AGENDA

Working Group 7 – Gaseous Fuels for Transport and Heavy Machinery

10am - 2pm 27th May 2015

Training Room 1, Level 7, 101 Grenfell St, Adelaide

Time	Item	Responsible
10.00	Welcome and Introduction	Nick Smith/ Barry Goldstein
10.15	Terms of Reference	Nick Smith
10.30	Overview of Gaseous Fuels in Australia • LNG • CNG • LPG	Mike Carmody Managing Director Gas Energy Australia
11.00	Gas to Liquids Presentation	Rudy Gomez Executive Chairman Cartwheel Resources
11.30	Global Overview of Gaseous Fuels	Warring Neilsen Manager, Corporate Affairs Elgas Ltd (A member of the Linde Group)
12.00	**Lunch** **(please advise the secretariat of any dietary requirements)**	
12.30	Opportunities – discussion • Transport • Rail • Marine • Heavy Machinery/Mining • Policy Settings	All
1.10	Barriers to uptake – discussion • Technology • Infrastructure • Policy Settings	All
1.45	Future plans and inputs	All
1.55	Summary and Closing	Nick Smith
2.00	**Meeting Closed**	

Next Meeting: To be advised

Working Group 7 – Gaseous Fuels for Transport and Heavy Machinery

Inaugural Meeting, 27th May 2015

Summary Minutes

1. **Attendance:**
   See attendance list attached.

2. **Welcome and Introduction**

- Barry Goldstein provided an introduction to the Roundtable for Oil and Gas Projects in South Australia.
- Nick Smith provided an introduction to Working Group 7.

3. **Terms of Reference:**

- TOR extended to include LPG
- TOR extended to include focus on reducing emissions and resulting health benefits

4. **Presentation – Overview of Gaseous Fuels in Australia**

- Mike Carmody, Managing Director, Gas Energy Australia, gave presentation on LNG, CNG and LPG in Australia.
- Gas Energy Australia is the national peak body for gaseous fuels in Australia.
- Some key points from the presentation include:
  - GEA have changed their message to promote gaseous fuels by promoting on the basis of community health, rather than environmental benefits such as carbon abatement.
  - Community action groups provide a point of entry to discussion of this issue with governments.
  - A key challenge is to incentivise big truck fleet operators to take up LNG – balance sheet is key.
    - Therefore need incentives for carbon abatement, community health improvement, etc.
  - GEA has released consolidated 10 point plan re gaseous fuels in Australia, after producing two Strategic Consultation Drafts. Presentation to be distributed to attendees.
  - The regulatory space is key; particularly harmonisation between different jurisdictions.
- Questions/comments:
  - Gaseous fuels must be compared to all other forms of transport – electric, petrol and diesel

5. **Presentation – Gas to Liquids**

- Rudy Gomez, Executive Chairman, Cartwheel Resources gave presentation on conversion of gas to liquids, including to diesel
- Key point: existing infrastructure is critical
- Presentation to be distributed to attendees.

6. Global Overview of Gaseous Fuels

- Warring Neilsen, Manager Corporate Affairs, Elgas
- Some key points from presentation include:
    - Government is driving markets in Europe
        - Emphasis placed on energy security, health and competitiveness
    - European Alternative Fuel Strategy was discussed
    - There is a need to get the right technology in place

7. Workshop discussion: Opportunities and Barriers

- How do we go towards stimulating the market?
- What can be done?
        - Fuel security? No policy in case of conflict that disrupts supply to Australia.
        - Suggests looking at Defence as a firm customer – sign them up on a contract for gas to liquids – then have a base from which to supply the market
        - Changing market – becoming increasingly politically uncertain
- Transport company converted 100 heavy duty vehicles that operate on west coast
    - Accident shortly before LNG was due to come online
    - Half the conversions off the trucks were taken off
    - Confidence in industry was severely eroded – only taking 2/3 contracted demand – now unsure as to extent of LNG business
- Suggest Brochure to provide information about LNG similar to Fracture stimulation document
- Brisbane demonstration on HDCNG– processing speed of conversion 1000x faster than OEM engine management computer (EMC) and takes instruction from the EMC to deliver gas substitution
- Technology is developing but issues around determining reliability
- Evidence that gas is better for engines and minimises maintenance costs
- Vehicles may be ready for market ?
- Huge advantages in technology – returning to base every 12 hours for a vehicle
- Destructive technology out there – have gone to hybrid – China electric hybrid industry taking off
- Challenge for WG7 – have recognized we're small country, but how can we adapt quickly?
- Strategically – need great brains and people behind an industry
- How can we do a Taiwan and the bicycles?
- Who has the vision to beg borrow and buy technology and clarify what route to go for?
- California uses CNG in trucking fleet – has done for a big time – polycarbon cylinders adapted from jet engine technology from NASA is the key - have trucks running on high-density CNG in Queensland – how quickly can we convert trucks in the rest of Australia?
- Need a coherent picture of where we stand as a group and what the key issues are
- Also benefit to reach outside of WG7
- Barrier to adoption is failure – a lot of technology can predict when will fail – expertise in SA to assist with that
- Reduce negativities around gaseous fuels
- SMART technology – important to improve innovation and efficiency
- 2 failures- busses getting up hill and then failure to make it in the market

- Learn from flaws and make it clear that those experiences have been learned from.
- Important for product development
- Confidence of market affected by factors outside of our control – ie pipeline blow out
- Need to be able to facilitate shipping industry –
- Industry happy to invest, but no game plan in light of lack of govt policies
- Disruption of solar power to electricity grid comparison and impact to gaseous fuels
- Need to develop mission of WG and how do we set ourselves a policy framework? Others can then plug in and join in on direction we want to go in.
- Take policy framework to government?
- Need to influence Cwth
- Harmonise with other States
- Need a sponsor – DSD can help facilitate policy development – build compelling case and outcomes, deliver on key political outcomes
- Do presenters have dialogues with fleet managers/major planners in key organisations? Open discussion with them.
- Need to discuss with key people to determine what they are looking for and what they need
- Need to have contacts with global supply chain stakeholders
- Productivity benefits from personal perspective – using rail facilities
- Can we make money from converting fleets to gaseous fuels?
- Having proof of concept – demonstrating that the tech will make money – look to overseas?
- Compelling cases right across the planet – costs have come down
- If competing against diesel then no-brainer
- Government needs to be convinced that it can afford to do it, but can't afford not to do it – huge job
- Have a coordinated position to influence Govt and get right outcomes
- Overseas company – making a lot of money from refined products and shipping to Australia – i.e. Singapore
- Big refiners have own agendas and will be reluctant to get involved with domestic fuel (?)
- Vast gas distribution system in Aust
- The driver of change for every country is government policy – and in this instance there is none. Government must drive it, otherwise industry won't move forward but will look to save money where they can
- US – Clean Fuel market – across all States
- Europe – alternative fuels package
- Industry has no security where it's going as to how to invest due to government policies changing rapidly
- Need policy certainty to reduce risk
- From DSD, we can help facilitate understanding around why policy is important. Policy also responds to where marketplace is.
- Policy is an important guideline but also increasingly driven by the marketplace and what voters want.
- Asked about excise for LNG & LPG – 50% - no change:
    - A: Policy of government was to go from zero excise to full excise
    - No certainty as to whether successive governments will keep the excise there or change it? Industry must lobby re that point.

- No energy security – white paper process now complete, yet security not address as part of the paper.
- Industry had input but was not certain of expertise of Senators
- Need to influence energy security policy-making process – ie white paper process
- Moving forward – we need facts of gaseous fuels and barrier to use in Australia?
- Gas Energy Australia has provided a lot of info around this
- Need info about uptake of gaseous fuels in other countries
- Need to set the scene with the same vision of what success looks like
- Need to get a DRAFT of this – get people to include their input → get consistency and coherency
- Could have industry here in Australia – sending people to China – anyone looking at that in recent delegation? No.
- WG7 needs to define what success will look like – need this vision to know where we're going.
    - Facts first
    - Then next meeting about vision
    - Then can start moving
- Put together a position paper with facts and conversions and vision – 10 page booklet?
    - What does success look like?
        - Is it an industry that is leading globally on development of LNG, CNG
        - Fast adopters of technology with good govt facilitation and policies and regulatory mechanisms to make work effectively?
        - What is multiplier effect re economy?
        - If reducing taxation and excise, need a pay-back that is iron clad in the current economic environment?
- Think like politicians – any suggestion has to not lose revenue
- Politicians like to copy what's going on overseas – emphasise what is happening China, America, Europe
- Smaller scale – need support from consumers
- Send them info re what you can do for them
- Seeing is believing
- If have support of consumers, easier to get government on board
- At this stage – tell consumers what we can do for them.
- Vision – reducing emissions – win hearts of consumers – industry in SA – politicians would like that. Falls under broader climate change strategy anyway.
- Q - Do we know which component of the market is the lowest hanging fruit?
    - Underground mining?
- Need to understand trends – then supplement that with the economic case here – win hearts and minds of people here – work on developing a vision from here.
    - Is the big issue fuel security? Bring in companies for whom this is a big issue into the discussion.
- Marine – a big issue re low hanging fruit
- Focus needs to be on larger consumers of diesel and fuels – needs to be displaced in those areas first
- South Korea – 60% of vehicles are LPG dedicated – cost of bringing them into Australia is prohibitive as they have to do the testing for Australian standards

    - Not that tech isn't there, but have not yet overcome barriers and won hearts and minds of small consumers
- Clean Air Agreement – been driven by the State governments but facilitated by Feds – about particulate matter – doing test trials on diesel engines at the moment for trains on emissions – framework coming out of federal arena → how to adopt better quality technology and standards from US and Europe and accommodate them into our structures? Previously have dragged feet for Aust manufacturing sector (which is now disappearing)
    - SA taking lead on Clean Air Agreement – along with NSW
    - Follow up with EPA
- Older diesel vehicles are the problem – as with wood smoke, home heaters, small engines.
- If Govt really wanted to import South Korean vehicles, wouldn't be that hard.
- Warring has spoken to Hyundai in SK – for them to make a niche market have to go to RHS drive – no manufacturer making any money in Australian market – market size not big enough for Hyundai. Hyundai in Europe using conversion centre methodology – importing then converting into LPG vehicles.
    - Manufacturing opportunities still there with conversion –
    - OEM goes through distributor – OEM carries local costs etc
        - Only get involved where they can see money being made out of it
    - Premium for cars in European market – between 2 – 3 grand
- WN has also spoken to Samsung-Renault – interested and still looking.

Where to from here?

- Develop modelling case around - manufacturing conversion units – diesel to CNG, LNG, LPG in South Australia
- Fuel security – three factors
    - Indigenous supply – natural gas, oils, condensate
    - Conversion
    - Demand – refineries, Gas to liquids
    - Put these together and quantify that – how will that impact on overall fuel security? → sensitivity analysis
- Produce 2 – 3 scenarios on what we can do to improve fuel security to meet demand in Australia – important in selling in any case.
- **Farm out to specific people for their assistance – who can assist?**
- Downstream users – do we want their involvement?
- Need another meeting to get consistency in terms of a vision
- Fuel security and ability to respond to emergencies – 58 days currently, supposed to have 90 days – but also concerned about potential for security should current trade routes be disrupted, or Singaporean refineries be disrupted
- Document – should we develop a hypothetical case around terrorism impacting Singapore and wiping out refineries?
- Start with vision – give politicians and people broader vision – these are impacting factors – and if something goes wrong, here is how we can mitigate, and this is why it is compelling
- Another meeting in 3 months' time. Still more work to be done between now and the next meeting.