DIGITAL CONSULTING PROJECT

MIS – 6349.002

ETC – A QUARTER HILL COMPANY

TEAM – 3

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# AGENDA:

* Executive Summary
* Background
* Problem Statement
* UPS/SOLAR Power Statistics
* Addressing Transition – Potential Actions
* Summary

# Executive Summary

## Problem Statement:

To develop a Solar Hybrid Lithium-Battery Grid-Tie Integrated solution to mitigate the loss of power in roadside toll revenue collection systems, with a 15-year lifespan, centralized cloud-based control and monitoring, and a Total Cost of Ownership (TCO) better than the current solution.

## Recommendation:

Our Recommendation to our client ETC is to transition to the Solar energy systems from the existing UPS systems to increase the energy utilization efficiency, revenue generation, Customer satisfaction and reduce the energy downtime and manual intervention.

## Metrics:

Transitioning to the Solar energy systems can help our client to increase the energy production two folds from the current energy systems based on the analysis further explained in the document. The transition of the service also helps our client in increasing the revenue generation by 15% and reducing the energy downtime by almost 82%

# UPS/POWER SOLAR STATISTICS

## Data Model

Starting with the data model, the below image depicts the process of the data collection and the analysis of the seed data to construct a creative problem strategy. The data collected from the client and the data collected from our market research together are used to build this case and used efficiently to solve the challenging problem.

Diagram

Description automatically generated

## Work-flow process:

Followed by the data model, the document depicts the work- flow process of the model recommended to our client.

Diagram

Description automatically generated

## Energy Production

Solar Energy System

Existing Energy System

Chart, bar chart

Description automatically generated

From the above graphs, we can understand that efficiency of energy production through solar systems are three times more than the existing UPS systems.

## Cost Comparison: Enphase VS APC

From the graph below we can understand that the cost incurred on the enphase solar energy systems is quite a bit higher than the cost incurred on the APC UPS systems. Although the cost seems to be a bit higher, the revenue generated, and the operational costs saved from the utilization of the solar systems is considerably a better solution than the UPS systems.

Chart, waterfall chart

Description automatically generated

C

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Graphical user interface, application

Description automatically generatedChart, bar chart

Description automatically generated

# Potential Results regarding the transition to Solar systems

* Reduced Revenue cuts
  + The conversion from UPS to Solar will significantly increase the revenue as the energy downtime will decrease.
* Reduced Manual interventions.
  + Using the solar systems, we will reduce the cost of labour as it won't require a team of people to troubleshoot one device.
* Increased energy efficiency
  + It reduces the energy consumption as it harnesses the energy from the sun to generate electricity.
* Increased client satisfaction
  + Limits ETC from outsourcing
* More Eco-friendly

# SUMMARY

* As we know ETC is facing trouble with supplying energy to the equipment on site due to the multiple maintenance issues such as low battery levels and power outages increasing the revenue cuts and decreasing the incoming revenue
* Solar energy systems such as Enphase can be expensive upfront but can provide long-term cost savings by reducing reliance on grid electricity and increasing the incoming revenue by 15% while decreasing the downtime by 82%.