

U.S. COAL’S ECONOMIC POTENTIAL

Extensive coal development, in combination with rapid expansion of CCUS, CO₂-EOR, CO₂ pipelines, CTL and the associated infrastructure will create a U.S. industrial rebirth and facilitate the creation of new industries, increased industry sales and profits, higher GDP, millions of jobs, and more tax revenues for the federal government and for state and local governments.

The economic value of CO₂-EOR under NCC’s Aspirational Case

In NCC’s Aspirational Case Analysis, an incremental 3.7 million billion barrels per day of CO₂-EOR would be produced by 2030 – an average incremental production of 200,000 bbl/d of CO₂-EOR annually over the period 2016-2030. In 2030, production of 4 million bbl/d of CO₂-EOR will require expenditures of $38 billion, resulting in:

- 355,000 jobs (direct and indirect)
- $60 billion in industry sales
- $3.1 billion in industry profits
- $21.2 billion in tax revenues
  ($13.1 billion federal tax revenues + $8.1 billion state/local tax revenues)
“More than any other nation, America can control its own energy destiny. Coal is the foundation of that control.”

NCC Harnessing Coal’s Carbon Content Report

The economic value of Coal-to-Liquids under NCC’s Aspirational Case

In NCC’s Aspirational Case Analysis, in 2030 about 2.5 million bbl/day of CTL is produced in the U.S. This assumes an annual average incremental CTL production of 165,000 bbl/d annually over the period 2016-2030, requiring total CTL expenditures of $2.1 million for O&M. This level of CTL production results in:

- 410,000 jobs
- $94 billion in industry sales
- $3.8 billion in industry profits
- $28.9 billion in tax revenues ($19.1 billion federal tax revenues + $9.8 billion state/local tax revenues)

PETROLEUM AS A % OF U.S. TRADE DEFICIT
(Bureau of Economic Analysis 2012)

“The only way to increase oil production from EOR is to boost supplies of CO₂ from man-made sources in a manner suitably calibrated to the full potential of EOR.”

National Enhanced Recovery Initiative (NEORI)

TOTAL ECONOMIC & JOBS IMPACTS UNDER ASPIRATIONAL CASE

SUMMARY OF ECONOMIC & JOBS IMPACTS
OF NCC ASPIRATIONAL CASE IN 2030

<table>
<thead>
<tr>
<th></th>
<th>Sales (billions)</th>
<th>Profits (billions)</th>
<th>Tax Revenues (billions)</th>
<th>Jobs (thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Plants</td>
<td>$27</td>
<td>$1.2</td>
<td>$7.8</td>
<td>130</td>
</tr>
<tr>
<td>Pipelines</td>
<td>$7</td>
<td>$0.4</td>
<td>$2.1</td>
<td>110</td>
</tr>
<tr>
<td>CO₂-EOR</td>
<td>$60</td>
<td>$3.1</td>
<td>$21.2</td>
<td>355</td>
</tr>
<tr>
<td>CTL</td>
<td>$94</td>
<td>$3.8</td>
<td>$28.9</td>
<td>410</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$188</td>
<td>$8.5</td>
<td>$60.0</td>
<td>1,005</td>
</tr>
</tbody>
</table>

(Management Information Services, Inc. 2012)

CCUS and CTL present powerful opportunities for the U.S. to take advantage of the nation’s vast coal resources to affordably meet energy needs, create new businesses, revive established operations, create jobs, enhance national security and achieve environmental goals.