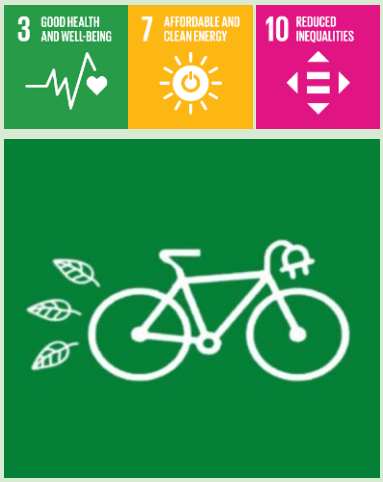
Pedal Power

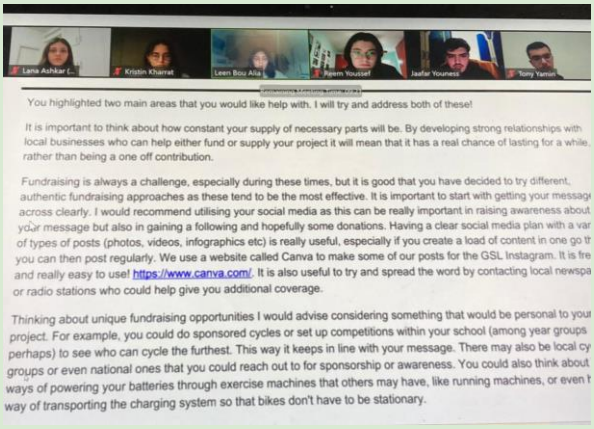


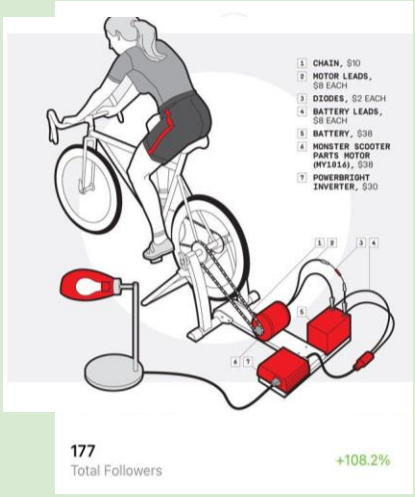
We are the 7 members of Pedal Power who have been working on this project since October of 2020 and meeting weekly. The aim of "Pedal Power" is to implement an active yet environmentally friendly way to obtain energy. We initiated this project as a response to the troubling electricity crisis our country is facing. Producing green, clean energy whilst generating an active and community-inclusive project was one of our key goals. Our project falls under Sustainable Development Goals 3 (Good health and well-being), 7 (affordable and clean energy), and 10 (reducing inequalities).

Overall experience:

Our experiences so far have been an accumulation of highs and lows. Dealing with issues out of our control, such as the Covid-19 pandemic and the economic crisis our country has been facing; it has been challenging to work around. Nevertheless, with the help of our school community and many knowledgeable mechanical engineers and environmentalists -such as Dr. Najat Saliba, Professor of Chemistry at the American University of Beirut (AUB)- "Pedal Power" has been able to persevere through difficult inconveniences. One of the many highlights of our experience with this initiative was the immense amount of positive feedback we received on our social media page. We were able to gain an audience that responded positively to our posts and interacted well with our content. We were able to gain around 180 followers on our Instagram account, GSL being one of them. Another highlight was the great number of volunteers willing to participate in our initiative. We sent out a survey targeting our school community, specifically the students, to get an idea of the range of volunteers we would get once our project is implemented on school grounds. The results were as follows: 82.9% of our participants said they would be willing to participate in

biking and 30% of those who can not participate due to medical conditions are willing to volunteer in helping us with the set up and other aspects of the project.





What we gained from this experience:

Our journey with this project enhanced our knowledge in areas such as physics and mechanics as well as planning, managing, and communicating. We learned to be resourceful and reach out to several people with backgrounds in environmental studies and mechanical engineering that could aid us in executing this project in the most accurate and professional way possible. We learned how to be quick on our feet and come up with solutions to new problems we had not anticipated. For example, because many hardware stores were closed due to COVID-19 restrictions and our country's economic state, we could not build a physical prototype for our fundraising campaign and instead learned how to make a virtual prototype through online softwares. The process of developing the prototype was long and challenging, however, with the help of our teachers and professors in International College (IC) and AUB the prototype was developed and enhanced to fit our interests. However, this didn't stop us from continuing to work on implementing the project. We have been continuously working with a mechanical engineer, Mr. Jaafar Younes, who is an AUB alumnus who has been helping us with the mechanism of the project. We have been taking his remarks into improving and adjusting our prototype that we will implement. Moreover, we have met with the Director of the Secondary School at IC, Mr. Bruce Knox, regarding the implementation of our project on school grounds. We received a positive response from him and he agreed to let us install the bikes on school grounds once we have bought the materials needed and finalized the bicycles. This will allow all high school students interested in volunteering in our initiative to pedal & participate in our project.

This is a picture that inspired our project:
Arndt, Rachel Z. "Pedal Power! How to Build a Bike Generator." *Popular Mechanics*, Popular Mechanics, 14 Nov. 2017, www.popularmechanics.com/technology/gadgets/how-to/a10245/pedal-power-how-to-build-a-bike-generator-16627209/.

Impact:

- Although we could not implement the bikes as soon as we hoped, our Instagram and social media campaigns were able to spread awareness about our cause.
- The mass email sent out to the secondary students also gave us an opportunity to assess who would be willing to partake in our initiative hence revealing to us how impactful our project will be when we implement it.

Future Plans and Funding ideas:

Parts	Price	Amount/ bike	Total
Battery	$38.00	1	$38.00
Monster scooter	$38.00	1	$38.00
Chain	$10.00	1	$10.00
Motor leads	$8.00	2	$16.00
Diodes	$2.00	2	$4.00
Battery leads	$8.00	2	$16.00
Power bright inverter	$30.00	1	$30.00
Bike	$68.00	-	$68.00

	Amount	Cost/bike	Total
Minimum amount of bikes	5	$220.00	$1,100.00
Maximum amount of bikes	30	$220.00	$6,600.00

- We created an excel table to outline what our expenses would look like & how we would organize our funds
- We sorted out our options to cope with both the economic crisis and the pandemic, & decided to send mass emails to the IC and AUB alumni & faculty to ask for both financial donations (money & parts) &blogistical help concerning the assembly of the bikes.
- To expand our range of impact, we planned a competition where participants design a prototype of a projector & the winning design screens a movie related to our cause for a drive-in movie fundraiser.
- This will help increase awareness and ensure the sustainability of the project.