

Rate Calculator Web Post

APPA has developed an initial version of a spreadsheet model designed to help our members assess the potential impacts of distributed energy resources (DERs) on utility revenues and customer rates. The tool will remain a work in progress, which we intend to enhance and refine it over time, and we would greatly appreciate your additional feedback as we develop it further.

The tool is meant to provide a high-level overview that illustrates key rate design dynamics (i.e., the interactions among volumetric charges, customer or fixed charges and demand charges), and shows indicative results that can convey a quantitative sense of how DERs, at different levels of penetration, are likely to affect both utility-wide rates and rates for non DER customers. The spreadsheet abstracts from many details in order to provide a quick overview without requiring substantial data gathering or preparation, and it is not intended to be a comprehensive rate making device that sets aside the need for more rigorous analysis.

Based on user inputs for key utility characteristics (fixed and variable costs, peak load, diversified demand, kWh sales and DER penetration), the spreadsheet calculates impacts of the DERs on utility-wide average rates and average rates to non DER customers and allows the user to do what-if analyses related to cost recovery through different rate components. The worksheet shows how DERs, at different levels of penetration, can create revenue shortfalls, and it also shows the potential rate impacts for non-DER customers (i.e., cross-customer subsidy) if their rates increase to enable recovery of lost revenues.

The tool also allows users to input, and evaluate, different rate design options. For example, one can lower volumetric charges and then determine by how much customer or demand charges would have to increase to offset the revenue reduction and provide for adequate cost recovery. Basic instructions for navigating the spreadsheet are provided on the “Instructions” tab of the workbook. There you will find an embedded link to a set of instructions in Microsoft Word.

The tool is relatively simplified at this stage, but we intend to develop it further if members think it could be useful. Planned next steps include: extending the current one year analysis horizon to show levelized rate impacts over a typical utility planning horizon; incorporating more sophisticated cost patterns and rate structures; deriving the impacts on utility outcomes of DER implementation within separate rate classes.

The spreadsheet contains a page labeled “Instructions”, which contains written instructions that can be viewed by clicking on the Word icon. In addition, a brief video tutorial has also been posted, which is meant to supplement the written instructions and should help users navigate the spreadsheet.