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DG RESEARCH**

**SEVENTH FRAMEWORK PROGRAMME  
THEME 5 - Energy  
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Collaborative Project- GA No. 213569**



**CESAR  
CO<sub>2</sub> Enhanced Separation and Recovery**

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<b>Main conclusions</b>	Most promising first generation solvents have been tested in the Cesar and Castor projects.	
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## Public summary

This is the public summary of the final characterization report in the Cesar project. It covers all characterization work done in the project. Based on the characterization work in work package 1 and input from the other work packages 6 systems are recommend for pilot plant testing.

A broad range of solvents have been tested in the project and we have also looked at the testing different concentration levels. Both single-amine systems and blends of amines have been tested. The testing has been focused on screening experiments, generation of Vapor-Liquid equilibrium data and testing of solvent degradation. Other properties of relevance to utilization of a solvent system in a CO<sub>2</sub> capture plant have also been considered.

The Cesar 1 solvent is expected to represent a significant improvement over the benchmark MEA (2-ethanolamine) solvent. Cesar 2 is also expected to represent an improvement over MEA, but is not expected to perform as well as Cesar 1. Both Cesar 1 and Cesar 2 are expected to represent an improvement over the solvent systems developed in the Castor project.

Some of the solvent systems studied are promising, but not suited for the Esbjerg CO<sub>2</sub> capture plant. Some chemicals are for example relatively volatile and would require a more efficient water wash than is installed at Esbjerg today.

Overall we believe that most promising first generation solvents have been tested in the Cesar and Castor projects.