Ryan Harty

Decision Analysis

Professor Dyer

10/28/19

**WELLS FARGO (A) ASSIGNMENT**

**Introduction**

Solar is leading the way in the pursuit of renewable energy. At Wells Fargo they pride themselves in fighting the battle against environmental issues. One way this is evident is that since 2006 the company has invested a whopping $2.7 billion across 27 states to help aid in over 300 renewable energy projects. Not only has Wells Fargo provided funding to companies pursuing renewable energy, Wells Fargo has also done their part in exploring climate friendly options. One such instance of their eco-friendly mindset was the successful implementation of 10 solar panel systems in Wells Fargo Denver branches. The solar panels at those branches have supplied roughly 20% of energy needs, which has significantly driven down costs. The success of Denver has inspired other branches at Wells Fargo to pursue the completion of their own solar panels. The further success of these projects is determined by several key aspects. One of these features includes the rebate rate of the project and what future changes in the rate will be. Another element is the price of electricity purchased from the grid. Yet another important aspect of the project is the annual degradation of the systems. How the system performs, based on kilowatts, is also important to explore. Finally, tax credit and how a reduction in that credit would affect the operation will be important to delve into. The analysis will be looking at how these key features affect the 30-year NPV of the project.

**SIP Rebate**

The Los Angeles Department of Water and Power (LADWP) currently provides a rebate rate of 1.95% for the investment in solar energy. This initiative is known as the Solar Incentive Program (SIP) and its goal is to support the instillation of 280 megawatts of solar panels in the Los Angeles area. While the program is currently providing a rebate, they have only committed to distributing $313 million in rebates. So, it is reasonably to see how a decrease in rebates will affect the NPV of the project. By looking at changes in SIP rebate in increments of .2 starting at 1.95 and going down to 0, it was determined that the project will still have a positive NPV without any rebates. Each .2 decrease in SIP reduced the NPV by about $1,400, which would not be enough to turn the project into a losing investment (Table A).

**Annual Degradation**

Photovoltaic solar panels have a 20-year warranty claiming that they will produce 80% of the rated power after that stretch of time. Even though 80% is still a relatively good percentage, especially after a 20-year period, it is important to look at how a change of annual degradation would affect the NPV of our project. It was found that by increasing annual degradation in .05% increments from .5% to 1% would result in the reduction of NPV by roughly $400 per .05% increment (Table B).

**System Rating**

The system rating of a solar panel unit is how many watts of energy it produces. This change in production is like the rate of degradation that solar panels incur in the sense that it could vary depending on the quality of the unit and its age. A starting rating of between 12000 and 13000 watts was explored to see how that would affect the NPV. There was a total variation of the NPV by about $1,100 (Table C).

**Federal Tax Credit**

Currently, the federal tax credit for the installation of a solar system is 30%. If Wells Fargo were to wait until 2020, they would see a reduction in the credit to 26%. By 2021 the credit will be 22% and by 2022 and onwards the credit will be 10%. By examining these numbers, we can see how investing in the project now versus later will affect the NPV. If Wells Fargo waits until 2022 to implement the project, they will see a reduction in NPV of $12,000 due to the reduction in the tax credit (Table D).

**Electricity Costs**

Electricity costs grow at about 3% annually. But if costs were to suddenly increase for unforeseen circumstances, this would change the NPV positively. An increase from $.17 per kWh to $.18 per kWh would increase the NPV by roughly $3,500 (Table E). This increase in the price would have such significant gains that even if SIP rebate were to fall drastically, or we saw a decrease in our systems rating, the NPV would still be higher than the NPV starting at $.17 (Table F and G).

**Conclusion**

Based off the analysis, the project will incur a positive NPV. Based off this assessment alone it would seem that the project is worth investing in. It would show that Wells Fargo is truly invested in fighting climate change and it would generate profit for the company, both positive attributes that point towards implementing the project.

**Appendix**

Table A. NPV and SIP

Table B. NPV and Annual Degradation

Table C. NPV and System Rating

Table D. NPV and Tax Credit

Table E. NPV and Electricity Price

Table F. Rebate and Price



Table G. System Rating and Price

