

Integrated Distribution System Planning

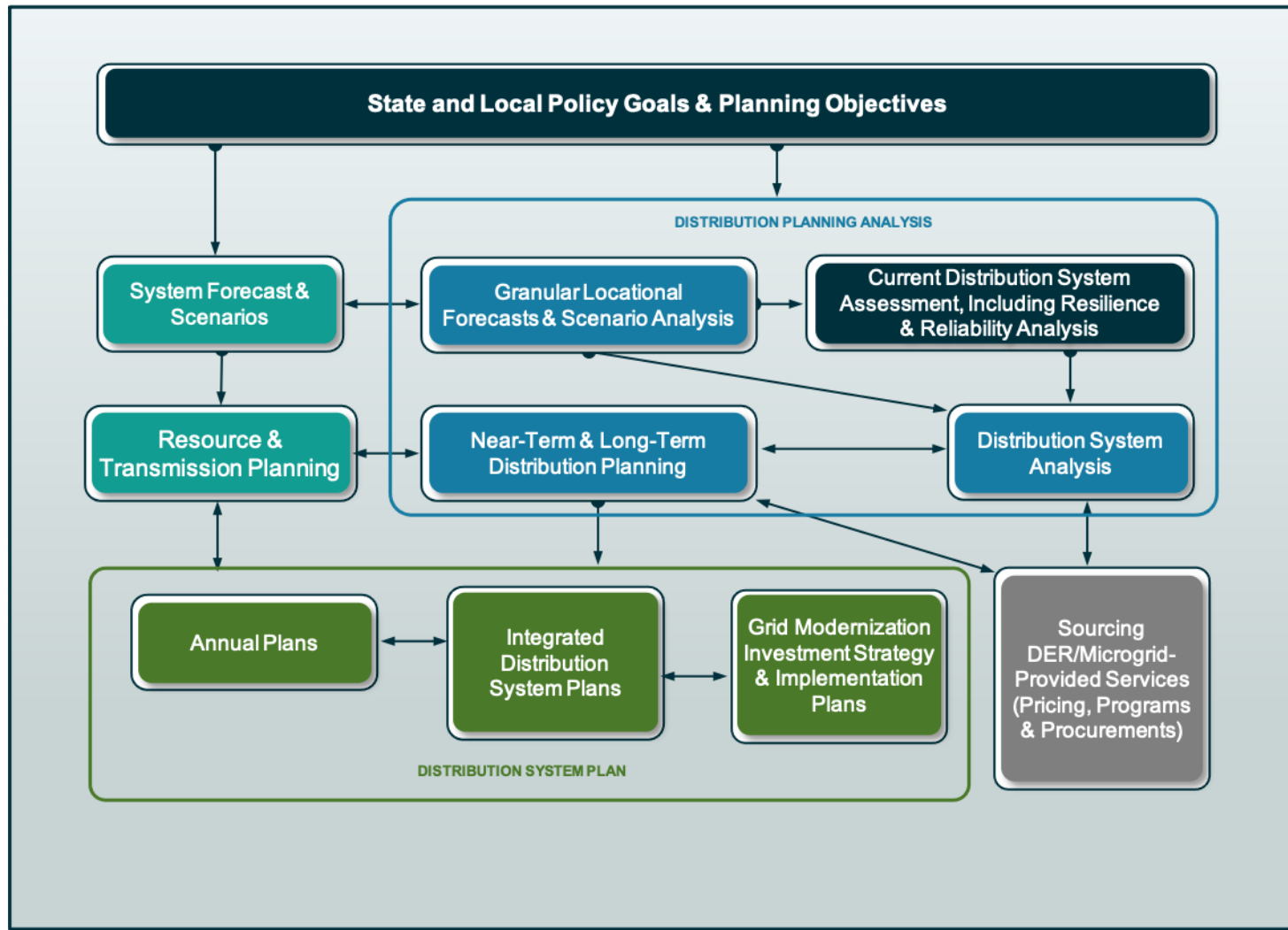
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Office of Electricity Grid Controls and Communications Program Review

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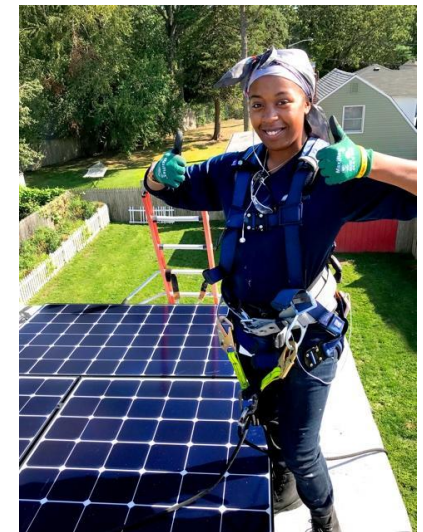
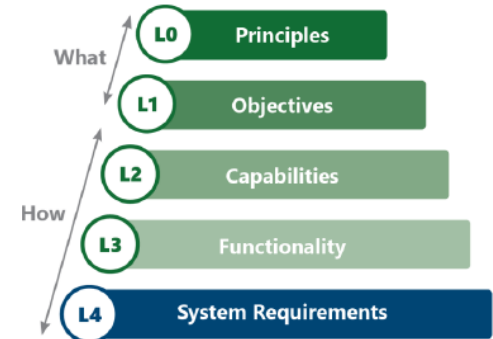
What is Integrated Distribution System Planning?



Berkeley Lab's [Interactive Decision Framework for IDSP](#)

Planning starts with state policy goals and objectives

- State policy goals and objectives determine grid capabilities needed, which in turn establish distribution system functionality and requirements.
- Examples of state goals and objectives
 - **Improve grid reliability, resilience or both** (CA, CT, DC, DE, HI, IN, MA, MI, MN, NM, NV, RI, VA, VT)
 - **Increase customer choice and engagement** (CA, CT, DC, HI, IL, MA, MN, NY, RI, VT)
 - **Accelerate deployment of new technologies and services** (CA, CT, IL, MI, MN)
 - **Support DER integration** (CA, CO, DC, HI, IL, MA, MN, OR, VA)
 - **Reduce greenhouse gas emissions/support the energy transition**, including electrification (CO, CT, DC, HI, IL, MA, OR)
 - Also **affordability** (CO, CT, DC, IL, MI, RI), **equity** (CO, IL, MN, OR, WA), **economic development** (IL, IN), and **stakeholder engagement and transparency** (CA, DC, HI, IL, MI, NY, OR)
- Some states set long-term, high-level outcomes and processes specifically for distribution system planning.



Source: Sunrun



Berkeley Lab's IDSP work with DOE

- **Limited resources and staff** turnover make it challenging for state utility regulators, energy offices, and utility consumer offices to keep up with new grid technologies and planning methods.
- In partnership with NARUC, NASEO, NASUCA, and others (e.g., NGA, NCSL, NRECA), Berkeley Lab conducts training, technical assistance, and research to help state agencies **improve engagement with electric utilities and make better-informed decisions** on integrated distribution system planning — *to improve reliability, resilience, security, and affordability*.
 - ▣ **Training** - We provide foundational information, address cutting-edge issues, disseminate advanced planning practices and new DOE-funded research, and facilitate peer-sharing.
 - ▣ **Technical assistance** - We provide unbiased technical expertise and research-based information to help states address key institutional issues related to advancing distribution system technologies, investing in grid infrastructure, and applying robust planning methods and processes. (*Funded by EERE*)
 - ▣ **Research and resources** - We identify research and resource needs through direct engagement with states in three areas:
 1. Assessment of practices and gaps
 2. Best practices
 3. Guidance



How can we tell if we're successful?

- Stakeholder and community interests are reflected in plans.
- Utilities consider all potential solutions to meet grid needs, using robust and transparent analysis.
- Filed distribution system plans provide a roadmap for grid investments, systems, and processes designed to achieve state policy goals and objectives, with utility priorities and timelines.
- Filings are well-organized and documented, specify how they meet regulatory requirements, explain how they are coordinated with other types of state and utility plans, and provide useful information for regulators and stakeholders.
- Regulators provide feedback to utilities on filed plans.
- The planning process facilitates cost recovery of prudent utility investments in grid modernization and integration and utilization of distributed energy resources.
- Utility cost recovery requests are clearly tied to achieving state goals and objectives and utility grid priorities.
- Utilities track and report on progress for implementing plans.



Source: Sunrun

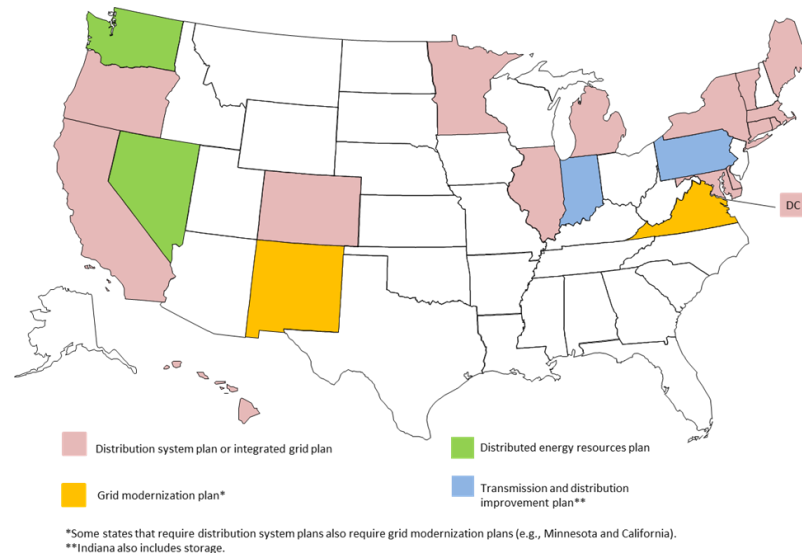


Recent and upcoming OE-funded work (1)

- ❑ Training slides and videos on [Berkeley Lab](#), [NARUC](#) and [NASUCA](#) websites
- ❑ Support for [NARUC-NASEO DER Integration and Compensation Initiative](#) and [NARUC-NASEO Cohort on Planning for a Modern Distribution System](#)
- ❑ [Interactive Decision Framework for Integrated Distribution System Planning](#)
- ❑ [State Energy Offices' Engagement in Electric Distribution Planning to Meet State Policy Goals](#)
- ❑ [State Distribution Planning Requirements Data Visualization & Online Catalog](#) and forthcoming report covering more topics
- ❑ [The Use of Price-Based Demand Response as a Resource in Electricity System Planning](#)
- ❑ *Coming soon*
 - Regional IDSP trainings: Charlotte (December), Detroit (March) and Salt Lake City (April)
 - Best Practices in Integrated Resource Planning: A Guide for Planners
 - Economic Evaluation of Distribution Grid Modernization Expenditures: A Guide for Utility Regulators
 - Regulatory Challenges With Cost Recovery for Grid Modernization Investments
 - Model Integrated Distribution Planning Guidelines



Recent and upcoming OE-funded work (2)



Source: [State Energy Offices' Engagement in Electric Distribution Planning to Meet State Policy Goals](#) (2023)

□ Planned

- Updated catalog of state requirements for distribution planning
- Updated interactive IDSP decision framework
- Interactive diagram for grid codes best practices
- Report on emerging best practices for utility IDSP filings, based on review of utility IDSP filings to date, plus a proposed IDSP template that utilities and states can adapt to meet their needs
- Report on incorporating distribution system planning in integrated resource plans

See Berkeley Lab's [IDSP website](#)



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