

ROADS to REMOVAL

Options for Carbon Dioxide
Removal in the United States



First-of-its-kind national study identifies county-by-county opportunities in all 50 states that, if fully implemented, could result in the removal of 1 billion metric tonnes of CO₂ and 440,000 new jobs.

Key Findings

Indiana can remove CO₂ from the air by increasing carbon stored in cropland soils and converting agricultural residues to useful products. Cropland management will also reduce soil erosion.

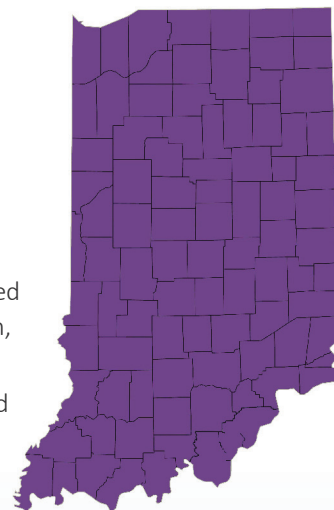
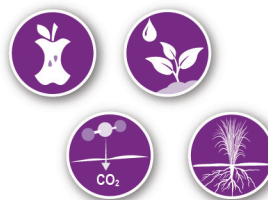
Near Term Opportunities

- Indiana has some of the highest potential for soil CO₂ removal in the USA
- Large areas of croplands can use cover crops for economically affordable CO₂ removal

Longer Term Investments

- Indiana has a high density of biomass (e.g. corn stover) which could be used for biomass carbon removal and storage (BiCRS), co-located with favorable geologic storage sites

INDIANA OPPORTUNITIES



- Planting cover crops & perennial field borders can supply soil-based CO₂ removal (particularly in Allen, Boone, and Daviess counties)
- Marginal land (not currently used for crops) can be used for native grasses, perennial carbon crops, and forests
- Excellent co-location opportunities for agriculture, carbon-crop biomass processing & geologic storage

BY THE NUMBERS — CO₂ Removal Capacity in Indiana

Forest Management

Indiana has **2.6M** acres of land potentially suitable for reforestation; this could capture an estimated

9.2 million tonnes CO₂e per year

Cropland Soil Management

5.4M tonnes CO₂ removed by 2050

< \$40/tonne CO₂

4M tonnes CO₂e by 2050

total climate benefit (avoided + removed)

Biomass Carbon Removal and Storage

23M tonnes of CO₂ removed (via gasification to H₂)

\$70.9/tonne CO₂

14M dry tonnes of biomass

Environmental, Equity and Energy Justice

Indiana and its neighbors are in the **top 3%** of states that would **benefit from soil CO₂ removal**, by reducing soil erosion and water pollution.

Direct Air Capture and BiCRS facilities can help regain quality jobs lost from the coal industry^[1]

^[1] A 500-kilotonne DACS facility can generate 220 long-term jobs; for every \$1 million of BiCRS investment, ~7 new, long-term jobs are created.

By implementing methods that remove CO₂ from the air, communities big and small can create new jobs, improve air and water quality, increase our resilience to a changing climate, and protect life and property.

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