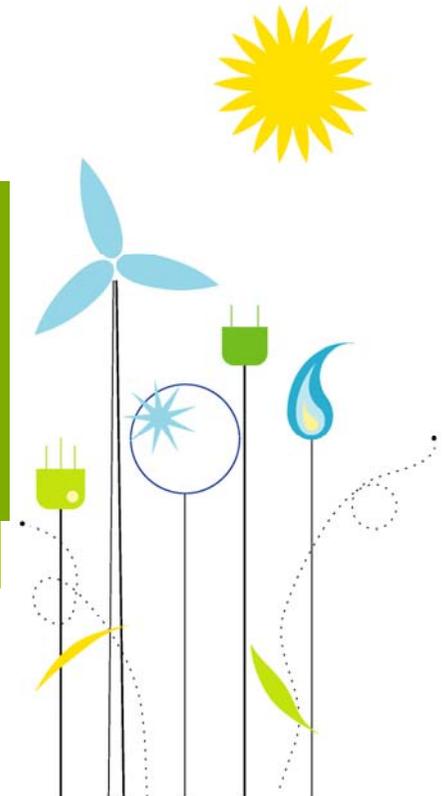




DOE / TSB collaboration E-WaGS: Project Overview

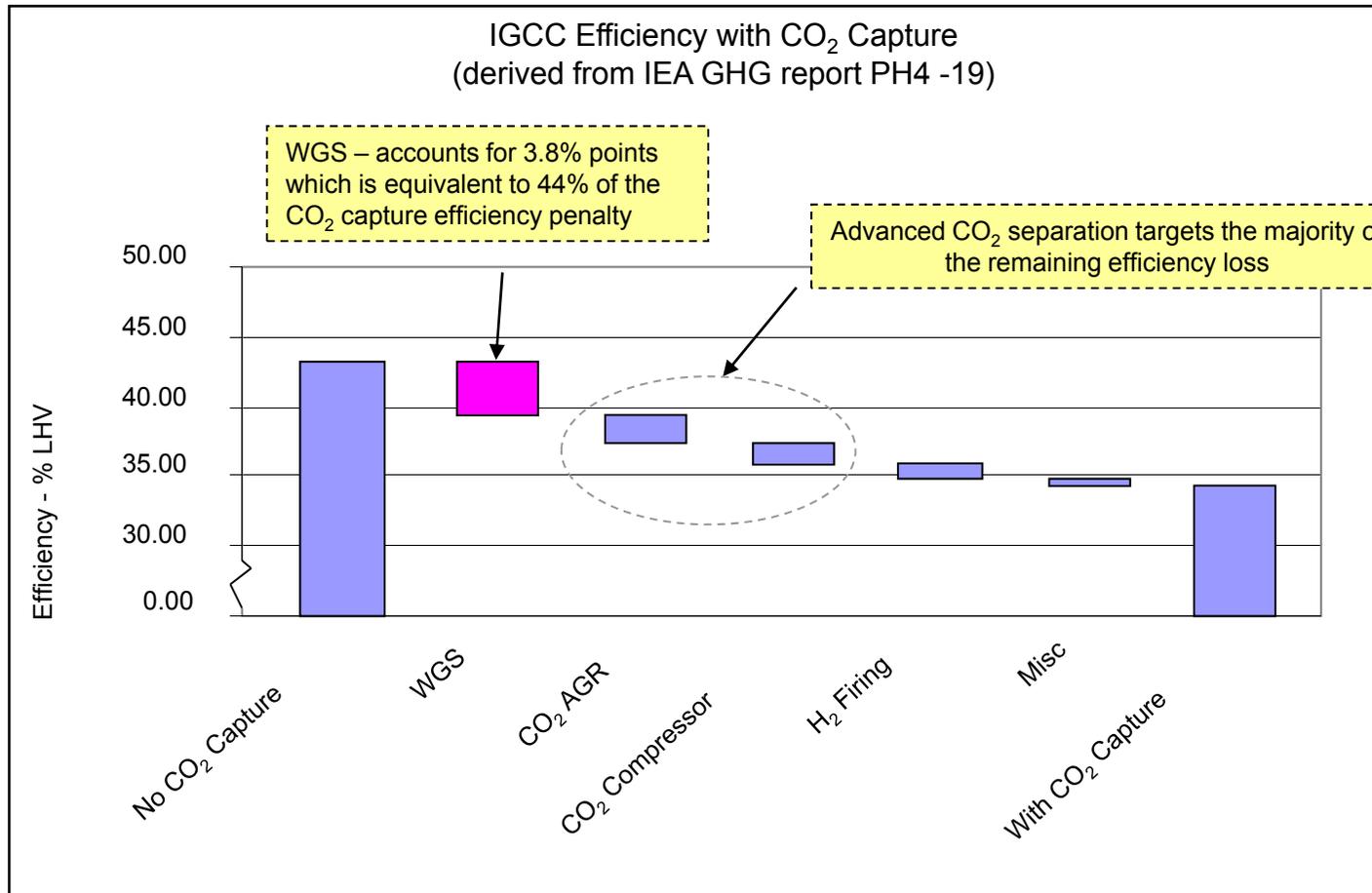
Kevin Dodds
24th May 2010



e-WaGS: Technical target



The WGS reaction is the major cause of inefficiency alone representing nearly half of the total

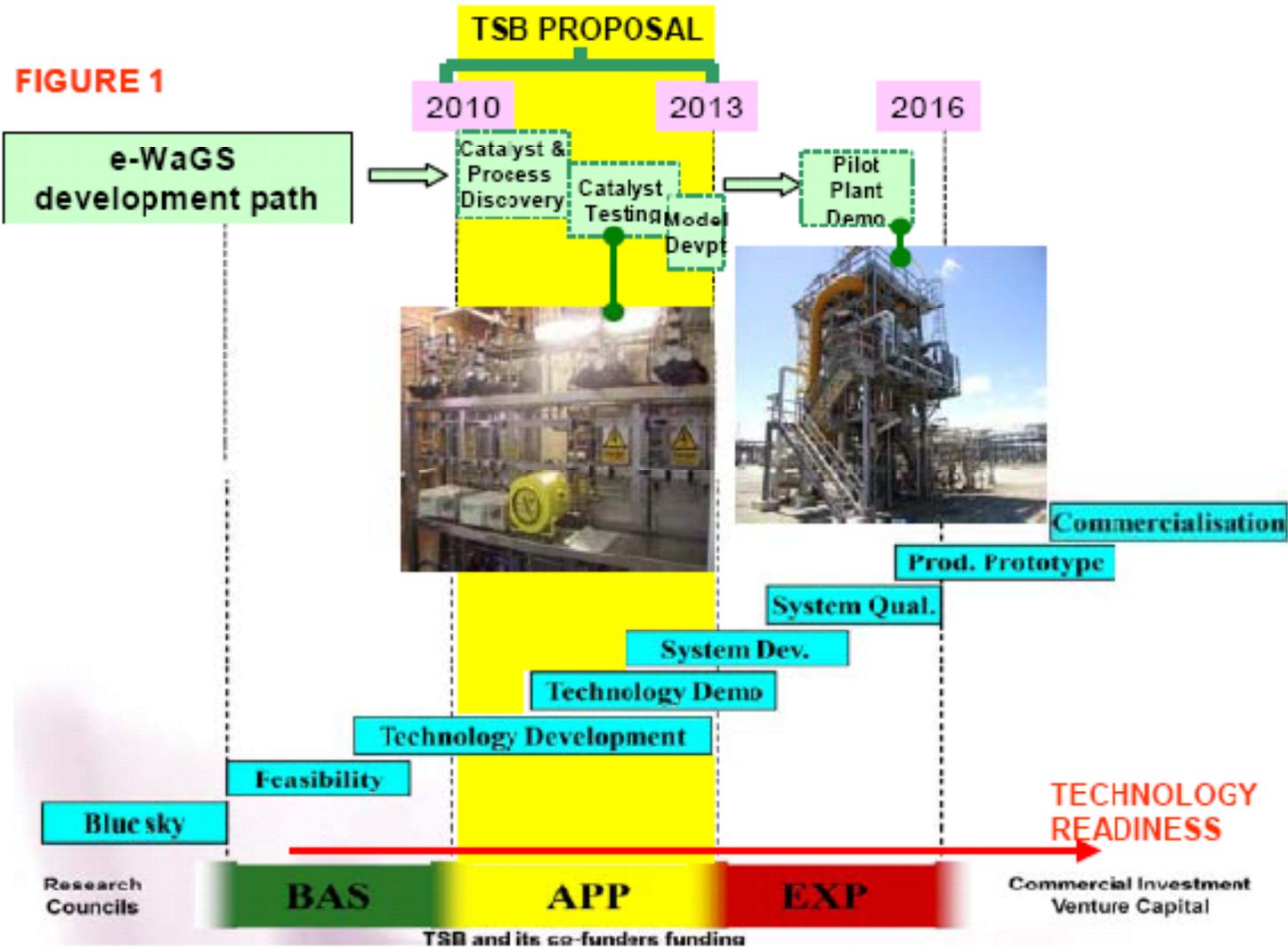


e-WaGS: Project summary



- **Objective:** To find an innovative new catalyst and reactor combination the project will look to integrate efficiency improvements in the WGS reaction with new emerging gas separation technologies to maximise benefits – power plant efficiency improvement of ca 3% points is targeted
- **Scope:** Catalyst discovery and evaluation in the lab, reactor modelling, process synthesis and new flow-sheet design, performance and economic evaluation, test-rig design, build and operation leading to outline design of a field-based pilot plant
- **Participants:** Johnson-Matthey will lead catalyst discovery and evaluation and reactor design and test-rig work – BP will lead process performance evaluation, process synthesis and project management
- **Schedule/cost:** 36 months/total project value around 2 £M (TSB grant 50%)

e-WaGS Project Plan



Opportunities for DOE / TSB collaboration



- e-WaGS
 - Sharing of results from DOE pre-combustion capture project for evaluation of the e-WaGS technology integrated with the next generation CO₂ separation and compression technology
 - H₂ permeable membranes
 - Ramgen compressors
 - RTI's high temperature sulphur and CO₂ separation technology
 - Others?
 - Peer reviews of technology (inc results & exploitation plan)
- e-WaGS II
 - Hosting & funding pilot plant
 - Syngas from solid fuel
 - 2012 onwards
 - 1 – 2 year test program
 - Nominal 1MWt
 - Co-pilot with other advanced CO₂ capture and compression technologies?



Thanks for your attention

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