BILL GRIECO

CEO

RAPID MANUFACTURING INSTITUTE

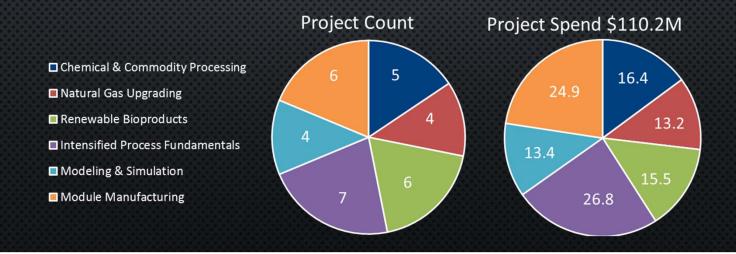
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RAPID MANUFACTURING INSTITUTE

- \$150 M, 5-year public-private partnership between DOE Advanced Manufacturing Office and the American Institute of Chemical Engineers (AICHE)
- FOCUSED ON PROCESS INTENSIFICATION AND MODULAR PROCESSING
- 75 MEMBER INSTITUTIONS (34 UNIVERSITIES, 31 COMPANIES, 10 NATIONAL LABS & NON-PROFITS)
- What does RAPID do?
 - Community Build a network of organizations interested in modular chemical process intensification (MCPI)
 - THOUGHT LEADERSHIP ALIGN MEMBER INTEREST AROUND KEY CHALLENGES THAT HAVE BROAD BENEFIT AND CAN BE ADDRESS BY MCPI
 - <u>Projects</u> lead the development of R&D partnerships and projects to address key technical challenges
 - Education provide education to grow and develop the process industry workforce

RAPID PROJECTS

- 32 research project spanning six focus areas
 - SEVERAL FOCUS ON ADSORPTION, MEMBRANES FOR GAS SEPARATION, CHEMICAL LOOPING
- \$36.6M FEDERAL SHARE, \$73.6 COST SHARE ALLOCATED TO CURRENT PROJECTS
- PROJECT SUMMARIES CAN BE FOUND AT WWW.AICHE.ORG/RAPID/PROJECTS/LIST
- Webinars, Elearning Courses, Internship program for Workforce Development



SEED IDEAS

- MCPI APPROACHES FOR COAL-TO-PRODUCTS
 - MODULAR SYSTEMS FOR DISTRIBUTED LOW QUALITY COAL UPGRADING OR COAL GASIFICATION/PYROLYSIS AND CONVERSION TO HIGH VALUE END PRODUCTS
- PI Approaches to overcome thermodynamic barriers in CO_2 separation/capture and CO_2 reduction
 - SELECTIVE MEMBRANE SEPARATION, COMBINED WITH REACTION WHERE APPROPRIATE
- MODULAR SYSTEMS FOR DISTRIBUTED CO₂ CAPTURE AND USE
 - High volume, low cost modular systems to democratize distributed air capture
 - ullet Modular systems for on demand ${
 m CO_2}$ Capture/Purification for low volume applications

