

## BIOFUELS: EXECUTIVE SUMMARY

- ❑ The biofuels market is being driven by (expected continued) elevated oil prices, climate change & energy security concerns as well as a slow transition to transport electrification (batteries, infrastructure, range ...)
- ❑ Most major transport fuel consuming nations have (increasingly potent) biofuel support policies (incentives/targets) in place, typically favouring advanced biofuels
- ❑ Global biofuels production & consumption is currently dominated by the US & Brazil (ethanol), followed by the EU (biodiesel); biodiesel consumption is relatively small and generally constrained by blending potential (with current engine legislation/designs)
- ❑ Current large-scale plant/investment activity skewed towards ethanol and feedstock diversification (jatropha, cassava ...)
- ❑ Interest is shifting from 1<sup>st</sup> gen to (advanced) 2<sup>nd</sup> (cellulosic, including enzymes) and 3<sup>rd</sup> (e.g. algae ...) generation biofuel technologies/feedstocks, due principally to concerns on resource utilisation (land, food, water ...); significant adoption of algae-based biofuels is still some way off
- ❑ 2<sup>nd</sup> gen biofuels present a relatively heterogenous technology landscape, causing some reticence to invest in “technology plays” (not yet proven to be commercially viable), given significant upfront (demo/pilot plant) and beyond CapEx requirements
- ❑ Significant interest and activity currently in “drop-in” aviation biofuels
- ❑ VC investment in the biofuel sector (especially commodity 1<sup>st</sup>-gen) has plummeted since the 2006 peak, but VCs remain active, thanks to a host of technologically innovative companies
- ❑ Strategic investors – (bio)chemicals, oil majors, utilities ... – are essential investors (feedstock, offtake, project expertise ...) in the sector currently, especially for late-stage companies