Selective capture of CO₂ in the presence of N₂ and H₂O is possible with hydrophobic zeolitic imidazolate frameworks (ZIFs) with the important chabazite topology. These materials, described by O. M. Yaghi and co-workers in their Communication on page 10645 ff., are shown to perform three consecutive cycles without loss in performance. Remarkably, between each cycle, the ZIFs were fully regenerated at ambient temperature by using N₂ flow.