

ENVIRONMENTAL & COST ANALYSIS COMPARISON

Carbon emissions of HFC Blast Bags versus KoolKap Blast Bags

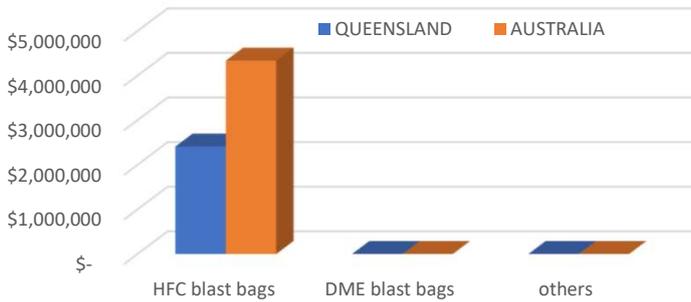
HFC 134a is a potent greenhouse gas with a Global Warming Potential (GWP) of 1430, meaning it traps 1430 times more heat in the atmosphere than carbon dioxide. HFC 134a is used in offshore manufactured Blast Bags, and through exposures, has an atmospheric lifetime of 14-16 years making it over 3,000 times that of CO₂.

Emphasis on the "phase-down" of HFCs has been directly pointed at more commonly used equipment such as fridges, air-conditioning units and the automotive industry. **Environmental exposures** of HFCs being mostly common to equipment leaks, or in the case of the automotive industry, vehicle accidents and poor controls through wrecking.

Unknowingly, the mining industry are in fact a large contributor for **direct** unregulated release of HFC daily when using HFC manufactured Blast Bags. Standard procedures when piercing blast bags is not regulated, or HFC exposures properly measured or controlled, with waste and council legislation not being followed. The assumption of HFC being consumed in the blast is unfortunately not substantiated by physical evidence? However, rapid increases of HFC 134a emisions have been, and is steadily growing at a rate of 20% per year.

Shadow carbon pricing, \$10/ton

Mine sites could pay for around \$4.3 million annually due to its CO₂ equivalent emission just for using HFC blast bag. This fee creates a dedicated revenue or investment stream to fund the emissions reduction efforts.



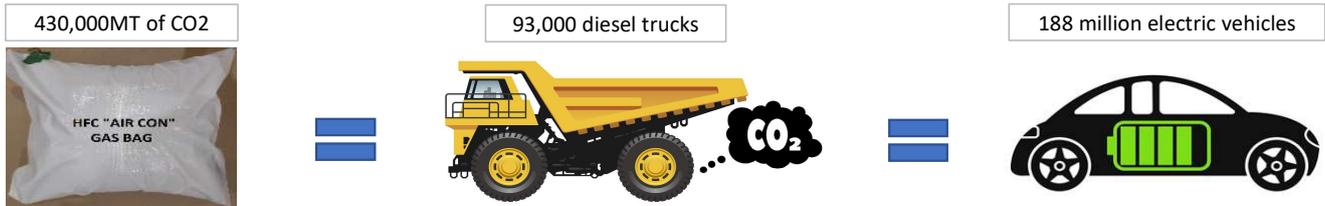
CO₂ mitigation cost

There is no price difference between HFC blast bags and non-HFC blast bags, hence the CO₂ mitigation cost would be the same as the **Shadow carbon price**.

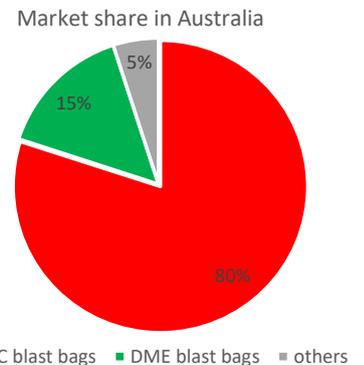
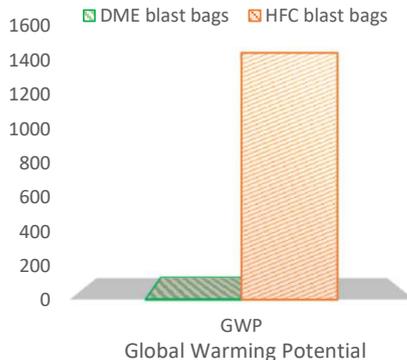
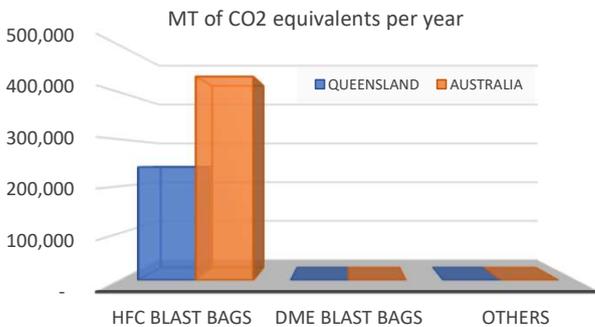
Vehicle emission comparison

430,000 MT of CO₂ per year is equivalent to the CO₂ emission of 93,000 diesel trucks driven for one year.

188 million electric vehicles would be required to generate the same emission reduction when charged off the Queensland grid (0.81 electricity emission factor).



Emission size



KoolKap Down- Under bags are manufactured under a globally recognized Environmental Management System certification ISO 14001:2015, as well a Quality Management System certification ISO 9001:2015

