

## **Ramgen Receives Funding for Program Expansion of Advanced Shock Wave Compression**

U.S. Energy Secretary Steven Chu announced on September 7, 2010 that Ramgen would receive \$30 million in DOE funds for a shock wave based engine to boost industrial Carbon Capture and Storage research and development. Additional private funding has also been committed. Advanced turbo-machinery to lower emissions from industrial sites is an expansion of Ramgen's CO<sub>2</sub> compressor technology project. This expansion will include incorporating the supersonic compression technology into a 5 MW engine and testing it at a coal mine.

By following a dual track development path, the CO<sub>2</sub> compressor will also be further advanced at a faster pace. The program expansion reduces the technology risk and results in a higher potential of success for the base compressor design and its ability to be used in industrial CCS applications.

This program expansion will demonstrate Ramgen's unique compression technology applied in an engine. Because this technology has more than one application, we are able to gain valuable knowledge about the scaling and performance of the compression technology applied to multiple products.

The expansion of the project enables Ramgen to accomplish its original objective of developing a new engine that can be used in a wide range of applications ranging from improved efficiencies at industrial sites to producing power by burning dilute fuels released by coal mines and landfills.