

# Day 2 Report—Breakout Group: Products

## Top Advancement Activities Recommended by Group:

1. Target specific platform chemical intermediates, evaluate based on pathway process economics **(FOCUS)** (17)
  - Document that shows which chemicals to target (primary fuel and co-products) with supporting economic data target of replacing the barrel
  - Database of locations and types for pilot scale demos to prove technology
2. Separations technology demonstration – pilots and demos (10)
  - Demonstrate & deploy economically & environmentally optimized & integrated separations systems for the variety of processes possible from feasible feedstocks and bio-based products
3. Add value to other half of the bale (lignin) (Use the whole bale™)(9)
  - Identify pathways for converting lignin to higher value products
  - Eliminate technical barriers for various pathways informed by techno-economic analysis
  - Getting lignin into existing industries (power plants, pelleting) inclusive with GHG

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## Top Advancement Activities Recommended by Group (continued):

4. Clarify procurement strategy, infrastructure procurement (8)
  - 530\*30mmgy production facilities by 2022
  - Combo of tax incentives and regulatory and permitting practices that prioritize consistent choices that favor the Green Manhattan project without forcing (push vs. pull strategy)
5. Value engineering around specific unit operations (8)
  - Decreased capital and operation cost due to increased performance capability and efficiency of individual units
  - Development of standard performance metric with analytic techniques that accompanies the list of unit operations e.g NREL LOPs
6. Improved operational robustness against feedstock variability and range (7)
  - Homogenous process results (i.e. conversion intermediates)
  - Minimize raw material costs for wide range of locations
  - Enhanced ability to operate year round
  - Lower raw material storage and handling costs
  - Tailor separation ratios to maximize plant revenues

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## Key Reflections By Group Day 1 and 2:

- Should DOE focus on specific molecules or more broad/flexible incentive or selection
- Key economic impact of multi-product and multi-feedstock operations
  - E.g., existing oil industry uses whole barrel
  - E.g., existing bioprocessing industry survives with multiple products
- Great value in hearing how people in industry are dealing with issues (confirmation of strategy)
- Lignin utilization (“whole bale”) is important