



SDI Review Form 1.6

Journal Name:	Asian Journal of Physical and Chemical Sciences
Manuscript Number:	Ms_AJOPACS_35103
Title of the Manuscript:	Electrochemical cell equipment for salinity gradient power generation
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<u>Compulsory</u> REVISION comments	Comments. The manuscript discusses the power production from salinity differences, in particular, between sea and river water. The Authors discuss two techniques, GCEQ and CCEQ. The first is a primary battery, based on the dissolution of a metallic electrode, using salt water as electrolyte. It is not a salinity-gradient power technique; it does not exploit the salinity differences and it is not able to extract the mixing free energy. The second technology, CCEQ, is also based on the dissolution of a metallic electrode, except in the case of carbon electrodes. This latter case is the only one that could be relevant for energy production from salinity gradients. However, it is not clear how it could work, in particular if the electrodes are not made of activated carbon (or graphene, or carbon nanotubes). In such cases, the technique would be the same described in doi: 10.1088/0953-8984/28/11/114004. However, the Authors do not perform a complete cycle; they only perform a part of the initial phase of a single cycle. The reported power densities are thus not representative of the real power density that could be obtained. Before publishing, the Authors should repeat the experiments along the lines of the above-mentioned	



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	paper. The described technique bears analogies with the "capacitive mixing" technique, that is the precursor of the "mixing-entropy battery" technique. I suggest to cite the seminal paper, doi: 10.1103/PhysRevLett.103.058501. Capacitive mixing has a much wider literature, thus the name is also used (with a slight abuse of terms) also to refer to the use of battery-like electrodes.	
Minor REVISION comments		
Optional/General comments		

Reviewer Details:

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