A promising solid-state refrigeration technology, known as magnetic refrigeration, has reached a groundbreaking result. The potential for environmentally friendly cooling using the magnetocaloric effect is disadvantaged by small temperature windows of effective cooling and the requirement of expensive, high magnetic field producing Nd-Fe-B permanent magnets. Researchers from Imperial College London, Ames Laboratory (USA) and DTU Energy, Technical University of Denmark (see article no. 1700143) show through utilising a larger portion of the phase diagram of so-called soft first order magnetic materials that they can reduce the maximum field required to within that attainable with cheap ferrite-based permanent magnets (around 0.5 T) and significantly broaden the working temperature range. Traditionally, magnetocaloric materials are controlled through temperature and applied magnetic field, but with the addition of applied hydrostatic pressure it is possible to move around in the phase diagram of the La(Fe,Mn,Si)\textsubscript{13}\textsubscript{H\textsubscript{z}} material series, taking advantage of its so-called multicaloric properties. By careful choice of magnetic field and pressure controlled cooling cycles this work shows that a significant bottleneck towards commercially competitive refrigeration devices based on the magnetocaloric effect can be overcome.