

Integrated Energy Data Resource (IEDR) Stakeholder Use Case Survey Template

Comments Due: July 23, 2021 to iedr@nyserda.ny.gov

Background and Overview:

The Integrated Energy Data Resource (IEDR) concept has developed through several years of prior work that ultimately led to the New York Public Service Commission's IEDR Order¹ on February 11, 2021. As the resulting IEDR program begins, NYSERDA asks stakeholders to help by identifying, characterizing, and prioritizing a preliminary set of potential IEDR use cases.

The IEDR is intended to eventually support many use cases, but development will begin with an initial set of five to ten priority use cases. These first use cases need to have practical value, urgency, and reliability that a novel data platform can deliver. At the outset, the descriptions of the initial IEDR use cases may be high-level, but specifications will become much more detailed as development proceeds. Also, to achieve a successful launch of the IEDR, we will consider how the initial set of IEDR use cases functions as a portfolio.

To aid our investigation of potential IEDR use cases, NYSERDA is asking stakeholders to use the form provided below to profile use cases that will be most valuable to them. To arrive at consistent profiles of potential use cases, stakeholders, together with the Program Manager and later with the participation of the Solution Architect, will subsequently discuss overlaps, similarities, and differences across their submissions.

Individuals and organizations comprising an industry sector and/or including multiple industry sectors are strongly encouraged to collaborate in the preparation of use case profiles.

The stakeholders' use case profiles will serve as a starting point for specifying and prioritizing IEDR use cases. As the IEDR program progresses, stakeholders may be asked to provide additional details. As potential use cases become better understood, stakeholders should expect their specifications to evolve through peer review.

In preparing these initial profiles, stakeholders should keep in mind that in its Order, the Commission stated that the IEDR is intended to enable use cases that materially improve and/or accelerate investment, operational, or regulatory decisions related to DERs, energy efficiency, environmental justice, or electrification strategies for transportation and buildings thereby facilitating one or more of New York State's REV and CLCPA objectives to accelerate New York's progress toward the climate and equity goals set for the state in the CLCPA and related legislation Orders issued by the Commission. IEDR use cases and their individual goals must be clearly aligned with these statewide commitments.

Instructions for Submitting Comments and Profiles:

Each submission of comments is to include:

- A cover sheet that contains
 - the name and contact information for each of the individual(s) or organization(s) on whose behalf the comments are submitted
 - what are your most immediate needs that the IEDR should address as soon as possible
 - what criteria should be used to prioritize initial use cases
 - if desired, a suggested definition of use case to be used for the IEDR
- A separate use case profile, consisting of responses to the topics below, should be completed for each potential use case presented by a stakeholder(s).
- Each profile should contain:

¹ See New York State Case 20-M-0082 – Strategic Use of Energy Related Data, (Order Instituting Proceeding) (March 19, 2020); and Case 16-M-0411, Summary Report: Distributed Energy Resource Market Enablement Data Needs (filed in the public comments section on January 6, 2020); and Recommendation to Implement an Integrated Energy Data Resource, Case 20-M-0082: Proceeding on Motion of the Commission Regarding Strategic Use of Energy Related Data, a New York Department of Public Service Staff Whitepaper (May 20, 2020).

- a name/description of the use case being profiled
- a response to each topic beginning with an indication of the topic being addressed, up to one page of narrative, and up to one additional page of diagrams, charts, tables, maps, and references (e.g., sources of key claims or evidence). Please specify dates, times, metrics, and quantities when they are essential.

Use Case Profile Form (using fillable form below is optional) :

1) Contributor Name & Contact Information

Enter the name(s), organization(s), and contact information for the contributor(s) of this profile form.

Carmen Best
 VP of Policy & Emerging Markets
 Recurve Analytics, Inc.
 carmen@recurve.com

2) Use Case Category

Select and enter one of the use case categories listed at the end of this form.

DER Development and Use; Transportation Electrification; Building Electrification; Energy Efficiency (EE); Electric Utility Function; Gas Utility Function

[Note: this use case spans these categories for optimizing distributed energy resources]

3) Use Case Sub-Category

Select and enter one of the use case sub-categories listed at the end of this form.

Potentially all of the sub-categories of the Use Case categories above.

4) What Question(s) Does the Stakeholder Seek to Answer with This Use Case?

Enter the questions that this IEDR use case could answer with information that would be useful to the Stakeholder.

The Stakeholder in this use case would be a vendor interested in implementing a state-wide demand flexibility marketplace [www.demandflexmarket.com] with qualifying credentials to securely handle customer data.

The IEDR would not have to answer any questions, and would rather serve as a central hub for access to standardized data on energy consumption and key meta data to operationalize the marketplace.

5) What Information Should the Use Case Produce for the Stakeholder?

Describe the type(s) of useful information that the use case should produce.

The use case is a market implementation model for deploying distributed energy resources that can in turn be bought or procured by investor owned utilities, program administrators, the New York Independent System Operator (NYISO) or state agencies in aggregate to meet climate goals or optimize grid resources. It could also be a solution for munis and coops if data was available for these entities were included in the IEDR.

The IEDR would serve as a data access hub for qualified vendors (per the data access framework certification requirements) to support aggregation of DERs.

(a) How Will the Stakeholder Use the Information Produced by This Use Case?

Explain how the Stakeholder will use each type of information produced.

Data would be made accessible to the stakeholder to operationalize the marketplace. This would include energy consumption data (gas and electric), customer meta data, including locational data. All data would be protected and secured by the vendor.

(b) What are the Minimum Necessary Attributes for Each Type of Information Produced?

For each type of information produced, specify the minimum necessary information attributes (i.e. precision, accuracy, granularity, etc.).

Hourly energy consumption data would enable the full scope of the marketplace. Monthly energy consumption (electric and gas) would enable the basic scope of the marketplace concept. The data would need to be provided for the geographic footprint of the marketplace and updated annually, quarterly, or daily depending on the requirements of the procurement (e.g. a demand response marketplace may need daily; whereas an electrification program may suffice with quarterly or annual updates). The precision, accuracy and granularity would also be dependent on the procurement. Settlement quality meter data (electric / gas) at the hourly level would be ideal for the assumptions of this exercise; but monthly electric / gas may also suffice prior to full AMI roll out.

6) How Should the IEDR User Interface Present the Information Produced by the Use Case?

Identify one or more useful ways to present the output information to the user (i.e. list, table, graph, bar chart, pie chart, map, ... , etc.). For example, a bar chart that shows the number of electric customers on each of several rates within a zip code.

Direct access via API would be the only interface necessary for access to raw data to enable this use case.

7) What Type(s) of Data Does the IEDR Need to Analyze for This Use Case?

Identify the one or more types of data - from utilities and/or other sources - that the IEDR will need to analyze to produce useful information. See Appendix B of the Staff IEDR Whitepaper for a preliminary list of data types that could be collected and analyzed by the IEDR.

Hourly energy consumption data is the primary data type that would be collected along with basic customer account information (name, location, rate, building type). Standardization across utilities (formats, fields etc) would be completed within the IEDR. Both electric and gas consumption data would enable this use case to provide marketplace solutions for things like non-pipes alternatives, or electrification strategies.

(a) What are the Minimum Necessary Data Attributes for Each Type of Data Collected and Analyzed?

For each type of data analyzed, specify the minimum necessary data attributes (i.e. precision, accuracy, granularity, age, ... , etc.).

No analysis is necessary, beyond curating compliance with standardized data specification.

8) What Data Relationships Does the IEDR Need to Analyze for This Use Case?

Identify the one or more data relationships, if any, that must exist in the IEDR to enable the analyses needed for this use case. For example, the user may want to identify EV registrations and electric utility customer accounts that share the same street address.

The IEDR would not be used for analysis in this use case, but key joins of a customers meta data to their usage data and potentially between gas and electric consumption data for a single customer may be important to include in the data cleaning and processing via the IEDR.

9) What Data Analysis Function(s) Does the IEDR Need for This Use Case?

Identify the one or more analytic functions that the IEDR must apply to each type of data used in this use case. For example, the use case may require the determination of averages, maximums, minimums, durations, and values greater/lesser/equal/between variables set by the user.

The IEDR would not be used for analysis in this use case.

(a) What are the Minimum Necessary User Input Variables Needed to Enable a Useful Analysis?

For each analytic function, specify the one or more input variables that the user must provide (if any) to enable the desired analysis. For each type of input variable needed, specify the type(s) of condition to be applied in the analysis (i.e., greater than, equal to, less than, between, not between, etc.).

The IEDR would not be used for analysis in this use case. A vendor would specify the boundaries of the service territory and/or a sector within which the marketplace was being deployed to access the minimum data.

10) How Often Does the Stakeholder Expect to Employ This Use Case?

For example: sub-daily; daily; weekly; monthly; quarterly; semi-annually; annually ...

Depending on the marketplace parameters, daily, monthly, quarterly or annually may all be possible timeline for accessing data for this use case. Note that electric and gas consumption data may have different access schedules depending on the frequency of the underlying data and the market application.

11) How Does This Use Case Benefit the Stakeholder?

Describe how this use case would benefit its Stakeholder(s) and explain how the use case would enable those benefits. Benefits described and explained could include reduced cost, reduced time, greater revenue, reduced risk, increased understanding, ... , etc.

This use case would benefit the State of New York by enabling a more streamlined way to tackle climate change objectives with performance-based accountability. A myriad of programs currently operate in New York each of which is independently contracted and secured through arduous contracting processes. Opportunities to quickly respond and deploy solutions to things like gas constraints or significantly expand demand flexibility are hampered by that process. They are also necessarily constrained to data access agreements with each utility and data handling has to be customized to each unique situation. Since NY has opted for a centralized data repository, a key benefit would be curating raw data per a standardized specification for basic energy consumption data and customer data and make it available to qualified vendors. Recurve Analytics, Inc would be a qualified vendor that would want to implement demand flexibility market places in New York.

12) Why Should This Use Case Be Prioritized From the Perspective of i) the Industry and ii) the Citizens of New York State?

Demand flexibility opportunities are not being procured in New York in a streamlined way. This use case could open doors for more actors to support New York's climate goals and scale investment in a meaningful way. This would benefit the citizens of New York State through greater investment, more jobs, enhanced infrastructure, and a cleaner future.

***The IEDR use case profiles submitted will be shared, and should contain no proprietary information.**

The profiles are regarded as preliminary working papers, and may be revised based on subsequent analysis and discussion. Advocates submitting profiles of similar use cases will work together with the IEDR development teams to come to a consensus. For consistency in development, the IEDR team may elect to format use case submissions into a standardized format such as UML or BPMN.

Use Case Categories:

Enter one of the following use case categories in Part 2 of the survey form.

- DER Development and Use
- Transportation Electrification
- Building Electrification
- Energy Efficiency (EE)
- Electric Utility Function
- Gas Utility Function
- Local Government Function
- State Government Function
- Other (please describe)

Use Case Sub-Categories:

Enter one of the following use case sub-categories in Part 3 of the survey form.

- For DER Development and Use:
 - identifying, evaluating, and/or selecting potential DER locations;
 - identifying, evaluating, and/or engaging potential DER customers;
 - preparing and/or optimizing DER development plans;
 - preparing and/or optimizing DER operating plans;
 - designing, implementing, and/or operating DER aggregations;
 - monitoring and evaluating the deployment and use of DERs;
 - designing and implementing Community Distributed Generation (CDG) solutions; or,
 - other (please describe)
- For Transportation Electrification:
 - identifying, evaluating, and/or engaging existing EV owners/operators;
 - identifying, evaluating, and/or engaging potential EV owners/operators;
 - monitoring and/or evaluating EV acquisitions and uses;
 - identifying, evaluating, and/or selecting potential locations for EV charging facilities;
 - preparing and/or optimizing plans for developing EV charging facilities;
 - preparing and/or optimizing plans for operating EV charging facilities;
 - monitoring and/or evaluating the deployment and use of EV charging facilities
 - other (please describe)
- For Building Electrification:
 - identifying, evaluating, and/or engaging energy consumers and energy managers in existing buildings;
 - identifying, evaluating, and/or engaging energy consumers and energy managers in planned buildings;
 - monitoring and/or evaluating acquisitions and uses of building electrification solutions;
 - building energy benchmarking;
 - identifying, evaluating, and/or selecting opportunities for building electrification;
 - preparing and/or optimizing plans for developing building electrification solutions;
 - preparing and/or optimizing plans for operating building electrification solutions;
 - monitoring and/or evaluating the deployment and performance of building electrification solutions
 - other (please describe)

- For Energy Efficiency (EE):
 - identifying, evaluating, and/or engaging customers with existing EE solutions;
 - identifying, evaluating, and/or engaging potential EE customers;
 - monitoring and/or evaluating EE acquisitions and uses;
 - building energy benchmarking;
 - identifying, evaluating, and/or selecting EE opportunities;
 - preparing and/or optimizing plans for deploying EE solutions;
 - monitoring and/or evaluating the deployment and use of EE solutions;
 - designing and implementing Community Choice Aggregation (CCA) solutions
 - other (please describe)

- For Electric Utility Functions:
 - system planning;
 - DER interconnection;
 - system operations;
 - market enablement;
 - market operations;
 - customer programs and services;
 - regulatory/statutory compliance;
 - other (please describe)

- For Gas Utility Functions:
 - system planning;
 - system operations;
 - market enablement;
 - market operations;
 - customer programs and services;
 - regulatory/statutory compliance;
 - other (please describe)

- For Local Government Functions:
 - building energy benchmarking;
 - Community Choice Aggregation;
 - Community Distributed Generation;
 - facility siting and permitting;
 - environmental justice initiatives;
 - economic development;
 - planning and zoning;
 - other (please describe)

- For State Government Functions:
 - energy-related R&D;
 - regulatory research and planning;
 - regulatory oversight;
 - building energy benchmarking;
 - facility siting and permitting;
 - environmental justice initiatives;
 - economic development;
 - other (please describe)