

Residual Mix glossary guide - Northmore Gordon

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Residual Mix

The residual mix represents the average emissions intensity of electricity remaining on a grid after all renewable energy certificates (such as REGOs or LGCs) have been claimed. It reflects the carbon characteristics of the electricity supply that has not been attributed to any specific renewable energy claim, and is used to account for the emissions associated with unclaimed electricity consumption in market-based Scope 2 accounting.

Related guidance

Carbon advisory

Scope 1, 2 and 3 emissions

Certificates

Government schemes

Certificate trading

Measurement and verification

What is the residual mix?

The residual mix represents the average emissions intensity of electricity remaining on a grid after all renewable energy certificates (such as REGOs or LGCs) have been claimed. It reflects the carbon characteristics of the electricity supply that has not been attributed to any specific renewable energy claim, and is used to account for the emissions associated with unclaimed electricity consumption in market-based Scope 2 accounting.

How does the residual mix differ from purchased renewable energy certificates?

Renewable energy certificates like REGOs or LGCs represent specific renewable electricity generation that has been claimed and removed from the grid mix. The residual mix is what remains after these certificates are subtracted—it represents the average emissions intensity of the remaining, unclaimed electricity. When an organization purchases renewable certificates and retires them, it uses the certificate attributes for its claim; unconsumed electricity not covered by certificates is accounted for using residual mix emissions factors.

Why is the residual mix important for market-based Scope 2 accounting?

In market-based Scope 2 accounting under GHG Protocol guidance, organizations must account for the emissions associated with all their electricity consumption. When renewable certificates are purchased and retired, the certificate attributes are applied to a portion of consumption. The remaining consumption is accounted for using residual mix emissions factors, which represent the carbon intensity of the unclaimed electricity grid. This ensures that all consumption is accounted for with

appropriate emissions factors.

What role does the residual mix play in renewable electricity claims?

The residual mix is used to distinguish between claimed and unclaimed electricity. When making a renewable electricity claim, an organization must have corresponding renewable energy certificates (such as REGOs) that have been retired to support that claim. The residual mix becomes relevant for any consumption that is not covered by retired certificates. Accurate residual mix accounting ensures that claims are supported by appropriate evidence and that emissions accounting reflects the actual renewable electricity purchased versus the grid average.

How does the residual mix affect RE100 reporting?

RE100 commits organizations to renewable electricity. The residual mix is critical for accurate reporting because it defines the emissions baseline for electricity not covered by renewable certificates. Organizations must track consumption and match it with renewable energy certificates (REGOs, LGCs or I-RECs) that have been retired. Any consumption without matching retired certificates is accounted for using residual mix factors. This distinction ensures transparent reporting of actual renewable electricity achieved versus total consumption, which is central to RE100 accountability.

Which renewable energy certificates are excluded from the residual mix calculation?

REGOs, LGCs, I-RECs and STCs are considered claimed when they are retired to support renewable electricity claims. Once these certificates are removed from the market through retirement, they are excluded from the residual mix calculation. The residual mix reflects only the electricity attributes that have not been claimed by any organization. This ensures that the residual mix represents the true average emissions intensity of unclaimed grid electricity, and prevents double-counting of renewable attributes.

What is the practical difference between claiming certificates and leaving electricity on residual mix?

When an organization retires renewable energy certificates (REGOs, LGCs or I-RECs), it removes those attributes from the market and assigns them to its consumption, supporting a renewable electricity claim. This requires purchasing the certificates, retiring them in a registry, and maintaining evidence of ownership and retirement. Any electricity consumption not covered by retired certificates is accounted for using residual mix emissions factors, which are lower than average grid factors but higher than zero-emission renewable sources. The choice to claim or not affects both emissions reporting and potential disclosure requirements.

How does Northmore Gordon help organizations manage residual mix accounting?

Our moREnewable100 service and environmental certificate services support organizations in managing renewable electricity procurement and accounting. We help clients establish applicable reporting frameworks, procure appropriate renewable energy certificates, establish ownership and retirement evidence, and account for both claimed consumption (supported by retired certificates) and unclaimed consumption (using residual mix factors). We also provide guidance on GHG Protocol Scope 2 accounting, helping organizations distinguish market-based approaches from location-based methods and ensuring claims are credible and supported by appropriate evidence.

What reporting frameworks address residual mix and renewable electricity claims?

GHG Protocol's Scope 2 Guidance provides the primary framework for market-based electricity accounting, including guidance on contractual instruments, residual mix application and claim quality. The guidance distinguishes the 2015 version from subsequent consultation activity, so organizations should confirm current final guidance before adopting requirements. RE100 framework also requires residual mix clarity in reporting. Our knowledge library addresses carbon-accounting boundaries and

renewable claims, helping organizations select and apply the correct framework for their stated objective and ensure their residual mix accounting supports traceable evidence for their environmental claims.

What evidence is needed to support renewable electricity claims separate from residual mix?

Renewable electricity claims require specific evidence: the applicable reporting framework, contractual instruments (renewable energy certificates), ownership proof, and retirement or cancellation records in a registry. Generation, consumption and the period represented must be handled consistently. Buying an instrument does not by itself establish every possible claim about electricity consumption.

Organizations must maintain a claim file with exact wording, supporting calculations, source documents, period, assumptions and approver. Residual mix accounting applies only to consumption not covered by retired certificates; We help establish this evidence structure through our renewable certificate and carbon advisory services.