



### Project Value

Early development phase

### Project Scope

The project trialled methane emission monitoring techniques on Glen Lyon FPSO (Floating Production Storage Offload) for combustion sources flare and gas turbines.

Current practice is to calculate methane emissions using gas volumetric flow and composition, and applying an industry standard combustion efficiency. These established methodologies can result in potential to under or over reported emissions.

The monitoring approach combined measurement and models. A multispectral infrared imaging camera was used to accurately determine flare combustion efficiency. The camera measurements, along with gas turbine exhaust sampling, were used to initiate / calibrate system specific predictive emission models. The integrated techniques generated near-real time methane emission monitoring capability to provide operational insight into equipment performance and could potentially inform reporting.



Glen Lyon FPSO

### Good Practice:

BP's ambition is to become a net zero company by 2050 or sooner, and to help the world get to net zero. The ambition is supported by 10 aims, one of which is to install methane measurement at all major oil and gas processing sites by 2023 and reduce methane intensity of operations by 50%.

In pursuit of this, an integrated methane monitoring programme adopting a range of innovative techniques is being developed to ensure appropriate coverage of BP's North Sea oil and gas operations and their associated emission sources.

Methane monitoring techniques are rapidly evolving and represent a field of active research and development leading to the availability of a variety of commercial technologies.

Careful consideration is required in selecting the right monitoring techniques using technical, cost and operational criteria, but also to check offshore suitability, e.g. use in the remote and harsh West of Shetland environment. BP is progressing toward operational readiness in partnership with vendors and industry as a whole.

The Methane emissions detection project adopted a 'learn by doing' mentality promoting an outcome focus, which has delivered fast track learnings.

Learnings are transferable to other methane sources (i.e. vents and fugitives) which enables a complete picture of asset methane emissions.

