# ANNEX 1 - Meeting between British Gas and Greg Barker on Short lived pollutants on 20 May 2014

## Email chain from 6 – 12 May 2014.

From: PS Gregory Barker (DECC)
<b>Sent:</b> 13 May 2014 12:00 <b>To:</b>
Cc:
Lyon Ben (International Climate
Change);
Subject: FW: CCAC roundtable - 20 May
Thanks for this. Greg Barker thought the agenda looked good, and cleared the attached invitation.
Can you now send out the invitation to the set of people below? I'd suggest sending it out as PDF. And then following up on Thursday with a reminder and a version of the agenda (by when we should have clarity on the arrangements for the chairing).
is trying to book the 6 <sup>th</sup> floor boardroom in 3WHP. I'll contact Lord Browne's office tomorrow to understand his availability. We'll revert shortly.
Senior Private Secretary to Rt. Hon Gregory Barker MP, Minister of State for Energy & Climate Change   3 Whitehall Place, London SW1A 2AW
From:
Sent: 12 May 2014 12:36 To: PS Gregory Barker (DECC)
Cc:
Lyon Ben (International Climate
Change); Subject: RE: CCAC roundtable - 20 May
Following our conversation I have updated the invitation letter to take on board Katie's

Following our conversation I have updated the invitation letter to take on board Katie's comments. I have also updated the Agenda, trying to flesh it out a little to show how we plan to use the time. We can use the rest of this week to finalise the agenda, but I think It is important for us to get the invite out to invitees ASAP to ensure that we can get the right mix of people around the table.

As mentioned earlier, I am out of the office this afternoon, but will have BB with me and able to check emails intermittently, but I am back in the office as normal tomorrow.

## Thanks again for your help**Invitees:**

Oil and Gas Companies

#### **Lord Browne**

Shell: BP:	
BG Group: Lisa Walker	
Statoil: Total: Eni:	
Saudi Aramco: Pemex:	
Norton Rose Fulbright	
Investor groups	
Scottish Widows / SWIP / Aberdeen Asset M	Management:
Institutional Investors Group on Climate Ch	ange (IIGCC):

BlackRock

#### Invitation

#### INVITATION TO INFORMAL ROUNDTABLE ON METHANE

I should like to invite you to an informal roundtable to discuss opportunities for major oil and gas companies to demonstrate leadership in tackling methane emissions. The roundtable will take place from **1600-1800 on Tuesday 20 May** in the Department of Energy & Climate Change (3 Whitehall Place, London SW1A 2AW).

Reducing methane emissions from oil and gas production is one of the best near-term, cost-effective opportunities to mitigate greenhouse gases. The purpose of this roundtable is to seek your views on how we can work together to deliver meaningful progress on this initiative. This is particularly urgent with a view to the Climate Change Summit for world leaders which will be hosted by the United Nations' Secretary General Ban Ki Moon in New York on 23 September.

I recently returned from Abu Dhabi where a preparatory meeting for the Summit – the 'Abu Dhabi Ascent' – took place. This generated a real sense of excitement amongst the commercial entities there, who had highlighted a series of potential business opportunities. I would be keen to discuss these with you and do hope you can join me on 20 May.

I attach a draft agenda for the roundtable. Please would you confirm your attendance with my office **by 15 May**, on <u>ps.gregory.barker@decc.gsi.gov.uk</u> and

Yours sincerely

## Annotated agenda (Word Doc)

#### Minister Barker's Round table on methane

Date: 20 May 2014

**Timing**: 16:00-18:00

Chairing options: 1) meeting chaired by Lord Browne (Lord Browne's office won't confirm until

Wednesday)

2)1<sup>st</sup> half of the meeting chaired by MoS, 2<sup>nd</sup> half chaired by Lord Browne with MoS closing the meeting and agreeing next steps (option reflected below)

3) meeting opened and closed by MOS with an official chairing the 2<sup>nd</sup> part of the discussion

Venue: DECC 3 WHP, London

**Objective:** To convene key stakeholders from the oil and gas industry, investor groups and government with a view to identifying barriers and challenges to taking action on methane emissions, and agreeing options for a concrete deliverable for the Ban Summit in September.

**Outcome:** Identify a methane outcome for the Ban Summit that UK interests can get behind. This would aim to build on momentum generated by the CCAC initiative, and to encourage participation from a wide range of companies whilst being robust enough to have real world impact. Lobby companies to join the CCAC initiative and or/make other visible commitments.

#### **Proposed Agenda:**

4:00 – 4:05 MOS to open meeting with a quick tour of the Table

4:05 - 4:55 - led by MOS

Opportunity to have an open discussion about the various initiatives (options) on the table, with a view to identifying industries' concerns and how these can be overcome ahead of the Ban Summit.

- Brief update on Abu Dhabi Ascent, highlighting opportunities for this sector to show leadership on Methane emissions at the Ban Summit.

Highlight these initiatives as possibilities:

- 1. CCAC oil and gas methane Partnership
- 2. Total initiative (not sure how much we can say about this as still in its infancy perhaps we could ask Total to say something about it?)
- 3. Global Methane initiative

#### 4. Other options?

We intend to line up two speakers for you to call on, one from industry and the other from investor group – to talk about the potential for taking action on methane, and why now is the right time.

- Open the floor for a general discussion around these options, with a view to identifying barriers and challenges to industry led action.

MOS to hand over chairing to Lord Browne to continue discussion, setting industry the ambitious challenge of agreeing on an initiative for us to support

#### 4:55 - 5:05 Coffee break

#### 5:05 – 5:45 discussion continues with – Lord Browne chairing

**5:45 – 6:00** –Lord Browne wraps up discussion highlighting the key outcomes and suggestion of way forward, followed by MOS closing the meeting with final remarks and agreeing next steps.

#### Invitees:

Lord Browne



### Pdf doc on CCAC Oil & Gas Methane Partnership

CCAC Oil & Gas Methane Partnership

The issue: The oil & gas industry is the largest man-made emitter of methane after agriculture.

The International Energy Agency (IEA) identified minimising methane emissions from upstream oil and das production as one of four key global mitigation opportunities, noting that upstream methane

and gas production as one of four key global mitigation opportunities, noting that <b>upstream methane</b>
reductions could account for nearly 15% (over 0.5 Gt CO2eq) of total GHG reductions needed
by 2020 to keep the world on a 2°C path.1 Tackling this issue would reinforce the case for gas as a
lower-carbon transition fuel, giving Oil & gas companies the opportunity to demonstrate internationally
that they are effectively and responsibly managing methane emissions in light of the increase debate
on shale gas.
The opportunity: The Climate and Clean Air Coalition (CCAC) calls upon companies to commit to joining the CCAC Oil & Gas Methane Partnership, which will be launched at the UN Secretary General's Climate Summit on 23 September. This initiative is designed to support participating companies in demonstrating their systematic management of their methane emissions, thus show they are contributing to global efforts to reduce GHG emissions and, therefore, win international recognition for doing so. A participating company voluntarily agrees to:  □ craft an implementation plan covering participating assets of the company's choosing;  □ survey for nine core sources that typically account for the bulk of upstream methane emissions;  □ evaluate cost-effective technology options for uncontrolled sources with a view to implementation;  □ report progress in a transparent, credible manner that demonstrates results.
- report progress in a transparent, orealists mariner that demonstrates results.
<b>The value for companies</b> : The Partnership can provide credibility and recognition for the company's past and present efforts to control methane emissions. In doing so, it does not preclude any chance of a company securing other benefits of managing methane emissions. There are other co-benefits such as:
□ increased product recoverability leading to increased gas sales volume;
□ operational and safety benefits through enhanced asset integrity;
□ best practice sharing and support to engage non-OECD JV partners;
□ credibility for emissions factors and cost-effective risk-based programmes for assessing and calculating emissions;
□ development of a reliable industry data set to underpin the climate credentials and growth of natural gas and;
□ access to technical assistance leveraging the EPA Natural Gas Star programme.
Who's behind it: The Oil & Gas Methane Partnership was developed by the CCAC, a group that currently includes 40 governments, with a Secretariat hosted by the United Nations Environment Programme (UNEP). Technical Partners in the CCAC Oil & Gas Methane Partnership include the Environmental Defense Fund, the World Bank's Global Gas Flaring Reduction Initiative, the U.S. EPA's Natural Gas Star programme and the Global Methane Initiative. The CCAC conducted an extensive consultation process, including meetings with oil & gas companies directly and via IPIECA,
Environmental Defense Fund, the World Bank's Global Gas Flaring Reduction Initiative, the U.S. EPA's Natural Gas Star programme and the Global Methane Initiative. The CCAC conducted an

to develop a partnership that is robust and credible. **To find out more**: Contact at the CCAC Secretariat

Emailed read out of the meeting originally sent on 21<sup>st</sup> May and forwarded to Pete Betts on 28<sup>th</sup> May

From:
Sent: 28 May 2014 11:26  To: Betts Peter (International Climate Change)
Cc: Lyon Ben (International Climate Change);
Subject: Methane roundtable meeting 20th May
Hi Pete,
Thought you would find it helpful to have a quick update on the roundtable meeting Greg hosted last week.
In summary, it was a good discussion, with participation from the key UK stakeholders (fuller readout in email below).
Redacted under EIR 12 5 (a) Going forward the group agreed that we needed to smarten up the script on this initiative, making clear what we are asking CEOs to sign-up-to. UNEP has been tasked with this. We should have a version of this revised one-pager later this week, which the Minister plans to circulate around the roundtable attendees for their comments. Once the text has been agreed, the plan is to send this to companies, which we will then follow up with a call from the Minister.
Given the push back from Redacted under EIR 12 5 (f) Ben has agreed to speak with (US lead on Methane Partnership initiative), with a view to getting them to increase their high level support as well as pushing them to lobby their big oil and gas producers.
In addition to the outcomes from Greg's meeting, the Methane Partnership steering committee is refining their outreach strategy to include a strong push from all members over the next few months before the Climate Summit in September.
Let me know if you have any questions or want to discuss further
Department of Energy & Climate Change

Sent: 21 May 2014 14:42  To: Lyon Ben (International Climate Change);  Cc:
Subject: methane roundtable meeting 20th May
Dear all,
Just a quick note following the meeting yesterday along with some next steps.
Overall, I think it was a really good discussion, which Greg chaired well. The meeting was well attended, however Pemex, Total and SaudiAramco were unable to attend.
Lord Browne's opening was good, highlighting that whilst  Redacted under EIR 12 5 (f) He also noted that numbers currently
available is difficult to relate to the activity being discussed, but there was no doubt that operators are releasing a lot of methane.
Other initiatives:
As directed the Minister did open up the conversation to allow others to talk about other viable initiatives, but no one suggested any of the others out there, so the discussion focussed on the CCAC Methane Partnership. There was a brief update on the Total initiative by BG Group following a telecor they had with them earlier in day.
under EIR 12 5 (f)
Greg challenged companies to ask whether  Redacted under EIR 12 5 (f) But it was clear that companies are taking action to reduce their emissions but were reluctant to sign up to the CCAC because of the issues below:

#### Issues:

#### Ask of companies/CEO's isn't clear or it isn't packaged well, politically

As the discussion focused around the CCAC and it was clear that companies where already doing most of what the initiative called for, the Minister tried to understand why people were slow to sign up to the initiative, suggesting that there could be a bit of initiative fatigue. From this discussion it was clear that there is some issue with the political packaging of the initiative, people are not sure what they are signing up to, as the initiative did not include an emissions reduction target (which they did

not want) but they were unclear where reporting on these emissions would lead to. Therefore Greg suggested that for an announcement at the summit, companies could sign up to 'commitment to commit'. Which would mean that they sign up to some best practice or a framework at the summit, with the intention of better understanding emissions from the sector, develop a baseline and then once they have robust numbers, set a target. There were no objections to the proposal as such, but Lord Browne made it clear that companies won't want to sign up to something that they didn't fully understand. As a next step, Greg asked UNEP lead to create a one pager setting out: what we need to be achieved, timeframe, what the ask is of CEOs, what we don't expect them to do etc.

In the climate sphere, Greg pointed out that we have to demonstrate to others that gas is part of the solution not the problem, and a way to achieve this is to demonstrate responsible industry led leadership.

Lord Browne made it clear that CEO's wouldn't sign up to this initiative unless it had clear leadership and it was the number one ask of HMG

Redacted under EIR 12 4 (e)

#### Language

Part of the challenge with taking action on methane is that there are no widely accepted figures as to what the emissions are, there are studies with various estimations, but nothing that the industry accepts as accurate. In the meeting, there was discussion around measuring emissions and companies pushed back stating that measuring emissions would be extremely costly and they wouldn't sign up to anything that required this. Instead, the CCAC should use language based on best practice estimation rather than measuring actual emissions.

Redacted under EIR 12 4 (e)

#### Compliance

From the companies represented in the room, it seems like they wouldn't have difficulties complying with a target, but reluctant to sign up to one. It was clear that they were all taking action on methane emissions, in their own way, so they wouldn't require any additional effort to join the CCAC. BG group mentioned that complying with the MRV ask would require additional effort, Statoil raised that the transparency ask of the CCAC was very high and feedback from BG group

Redacted under

EIR 12 5 (f) So it seems that MRV requirements remain the key concern/barrier from companies.

#### Shell and BP

Understandably, Shell and BP were the quietest companies in the room, only speaking when the Minister called on them. They were both disappointed that this initiative hadn't progressed further given the strong political push from the US at the start. They were also concerned that the US weren't

focusing on the big companies there. Shell and BP both pointed out that they would need to see some of the big US companies sign up to the initiative before they could reconsider their decision not to join. BP remains interested, and continue to follow at a technical level, but noted that this was not one of their ten priorities to deliver on and it would take much persuasion for them to sign up to an initiative outside their priority areas. Key concern was the lack of participants in spite of the political push.

#### **Investor groups**

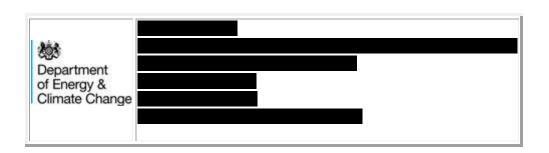
Very supportive of the CCAC and agree that it is the most developed initiative out there. They were supportive of the one pager and would help to push this with CEOs. They noted that companies action would be more of a strategic issue rather than a financial one, so need to push that gas has an important role to play in transition to low carbon, which links into the point made by Greg and Norton Rose Fulbright on getting the messaging right.

#### Actions:

- to work with few others (possibly BG group, Investors and Norton Rose) to develop a simple one pager to put before CEOs setting out key asks based around the 'commit to commit' idea. Completed by 27<sup>th</sup> May and circulated to wider group for comments
- Comments from wider group by 3 June. With a view to investors road testing one pager with CEOs WC 9<sup>th</sup> June
- We need to consider whether UK Gov should be sending out these one pagers to CEOs
- Redacted under EIR 12 5 (a)— suggest that Ben calls discussion.

Redacted under EIR 12 4 (e)

Happy to discuss further



## All redacted under EIR 12 4 (e)

## Roundtable discussion on methane Annotated agenda

<u>Steer</u> :
You have agreed to host and chair a roundtable discussion on 20 May, with a few key oil and gas companies.  and encouraging them to demonstrate leadership at the Climate Summit in September.
The group will consist of keen CCAC methane partnership supporters, such as BG Group and Statoil who are in the process of signing up to the initiative, and others who are not so keen, such as Shell, BP, Total and Saudi Aramco. There will also be two participants from investor groups who have been vocal in their support of industry taking action to reduce their methane emissions.
Lord Browne has kindly agreed to attend this meeting. As you have said, he is potentially a key interlocutor in this area and  He has accepted your invitation to give an opening speech and a summary at the close of the session.
It is unlikely that we will get a concrete outcome from this meeting.  However, the landing ground could be for the group to agree that Lord Browne take forward some further informal contacts to work on challenges/barriers identified in this meeting with the clear understanding that the aim is to coalesce around profiling action to reduce methane emissions at the Ban Summit, ideally through the CCAC (though this may need to be left open, for now, at the end of this meeting).

#### **AGENDA**

**Timing**: 16:00-18:00

Venue: Room 6.03 DECC 3 WHP, London

**Objective:** To convene key stakeholders from the oil and gas industry, investor groups and

government with a view to identifying barriers and challenges to taking action on methane emissions, and agreeing options for a concrete deliverable for the Ban

Summit in September.

Outcome: Identify a methane outcome for the Ban Summit that the UK can fully support and has

good participation of UK oil and gas companies. This would aim to build on

momentum generated by the CCAC initiative, and to encourage participation from a wide range of companies whilst being robust enough to have real world impact. Lobby companies to join the CCAC methane partnership initiative and or/make other

visible commitments and be prepared to profile these at the Ban Summit.

#### 1600-1620 **Opening**

- Welcome
- Introduction and agenda
- Context

Rt. Hon Gregory Barker MP, Minister of State, will update attendees on the Abu Dhabi Ascent (4-5 May). He will outline the various initiatives being considered for the UN Secretary General's Climate Leaders' Summit in New York on September.

#### 1620-1655 **Discussion** – chaired by Rt. Hon Gregory Barker MP

- Opened by Lord Browne of Madingley

Some questions to aid discussion:

- What are the economics of reducing methane emissions in the sector?
- What is the industry currently doing in this field?
- What are the barriers/challenges preventing the industry doing more?

1655-1705 Break

#### 1705-1745 **Discussion (continued)**

Further questions to aid discussion:

- Which initiatives on methane have the best chance of getting traction for the September Summit?
- How can we all build momentum towards the September Summit?

#### 1745-1800 Close

- Summary
- Closing remarks

#### Annotated agenda with key points to make

#### ANNOTATED AGENDA

#### 1. Opening

#### - Welcome

- Thank everyone for attending.
- Set out the objectives for this discussion which is to enable us to have an open discussion with the goal of identifying an outcome we can all support and that demonstrates leadership, at the Climate summit
- Reiterate the importance of taking action in this area keep us on track for below two degrees
- Action on methane is cost effective and a number of companies already have the necessary technology in place to reduce methane leakage

#### - Introduction and agenda

Tour de table - introductions from participants and adoption of the agenda

#### - Context

#### Key points to make:

- DECC is keen for companies to get behind the Climate Summit as this is a great opportunity to demonstrate leadership, potential for industry to tell a good story
- UN organisers are looking for concrete deliverables for the Ban Summit, so we need
  initiatives that will be able to show that concrete action is being taken to put us on
  track to our global goal of below two degrees
- Abu Dhabi was the latest step in these discussions with a number of initiatives being discussed at a higher level.
- Note that there were several initiatives being discussed under the reducing methane emissions heading, such as the CCAC oil and gas methane partnership and the Global Methane Initiative.
- The CCAC partnership came across in Abu Dhabi as the most advanced, with scope to have an actual delivery at the Summit
- From discussions in Davos, I am aware of the Total initiative, but haven't heard much since it was mentioned back in January.
- Perhaps there are more initiatives out there that you are aware of, let's use this time
  to openly discuss these initiatives, to see how we can work together to deliver
  something robust in September

#### 2. Roundtable Discussion – chaired by Rt. Hon Gregory Barker MP

#### Steer:

As chair, this is a good opportunity to focus discussion on the CCAC, with a view to getting open feedback, identifying challenges/barriers, etc. It is also a good opportunity to get a sense of where the companies are and what they think is achievable for the Ban Summit. If they are all unable to sign up to the CCAC, it might be possible to identify various options for UNEP to pull together as a package.

# . Redacted under EIR 12 4 (e)

We should not rule out convening the group again but it might be premature to fix this now.

#### Invite:

- Opening remarks from Lord Browne of Madingley
- Lisa Walker (BG Group) to kick off discussions,
- (Institutional Investors group on Climate Change) to give an investor perspective and why action on methane emissions is important to investors.

#### Roundtable discussion

Some questions to aid discussion:

- What are the economics of reducing methane emissions in the sector?
- What is the industry currently doing in this field?
- What are the barriers/challenges preventing the industry doing more?

#### 3. Break

#### 4. Discussion (continued)

Further questions to aid discussion:

- Which initiatives on methane have the best chance of getting traction for the September Summit?
- How can we all build momentum towards the September Summit?

#### 5. Close

- Summary
  - Invite Lord Browne to give a summary of key points and overview of next steps.
- Closing remarks
  - Greg Barker closing remarks and final thanks
  - Strongly encourage continued discussion to make tangible reductions to methane emissions

## Participants:

Participant	Company	Position	CCAC discussions	Issues with the CCAC
	Shell		Not ready to join	Lacks critical mass
	ВР		Not ready to join	Need high level push from within BP
Lisa Walker	BG Group	VP government affairs	Agreed to join	
	Statoil		Agreed to join	
	Eni		Interested	
	Saudi Aramco	Not confirmed	Long shot	Not had much engagement
	Pemex	Not confirmed	Agreed to join	
	Institutional Investors Group on Climate Change (IIGCC)		IIGCC – supportive of CCAC and have written to their members inviting them to support the initiative	N/A
	Scottish Widows / SWIP / Aberdeen Asset Management		Supportive of the CCAC	N/A
	Norton Rose Fulbright		N/A	N/A
	UNEP CCAC secretariat		N/A	N/A
	Lord Browne's office			

#### **Background**

- 1. The CCAC was founded in February 2012 with seven partners, as of September 2013 the coalition had 75 partners including 34 countries and key non-state partners like the World Bank, UNEP, and WHO. The CCAC is the first voluntary international effort bringing together countries, companies, and others to expand and accelerate global action to reduce substantially and cost-effectively short-lived climate pollutants, specifically methane, black carbon, and HFCs. There are 10<sup>1</sup> sector- and pollutant-specific initiatives and the methane oil and gas partnership is one of them.
- 2. Scientific evidence shows that taking action on SLCPs could slow global warming by up to 0.5°C between 2010 and 2050, there are also other co benefits such as preventing premature deaths and crop losses.
- 3. CCAC has a trust fund administered by UNEP and approx. US\$46 million has been pledged to the fund. By September 2013, US\$12 million has been allocated to: heavy duty diesel vehicles, municipal solid waste, Supporting National action planning for action on SCLPS (SNAP) HFCs alternatives, brick production, regional assessments of SCLPs and cooking and domestic heating.
- 4. The Coalition has gained momentum due to high-level Ministerial engagement, in particular from U.S. Secretary of State Kerry and numerous other ministers, which has helped to raise the profile of a number of these initiatives, creating space for further scaled up action in 2014. Ultimately the success of these initiatives will depend on political will and dedication of all partners to take domestic action as well as implementing the initiatives.

#### The oil and gas initiative

5. The US has played a leadership role in identifying the potential to reduce methane and black carbon emissions from oil and natural gas production that primarily occur from leaks (especially in transportation) and in extraction flaring and venting. These emissions account for around 3% of 2005 greenhouse gas emissions (1.3Gt CO2e). The CCAC developed a statement for Ministers to declare their support for this oil and gas initiative which was launched in January 2013. The Secretary of State was a signatory. The statement encouraged major oil and gas companies to join CCAC members in collaboratively designing mechanisms and making voluntary commitments to take action.

<sup>&</sup>lt;sup>1</sup> Mitigating black carbon and other pollutants from Brick Production, Mitigating SLCPs from landfills and Municipal Solid waste – 'cities reducing emissions through improved waste management', Promoting HFC alternatives technology and Standards, Accelerating Methane and Black Carbon Reduction from oil and natural gas production, Agriculture, Supporting National action planning for action on SCLPS (SNAP), Financing mitigation of SLCPs, Regional assessments of SLCPs, Reducing SLCPs from Household cooking and domestic heating, and Reducing black carbon emissions from heavy duty diesel vehicles and engines

The CCAC is focusing its engagement with companies with the greatest emissions from this sector, which include BP, Shell and BG Group that have strong UK ties. Our SoS wrote to these companies last year to encourage them to engage with this initiative.

Redacted under EIR 12 4 (e)

With emissions in UK territories very low compared to global averages it is clear that this initiative will have very limited impact without engaging companies from Russia, Middle East and Africa where the emissions are greater.

#### redacted under EIR 12 4 (e)

6. and to have a launch event to announce a commitment to reduce methane emissions. The US believes that support from UK-based majors would help get ExxonMobil and Chevron and, eventually, SaudiAramco and Gazprom on board.

#### Q&A on the Oil and Gas initiative

My company already has control over our methane emissions. What you really need to do is to target Russian companies, etc.

Our theory of the case here is that we wanted to build a meaningful initiative that wasn't a lowest common denominator exercise. And in order for this model to work, we need to secure the participation of the more forward leaning companies and build out from there.

redacted under EIR 12 4 (e)

The reporting in the CCAC Oil and Gas Methane Partnership is burdensome.

 For any initiative in this space to have credibility, it has to have a reporting component. And we've tried to draft the requirements in this program in as targeted, focused a manner possible. We're also willing to engage in further discussion to ensure the mechanics of reporting are as streamlined and efficient as possible, and takes advantage of efficiencies in reporting to CDP, national governments, etc.

What's the status of the CCAC Oil and Gas Methane Partnership?

 We have several companies who are either in the process of signing the MOU or are leaning in that direction. We hope to bring more on board before a big launch event in September. The CCAC has also dedicated \$1.15 million U.S. dollars to get the Administrator of the program up-and-running.

What exactly is the CCAC Oil and Gas Methane Partnership?

 Through the Partnership, participating companies would systematically survey, report, and reduce methane emissions across a range of participating asset. Put another way, proven and cost effective technologies and practices will be deployed across the largest sources of methane emissions.

How does this effort differ from General Methane Initiative (GMI) and Natural Gas Star?

 Both of those efforts have a very low bar of entry. On the other hand, the CCAC Oil and Gas Methane Partnership, by purposeful design, is meant to be for those companies who are ready to take a more meaningful, rigorous step, and to be given correspondingly higher reputational benefit. By starting with a more rigorous program, we hope to reach a larger and larger group of companies through a concentric circles theory of change over time.

#### What are Short Lived Climate Pollutants?

- 7. While carbon dioxide emissions warm the atmosphere for around 100 years or more, Short-Lived Climate Pollutants (SLCPs) have a bigger warming impact over a shorter time period (up to a decade). The emissions covered by SLCPs (in this context) are:
  - Short-lived HFCs Hydrofluorocarbons often used to replace Ozone depleting substances
  - Methane largely from agriculture, fossil fuel extraction and waste
  - Black Carbon soot from incomplete combustion (e.g. diesel engines, wood heaters, slash and burn agriculture).
- 8. Short-lived HFCs and methane (which have a duration in the atmosphere of around a decade) are covered by the current international architecture of the UNFCCC and are usually reflected in country targets (and UK carbon budgets) while black carbon (duration days or weeks) is generally addressed through air quality policy (it is not included in the basket of GHGs that the UNFCCC addresses as it is not a GHG). Around 40% of current warming is attributed to SLCPs but their share of warming will decline as long as levels of carbon dioxide in the atmosphere continue to rise and local environmental initiatives reduce black carbon emissions further.

9. There are benefits of reducing SLCPs which include reducing some of the immediate impacts of global warming such as ice melt and, in the unlikely scenario of reducing SLCF emissions to zero by 2050, it would reduce the expected temperature increase by up to 0.5°C. Action could also deliver significant air quality co-benefits including to food security through reduced ozone formation avoiding the annual loss of more than 30 million tonnes of crops by 2030 (including the current 20% loss of the EU wheat crop), and to human health particularly in developing countries – including the prevention of millions of premature deaths associated with air pollution. It is worth noting that action on black carbon and methane may also reduce sulphate aerosols which have a cooling effect and so the benefits of such actions may be less than anticipated.