Integrating Onsite Natural Gas Production and Onsite Natural Gas Synthesis with Onsite Carbon Capture Use and Storage

Pennsylvania’s Next Energy Revolution

VALUE PROPOSITION
#1 - VERTICALLY INTEGRATED GAS FEEDSTOCK
#2 - PROXIMITY TO BLUE OCEAN MARKETS
#3 - ONSITE CARBON SEQUESTRATION

KeyState Natural Gas Synthesis & CCUS
Clinton County, Pa. > $410,000,000

Low-Carbon Products:
- CO2 Emissions Reduced by 90+%  
- Blue Hydrogen
- Blue Ammonia

Emissions Reduction Products:
- Diesel Exhaust Treatment (DEF)
- Power Plant Exhaust Treatment (NH3)

CO2 Use & Stored
- Used In DEF Production = 170,000 tpy
- Permanent Sequestration = above 300,000 tpy

Natural Gas Used
9,000,000+ mmbtu per year
180,000,000 mmbtu over 20 years

CO2/H2 Storage Asset
7,000 acres, contiguous, 1 owner

Displacing Higher-Cost-Higher-Carbon Products with Lower-Cost-Lower-Carbon Products

‘Laboratory at Scale’
Laboratory at Scale
300,000 tpy
Onsite CO2 Sequestration
Integration of Natural Gas Extraction & CO2 Sequestration

Single Source ... to Cluster ... to Hub

'Laboratory at Scale'
Pennsylvania's NEXT Energy Jobs

Direct use of natural gas as feedstock and power source in onsite manufacturing
...with carbon capture use and storage

800 Construction & Permanent Jobs
+ Indirect + Induced Jobs
www.pamanufacturers.org/nepanatgas
Independent Study
Economic Impact
Gas Synthesis Plant in Clinton Co.

“Based on the results, it’s clear that these projects would be transformative to northeast Pennsylvania, and the commonwealth as a whole. Entire economies are centered around this type of economic activity and will sustain regions for generations to come. Attracting and retaining natural gas synthesis manufacturing ought to be a priority of policymakers at the state and federal level to ensure this prosperity occurs in our commonwealth as opposed to a competitor state.”

DAVID N. TAYLOR, PRESIDENT & CEO - PMA

http://www.pamanufacturers.org/NEPAnatgas

- Major Rural Economic Impact
- Multi-County Impact
- The New Energy Jobs
- Industry Breakthrough
- Manufacturing Breakthrough
Presidential Executive Order 14008 Sec. 218
‘...Coal and Power Plant Communities and Economic Revitalization’.

INITIAL REPORT TO THE PRESIDENT ON EMPOWERING WORKERS THROUGH REVITALIZING ENERGY COMMUNITIES


Figure 2. Shading highlights BLS metro and non-metro areas that are communities vulnerable to impacts from coal-specific job losses.
OBSTICALES TO H₂ HUB DEVELOPMENT: R&D

#1. R&D

The ‘Achilles Heel’ of H₂ for HFCV = Cost of Transport

COST

$1 to make H₂
$1 to liquefy H₂

#2. DOE LPO Policy

‘We take technology risk, but do not take market risk’

#3. EPA Policy

‘3 years for Class 6 Permit Approval’

#4. FEDERAL & STATE POLICY

H₂ Blending

H₂ & RNG Parity in Pipeline Blending

Blue H₂ + Green H₂ + BECCS in CI Score