Technologies for Goal #3: CO₂ Capture, Storage, and Sequestration

	NEAR-TERM	MID-TERM	LONG-TERM
Carbon Capture	CSLF and CSRP Post Combustion Capture Pre-Combustion Technologies Oxy-Fuel Combustion Oxygen Separation Technologies	Capability to Capture Most CO ₂ Emissions Novel Capture Technologies Low-Cost Oxygen Biomass Coupled with CCS	 Novel In-Situ CO₂ Conversion Capture CO₂ Directly from Atmosphere
Geologic	Reservoir Characterization Safety, Health, and Environmental Risk Assessment Understand Underground CO ₂ Reactions Microbial Processes Enhanced Hydrocarbon Recovery Enhanced Coal-Bed Methane Large-Scale Demonstration CO ₂ Transport Network Design	Geologic Storage Proven Safe Well Sealing Techniques Demonstrated Mineralization: Solid Carbonates Reliable and Accurate Inventory Monitoring Well-Established CO ₂ Transport Infrastructure	 Sufficient CO₂ Storage Capacity Track Record of Successful CO₂ Storage Experience
Terrestrial	Reforestation Soils Conservation Vegetation in Urban Settings	Soils Uptake & Land Use Inter-relationship among CO ₂ , CH ₄ & N ₂ O Sequestration Decision Support Tools M&M Tools to Validate Terrestrial Sequestration Bio-Based & Recycled Products	 Biological Sequestration Large-Scale Sequestration Minimal Deforestation Carbon & CO₂ Based Products & Material
Ocean	• Effective Dilution of Direct Injected CO ₂	 Ocean CO₂ Biological Impacts Addressed Carbonate Dissolution / Alkalinity Addition 	Safe Long-Term Ocean Storage

Figure 6-3. Technologies for Goal #3: CO₂ Capture, Storage, and Sequestration (Note: Technologies shown are representations of larger suites. With some overlap, "near-term" envisions significant technology adoption by 10–20 years from present, "mid-term" in a following period of 20–40 years, and "long-term" in a following period of 40–60 years. See also List of Acronyms and Abbreviations.)