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The USDOE Hydrogen Program: Status and Performance Gaps of On-board Hydrogen Storage Technologies GRACE ORDAZ, MONTEREY GARDINER, CAROLE READ, U.S. Dept. of Energy, NED STETSON, U. S. Dept. of Energy — The USDOE Hydrogen Program's mission is to reduce oil use and carbon emissions in the US transportation sector and to enable clean, reliable energy for stationary and portable power generation. The requirements for vehicular hydrogen storage continue to be one of the most technically challenging barriers to the widespread commercialization of hydrogen fueled vehicles. The DOE applied hydrogen storage activity focuses primarily on the research and development of low-pressure, materials-based technologies to allow for a North American market driving range of more than 300 miles (500 km) while meeting packaging, cost, safety, and performance requirements to be competitive with current vehicles. This presentation summarizes the status, recent accomplishments and current performance gaps of hydrogen storage technologies primarily for transportation applications. Materials projects are focused in three main areas: metal hydrides, chemical hydrogen storage materials, and hydrogen sorbents. A new effort is the Hydrogen Storage Engineering Center of Excellence which will provide a coordinated approach to the engineering research and development of on-board storage and refueling systems. The presentation will especially highlight topics emphasized in the session theme.

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