

High-Efficiency Ground-Level Pumped-Hydro Electricity Storage

Disclosure Number

201303175

Technology Summary

The invention relates to renewable energy and more specifically to pumped storage hydroelectricity systems that they can be economically installed anywhere. This technology provides 1)the round trip electricity storage efficiency of about 85% (as good as Pumped Storage Hydroelectricity Technology which is currently the only viable option to efficiently store grid-scale electricity/accounts for 99% of the electricity storage capacity worldwide) 2) cost effective (cost <60\$/kWh) for systems above 10 kW 3)can have any combination of energy inputs and outputs (thermal and/or electric) 4)instantaneous change from charge to discharge mode and vice-versa 5)scalable from 5 kW to over 280 MW 6)utilizes non-toxic and environmentally friendly material.

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