I. Case Study Demonstration

A. Simulation Data: IEEE 123 Bus Test System

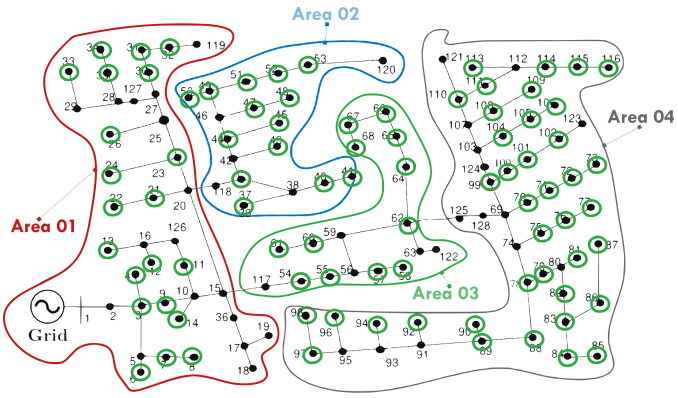

Fig. 1: IEEE 123 Node System Divided Into Four Areas

Change figure to display battery buses and PV buses

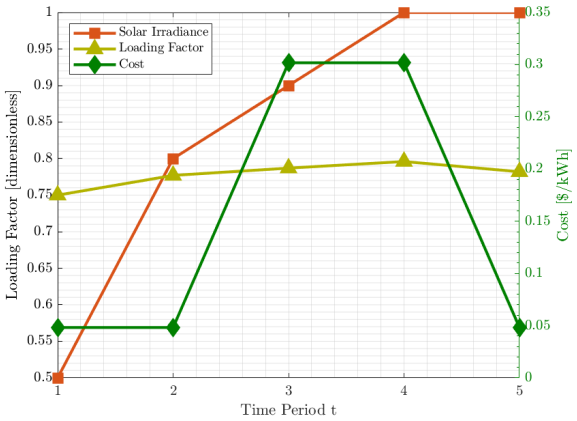

Fig. 2: Forecasts for Demand Power, Irradiance and Cost of Substation Power over a 5 Hour Horizon

TABLE I: Parameter Values

Parameter	Value
V_{min}, V_{max}	0.95, 1.05
$p_{D_{R_j}}$	$0.33 p_{L_{R_j}}$
$S_{D_{R_j}}$	$1.2 p_{D_{R_j}}$
$P_{B_{R_j}}$	$0.33 p_{L_{R_j}}$
B_{R_j}	$T_{fullCharge} \times P_{B_{R_j}}$
$T_{fullCharge}$	4 h
Δt	1 h
η_C, η_D	0.95, 0.95
soc_{min}, soc_{max}	0.30, 0.95
α	0.001