CGA
Compressed Gas Association

Setting the Standard for Hydrogen Safety

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About CGA

Founded in 1913, CGA’s mission is to promote ever-improving safe, secure, and environmentally responsible manufacture, transportation, storage, transfilling, and disposal of industrial, medical, and food gases and their containers.

Our Hydrogen Program

When it comes to hydrogen, the Compressed Gas Association (CGA) has been developing related standards for more than half a century – we published our first hydrogen safety standard in 1955.

CGA Hydrogen Committees

CGA manages 27 technical committees populated by our member companies' subject matter experts. Each committee works to develop and maintain consensus-based publications, produce educational content, respond to external positions, and more.

Hydrogen Technology Committee

The mission of the Hydrogen Technology Committee is to promote safety in the transportation, handling, storage, and use of hydrogen in liquid (cryogenic) form, gaseous form, and adsorbed in hydrides. The committee develops standards for hydrogen systems and their components for industrial, fuel technology, and other applications as well as recommendations for updates to model codes and standards related to hydrogen systems.

Hydrogen Production Committee

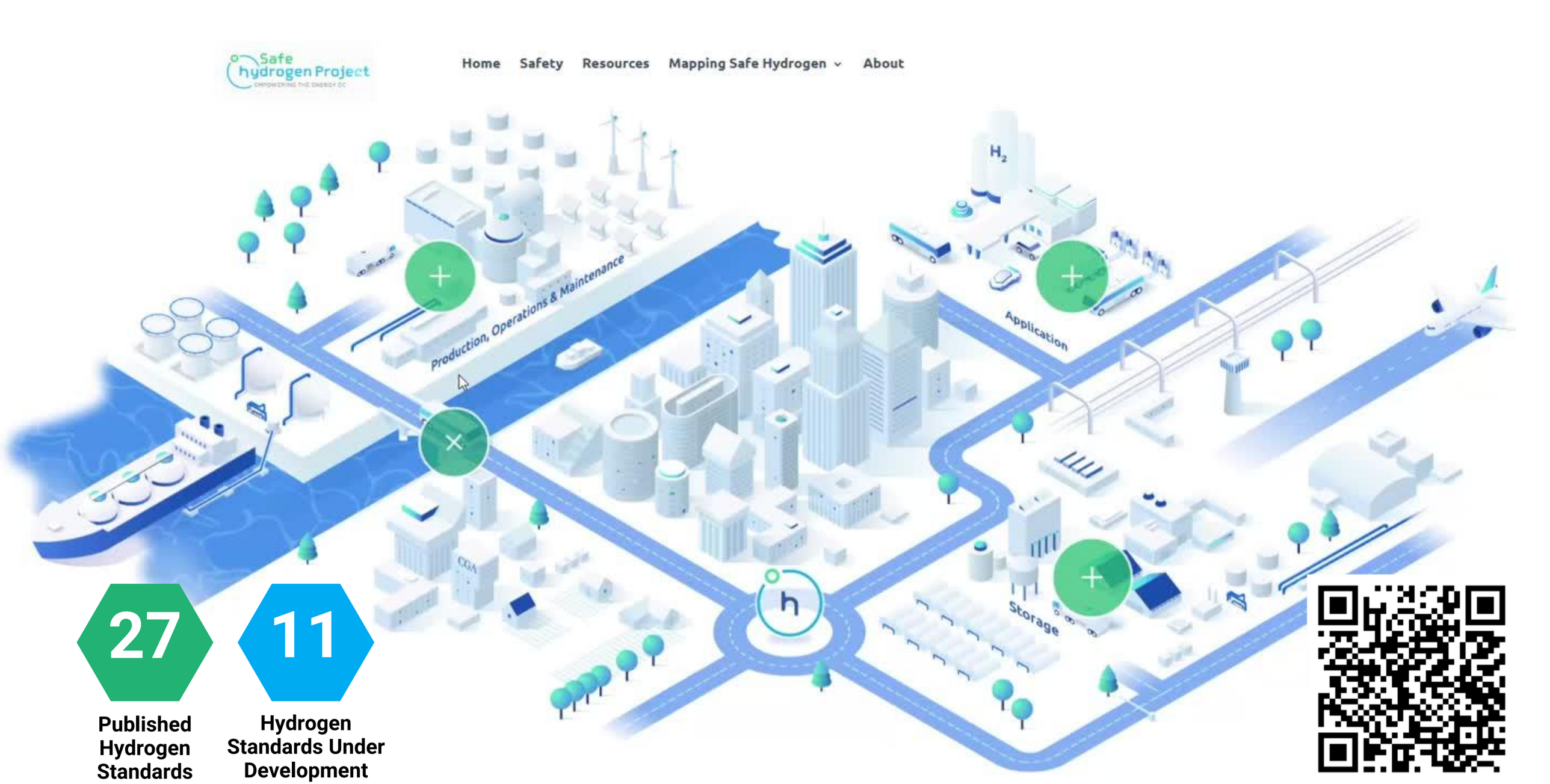
The mission of the Hydrogen Production Committee is to develop positions and publications to address the safe operation of plants producing hydrogen, carbon monoxide or synthesis gas and related materials affecting the compressed gas industry. This includes production, liquefaction, and pipeline distribution.

Our Hydrogen Mission

CGA will continue to develop and communicate safety information for the production, storage, transport, and use of hydrogen in existing and emerging applications.

Key Outcomes

- Increase hydrogen publications available.
- Increase adoption and use of CGA publications.
- Engage new members involved with hydrogen.
- Increase visibility of CGA hydrogen resources.
- Increase recognition of CGA by policymakers, industry stakeholders, and press.



27

Published Hydrogen Standards

11

Hydrogen Standards Under Development

CGA

Sharing Safety Information

CGA produces eLearning modules designed to convey basic safety concepts. We also offer short safety videos, recorded webinars, and other shareable resources to the public.

eLearning Modules

- Putting a Hydrogen Supply System Into and Out of Service
- Hydrogen Emergency Response
- Hydrogen Leak Prevention, Detection, and Repair

On-Demand Webinars

- Safely Accelerating the Future of Hydrogen
- Hydrogen Safety 101: Properties, Handling, Storage, and Key Terms

Snackable Content

- Hydrogen Safety: Vent Stacks
- Hydrogen Safety: Roofs Over Hydrogen Systems
- Hydrogen Safety: Storage and Transportation

Snackable Content (ctd)

- Essential Safety Practices for Hydrogen Systems
- Decommissioning Hydrogen Systems
- Hydrogen Embrittlement

Shifting Hydrogen Landscape

Under the current administration, the U.S. hydrogen economy is shifting focus from renewable hydrogen to hydrogen production aligned with traditional energy sectors, such as natural gas with carbon capture. Federal support for clean hydrogen initiatives, including the DOE’s Hydrogen Hubs, have been scaled back or paused. However, private investments and the strategic importance of energy diversification suggest that the sector will continue to evolve.

- Federal Funding
- Green vs. Blue H2
- 45V Tax Credit
- Project Slowdown

Expanding Our Hydrogen Work

Standards Gap Analysis

Working to address new technologies and emerging applications

Educational Content

Creating hydrogen education events and on-demand education

Global Harmonization

Developing global standards and coordinated industry positions

What We're Working On

As we shift from an industrial focus to cover emerging hydrogen applications, our work scope has expanded to include consideration for new production methods, smaller scale facilities, and environmental considerations.

Production

Storage

Transportation

Safety & Risk Management

Carbon Capture

Interoperability

Planning for the Road Ahead

New Standards Under Development

- Guideline for Hydrogen System Separation Distances
- Safe Operation of H2/CO/Syngas Pipeline Systems
- Design of Bulk LH2 Loading and Unloading Connections
- Safe Operation of Hydrogen Liquefier Cold Boxes
- Managing Oxygen Offtake from Electrolyzers
- Safe Operation of Electrolyzers
- CCUS - Capture
- CCUS - Purification, Liquefaction, and Compression
- Ammonia Storage
- Ammonia Cracking
- Standard for Cryogenic Hydrogen Transportation

Partnering for Success

CGA continues to develop strong partnerships with standards bodies, external code and standards developers, hydrogen organizations and other experts to expand our reach and seek opportunities for collaboration, including:

Increasing Collaboration

We are working with national standards bodies, and hydrogen-related standards developers to better coordinate development efforts in this space.

Supporting Outside Organizations

CGA provides essential safety information with hydrogen hubs and external partners to share hydrogen best practices beyond our industry.

Participating in External Efforts

Our staff engage in several external code and standards bodies including ISO, ASTM, NFPA, CSA, IEA, and ITT to drive adoption of industry positions.

Advocating for External Adoptions

CGA's safety leadership is widely recognized - external standards organizations include more than 50 references to CGA standards in their publications.

THANK YOU

FOR YOUR ATTENTION

CGA®
Compressed Gas Association

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