

- a. Copper and tin, indium, silicon, oil, silver, and aluminum.
- b. Generating sustainable energy is important to different societies because there is a limited amount of fossil fuels on Earth, so every society is affected by their non-sustainability. So, these different societies all need a way that they can generate energy after the world has run out of fossil fuels, and to do so they will need sustainable energy.
- c. Photovoltaics are pretty efficient, it's just that there needs to be a lot of them in an area where the sun is shining. Since the photovoltaics are static and the sunlight is mobile, they are only able to produce energy for a limited amount of time. So they may not necessarily be able to meet the world's demands unless there are a lot of them all across the globe.
- d. Yes, photovoltaics are sustainable. Until the sun goes out, photovoltaics will be able to produce energy. They do not create pollution when being used, however some pollution may occur in their production.
- e. One challenge to making photovoltaics is that engineers from all the different disciplines will have to work together to efficiently create sustainable photovoltaics. One challenge is that photovoltaics are not produced in the same area where polysilicon is made or where the photovoltaics are used, so everything needs to be transported.
- f. Having a place to store the power created by photovoltaics is an important usage issue. Since the sun does not shine where the photovoltaics are stationed all the time, the power produced by the photovoltaics needs to be stored in reserves that can be used when the photovoltaics are unable to produce power. So, very large batteries will be required to store this power for solar energy to become a feasible replacement for fossil fuels.