

New Zealand Hydrogen Update

Major Developments in the Hydrogen Energy Area

- New Zealand Energy Strategy under development
- Hydrogen Roadmap under development
- Advancements in ongoing project to explore potential to use New Zealand's large coal/lignite resources to produce hydrogen
- Advancements in remote area hydrogen generation project

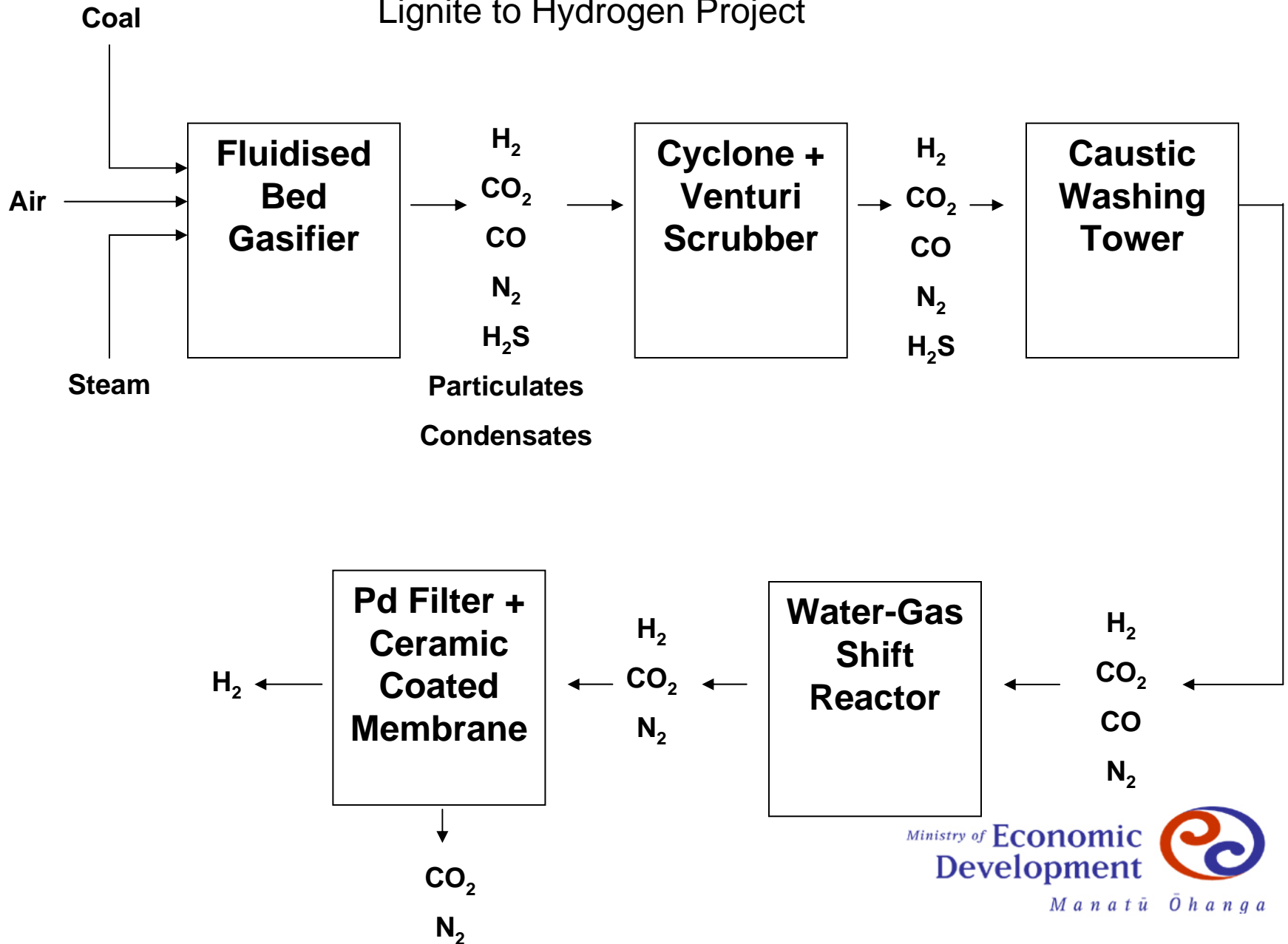
New Zealand Energy Strategy

- The New Zealand Government has recently released a draft energy strategy. The Government has also committed for New Zealand to be carbon neutral by 2030
- The goal of the strategy is to:
 - Develop a reliable and affordable system that minimises greenhouse gas emissions
- The major aims with respect to hydrogen are:
 - To focus on developing hydrogen energy niche applications
 - To strengthen international collaboration

Hydrogen Roadmap

- March 2007 – The Government commissioned a 12 month project to begin the development of a hydrogen roadmap for New Zealand
- To be carried out by CRL Energy, Industrial Research, Unitec, and Energy Research Center of the Netherlands
- Method based on that used in HyWays project for developing Roadmap for Europe

Lignite to Hydrogen Project



Lignite to Hydrogen Project continued

- Recent Progress

- Washing tower designed, constructed and commissioned, - reduced sulphur gases to < 1 ppb
- Water shift reactor commissioned
- Work commenced on testing new ceramic coated membrane

Hydrogen Energy System

- HyLink - A hydrogen energy pipeline-store
 - Fuel cell and hydrogen water heater at the farmhouse
 - 2km polymer fuel pipe
 - Wind generator and electrolyser at the wind site
 - System has been laboratory tested and is currently being commissioned

