



Integrated Methane Plan Monthly Progress Report – July 2020

'An Upstream Business where every methane molecule is accounted for'		Lead*	Due	Status
Strategy				
1	Understanding methane as a greenhouse gas	GT		
2	Understanding gas value chains	S&OR	2Q'21	
3	Methane objectives and aim definition	GOO/GPO	3Q'20	
4	Differentiated low methane emission gas	HSE/DIO	-	
Policy and Advocacy				
5	International policy and methane intensity targets e.g. OGMP2.0	S&OR		
6	Advocacy e.g. Methane at COP26	US/EU		
7	Outreach and education	HSE	4Q'20	
Aim 4 Delivery				
8	Critical measurement deployments	GPO/UEC	2023	
9	Aim-4+ (Deployment actions that go above and beyond requirement under Aim-4)	tbd	>2023	
Technology				
10	Hardware solutions	UT	2021	
11	Technology – data management	UT	3Q'20	
12	Technology to support differentiated gas	DIO		
13	BP internal practices and guidance	UEC	4Q'20	
Strategic Relationships				
14	EDF MoU Management	GOO	2022	
NOJVs				
15	Influence our partners	HSE	2023	
External Relationships				
16	OGCI and OGCI-CI	GT		
17	International standards and practices e.g. IOGP Recommended practise	GPO/UEC		
18	Effective audit and reporting	tbd		
19	UN global methane alliance	tbd		

- Existing organisational structure

Status – **Green**: On track, **Amber**: Behind schedule, **Red**: Will not complete, **Grey**: No data **Blue** Complete **White** – cancelled

Risks and Mitigations			
Factor	Severity (L-M-H)	Likelihood (L-M-H)	Mitigation
Failure to align with external positions on policy and intensity figures	H	M	Taking a proactive role in shaping critical documents such as OGMP2.0 and IOGP recommended practises
Risks related to methane loss are not fully understood	H	L	Continue to explore role of methane as a GHG
Scope creep for 2023 Aim -4 deadline	H	M	Agreement on scope definition and boundaries
Availability of key equipment from small suppliers	H	M	Maintain strong relations, secure early contracts
Ability to deploy key technology across key facilities	H	H	Centralised planning of key locations (Aim 4) and alignment with TARs etc.
Inability to reconcile multiple data sources for reporting incl. top-down vs. bottom-up measurements	H	H	Take a proactive position in defining reconciliation best-practises

Progress Summary

Strategy

- The Princeton workshop on the role of wetlands as a source of methane is now scheduled for February 2021

Policy and Advocacy

- bp has led the development of ten Best Practice Guides to reduce methane emissions across the natural gas supply chain - see Highlights.

Aim -4 Delivery

- CFD analysis has been completed for Glen Lyon flares. In this location, the results show improvements to the accuracy of flare metering that can be introduced and opportunities to improve flare performance and safety under low-flow/high-wind conditions.

Technology

- bp has signed a contribution agreement with Colorado State University to support the US government-funded project *Advancing the Development of Emissions Detection (ADED)*. bp will receive regular progress updates on multi-solution testing at the METEC facility in Colorado. Testing is due to commence in October.
- The final stages of planning are underway for the West Texas 'Showdown' that will compare a series of commercially available sensor technologies under field conditions. This project is part of the University of Texas CAMS programme to which bpX is a partner.
- Interviews with bp stakeholders from 8 regions and GCD have been completed to identify the use cases for High Frequency Monitoring (HFM). NPL will now develop performance standards to validate these technologies for reliable and accurate emissions reporting.
- ScienceNet hosted a cross-company design workshop to explore the topic of methane data reconciliation. Under emergent agreements such as OGMP2.0 there is a need to verify bottom-up measurements used for reporting (flare metering etc.) with top-down techniques (such as drones). To be effective, this requires development of statistically robust techniques for data comparison. Whilst this is a new requirement for environmental reporting, the core skills needed to conduct the comparison can be found in a variety of disciplines in bp including engineering, technology, trading and modelling. This workshop introduced the challenge to the diverse community of ScienceNet members to identify key individuals that can help.

Strategic Relationships/ NoJVs

- A workshop with BP-Russia and Rosneft is being planned for August that will explore some of the decision making processes to evaluate and priorities methane measurement technology

External Relationships

- The initial kick-off meeting for the IOGP task force for methane measurement was held on 15 July 2020 with 18 attendees from 13 international and national oil companies. The primary focus of the meeting was an introduction of all members, a briefing as to the mandate of the task force and emphasising that the scope of work is broken down into two phases, the first phase is on the identification and detection of methane, the second phase will be on the quantification and measurement of methane.

Monthly Highlights

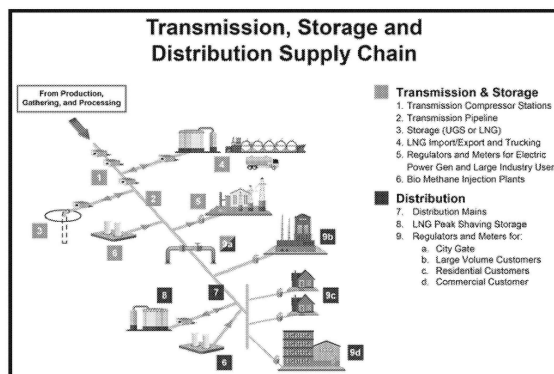
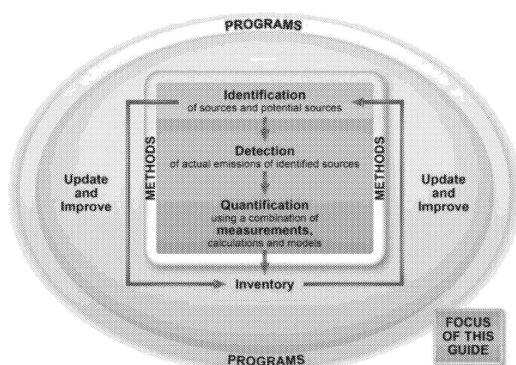
Methane Guiding Principles (MGP): Reducing Methane Emissions Best Practice Guides

bp has led the development of ten Best Practice Guides to reduce methane emissions across the natural gas supply chain. The project has involved Matt Harrison from SLR International Corporation and Professor Dave Allen from University of Texas (Austin) as Lead Authors, and a delivery team of some 30 representatives from Signatories or Supporting Organisations of the MGP partnership.

Eight Core Best Practice Guides were published at the end of 2019. bp and EDF co-hosted Phase 1 of the work. Following feedback, there was a request to develop two Supporting Best Practice Guides as part of the 2020 Workplan; **Identification, Detection Measurement and Quantification (IDMQ)** and **Transmission, Storage, LNG Terminals and Distribution (TSLD)** which will be published by end August 2020. bp has led Phase 2 of this work.

The TSLD Guide describes best practices for mitigation measures from the natural gas transmission, storage, LNG terminals and distribution sectors of the supply chain which may differ from other sectors due to technical and economic characteristics.

The Guides and summary Synopses form part of a **Best Practice Toolkit**, which also includes 7



Methane Cost Models and a Methane Management System Gap Assessment Tool. The Best Practice Guides and Toolkits form the basis of the MGP partnership-led **Global Outreach Programme** (delivered by the Sustainable Gas Institute (Imperial College)) which comprises of two courses: An Executive Course and a Masterclass.

bp plan to host a Methane Masterclass outreach event in September 2020. The training will be filmed in order that a **virtual development offer** can be rolled out across our operating sites. The training is aimed at senior front-line operators who are accountable for designing and delivering site methane reduction plans in support of **future OMS requirements** to implement the Methane Guiding Principles.

All material is freely available on the MGP website <https://methaneguidingprinciples.org/>.