

Unlocking Green Hydrogen

Jolt has proven at scale all 7 features identified by IRENA to make green hydrogen competitive.

Required features (IRENA)	Challenge	Benefit	Jolt
1 High catalyst Surface Area > 50m ² /g	Easy	Medium	Yes
2 High catalyst utilization > 80%	Moderate	Medium	Yes
3 Improved Kinetics for both hydrogen and oxygen evolution with novel nickel-based alloys	Moderate	High	Yes
4 Mitigate catalyst poisoning/deactivation by foreign elements from electrolyte & components present in the system	Difficult	Low	Yes
5 Mitigate critical degradation of catalysts on the anode side to avoid loss of surface area	Difficult	High	Yes
6 Mitigate nickel hydrogen (NiH) formation on the cathode side	Difficult	Low	Yes
7 Eliminate mechanical degradation of catalyst layers (delamination, dissolution)	Difficult	High	Yes, our biggest technological value proposition

<https://www.irena.org/publications/2020/Dec/Green-hydrogen-cost-reduction>