

OTM-021: Air quality (emissions) monitoring

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Challenge

Challenge ID	OTM:021					
1 Title	Air quality (emissions) monitoring					
2 Theme ID	ON 4.2: Environmental monitoring - Continuous monitoring of changes throughout the lifecycle					
3 Originator of Challenge	Onshore: OTM					
4 Challenge Reviewer / initiator	PEMEX, Statoil, PetroSA, Shell, Ardan-Africa, Sasol, Chevron					
General description		Overview of Challenge				
5 What is the nature of the challenge? (What is not adequately addressed at present?)	We aim to minimise the amount of emissions, and gas flared or vented to the environment at all stages of O&G development. It would be beneficial to have a tool that allowed us to monitor this remotely so that we could monitor our impact on the environment and highlight good and bad performers.					
6 Thematic information requirements	7. Determine air quality,					
7 Nature of the challenge - What effect does this challenge have on operations?	Gas that is vented or flared is wasted resource that is damaging to the environment. Being able to monitor these events would allow us to better understand how to improve our operations.					
8 What do you currently do to address this challenge?/ How is this challenge conventionally addressed?	We use data from the assets themselves, but this needs to be corroborated against other monitoring benchmarks. On a wider scale, we use data from GGFR satellite derived imagery.					
9 What kind of solution do you envisage could address this challenge?	EO data in combination with in situ measurements and modelling are used to provide up-to-date, timely information and forecasts on air pollutant concentrations.					
10 What is your view on the capability of technology to meet this need? – are you currently using EO tech? If not, why not?	EO could be a useful complimentary technology.					
Challenge classification						
11 Lifecycle stage	Pre license	Exp.	Dev.	Prod.	Decom.	
Score from impact quantification [1]	0	1	2	3	1	
12 Climate classification	NOT CLIMATE SPECIFIC					
13 Geographic context/restrictions	Generic onshore (Unspecified)					
14 Topographic classification / Offshore classification	Generic onshore (Unspecified)					
15 Seasonal variations	Any season					
16 Impact Area	Environmental and H&S					
17 Technology Urgency (How quickly does the user need the solution)	Immediately (0-2 years)					
Information requirements						
18 Update frequency	monthly					
19 Data Currently used						
20 Spatial resolution						
21 Thematic accuracy						
22 Example formats						
23 Timeliness	Within a week					
24 Geographic Extent	reservoir footprint					
25 Existing standards	GGFR partnership has guidelines relating to venting and flaring monitoring					

[1] Impact quantification scores: 4 – Critical/ enabling; 3 – Significant/ competitive advantage; 2 – Important but non-essential; 1 – Nice to have; 0 – No impact, need satisfied with existing technology

Relevant products

- [Product Sheet: CO2](#)
- [Product Sheet: Methane emission monitoring](#)
- [Product Sheet: NO2 & SO2](#)
- [Product Sheet: Particulates](#)