

Decarbonization is a strategy, not a box-ticking exercise

All companies are facing requirements to reduce greenhouse gas emissions, so it's time to move beyond box-ticking exercises and develop a real strategy that could lead to competitive advantage.

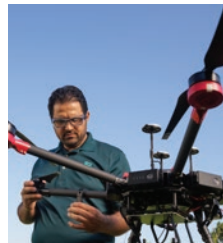
The UN Climate Change Conference, COP26, held in the UK in November 2021, emphasized the need to reduce global emissions of greenhouse gases (GHGs) to keep global warming down. With environmental and many other groups concerned that COP26 did not go far enough, pressure is only likely to increase on organizations to show that they are taking action.

A few years ago, emissions reduction could be a box-ticking exercise, with companies talking loudly about plans and pilot projects but accomplishing little. Now, stakeholders and investors expect a comprehensive strategy for lowering the emissions of the entire organization. Investors such as BlackRock are scrutinizing the emissions records of constituents in their investment portfolios and even voting out directors whom they believe are not doing enough.¹

Get a clear picture

An emissions reduction strategy begins with thorough measurement and careful benchmarking. A strategy based only on estimates might save time and money at first but will be wasteful in the long term. Decision-making will be slower because the information is less precise and there is more likelihood of wasting money on ineffective technology solutions.

Instead, it is better to take the time to conduct a full inventory of the entire asset/site and its emissions. There's a difference between fugitive emissions, those resulting from faults and leaks, and operational emissions, which are part of processes running as expected. The former should be eliminated, while the latter must be reduced as far as possible, but all must be accounted for.



Technology can make this easier. A drone flight can assess emissions across a site, using an optical gas imaging system that can detect gases that are invisible to the human eye.

The resolution of these devices is now sufficient to pinpoint something as small as a leaking valve. Once you have collected the data, you can act to implement immediate fixes and measure the improvement over time.

The results need not be a nasty surprise either. "We had one customer that was determined to do a full baseline measurement, not a box-ticking exercise," says Nick Pinto, Senior Product Manager, Emissions Measurement and Detection, at Baker Hughes. "Once they had assessed their emissions, they found that their baseline was lower than they expected. With this accurate baseline, the operator was able to first reduce the emissions of reported previously determined by estimates alone. They were then able to implement a solution both quicker and more cost effectively than originally estimated."

¹ <https://www.ft.com/content/52cb466c-2ed6-40d3-85c3-3a292aef8d3>

Find the low-cost, high-benefit actions

Once you have the data, you can determine where you can make the most impact. “About 40% of emissions in oil and gas can be abated without cost,” says Matt Boerlage, Product Director, Emissions Abatement, at Baker Hughes. “The expenditure of abating the emissions would be paid back within a few years with increased value.”

For example, Baker Hughes worked with the Iraqi Ministry of Oil to install technology to dehydrate and compress flare gas, capturing it and making it available for energy generation or commercial use.² This not only eliminates the flaring emissions but also turns the otherwise wasted gas into an asset that can help meet domestic demand for cooking gas. According to the World Bank data, Iraq is one of the top seven gas flaring countries.³

Or consider leaking valves, which are one of the largest sources of methane emissions in oil and gas production and downstream processing. The valves are activated by the gas stored in the tank at the plant. Each time the valve is opened, it oscillates slightly, emitting a small amount of gas. This happens hundreds of times a day, across hundreds of valves per site. Baker Hughes redesigned the valves so that they no longer leak, cutting emissions to zero and eliminating waste.



Don't neglect the hard stuff

But the strategy needs to encompass more than just the 40% of emissions reductions that will cover their costs. Hard decisions must be made about the other 60. These are the projects that might increase operational costs but will also make a significant contribution to reaching emissions targets.

A good emissions reduction strategy should contain a balance of these projects. Not doing so would essentially leave all the expensive projects for later, making the strategy more challenging as time goes on. The company might decide that this makes sense, perhaps because it is budgeting for increased production from efficiency-improving emissions measures. Or maybe it plans to capitalize on emissions reductions and bring in extra cash by selling unused emissions allowances.

Whatever the strategy, it should be capital efficient and forward-looking. This is where an expert partner can often help. They can advise on how other customers have constructed their strategies, highlight potential regulatory changes, and warn of the unexpected distractions that often derail even the best-laid strategy.

However the strategy is constructed, having one is no longer optional. Stakeholders have lost patience with the box-tickers, so an effective emissions strategy will be key to attracting investment, recruiting and retaining talent, and increasing share prices. It is a matter of being fit for the future. It is no longer a question of whether companies can afford to curb emissions, but whether they can afford not to.

To learn more, please contact our Emissions Management solutions team at [bakerhughes.com/contact-us](https://www.bakerhughes.com/contact-us)

2 <https://www.bakerhughes.com/company/news/iraq-ministry-oil-and-baker-hughes-ge-company-sign-contract>

3 <https://www.worldbank.org/en/news/press-release/2021/04/28/seven-countries-account-for-two-thirds-of-global-gas-flaring>