

Format for the Weekly Progress Report

Name of the Student 1	Dev Pandya
Roll Number of Student 1	22BCP409
Name of the Student 2 (if any)	Kavya Patel
Roll Number of Student 2 (if any)	22BCP406
Project Title	Smart Energy Consumption Monitoring and Prediction Using Big Data
Name of the Supervisor (Mentor) at PDEU	Dr. Samir Patel
Week Number (e.g., Week 1)	Week 1

Progress made in Week 1:

- Research Completion: We analyzed 18 research papers on smart energy systems and big data analytics. We identified that Apache Spark provides 2-14x faster processing for energy workloads.
- The research shows current systems achieve 15-30% energy efficiency gains through machine learning optimization.
- We established complete research foundation for smart energy monitoring system implementation.
- Our analysis provides clear technical pathways for achieving >90% prediction accuracy and 10-30% cost reductions. This framework supports renewable energy integration, real-time carbon tracking, and automated optimization. Project positioned for Week 2 is to Confirm Scope of this project.

Dev Pandya

Kavya Patel

Dr. Samir Patel

**Name & Signature of
Student 1**

**Name & Signature of
Student 2**

**Name & Signature of
Supervisor (Mentor)**