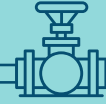




### UPSTREAM



### MIDSTREAM



### DOWNSTREAM



### ENGINEERING DESIGN AND CONSTRUCTION

Systematically minimise methane emissions

Engineer and design equipment to reduce emissions including:

- Minimising potential fugitive and venting sources;
- Optimising combustion and operational efficiency; and
- Equipment selection and consideration of future upgrades.



### FLARING

Reduce methane emissions from flaring

Eliminate or reduce flaring wherever feasible.

Where flaring is necessary, maximise its combustion efficiency.

Check your flare systems are operating according to design.



### ENERGY USE

Reduce methane emissions that result from energy use

Use smart metering and controls to reduce end-user energy use and emissions (e.g. gas turbines and boilers).

Maintain gas fired equipment to operate according to design.

When replacing equipment, update with the latest proven energy efficient models.

Consider upgrading to continuous or predictive emissions monitoring.



### EQUIPMENT LEAKS

Reduce methane emissions from fugitives and wells

Systematically perform fugitive inspections and prioritise repairs.

Build your fugitive inspection and repair capability and skills, including operator discipline.

Consider new technology e.g. detection, quantification, condition monitoring and predictive maintenance.

Consider modern, high integrity materials and jointing technology when constructing downstream distribution networks.



### VENTING

Reduce methane emissions from process and cold venting

If methane needs to be released –prioritise recycling or flaring over venting.

Avoid or reduce venting from tanks, compressor seals and other potential emission sources (e.g. vapour recovery).

Conduct regular monitoring of vented emission sources (e.g. compressor seals and tanks).

Minimise emissions during well completion and maintenance activities (e.g. green completions).



### PNEUMATIC DEVICES

Reduce methane emissions from natural gas driven pneumatic equipment

Replace natural gas driven pneumatic equipment with compressed air, electric or mechanical equipment where practical.

Confirm that your pneumatic equipment is operating per design and repair or replace malfunctioning equipment.

Phase out use of high-bleed pneumatic control devices where practical.

Conduct preventative maintenance on pneumatic equipment.



### OPERATIONAL REPAIRS

Reduce methane emissions related to equipment repairs

Make reducing emissions a key aim of your repair planning.

Plan and make repairs promptly and safely.

Verify repairs are successful through follow-up leak monitoring surveys.

When depressurising equipment minimise venting by recycling or flaring where feasible.



### CONTINUAL IMPROVEMENT

Systematically improve methane management

Optimise emissions monitoring frequency in operations and maintenance programs.

Incorporate emission reduction considerations into overall business and operating strategies.

Share learnings within your company and across the natural gas industry.

Phase-in use of the latest proven lower emission technology and approaches where practical.

Regularly review the scope, quality and frequency of emissions reporting.



### IDENTIFICATION, DETECTION, MEASUREMENT & QUANTIFICATION

Identify known sources of emissions and survey for emissions.

Quantify sources of emissions directly by taking measurements or indirectly using a combination of measurements, calculations and models.

Create, update and periodically improve inventories of emissions.



### TRANSMISSION, STORAGE, LNG TERMINALS AND DISTRIBUTION

Prevent emissions whenever possible

Reduce emissions that cannot be prevented

Identify and repair equipment that is not working properly

Track emissions and mitigation activities