

Overview of NETL Analyses Supporting Low-Carbon Emissions and/or Carbon-Negative Energy Generation



Solutions for Today | Options for Tomorrow



Travis Shultz

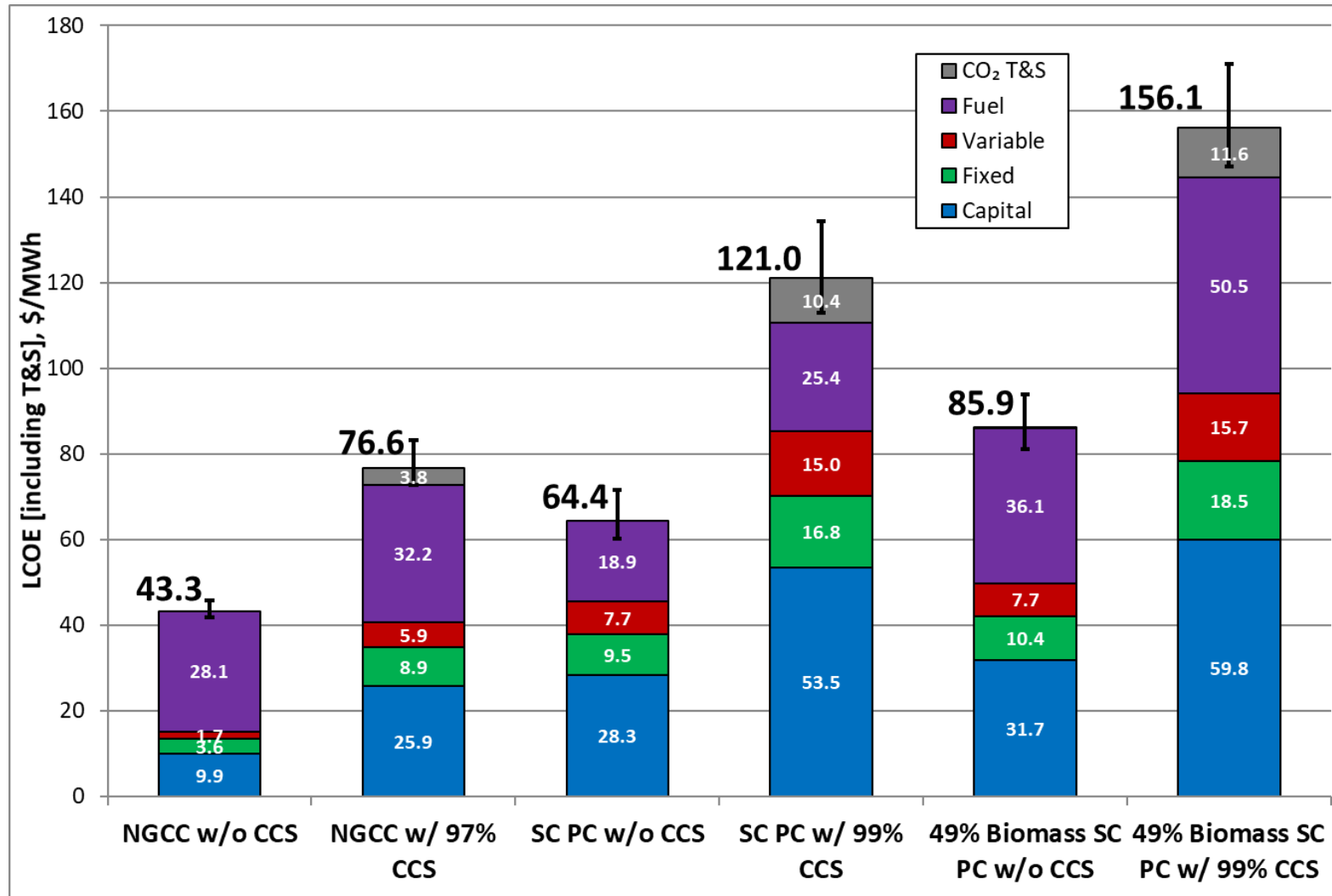
2021 Low Emission Advanced Power (LEAP) Workshop

Session 3 – Transition Cost and Impact

November 1, 2021

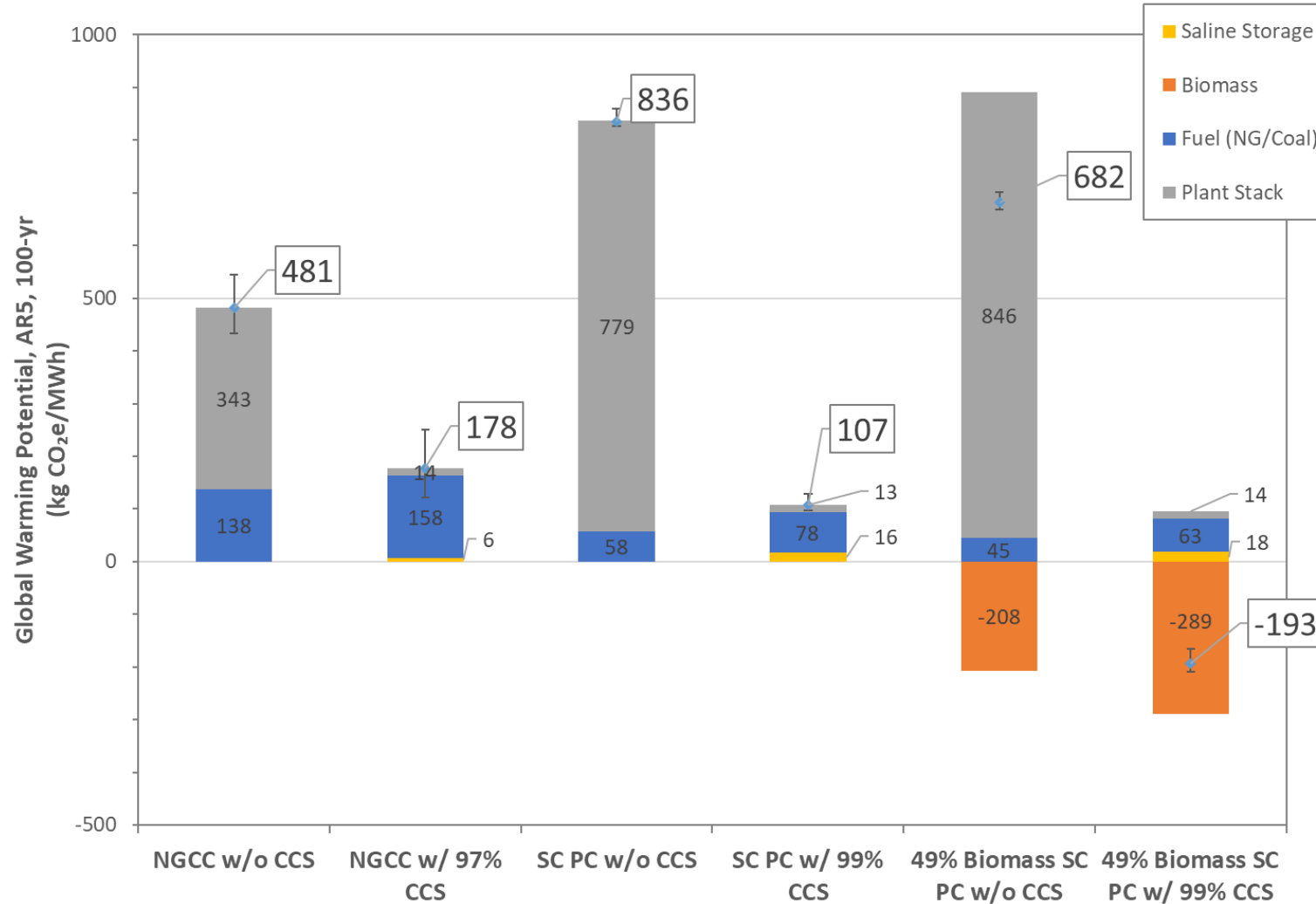
Fossil Fuel-Based Power Generation (with enhanced capture rates & biomass feedstock blending)

Levelized cost of Electricity, LCOE (Preliminary, subject to revision)



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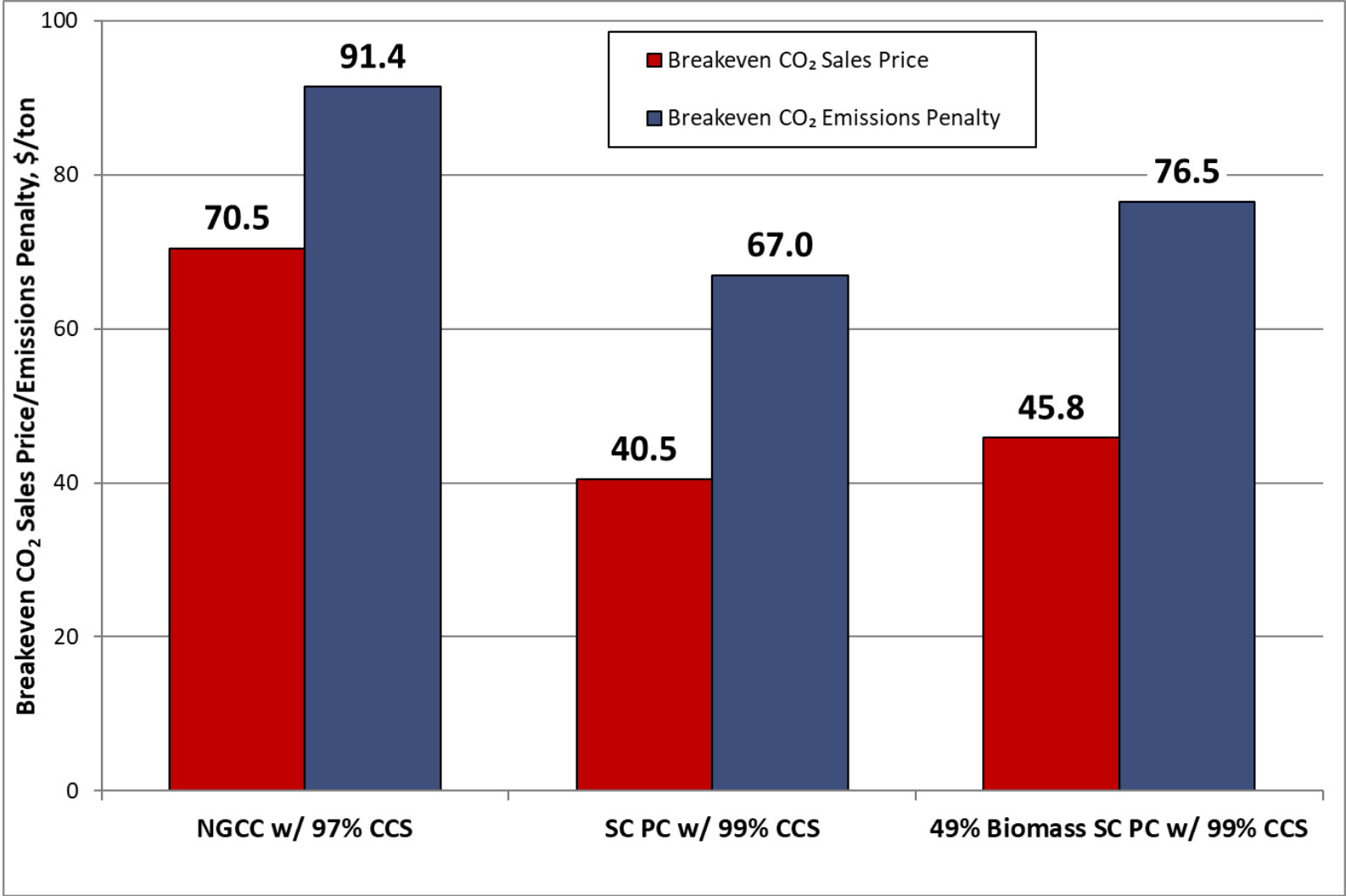
LCA emissions (Preliminary, subject to revision)



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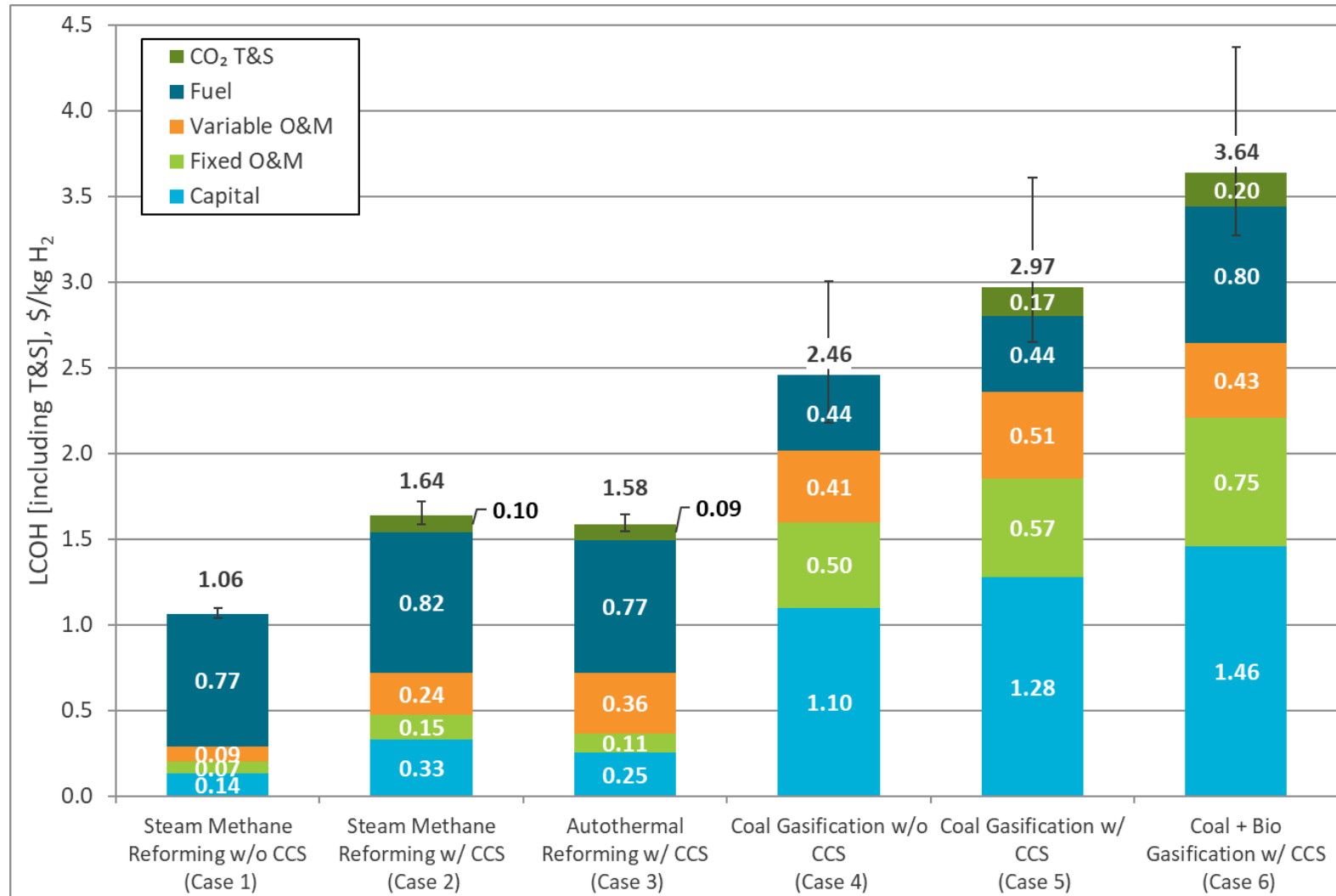


Emissions pricing (Preliminary, subject to revision)



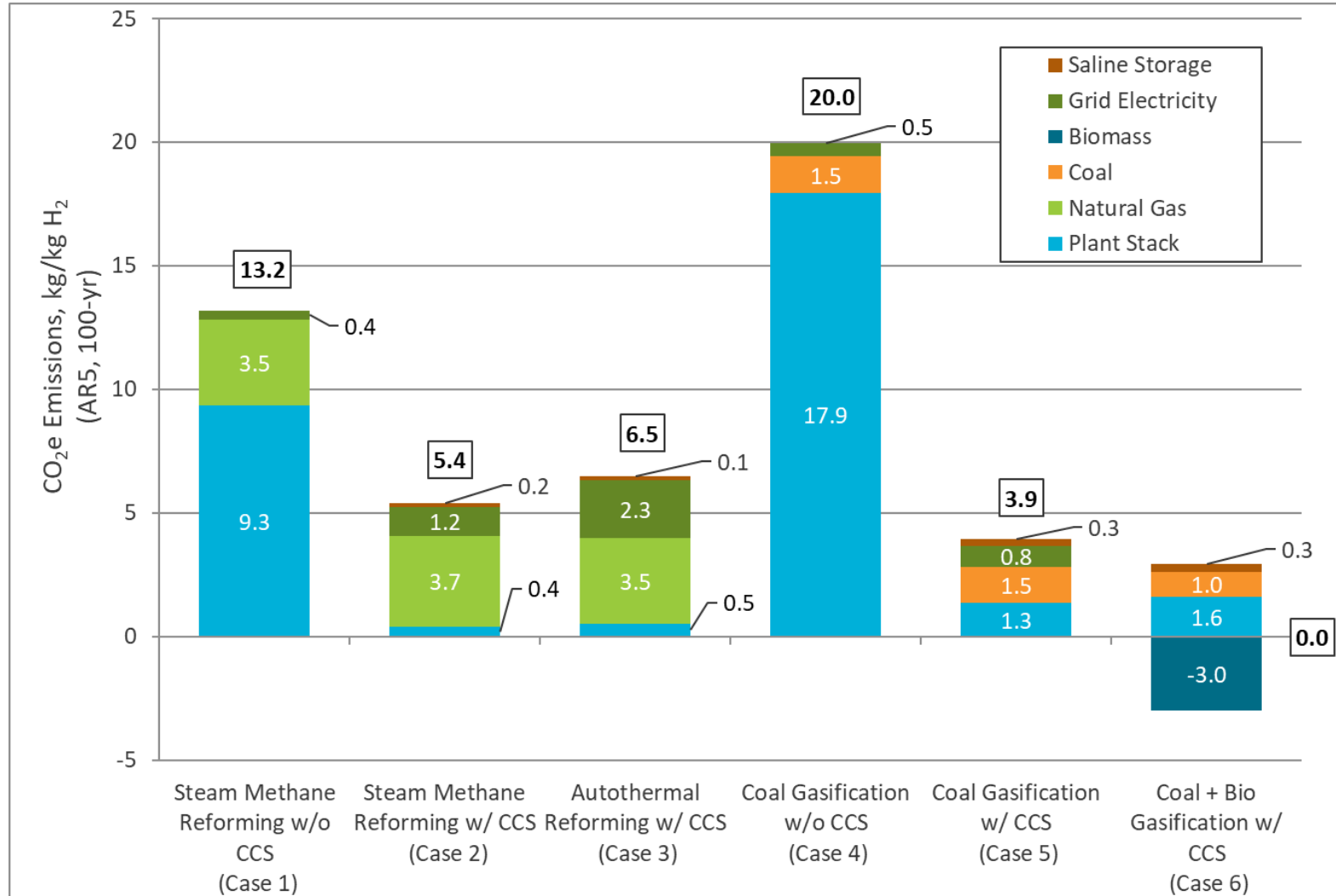
Comparison of Commercial, State-of-the-Art, Fossil-Based Hydrogen Production Technologies

Levelized cost of Hydrogen (Pending Peer Review)



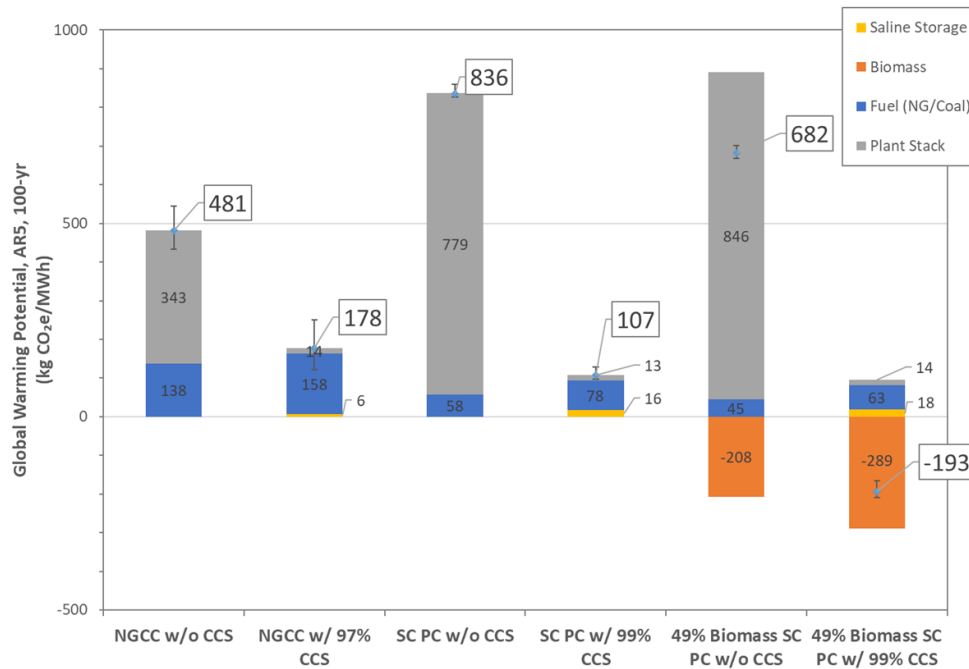
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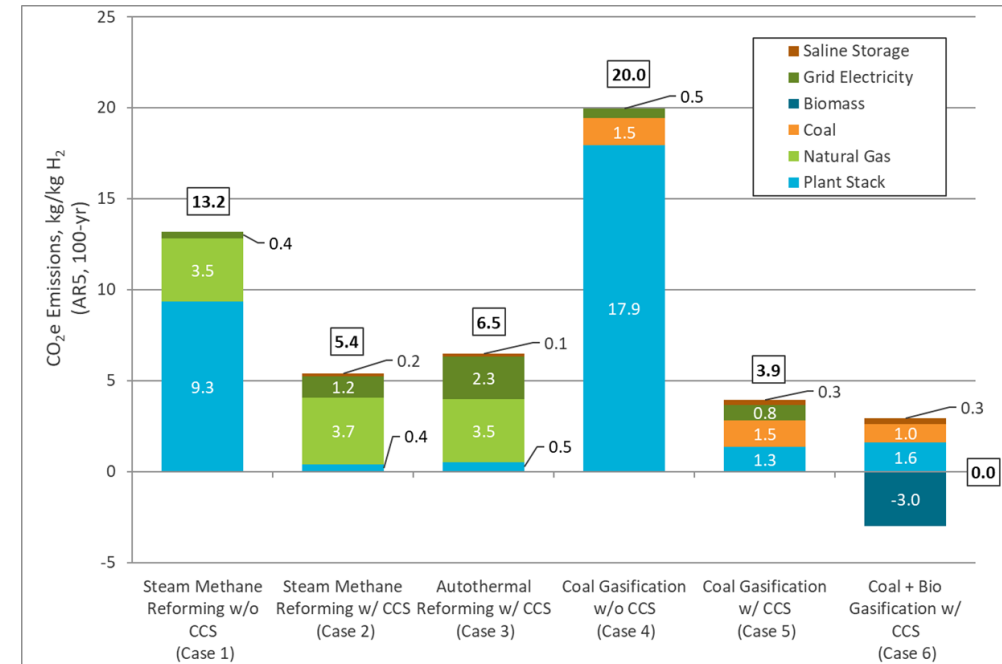


Challenges

- Net-Zero Systems
 - Lifecycle Analysis (LCA) basis
 - Upstream emissions
 - Feedstock choices



- Process
 - Higher CO₂ capture efficiencies
 - Capital and O&M cost
- CO₂ T&S Infrastructure



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