For example, in areas where renewable energy is abundant, electrolytic hydrogen/

BakerRisk has conducted internal and client research with hydrogen, including dispersion, gas detection, jet re, and explosion. ose research projects have enhanced our modeling capabilities as well as an understanding of what type of mitigations can work in di erent environments. is knowledge has helped us support our-

various other studies related to this topic.

BakerRisk is proud to have supported many types of hydrogen projects including grey, blue, and green hydrogen production, transport through pipelines and trucks, fueling facilities for bus and heavy duty vehicles, and end use at industries, warehouses, storage facilities, and beyond.

Our global portfolio of these projects with our focus on enhancing safety has made for a very satisfactory contribution to this energy transition. We are not stopping here, we understand this will be a long journey and are ready to do our part in helping this energy transition occur smoothly and safely.5

Stantec Re ects on State of Play in Hydrogen Infrastructure, Production and Transportation

Stantec(Edmonton, Ontario) is a global sustainable design and engineering servic company with more than 28,000 employees and 400 o ces worldwide. Stantec' consultancy services span the entire built environment and utilities sectors. Stante Energy business combines sustainable and economic solutions with a strategic min focused on the low-carbon energy transition.

Nathan Ashcroft, Strategic Business Developer, Energy, has 25 years of experience in a wide range of leadership roles. His career has spanned the development of energy, ch infrastructure studies and projects across di erent parts of the globe. In recent years, Na strategically formed initiatives and become a leader in energy transition and clean techn it applies to the changing energy world.

Steve McManamon, Sector Leader, Environmental Services, Energy, is the U.S. Energy sector leader of Stantec's Environmental Services business line. His job is to grow and gas business throughout North America. After 30 years in the business, his backgro environmental regulations, environmental risk management, large capital project perm and Fortune 500 company account management.

Michel Johnson, Vice President, Power Sector, Environmental Services United States, has spent over 20 years of his career in strategic planning, environmental engineering, ness consulting for global energy infrastructure projects. He is people-oriented and da with a proven track record in pro table growth, nancial management, and consulting for tec's Energy Transition client portfolios.

CCBJ: How is Stantec prioritizing decarbonization solutions within its overall business strategy?

Johnson: Decarbonization solutions are a critical investment opportunity for Stantec and included in our Global Energy Transition Initiative. As we continue to partner with targeted energy clients, ranging from mining and investor-owned utilities companies to manufacturing and oil and gas organizations, our focus is to map a viable, low-carbon path forward. We do this via upfront business planning, energy advisory services, and managing the execution of the resulting plans from project development through construction and operations.

CCBJ: Can you describe how the clean energy market has evolved over the past

But while the carbon output of the onsite system is zero, this does not account for the CI associated with the input electrical

ree energy carriers that can make this transport possible are:

- Ammonia – Ammonia is a combination of hydrogen and nitrogen; Ammonia is moved around the world globally safely.
- Liquid Organic Hydrocarbon Carriers (LOHC) – Liquid organic hydrogen carriers are organic compounds that can absorb and release hydrogen through chemical reactions. LOHCs can therefore be used as storage media for hydrogen.
- Liqui ed hydrogen Gaseous hydrogen is lique ed by cooling it – to below 253°C (423°F). Once hydrogen is-liq ue ed it can be stored at the liquefaction plant in large insulated tanks. It takes energy to liquefy hydrogen—using today's technology, liquefaction consumes more than 30% of the energy content of the hydrogen and is expensive. Hydrogen's

er111 Tf_< 48.0180.03 T<upi1(lm (eti)1(lefaction)1(consumes)1(mor)10(e)]TJ7ET EMC /Span <</MCID 755 >>BDC BT /T