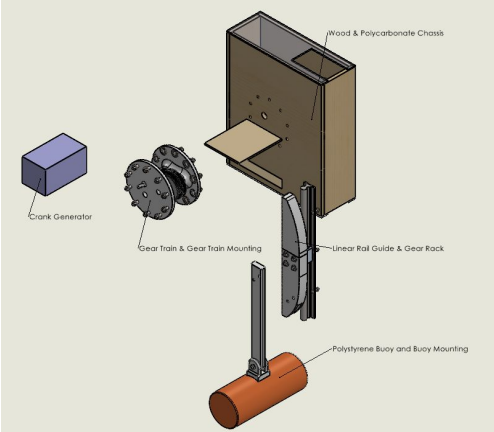
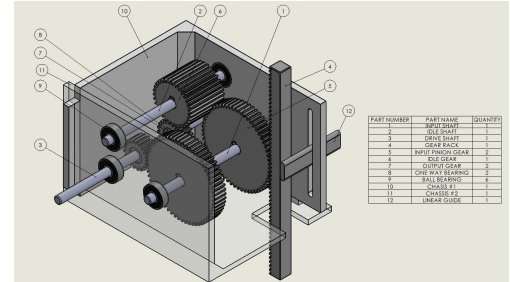


Preliminary Design Assembly (Exploded View)



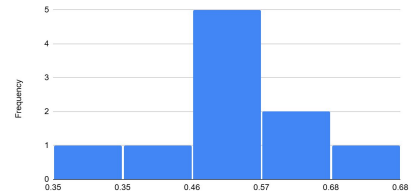
Final Design Assembly (Exploded View)

- Our main objective for the project Zot Waves is to design, simulate, manufacture, and test a small scale wave energy converter. We aim to further improve the living condition of coastal area residents, and workers at sea, by providing stable electrical energy. We hope that our project will inspire interest into clean renewable energy leading to increased electricity access around the globe.
- We developed the Preliminary Design for the Wave Energy Converter Prototype.
- During the Preliminary Design phase, we identified the gear train and rack & pinion system as the most critical subsystem of the project. As a result, our team prioritized this area for the Proof of Concept prototype.
- The measurable goal for the final design of the Wave Energy Converter is as follows:
  - Develop a compact, affordable and user-friendly WEC.
  - Generate interest in clean energy generation.
  - Demonstrate a working energy converter prototype that generates a stable output of electricity and is able to charge a cellphone from empty to full within 5 hours.



Proof of Concept Assembly

Cold Starting Generator



Trial	Maximum Torque (Nm)				Able
	Mass [g]	Force [N]	Torque [Nm]	Time [s]	
1	14.2	0.0142	0.139302	0.0208953	No
2	28	0.028	0.27488	0.041202	No
3	42.1	0.0421	0.413001	0.06195015	No
4	56.4	0.0564	0.553284	0.08292826	No
5	70.4	0.0704	0.690624	0.1035936	No
6	84.3	0.0843	0.826983	0.12404745	Yes
7	73.9	0.0739	0.724959	0.10874385	No
8	75.6	0.0756	0.741636	0.112454	No
9	77.1	0.0771	0.756351	0.11345265	No
10	78.6	0.0786	0.771066	0.1156599	No
11	80.5	0.0805	0.789705	0.11845575	No
12	82.8	0.0828	0.812268	0.1218402	No
13	84.6	0.0846	0.829926	0.1244889	No
14	87	0.087	0.85347	0.1280205	Yes
15	85.8	0.0858	0.841698	0.1262547	Yes

Crank Generator Testing