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New Analysis Visualizes Transport Infrastructure Needed to Capture & Store CO_2 at Scale
Long-term Regional Coordination in the Midwest, Rockies, and Gulf Coast Can Double Amount of CO_2 Storage at Fraction of Cost

Minneapolis, MN-- The Great Plains Institute (GPI) released a new report showing that long-term planning and coordination of regional-scale CO_2 transport infrastructure will enable deep decarbonization of the industrial and power sectors throughout the Midwest, Rockies, Plains, Gulf Coast, and Texas.

The report *Transport Infrastructure for Carbon Capture and Storage: Regional Infrastructure for Midcentury Decarbonization*, is a compilation of more than two years of analytical work led by GPI as part of the Regional Carbon Capture Deployment Initiative. It explores the planning of CO_2 transport networks on a regional scale and ascertains what economic and environmental benefits can be achieved through economies of scale.

GPI collaborated with several national labs, universities, state geological survey units, private industry, and other research institutions. The core of the work was done with the Los Alamos National Laboratory's SimCCS model, which uses dozens of land classification layers to plan regional CO_2 transport infrastructure that avoids sensitive areas such as public or protected lands, highly populated areas, bodies of water, and indigenous or tribal territories and sovereign areas.

“Planning CO_2 transport infrastructure on a longer time horizon, for 2050 as opposed to 2030, achieved twice the amount of capture and storage in our modeling scenarios, while having almost no increase in land use impact and only a marginal increase in cost. Thus, twice as much carbon was stored at half the cost per ton when planning a coordinated regional network for the mid-century,” GPI Director of Research Dane McFarlane said.

According to nearly all international modeling scenarios from the International Energy Agency (IEA), Paris Accord, and Intergovernmental Panel on Climate Change (IPCC), the US will require economy-wide retrofit of industrial and power facilities to decarbonize its economy.

“Industrial manufacturing facilities represent a huge share of US stationary emissions and will be difficult to decarbonize through traditional renewable electricity. But, these facilities represent a key opportunity due to their relatively high purity and concentration of CO_2, thus incurring a much lower cost of CO_2 capture,” McFarlane said.

GPI's facility-specific technical and economic screening process identified hundreds of millions of tons of industrial and power facilities where carbon capture retrofit makes economic sense in the near- to medium-term. The analysis also shows that the US has a wealth of deep saline geologic formations which offer hundreds to thousands of years of permanent, safe, and secure CO_2 storage.

Momentum is building for carbon capture in the US, as evidenced by bipartisan policy developments at the federal and state levels. The expansion of the federal Section 45Q tax credit has created a more favorable national policy landscape for carbon capture in the US, increasing the financial viability of carbon capture projects and extending eligibility to industries that were previously excluded from accessing the benefits of 45Q.

"Additional congressional action is now needed to broaden the suite of policies supporting carbon capture deployment, including incentives for CO_2 transport infrastructure, just as Congress has provided a broad portfolio of policies that have successfully fostered commercialization of wind, solar and other low and zero-carbon technologies in the marketplace," said GPI Vice President Brad Crabtree. "Going forward, state policy can also play an important role in complementing 45Q and other federal policies to help carbon capture projects bridge cost gaps and achieve financial feasibility. State policies providing incentives for carbon capture, facilitating the development of CO_2 transport and storage infrastructure, and implementing energy portfolio requirements can all make carbon capture more economically feasible at local and regional levels."

The paper and supporting analytical information can be found at http://carboncaptureready.org/analysis.

About Great Plains Institute (GPI): *As a nonpartisan, nonprofit organization, Great Plains Institute (GPI) works with diverse interests to transform the energy system to benefit the economy and environment. We combine our unique consensus-building approach, expert knowledge, research and analysis, and local action to work on solutions that strengthen communities and provide greater economic opportunity through creation of higher paying jobs, expansion of the nation's industrial base, and greater domestic energy independence while eliminating carbon emissions. Learn more at www.betterenergy.org.*

About the Regional Carbon Capture Deployment Initiative (RCCDI): *RCCDI is a network of 25 states, and growing, that work together to help ensure near-term deployment of carbon capture projects that will benefit domestic energy production, reduce carbon emissions, and protect and create high-wage jobs. The Initiative provides unique and valuable opportunities for governors, state officials, legislators, and stakeholders to engage at the state, regional, and national levels. RCCDI is staffed by the Great Plains Institute at the invitation and direction of the State Carbon Capture Work Group.*

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