

## ENERGY

Contact us today to learn more about how we can help you navigate the uncertainties of the Energy Cloud.

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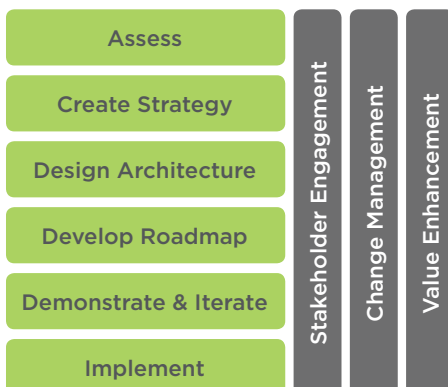
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### About Navigant

Navigant Consulting, Inc. (NYSE: NCI) is a specialized, global professional services firm that helps clients take control of their future. Navigant's professionals apply deep industry knowledge, substantive technical expertise, and an enterprising approach to help clients build, manage and/or protect their business interests. With a focus on markets and clients facing transformational change and significant regulatory or legal pressures, the Firm primarily serves clients in the healthcare, energy and financial services industries. Across a range of advisory, consulting, outsourcing, and technology/analytics services, Navigant's practitioners bring sharp insight that pinpoints opportunities and delivers powerful results. More information about Navigant can be found at [navigant.com](http://navigant.com).

### ENERGY CLOUD PLAYBOOK



Source: Navigant

## BUILDING A COMPETITIVE ADVANTAGE IN THE EMERGING ENERGY CLOUD

### THE ENERGY CLOUD PLAYBOOK - INTEGRATED DER STRATEGY AND IMPLEMENTATION

There is widespread consensus that a historic transformation of the utility industry is now well underway. From the move to cleaner generation resources to the prolific rise of distributed energy resources (DER), as well as customer empowerment and digitalization efforts across the value chain, disruptive changes are transforming the way power is produced and consumed. The result is an increasingly intelligent grid that is cleaner, more distributed, flexible, and efficient. We call this the Energy Cloud.

### THE ENERGY CLOUD

The Energy Cloud consists of more distributed transactions and dynamic business models, a more sophisticated two-way grid platform, and a rapidly evolving ecosystem. Innovation is accelerating beyond one-off, standalone technologies (e.g., renewables) to include the pairing of technologies (e.g., solar plus energy storage) and the orchestration of complex ecosystems of technologies that work together to deliver more flexible, responsive, and customer-centric services.

Moving beyond siloed technologies, for example, ongoing digitalization efforts are laying the foundation for dynamic platforms that combine new technologies and services like integrated DER (iDER), Building2Grid, Transportation2Grid, smart cities, the Internet of Things (IoT), and transactive energy. These platforms provide fertile testing grounds for industry incumbents as well as disruptors and are expected to result in \$1.3 trillion in new annual industry revenue by 2030 globally. This future state is no longer a question of if, but rather, when—and more importantly, how. Preparing for iDER and the Energy Cloud requires a detailed playbook that covers all aspects of the utility business.

### WHY HAVE A PLAYBOOK?

With the barrier for market entry for new and emerging players lowered by inexpensive digital innovation and democratized energy, utility industry incumbents face a challenging path ahead. Utilities in particular must prepare their organizations to be ready for disruption. This includes challenging tried and true business models as well as rapidly shifting the culture to embrace agile innovation and successfully integrate DER. Each utility's playbook will look different, but all will have common elements.

### THE ENERGY CLOUD PLAYBOOK

Navigant has developed an Energy Cloud Playbook to help our clients navigate today's changing energy landscape. The playbook starts with an assessment of the current situation, moving through implementation, and maintaining along the way a focus on stakeholder engagement, change management, and value enhancement. These elements ensure the right level of buy-in, development of the organization, and the selection of viable and market-ready products and services.

## ASSESS

The Energy Cloud Playbook starts with a detailed assessment of your organization's DER preparedness. Navigant's multi-faceted iDER Maturity Model<sup>SM</sup> provides an assessment of a utility's progress toward DER integration. We start with a blueprint for what a fully integrated DER system looks like and then define five levels of iDER maturity based on that blueprint. We then assess your strategy, organization, and operations against these maturity levels.

## CREATE STRATEGY

After assessing progress and where opportunities are, utilities have many strategic decisions to make:

- What business models to pursue?
- What products and services are needed to support these models?
- Who within the organization can support these efforts?
- Who to partner with or acquire?
- When to launch products and services?
- How to maintain or grow profitability?

Making these decisions requires a strategy that is not only comprehensive but also flexible enough to handle disruption as the pace of change accelerates. Our expertise and unparalleled depth of industry experience provide insight into all aspects of your business and how to shape your strategy accordingly.

## DESIGN ARCHITECTURE

Developing an architecture for iDER involves answering the following questions:

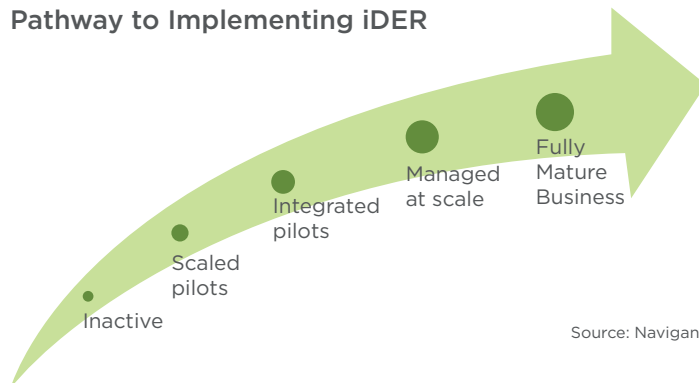
- Who are the players and participants?
- What are the business processes?
- What are the supporting systems/technologies?
- What are the data requirements?
- What are the communication requirements?
- Where will the value flow?

Our team partners with utilities to answer these questions and design systems based upon each utility's unique needs.

## DEVELOP ROADMAP

Deploying iDER is a major shift in the utility business model and will not happen overnight. Utilities will need a multi-year road map to align resources, fill gaps, measure progress against, identify interdependencies, and create internal and external alignment. Navigant's team has experience developing a wide range of roadmaps, including technology, policy, program, and growth.

### Pathway to Implementing iDER



## DEMONSTRATE AND ITERATE

Before committing time and resources to fully implement iDER, Navigant recommends demonstrating your iDER plan on a pilot scale and rigorously evaluating the results. The pilot should include all key elements of your iDER plan—a wide range of technologies, a scaled version of your planned communication architecture and protocols, business models, rate structures, and a transactive energy platform. After evaluating the pilot, utilities should revisit their roadmap and architecture to fold in best practices from the pilot.

Navigant has helped utilities test and evaluate results and can draw from the experience gained from engagements such as piloting solar and energy storage with the Sacramento Municipal Utility District, deploying and evaluating a smart thermostat pilot with Southern California Gas Company, and designing a feeder-level DER pilot with Southern California Edison.

## IMPLEMENT

After piloting and refining your iDER plan, the final step is to implement. Navigant has assisted many utilities in implementation and planning by helping them to understand where on the system DER can be integrated easily and which steps must be taken to integrate DER in other areas. We can also help with acquisitions, DER product and service procurements, regulatory filings, policy advocacy, financing, project development, and measurement and verification.

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