

# New battery produces electricity where freshwater meets saltwater

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Scientists are reporting development of a new battery that extracts and stores energy produced from the difference in saltiness at the point where freshwater in rivers flows into oceans. A report on the battery, which could supply about 13 percent of the world's energy needs, appears in ACS' journal *Nano Letters*.

Yi Cui and colleagues cite the intensive global scientific effort to develop [renewable energy sources](#) to supplement supplies of oil and other traditional fuels like coal, which contribute to global warming. Solar, wind, and geothermal are renewable, sustainable energy sources that have attracted much attention recently. Scientists long have known about the possibility of producing electricity from differences in the salinity, or saltiness, of water. So the new study focused on development of more practical ways of tapping that potential.

The result was a so-called "mixing entropy battery." Alternating the flow of river water and sea water through the battery produces electricity to charge it. The process also can be reversed to remove salt from ocean water to produce [drinking water](#). The scientists describe the [battery](#) a very promising potential addition to the ranks of solar, wind, and other renewable energy, and are working on modifications to make the device a commercial reality.

**More information:** "Batteries for Efficient Energy Extraction from a Water Salinity Difference" *Nano Letters* - [pubs.acs.org/stoken/presspac/p.../10.1021/nl200500s](http://pubs.acs.org/stoken/presspac/p.../10.1021/nl200500s)

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