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Advanced Battery Storage Course
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Agenda Topics

- **Storage**
  - History of storage
  - The evolution of the power grid and the growing need for energy storage
  - Process, non-battery energy storage, batteries
- **Regulatory Framework: Policy and Rate Structures**
  - Understanding the policy landscape relevant to storage at the federal level
  - State and local policy drivers o Storage-specific initiatives
- **Long-duration Batteries**
  - Battery chemistry
  - Diversity of chemistry – 200 + and counting (periodic table illustration)
  - Lithium-ion BESS
  - Things to know and think about
  - Safety
  - Major components in a BESS
- **Battery Storage Use Cases**
  - Wholesale energy market
  - Distribution energy market
  - Utility operations
  - Renewable locations (e.g. Solar+Storage)
  - Residential
  - EV charging
  - Critical facilities
  - Other
- **Building a Business Case**
  - Typical benefit categories
  - Regional differences
  - Costs

- **Utility-scale Implementation**
    - Lessons learned
    - Addressing local constraints and systems
    - How to avoid impacting end users
- **System Resiliency**
- **AC/DC-Coupled Systems**
    - Difference in efficiency
    - Components involved
    - What they do
    - Major components
- **Design Considerations**
    - Li-Ion and other “square” batteries
    - Flow batteries
- **Implementation**
    - Typical work plan at a high level
    - Typical timelines
- **Operational Risks**
- **Conducting Inspections and Maintenance**
- **Assisting with Refurbishing and/or De-commissioning**
    - Environmental considerations
    - Recycling
- **Integrators**
- **Case Studies**
    - Island nations or small grids
- **The Future of Battery Storage**
    - What’s next
    - Ideal energy user profiles