

Environmental Information Regulations (EIR) Request
Received: 17/11/2023

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Ref: Sent by email from enquiries@theccc.org.uk

Climate Change Committee

1 Victoria Street,
Westminster, London,
SW1H 0ET

w theccc.org.uk

Your request:

We would like to request information relating to communication and consultation between the Climate Change Committee (the "CCC") and Drax Group/Drax Power ("Drax"), in relation to the 6th Carbon Budget published on 09 December 2020. Please include the following:

1. Confirmation of whether there were any calls or meetings held between the CCC and employees or agents of Drax Group/Drax Power in the period of 01 January 2020- 09 December 2020 in relation to the 6th Carbon Budget. If so, please disclose how many meetings were held, the date of the meetings, the job descriptions of people present and the topic of the meeting. Please disclose agendas of the meetings and copies of any other documentation prepared in advance of or handed out during said call or meeting (for example, modelling or data that was discussed).
2. Correspondence between Drax and the CCC in 2020. For emails, please include the date and time of each email, and the job titles of everyone in the email chains, including people copied in.

Our response:

Thank you for your request. We have handled your request under the Environmental Information Regulations (EIR) 2004. Please find our response below.

The information requested has been considered environmental information, given it covers measures (including administrative measures), such as policies, legislation, plans, programmes, environmental agreements, and activities affecting or likely to affect factors, such as substances, energy, noise, radiation or waste, including radioactive waste, emissions, discharges and other releases into the environment.

Under regulation 5(3), personal information from junior CCC staff and external contacts has been removed.

All relevant detail of any calls or meetings between the CCC and Drax Group/Drax Power employees in relation to the 6th Carbon Budget is set out in Table A, with additional documentation attached by email.

All relevant correspondence between Drax and the CCC in 2020 is set out by email chain in annex A.

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Information disclosed in response to this FOIA request is releasable to the public. In keeping with the spirit and effect of the FOIA and the government's Transparency Agenda, this letter and the information disclosed to you may be placed on the CCC website, together with any related information that will provide a key to its wider context. No information identifying you will be placed on the CCC website.

If you are dissatisfied with the handling of your request, you have the right to ask for an internal review. If you are not content with the outcome of the review, you may apply directly to the Information Commissioner for a decision. In keeping with our transparency policy, the information released to you will be published on www.theccc.org.uk. Please note that this publication will not include your personal data.

Kind regards,
Climate Change Committee

Table A – meetings

<u>Meeting Date</u>	<u>CCC Employees and job titles</u>	<u>Drax Employees and job titles</u>	<u>Topic of discussion and agenda</u>	<u>Any additional documentation shared</u>
1/4/2020	[Name redacted], Power Senior Analyst [Name redacted], Fuels Senior Analyst	Karl Smyth, Group Head of Policy and Government Relations	BECCS deployment	See slides attached.
21/5/2020	David Joffe, Head of Net Zero [Name redacted], Power Senior Analyst [Name redacted], Power Analyst	Karl Smyth, Group Head of Policy and Government Relations	CCC CB6 roundtable on power scenarios	See agenda attached.
3/6/2020	[Name redacted], Power Analyst	Karl Smyth, Group Head of Policy and Government Relations	BECCS costs	N/A
16/6/2020	[Name redacted], Power Senior Analyst [Name redacted], Fuels Senior Analyst	Karl Smyth, Group Head of Policy and Government Relations	BECCS policy framework	See slides attached.
9/9/2020	David Joffe, Head of Net Zero [Name redacted], Power Senior Analyst [Name redacted], Power Analyst	Karl Smyth, Group Head of Policy and Government Relations	CCC CB6 roundtable on phasing-out unabated gas	See agenda attached.

Annex A – correspondence

Email chain 1

From: Karl Smyth <[email redacted]>
Sent: 25 March 2020 13:24
To: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>
Subject: RE: BECCS data

Hi [Name redacted],

For information we've crossed paths with [Name redacted] a couple of times at working groups since he took on his new power analyst role, but haven't had a formal intro/one-to-one. Would it make sense for him to join us also?

Best,
Karl

From: [Name redacted] <[email redacted]>
Sent: 23 March 2020 14:53
To: Karl Smyth <[email redacted]>; [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>
Subject: RE: BECCS data

Hi Karl

Yes, doing good, and hope you are too?
I've set up a Zoom meeting for next Wednesday, diary invite on its way to you now.

Best regards
[Name redacted]

Senior Analyst
Climate Change Committee

From: Karl Smyth <[email redacted]>
Sent: 23 March 2020 14:39
To: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>
Subject: RE: BECCS data

Hi [Name redacted],

I hope you and the rest of the team are keeping well and safe in light of the on-going Covid situation.

Looking ahead to next week I wanted to check in to re-confirm that our meeting is still going ahead. We would be happy to have a virtual meeting, if that works for you?

Best,
Karl

From: [Name redacted] <[email redacted]>
Sent: 10 March 2020 09:36
To: Karl Smyth <[email redacted]>; [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>
Subject: RE: BECCS data

Hi Karl – of course, I've amended the diary invite.

Best regards
[Name redacted]

From: Karl Smyth <[email redacted]>
Sent: 09 March 2020 21:26
To: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>
Subject: RE: BECCS data

Hi [Name redacted],

Could we please move our meeting on the 1st April to 2pm on same day? That would enable the right attendees from our side to participate.

Thanks,
Karl

From: [Name redacted] <[email redacted]>
Sent: 18 February 2020 16:40
To: Karl Smyth <[email redacted]>; [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>
Subject: RE: BECCS data

Of course – would 10.30-11.30am on 1st April work for you? And will it just be the two of you attending, or someone from McKinsey as well?

I'll send round an invite now.

Best regards
[Name redacted]

Senior Analyst
Climate Change Committee

From: Karl Smyth <[email redacted]>
Sent: 18 February 2020 16:34
To: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>
Subject: RE: BECCS data

OK thanks [Name redacted]. Would you mind sending a diary invite in due course?

From: [Name redacted] <[email redacted]>
Sent: 18 February 2020 16:31
To: Karl Smyth <[email redacted]>; [Name redacted] <[email redacted]>

Cc: [Name redacted] <[email redacted]>
Subject: RE: BECCS data

Hi Karl

1st April works well for both [Name redacted] and I.

Best regards
[Name redacted]

Senior Analyst
Climate Change Committee

From: Karl Smyth <[email redacted]>
Sent: 18 February 2020 16:28
To: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>
Subject: RE: BECCS data

Hi [Name redacted],

Circling back to our email exchange a couple weeks ago: in terms of dates that would work for us and McKinsey, 1st April looks good currently. I'm exploring alternative dates in March but wanted to know whether that would work for your side as a backstop?

Best,
Karl

From: [Name redacted] <[email redacted]>
Sent: 30 January 2020 16:58
To: Karl Smyth <[email redacted]>
Cc: [Name redacted] <[email redacted]>
Subject: RE: BECCS data

Hi Karl

Thanks for the update, and happy to catch up next week.

Best regards
[Name redacted]

From: Karl Smyth <[email redacted]>
Sent: 30 January 2020 16:38
To: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>
Subject: RE: BECCS data

Hi [Name redacted],

Thanks for reaching out and congratulations on the new role. Yes we have just completed some work with McKinsey in the context of BECCS and biomass availability. We have an internal session tomorrow to discuss its findings and how we best roll-out the analysis to relevant stakeholders. Can we therefore come

back to you next week at which point we'll have a better steer as to when we can share?

Best,
Karl Smyth

Group Head of Policy and Government Relations
Drax

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Email chain 2:

From: [Name redacted] <[email redacted]>
Sent on: Thursday, May 7, 2020 4:52:17 PM
To: Karl Smyth <[email redacted]>
CC: [Name redacted] <[email redacted]>
Subject: RE: Invitation to CCC Roundtable: Power scenarios

Hi Karl,
Many thanks for confirming. You are all signed up for the roundtable and you should now have received a calendar invitation.

All the best,
[Name redacted]

From: Karl Smyth <[email redacted]>
Sent: 06 May 2020 19:22
To: [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>
Subject: RE: Invitation to CCC Roundtable: Power scenarios

Hi [Name redacted],

Thanks for the email, I'd be happy to participate.

Best,
Karl

From: [Name redacted] <[email redacted]>
Sent: 06 May 2020 16:43
Cc: [Name redacted] <[email redacted]>
Subject: Invitation to CCC Roundtable: Power scenarios

Good afternoon,

As you might know, the CCC is currently carrying out the analysis that will inform the level of the Sixth Carbon Budget, which we will publish in December 2020. As we are developing our analysis, we would like to invite you to our roundtable on power scenarios, which will take place on Zoom Thursday 21st May 2020 between 10:00 and 12:30. This will be an opportunity for us to present the scenarios we are exploring for the power sector and for you to help shape these scenarios early on.

I would be grateful if you could confirm whether you or a relevant colleague will be able to attend. If you are, please let me know and I will circulate a calendar invitation and a more detailed agenda. If not, don't hesitate to get in touch as we might be able to invite you to another roundtable or organise a bilateral meeting.

Thank you.

All the best,
[Name redacted]

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Email chain 3

From: Karl Smyth <[email redacted]>
Sent on: Monday, June 15, 2020 6:49:26 PM
To: [Name redacted] <[email redacted]>
CC: [Name redacted] <[email redacted]>
Subject: RE: Drax / CCC BECCS follow-up

3-4 works well tomorrow, I'll send through a diary invite now. Speak then.

From: [Name redacted] <[email redacted]>
Sent: 15 June 2020 11:00
To: Karl Smyth <[email redacted]>
Cc: [Name redacted] <[email redacted]>
Subject: RE: Drax / CCC BECCS follow-up

Hi Karl

That would be useful, thank you. Copying in my colleague [Name redacted] who leads our power sector work.

We're free Tuesday morning, Tues 3-4.30pm, Weds 3-4pm, Thurs 1-2.30 or 3-4pm.

Best regards
[Name redacted]

Senior Analyst
Climate Change Committee

From: Karl Smyth <[email redacted]>
Sent: 15 June 2020 10:23
To: [Name redacted] <[email redacted]>
Subject: RE: Drax / CCC BECCS follow-up

Hi [Name redacted],

Yes we've got a version of the Frontier work we're starting to roll out privately to certain stakeholders (BEIS, HMT) on a 1:1 basis and we'd be keen to share with you also. Would you have some time this week to talk through? Alternatively can you suggest some alternatives?

Best,
Karl

From: [Name redacted] <[email redacted]>
Sent: 05 June 2020 11:06
To: Karl Smyth <[email redacted]>
Subject: RE: Drax / CCC BECCS follow-up

Hi Karl

Thanks for reaching out, and I remember well the session we had. Your resource numbers, with the various sustainability filters, aligned really pretty well with CCC's 2018 Bioenergy report, which is the basis for our 6CB analysis. Although the global biomass numbers you showed didn't go as far as allocating a UK "fair share", which CCC need to assume to derive import availability (we're sticking with the same assumptions as in the 2018 work).

You mentioned that Frontier were doing some work for you, in terms of what support is required and what might be a credible BECCS rollout to 2040. Has this work completed?

Best regards
[Name redacted]

Senior Analyst
Climate Change Committee

From: Karl Smyth <[email redacted]>
Sent: 03 June 2020 16:27
To: [Name redacted] <[email redacted]>
Subject: RE: Drax / CCC BECCS follow-up

Hi [Name redacted],

I just had a session with [Name redacted] and [Name redacted] talking through the McKinsey analysis once again with a view to informing the assumptions that will be used for the CB6 modelling over the coming weeks.

[Name redacted] mentioned that you were leading on the bio-economy work. I think I mentioned when we met a couple months ago that in addition to analysis around BECCS costs, McKinsey also did a detailed piece of work with us to develop a revised estimate of the global availability of sustainable biomass that could be mobilised for BECCS. I was wondering if we could have a short call to walk you through this, given that it will have read-across the work you are doing around bio-economy more broadly?

Best,
Karl

From: [Name redacted] <[email redacted]>
Sent: Monday April 6 2020 2:50:41 PM
To: Karl Smyth <[email redacted]>; [Name redacted] <[email redacted]>
CC: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Drax / CCC BECCS follow-up

Hi Karl

Certainly, I'll take a look through the additional slides, and thank you for the presentation last week. For my part, it was particularly useful to test out our current biomass cost assumptions, and if you have a view on how UK or import costs may change over time, this would also be useful. I or my power sector colleagues (including [Name redacted]) may come back to you with questions in the coming weeks. One likely question would be a credible BECCS capacity ramp-up trajectory in the late 2020s/early 2030s, given that 12GWe won't happen by 2030.

I also note that CCC have publically said at several stakeholder events that we are no longer using "Core", and our 6th carbon budget work is going beyond the 96% reduction in "Further Ambition", to instead achieve 100% reductions in three scenarios by 2050 (or earlier). This may help with your/McKinsey's prioritisation and framing.

We're always open to receiving high quality evidence on what policy frameworks may be required in order to get deployment to occur, so we would be happy to schedule a further call in a few weeks.

Best regards
[Name redacted]

Senior Analyst
Climate Change Committee

From: Karl Smyth <[email redacted]>
Sent: 06 April 2020 08:38
To: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Subject: Drax / CCC BECCS follow-up

Hi [Name redacted], [Name redacted],

Thanks again for your time last week – find attached as a promised a copy of the slides as presented, along with some additional information in the back relating to:-

- Some modelling work around the inflection point at which brownfield BECCS becomes cost competitive with unabated gas.
- Mapping biomass supply 'hot spots' with CO₂ storage capacity globally to identify geographies where BECCS may deploy more rapidly than others.

If you have any further queries/comments on the slide pack, or would like us to supply any supplementary information, do not hesitate to reach out.

As we mentioned on the call, we are in the process of finalising a piece of work with Frontier Economics outlining what a BECCS policy framework looks like in the 2020s, and how it could evolve over the 2030s and 2040s to promote competition between BECCS projects and subsequently all GGR solutions. Hopefully this will help the work you and colleagues are doing on policy aspects of the 6CB. We'll circle back in a few weeks when we're in a position to share, with a view to scheduling in another call to talk through?

Thanks,
Karl Smyth

Group Head of Policy and Government Relations
Drax

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Email chain 4

From: [Name redacted] <[email redacted]>
Sent on: Friday, June 19, 2020 9:43:08 AM
To: Karl Smyth <[email redacted]>
CC: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Thanks & slides

Hi [Name redacted] – That would be great, thank you.

[Name redacted]

From: Karl Smyth <[email redacted]>
Sent: 19 June 2020 10:34
To: [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Thanks & slides

Hi [Name redacted],

2pm looks good for us, shall I send a Teams invite?

From: [Name redacted] <[email redacted]>
Sent: 19 June 2020 09:56
To: Karl Smyth <[email redacted]>
Cc: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Thanks & slides

Hi Karl,

Thanks for getting back to me on this. I'm afraid we are already all booked in for today, but we could arrange a catch-up on Wednesday, sometime between 1 and 3 pm?

I should then be able to present our new cost assumptions for BECCS.

All the best,
[Name redacted]

From: Karl Smyth <[email redacted]>
Sent: 18 June 2020 22:38
To: [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>

redacted]> [Name redacted] <[email redacted]>

Subject: RE: Thanks & slides

Hi [Name redacted],

Apologies for the delay in coming back to you. In response to your points:

1. Carbon pricing: thanks for confirming, for the reasons discussed previously (carbon neutrality of biomass) can you confirm that this will be removed from the LCOE?
2. Opex: Our £55m opex figure does not include T&S costs. The £55m is based on the ~£30m opex associated with operating a biomass power plant, based on our experience running the units at Drax in recent years, and ~£25m opex for the capture plant.
3. T&S costs: Wood Group assumes biomass emissivity at 1.38/tCO₂ per MWh of biomass (£26.2/MWh / £ 19/tCO₂) leading to a higher concentration of CO₂ per MWh produced. In contrast our assumed biomass emissivity is 0.93/tCO₂ per MWh, leading to a lower T&S cost of ~£18/MWh.

Could we schedule a short call tomorrow or early next week to pick up these any other questions you may have?

Best,
Karl

From: [Name redacted] <[email redacted]>

Sent: 10 June 2020 16:25

To: Karl Smyth <[email redacted]>

Cc: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>

Subject: RE: Thanks & slides

Hi Karl,

Thank you for taking the time to walk me through the CCC/Drax cost comparison last week, I found that very helpful.

As discussed, I have been doing a little digging into our own numbers again to make sure you have the right figures. I just wanted to give you an update on that:

- Last week, I suggested we had not included a carbon price, which was wrong. I had a chance to chat with [Name redacted] who sent the data to McKinsey and I can confirm that the levelised costs of £173/MWh does include a carbon price of £11.7/MWh.
- We indeed also assume £140m per annum in operating costs. However, that includes £78.5m a year in CCS transport and storage costs. Am I right in understanding that the £55m per annum you suggest includes these costs? If not, the difference in our assumptions should not be significant.
- In addition, we already use a £19/tCO₂ for CCS transport and storage costs. Would you mind explaining how you have reached £17/MWh in T&S costs? Could you outline the underlying assumptions? To some extent, there should be a difference in our estimates given that we assume a 95% capture rate, but it should not be that significant.

For my part, I am still working on the fuel price assumptions, but we should be able to update you next week.

Thank you.

All the best,
[Name redacted]

From: [Name redacted] <[email redacted]>
Sent on: Monday, June 1, 2020 1:44:46 PM
To: Karl Smyth <[email redacted]>
CC: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Thanks & slides

Hi Karl,

Thank you for confirming. Wednesday 3 to 4pm works well for us. I will send a calendar invitation in a minute.

Many thanks,
[Name redacted]

From: Karl Smyth <[email redacted]>
Sent: 01 June 2020 14:34
To: [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Thanks & slides

Hi [Name redacted],

Would any time 3pm – 5pm on Wednesday work?

Best,
Karl

From: [Name redacted] <[email redacted]>
Sent: 01 June 2020 08:11
To: Karl Smyth <[email redacted]>
Cc: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Thanks & slides

Hi Karl,

Thank you for sharing the material you presented to my colleagues.

Indeed, I would find it very useful if you could walk me through this presentation again, to better understand what is driving the cost reductions to £142/MWh. I have a particular interest in the breakdown between capex and opex. In addition, it would be good if we could discuss the deployment of BECCS plants.

Would you be available this Wednesday or Thursday afternoon for a 1h session? Feel free to suggest some timeslots if these dates suit and I can send a calendar invitation.

Thank you.

All the best,
[Name redacted]

From: Karl Smyth <[email redacted]>
Sent: 22 May 2020 22:13
To: [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Thanks & slides

Hi [Name redacted],

In early April a group from Drax and McKinsey presented to [Name redacted] and [Name redacted] Taylor a new piece of analysis we are due to publish in the coming weeks on BECCS costs, reviewing the CCC's cost estimate in the Net Zero report and revising it down through a number of cost-downs based on assumptions we believe better reflect real-life technology choices and plant performance. I've attached the slide pack as presented then.

The affect of the revisions is to bring the cost of BECCS down from £158/tCO₂ MAC plus wholesale power to ~£97/tCO₂ plus wholesale power. This would I believe result in a revised LCOE of ~£142/MWh vs. the ~£173/MWh you had listed in your slide deck for the planned CB6 modelling runs.

We'd be very happy to talk you and the team through this again, if helpful. I'm away next week but have copied in my colleagues [Name redacted] and [Name redacted].
In the meantime I am also going to approach [Name redacted]'s team as we have done a related piece of work with McKinsey on global biomass availability, which is relevant to this discussion.

Best,
Karl

From: [Name redacted] <[email redacted]>
Sent: 21 May 2020 17:46
To: Karl Smyth <[email redacted]>
Subject: RE: Thanks & slides

Hi Karl,

Thanks a lot for joining the roundtable today, we definitely received some very useful feedback. You will find the slides in the attachment.

It would indeed be very helpful if you could send a note on costs. We'd be happy to review the evidence and continue this discussion to ensure we are representing BECCS costs correctly. Do you think you will have time to send that next week?

Thank you.

All the best,
[Name redacted]

From: Karl Smyth <[email redacted]>
Sent: 21 May 2020 12:39
To: [Name redacted] <[email redacted]>
Subject: Thanks & slides

Hi [Name redacted],

Thanks for hosting today and inviting us – it was very useful.

I will send you a separate note around BECCS costs and other issues, in the meantime if it would be possible to get a copy of the slide deck that would be great.

Best,
Karl

Group Head of Policy and Government Relations
Drax

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Email chain 5

From: [Name redacted] <[email redacted]>
Sent on: Thursday, July 30, 2020 1:00:58 PM
To: Karl Smyth <[email redacted]>
CC: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Drax / BECCS - Frontier Economics slide deck

Hi Karl – just wondering if you'd been in contact with my colleagues, and if any data on BECCS greenfield vs. retrofits had been shared?

Best regards

[Name redacted]

Senior Analyst
Committee on Climate Change

From: [Name redacted] <[email redacted]>
Sent: 08 July 2020 09:57
To: Karl Smyth <[email redacted]>
Cc: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Drax / BECCS - Frontier Economics slide deck

Hi Karl

I'll ask my power sector colleagues, [Name redacted] and [Name redacted], if they can help out (I'm just the intermediary!)

Best regards
[Name redacted]

Senior Analyst
Committee on Climate Change

From: Karl Smyth <[email redacted]>
Sent: 08 July 2020 09:24
To: [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Drax / BECCS - Frontier Economics slide deck

Hi [Name redacted],

Could you share the data you have (via BEIS) on greenfield, as we've not seen previously?

Karl

From: [Name redacted] <[email redacted]>
Sent: 02 July 2020 12:55
To: Karl Smyth <[email redacted]>
Cc: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Drax / BECCS - Frontier Economics slide deck

Hi Karl

Following up on the BECCS costs presentation you shared with us the other month that mentioned greenfield and brownfield capex, CCC have some data (from BEIS I believe) regarding greenfield BECCS power plant costs, and we have data from Supergen (Niall McDowell) suggesting a ~42% capex saving between greenfield and retrofit BECCS – would you be able to suggest or provide any better data on retrofit capex?

Best regards
[Name redacted]

From: Karl Smyth <[email redacted]>
Sent: 17 June 2020 12:05
To: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>
Subject: Drax / BECCS - Frontier Economics slide deck

Hi [Name redacted], [Name redacted],

Thanks for your time yesterday to discuss our recent work with Frontier Economics on the support options for deployment of early BECCS projects in the 2020s – and the evolution of that framework over time. I've attached the slide deck as promised – as we discussed, it's not public domain yet but happy of course for it to be shared with CCC colleagues on that basis.

I've also attached the E4Tech report Chris mentioned – again, not public domain but happy to disclose to you and colleagues.

If you have any queries, please do let us know? Happy to continue the dialogue as you move to the next phase of your 6CB work around support mechanisms.

Best,

Karl Smyth

Group Head of Policy and Government Relations
Drax

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Email chain 6

From: Karl Smyth <[email redacted]>
Sent on: Tuesday, August 25, 2020 9:35:05 AM
To: [Name redacted] <[email redacted]>
Subject: RE: CCC roundtable - role of gas in the power sector

Hi [Name redacted],

Yes happy to participate, please do send through an invite in due course.

Best,
Karl

From: [Name redacted] <[email redacted]>
Sent: 19 August 2020 15:42
To: Karl Smyth <[email redacted]>
Subject: CCC roundtable - role of gas in the power sector

Dear Karl,

We would like to invite you to a roundtable hosted by the Committee on Climate Change, to explore the rationale and policy approach for phasing out unabated gas in UK power generation by 2050.

This will help inform our advice to Government on the level of the sixth carbon budget, which we are due to publish in December 2020 and which will set out the pathway for the UK to achieve net-zero emissions by 2050.

The roundtable will take place on Zoom on Wednesday 9th September between 11:30 and 13:30. This will be an opportunity for us to present our emerging analysis and for you to provide feedback before the final advice is published. Our Committee members Professor Keith Bell and Baroness Brown will be participating and are keen to hear your views.

We hope you are available and would be grateful if you could confirm whether you or a relevant colleague will be able to attend. If you are, please let me know and I will circulate a calendar invitation.

Best regards,
[Name redacted]

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Email chain 7

From: [Name redacted] <[email redacted]>
Sent on: Tuesday, November 3, 2020 4:30:24 PM
To: [Name redacted] <[email redacted]>

Subject: RE: Drax Pumped Storage Hydro

Hi [Name redacted],

Thanks for answering my questions in the EnergyUK call just now. I was just reminded that we never had a chance to book in a discussion about Drax's plans around the deployment of additional pumped storage hydro. I appreciate you may be very busy in the run up to the 6th Carbon Budget, but wondered if you have much availability in the next few weeks for the discussion?

Many thanks,
[Name redacted]

[Role redacted]
Drax

From: [Name redacted] <[email redacted]>
Sent: 11 September 2020 09:11
To: [Name redacted] <[email redacted]>
Cc: Karl Smyth <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Drax Pumped Storage Hydro

Hi [Name redacted],

I hope you are well?

Just checking to see if any of the below dates work for you?

Many thanks,
[Name redacted]

From: [Name redacted] <[email redacted]>
Sent: 30 July 2020 16:35
To: [Name redacted] <[email redacted]>
Cc: Karl Smyth <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Drax Pumped Storage Hydro

Great thanks [Name redacted]. Thursday 24th in the morning, all day Friday 25th and afternoon of Tuesday 29th are free for us at present.

Many thanks,
[Name redacted]

From: [Name redacted] <[email redacted]>
Sent: 27 July 2020 18:14
To: [Name redacted] <[email redacted]> <[\[Name redacted\].Gow@drax.com](mailto:[Name redacted].Gow@drax.com)>
Cc: Karl Smyth <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Drax Pumped Storage Hydro

Hi [Name redacted],

Happy to put a placeholder in and revisit closer to the time – we're definitely tied up until 18th September, so the last half of the month works better for us. We're relatively free in w/c 21st and 28th if you can suggest some times that work for you?

Thanks,
[Name redacted]

From: [Name redacted] <[email redacted]>
Sent: 22 July 2020 16:39
To: [Name redacted] <[email redacted]>
Cc: Karl Smyth <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Drax Pumped Storage Hydro

Hi [Name redacted],

No problem at all, we would be happy to wait until September to run through the policy issues. Would it be prudent to put a placeholder in now for early September that we can revisit nearer the date if no longer suitable?

Many thanks,
[Name redacted]

From: [Name redacted] <[email redacted]>
Sent: 20 July 2020 18:02
To: [Name redacted] <[email redacted]> [Name redacted] <[email redacted]>
Cc: Karl Smyth <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: Drax Pumped Storage Hydro

Hi [Name redacted],

Thanks for your email, that is definitely something we'd be interested in hearing more about. We're pretty tied up at the moment working on emissions scenarios, but will be focusing on policy issues once that is done. As part of that we're intending to hold some policy-focused workshops which this could be relevant to as well. Finishing the scenarios is going to take until early September, so after that would be the best time to discuss this if that works for you?

Best regards,
[Name redacted]

Senior Analyst
Climate Change Committee

From: [Name redacted] <[email redacted]>
Sent: 17 July 2020 15:13
To: [Name redacted] <[email redacted]>
Cc: Karl Smyth <[email redacted]>
Subject: Drax Pumped Storage Hydro

Hi [Name redacted],

I hope you are well?

Following on from a discussion with [Name redacted], we thought it might be prudent to get in contact with you regarding Drax's plans to develop additional Pumped Storage Hydro facilities to sit alongside our current facility at Cruachan. As you may be aware there are a number of market failures and policy barriers which are hindering the development of pumped storage hydro, and we

thought the CCC might be interested in understanding these in further detail as part of your work for the Sixth Carbon Budget.

Would it be a good idea to book in an hour slot to (virtually) discuss in the next couple of weeks?

I hope you enjoy your weekend when it arrives.

Many thanks,
[Name redacted]

[Role redacted]
Drax

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Email chain 8

From: [Name redacted] <[email redacted]>
Sent on: Thursday, December 17, 2020 12:12:04 PM
To: Karl Smyth <[email redacted]>
CC: [Name redacted] <[email redacted]>
Subject: RE: BECCS power deep-dive

Hi Karl,

Of course, I'm not really familiar with most of it myself (beyond the power parts)! We're free 10-12 on the 12th and 13th if either of those work?

Thanks,
[Name redacted]

From: Karl Smyth <[email redacted]>
Sent: 16 December 2020 19:15
To: [Name redacted] <[email redacted]>
Cc: [Name redacted] <[email redacted]>
Subject: Re: BECCS power deep-dive

Hi [Name redacted], thanks for signposting, that's helpful. As you can tell we're still digesting all the material.

Great, could we have a meeting on BECCS and hydro when you're back in January? Could we do something on the W/c 11th - say the 12th or 13th? I don't think we would need more than an hour.

Thanks and hope you have a great break.

Best
Karl

From: [Name redacted] <[email redacted]>
Sent: Wednesday, December 16, 2020 1:02:48 PM
To: Karl Smyth <[email redacted]>
Cc: [Name redacted] <[email redacted]>; [Name redacted] <[email redacted]>
Subject: RE: BECCS power deep-dive

Thanks Karl!

I only have about half a day left now and then I'm away until 11th Jan, so squeezing in a phone call will be difficult I think. But happy to set something up in the new year – and [Name redacted], aware you wanted to discuss hydro too.

In the meantime, we published a lot of additional material alongside the main CB6 reports and I think most of the answers you're after can be found buried in these:

- Charts and data file – This has a more detailed breakdown of the BECCS costs over time ([link](#)).
- Removals summary – This brings together all the removals parts of the three main reports into one place, and explains the role of BECCS in our scenarios ([link](#)). There's also one for power ([link](#)). In general BECCS is deployed at a rate depending on the requirement for removals in the scenario, and taking into account the relative costs of that (against other options in each sector, and between different uses of biomass).

Hope that helps,
[Name redacted]

Head of Power Sector
Climate Change Committee

From: Karl Smyth <[\[email redacted\]](#)>
Sent: 15 December 2020 21:43
To: [Name redacted] <[\[email redacted\]](#)>
Cc: [Name redacted] <[\[email redacted\]](#)>
Subject: BECCS power deep-dive

Hi [Name redacted],
First of all congratulations on the 6CB – I'm sure it was a labour of love over the last few months, but as ever the sheer weight of analysis and thought that went in to the final product is immensely impressive.

Would it be possible to have a short call between now and when you go on leave for Christmas to walk through the BECCS assumptions that went in to the final modelling. We note that there was a LCOE range given – it would be good to understand what's driving down, and how you handled the issue of a negative emissions revenue stream.

I don't imagine we'll need more than 30 mins – is this feasible?

Best,
Karl Smyth

Group Head of BECCS Strategy and Engagement
Drax