



Stephen B. Harrison

- International advisor and due diligence for net-zero technologies, strategies and projects
- CCTUS, E-fuels, hydrogen, biofuels and many other decarbonisation themes

Together we can make it happen!

- Let's share ideas, be champions for change and get the right things done
- Let's partner to deliver complex projects on time, to budget and with the expected benefits
- Let's work together at "high velocity": fast & in the right direction

Brining real-world insights to advisory services

- 14 years of global business leadership in industrial gases: CO₂, hydrogen ammonia, and more
- 27 years of "Blue Chip" industrial experience located in Great Britain and Germany
- Chemical Engineering Masters degree from world class university

So, what do I bring to the team?

- Industry insights and expertise
- Clarity, focus and strategic execution
- Authenticity with direction and purpose

And how do I bring that to the team? By...

- Inspiring the will to win
- Sharing my knowledge and working with my network
- Spreading meaning and hope

As we lead, we must also watch, listen and respect ...

- Market dynamics and customer requirements
- Current strategy, investor concerns and regulatory requirements
- The needs of our people and other stakeholders

Performance comes from how we learn, live and work today, in addition to experiences from the past.

OVERVIEW

Functional expertise	Due Diligence, Technology Evaluation, Project Evaluation, and Strategy <ul style="list-style-type: none"> – International experience living in UK and Germany, and working worldwide – Consulting, Strategy development and execution, P&L oversight, Profitable growth, Project management, Sales and marketing, Team leadership, Innovation management, SHE – Chemical Engineering Masters Degree from Imperial College, University of London – Chartered Chemical Engineer, MChemE, Eurlng, ACGI – Formerly: Global Head of Specialty Gases & Equipment, Linde Gas, Munich
Products & Themes	E-fuels; Hydrogen and derivatives; CCTUS and CDR; Decarbonisation and GHG emissions reduction; Biofuels; Industrial Gases and related equipment; Gas analysis instrumentation
Industry sectors	Energy, Chemicals, Industrial gases , Sustainability, Climate protection

PROFESSIONAL CAREER

2017 – today	Managing Director & Founder – sbh4 consulting <ul style="list-style-type: none"> – CCTUS, CDR, hydrogen, ammonia, e-fuels, power to x, biofuels, and industrial gases – Serving PE firms, infrastructure funds, clean-tech investors and project developers – Buy-side due diligence, market research and growth strategies – Commercialisation and scale up advisor to clean-tech startups – Net-zero strategy and technologies for operating companies
2024 – today	Due Diligence and Project Monitoring – EISMEA, EC <ul style="list-style-type: none"> – Climate-technology investor due diligence – Grant-funded innovation project monitoring
2024 – today	Due Diligence Trainer – Sustainable Aviation Futures, GB <ul style="list-style-type: none"> – C-Level trainer for net-zero aviation project and technology due diligence – Targeted to hydrogen technology providers, investors, and operators
2023 – 2024	Project Development Advisor- European Investment Bank <ul style="list-style-type: none"> – Project evaluation, technology selection and benchmarking – Green hydrogen, e-methanol and waste gasification to methanol
2023 – 2023	Innovation Fund Technical Assessor – CINEA, EC <ul style="list-style-type: none"> – Evaluation of seven projects for green ammonia, e-methane, e-methanol and CCS projects – Consensus-based allocation of €3 billion EU Innovation Fund
2022 – 2023	Technical Consultant - Templewater Decarbonisation Fund, Hong Kong <ul style="list-style-type: none"> – Fund investment strategy and opportunity screening advisory – Hydrogen production and investor (green and turquoise) liquid hydrogen storage buy-side due diligences
2021 – 2024	Hydrogen & CCTUS Expert – World Hydrogen Leaders (S&P Global Commodity Insights) <ul style="list-style-type: none"> – C-Level trainer for online and in-person masterclasses – Targeted to hydrogen technology providers, investors, and operators – More than 20 courses developed, more than 100 courses delivered, more than 2,000 executives trained
2021 – 2022	Alliance Partner – Green Swan Partners, USA <ul style="list-style-type: none"> – Hydrogen, CCTUS, electrification of industrial processes – Deal origination and due diligence

- 2021 – 2022 **International CCS & Hydrogen Expert – Asian Development Bank**
- Renewable hydrogen deployment for multiple projects in Pakistan
 - Green hydrogen Pacific hub for Palau
 - Oil & Gas to energy transition for PVN (Vietnamese national O&G operator)
 - Pre-feasibility study investigations and report authorship
 - Liaison with international technology providers
 - Coordination with Government departments
 - Leadership of other ADB-contracted local experts
- 2020 – 2023 **Advisor, Vantage Sustainable Infrastructure, GB**
Advise on hydrogen, CCTUS and biomethane investments
- 2020 – 2023 **Scientific Committee Member CEM 2023, Barcelona**
Greenhouse gas emissions mitigation
- 2020 – today **Advisory Board – H2 View, GB**
- Hydrogen, clean mobility, energy transition, decarbonisation
 - Editorial guidance to the Global Managing Editor
 - Scout, research and write feature articles
- 2018 – today **Advisory Board – gasworld, GB**
- Hydrogen, CCS, LNG, energy gases, industrial gases, F-Gases, ammonia
 - Editorial guidance to the Global Managing Editor
 - Scout, research and write feature articles
- 2018 – 2021 **Principal, Germany – Nexant Energy & Chemicals Advisor (contract)**
- Business development leadership in the DACH region
 - Market studies and technology evaluation
 - M&A technical, market and ESG due diligence (buy- & sell-side)
 - Development and delivery of the first Nexant Training hydrogen course – Hydrogen, refined products, LNG, energy gases
- 2007 – 2017 **Global Head of Specialty Gases & Equipment, Linde Gas, DE**
- Global business development & investment strategy
 - M&A target identification, screening, transaction execution and post-deal integration
 - Energy gases, CO₂ and hydrogen electrolyser focus
 - Capex project assessment, planning and commercialisation
- 2003 – 2007 **Global Director – BOC Scientific, The BOC Group, GB**
- Investment project evaluation and delivery
 - Commercial and operations strategy development and execution
- 2000 – 2003 **Marketing Manager – Industrial Products, BOC Ltd, GB**
Product and market strategy for industrial gases and energy gases
- 1999 – 2000 **Business Change Manager, BOC Ltd, GB**
Change management for M&A and business transformation projects
- 1997 – 1999 **Specialty Gases Commercial Manager, BOC Ltd, GB**
Leadership, commercial processes and customer relationship management
- 1994 – 1997 **Bulk Environmental Applications Development, BOC Ltd, GB**
Technology innovation programme in EMEA for CO₂ and Oxygen
- 1991 – 1994 **Bulk & Tonnage Process Engineer, BOC Ltd, GB**
Process optimisation in hydrogen, syngas, CO₂ and gas purification
- 1990 – 1991 **Bulk Food Applications Sales Engineer, BOC Ltd, GB**
Technical consultancy for CO₂ and nitrogen applications.

EDUCATION

- 1995 **Chartered Chemical Engineer:** CEng, MIChemE, Eurlng
- 1986 – 1990 **Chemical Engineering,** Imperial College London, GB
- Master of Chemical Engineering Honours Degree: MEng, ACGI
 - Marketing and Management, in addition to core Engineering programme
 - Prize: Courtaulds Chemicals Industrial Award
 - Prize: SPEEDUP Prize for process systems engineering
- 1989 **Courtaulds Chemicals Ltd:** Environmental process design
- 1988 **BP Chemicals Ltd:** R&D for glass- and carbon-fibre composites
- 1987 **Plastech Ltd:** Purchasing & supply chain

LANGUAGES

English (native)
German (fluent)

NATIONALITIES

British
German

PUBLICATIONS (Examples from over 300 publications and conference papers in the past 5 years)

- **Port-side ammonia crackers**, H2 View, Dec 2024
- **Reducing Scope III emissions for green steel**, Green Steel World, Aug 2024
- **Biogenic CO₂ or Direct Air Capture for e-fuels**, gasworld, Aug 2024
- **Pre-combustion carbon capture**, Decarbonisation Technology, May 2024
- **Charting AEM's ascent as an electrolyser technology**, gasworld, Feb 2024
- **Hydrogen carriers for fuel cells**, H2 View, Feb 2024
- **High energy density hydrogen carriers for fuel cells**, Hydrogen Tech World, Feb 2024
- **De-risking green hydrogen and ammonia projects**, gasworld, Feb 2024
- **sCO₂ and CO₂ as working fluids for power generation and storage**, Modern Power Systems, Feb 2024
- **Ultrapure water for electrolysis**, Decarbonisation Technology, Feb 2024
- **Oxygen and nitrogen for waste to hydrogen**, gasworld, Dec 2023
- **Biobased solutions for carbon capture**, Carbon Capture World, Nov 2023
- **Green iron and steel: A diversity of routes to decarbonisation**, gasworld, Aug 2023
- **Will green ammonia overtake green hydrogen**, H2 View, July 2023
- **Green ammonia powering the energy transition**, Modern Power Systems, Feb 2023
- **E-methanol, SAF and PtL – the future of CO₂ utilisation**, gasworld, Jan 2023
- **Methanol and synthetic fuels rely on CO₂ utilisation**, Carbon Capture Journal, Nov 2022
- **Underground Hydrogen Storage**, gasworld, Mar 2022
- **Unlocking the potential for CCUS in Viet Nam**, Carbon Capture Journal, Nov 2021
- **Turquoise Hydrogen production by methane pyrolysis**, Petroleum Technology Quarterly, Oct 2021
- **Decarbonisation of post-combustion and geogenic CO₂**, Cement Americas, Oct 2021
- **Hydrogen fired burners for green glassmaking**, Pollution Solutions Green Energy, Oct 2021
- **VSA, membrane and PSA for SMR CO₂ capture**, Carbon Capture Journal, Sep 2021
- **Reducing CO₂ emissions through process electrification**, Decarbonisation Technology, Aug 2021
- **CO₂ clean-up by mineralisation**, International Environmental Technology, Jun 2021
- **Maximising hydrogen production from PV Solar parks**, H2 View, May 2021
- **Technologies for Direct Air Capture of CO₂**, Carbon Capture Journal, May 2021
- **CCS to create blue hydrogen from natural gas**, Carbon Capture Journal, Mar 2021
- **Chemcycling of waste to Hydrogen**, Recycling Magazine, Feb 2021
- **High efficiency hydrogen electrolysis and synthetic fuels**, gasworld, Jun 2020
- **Hydrogen from petcoke gasification**, Hydrocarbon Engineering, Jun 2020



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Gesellschafter, Geschäftsführer, sbh4 GmbH