Solar at the Brooks Family YMCA: An Informed Decision-Making Model
(Technical Report)

The Pursuit of Battery-Free Energy Storage in the United States
(Sociotechnical Research Paper)

An Undergraduate Thesis Portfolio
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Preface

How may the transition to low-carbon energy best be pursued?

How can the Brooks Family YMCA benefit from installing solar panels on its building? A company approached the board of YMCA about installing solar panels on their building, but because they felt rushed and uninformed, they decided against the panels. This proposal exposed the economic, environmental, and social benefits that solar could offer the YMCA. Solar panels reduce the electricity bill and carbon emissions of the YMCA. The visibility of the panels informs and promotes renewable energy to the community. The YMCA wanted our team to assess the viability of solar and advise them on any future action. Constraints forced the project to shift from giving the YMCA a direct recommendation, to creating a general guide and tools for them to use to make an informed decision.

In the United States, how do advocates, companies and policymakers compete to promote various battery-free energy storage technologies? In the United States, social groups compete to influence the energy transition, and the place of battery-free energy storage in it. Both sides aim to discredit the other, aiming to win the influence of the public. Proponents of battery-free energy storage urge its necessary to offset extreme fluctuations in generated renewable power supply, and that battery storage is infeasible. Their critics, however, contend that proposals for vast battery-free energy storage systems are infeasible and allege that proponents of such schemes are more interested in selling their products than in solving renewable energy supply problems.