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# Climate Change & Energy Security

## Coal to Liquids and its Tradeoffs

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## National Commission on Energy Policy

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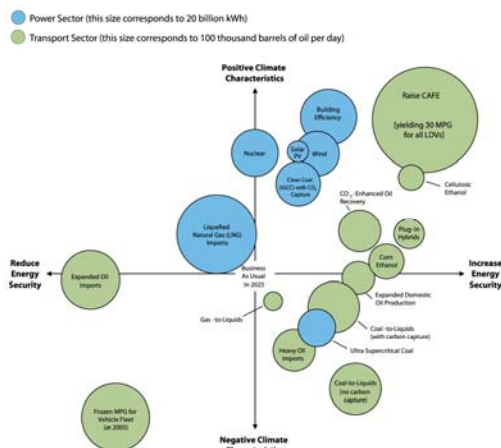
- Bipartisan group of leading energy experts representing industry, labor, academic, environmental, and consumer perspectives
- Formed in 2002 and has become a leading voice for pragmatic, technically grounded, strategic energy policy
  - Key issues: Energy Security, Climate Change, Infrastructure and Technology
- Project of the Bipartisan Policy Center



# Key Policy Drivers

- Strategic energy policy needs to address and balance two fundamental challenges
  - Climate Change
  - Energy Security
- These issues sometimes overlap but not always
  - Climate driver tends to lead to security enhancing outcomes but not vice-versa
  - Synthetic fuels (e.g. CTL) are case in point

# Energy and Climate Tradeoffs



# Coal-to-Liquids (CTL)

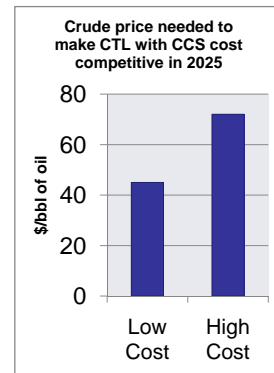
- In the climate/security context, CTL faces two key questions:
1. Does CTL enhance U.S. energy security?
  2. Does CTL enhance ability to address climate change?



# CTL and Energy Security

## 1. Does CTL enhance energy security?

- Key security concern is supply stability or price volatility
- CTL unlikely to be produced in quantities to set global oil prices
  - Aggressive deployment might achieve 2-3 mbpd by 2025
  - EIA projects oil demand of 106 mbpd
  - Limited ability to dampen price volatility



# CTL and Climate Change

## 2. Does CTL enhance ability to address climate change?

- CTL without CCS → definitely no
- CTL with CCS → still no because locks in status quo instead of moving towards decarbonization
- CBTL with CCS → possibly yes as “bio”sequestration could enhance climate impacts but technical work remains

CTL Life-Cycle GHG Emissions

| CTL           | Coal-Based Liquid Fuel/ Conventional Liquid Fuel (low GHG estimate) | Coal-Based Liquid Fuel/ Conventional Liquid Fuel (high GHG estimate) |
|---------------|---|--|
| CTL, No CCS   | 2.2   | NA   |
| CTL, with CCS | 0.82  | 1.1  |

## Policy Implications

- CTL without CCS is a non-starter
- CTL with CCS is debatable
- Therefore, CCS is the key enabling technology
  - highest priority should focus on testing and developing CCS *before* committing to CTL plants

## **Policy Implications Cont.**

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- General principle: First, do no harm
- The enormity of the required investment in CTL facilities (billions \$) would lock us into decades of continued CO<sub>2</sub> emissions
  - Best use of precious public dollars?
- Priority areas for public financial support
  - CCS demonstration
  - Biomass co-firing