

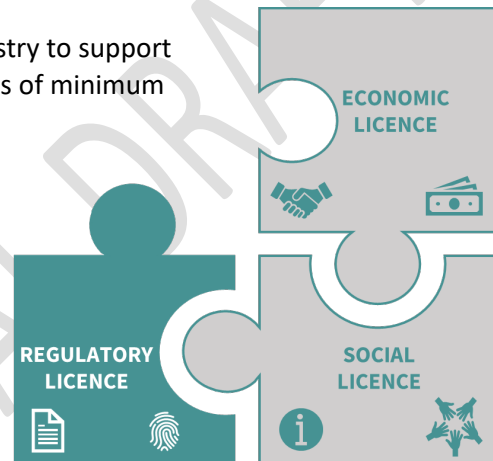
HYDROGEN REGULATORY CHALLENGES AND NEXT STEPS

Objective

To set out an AHC approach to hydrogen industry regulation which forms the basis for regulatory advocacy with policymakers.

Introduction

- Regulation is an important foundation for the industry to support social and economic licence. It codifies expectations of minimum standards to:
 - Allow for a baseline for community and stakeholder trust in operations.
 - Help create a stable investment environment.
- Regulation is complex in the case of the emerging hydrogen industry. This is because we have (or might have) relevant regulatory regimes across different:
 - sectors (such as electricity, gas and water);
 - jurisdictions (national, states, territories and international);
 - issues (such as safety, environmental protection and training); and
 - parts of the various value chains (such as producing and transporting for different uses).
- Regulation also takes time to develop, particularly in complex systems. While it may appear that we have that time in some cases, investment decisions about long-lived assets are being made now.
- This is also an innovative space – technologies are still developing.



Scope of potential hydrogen regulations

- Figure 1 below provides a basic overview of the key areas that may be relevant to the future hydrogen industry (but not including finance and tax treatment). These have been categorised into overall groups for regulated sector, type of regulation, and jurisdiction.
- The issues all overlap in reality, with a complex web of interactions. This simplified characterisation shows the different lenses that can be used to see the overall picture of current and potential future regulation – any one block can be the lens that is used to view other colour groups.

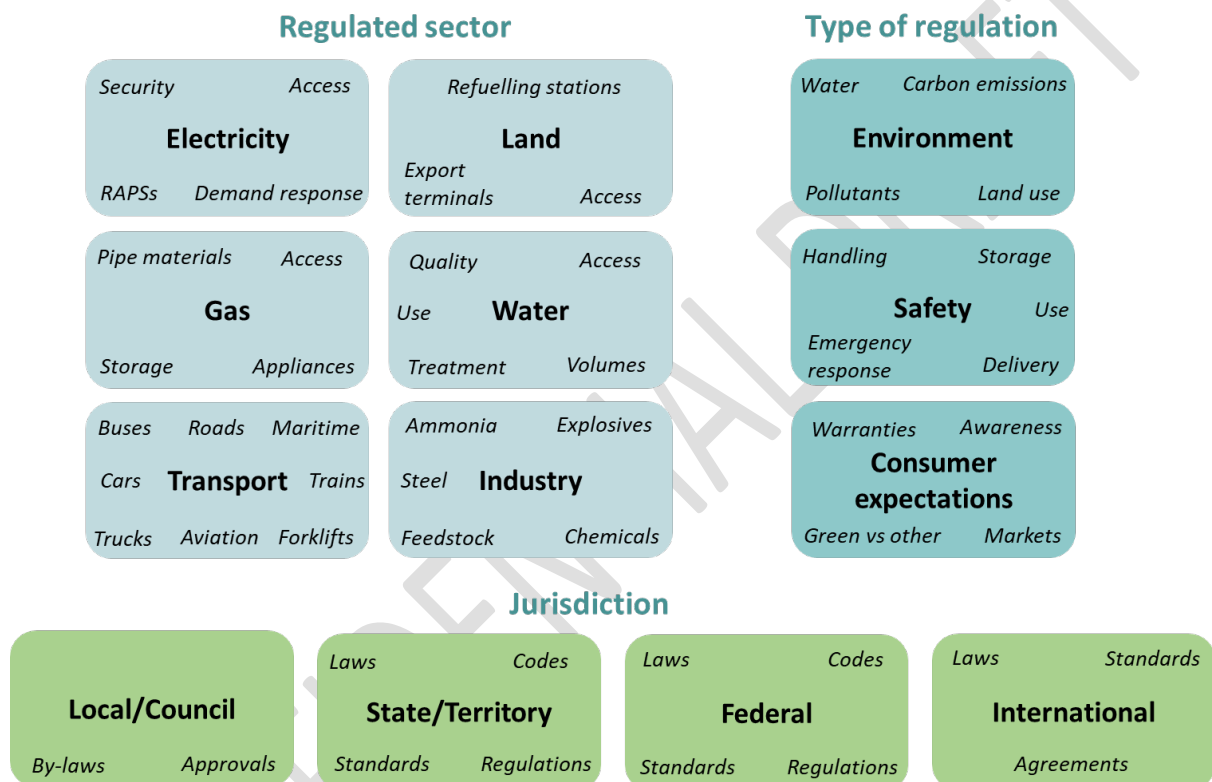


Figure 1: Potential regulations for hydrogen

- Figure 1 does not reflect regulations that are *necessarily* in place for hydrogen, or that should be in place, but they are identified here as areas that are likely to be of interest for policymakers and stakeholders.
- Further, there may in many cases not be a need for specific amendments to current regulations to account for hydrogen. However, this needs to be assessed, and there must be an examination of where harmonisation can and should occur.

Hydrogen regulatory development principles

- 1) Work to understand what's required must start now.
- 2) There should be a level playing field for the treatment of hydrogen compared with other regulated sectors.
- 3) For this industry there is a particular need for regulatory clarity and efficiency to:
 - a) Account for the ability for hydrogen to connect different regulated sectors.
 - b) Give confidence to all parties, including:
 - i) the community; and
 - ii) current and future investors in infrastructure.
- 4) Domestically we need integrated governance, where the relevant regulatory regimes across different sectors, jurisdictions, issues and parts of the various value chains are suitably consistent.
 - a) We need initiatives such as the South Australian Hydrogen Regulatory Working Group, which includes the Metropolitan Fire Service and all other workplace safety, environmental, planning and technical regulation authorities.
 - b) We should develop standardised curricula for trade and tertiary training of staff, to ensure portability of the workforce between projects and consistent quality and safety standards across Australia.
 - c) For energy, hydrogen allows for new choices between markets, such as choices between building gas or electricity infrastructure in the long-term interests of consumers.
 - i) Policy should move towards a single energy market, as hydrogen allows for coupling/co-optimisation.
 - ii) There is potential for an overarching National Energy Objective, rather than there being separate gas and electricity objectives.
- 5) For export, Australia should adopt relevant international standards and codes of practice unless there is a specific regional difference that applies.
- 6) Work should occur to streamline land access and project approvals requirements.
- 7) Innovation can be supported through concepts like the Australian Energy Market Commission's regulatory 'sandboxes', which allow waivers from rules, or changes to rules to allow proponents to test projects.

What's required

- Regulatory mapping
- Coordinated workplan with clear accountability and timing
- Gap analysis
- Targeted activity to fill gaps