



# **EmberClear Vision**

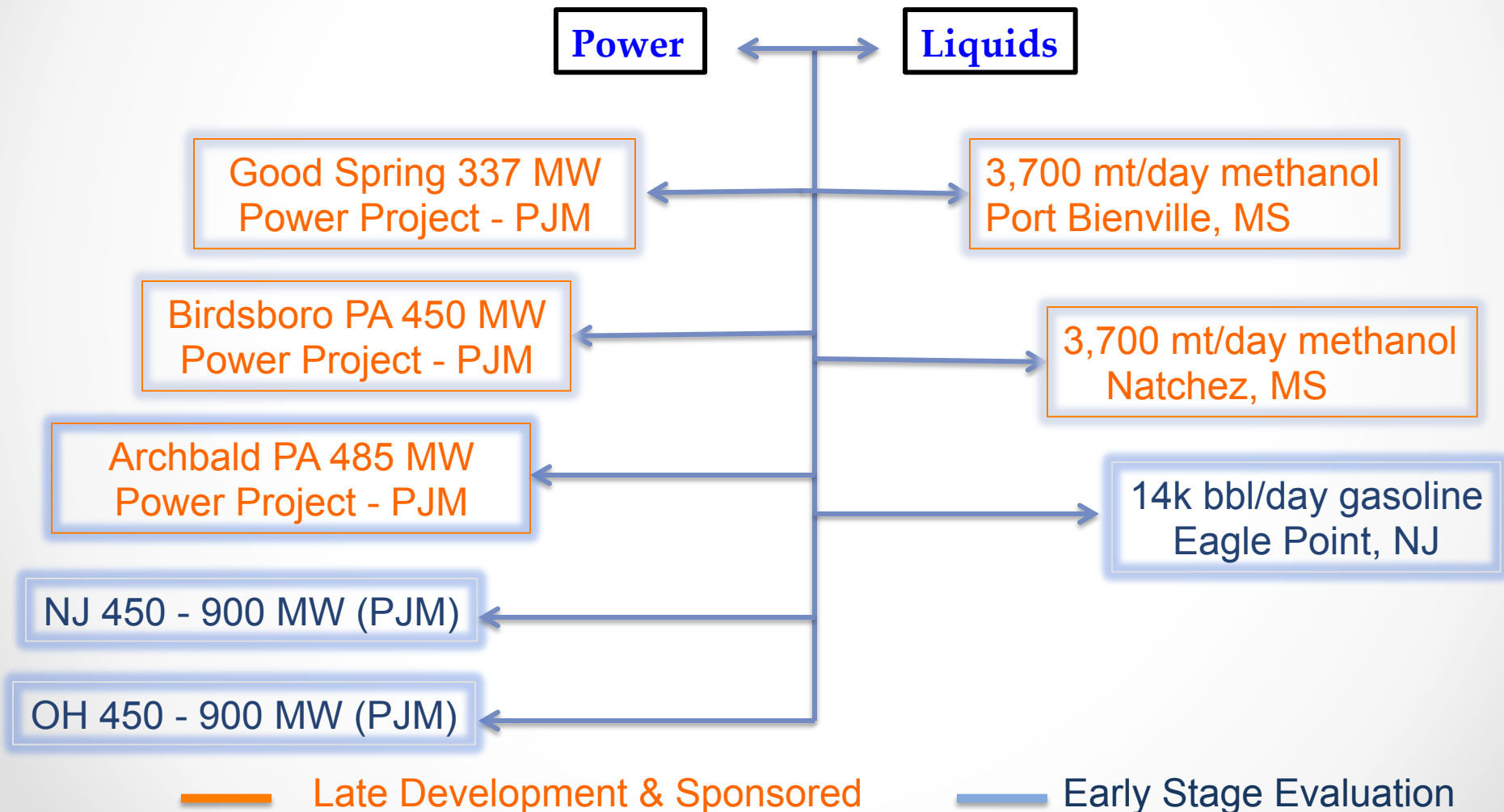
An innovative Energy Development Company

## **Business Overview of Portfolio of Energy Projects**

January 2016



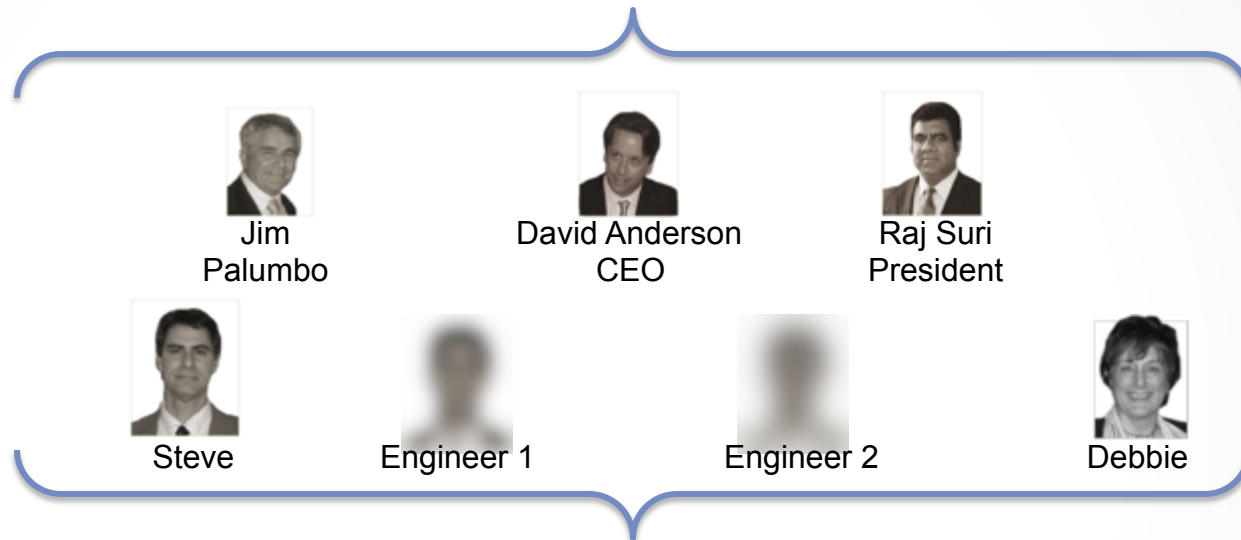
## EmberClear Current Projects Pipeline





## A Nimble Management & Execution Structure

### CORE TEAM



### EXTENDED TEAM (Project Specific)

- ◆ Engineers
- ◆ Developers
- ◆ Legal
- ◆ Financial Advisors
- ◆ Producers
- ◆ Land Owners
- ◆ Governments
- ◆ EPCs

Leading roles in 25 financed projects worth over \$10 billion  
Team has been together since 2006



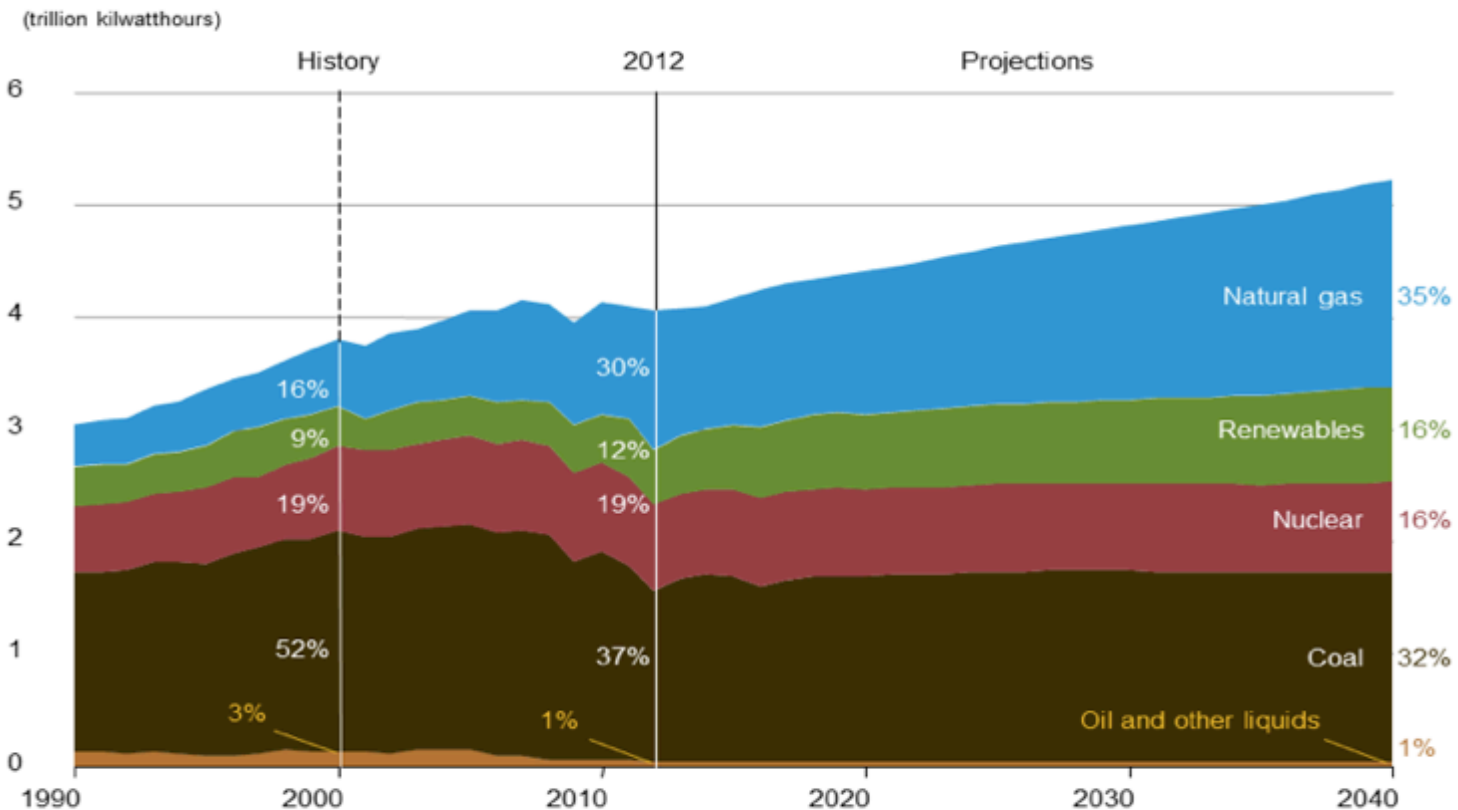
## **Business Opportunity in NGCC**

- Power generation increases 24% between 2013 and 2040
- 31GWs coal capacity to retire between 2014 and 2016
- 10 to 15 nuclear reactors are at risk of closure
- LS Power, Panda, Invenergy, Ares are investing billions in new NG power projects
- EmberClear is ideally positioned in NGCC project development business
- We plan to develop six NGCC projects in PJM over the next 24 months



## NG will continue to replace coal and nuclear generation

Figure 13. Electricity generation by fuel, 1990-2040





## EmberClear – a Successful Power Developer

- Uniquely positioned to capitalize shale gas opportunities
- Pioneer of base-load NGCC power projects (Good Spring & Birdsboro)
- Successfully developing 3 NGCCs in the PJM Power Market
- Plan to develop 4 new power projects over the next 24 months



- Owned by the ITOCHU Corporation (Japan).
- Purchased our 337MW Good Spring Power Project located in the Northeastern PA
- Project is scheduled for construction in 2016



- E m b e r C l e a r i s developing 450 MW Birdsboro Power Project in PA for Ares
- Project is likely to go in construction in Q3-2016
- Phase II to begin in Q4

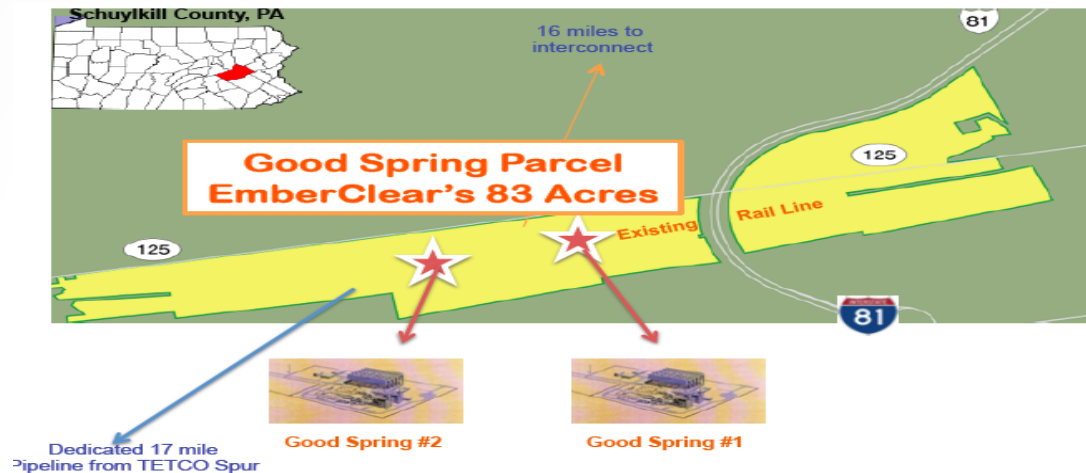


- EmberClear partnered with DCO Energy/Jingoli Construction to develop 485 MW Archbald Power Project located in PA
- Project is likely to go in construction in 2017





## EmberClear Active Projects: Good Spring Power



- The 337MW base load natural gas power project was started in 2012
- In 2014 the Project was partially sold to ITOCHU Japan. In 2015, the remaining interest was assigned to ITOCHU for a future interest
- Project is scheduled to begin construction in Q2-2016



## EmberClear Active Projects: Birdsboro Power

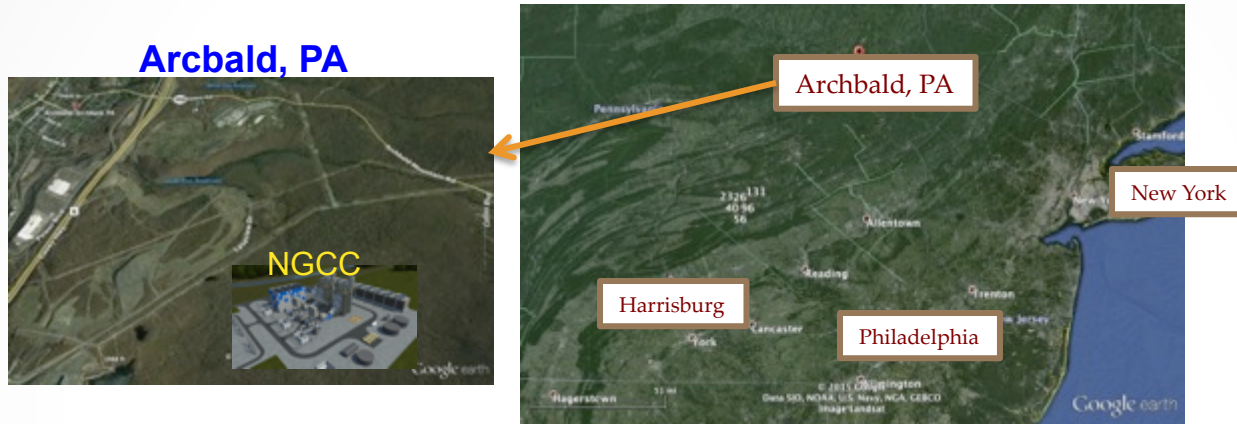


- Started in Jan 2015, this fast-track 450MW project in PA utilizes lessons learned from Good Spring Project
- In April 2015 Ares (\$90B Asset Management Fund) acquired rights to invest \$510M in the Project
- On track to start construction by the end of 2016





## EmberClear Active Projects: Archbald Power



- Acquired land option on the power plant zoned property. This 450MW project in PA mimics Birdsboro Project configuration.
- PJM application was filed in Oct 2015. Air Permit will be filed in Jan 2016.
- This Project is 50:50 owned with DCO Energy (a Northeastern Engineering and Construction Company)



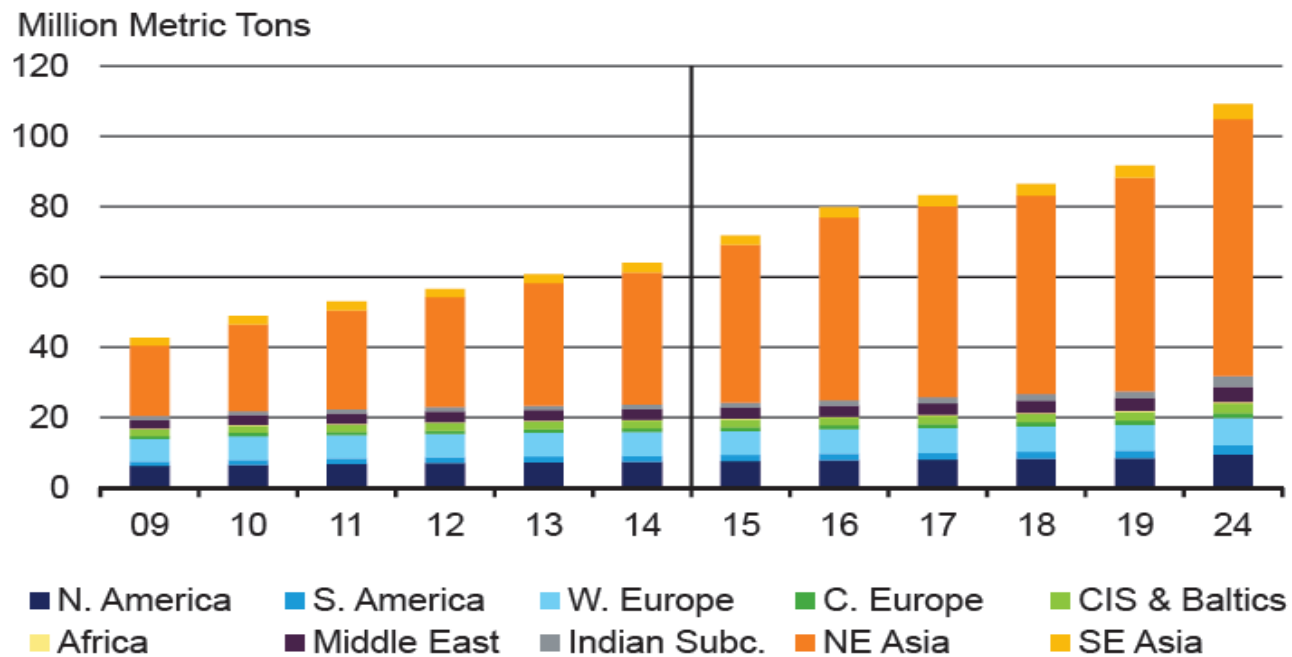
## **Business Opportunity in GTL (NG to Methanol)**

- Global Methanol demand goes from 64M/tons in 2014 to 110M/tons in 2024
- China consumes 51% of total global production
- China is shutting down smaller and inefficient coal based methanol projects
- Several Chinese Energy Companies have announced plans to develop methanol projects in US
- Bienville Methanol Project is fully permitted but needs an offtake contract
- A large PE fund is interested in buying 100% equity of Bienville Project
- Bienville Project is identified as a priority by DOE within US-Sino initiative and has been offered to several Chinese Companies on our behalf



# Global Methanol Demand Keeps Going Up

## World Methanol Demand by Region



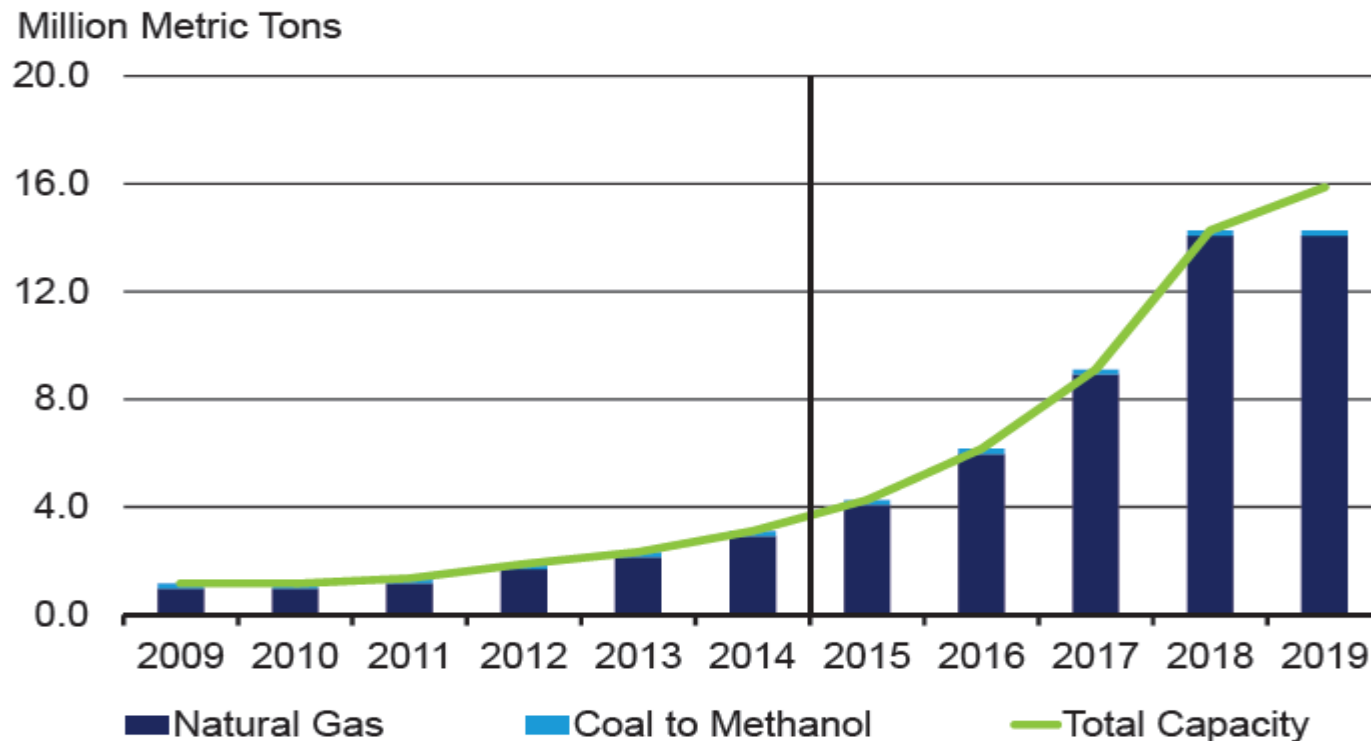
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- ❖ Global demands goes up from 64M Tons in 2014 to 110M Tons in 2024
- ❖ China consumes 51% of total global production
- ❖ We need 4 or 5 new projects each year to meet the demand



## US Methanol Capacity Projections

### Ramp up in North America Capacity

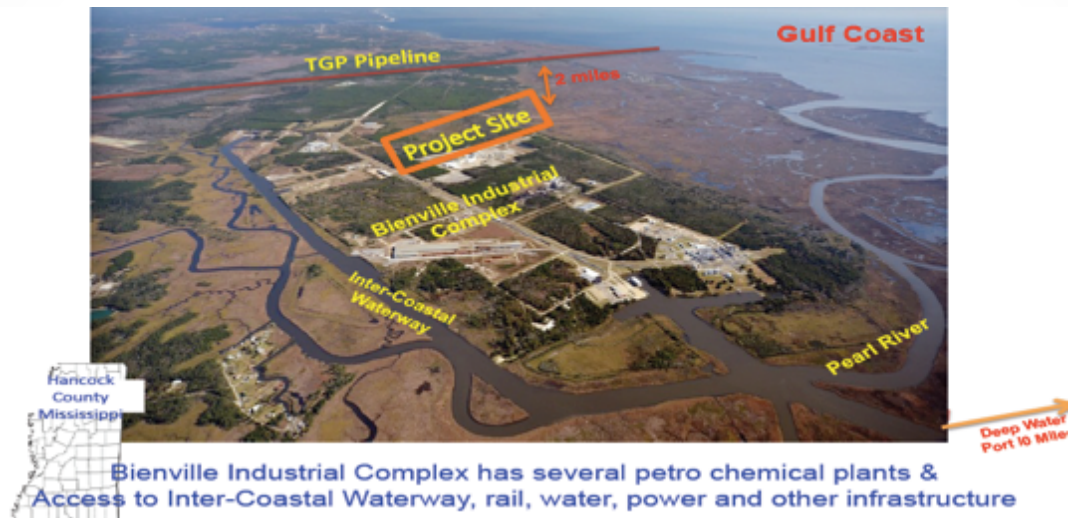


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- ❖ Shale Gas revolution makes US the most desirable place to add capacity
- ❖ Over the last 3 years 4 methanol projects have come on line in US



## EmberClear Active Projects: Bienville GTL Project



- Fully permitted 3,700t/day methanol Project is located in Gulf Coast
- Negotiating a 10 years tolling contract with an Asian Energy company
- Negotiating a Term-Sheet with Strata Energy Investment (with \$1B commitments from Reservoir) to complete pre-construction tasks
- EMB to receive development fee and carried interest value \$25M





**Thank You!**

For questions and comments  
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