ZEROBASE™

ENERGY TO THE EDGE

UNF SEA4ALL Microgrid Working Group
Lessons Learned & Best Practices

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Driving Adoption

>> Current solution inhibits operations

>> Needs assessments pushed up

>> Emerging technologies evaluated

>> New requirements developed

Example: the failures of fuel generators at the tactical edge led to the adoption of battery-based hybrid systems.

Barriers to Micro-grids

>> One-year budget cycles prevent the adoption of solutions with real long-term value

>> Lack of standards allows a gap between requirements and needs

>> Lowest first-cost solutions are usually the least sustainable

>> Lifecycle cost not considered when comparing systems

Finding Solutions

>> Subject Matter Experts (SME's) are invaluable in project development

>> Technology should be backed by warranties and performance record

>> Vendor qualification should prioritize field experience

Example: Kenya Rural Electrification Authority seeks SMEs for microgrid design

Target Setting

>> Hybridization is a sliding scale with a relationship between investment in solar / PV and fuel saved

>> Less generator run-time equates to more power during fuel interruptions

>> Successful results can be replicated if monitored

Example: EarthSpark International Haiti Microgrid

Lessons Learned

>> Write requirements around systems that are proven and deliver results

>> Requirements must include training and sustainment

>> Solicitations must weigh lifecycle costs

>> Reference standards for:
- Manufacturing
- Performance
- Training
- Sustainment

Call to Action

>> Develop requirements with an eye towards economies of scale

>> Incentivize long-term performance

>> Focus requirements on needs and outcomes, industry will provide the solutions

>> Update standards as technologies evolve