The General Compression Advanced Energy Storage (GCAES™) System uses intermittent electricity from a wind farm to power near-isothermal compressor/expander units that efficiently produce high-pressure air that is stored in subterranean geology (salt caverns). When power is needed, air is expanded, running the system in reverse, converting the high-pressure air to electricity without burning any fuel. The GCAES™ system has a round trip efficiency AC to AC of 76%, turning intermittent wind energy into a dispatchable, reliable resource.

A. integrated wind farm
B. high-pressure air
C. salt cavern
D. GCAES™ power plant
E. pond
F. electrical grid transmission

100 MW project depicted, not to scale.