

Hydrogen Refueling Station

최현규[†]

AIR LIQUIDE

(hyunkyu.choi@airliquide.com[†])

Hydrogen (H₂) Mobility is at a turning point. All around the world (Korea, California, Germany, Japan, Europe and etc.), multiple policy driven initiatives are launched to create hydrogen delivery infrastructures capable of enabling a strong growth of the number of Fuel Cell Electric Vehicles (FCEV). Overall, the number of H₂ stations have increased upto 680. In the case of Korea, the 100th HRS was constructed Incheon Airport T2 HRS to cover FCEV and also FC BUS. As a matter of fact, the growth of the number of FCEVs cannot happen without proper H₂ stations infrastructure existing first. In order to be effective, the growing momentum of H₂ stations construction must be made with appropriate design. Among the multiple challenges of H₂ station design, one can list 4 key issues: performance of the station during peak hours, reduction of capital investment, reduction of the operating costs and also safety concerns. If appropriate designs are not made, severe consequences may be faced: H₂ station saturated before reaching nominal delivery capability and/or financial viability not attainable due to high cost of depreciation, of operation or of H₂ molecule.