

## Reduced Cost

\$100+/tonne



~50% Reduction

## Reduced Energy Penalty

30+% Penalty



~20% Penalty

## Program Activity

180+ Projects



15 Technologies Tested at Pilot Scale

## Technologies Tested at Pilot Scale

| TECHNOLOGY HIGHLIGHTS                      | Innovation Pathways |           |           | PRINCIPAL DEVELOPER      |
|--|---------------------|-----------|-----------|--------------------------|
| POST-COMBUSTION                            | Materials           | Processes | Equipment |                          |
| Imbedded Amine Sorbent*                    | ■                   | ■         |           | ADA-ES                   |
| Water-lean Amine Solvent                   | ■                   | ■         |           | Fluor/PNNL               |
| Hybrid Solvent/Membrane                    | ■                   | ■         | ■         | Gas Technology Institute |
| Amino-silicone Solvent*                    | ■                   |           |           | General Electric Company |
| Water-lean Amine/Organic Solvent Mixture*† | ■                   |           |           | ION Engineering          |
| Advanced Amine Solvent Process*            | ■                   | ■         |           | Linde/BASF               |
| Advanced Membrane Process*                 | ■                   | ■         |           | MTR                      |
| Nozzle-based Solvent Contactor*            |                     |           | ■         | Neumann Systems Group    |
| Mixed Salt Solvent Process*                | ■                   | ■         |           | SRI International        |
| Carbon-based Sorbent*                      | ■                   |           |           | SRI International        |
| Alkalized Alumina Sorbent*                 | ■                   | ■         |           | TDA Research             |
| Optimized Amine Solvent Process            | ■                   | ■         | ■         | University of Kentucky   |
| Piperazine Solvent/Flash Stripper*         | ■                   |           | ■         | URS/University of Texas  |
| PRE-COMBUSTION                             | Materials           | Processes | Equipment |                          |
| Ammonium Carbonate/Bicarbonate Solvent*    | ■                   |           |           | SRI International        |
| Integrated Sorbent Process                 | ■                   |           |           | TDA Research             |

\* Project Completed

† Large Pilot