Global gas flaring hit its highest level in a decade last year, according to a recent World Bank-led report. With a large part of the increase coming from the shale oilfields of the US, it would be easy to despair, when even developed economies seem unable to get a grip on the wasteful and polluting practice.

But more recent data suggest there may instead be some cause for optimism. In the past 12 months, gas flaring in the US has actually declined by 70 per cent, according to numbers provided by the Earth Observation Group at the Payne Institute for Public Policy.

This decline was not driven by policy, Covid-19, or suddenly improved operations, but rather as the result of investors demanding greater capital discipline from a sector that had earned a reputation for prioritising growth over all other concerns.

These demands have reduced activity, particularly from smaller operators that have often found it financially difficult to spend capital to improve environmental outcomes.
Tighter capital discipline in the shale sector — if maintained — will have a host of impacts, from consolidation to reduced average production growth.

But it also has the potential to create a situation with fewer players better placed to meet the increasingly strenuous environmental demands from investors and the public at large.

After years of seeing the bulk of revenues, plus additional investment, put back into projects to turbocharge the production growth rate, investors signalled they were ready for a return.

This shift in priorities became apparent in late 2018, when, according to data from the Energy Information Administration, drilling in the shale regions began to slow, aided by a softening oil price. The drilling declined in all oil-focused areas, including the Permian — the source of half of US tight oil production.

A later impact of the capital discipline focus became evident after August 2019, as completion activity peaked at 1,425 wells. It has declined nearly every month since then. In May 2020, just 461 wells were completed.

Completing, as its name suggests, is one of the last steps in monetising a well — thus a strong driver for companies to maintain, even as they reduce spending.

It is also the most expensive step, comprising up to 70 per cent of well costs for onshore basins. Completions of tight-oil reservoirs require substantial flowback (the opening of the well to allow for unwanted fluids and gases to escape), which can last for weeks and can account for high natural gas flaring volumes if no pipeline is available to take away the natural gas.

While not conclusive, it appears that the sharp decline in US flaring across the shale regions since last summer was largely driven by this reduction in completion activity, as well as some incremental natural gas pipeline capacity put in place during this time.

Importantly, as activity and then flaring began to decline in August 2019, oil supply continued to grow in key areas like the Permian in Texas and the Bakken in North Dakota.

Both of those regions experienced production increases through the first quarter of 2020, finally declining only as a result of the Covid-19 driven oil crash and resultant shut downs of wells.
Crucially, this indicates that the industry has the capacity to increase oil production while keeping flaring at a lower level, by focusing capital and execution on areas that often have more natural gas takeaway capacity.

Since 2013, flaring volumes have correlated strongly with field production of crude oil, but this appears solely due to the speed of the industry to complete wells before pipelines which take away the gas were available.

For the Permian, one constraint that helped to push companies to drill quickly is no longer a factor. Insufficient crude pipeline capacity has plagued the region, resulting in significant pricing disconnects, which put additional fiscal pressures on producers.

With the recent increase in pipeline capacity as well as the fall in production, crude oil capacity should be sufficient for several years.

The evidence of growing production alongside reduced flaring experienced just before Covid-19 gives the industry, investors and regulators an opportunity to emerge from this crisis with lower flaring a permanent feature. That may require more consolidation across the industry, which is already predicted to be one outcome of this latest oil slump.

But by focusing on higher producing wells with sufficient pipeline capacity, the industry can better deliver the returns investors want, provide the energy security that policymakers desire, and all with an improved environmental footprint.

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