

## I. CASE STUDY DEMONSTRATION

Cite the CASIO energy prices here

### A. Simulation Data: IEEE 123 Bus Test System

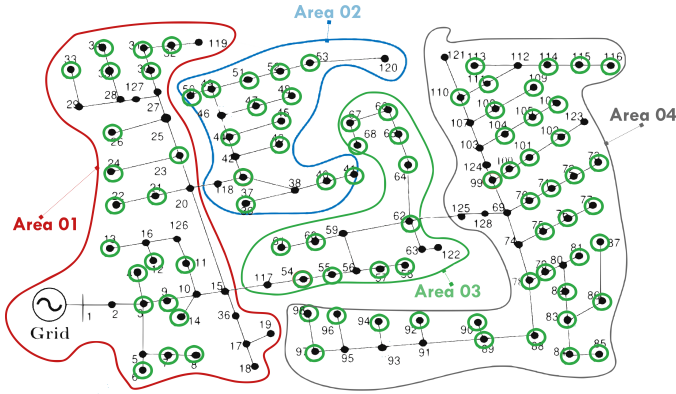


Fig. 1: IEEE 123 Node System Divided Into Four Areas

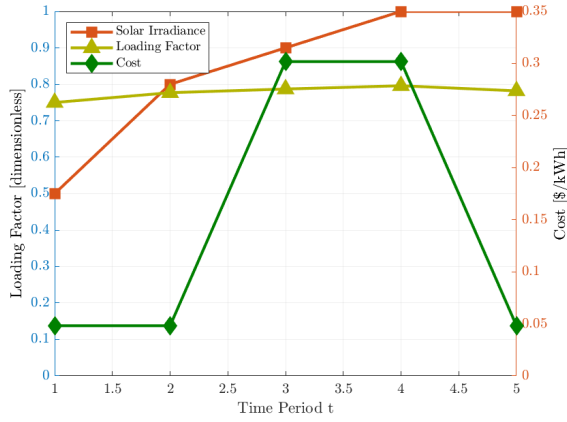


Fig. 2: Time-series comparison for forecasts for Demand Power, Irradiance and Cost of Substation Power over a 5 Hour Horizon

### B. Simulation Results

Case 1: centralized OPF with battery Case 2: ENApp based distributed OPF with battery