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Good afternoon. Can I just confirm everyone can hear me clearly? And class was the live stream commence almost screen now that we are recording has started Excellent. For those people who are watching the live stream today can I also advise you that should we at any point adjourn proceedings this afternoon we'll have to stop the live streams give us clear recording files. So you do need to refresh your browser page when when we come back after a break or on the Germans. The time is now 2pm. And I'd like to welcome you all to this issue specific hearing into the scope of the proposed developments and it's in relation to the application made by net zero Teesside power limited Net Zero North Sea storage limited for the net 02 side project. The development proposed comprises number of elements and these include a gas fired Electricity Generating Station with post combustion carbon capture plants, gas, electricity and water connections, a carbon dioxide pipeline gathering network for collecting carbon dioxide from a cluster of local industries on Teesside high pressure carbon dioxide compressor station and an onshore carbon dioxide export pipeline. And thank you everybody for attending this meeting today, whether it be here in red, CO or virtually on Microsoft Teams. My name is Susan hunt. I'm a charter town planner and planning inspector. I'm employed by the planning Inspectorate and have been appointed by the Secretary of State for levelling up housing and communities to be a member of the panel for the examination of this application. I'm now going to ask my fellow panel members to introduce themselves.

Because afternoon, my name is Kevin Gleason. I'm also a chartered town planner. I've been appointed by the planning Inspectorate and been appointed by the Secretary of State to be lead member of the panel to examine this application.

Hello, my name is Beth Davis. I'm a chartered geologist and a planning inspector. And I've also been appointed by the Secretary of State to be a member of the panel for the examination.

And together we constitute the examining authority for this application. And we will be reporting to the Secretary of State for business energy and industrial strategy with a recommendation as to whether the development consent order be made. Can I begin just by asking if anyone attending this hearing either either virtually or in person today who did not attend the plenary meeting this morning. There's one here. I can't see any hands up on the on the screen. Looks like I can shorten the housekeeping matters if you're happy with that. Thank you. We are supported by Sean Evans, who is the case manager for this project. And sevens is supported by Alberto Santa Maria here in red care. And we've got a tiller ball source who is on Microsoft Teams. They are members of the case team and you're likely to come into contact with them during the course of the examination. And can I just remind everybody that the hearing is being recorded, so the recording will be retained for five years from the Secretary of State's decision. And please speak clearly and indicate your name and who you represent every time you speak. And could I also remind you to set your electronic devices including notifications to silence. This

afternoon, we do intend to take a short break in around an hour and a half's time 3:30pm If it appears we need to continue much beyond that time. But if anyone needs a break earlier than that, please alert the case team. There are any additional housekeeping matters in additional to those we run through this morning. I'll run through the introductions

I'm only going to ask those people who wish to speak at today's hearings together with the applicants to introduce themselves. If you're only an observer here today. There's no need to introduce yourself. Please would you state your name who you represent and how you should be addressed and please speak clearly. Can I start with the applicants and their advisors please?

Good afternoon Madam My name is Harry would fill pot Queen's counsel and I appear together with Isabella twofer of counsel to my left are instructed by Pinsent Masons on behalf of the applicants, in addition to myself, there will be three other speakers on behalf of the applicants at this afternoon, if I just sort of briefly introduce them now and then that you'll recognise them when they come to speak. To my immediate right as Mr. Andy lane, who's the Managing Director of NZT. And that's both of the applicant companies. To his right, Mr. Paul Edwards, who's the health safety environment and carbon director at BP. And then we also had Mr. Richard Lowe of AECOM, who sat in the second row, a director of a calm and he'll be coming along to speak later in due course.

Okay, thank you very much. Next, can we move on to South taste Development Corporation?

Thank you, madam. Good afternoon. My name is Tom Henderson, solicitor and partner with BDB Pitmans. were instructed by se Development Corporation or SDDC, as I'm referring to there's three other people representing SDDC I don't anticipate them being called upon to speak but I'll introduce them if and when we need to.

Okay, thank you very much, and representatives for all stead for Hornsey project for

Good afternoon, madam. My name is Scott McCallum. I am a partner at Shepherd and Wedderburn solicitors and appear today for our state Hornsey project for limited. I'm instructed to do madam by Francesco De Vita, I will move past to to introduce yourself. Thank you.

Good afternoon. My name is Francesca DaVita. I'm in house counsel at istead. It today I'm off with her said Hornsey project for limited and you may refer to me as Miss defeater and key.

Thank you very much. And finally, I've got Dr. Boswell down to speak today in his appearing third chilly.

Good afternoon, Madam. Yes. Dr. Andrew Boswell, climate Emergency Planning and Policy.

Thank you very much. Thank you. Does anybody else wish to speak today who hasn't already told the case team? No, not precluded from making comments throughout today's hearing. If there if you do hear something today that you wish to respond to just to let you know that the purpose of this examination is for the examining authority to examine the information submitted by both the applicants and interested parties. We are familiar with the documents that you've already been already submitted

to us. You don't need to repeat at length, what you've already submitted. And if you want to refer to information, we'd be grateful if you could give us the appropriate examination Library Reference. Additionally, the first time you use an abbreviation or an acronym, can you give the full title as there are people watching today who may not be as familiar with with those acronyms and the documents as you are? The hearing stay will be a structured discussion which will be led by the examining authority. The purpose of the hearing is to enable you to answer any questions that we may have to ensure that we have all the information we need in order to make our recommendations Secretary of State's the examination procedure rules require that we will identify the matters to be considered at the start of the meeting that the hearing. The agenda for today's hearing is set out in Annex f of the rule six lathe letter which was placed on the website on the 11th of April 22. And the substantive items on the agenda which we'll be going through today are to item two will set out the purpose of the hearing item three addresses the need for the proposed developments. Item four will consider the proposed development in the context of the net zero strategy. Item five will cover the components of the net zero to side project. Item six we'll look at alternatives. And then finally item seven will consider the extent of carbon dioxide gathering network And this agenda is for guidance only and we may well add other issues for consideration as we progress. We will conclude the hearing as soon as all relevant contributions have been made on all questions asked and responded to. If it takes longer than anticipated this afternoon, it may be necessary that we prioritise matters and defer others to further written questions. Or if you can't get the information that we asked for straight away then please indicate and you can respond in writing. Throughout the hearing, we're going to be referring to a number of key documents that the participants here today may wish to have access to, there will be the works plan key plan which is as 149 the carbon dioxide gathering network plans as 174 to as one eight for the gas connections and above ground installation plans as 155 to as 161. The project needs statements which is as oh one five planning statements. A PP o seven Oh, and the ES chapters that we may be referring today are chapter four, which is proposed developments as a one nine chapter six alternatives and design evolution, which is a PP Oh, eight, eight and chapter seven legislative context and planning policy, which is a P P Oh, eight nine. Okay, that's the first item on the agenda. Are there any questions based on what I've just said of any introductory or procedural nature? Before we move on? No, no. Okay, I'll pass over to Mr. Gleason, he'll translate on item two of the agenda.

Thank you very much. So item two is the purpose of the hearing. This hearing called the scope of the proposed developments is being held to ensure that the examining authority and the interested parties can fully understand the applicants proposals. The applicants have described the proposed development as the UK is first commercial scale, pool chain carbon capture, usage and storage projects. And as a first of its kind project. On that basis, it's appropriate that the uniqueness of the project is understood at an early stage. And by addressing the scope of the proposed development through this hearing, the number of written questions around this matter can hopefully be limited. It's also expedient to examine some matters, issues and questions orally at the outset of the examination, in order to ensure the technical matters are identified and considered as early as possible. This hearing is not aimed specifically, to examine matters arising from the contents of individual relevance representations, which are matters that will be the subject of consideration as the examination progresses, in writing or wholly as required, following the submission of relevant representations. However, if interested parties wish to raise matters relevant to this hearing, they're welcome to do so. They also have the opportunity to do so in their written representations to be submitted a draft deadline

to so with that gentle introduction with the applicants wish to comment in general terms on the matters I've just outlined.

So now that that's all clear what what I would say it may be I'm just judging from the list of documents that you've introduced helpfully at the start, that there may be some occasions where I have to look to my right to see who would be best placed to address matters of detail. Because I want to make sure if we can give you an answer today we do. So I hope you'll bear with me while I do that.

I fully understand that. It is quite an extensive list. But yeah, so you allow time for that to happen. Is there anyone else who wishes to comment on item two? Now, okay, then, we'll move on to Item three, which is the need for the proposed development. So I'd like to begin by asking the applicants to briefly outline the need, the proposed developments are set out in the project needs statements, and then move on to emerging government policies. But before doing so, can I just clarify something concerning the project needs statements, and the original was submitted IDs as part of the application documentation in July 2021. And this had the reference a PP. O 69. In September 2021, the project needs statement was sweet resubmitted because the original version was corrupted. And the later version had the reference as Oh 15. Mystical pockets, you just confirmed no differences between those two documents. And there's simply a question

of corruption. My understanding, is there no differences between them? That's great. Thank

you very much. Okay, so on that basis, can I Smithville? But could you please briefly outline the case of the proposed developments with reference to the project needs statements. And then I'll come on to the documents that have evolved since then in terms of government policy.

So the way I propose to do this, bearing in mind that you will have read the project needs statement in order to hopefully assist by moving matters beyond that. And I'm going to start by making submissions about the approach to the question of need, and particularly bearing in mind that there are two elements that need to be considered under that heading, the power station itself. And those elements which have been brought within the Planning Act regime by the direction, so I'll deal with those separately. And I'll talk a bit about the approach to the documents that give rise to that need that the project needs statement speaks to, I'm then going to ask Mr. Lane, to deal with an overview and update of where we are including those documents, which are post dated the project needs statement. But if I can start by just dealing with those, those two elements, the need for the generation station and the need for the carbon capture and storage elements, and I'll take them in order. The generating station has a need which is established by national policy in the current version of MPs en one, which identifies an urgent need for infrastructure of this type. Because it is identified in an excellent national policy statement, it shouldn't therefore be in issue for the purposes of the examination or determination of the application. The statute through section 87 three B entitles the examining authority to disregard representations that relate to the merits of policies set out in an NPS which would include policy relating to need. And similarly, section 94. Eight B allows the examining authority to refuse to allow representations to be made in a hearing that relate to the merits of a policy that is then underlined by the judgement of the High Court, and also by the Court of Appeal in the client Earth case related to the Drax decision. And the reference for that is 2020 Ew hc 1303 admin, and 2021 he WCA Civ 43 for the

Court of Appeal. And that, if I can just briefly summarise what comes out of that. question of whether changes in circumstance affect the weight that should be attached to MPs is is not an appropriate exercise in determining individual applications. And that's because it constitutes questioning the merits of government policy. And Section six of the Act provides an exclusive means for considering such issues. And the court made clear that the merits of policy set out and MPs is not able to challenge in the examination process or in the determination of an application for a DCO. We also subsequently have the energy white paper, which confirms the need set out in the MPs is remains save in respect of coal, and also that whilst the review of the energy MPs is is undertaken, the existing suite continue to provide a proper basis on which the planning Inspectorate can examine and Secretary State can make decisions on applications for development consent. That's the broad position in terms of the generating station so far as approach is concerned that the source of the identification of the need, then moving to the carbon capture and storage infrastructure. The need case for this part of the project is based on statements of published government policy supported as you'll have seen from the planning statement, and the need statement by analysis and advice. For example, from the Committee on Climate change. That's all set out in the project needs statement in the planning statement. And as I've indicated, I'll ask Mr. Lane in a moment to provide an overview of those matters. But it's worth commenting on the approach to that source of policy. Because that, of course, is not MPs policy.

And so it requires separate consideration. We will update, as I indicated earlier, deadline won the position through the amended planning statement. But since the submission of the application, a number of other important energy policy documents have been published by the government, that reinforce the need for carbon capture and storage, and the establishment of low carbon industrial clusters, and just identify, just identify what they are at this stage, rather than going into what they say, because that's for another day, the publication of the draft MPs, which has directly relevant draft policy on the need for carbon capture and storage, the net zero strategy and build back greener and the British energy security strategy in particular. But the short point that one could derive from those documents and the documents that are in the need statement is that government policy establishes a clear need for development of this sort. And no party, as so far as I'm aware, and it's relevant representations sought to suggest otherwise, there was sort of suggest that that isn't what government policy says. Now, although this specific statutory provisions I referred to a moment ago, to disregard representations that go to the merits of an MPS don't directly apply to those other statements. That doesn't mean that the merits of government policy are a suitable subject for debate in the examination, they have an individual application for development consent, and the position might be compared to a party and an appeal under the Town and Country Planning Act, wanting to question the merits of the NPPF no specific statutory provision to stop that being done or stop that being taken into account. But there's nevertheless a long standing recognition that the merits of national policy is not a suitable subject for debate in determining individual applications. And the policy support for CCS that's identified in the need statement that represents recent and up to date, statements of government policy. They're informed inevitably, by broad judgments, balancing a range of environmental, social and economic factors, which are appropriately taken by democratically accountable representatives, and that the merits of those policy statements are not appropriate for debate in the context of decisions on individual applications. And we'll obviously deal with the update in more detail in the updated planning statement that I hope in terms of the approach, that that provides a helpful steer for today's purposes. But I was

then going to turn to Mr. Lane to provide an overview and update. But before I do, I just want to understand, are there any questions you have on what I've said so far that I can help you with?

That's helpful. Thank you. You're going to update the planning statements, as you've said already? Will you be updating the project lead statements? Or do you think that by covering the planning statement that that's enough for us to see

the intention was to do it all in the planning statement? If once you've seen that you would like nevertheless, for us to produce an updated needs save, and we'll do that as well. But the updated planning statement ought to be capable of being read alongside the need statement, because that what's in the need statement remains up to date policy, and therefore it doesn't need to be rewritten. It's simply adding to it.

Okay, I suppose the same principle really applies to some of the sections of the IES as well, chapter four, on the proposed developments, although that's been has been updated recently for the change request, hasn't it?

Yes, whether it's been updated to deal with changes of policy, I'd have to check a

but I suppose it may not need to be updated. If you've updated the planning statements. I don't want to necessarily request you to keep producing updates of other documents just for consistency.

Well, that's Oh, yes, that's a patient. I suppose it's only if something changed, which led to a difference in the approach to or outcome of the environmental assessment that it might have been proposed. shouldn't have to do that.

Okay. Thank you. And then you've mentioned the policy statements, the review of policy statements and feeling we've had the consultation on that and don't know the outcome. Net Zero, which I'll come on to the next topic and the British energy security strategy. Without commenting on the merits of those documents, or the policies themselves, would you like to say whether or not they assist your case adds to it or will come and generally on the direction they're heading.

And in that clip, clearly taking the draft MPs as a starting point, it is, as one would expect, consistent with what stated in the white paper with the priorities that the government has established in that document. It does establish specific need for nationally significant CCS infrastructure. But that would be at a scale that would be longer than the the pipeline here so wouldn't have direct effect in that sense. But what it does is it underlines the consistent view of government that there is a an urgent need for CCS infrastructure, as part of the overall national strategy for getting to net zero. It also has the helpful steer in terms of draft policy, that it would be the primary policy for energy projects that are brought within the Planning Act regime by means of the section 35 direction. So it makes it very clear that even if you are not a project for which need was established by the MPLS, you'd nevertheless be subject to the same policies in terms of examination. The net zero strategy builds on the commitments in the 10 Point Plan and the energy white paper, and proposes to deliver for carbon capture usage and storage clusters, capturing 20 to 30 megatons of co2 across the economy, including six megatons of co2 of

industrial emissions per year by 2030, which, again, is helpful than underlining the need case. It's not that there wasn't a need before, and these documents established it, but they are consistent with government being committed to this as part of its strategy for energy and also strategy for meeting the climate change targets. And then the British energy security strategy explains how the government's delivering on the 10 point plan, including investing in CCUS, with a billion pounds of public investment committed to decarbonize industrial clusters, and the announcement of the first few classes in Teesside, Humber and Merseyside, which is obviously directly relevant to what we're dealing with as part of this application. And also makes clear in the section on oil and gas, that the government will ensure a new lease of life and the North Sea and low carbon technologies through delivering CCUS. And that the industrial clusters will be the starting point for a new carbon capture industry with a sizeable export potential helping to create industrial super places in the UK. And that helps to relate the benefits of proposals of this sort, not just in terms of what they can do for tackling climate change, but also the significant economic benefits that they deliver, which are an important part of the need case, as well. So that is by way of a brief overview, and we'll provide more detail in the updated planning statement. That's good. Thank you. So So unless there's anything else I was going to then pass on to Mr. Lane to briefly provide an overview and update.

Thank you. Yes.

Hello, my name is Andy lane. I'm the managing director of the proposed developments. And I'm going to provide you with some additional context in the need for net zero d. So I hope you can hear me fine. Fine, thank you. Thanks. Most of the information presented today is covered in the project needs statement, examination library reference as 015 as you referenced on the DCO planning statement, exhibit examination library reference a double p 070. That's net zero d site or en ze te objective is to implement an initiative first of a kind, onshore, low carbon CCUS infrastructure in the UK CCUA as being carbon capture, use and storage, often abbreviated to CC and s as well they use sometimes gets dropped, anchored by a flexible gas fired electric power station and electric power station targeted to generate in the order of 750 megawatts of low carbon dispatchable electricity. It's important that this is in support of decarbonizing the US power grid, and it complements the intermittency of renewable power generation, which is a government priority. Is there a decider entity thus makes an important contribution towards grid operability and security of national energy supplies, providing much needed firming capacity to the UK as existing power generation mix and complementing the expanded growth of wind power particularly in the UK Power mix. Capture captured carbon will be collected via an onshore pipelines gathering system with multiple time points for current and for future industries. Helping to decarbonize several several industrial sectors here in Teesside. Energy supports the UK is industrial strategy in four key ways. Firstly, through the decarbonisation of hard to abate existing and future industries, typically, chemicals refining cement these kinds of industries, secondly, to provide to enable degeneration of low carbon dispatchable power. Thirdly, to enable the production of low carbon hydrogen through the reforming of natural gas, and finally, as a tool to enable greenhouse gas removal technologies to be applied. NZT offers Economic and Employment Benefits in the economically less advantaged regions of the UK and combines this with a low carbon credentials to provide further group growth opportunities. Enza tea will bring substantial infrastructure investment that enables economic regeneration here in Teesside in particular, which is strategically aligned with the government's agenda to level up parts of the UK by helping decarbonize carbon intensive industries in Teesside, and

enabling their continued operation with significantly reduced carbon footprints is estimated at near zero Teesside could support and safeguard between 35 and 70% of the existing manufacturing jobs entities Valley. entity will aim to source substantial workforce expertise and equipment from UK suppliers, and its intention that high value contracts will be awarded to a range of local suppliers, helping to build new low carbon supply chains across North of England. The proposed developments investment in new technologies such as innovative carbon capture solvents, and co2 capture equipment has the potential to nurture the development of new supply chains, both for domestic opportunities but also in future for export markets, and to regenerate regenerate and revitalise the region. In October 2021, after the submission of the DCO, the UK Government selected the East Coast cluster as one of the first to track one low carbon industrial clusters to be taken forward as part of its carbon capture and storage cluster sequencing process. The northern insurance partnership which BP leads as operator will provide the common co2 infrastructure needed to transport co2 from emitters across the Humber and Teesside. Through a secure offshore storage in the endurance aquifer in the southern North Sea. The government is expected to announce the phase two emitters, as they're called, that had been selected for the first stage of the development of the cluster. Initially from May 2022, was recently advised this will probably slip to July 2022. Therefore, it's clear there's a clear need for the proposed development both in terms of policy and to support regeneration and the low carbon future the Teesside region. So I'll leave it at that and take any questions that the panel may wish to ask.

Thank you. That's very helpful overview. There are questions but probably come on to those as we work through the agenda. But that said things nicely. Thank you for that.

Think I've got two or three questions remaining under this heading. Item three. Can I start with looking at the low carbon and Electricity Generating Station and the indication within the yes and as think has been mentioned that natural gas will be used as the fuel for the operation of that station.

That's mentioned at various points within the submission documentation. Additionally, paragraph six point 3.5 of the ES stays that while other fuels such as coal, biomass and waste throughout fuels are available for generating stations to which CCS technology can be fitted, the use of natural gas is a high efficiency combined cycle plan. So the use of natural gas in a high efficiency, natural cycle plants was considered to provide the most effective balance between generating capacity, fuel availability, dispatch ability, and efficiency. And colts ruled out the outset due to sustainability concerns. All that is clearly set out. Is the use of natural gas still intended to be the way forward for this projects, given geopolitical factors having an impact on all arising from external elements like the war in Ukraine and fluctuations in the price of gas? Are you still as committed to natural gas as you were when the application was submitted? Is it still a real consideration? Given the other mix of potential fuels that were identified? Initially?

A direct answer yes, we still remain committed to natural gas as a fuel for the power station.

Are you continually reviewing that as a fuel? Is it so clear cut that you don't need to do that?

We believe it's a very clear cut case. And I think it was articulated in the need statement with it with a review of the different generating mix outcomes for the UK power system going forward. I think the

short term price fluctuations, which are so much in the media today, we believe will be relatively limited in duration. Indeed, we hope they offer everybody's benefit. So we don't think the price argument is something that has a strategic duration, and the availability argument, government in their policy papers are clearly identifying the desire to build at least one gas fired power station with carbon capture equipment, basically, the construct for Net Zero to side power that remains embedded in the energy strategy. So we continue to move in that direction.

Thank you. And I would add to that, of course, this is an application or a generalisation fueled by natural gas that is part of the description of the development. So this application is for that fuel type. But the second point, of course, is questions as to the role of gas within the UK is generating capacity within its overall strategy for energy security and climate change is of mass of that sort. Those are quintessentially matters of government policy. They're not matters that are decided on a case by case basis. And unless and until government changes its policy. The policy is supposed to be applied for the reasons that I spoke about earlier. Thank

you. And then just picking up on that, project needs statements paragraph 311 Two says gas reforming the use of natural gas to manufacture hydrogen is likely to be the cheapest source of hydrogen at least initially, compared to electrolysis. Pairing gas reforming with CCS is critical to delivering low carbon hydrogen production. Again, is that still the relevant statements happy with that? Things haven't changed.

The statement remains true in my mind, the letters reduce I proposed obviously doesn't include any hydrogen generation that was for information for the wider cluster in general.

Okay, thank you. I'll come on to the hydrogen issues later, but that's helpful starters. Thank you.

Are there any comments from other parties? On Item three, the needs for the proposed development

now, okay

I put my hand

up sorry, sorry. Dr. Boswell. Yes. Thank you.

Sorry to interrupt, or remotely like that. Yeah, thanks for your comments. Um, first of all, on the Net Zero strategy. I think the panel should be aware that it's currently under a legal challenge. The details of that are that three separate legal claims are made to the High Court by Friends of the Earth, client Earth and the good law project, seeking to challenge the net zero strategy. And there was a permissions hearing and the judgement on the permissions hearing, which was successful. So the those three claims have been sort of rolled into one by the court, the permission application will judgement was March the first 2022. And the judge observed that the grounds advanced claim are arguable, realistic prospect of success, and merit investigation or the full hearing, the full hearing is likely to be Autumn, Winter 2022. Now, that's relevant to what I wanted to say, because one of the the sort of grounds in this challenge is whether the net zero strategy will actually deliver what it says it will

deliver. And, essentially, the net to row strategy is document under Section 13, section 14 of the Climate Change Act. And it's the policy delivery mechanism for targets in the Climate Change Act. And that includes the fourth, fifth and sixth carbon budgets. Also the nationally determined contribution, the NDC, which is set for 68% reduction in carbon emissions by 2030. From a 1990 baseline. And that's the NDC under the Paris Agreement. So the just read out Sunday, kind of a briefing from Friends of the Earth, which they published immediately after the legal case, was given permission to go to full Jr. They're saying that these, this is ground one, it's obviously not full, legal, but as it's a briefing, but it's summarising their ground one base failed to include in the net zero strategy, the basic information required to give effect to Section 14 of the Climate Change Act, including the basis for concluding that the proposals and policies would meet the carbon budgets, a quantified estimate for the emission reductions from each proposal and policy and the relevant timescales, a scale solar implementation and the fact. And so first of all, I'm so lodging that the net zero strategy is now under your legal challenge, and so that it's premature to rely upon it in the examination, but secondly, the concern I have over the need for the project is whether it provides the best decarbonisation route and provides the best decarbonisation route to align with what the netzero strategy wants to achieve, which is those carbon budgets and targets. Now, it's clear that the net zero strategy is being challenged on whether the works actually been done to show that it will actually deliver those budgets and targets and therefore I would say it's it's questionable, whether everything else which has been said about the need of the project is also premature in that sense. That's my first point.

Falling on From that, I'd like to refer me to the Intergovernmental Panel on Climate Change IPCC reports, they've just published three reports on different areas, the different working groups of those, the last one who was able to six. And then there's finally what they call synthesis report actually coming later in the year. But on the three, which have already been published by the IPCC. With each one, there's a summary for policymakers, they call an SPM. And the summary policymakers summarises the science, they're usually into, well, less than 100 Pages document, and the main reports are sort of free 1000 pages on. And the summary of policymakers are actually agreed by the governments. And in this case, you know, the British government representatives to those meetings, where they agreed the summaries, policymakers signed up to what's in the policy document related to the IPCC reports, and this six assessment report does have quite a lot of narrative about basically, what, what is the sort of balance between going down a route of CCS generation based upon fossil fuels versus renewables and storage technology. And what I mean here is not not CCS storage technology or carbon storage, talking about in the application, but energy storage, so things like battery technologies, but also much more than battery technologies in the emerging market. So in terms of the scientific world, there's a very, very active debate about whether to go for the fossil fuel, CCS, we have to go for renewables and storage, how much of each perhaps. And, as part of that, the IPCC report noted that the cost of renewables and storage was sort of rapidly decreasing. And that's been a trend you for many years for wind and solar, but that's also the renewable energy technologies themselves. So that's also, we're also seeing that on storage technologies now, which are the key to making renewable energy very flexible. And you're getting over the the despatch ability problem, which has been referred to the the intermittent, intermittent sea otter reliability. And one of the key factors in solving the intermittency problem for renewables is the the integration of storage and flexible networks. And what we're seeing is the cost of those rapidly decreasing compared to the cost of CCS and fossil fuel based solutions. So that's one part of it. The other part of that is the technical argument that the dispatch ability argument in

favour of CCS, of a solution like gas and CCS, as we see with this project, is declining very quickly in the sort of technical opinion. And you know, that that is clear in the latest IPCC report that have just one further point on, I think, on your questions or on the review of gas, and whether, you know, the gases that input a fuel was being reviewed, notwithstanding the answer, at some point out, and a point out, like to talk to on the next section are much more relevant than that one, but that I'll put it now just in the phrase, but not all gases, the same and that's in reference to the methane point I made earlier this morning.

And I think the fact that not all gases is the same and the different gases will come with different amounts of embedded methane emissions. is something which, which then needs to be considered in that issue of gas as the input fuel, but I think it's more relevant on the next section. Thank you. Thank you very much.

So, Mr. Phillips, do you want to respond on those points? I mean, I'm as a general point as well. Dr. Paz will, like others submitted relevant representation. Everyone will have an opportunity for written representations later in the examination. And sure some of these points will be developed further, no doubt you, the applicants will be responding to those relevant representations in detail. So up to you how you want to respond now, but I'm sure there'll be more coming later.

So I take the hint, I shall deal with it very briefly. The short points there is that any government policy, which is subject to challenge remains valid unless until quashed, but in any event, the need statement, and the need case, obviously doesn't rely on the Net Zero strategy, because it predates it. It's one of the documents that comes later. So whether the child is successful or not, won't ultimately change the conclusion on need. And I listened carefully to what Dr. Boswell had to say. And two points that arise first, I don't believe it's being suggested that we have misunderstood, misinterpreted or misrepresented what government policy says about need for carbon capture and storage, or indeed the generating station. And the second point is that insofar as Dr. Boswell wants to make arguments about what government policy should be in the light of emerging evidence, that's a matter for a separate process. It's a matter for the policy making process. What we're concerned with here is what is government policy? And how does it apply to the project that my clients seek to develop? So that's all I want to say at this stage.

Thank you. So is there anyone else who wishes to speak on item three? We move on. Okay, that's fine. Thank you. So let's move on to Item four, which is actually listed as the proposed developments in the context of the netzero strategy. And under the heading on the agenda, it says, The examining authority will ask the applicants about the relationship of Ns T to zero carbon Hamba, and the northern insurance partnership. So we'll come on to that. Is there anything further and all we should say about the net zero strategy in itself?

Not from our part, we'll take our opportunity in writing and declassified

Thank you. I'm not seeing any other hands up. So let's move on then to the relationship of the project to zero carbon Humber northern insurance partnership. So the the net zero strategy itself states that following the Phase One of the cluster sequencing projects, the high nets and East Coast clusters will

act as economic hubs with green jobs. That's already been set out by Mr. Lane. This puts two sides and the Humber mosey sides, north Wales and we northeast Scotland zoo reserve cluster among the pension potential early super places which had been mentioned. So can I just be clear, because I think things have moved on. I think was mentioned already. The east coast cluster was confirmed as a track one cluster on the 19th of October 2021. Mr. Robot, could you explain something about the process of what is meant by the track one process and how this project fits into that wider East Coast cluster?

Yes, so we can i Mr. Lane is going to explain that he's steeped in all of that business.

Steeped indeed. I'll try and set the context and then take any more detailed follow up questions. So in Northern India This partnership abbreviation NDP enables Net Zero to side and zero carbon Humber by providing common infrastructure needed to transport co2 from emitters in both Teesside and Humberside to secure offshore storage. Enza tea comprises the onshore and near shore co2 gathering system T site and has been developed by the applicant's zero carbon Humber, or the Humber low carbon pipeline, as it's sometimes called, comprises the onshore or near shore co2 gathering system in Humberside. This has been developed by National Grid carbon and other partners and is subject to different consent, separate consent and funding. The two onshore gathering networks are connected together connected to separate offshore pipelines. That will transport and collect and store wood that will enable a full chain co2 transport and storage system will be delivered and operated by an EP to transport the transport and storage company to TNS companies it's called in in base language. Net and all of the emitter projects on T side and all the emitter projects on the Humber are collectively known as the East Coast cluster. And Zed tea is an independent project from zero carbon Humber and therefore can be progressed and delivered without zero carbon Humber. DEP offers access to the endurance store, which is about 140 150 kilometres offshore in the North Sea. And stores we estimate 450 million tonnes of co2 and that the surrounding area we believe, will store in the order of a billion tonnes of co2.

So a billion a million a billion billion.

So, endurance we believe will store in the order of 450 million other stores nearby similar kind of structures, which we believe will take that number up to a billion 1000 million in October 2021. As we've referenced before, the East Coast cluster, which includes net zero t site was selected by Bayes as attract one cluster in the UK carbon capture use and storage cluster sequencing process as a result of a fairly exhaustive amount of planning and evaluation work by base during the last during summer of last year. So East Coast cluster is selected alongside as you mentioned, high net in Merseyside and north Wales as two of the two track one clusters with the Northeast Scottish cluster called acorn held as a reserve cluster. And East Coast cluster as I said, combines is enabled by Northern Europe's partnership pipeline system and enables both ends at T and T side and Zed ch separately and Humberside all combined together to form a cluster of developments in the east coast, the East Coast cluster.

Thank you. That's helpful. So what is the benefits of the cluster? The the MEP then encompasses both the Humber and T side projects. They're both using the same insurance store. Why? Why is government going down the route of looking at promoting that as a cluster? Is there any reason for that? So they

did Teesside on Humberside geographic areas represent approximately 50% of the co2 emissions that come out of industrial cluster areas in the UK. So it's the biggest single geography for co2 emissions in the country. across that geography, there's a wide variety of different industries and sources of emissions, chemical industry, close to here, power stations, hydrogen projects, refineries, biomass, power stations, all sorts of different technologies, each one of which form or those four groups that I mentioned earlier, form priorities for central government to try and decarbonize those four different elements. So across Humberside and Teesside you have both the maths but the number the amount of emissions and from every different key source of of emissions that the government wishes to tackle in short order. And the combination of this creates a level of economy of scale. Through maximising utilisation and scale of infrastructure, this goes cluster is an is a new build infrastructure. So we have to build new facilities for this, which obviously have a cost associated with them. Being able to distribute those costs across the widest amount of co2 reduces the unit cost and therefore the cost to the emitters and eventually to the state. By way of support,

please thank you. And just clarify you said the humble low carbon pipe line is also known as the Humber

00 Carbon Hummer is its most familiar name, and that is a cluster of carbon emissions projects and infrastructure in Humberside area.

And we've had a relevant rep double oh seven from National Grid ventures who have partners in that timber low carbon pipeline. But that's a separate project from this separate completely.

The the onshore pipeline network in Humberside has a separate project from NCT, which we're considering today. Okay, thank you.

So I just wonder, would it help you and your colleagues if we put in writing something simple that explains that the concepts or the tracks the phases, because although it is all there in the material, it's obviously not familiar as a planning concept. It comes from a slightly different concept. And it might help save time later in the examination if we just volunteer to do that, and hopefully that will be useful guide,

I think it would be. Some of these things are clearly government policy and emerging documents from Bayes. But there's no reason why we, as an examining authority would have access to them or probably need to see them. But it would be useful to have a summary at least in case you do need to ask further. So that's what we're trying to get that up. Thank you. Thank you. So as you can appreciate lots of this is really contextual stuff. How does this fit into the bigger picture, but it is useful for us to ask these questions now. So I think I'm just going through my notes, I think you've answered some of the points I've got, I'll just check the other elements.

So said

the northern insurance partnership will allow decarbonisation of nearly 50% of the UK total industrial customer emissions. So the insurance, the insurance aquifer, you said it's 450 million tonnes of carbon

dioxide? Think you answered that? That's fine. So yes, Mr. feel positive Inglis. What you're suggesting perhaps can cover the next point as well, the funding statements in this case. That's in line with the updates on business models for CC us published by Bayes in December 2020. There'll be separate entities responsible for electricity generation with post combustion, carbon capture, co2, Catherine compression and export and storage and industrial including hydrogen production, carbon capture and connections to the gathering network. So again, what's not been clear to us as the examining authorities, why bays approach the project in that way of splitting the set into separate entities, so can context and that would be helpful, please.

We'll add that to the note.

Thank you. And then the final question I had on this topic was can relating back to the funding statements paragraph 4.1 point two references a PP wo nine states that's innovates. UK is part funding the projects up to final investment decision taken under the industrial strategy challenge fund phase two, deployment competition, Innovate UK support covers from March 2021. So just some context there in terms of what the industrial strategy challenge fund, phase two deployments is, and when a decision is being taken. Beyond that, as well please

Mr. Lang can deal with that now.

Thank you Yes.

Government has a funding envelope identified and managed by Ukri. You can research an innovation under the industrial strategy challenge fund that you identify a competition was run. And we'll have to refer to the data can't quite hold the data in my head, I think it was autumn of 24. Government matched funding for projects to reduce co2 emissions. And the onshore project envelope covered by NZT made an application and was awarded matching funding from government under the IRS CF budget. And other carbon projects, including the offshore pipeline and storage element of the N EP scope was also awarded funding separately Ukri manage onshore and offshore in a different way. So elements of the project received match funding from government to the tune of probably don't need to put the number into the room. But it's approximately a third of the development costs during this stage of the development of the project. As part of sort of risk sharing with the government that only applies during the kind of engineering phase of the project that doesn't suggest a supportive decision by government for eventual sanction. It's just over the current engineering phase.

Okay, thank you. That's helpful. Does anyone else have any comments or questions related to item four?

Yes, I've got one for the applicants. I just wanted to run through some of the figures with the size of endurance. So if I heard you correctly, you suggested that it had about 450 million tonnes worth of storage. Is that correct? Yes, that's correct. And the plan is for the entire cluster to be discharged into that aquifer, including zero carbon Humberside. The figures we've got suggests that net zero Teesside can produce about 10 million tonnes a year for about 40 years, that'll be about 400 million tonnes which would take up most of that aquifer if Humberside is going there, as well. And I don't know what the

figures for Humberside are. But I assume it's considerable? Will there be enough capacity and endurance? And if not, are there viable alternatives?

You understood the numbers correctly, we believe there's 450 million tonnes approximately of storage, we'll have to develop the field and and test it to be able to show that but that's our indication at the moment. And you're right that we believe the Teesside area will be sized for approximately 10 million tonnes of co2 storage per annum. So as you say, over 40 years that's essentially filled up endurance as a way of looking at it. And you're right to say, Humberside will have significant divisions to even if we don't put a number on them their material in this, which is why the applicant is already working with the North Sea transitional authority to access licences for further exploration and appraisal of other stores nearby to which which would connect the infrastructure being established by net to increase the capacity available in line with the growth in capture of co2. So you're right to say, in a world where central government supports for instance, pick a number 20 million tonnes per annum of storage from this area, then net would need to build out additional storage capacity. This is identified and there are work programmes identified to pursue that, that that growth at the initial scale 450 million tonnes is sufficient for the initial scale, but not for the for the ultimate potential for the area. Thanks.

There's nothing further on item four. Oh, tops puzzle. At this time, thank you.

Yep. Thank you very much. So in fact, at the beginning of section four, you said anything else on sort of net zero strategy in general, I did have something and missed that but I'll come back to that later me to follow up on the discussion. Very interesting discussion just had and it sort of gets a bit to the nub of the issue. Um, issue which, you know, I have as an IP on this application. And I think my my question sort of comes under what your question, what is the benefits of the cluster? But what we haven't heard is why is there a need for a gas power station? And as part of that, and you know, I think a good case is given for the 50% of industrial co2 emissions from the UK being able to be captured into this field and the North Sea. And that's, you know, I see is as quite a positive thing, in principle, but what I'm not seeing clearly is what is the case for having a gas powered station. In the in the centre of this, it seems to me that there's a conflation between industrial decarbonisation, and power decarbonisation being made, and they're actually two separate things. And the scheme as part of this larger cluster brings benefits on industrial decarbonisation. As I've sort of already said, I question whether it brings benefits on the power decarbonisation and I think we would benefit from a clear answer why it has to be centred around a gas powered fire station in order to enable the rest of the cluster. And in fact, Miss Davis's question. I was just beginning to sort of think about that sort of thing about capacity myself that she came up with your question, if seems to have sort of nailed it somewhat that we're talking of the existing insurance known co2 capacity being used up just from this project. And I'm not I'm not certain how much of this is the gas. And how much of this is other things. But there's quite a bit of in that how whatever the proportion is of co2 emissions from the gas plant being stored, and using up capacity of this co2 storage on the North Sea. And it's a very important point. And when you put that in context of what I said earlier about, you're already seeing the science saying that a combination of renewables and energy storage, which doesn't have the co2 overhead, cost on technical grounds as being preferable. I think we now have a third, third. You've been to the case, which is the co2 storage being used up unnecessarily by fossil fuel energy production. So that was the sort of first point I wanted to follow up. And it's really, the real question is, why do we need a gas power station at the centre of this

cluster, which has otherwise, you know, very good benefits in industrial decarbonisation. And just to sort of go back to the the point on the in net zero strategy in general, I wanted to come back to the the fugitive methane emissions from the supply chain. The point I made this morning, and also the sub briefly earlier. I think it's important to understand that not all gases equal. And there's studies now looking at you to the upstream and midstream carbon emissions in the supply chain of gas. But if you, for example, looked at gas from pipeline in the North Sea, or liquid natural gas LNG from Qatar, or liquid natural gas from the United States, you get very different amounts of methane embedded in the gas. And what is not clear to me is, irrespective of everything else, I've said, if this scheme goes ahead, how are we sure that we're using gas fuel

for the power station, which is absolutely the best practice in in methane. In other words, a minimum methane embedded in the gas stream if you'd like it. And this is actually a really difficult area. I mean, there's lots of transparency issues around the regulation in different countries where gases produce different regulators. regimes, methane's measured differently. So it's actually quite difficult to get a handle on this. The first thing, which is unclear is is, is whether this scheme is trying to in any way, reduce to the absolute minimum, the methane emissions, which are embedded, irrespective of whether how you find that out with all the complexities of transparency and different ways of kind of counting for it around the world. That there is some discussion of this in the netzero strategy under the section on fuel supply and hydrogen, but it's largely related to natural gas for the hydrogen aspect, which of course, has been mentioned, but as I understand it isn't part of this actual project, or it might lead to it in the future. But it seems to me it's an issue which has to be looked at, and it comes under the net zero. So it also comes under the carbon emissions, you're in the principal objectives, the overall emissions from the scheme. And there's just one other point to make. Which isn't that this doesn't actually come under the net zero strategy actually better your Lammi to make it this point, which is the science on the health and social benefits of fossil fuel and CCS as opposed to renewables. There's quite a bit of science on that. And I think under the scope, I bring this in as we were generally talking about scope this afternoon. The health and social benefits need to need to be a balance and they need to be evaluated on the scheme in the balance, and that there is recent science on that obviously to do with the the pollution, the particulates and so on, which alone will be covered under air quality and so on in the main issues. Thank you very much.

Thank you. Mr. Phillips, do you want to respond on those points, but can I just say first that Dr. Boswell's points boats, the need for the gas powered station, we're going to be covering on the next agenda item. So you needed to respond on that particular point now, but fine, if you want to talk about the others,

that that was the only point where I felt that I had actually established the need for it and what I said before, namely that the need comes from the MPs and whilst Dr. Boswell's entitled to his views as to whether that's a good policy or not, that's not a matter for debate. So far as the points about methane and so on are concerned. We look forward to seeing what Dr. Boswell says by developing that point as written representations and will respond and we've seen it,

it's fine. Thank you. Talk to us. Will you still have your hand up? Is that residual point?

Thank you removing it.

Thank you. I have anyone else. Okay, then, let's move on to Item five components of the net zero T side projects. So two elements are identified on the agenda under this item. Firstly, the applicants will be asked to provide no review about the offshore elements of the projects, their timing, why they aren't included in DCO application. And secondly, the applicants will be asked to explain the potential of the project to produce low carbon hydrogen. And some extent these have already been at least touched upon, but it's worth exploring a bit further. So we can begin with the application in number of places states that the the export pipeline is going to be subject to separate consent applications under the petroleum acts and the energy acts. The basic question have is why are these offshore elements not included in the DCO application? suspect that might be something that would come out to fuel your notes anyway. But if you want to say more than that,

yes, if I if I start with that, and once I've covered that point, which is largely a legal point. I have Mr. Paul Edwards here who can provide you with an overview of those elements and questions of timing, if you find that helpful, but what I'll do is I'll provide an overview now, and then we'll follow it up obviously with the In summary, but in order to explain why the optional elements are not included, it's first necessary just to identify the four main consents to use a broad term that are required to construct and operate those elements. So, the first one needs a co2 appraisal and storage licence under Section 18 of the Energy Act 2008. Secondly, you need a storage permit under regulation 628 of the storage of carbon dioxide licencing regulations 2010. Thirdly, you need an authorization relating to the construction and use of pipelines under Section 14 of the petroleum act. Nice 98. And then fourthly, you need consent, under the offshore oil and gas exploration, production, unloading and storage, environmental impact assessment regulations 2010. Now, the storage licence has already been granted. So obvious, there's no further application required for that. All three of the remaining consents with one subtlety, which are come to come within the remit of the same decision maker, and that's the North Sea transitional authority, the NSTA that the subtlety is that so far as the EIA regulations, consent is concerned, their consent depends on operated, agreeing to the grant of consent. So there is a relationship which we can explain and set out in in the note. But the NSTA is a specialist regulator for what is a highly technical and specialist area of activity, and it has considerable internal expertise and accumulated experience in handling such applications. And the same can be said in relation to operate. And similarly, expert and experienced now, of those three remaining consents, two of them are not capable of being brought within the scope of the Planning Act 2008, because they're not included in the list of prescribed consent regimes, under schedule two of the infrastructure planning, interested parties and miscellaneous prescribed provisions, regulations, 2015. And those regulations, as you'll be aware, prescribe those consent regimes were under Section 150 of the Act, the need to obtain a consent may be removed by the DCO. If the relevant consenting authority has agreed to this being done. Now, the two that can't be included, because they're not on the list, or the storage permit under the 2010 regulations, and the consent under the 2020, sorry, the 2010 EIA regulations. So those two simply can't be brought within the scope of the DCO, even if the NSTA was content for that to be done. And that means that all that the only one, which as a matter of law could potentially be brought within the regime would be the offshore pipelines.

Authorization. But in the circumstances here, we say that wouldn't make a great deal of sense because the other two would remain within the NSTA remit. And if the acceptability of the storage permit, and the assessment of the environmental impacts of the offshore elements is going to be judged and determined by the NSTA. With assistance from operate, there's obvious good sense and practical benefit in one decision maker, dealing with all of the offshore elements as a coherent package, including the ability to shape and condition and otherwise, ensure that those approvals reflect their conclusions about the environmental impact and familiar matters of that sword. So splitting those two, and having just one element of it within the DCO didn't seem to us to make a great deal of sense. The NSCA is an obviously suitable decision maker, given the expertise and experience it can call on. So that's by way of an overview why it's dealt with in that way. If you'd find it helpful to have a summary of what those offshore elements are, and the timing of the consents and so on. As I've indicated, I have Mr. Edwards here who can help with that.

Thank you. I think it would be helpful to have the two of you please and just checking section for vs talked about To the offshore EIA to be submitted q2 2022 with approval q1 2023. Is that what is the timescale for for these other approvals,

but that that's the very matter that I'm anticipating Mr. Edwards?

Because Thank you, Mr. Edwards.

So would you like me to start with the timing of those consents? Does that kind of most naturally lead on

of the timing of those applications? Yes.

Okay, that's fine. And so for the offshore ESAA, we're looking to submit that in September this year, so it possibly has slipped a little bit. The reason it's moved back is that we're currently drilling a borehole in the North Sea to obtain some rock and water samples from an area called bhuntar. And we've committed to operate to make sure that we've got those, the borehole complete, and the samples analysed before we submit that ESAA. So that will be hopefully submitted in September of this year, and then looking to get approval from the Secretary of State Bay's i April 2023. So prior to the final investment decision. On the store permit, we are going to submit the information that we've agreed with the North Sea transitional authority in November this year. We, prior to the final investment decision will have got to an agreed position with the NSTA that they have no further queries or questions on the store permit. And once the final investment decision has been taken by partners, they will then award the store permits post fid, they are unwilling to award a store permits to an operator prior to the final investment decision being made.

And then the final part to the full chain permitting is the store lease. So that is from the Crown Estate. The information required for the store lease to be made by the Crown Estate has been submitted to them already. And they have committed to us to provide back the store lease before the final investment decision again in two q 2023.

So all of these consents for the offshore should be coming in. At the same time as Secretary of State's decision on TCO

that's, that's my role. Part of my role on the project is to work with the the different parts of our team to make sure that we achieve all of those permits at around fid that essentially D risks the final investment decision for the partners so that they have a good line of sight to the consented project. So that the risks the can indeed find investment decision for the partnerships.

Okay, thank you. And all of these offshore elements are technical assessments and go through the offshore regulators in so it's completely different way of doing things from onshore, which is far more involved in the public and consultation. These are more technical permits. Assessments. Correct.

So the the offshore ESI has a round of consultation prior to submission that's run by us as the operator. We agreed a scope of a consultation with our preferred. And then we go out to the consultations that we've agreed. There's also a public elements that people can put in their own views of the scoping of the ESAA. tours as well. The sia once it's received by Oxford, they then go to a formal public consultation processes as well as part of that approval process. So there's essentially an informal and the formal aspects to the approval of the offshore ESI. We've also been working quite closely with NSTA to develop the matrix of the interested parties for the store as well, so that the NSTA can gain confidence that we are consulting people that need to be consulted about the store permit as well.

Okay, thank you I'm just thinking of more questions under this topic. Once we want to timescales, the onshore elements, then move on to hydrogen briefly, which we'll take and then maybe another 20 minutes or so. So it might be a good time to have a break now. Excuse me, given that it is 330

Yeah, that's fine if we adjourn now for how long? 2020 minutes? Is time is 330 the agenda 20 minutes and see everybody at 10 to four. Thank you.