

Revised Proposal: Calculating a Residual Mix *September 2022*

1. Problem Statement

Credible residual grid mix information is important for accurate clean energy and GHG accounting and disclosure. Better residual mixes could help enable accurate accounting of renewable energy use, avoided emissions, and avoid double-counting between programs. Unlike the Reliable Disclosure Systems for Europe, the United States does not have consistent residual mix data that represents un-transacted power in retail markets. Residual mixes that are being published or developed by all-generation tracking systems, Green-e® Energy, and LF Energy, illustrate differing methodologies used for different purposes. Different types of residual mixes exist for different accounting objectives including states who want to reflect default rates inclusive of RPS, voluntary clean energy buyers that want to ensure they are going above and beyond, and granular accounting. These different objectives need different but consistent residual mixes.

Residual mixes and residual mix emissions factors are also needed for market-based Scope 2 accounting, Standard Delivery Renewable Energy (SDRE), state GHG reporting programs as default emissions rates, rates for unspecified purchases, market emissions factors, and null power. Developing consistent methodologies for determining residual mixes bolsters the credibility of both voluntary markets and compliance programs.

- *How should residual mixes be defined and calculated in the United States?*

2. Proposal Summary

This project will develop consensus guidance for the calculation of annual residual grid mixes and residual emissions factors for use in different voluntary and compliance disclosures. The project will first identify the most valuable use cases and definitions, then determine their appropriate methodologies and respective data needs. The guidance will include:

- The best way to account for or subtract specified purchases from the grid mix. Is it different in different environments?
- The appropriate geographic boundary for a residual mix for different types of reporting (national, state, RTO, eGRID regions).
- The data needs and appropriate uses of multiple residual mixes. Examples include:
 - Residual mix uses for consumer Scope 2 accounting, SDRE, state default mixes/rates, unspecified rates, wholesale market mixes/rates, null power, LSE unfulfilled load for PSD and GHG intensities, etc.
- The use cases for residual mixes and what methodology best serves each use case.
- An evaluation of what data is available from utilities, RTOs, tracking systems, and others.
- A brief evaluation of where hourly data may be available.

3. Summary Table

Scope limitations:	<ul style="list-style-type: none"> Focus on how different annual residual mixes should be calculated, for what purpose, and claims guidance for different uses. Output would not be a list of the emissions factors themselves, but rather guidance on how to determine them. Limited to the U.S. electrical grid. 		
Potential outcomes:	<ul style="list-style-type: none"> Help utilities, state, and regional reporting programs provide residual mixes that are calculated consistently across markets. Better enable states to evaluate the effectiveness of their policies and customers to reduce emissions. Enable accurate accounting of renewable energy use, avoided emissions, and avoid double-counting between state and voluntary programs. A call to action for relevant organizations to make available the data needed to calculate residual mixes. 		
Reasons for urgency:	<ul style="list-style-type: none"> Residual mix data is needed to determine what climate mitigation actions to undertake Upcoming update to the GHG Protocol Scope 2 Guidance The SEC ruling on Climate-Related Disclosures for Investors Federal Clean Energy Procurement Implementing Instructions 		
Anticipated deliverables:	<ul style="list-style-type: none"> User-friendly report that demonstrates the best practices and considerations for calculating a residual mix for different objectives under different circumstances Claims guidance for disclosure for different residual mixes Utility data request forms for large energy purchasers Background explainer on different types of residual mixes Possible one-pager on considerations for hourly residual mix if any are determined during the course of this work 		
Other relevant initiatives/available resources:	<ul style="list-style-type: none"> International resources including the EU RE-DISS Project and the Norwegian authority LF Energy: Carbon Data Specifications Consortium (“CDS”) Green-e® Residual Mix Emissions Rate Tables 		
Potential challenges:	<ul style="list-style-type: none"> Many types of residual mixes for different uses Obtaining data on contractual instruments used to transact energy or claim specific attributes, direct contracts, supplier-specific emission rates, and other default emission factors representing untracked or unclaimed energy and emissions For hourly, accounting for data from existing monthly REC systems and annual reporting programs Lack of a single closing or settlement period for state and voluntary programs 		
Key working group stakeholders:	<table border="0"> <tr> <td> <ul style="list-style-type: none"> Federal agencies: EPA, EIA, FEMP, CEQ World Resources Institute LF Energy: Carbon Data Specifications Consortium (“CDS”) Tracking Systems: especially PJM-GATS, NYGATs, NEPOOL-GIS </td> <td> <ul style="list-style-type: none"> Utilities Potentially ISO/RTO/grid operators Voluntary RE sellers GHG accounting professionals State regulators </td> </tr> </table>	<ul style="list-style-type: none"> Federal agencies: EPA, EIA, FEMP, CEQ World Resources Institute LF Energy: Carbon Data Specifications Consortium (“CDS”) Tracking Systems: especially PJM-GATS, NYGATs, NEPOOL-GIS 	<ul style="list-style-type: none"> Utilities Potentially ISO/RTO/grid operators Voluntary RE sellers GHG accounting professionals State regulators
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