encourage investment and accelerating the commercialisation of fusion energy.

Dr Whitehead: This is a bit of a stand-alone clause, in as much as it seeks to separate fusion energy from fission energy in terms of its future regulation. As the Minister set out, it is a pretty negative clause, in as much as it appears to suggest that fusion energy is equivalent to worrying about regulation for a warehouse or a general industrial site, as opposed to what is, in the Nuclear Installations Act 1965, a very systematic programme of regulation and care taken for the installation of nuclear plants.

12.15 pm

The clause effectively says that we do not want anything to do with the Nuclear Installations Act, and the safeguards, arrangements and regulations that have been in place for a long time with regard to licensing, the progress of nuclear site safety, the disposal of radioactive waste, and various other things. That is a mistake that will come back to bite the Government if the clause stands part. It is simply not true that fusion reactors are like warehouses; they are substantial radioactivity producers in their own right. They produce radioactivity in different ways than fission, and in smaller amounts.

Katherine Fletcher (South Ribble) (Con): This summer, along with colleagues on the Science and Technology Committee, I had the opportunity to visit the Torus at Oxford—a particularly impressive site—and to hear from not only academic scientists but private businesses, and they were calling for this measure. Having seen as a little girl, and worked in, the nuclear fission industry in Sellafield, I can assure the hon. Gentleman that these are two completely separate processes. The stripping of electrons to produce a plasma—while nuclear, in that it is engaging with nuclear atoms in the centre—is not the same as splitting large amounts of, say, uranium and creating by-products that could be injurious to human health and require an enormous amount of regulation, such as alpha and beta radiation. Does he agree that it is possible that in seeking to be mega safe, we risk choking off an energy source that could be the answer for all our futures, and one in which Britain is genuinely recognised as a global leader?

Dr Whitehead: The hon. Member is right that the processes are quite different—I was about to put forward a few reflections on that—but they are not completely unconnected. As she mentioned, fusion is essentially about containing a very high-temperature process of the fusion of molecules into other molecules—

Katherine Fletcher: Plasma, yes.

Dr Whitehead: Into a plasma within a contained vessel. The processes of producing that plasma for the purposes of electricity generation are indeed very different from producing steam, effectively, for electricity generation through the decay of radioactive isotopes within a controlled reactor. However, what happens when that plasma is produced is that a very large amount of neutrons are released, which bombard the sides of the vessels within which the whole process is contained so that, over a period of time, the atomic structure of those vessels starts to change and there is considerable radioactivity contained within the vessels, which, when the site is decommissioned, would have to be taken down and probably stored in a repository in the long term because of its enduring radioactivity. The hon. Member is also right to say that the life of the radioactivity that is produced in the plasma process is a question of, among other things, tritium.

Katherine Fletcher: Is the hon. Gentleman suggesting that an individual neutron is a body that can further emit a radioactive source? That cannot be true. Radioactivity, by its nature, is the smaller bits that come as a co-product. While I accept that there is a need to make sure that any industry is responsible and can look after itself, it is about making sure that the industry is being properly regulated, but perhaps not regulated as a fission nuclear site. I am sure he will agree that although the containment vessel is important in the process, it is actually about the generation of the electromagnetic fields that contain the plasma, which is the subject of much research at the moment and would prevent the problem he is describing—of neutron leaking into both the concrete and steel containers. Will he clarify that point? A neutron, in itself, can only decay into quarks. That is what the clever guys at CERN do when they smash things together at speed.

Dr Whitehead: The hon. Member is of course right to say that neutrons, in their own right, cannot produce radioactivity, but that is not what I was saying. What I was saying is that the process by which neutrons are released to bombard the vessel in which the process is contained indirectly produces radioactivity through changes in the structure of that outer casing. Perhaps I can inform the Committee briefly by setting out the description in a recent note from the Bulletin of the Atomic Scientists, which says:

> "To produce usable heat, the neutron streams carrying 80 percent of the energy from deuterium-tritium fusion must be decelerated and cooled by the reactor structure, its surrounding lithium-containing blanket, and the coolant. The neutron radiation damage in the solid vessel wall is expected to be worse than in fission reactors because of the higher neutron energies. Fusion neutrons knock atoms out of their usual lattice positions, causing swelling and fracturing of the structure. Also, neutron-induced reactions generate large amounts of interstitial helium and hydrogen, forming gas pockets that lead to additional swelling, embrittlement, and fatigue. These phenomena put the integrity of the reaction vessel in peril."

I think the hon. Member will be clear from that that it is not the neutrons that are the issue; it is the radiation.

Katherine Fletcher: Will the hon. Gentleman give way?

The Chair: Order.

Katherine Fletcher: I will be very brief, I promise.

The Chair: Both your previous interventions have been quite long. Perhaps you might consider making a full contribution when Dr Whitehead has come to the end of his remarks.

Katherine Fletcher: I will take your advice, Ms Nokes.

The Chair: Thank you.

Dr Whitehead: I hope we have established that it is not the case that fusion activity is much more advantageous than fission from a safety and waste point of view. It is not, in itself, radioactive neutral. Additionally, the process produces a relatively small amount of tritium—much more of which is produced in fission reactors—which clings to the vessels and can get into the waste stream and produce radioactive water. Although that is not a big concern, it certainly needs to be taken into account as far as safety features of the overall plants are concerned. The case that I am trying to make is that, though it is important to progress with fusion—which is a much safer and, as the Minister said, potentially much more abundant source of energy—we should not be blind to its side effects.

As I have described, the side effects are not just about the problem of the potential embrittlement of the casing and the need to treat that casing in due course, the need to stop tritium release through lithium blankets around the sphere core and the difficulty of making those blankets completely sealable. All those things suggest that the sorts of actions in the nuclear installation regulations and the Nuclear Installations Act 1965 are rather more pertinent than we might have thought, than the Minister suggested or than the clause seems to provide. I suggest a modest revision of the clause so that, instead of dismissing the safety concerns about and operational arrangements for fusion, it brings forward a revised, and perhaps acceptably less rigorous, process that nevertheless falls within overall nuclear guidelines for fusion activities.

In any debate on fusion, it has always been said that fusion is a very bright future for us but that it is 40 years away. Well, it is not 40 years away now; it is much closer to being realised. As the Minister said, in the UK, spherical tokamak for energy production is potentially producing good results, so we could be a few years away from having to get this regime right, and it is right that we do so now. Our new clause 51, which—for the guidance of those who have given up going through all the amendments and new clauses in the amendment paper—is to be found right at the back on page 58, states:

"The Secretary of State must consult on and establish a revised nuclear site licence regime for fusion energy which will not be subject to the full range of safeguards associated with the use of fissionable materials but must have regard to the residual radioactivity of the proceeds of fusion activity."

That is a sensible alternative that will not, or should not, in any way impede the development of fusion, but will provide a clear understanding as to what we are dealing with as far as fusion is concerned. It would be a programme of appropriate and proportionate safeguards—yes, associated with nuclear safeguards in the background—that makes clear the very different circumstances under which fusion works. That would be helpful.

Andrew Western (Stretford and Urmston) (Lab): I am listening carefully to the debate that is unfolding. We appear to be heading towards a binary position—fulfilling all the requirements under the Nuclear Installations Act 1965 or effectively removing all the requirements as the fusion process comes in. Does my hon. Friend agree that actually the balance of risk is not binary in that way—that fusion can activate the walls of the plasma vessel as he has set out and that therefore, although we all agree that we should seek to step down some of the licensing requirements, it would indeed be prudent to have some process, subject to broader restrictions around nuclear, that would place us within the realms of acting in a way that is "better safe than sorry"?

12.30 pm

Dr Whitehead: My hon. Friend has put forward very well a potential problem that we are moving towards here—a problem that the new clause, which I am sure he will support, is designed to get us out of. This is a specific solution to the potentially binary nature of the debate. It is to accept that some safeguards are necessary, that there is some radioactivity, that it is not of the same nature or extent as under fissionable arrangements and that it is not necessary to put in place all the same safeguards as for fissionable activity, as if fusion were just a subset of fissionable activity. I recognise that that is not the case and that the safety regime need not be the same as for everything related to fissionable activity.

This morning, I heard the Minister say that the Government are perhaps thinking about some form of regulation that would go beyond what appears to be the negative nature of this particular proposal, but at the moment I cannot see any moves in that direction. The new clause would, I think, give us the best of both worlds. It would allow us to proceed with fusion activity with safety clearly uppermost in our minds, but we would not be impeding the process by the way we regulated. We would all want this to happen. It is a proper arrangement as far as safety is concerned, and would enable proper progress as far as fusion is concerned.

Once again, if the Minister is not more forthcoming in moving away from the position of this particular new clause, we may want to divide on it: it is an important principle that we should get regulation right, from the start of the fusion process. I agree with the Minister that it could mean an exciting future, but it needs to have the proper safeguards in place for it to work in all our interests in the years to come.

The Chair: I call Katherine Fletcher.

Katherine Fletcher: Thank you, Ms Nokes, and I apologise for not prosecuting my arguments procedurally in the correct way earlier. I want to respond to what the hon. Member for Southampton, Test has said. I completely accept that he has tabled his new clause in the spirit of public safety, but I do think that this is an area that could be better understood by the public. I gently suggest to him that there might be a slight misapprehension in some of the material that he just quoted from.

What the hon. Gentleman was describing was neutrons degrading a physical structure, as a by-product of the plasma. There is an analogy here: it is almost like it getting shot at or water going through a concrete structure and then causing rust and degrading the steel within it. That is not necessarily the creation of a nuclear radioactive source; that is something being peppered with neutrons. And that is why it is not a commercially viable facility at the moment—because there are still things to be worked out, not least how we ensure that we do not build a very

[Katherine Fletcher]

expensive thing that, by its own nature, then degrades over time and use. But that is not the same as creating a radioactive source.

The hon. Gentleman mentioned deuterium and tritium, which are different types of naturally occurring hydrogen elements. Tritium sounds, to my ear, almost like something that the Terminator would be using to do something particularly exciting. In fact, it is only a hydrogen that occurs in nature and that has a single proton and two neutrons within the nucleus, so it is a bit bigger and heavier than is typical. What that means is that it is a little more unstable. The natural half-life of tritium is 12 years, whereas the nuclear regulations that the hon. Gentleman seeks to apply or partially apply in this instance are designed to deal with things that have half-lives of thousands of years. Someone will tell me that I have this wrong, but with uranium-238 we are talking about very different orders of magnitude—

Olivia Blake: I am a biomedical scientist by background, so I come to this with a medical perspective. The issue with tritium is that it produces beta waves, which are a more damaging form of radiation to human tissues—only in a minor way, as it has a score of 1 compared with 20 for alpha waves, but there is an underlying risk. Exposure of the workforce to that level continuously could put DNA stability at risk, because it is an ionising form of radiation. If there is a problem—containment is always a big challenge that gets raised by scientists—hopefully we will overcome it, but it is right to have the protections, particularly for the workforce. That is why I welcome new clause 51.

Katherine Fletcher: I thank the hon. Lady for her intervention. Of course beta radiation is produced when a nucleus is separated, when the neutrons in tritium move away. For me, it is a question of proportionality and risk. At the moment, there is no viable commercial solution, so there is not a workforce but a research community, which is publicly and privately funded. On that becoming a workforce solution, I agree with her that ensuring that people are safe at work is vital but, should this come about, the Health and Safety Executive will not leave it unmonitored. However, new clause 51 is not about workplace safety; it is about putting something that is fundamentally not nuclear fission, as opposed to nuclear fusion, into a set of regulations designed to deal with such things.

I wondered about the criteria, given that the hon. Member for Sheffield, Hallam mentioned radioactivity occurring in the fusion environment. What percentage of Cornwall, with its radon gas, might be caught up in the thresholds? I will be interested to pursue on Report what we are actually talking about. As a scientist, the hon. Lady knows that 100 is very different from 1, even though 1 poses some risk.

I am grateful to the hon. Member for Southampton, Test for tabling the new clause, but given the opportunity for clean, net zero energy—which really could be the panacea for the world, as tree-huggers like me would say—in the UK we should look to tread lightly, but carefully, with any regulation of an industry that has such a level of potential and to which the UK has contributed so much already. He mentioned torus structures, but those are only one of a series of different potential generational tools—torus might be the research tool, not the commercial tool, so his concerns could disappear with a completely different production facility, perhaps based on electromagnetic rather than physical containment.

With regret, because I understand the genuine and heartfelt nature of the hon. Gentleman's new clause, I think it is important that we do not stifle a nascent industry with regulation. I will therefore support the Government's position.

Andrew Bowie: I thank my hon. Friend and Opposition Members for a fascinating discussion of the clause and new clause 51, and of how we proceed with regulation of this nascent industry—a technology in which we are leading the world, as has been said multiple times. Such comments have also been made in various legislatures around the world, including the US Senate, in which a wish was recently expressed to match the progress being made in the United Kingdom and to have a framework such as the one in which we have allowed fusion technology to be developed.

The Government's plans are about working up from the frameworks that apply to existing fusion sites, rather than working down from them. We believe that the new clause could stifle the development of the technology that we have been exploring in depth this morning. It is vital to stress that we are not—definitely not—trying to make fusion energy facilities avoid licensing requirements. Nor are we seeking to water down any regulations. For a fusion energy facility to be developed and operated in a lawful way, it must go through permitting and consenting processes governed by the relevant regulators. In England, those are the Environment Agency and the Health and Safety Executive. This is consistent with how other facilities with radioactive materials such as cyclotrons and large-scale industrial irradiators are regulated for at the moment.

The regulatory process that we have right now requires fusion energy facilities to go through various approval stages as well as ongoing compliance and engagement. The requirements associated with those regulatory obligations are proportionate to the hazard associated with the fusion energy facility. I should also say the legislative consent motion procedure has been invoked. We have already consulted the Scottish Government on the procedure and they raised no concerns; obviously, there are separate regulations and bodies responsible for the issue in Scotland.

We do not believe that fusion energy facilities should require nuclear site licences. That is what we are discussing this morning. They should not go through the process requiring nuclear site licences because, following consultation, we believe that that would be disproportionate to the hazards associated with fusion. Such hazards, as various hon. Members have explained in greater detail than I would ever be able to, are significantly lower than with nuclear fission, and the regulatory frameworks required for fission would therefore be too burdensome for the technology.

The Government agreed with the majority of the consultation respondents that the existing regulatory processes of consenting and permitting would be proportionate and appropriate for fusion energy facilities. That was all set out in a full consultation that preceded

the introduction of the Bill. We see no need to consult again on the same issue at this time. I hope I have been able to set the minds of the hon. Member for Southampton Test and others at rest following their justifiable, reasonable and well thought through questions on this matter. I hope that he will feel able to withdraw his amendment.

The Chair: The new clause has been debated, but we will not be taking a decision on it at this point.

Question put and agreed to.

Clause 116 accordingly ordered to stand part of the Bill.

Clause 117

TREATMENT OF RECYCLED CARBON FUEL AND NUCLEAR-DERIVED FUEL AS RENEWABLE TRANSPORT FUEL

Question proposed, That the clause stand part of the Bill.

Andrew Bowie: Transport is the largest emitting sector of greenhouse gas emissions, producing 26% of the UK's total emissions in 2021. Low carbon alternatives to traditional fuels such as petrol and diesel will play an important role in our energy transition. The renewable transport fuel obligation and the forthcoming sustainable aviation fuel mandate supports our policy on decarbonising transport by encouraging the production and use of renewable fuels that do not damage the environment.

Clause 117 will enable two types of low carbon to be treated as though they were renewable for the sole purpose of those schemes, helping the UK to further decarbonise transport. The two low carbon fuels are recycled carbon fuels, produced from otherwise unrecyclable waste plastics or industrial waste gases that cannot be avoided, reused, or recycled, and fuels derived from nuclear energy.

Currently, powers under the Energy Act 2004 only permit renewable fuels to be supported. The clause has been carefully drafted so that it does not classify recycled carbon fuels and nuclear-derived fuels as renewable fuels, ensuring these fuels are treated as though they were renewable for the sole purpose of part 2, chapter 5 of the Energy Act 2004. That allows schemes such as the renewable transport fuel obligation and forthcoming sustainable aviation fuel mandate to support the use of those types of fuels. It does not grant them wider consideration as renewable fuels.

Both fuel types have the potential to deliver significant carbon savings over traditional fossil fuels and are a vital replacement for difficult-to-decarbonise sectors such as commercial aviation and heavy goods vehicles.

Dr Whitehead: I have nothing to say on the clause, but I believe that my hon. Friend the Member for Sheffield, Hallam does.

Olivia Blake: I have a few concerns about clause 117, which would, as the Minister outlined, allow fossil fuel waste to be reclassified as renewable energy in the form of fuels for policies including the proposed sustainable aviation fuel mandate, which is currently being consulted on by the Department for Transport. It seems the Department would like to be able to include recycled carbon fuels, including unrecyclable plastic, as eligible fuels under the sustainable aviation fuel mandate. That is why the Bill will permit recycled carbon fuel to be treated as renewable, to help us to meet our sustainability targets.

12.45 pm

I hope that the Minister knows where I am going with this. There is one quite significant problem: recycled carbon fuel, especially from plastics, is not necessarily sustainable. Research from the US suggests that the process of converting plastics into fuel can create highly carcinogenic air pollution, and that we might approach the technology with caution—exactly the opposite of what is proposed in the Bill. It is obvious that we are taking carbon that is fixed in plastic and burning it to release the carbon. The idea that that is a decarbonisation mechanism for our atmosphere is quite incredible.

The UK Government have targets to phase out wastes generally, especially unrecyclable plastics. There is a huge public push for that, with the reduction of single-use plastics. By creating a new market for that waste, there is a real risk of creating disincentives to achieve carbon reduction in products and plastics, to achieve waste avoidance. This could be used as a mechanism to prevent further progress in that space.

More broadly, as we all know, there is an urgent need to reduce the current level of carbon dioxide in our atmosphere. This proposal would instead convert waste fossil fuels into a liquid form that allows carbon to be rereleased as CO_2 into the atmosphere, together with non-CO_2 impacts generated from aviation. We cannot simply go about changing definitions and hoping that that will lead to more decarbonisation. Allowing the aviation sector to make misleading or simply wrong claims about sustainability would be deeply unhelpful in meeting the target for net zero for aviation by 2050.

There are many ways in which we can make synthetic aviation fuel that are truly about carbon capture, and there is a lot of work on that, but simply changing the label on what unrecyclable plastics are is deeply unhelpful. The Minister should think deeply about the unforeseen consequences of allowing that business to thrive. We really want to reduce our reliance on fossil fuels. Net zero is what it says on the tin—it is about net zero—but we also have to make efforts to reduce our usage of carbon products from fossil fuels. This is a difficult point for me to get my head around, and I would like to understand the Minister's reason for embracing a measure that seems quite anti-progress in terms of reducing our use of plastics, and how it is compatible with the future of net zero.

Andrew Bowie: I thank the hon. Member for Sheffield, Hallam for her questions. As well thought through and well meaning as they are, the renewable transport fuel obligation already requires that fuels meet strict eligibility criteria to ensure that they are sustainable and provide minimum greenhouse gas savings compared with traditional fossil fuels such as petrol or diesel. In respect to recycled carbon fuels, we are currently consulting on a detailed methodology to ensure that the emissions associated with their production and use are correctly quantified.

[Andrew Bowie]

Using nuclear energy to produce hydrogen, for example, has very low operational and full life cycle carbon intensity, with no indirect land use impacts.

The hon. Lady also asked about the potential that this may, by accident, incentivise or perpetuate the creation of plastic waste or industrial processes that generate waste gases. Recycled carbon fuels are fuels produced from fossil waste that cannot be avoided, reused or recycled, and have the potential to reduce greenhouse gas emissions relative to petrol or diesel. I know that she understands that.

In line with the principles of the waste hierarchy, our recent consultation on introducing recycled carbon fuels into the renewable transport fuel obligation set out eligibility criteria to ensure that recycled carbon fuels would not be produced from recyclable material. Other schemes, such as the sustainable aviation fuel mandate, will have similar criteria to ensure that the production of waste is not incentivised by this. For solid recycled carbon fuels to be eligible for support, suppliers must be able to demonstrate that the waste is derived from facilities that have adequate separation processes to remove recyclable plastics. We believe that converting non-recyclable waste plastic into recycled carbon fuels can achieve a greater energy recovery than disposing of the waste via conventional means. I hope that answers the hon. Lady's concerns.

Question put and agreed to.

Clause 117 accordingly ordered to stand part of the Bill.

Clause 118

Climate Change Act 2008: meaning of "UK removals"

Question proposed, That the clause stand part of the Bill.

Andrew Bowie: This is a very short clause. The purpose of the clause is to enable engineered removals of greenhouse gas emissions to count towards our carbon budgets by amending the definition of UK removals in the Climate Change Act 2008. This amendment follows a direct recommendation from the Climate Change Committee in their sixth carbon budget report on greenhouse gas removals. In the net zero strategy, we set the ambition of deploying at least 5 million tonnes of CO_2 per year of engineered removals, such as bioenergy with carbon capture and storage and direct air carbon capture and storage, by 2030, in line with assessments made by the Climate Change Committee and the National Infrastructure Commission. This amendment provides for these removals to be included in the calculation of carbon budgets.

Dr Whitehead: This is another stand-alone clause. We have discussed the question of DACCS and other forms of mechanical greenhouse gas removal before, and our consensus of understanding was that potentially this could be quite an important element of carbon removal in the future. It is therefore important that it is included in definitions and calculations, and we certainly support the change to achieve that outcome.

Alan Brown: I will be quick. I am quite happy to support the clause. Bill Gates said just the other day that the technology has moved much quicker than even he believed. The Minister will be well aware that one of the possible technologies that will be deployed in the Scottish cluster is direct air capture. With this clause and the Bill coming through, it makes it even more imperative that the Scottish cluster is given the support it needs and the track 2 timeframe is confirmed, so that we can get the legislation in place and deliver the carbon savings that the Government want to see.

Andrew Bowie: I do not disagree. As the hon. Member knows, I am a passionate advocate of carbon capture, utilisation and storage and the clusters emerging across the United Kingdom. As I know he supports and champions, we have already spent over £40 million supporting the Scottish cluster as a UK Government.

Question put and agreed to.

Clause 118 accordingly ordered to stand part of the Bill.

Clause 119

The Independent System Operator and Planner ("the ISOP")

Dr Whitehead: I beg to move amendment 95, in clause 119, page 108, line 34, at end insert

"including the oversight of efficiency and loss reduction in cabling".

This amendment would give the Independent System Operator oversight of cabling efficiency and loss reduction in cabling.

The Chair: With this it will be convenient to discuss the following:

Amendment 96, in clause 119, page 109, line 3, at end insert

"and of distribution systems in conjunction with licenced distribution system operators".

This amendment would include certain distribution systems in the functions of the ISOP.

Amendment 97, in clause 119, page 109, line 5, at end insert

"and of distribution systems in conjunction with licensed distribution system operators".

This amendment would include certain distribution systems in the functions of the ISOP.

Clause stand part.

Clause 120 stand part.

New clause 37—*Assurance of independence of system and distribution operators—*

"(1) The Secretary of State must appoint a supervisory and advisory board of at least eight suitably qualified independent energy figures to assist the person designated as the ISOP under section 120.

(2) The purpose of the board appointed under subsection (1) is to assure the independence of transmission and distribution system operators through independent oversight of and advice to the ISOP.

(3) Energy UK and the Energy Networks Association must be consulted on the appointment of the board under subsection (1).

(4) The Secretary of State may make provision of financial assistance to enable the board to carry out its functions."

This new clause aims to ensure the independence of system and distribution operators.

Dr Whitehead: We come to a section of the Bill that I heartily approve of. I have long championed the idea that we set up an independent system operator in this country. It is really important in our next phase and where we go in renewing our infrastructure, and ensuring there are delivery mechanisms to cope with the renewable energy that we hope will be the mainstay of our carbon production. It is important not only that those systems are in place, but that they are in place as soon as possible. There will be discussions in this section about the best way of ensuring that the ISOP is set up in such a way that it can perform that function.

As the Minister will know, the independent system operator has been in gestation for a while, in terms of the separating of National Grid ESO from the National Grid itself. National Grid ESO now performs something of the function I have started to describe, but without the remit to do so. What we need over the next period is not just National Grid ESO, nor something with a different name from National Grid ESO, but something that is much closer to a system architect in upgrading our systems for renewable purposes. That is how I see the development of the ISOP. It is important that in our first go at what the ISOP does, as it were, we get the best combination of things it is responsible for and that we get right its ISOP set-up.

In the development of the grid so far, certainly as far as renewable energy connections are concerned, there is no real distinction between the high-level grid, which was the historic purview of National Grid and ISOP, and the lower-level grid, which is still pretty powerful but is in the hands of the distributed network organisations. Sometimes a false distinction is made between what is happening at National Grid level and what is happening at a more regional or local level. There is no real distinction now, because renewable sources, in particular, are seeking to substantially connect to 123 kV cables to a far greater extent than they are seeking to connect to high-level grid 440 kV cables. Consequently, some of the biggest backlogs in connection dates are not just in the high-level grid.

The Minister will be aware—we have discussed this previously in the House—that a number of large wind farms are getting connection dates to bring ashore and distribute the electricity they are producing not just a few years away, but in 2036. As I have mentioned previously in the House, that is one year away from when the Government have indicated they wish to see a predominantly renewable energy system in place. We may well have the tools to have the low-carbon energy system in place, but if we cannot deliver the electricity from those tools to anybody, we do not have a low-carbon energy system in place in the end. It is important that we get the system properly in place, so that it can deliver the connections and the offshore re-cabling. That way we will have a decent grid highway with anticipatory investment.

Alan Brown: On the hon. Member's comments about offshore green infrastructure, does he share my concern that offshore developers in Scotland are now being told that they need to connect to the grid in Blyth because the connections are not available in Scotland? It just seems counterproductive and clearly adds additional costs to these projects.

1 pm

Dr Whitehead: Indeed. The hon. Member makes an important point about where we connect and the facilities for connection, which I will consider briefly in a moment. This is also a substantial problem with DNOs, as we know from published data on local junction boxes and various other things. How long a local or a regional connection will take is determined by whether the system is red, yellow or green in terms of its local connections within the DNO network. We are seeing similar waiting times for smaller connections and the sort of large offshore connections that the hon. Member mentioned. Obviously, that is difficult in helping to ensure that onshore electricity is delivered as well as offshore electricity. That is one reason why the distinction between the high-level grid and the lower-level grid in the circumstances of our renewable, low-carbon future is not as great as has hitherto been the case.

The hon. Member for Kilmarnock and Loudoun rightly draws attention to the fact that some Scottish-based offshore schemes are now being asked, on a point-to-point basis, to connect south of the border, because the facilities for delivering from those connections, were they to be north of the border, are not as good as they should be. Interestingly, the Government are presently considering a bizarre series of arrangements called marginal cost pricing, which will deter certain people from taking particular views about where they should connect because there will be a price differential in connecting. As I am sure the hon. Member will agree, the solution is not to start messing about with theoretical market considerations about who might connect where, but to build the stuff so that people can connect to it properly, where they are and where they want to be, with a certainty that there will be a connection in a short period of time and that what they have connected to gets to where we want it to be. Those are all reasons why the ISOP will be so important.

Through these amendments we want in no way to undermine, but rather to enhance, the substance of the ISOP. Our amendments, which are on page 5 of the amendment paper, seek to do several things regarding the structure and operation of the ISOP. First, we think that the ISOP should have oversight not just of the cabling itself, but of the cabling efficiency and loss reduction in cabling as it goes around the country. That is a potentially important issue for the future. I am sure that hon. Members know how much electricity is lost just by the transmission function.

Katherine Fletcher: I believe it is about 6% in standard main lines, which presents a huge opportunity for us to be more efficient with the energy we generate and transmit.

Dr Whitehead: The hon. Member is absolutely right. I think the figure is around 6%—sometimes a bit higher—but part of the issue with that loss is not just the general inefficiency of the system; under certain circumstances, we are using cables for transmission that are much less efficient than they should be.

I visited—this shows the exciting things that I do as shadow Energy Minister—a test site of a highly efficient cable system. I will not mention the company's name, but as far as I know it is pursuing a much more efficient cable system with a number of DNOs. When I got to

[Dr Whitehead]

the site, there was not very much to see because the cable had been buried underground; I was pointed to a field. There was, however, in the corner of the field, a hut in which calculations on how the cable was performing, and how it would perform in conjunction with other forms of cable, were being undertaken. I was able to see for myself an increase in the efficiency of the cable of about 15%, just by having that cable design as opposed to others.

It seems to me quite important that the cabling introduced to our new system be as efficient as possible. It needs to be clear to the companies that will put the closed cables in that that is what will be expected of them. That is why we would like an additional function to be added to the ISOP's concerns: oversight of efficiency and loss reduction in cabling.

We have tabled other amendments, which concern the relationship with the DNOs. It is important that we do not make an artificial distinction in terms of what we are doing with the ISOP in the high-level system and others. I am afraid that the Bill, whether intentionally or not, appears to create that divide. The DNOs can get on with their activities, and the high-level grid will have a different system of governance and management. That is why amendment 96 would add

"and of distribution systems in conjunction with licenced distribution system operators"

to the end of line 3, in clause 119. Amendment 97 would add the same words. That would create a much better system of co-operation and collaboration between the DNOs and the new system operator.

I appreciate that we will not vote on new clause 37 today. It is important for the independent system operator really to be independent, and not a creature of either the energy companies or the Government, so that it has its own ability to look at the system, to produce recommendations and arrangements, and to oversee the development of the system as its own master within that.

We therefore suggest in new clause 37 that an independent advisory board be set up to ensure the independence of the ISOP. There are other ways of doing this, but we are suggesting one particular way of ensuring that the ISOP operates in the genuinely independent way that we all want it to in pursuit of the future of grids and connections.

I hope that the Minister and the Committee understand that our amendments and new clauses all seek to help with the ISOP. I hope that the Minister will respond positively by saying that there are different ways of achieving what we want to achieve with the ISOP's powers, or that, although he might not be able to accept the amendments today, he is actively minded to have a good think about them. By the way, I am grateful for the note that the Minister wrote to me last night about the fact that the Government have done just that with one particular amendment to the Bill. That sort of process could easily be followed in such circumstances in future.

Andrew Bowie: Before I expand on the Government's position and explain why we will not accept new clause 1 or the hon. Gentleman's amendments, I will acknowledge absolutely that connections and connection timelines are the biggest challenge we face—for electrification to grid, for driving our economy forward in the way we seek to and for reaching our net zero goals. Every single day for the past few months, but in particular this week, I have been engaging with DNOs, transmission operators, Nick Winser who conducted the independent review, Ofgem and the National Grid ESO about what we can do to drive down those timelines. At a critical point, part of that will be the creation of the ISOP. For the benefit of those who might be slightly confused, that is what we refer to outside the Bill as the future system operator—ISOP and the future system operator are one and the same thing.

I will now turn to the question asked by the hon. Member for Southampton, Test about why an advisory board would make ISOP risk-averse and not fully independent. We are concerned that, rather than enhancing independence, the members of such a board would likely hold various energy sector conflicts. That could crystallise in many ways, including resistance to systematic reform, advice to pay compensation to energy sector participants or an incumbent bias that would seek to frustrate new market entrants. Establishing an industry-led advisory board for the ISOP would be similar to establishing one for the Climate Change Committee—it is not required for an organisation that needs to remain independent, such as the Climate Change Committee, which we are using as the basis for how we proceed.

A prime consideration of the ISOP consultation was that the body should be independent from day-to-day Government control and from other energy sector interests. That is why we need to ensure that the ISOP is a trusted and independent voice within the energy sector.

Alan Brown: Again, I am in favour of the ISOP and happy to support that, but will the Minister give us some timescales? How soon after the Bill receives Royal Assent will the ISOP be up and running to authorise the independent operator?

Andrew Bowie: I am happy to answer the hon. Gentleman. The aim and the ambition is for the FSO/ISOP to be up and functioning by the middle of next year.

I turn to amendments 95, 96 and 97, tabled by the hon. Member for Southampton, Test. The Government agree that those are all things that the ISOP needs to bear in mind, but we think that the balance in part 4 would be distorted by calling them out in the high-level illustrative list of the ISOP's initial functions in the clause.

On amendment 95, matters already of concern to the existing system operator will continue to be a concern to the ISOP, in particular as it seeks to promote system efficiency under clause 121. On amendments 96 and 97, we understand that a closer relationship between the system operator and the distribution system operators—indeed, closer relationship across all energy networks—will allow for better co-ordination and ensure optimal system-wide planning. However, we do not think that such things should be included in the high-level illustrative list of the ISOP's initial functions. A new collaboration duty is not necessary as that lies at the very heart of our vision for the ISOP. The importance of co-ordination across networks is made clear by clause 121(4)(a) and the whole systems duty in 122(1)(c).

Clause 120 empowers the Secretary of State to designate the ISOP, doing so by granting a power to the Secretary of State to make the first designation of a person as the ISOP and, if needed, to revoke that designation and issue a new one. I commend clauses 119 and 120 to the Committee.

1.15 pm

Ordered, That the debate be now adjourned.—*(Joy Morrissey.)*

Adjourned till this day at Two o'clock.