

# Decision-Making Framework for the Future Grid

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## Research Objectives

Develop and demonstrate a **decision-making framework** for the future grid that:

1. Ensures that the **goals** of the future grid can be met
2. Covers all **relevant decision scales** (including spatial and temporal scales)
3. Addresses **decision complexity** through layered abstractions
4. Uncovers the **gaps and technological needs** as the industry evolves into the future grid

## Importance for the Future Grid

Increased **uncertainty** and **complexity**:

- Emerging system behavior at **new temporal scales**
- **New spatial scales** requiring diverse granularity
- Massive amounts of heterogeneous **data**
- Shift from instantaneous deterministic optimization to **complex stochastic scheduling**
- Consideration of **consumer behavior**...

> **Decision processes need to be revisited**

## Contribution to DOE Broader Objectives

1. **Descriptive dimension** – illustrates why decision makers could make better decisions once DOE objectives for the future grid are realized.
2. **Normative dimension** – demonstrates how decisions should be made so that DOE objectives are realized.
3. **Prescriptive dimension** – provides concrete guidance on how decision making entities should act as we are transitioning to the future grid.

## Research Approach

