

Clean Fuels Services International

11 Cornhill Place – Cherrybrook, NSW 2126, Australia
Phone: +61 2 9875 3983
Mobile: +61 433 988 360
hienly@cfsinternational.com.au
Web: www.cfsinternational.com.au



Natural Gas Vehicles Consulting
...Safety, Performance & Economics

Hien Ly's qualifications and CNG experience

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Summary

Hien Ly holds the degrees of Bachelor of Engineering (BE, Mech.) and Doctor of Philosophy (PhD) in Engineering from the University of Auckland.

He has worked for more than 30 years on natural gas vehicles (NGV) for major energy utilities and as a consultant in New Zealand, Australia and other countries. He is a recognised NGV expert at the national and international levels.

His NGV work has included technical research and development, commercial development, standards and regulations, safety investigations and CNG training. His range of clients includes major transport fleets, international NGV industry bodies and Asian governments and companies.

1. Contact details

Phone: +61 2 9875 3983
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Company: Clean Fuels Services International
Postal address: 11 Cornhill Place, Cherrybrook, NSW 2126, Australia

2. Qualifications:

Bachelor of Mechanical Engineering (First Class Hons), University of Auckland, New Zealand.
Doctor of Philosophy in Engineering, University of Auckland, New Zealand.

3. Affiliations:

Member, Technical Committee of the International Association for Natural Gas Vehicles (IANGV).

Member, as IANGV's representative, Standards Australia committees on **gas cylinders**, **natural gas vehicle installation standard**, **gas vehicle workshops**, and gas quality.

Chairman, Standards Australia Committee for CNG refuelling stations

Member, as IANGV consultant, all ISO committees on CNG cylinders, CNG vehicles and vehicle components.

Member, since 1989, ISO committees for **CNG cylinder standard** and **CNG cylinder periodic requalification** standard.

Inaugural Chairman, Australasian Natural Gas Vehicles Council (ANGVC) Standards and Technology Committee.

4. CNG work history

New Zealand

Designed, installed and managed New Zealand's first CNG cylinder test station.

Designed, installed and managed New Zealand's first CNG dispenser flow meter evaluation laboratory.

Produced a procedure for designing CNG compressor inlet pulsation dampers.

Participated in New Zealand standards committees on CNG.

Australia

Designed and installed the Sydney network of CNG refuelling stations, both depot based and public, for the Australian Gas Light Company (AGL, Australia's largest energy utility).

Managed AGL's heavy duty gas engine research and development laboratory.

Managed AGL's CNG business including CNG cylinder import agency.

Managed heavy-duty gas engine development project under Federal Government funding program.

Conducted computer controlled CNG refuelling station R&D project under Federal Government funding program.

Participated in CNG refueling station tender projects and CNG bus purchase tender projects with large Australian bus fleets.

Consulted State Transit Authority of New South Wales, Australia, on CNG bus cylinder defects and safety issues.

Investigated CNG bus fire for the Western Australian Government in 2001.

Consulted Western Australia's Public Transport Authority on CNG bus fleet operations and **audited Transperth's CNG bus workshops** in 2007.

Produced Australian CNG bus type certification report for a major multinational bus manufacturer (Sydney Buses' 255 CNG bus project, 2007).

Conducted comprehensive CNG bus operations and risk assessment for Brisbane City Council (owner and operator of a 1000 bus fleet). This project included the review of the emergency response program and procedures for an underground CNG bus passenger terminal.

Conducted a safety audit of CNG bus workshops in South Australia for the South Australian Department of Energy and Infrastructure in 2010.

Produced safety procedures and operator training and assessment package for CNG bus refueling and fuel decanting for Brisbane City Council in 2010.

Conducted due diligence of CNG bus refueling facilities for their acquisition by a major Australian energy utility in 2011.

Conducting due diligence and facility upgrade for a major client's acquisition of an Australian public refueling station in 2011.

International

Provided CNG training for Singapore and Macau governments and companies.

CNG feasibility study for Singapore Government.

Produced the entire set of national CNG standards for Singapore.

Produced **OIML** certification test procedures for CNG and compressed hydrogen dispenser meters (**OIML** = International Organisation for Legal Metrology, Brussels, whose member countries including Australia have to comply with its metrological test requirements).

Conducted a one-week CNG training course for the Macau's Energy Sector Development Office (GDSE) in 2007.

Consulted Thailand's national petroleum company PTT on liquefied natural gas plant tender preparation and evaluation.

Produced and conducted a **comprehensive four-month CNG safety training** program at Sydney Institute of Technology in 2009 for The Government of Bangladesh, Petrobangla and RPGCL (Rupantarita Gas Company Ltd). The program contained sessions on **Safe CNG cylinder practices**.

Conducted a safety training workshop on CNG mother daughter system operation for the Asia Pacific NGV Association at the Second Vietnam NGV/CNG Forum in 2010.

Co-conducted a one-day CNG cylinder safety workshop at the ANGVA 2011 Conference in Beijing PRC in October 2011.

5. Recent publications

"The effects of natural gas composition variations on the operation, performance and exhaust emissions of natural gas powered vehicles", IANGV report launched at the NGV 2002 conference, Washington DC. Available for purchase at www.iangv.org

“Gap analysis of international NGV standards and regulations”, IANGV reference document for the ISO/United Nations Standards and Regulations Harmonisation Roundtable, Geneva, January 2007. Available for purchase at www.iangv.org.

“CNG safety – A saving rather than a cost”, NGV Global online magazine, 2 July 2008.

“Learning and benefiting from NGV safety incidents”, NGV Global online magazine, 24 July 2008. Also appeared in The Gas Vehicle Report, August 2008.

“Enhancing the safety of CNG installations with quality designs and operating procedures”, NGV Global Magazine, 10 September 2008.

“Report for Brisbane Transport CNG operations risk assessment”, project report by GHD Pty Ltd, Australia, March 2009.

“Brisbane Transport Training and Assessment Package – CNG Bus Refuelling”, Brisbane City Council, 2010.

“Brisbane Transport Training and Assessment Package – CNG Bus Decanting”, Brisbane City Council, 2010.

“Overview of CNG vehicle safety”, NGV 2010, The International Natural Gas Vehicle Conference and Exhibition, Rome, June 2010.

“Closing the safety loop secures NGV fleet investment”, NGV Global 9 March 2011.

“Keeping up the good safety record of CNG cylinders”, NGV Global 3 August 2011. Also appeared in Asian NGV Communications, September 2011.

“Design and Safety of CNG Vehicle Workshops”, ANGVA 2011, the ANGVA International Conference and Exhibition, Beijing, October 2011.

“CNG cylinder selection, installation, operation and maintenance”, CNG Cylinder Safety Workshop at ANGVA 2011 Conference and Exhibition, Beijing, October 2011.

“CNG cylinders – Periodic recertification/inspection”, CNG Cylinder Safety Workshop at ANGVA 2011 Conference and Exhibition, Beijing, October 2011.