



# GMLC Project Communications Summary

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Project Title: Grid Services and Technologies Valuation Framework

Project Number: GMLC 1.2.4

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1. What problem is the project solving or what opportunity is it addressing?

Across the diverse electric power industry, stakeholders utilize independent methodologies to value investment decisions ranging from the residential purchase of a smart thermostat to grid-scale investments in generation and transmission assets by utilities, regulators, private power producers, and market/grid operators. These valuation approaches are “consistently inconsistent”, relying not only upon differing, often opaque assumptions with respect to economic and engineering inputs, time, geographic, and power system scales, but also due to the closed-source inner workings of black-box modeling tools. To address the inconsistencies and lack of transparency across existing valuation methodologies, this project is a three-year effort to begin the development of a comprehensive and transparent framework to value the services and impacts of grid-related technologies. The framework will be based on a systematic approach to the definition and documentation of scale, scope, and assumptions that define any valuation or modeling activity.

Who collaborated on this project? (e.g. labs, universities, utilities, vendors, others)  
ORNL, PNNL, NREL, ANL, LBNL, SNL, NARUC, Stakeholder Advisory Group of 25 members from numerous organizations & states

1. What is the solution or outcome that the project delivered?

To address the inconsistencies and lack of transparency across existing valuation methodologies, this project will to begin the development of a comprehensive and transparent framework to value the services and impacts of grid-related technologies. The framework will be based on a systematic approach to the definition and documentation of scale, scope, and assumptions that define any valuation or modeling activity.

2. How does the solution/outcome break new ground or how is it differentiated from other R&D projects?

Focused on quality assurance of the *process* of conducting a valuation study, rather than optimal model selection.

3. How is the deliverable or outcome of the project being used?

- By industry? NARUC & PUCs have become familiar with guidelines. There have been webinars and training sessions (with PUCs' requesting additional outreach from Labs & NARUC) to apply the valuation framework guidelines. Positive feedback from 25-person Stakeholder Advisory Group & enthusiastic response from State agencies & PUCs participating in NARUC workshops.
- By government? State governments interested (through NARUC)
- Other? NGOs interested (through NARUC)

4. Impact metrics – has project impacted grid modernization in any quantifiable way? (E.g. reliability, resiliency, efficiency, DER integration, event response, etc.)  
The response to the guidelines from external reviewers and from many PUCs participating in NARUC workshops indicates the project's results will improve the evaluations of modern & complex grid modernization options and better equip PUCs to specify, manage, and direct contractors conducting such evaluations to develop meaningful metrics and outcome assessments that will provide actionable information to decision makers.

5. What IP and/or industry recognition or adoption has the project resulted in?

- Patents
- Licensing
- Open Source Adoption
- Journal and Publication Articles

- Conference Presentations: Interactive session at 2019 NARUC Winter Meeting (February 2019); NARUC Center for Partnerships & Innovation Webinar August 2019.
6. If you look ahead 5-10 years, how do you see the work of this project impacting grid planning and operations in the U.S.? More robust, useful, focused, comparable, transparent and – therefore – accepted valuation studies to support choosing among grid modernization alternatives.