Australian Government
Department of Industry, Science, Energy and Resources

Hydrogen Blending in Gas Networks – framework for upper limits

Lesley Dowling, Andrew Pankowski & Sarah Kwon

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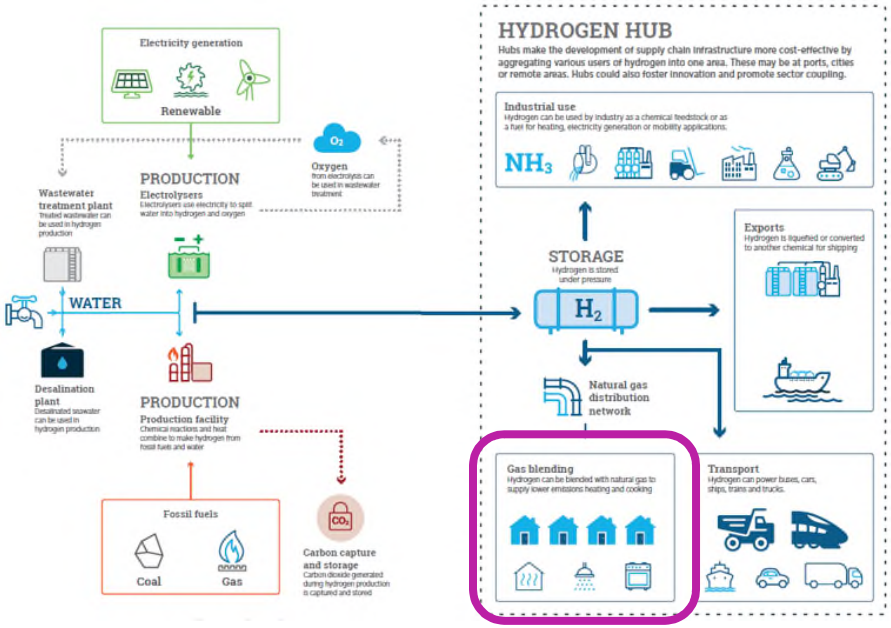
Outline

- Hydrogen in gas networks 2020 review – Action 3.12
- Framework for upper limits – Action 3.12 (c)
- Consultations
- Common issues and views
- Further observations
- Suggested areas of focus
- Questions/Discussion

Hydrogen in gas networks 2020 review

- Review over 2020 to:
  a. Consider the application of the National Gas Law and relevant jurisdictional laws and regulations to hydrogen
  b. Consider the economics of blending and of eventual use of 100% hydrogen in Australian gas networks
  c. Recommend options for setting and allowing updates of upper limits on the volume of hydrogen allowed to be blended in gas networks.

Photo: Renew Economy



Action 3.12 a – National energy regulatory frameworks review

- The review will principally examine the National Gas Law as this legislation is most relevant to an emerging hydrogen industry, with its focus on wholesale gas markets, economic regulation of gas infrastructure and sale of gas to consumers.
- The review will also encompass other national energy regulation (laws, regulations and rules) to the extent it is relevant to the proposed objective.
- Timeframe for delivery – End of 2020

Action 3.12 c – Framework for upper limits

- Options for setting and allowing updates of upper limits on the volume of hydrogen allowed to be blended in gas networks.
- Focus on:
  - keeping consumers safe
  - encouraging innovation
  - effectively managing any appliance readiness
  - end user issues
  - market impacts

We have been seeking to understand the views from technical safety regulators

- Regulator forums
  - National Regulators Forum (distribution)
  - Gas Technical Regulators Committee (downstream)
- Nominated technical safety experts in jurisdictions
  - Technical regulators of gas networks
  - Gas safety inspectors for installations and appliances
  - NSW, WA, VIC, SA, TAS, QLD so far…

Common issues and views

- Low level blending
  - Current risk-based approach to regulation can accommodate hydrogen blending
    - Minor changes needed in some jurisdictions
  - Concerns about reduced safety margin for appliances
    - AS/NZS 5263.0
  - Safety of older appliances – whether research is being done on this
  - Regulators generally taking a cautious approach

- Higher concentrations (including 100% H_2)
  - Purpose-built network.
  - Physical properties of hydrogen in a urban context
    - Highlights need for research.

Further observations

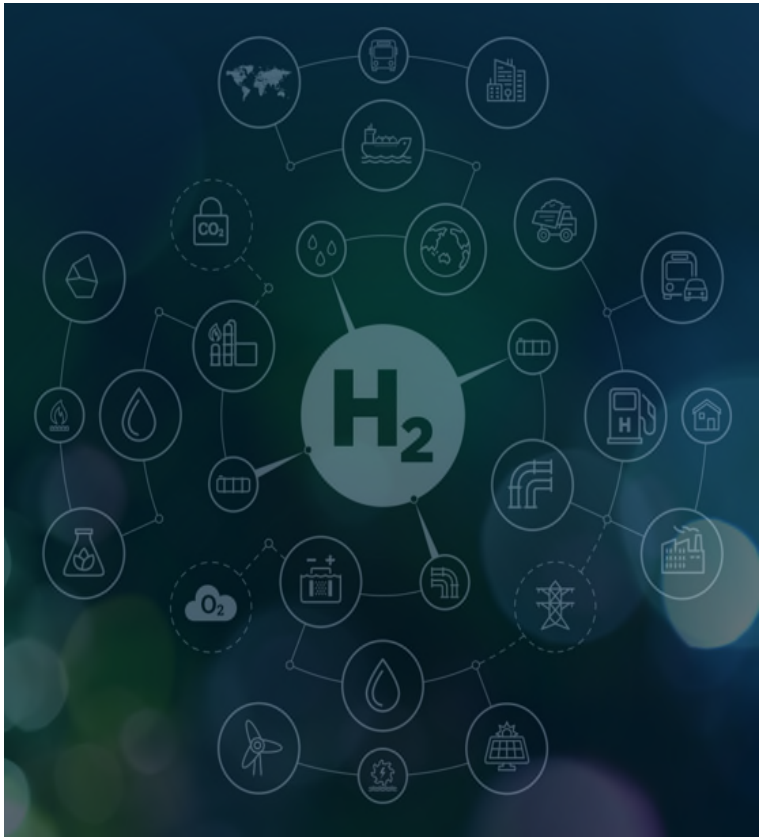
- Each jurisdiction has its own approval processes
- Some coordination through various bodies, but fragmented
- Timely access to research outcomes viewed as critical to support technical regulators
  - Future Fuels CRC membership
  - Update Australian Standards

Suggested areas of focus

- Accelerate update and development of Australian Standards
- Communicate up-to-date hydrogen research data to support technical regulators
- A national overarching framework to guide technical regulators
  - More consistent approach to innovative pilot projects
  - Trusted information on which to make decisions
  - How to reach a decision on technical safety approvals

Questions/Discussion

- Questions from the presentation?
- Possibility of sharing up-to-date hydrogen research data with the technical regulators.
- Fast track updating and development of Australian Standards
- Any other ideas on a framework for upper limits?



Sarah Kwon
(sarah.kwon@industry.gov.au)
Gas Infrastructure and Strategy, Energy Division
Canberra ACT 2601
GPO Box 2013 Canberra ACT 2601
industry.gov.au