

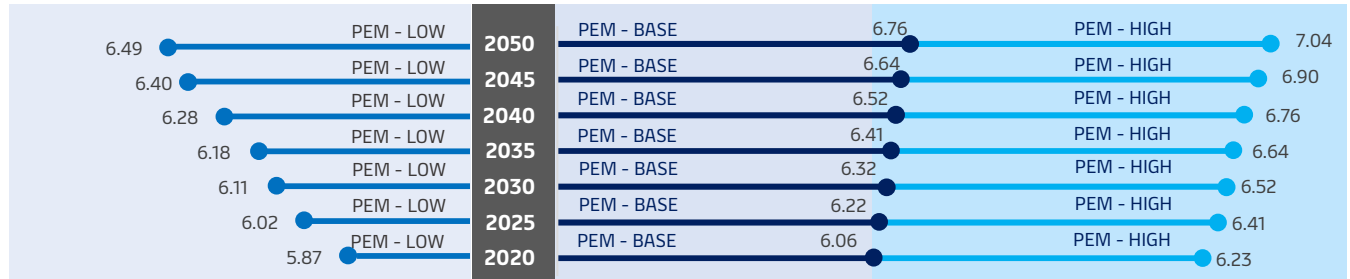
Modelling levelised cost of hydrogen under scenario based circumstances for India for PEM Electrolysis

Part-8 (Scaling policy, support infrastructure and trade opportunities for hydrogen in India with technology and policy comprehensive roadmap)

Levelised Cost of Hydrogen – PEM

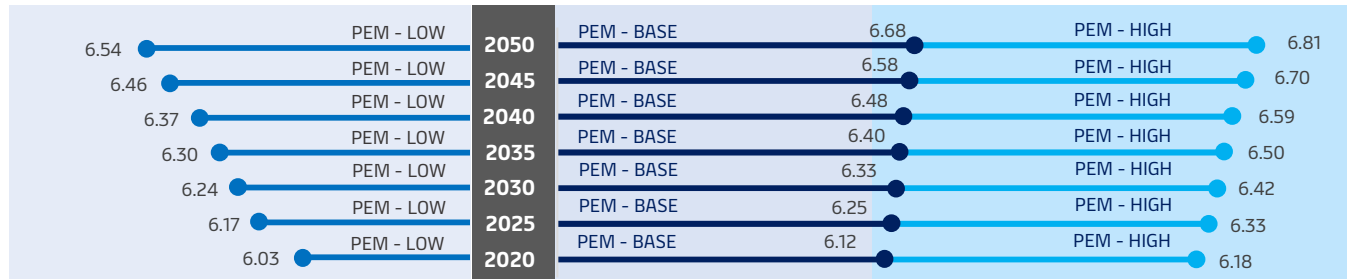
While using PEM technology the LCOH is projected to be USD 6.76/kWh by 2050 under Base Case Scenario while electricity is being fed through grid. Further, the LCOH is expected to be USD 7.04/kWh & USD 6.49/kWh under High Case Scenario & Low Case Scenario respectively by 2050.

Under base scenario the LCOH comes out to be USD 6.06/kWh in 2020 while using power through grid. Further, LCOH comes out to be USD 6.12/kWh while feeding power through solar & USD 5.94/kWh while feeding power through wind under in 2020.



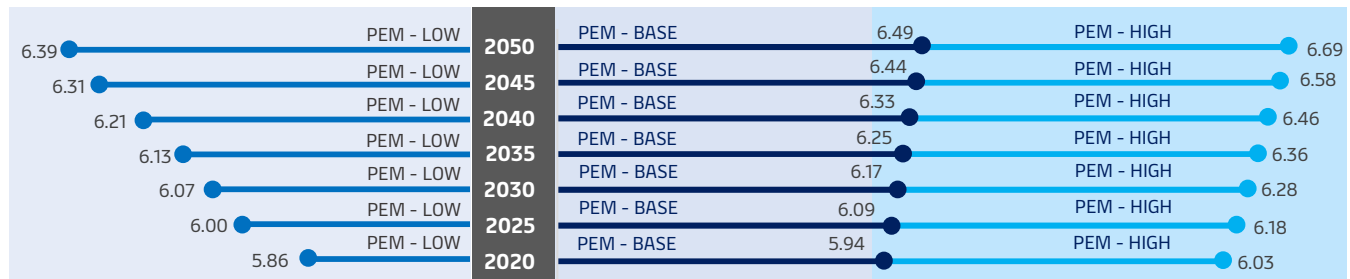
Grid connected H₂ production cases (LCOH in USD/kWh)

Grid connected H₂ production cases (LCOH in USD/kWh)



Solar connected H₂ production cases (LCOH in USD/kWh)

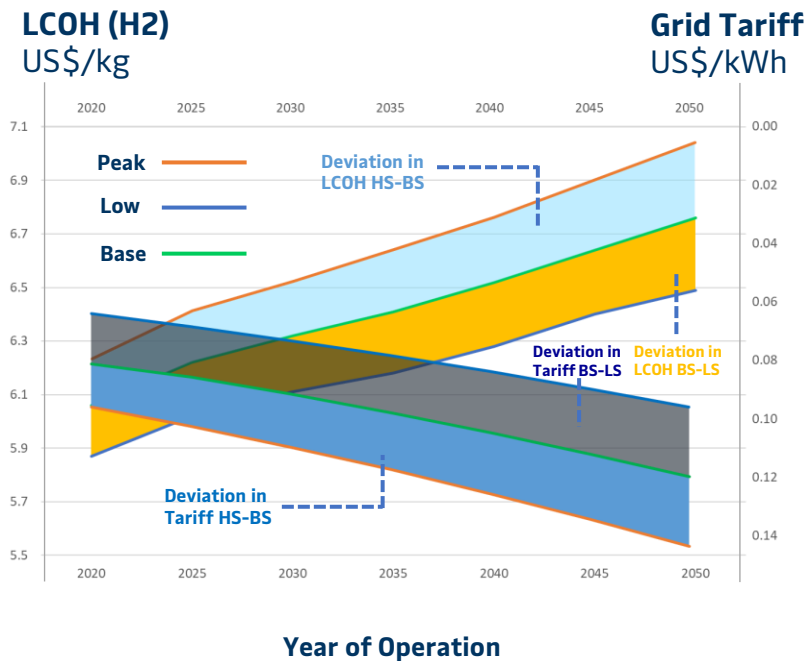
Solar connected H₂ production cases (LCOH in USD/kWh)



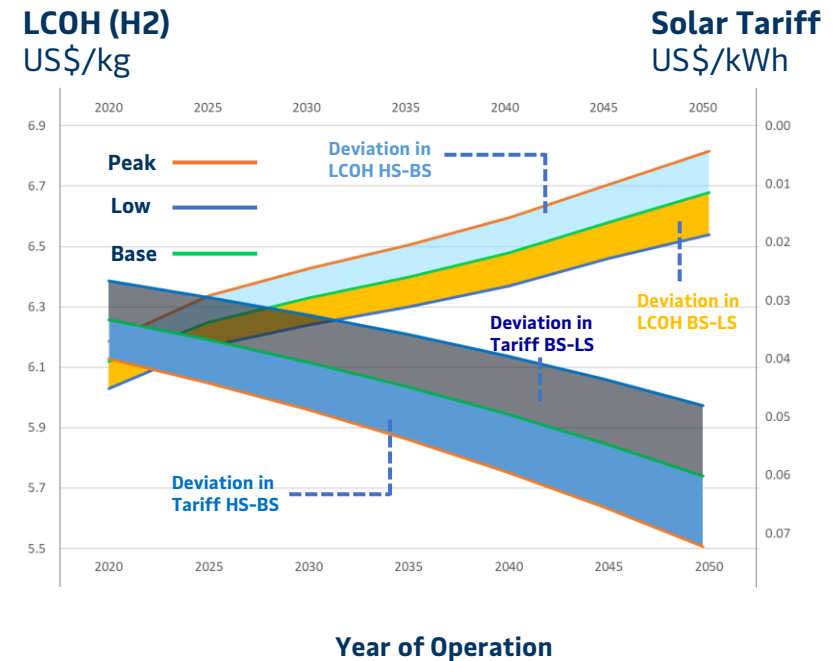
Wind connected H₂ production cases (LCOH in USD/kWh)

Wind connected H₂ production cases (LCOH in USD/kWh)

Sensitivity Analysis – PEM

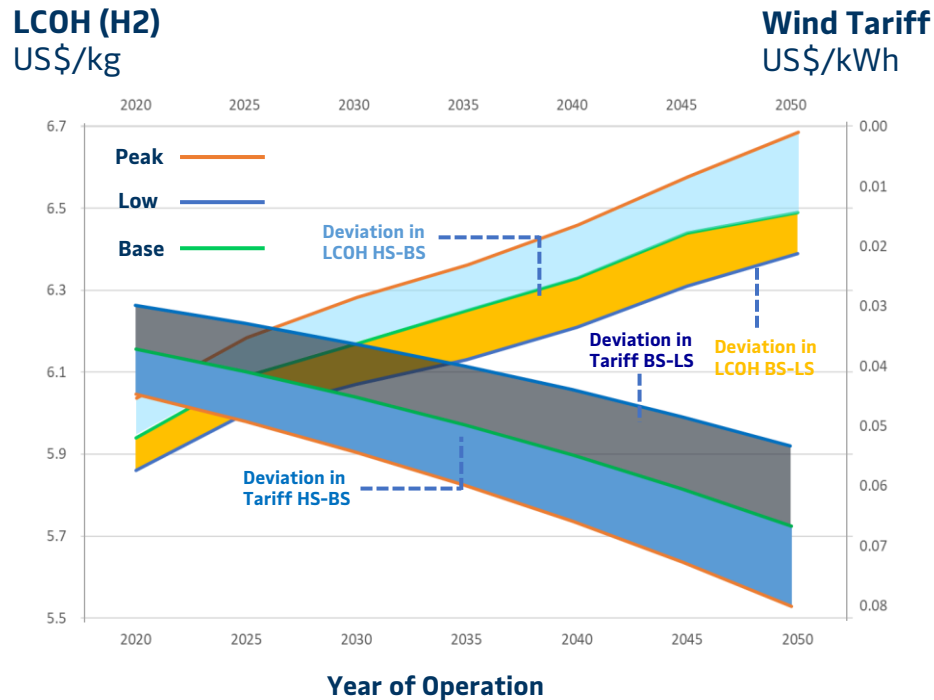


Grid Fed: Under **base case** scenario the LCOH for year 2020 & 2050 comes out to be USD 6.06/kWh & USD 6.76/kWh respectively. Under **lower case** scenario the LCOH for year 2020 & 2050 comes out to be USD 5.87/kWh & USD 6.49/kWh respectively. Under **high case** scenario the LCOH for year 2020 & 2050 comes out to be USD 6.23/kWh & USD 7.04/kWh respectively.



Solar Fed: Under **base case** scenario the LCOH for year 2020 & 2050 comes out to be USD 6.12/kWh & USD 6.68/kWh respectively. Under **lower case** scenario the LCOH for year 2020 & 2050 comes out to be USD 6.03/kWh & USD 6.54/kWh respectively. Under **high case** scenario the LCOH for year 2020 & 2050 comes out to be USD 6.18/kWh & USD 6.81/kWh respectively.

Sensitivity Analysis – PEM



Wind Fed: Under **base case** scenario the LCOH for year 2020 & 2050 comes out to be USD 5.94/kWh & USD 6.49/kWh respectively. Under **lower case** scenario the LCOH for year 2020 & 2050 comes out to be USD 5.86/kWh & USD 6.39/kWh respectively. Under **high case** scenario the LCOH for year 2020 & 2050 comes out to be USD 6.03/kWh & USD 6.69/kWh respectively.

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