Technology buries 100 tons of CO2 underground every day

Startup Oman 44.01 has developed a new technology that can trap CO2 - a planet-warming gas - permanently underground, removing large amounts of this gas from the atmosphere.

44.01, named after the molecular mass of CO2. This startup mixes CO2 with water and then pumps it down into cracks in peridotite, a naturally fractured rock, at a depth of about 1 km underground. The mixture pumped down the borehole will seep into the cracks in the peridotite. Through the process of carbon mineralization, in which certain minerals react with CO2 to form solid carbonate, the CO2 becomes sequestered, trapped underground and unable to escape back into the atmosphere.

Peridotite usually lies deep underground, but mines in Oman are closer to the surface, allowing scientists to observe its ability to sequester carbon.

44.01's technology helps accelerate the CO2 sequestration process in just a few months, instead of decades like in nature.

44.01 has tested this technology in Oman and UAE. The company aims to commercialize in these two countries first, then expand globally.

Test results show that the new technology can currently sequester about 50 - 60 tons of CO2 per day. 44.01 aims to sequester 100 tons of CO2 per day per borehole when commercializing this technology.

Scientists warn that although carbon sequestration and capture technology can play an important role in limiting the impact of climate change, it should not be considered a real solution. It is important that countries sharply reduce the use of fossil fuels - the source of emissions.