BILIWG: Consistent “Figures of Merit”

A finite set of results reported in consistent units

- To track progress of individual projects on a consistent basis
- To enable comparing projects in a transparent manner

Potential BILIWG Figures of Merit

Key BILI Distributed Reforming Targets

- Cost ($/kg of H2): H2A analysis
  - Distributed reforming station,1000 kg/day ave./daily dispensed, 5000/6250 psi (and 10,000/12,000 psi) dispensing, 500 units/yr.
    - nth unit vs. 500 units/yr ?
    - production unit only (with 300 psi outlet pressure) ?
- Production unit efficiency: LHV H2 out/(LHV of feedstocks and all other energy in) GTG
  - WTG efficiency?
  - Feedstock conversion energy efficiency?
- Production unit capital cost: Distributed reforming station,1000 kg/day ave./daily dispensed, 300 psi outlet pressure
  - nth unit vs. 500 units/yr

Other Potential Figures of Merit

Figure of Merit	Units
feedstock use (report all)	- kg/kg of H2 out -Moles feedstock/mole of H2 out -BTU feedstock used/BTU H2 out -mole H2 out/ mole H2 in feedstock (not to include water)
catalyst activity	- kg of H2 out/gm catalyst-hr
reactor activity	-GHSV: normal feed gas flow / liter of reactor volume. -Kg H2 per day/liter reactor volume
steam/carbon ratio	- moles of steam/mole of carbon in feedstock -Oxygen (O not O2) in fuel and feed (not water) /carbon in feedstock
reactor temperature and pressure	-Celsius and P(psi), final hydrogen pressure.

1. Liter of catalyst or reactor?