

# CdSe Solar Cell Fabrication

Project Plan

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Client and Advisor: Vikram Dalal

# Project Overview

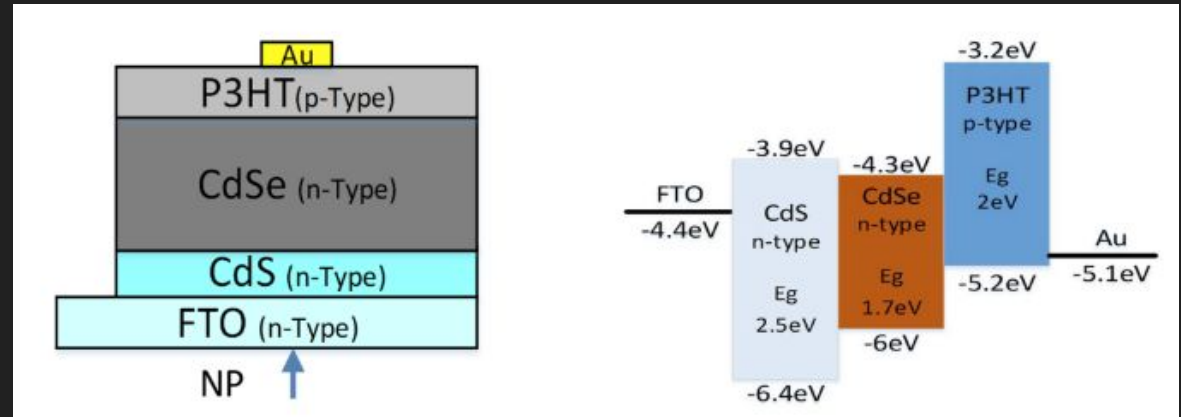
- Cadmium Selenide is an undeveloped solar cell material that could help increase the efficiency of silicon solar cells.
- Very little work has been done to develop the fabrication process for CdSe solar cells.
- Major companies like first solar are starting to show interest in the material.
- It is suspected that CdSe can be manufactured in a similar process as CdTe, a material with a well defined process.
- It is our goal to fabricate a CdSe cell with 5% efficiency and write a well written report on everything we learn through our fabrication process.

# Ideation

- To identify our options of which structure of solar cell to use, we did research in what other researchers have done, and compiled a list of different options, and their efficiencies
- We will be choosing the device type that has had the greatest success over others
  - This includes efficiencies, lifespan expectancies, and economic & environmental considerations
- We have also began thinking about what improvements can be made in the material choices

# Potential Solution

- This is one potential device structure that we could use since it has had large success compared to other device structures
- One downside is that P3HT is an organic material, and wouldn't be useful in the field since it breaks down easily.



# Market Research

- First solar is a company which uses CdTe
- This material is similar to CdSe, and it is very commercially viable
- We are attempting to hold ourselves to the same stability and environmental standards as a CdTe solar cell

# Conclusions

- Overall, we have made progress in determining possible solar cell structures
- We are not set on one specific structure, but we have a starting point
- We can change this structure depending on what we find to be good or bad