

Team 1 Executive Summary

Solar energy usage has been gradually increasing over the past decade, however it has yet to have a prominent appearance in the energy industry. Despite having environmental, and economical advantages, other energy sources like oil and gas have been dominating the market. Due to the fact that other energy sources are soon to be diminished because of the increase in demand and decrease in available resources, we must start considering and heavily investing in more long lasting and cheaper energy alternatives. This begs the question of what factors are currently preventing solar energy from becoming a well used energy source, and what steps are needed from solar energy companies to make that happen?

In order to pinpoint possible barriers that are slowing the growth of solar energy usage, the team analyzed the problem from the following perspectives. From the environmental and economical perspectives we looked at the advantages solar energy has over other energy sources as well as the disadvantages it may have. From the political perspective, factors such as lobbying and its negative effects on the solar energy industry were revealed, as well as the negative influence current leadership approaches in the US may have. With regards to technology, disadvantages like inefficiencies with production and transmission as well as energy storage limitations were identified. Finally, from the social perspective we looked at how upper management- in our context the governing forces of society are influenced by giant corporations. This negatively affects the policies in place regarding solar energies, and public perception as a result.

A list of recommendations that solar companies can use in order to help growth were generated. Short term recommendations include; the merging with or acquisition of organizations that allow for vertical or horizontal integration such as the merger of Tesla Motors with SolarCity. As for long term recommendations, this includes implementing solar energy projects in a decentralized grid system in order to make the projects more affordable, employ more people, and make these technologies less susceptible to total grid failure. Also, recommendations include adaptation to technology through raising awareness and continuous merging across the renewable energy industry. Another key recommendation is to raise awareness regarding the lack of buy-in from government and influencing forces. Thereby, while the issue of buy in is not resolved, awareness and education can assist cushion the impact in the longer term.

It can be concluded from the analysis that despite solar energy technologies having numerous advantages the barriers limiting them are significant. Indeed, the primary social-political issues are the most constraining, and resultantly the most difficult to solve in the short term. Regardless, the steps recommended along with short term improvements to the technology are likely to be effective in assisting North American solar energy companies.