FlowPhotoChem publication lay summary

Title	Concentrating sunlight to store energy efficiently while recycling CO_2.
Author of summary and organization	*Etienne Boutin, Mahendra Patel, Egon Kecsenovity, Silvan Suter, Csaba Janáky, and Sophia Haussener* Ecole Polytechnique Fédérale de Lausanne University of Szeged
Aims	*In this paper, we demonstrate that concentrated sunlight can power a CO_2 photo-electrolyzer, a device that stores solar energy by converting CO_2 into fuels.*
Why is this important?	*This study is the first report of concentrated sunlight usage for the photo-electrochemical reduction of CO_2. It shows that high efficiency can by maintained in compact, high power density devices.*
What methods were used?	*In this study, we used concentrated sunlight to increase the efficiency and the surface footprint of a* photovoltaic (*PV) absorber. This PV was powering a CO_2 electrolyzer that was taking advantage of the excess heat produced on the PV to enhance the efficiency.*
What was learned?	*We learned and demonstrated that increased power density was not necessarily associated with lower energy conversion efficiency. We also learned that concentrated sunlight is a promising strategy to decrease material costs associated with CO_2 electrolysis.*
How could this research benefit citizens, society and other researchers?	*This study constitutes a new milestone on the way towards solar-to-molecule conversion at a relevant industrial scale. Such a technology aims at supporting the deployment of renewable energies by storing peak energy into fuel or other platform chemicals.*
Link to full paper/abstract	https://onlinelibrary.wiley.com/doi/10.1002/aenm.202200585