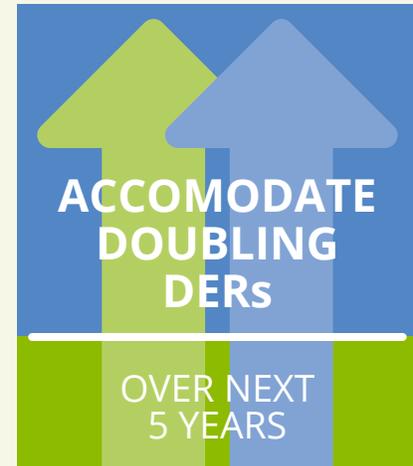# TROVE Advanced Resource Planning Solver

Situation Overview

The Utility of the Future must be able to accommodate the doubling of distributed energy resources over the next 5 years, resulting in two-way and intermittent power flow on the distribution grid. System-level forecasts and generic assumptions about load flow being evenly distributed downstream of the substation will no longer be adequate.

ACCOMODATE DOUBLING DERs

OVER NEXT 5 YEARS

Utilities have expressed several needs for more active management of the distribution grid:

Provide visibility into, and forecasting for, "hidden load" from behind-the-meter DERs.

Improve the accuracy of short-term load forecasting.

Effectively include DERs in the Integrated Resource Plan.

Bring together data supporting short-term and long-term load forecasting so that operations and planning can leverage the same advanced analytics.

These needs all require a more precise, granular-level approach to forecasting that can be effectively integrated with traditional top-down forecasts.

TROVE™

Solvers Solve Use Cases

TROVE packages its sophisticated data management and models into highly configurable solutions called Solvers to enable us to exactly meet each client's needs. Here are some of the use cases SOLVED by **TROVE's Advanced Resource Planning Solver**:

1

MACHINE-LEARNING **MODELS**

+

ENHANCED **DATA SETS**

= **INCREASED EFFICIENCY**

2

RESOURCE PLANNING

+

CAPACITY PLANNING

+

DER ADOPTION FORECASTS

=

COMPLETE SYSTEM VIEW

Precision Load Forecasting supports the Distribution System Operator with accurate hourly forecasts for every device on the distribution grid from the meter to the substation by applying machine-learning models to an enhanced data set comprised of SCADA, sensor, smart meter, customer historical, and weather data combined with TROVE Data. This approach fills in grid loading "blind spots," enhancing the efficiency of switching operations and optimizing the operation of the grid in the presence of growing penetrations of DERs.

Integrated Load Forecasting supports near-term to long-term grid planning with higher resolution by geography, grid component and demographic. The solution brings together integrated resource planning, short-term capacity planning, and DER adoption forecasts to provide a complete system view with precision down to the individual asset level.

Interested in seeing how **TROVE's Advanced Resource Planning Solver** and team can help make your data useful? Please contact us at **info@trovedata.com**.

TROVE™