Redox flow battery (RFB) for LDES and uLDES

sbh4 consulting

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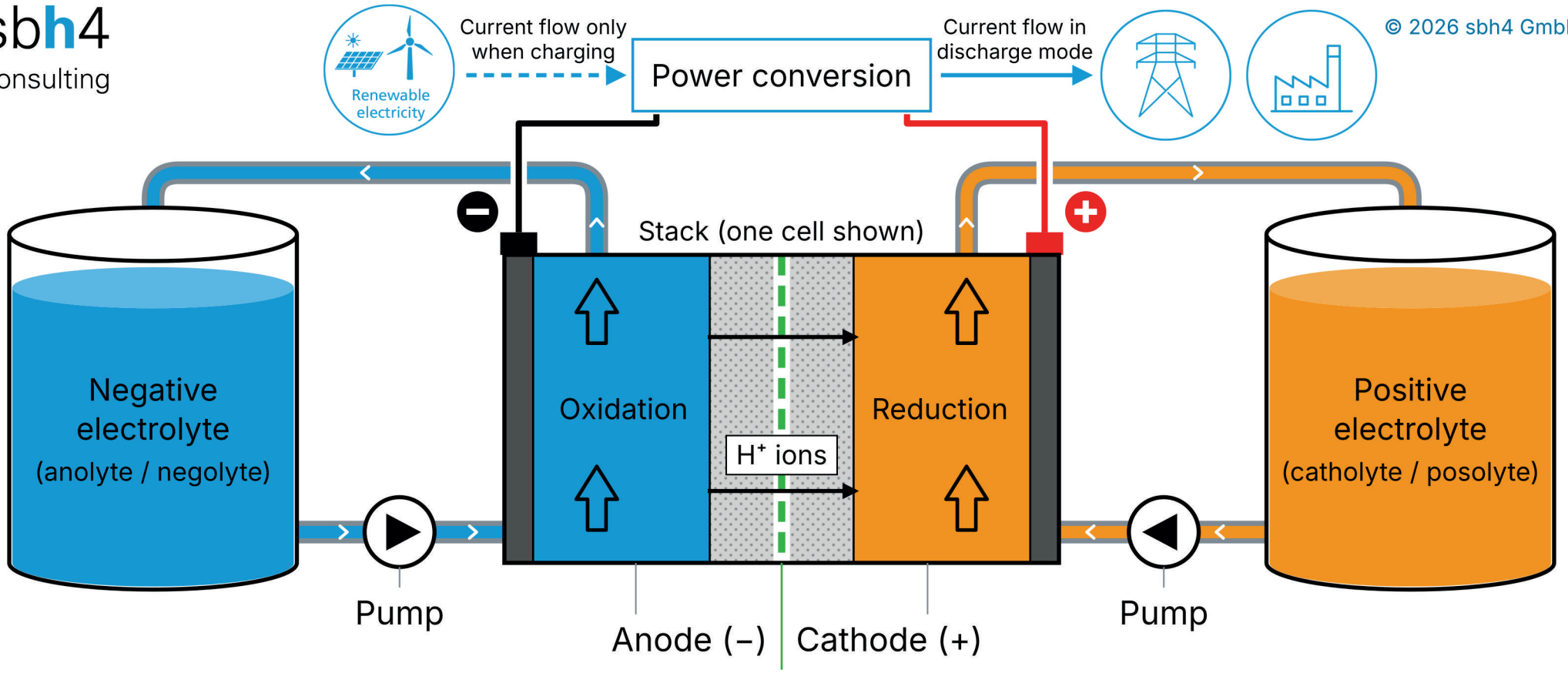

MW
Instantaneous discharge power depends on the stack size

MWh
Stored energy depends on tank size (electrolyte amount) and charge density

LDES
Can be optimised for circa 10 hours discharge overnight to complement daytime solar and LIBs

uLDES
Can discharge over days to weeks

Safe
Most RFBs use non-flammable aqueous electrolytes (except NAORFBs)

1. Shown during discharge. When charging, the reactions and the H^+ ion flow reverse.
2. Electrolyte examples include vanadium sulphate dissolved in sulphuric acid (VRFB); aqueous organics, such as quinones (AORFB); non-aqueous organic electrolytes in solvents such as acetonitrile, propylene carbonate or DME (NAORFB).
3. LDES = long-duration energy storage; uLDES = ultra-long-duration energy storage.