

EXPLORING HYDROGEN SKILLS NEEDS IN THE PLUMBING AND GAS INDUSTRY

HYDROGEN WEBINAR

June 2021

AGENDA

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Introduction

❖ Purpose of the webinar

- To encourage industry participation and to gather feedback on the proposed unit framework, which will inform the Case for Change.

❖ The Construction, Plumbing and Services Industry Reference Committee (IRC)

- 'IRCs advise the Australian Industry and Skills Committee (AISC) about the skills needs of their industry sector'.
- 'IRCs ensure training packages meet the needs and concerns of employers, employees, training providers, and people seeking training qualifications'.

Source: Australian Industry and Skills Committee

❖ Our role

- As a Skills Service Organisation (SSO), Artibus Innovation supports Construction, Plumbing and Services Industry Reference Committee (IRC) to connect with industry and hear the diverse voices of stakeholders across Australia on what skills requirements are needed in the industry.
- We will work closely with a cross section of industry stakeholders to ensure the units of competency are industry-led and fit for purpose.

About the Case for Change

The need for change

- ❖ The renewable energy sector in Australia is growing rapidly and is providing many opportunities for the construction industry. The plumbing industry will need to re-skill and up-skill its workforce to meet market demand.
- ❖ [Australia's National Hydrogen Strategy](#) sets out the nations visions for a 'clean, innovative and competitive hydrogen industry that benefits all Australians.'
- ❖ The VET system will be a key enabler to ensure we have the right skills in the training system that support the needs of businesses across the nation.

The Case for Change

- ❖ This Case for Change ('Case') will put forward industry evidence to develop new hydrogen-based units of competency that will support existing and new plumbing and gas technicians working with hydrogen.

A two stream unit framework

Industry Working Group

- ❖ An industry Working Group ('Group') has been established to provide both strategic and technical input on the project and unit development.
- ❖ The Group has identified Skill Requirements that address current skills and emerging gaps in the plumbing sector. These Skills Requirements have been translated into a proposed unit framework, which aims to support plumbing and gas training requirement.

The two streams of hydrogen activity

- ❖ Current skill gaps: To ensure current skill needs are met, 11 new hydrogen-based competencies are being put forward, which align with traditional combustion type of work.
- ❖ Emerging skill gaps: To support emerging skills requirements, particularly around fuel cell and electrolysis, 8 new competencies are being proposed to ensure industry practitioners are 'work-ready' to meet future market needs.



Traditional combustion stream

- ❖ Purpose of stream: this stream is designed to build on traditional plumbing skills and knowledge.
- ❖ What it covers: safe handling of hydrogen, understanding the different pressures and levels of condensation, jointing techniques and threaded joints, cylinder requirements, different manufacture/product/certification requirements, commission and decommission of hydrogen-based appliances.

Traditional combustion stream

1. CPCHYD3001 Store and handle hydrogen
2. CPCHYD3002 Install and commission for hydrogen Type A appliances
3. CPCHYD3003 Maintain and service for hydrogen Type A appliances
4. CPCHYD3004 Disconnect and reconnect for hydrogen Type A appliances
5. CPCHYD3005 Calculate and install ventilation for hydrogen Type A appliances
6. CPCHYD3006 Install and commission for hydrogen Type B appliances
7. CPCHYD3007 Maintain and service for hydrogen Type B appliances
8. CPCHYD3008 Disconnect and reconnect for hydrogen Type B appliances
9. CPCHYD3009 Safe termination of vent lines for hydrogen
10. CPCHYD3010 Install hydrogen storage capacity up to xxxx (storage size to be determined).
11. CPCHYD3011 Commission and decommission hydrogen combustion systems

Fuel cell / electrolysis stream

- ❖ Purpose of stream: this stream is designed to be an additional non-traditional plumbing skill set to support industry practitioners meet emerging market needs and demands. It will have a domestic/residential focus. There is currently no competency requirements or training that cover this area of work.
- ❖ What it covers: emerging and predicted technology, purging against manufacture specifications, sizing and designing consumer piping, water treatment, wastewater management.

Fuel cell / electrolysis stream

1. CPCHYD3012 Commission and decommission hydrogen fuel cell and electrolysers
 2. CPCHYD3013 Inspect, service and maintain hydrogen fuel cell and electrolysers
 3. CPCHYD4001 Undertake purging
 4. CPCHYD4002 Size and design consumer hydrogen systems
 5. CPCHYD4003 Water treatment and wastewater
 6. CPCHYD4004 Size and design flue systems for hydrogen appliances
 7. CPCHYD4005 Characteristic and chemistry of hydrogen
 8. CPCHYD4006 Compression and cooling/chilling of hydrogen
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Q and A session



- ❖ Have your say
- ❖ You can provide comment in the following ways
 - ❖ [National Hydrogen Feedback Survey](#)
 - ❖ put forward a submission to the Project Manager (manuel@artibus.com.au)
- ❖ Consultation phase closes 17 June 2021.

Next steps

- ❖ Collate and unpack industry feedback
- ❖ Update the Case for Change and Proposed Unit Framework in light of industry feedback
- ❖ Submit Case for Change to the Department of Education, Skills and Employment
- ❖ AISC will consider Case for Change 21 July 2021

Thank you for your time.

We acknowledge the Traditional Owners of country throughout Australia and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past, present and emerging.

Artibus Innovation acknowledges the financial support received by the Commonwealth to operate as a Skills Service Organisation. Artibus Innovation does not represent industry, the Commonwealth, or the Department of Education, Skills and Employment



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