Texas is well-positioned to take a leadership role in the emerging clean hydrogen production value chain as we have both a stable zero-emission electricity supply (nuclear, wind, and solar) and a reliable demand side with over 2 million miles of heavy-duty truck (HDT) traffic around the Houston – San Antonio – DFW triangle each day. These HDTs represent an attractive early market for conversion to hydrogen fuel cell vehicles as many of them never leave the Texas region and an early stage refueling network around the triangle would be cheaper than deploying an interstate network for long-haul trucking. Our project hypothesized that a centralized electrolyzer plant for clean H2 production in the DFW region could provide sufficient H2 to convert approximately 25% of the regional HDTs to hydrogen fuel in the near term. The business model we considered was based on securing power purchase agreements with regional wind, solar, and nuclear suppliers to ensure round-the-clock production at a 50 tonH2/day facility. Using the H2A models developed by the National Renewable Energy Lab (ver. 3.2018), we evaluated centralized PEM and SOEC facilities with current and future scenarios, assuming PPA pricing of $20 and $30/MWh. Capital costs calculations for the facilities were lowest for the current PEM facility ($70M) and the future SOEC facility ($50M). The peak cost of hydrogen production (assuming $30/MWh) varied from $2.60/kgH2 (current-PEM) to $1.92 (future-SOEC). We estimate compression, staging, delivery, and storage costs of $3.30/kgH2 to supply a regional fuel station network around the triangle, for a total delivered cost in the range of $5.28-$5.90/kgH2 depending on PPA pricing. This price is approaching the range where hydrogen fuel for HDT could make economic sense, and with the legislative support proposed in the Clean Energy for America Act, the delivered price could decrease to < $2 kg/H2, expanding the market opportunity a regional clean hydrogen project.