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RE100.org

RE100 TECHNICAL CRITERIA

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VERSIONS CONTROL

Version No.	Revision date	Revision Summary
1.0	April 27th 2016	First public version
2.0	January 2018	Minor edits of the TAG members names list and formatting edits
3.0	March 22nd 2021	Minor edits about reporting (point 1) Additional information on Third party verification of consumption (point 2) Updates of the Energy sources and technologies: additional specifications on biomass and hydropower (point 3) Updates of the Options for renewable electricity procurement: two new options have been added (7. And 8.) Additional information on *Making credible claims* (point 4, previously called "Making Unique Claims") New reference to the external document RE100 *Market Boundary Criteria* document version of May 2019 The details on how to make claims for each sourcing options have been moved to the table in the Annexure New information on Active vs. Passive sourcing of renewable electricity (point 6) and explanations about the two newly accepted procurement options (point 6.1 and 6.2) New text about the RE100 materiality threshold (point 7), taken from the *Materiality Threshold* document version of December 2019 New information about Maximizing impacts (point 8) Minor edits to the TAG members name list New Annexure with definitions of each of the sourcing option accepted by RE100 and explanations on how to make credible claims for each of them.

TECHNICAL NOTE ON RENEWABLE ELECTRICITY OPTIONS

1. PURPOSE OF THE RE100 CRITERIA

The RE100 Criteria define what counts as sourcing renewable electricity for the purpose of participation in the RE100 campaign.
This document outlines the options available to companies making progress towards the RE100 Commitment to 100% renewable electricity consumption. The renewable electricity market is dynamic and significantly varies country by country. To reflect this, RE100 may introduce electricity accounting and reporting rules, provide regional or national context, and provide further briefings on emerging best practices. The Criteria are set by the RE100 Technical Advisory Group in consultation with the companies in the campaign and with the approval of the RE100 Project Board.

2. THE RE100 COMMITMENT TO 100% RENEWABLE ELECTRICITY

Public commitment
RE100 companies make a public commitment to secure 100% of their electricity from renewable sources. The commitment covers electricity consumed from self-generation and electricity procured from a supplier or physical electricity market. For the purpose of the RE100 campaign, for a company to be considered "100% renewable," it must procure or self-produce 100% of its electricity throughout its entire operations from renewable sources.

Organizational boundaries
For more information on what counts as the "entire operations" of a company for the RE100 commitment, please refer to the *RE100 Joining Criteria*[1] and the materiality threshold in Section 5 below.

Self-generation and purchases
RE100 companies can achieve 100% renewable electricity use by making claims to:

- **Production and use of renewable electricity** from their own facilities. A company may consume renewable electricity that it generates. These facilities can be grid-connected and onsite or offsite, or entirely off the grid.

- **Procured renewable electricity** sourced from generators and suppliers in the market. This includes direct purchases from specific generators (e.g. power purchase agreements), which can be located onsite or offsite. It also includes retail purchases from suppliers and utilities as retail product, and the procurement of stand-alone ("unbundled") energy attribute instruments.

Transparent reporting
Companies joining RE100 commit to reporting on their renewable electricity consumption and, where necessary, renewable electricity generation on an annual basis at a country level. Accounting and reporting of electricity consumption shall follow the principles and rules of the RE100 reporting guidance documents, which will be reviewed annually to reflect changes in the renewable electricity market.

Third party verification of consumption, and where necessary, generation of renewable electricity is required. in accordance with a renewable electricity standard, where available. There are different levels of verification such as verification of renewable electricity generation, sales, and consumption. Companies may use third-party verification of renewable electricity sales (e.g. Green-e® certification) and scope 2 GHG emissions (via GHG Protocol Corporate Standard) provided it meets the requirements outlined in this document.

[1] https://www.there100.org/sites/re100/files/2021-08/RE100%20Joining%20Criteria%20Aug%202021_1.pdf

3. ENERGY SOURCES AND TECHNOLOGIES

RE100 considers renewable the electricity generated from geothermal, solar, sustainably sourced biomass (including biogas), hydropower and wind energy sources.

Biomass and hydropower can play a role in decarbonization provided they are created and used sustainably. RE100 recommends using standards to secure sustainability claims associated with the use of biomass and hydropower. The following standards/guidance can for instance be used: the ISO 13065:2015 (specifies principles, criteria and indicators for the bioenergy supply chain to facilitate assessment of environmental, social and economic aspects of sustainability), the Green-e® Renewable Energy Standard for Canada and the United States, and the Low Impact Hydropower Institute (LIHI).

The Technical Advisory Group will study the environmental and social sustainability of these technologies and may introduce related recommendations and criteria as consensus around best practices develop.

4. MAKING CREDIBLE CLAIMS

At a minimum, RE100 defines renewable electricity consumption as the ability to make unique claims on the use of renewable electricity generation and its attributes. RE100 members must be able to demonstrate that they have an exclusive claim to use of unique renewable electricity generation to meet all its reported renewable electricity usage. Typically, this means ownership of the generation attributes (e.g. energy attribute certificates [EAC]) associated with the generation. In markets without available renewable energy certificate systems, companies may be able to use other contractual instruments and arrangements between generators, suppliers, and users to ensure that no other entity may claim use or delivery of the same renewable electricity generation.

The requirements for a credible RE usage claim and the criteria for contractual allocation of attributes (including energy attribute certificates) are as follows:

1 Credible generation data;
2 Attribute aggregation;
3 Exclusive ownership (no double counting) of attributes;
4 Exclusive claims (no double claiming) on attributes;
5 Geographic market limitations of claims*; and
6 Vintage limitations of claims.

*For RE100 criteria on geographic market limitations of claims please see the RE100 note on *Market Boundary for Making Corporate Renewable Electricity Use Claims*[2]. In general, for RE100 a country is a considered a market. These criteria apply to all the procurement methods identified below as well as to others not outlined here. For further details on the requirements for a credible renewable electricity usage claim, RE100 members should refer the RE100 briefing on *Making Credible Renewable Electricity Usage Claims*[3]. Additional leadership criteria may be required below or in the future for RE100 beyond these minimum requirements.

[2] https://www.there100.org/sites/re100/files/2020-10/Note%20on%20Market%20Boundaries.pdf
[3] https://www.there100.org/sites/re100/files/2021-02/RE100%20Making%20Credible%20Claims.pdf

5. OPTIONS FOR RENEWABLE ELECTRICITY PROCUREMENT

To achieve 100% renewable electricity, a company may choose from the following options:

Sr. No.	Renewable Electricity Sourcing Method
Renewable electricity self-generation used for self-consumption	
1	Self-generation from facilities owned by the company (on or offsite)
Renewable electricity purchase	
2	Purchase from on-site installations owned by a supplier
3	Direct line to an off-site generator with no grid transfers
4	Direct procurement from offsite grid-connected generators e.g. Power Purchase Agreement (PPA)
5	Green electricity products from an energy supplier (e.g. Green Tariffs)
6	Unbundled Energy Attribute Certificate ("EAC" or "certificates") purchase
7	Default delivered renewable electricity from the grid, supported by certificates
8	Default delivered renewable electricity from a grid that is 95% or more renewable and where there is no mechanism for specifically allocating renewable electricity

There are many variations of supply arrangements and the while the eight listed above cover most categories, the list is not exhaustive. At a minimum, companies should follow the requirements listed in the RE100 paper *Making Credible Renewable Usage Claims*[4]. For any procurement method that does not fit into the categories listed above or match the criteria in that paper, companies should contact RE100 and the RE100 Technical Advisory Group will review the procurement method and the RE100 project board will decide on its eligibility for RE100.

6. ACTIVE VS. PASSIVE SOURCING OF RENEWABLE ELECTRICITY

Two broad approaches are followed by consumers to make renewable electricity consumption claims:

- **A passive approach**, in which renewable electricity consumption claims are made based on the renewable electricity that is provided by default or regulation (and not otherwise transacted to specific customers) available in the grid or grids from which companies source their electricity; and

- **An active approach**, in which renewable electricity consumption claims are made based on the actions that companies take to procure or produce the renewable electricity that they consume, beyond what is required to be delivered by law or delivered through the standard grid.

[4] https://www.there100.org/sites/re100/files/2021-02/RE100%20Making%20Credible%20Claims.pdf

By taking an active approach to meeting their renewable energy needs, companies can accelerate the deployment of renewable energy capacity by using their purchasing power and/or investment capacity. ***RE100 recommends that companies take an active approach to sourcing renewable electricity***. This is a leadership recommendation for RE100 that is separate from the requirement for credible claims outlined in section 'Making Credible Claims' above. There are two limited sets of circumstances, outlined below, under which RE100 accepts claims from passive procurement.

6.1 Renewable electricity claims from the default-delivered grid mix electricity:

Default delivered renewable electricity is electricity on a grid that has not been actively sourced by a specific customer. RE100 members can claim renewable electricity usage from the default-delivered / standard product offering by an energy supplier when, and only when, the supplier is retiring Energy Attribute Certificates on behalf of those customers that meet the Energy Sources and Technologies and Credible Claims criteria in Sections 3 and 4 above.

This includes renewable electricity consumption claims based on the renewable electricity that is provided by regulation and not actively sourced by specific customers. For example - renewable electricity delivered via default supply by the utility/supplier where utility/supplier has retired Renewable Energy Certificates (RECs) equivalent to its compliance target under the Renewable Energy Portfolio Standard (RPS) in the United States. Another example is renewable electricity delivered via default supply in Australia by the utility/supplier where utility/supplier has retired Large-scale Generation Certificates (LGCs) under the Renewable Energy Target (RET). However, the mere existence of a Renewable Portfolio Standard or similar mechanism does not mean it is appropriate for a company to claim that renewable electricity.

This not a broadly applicable methodology and companies should approach this with caution and ensure that they have robust data from their suppliers to support these claims, particularly where alternative compliance mechanisms are available to utilities/suppliers and utility/suppler compliance data may not be available or sufficiently detailed. Members should be prepared to support their claim to RE100. For more information see the annex.

6.2 Renewable electricity claims from grids having a high percentage of renewables:

RE100 recognizes that some countries have a high percentage of grid renewables and no mechanism for voluntary procurement of renewable electricity from the grid. RE100 also recognizes that it is not beneficial to create unnecessary cost or bureaucracy for companies operating in markets where this is the case.

RE100 members can, in their RE100 reporting, count all of their electricity consumption from the grid as renewable (i.e. take a passive approach) in a country when the default grid mix of renewables is over 95% **and** when there is no mechanism for actively sourcing renewable electricity from the grid. This only applies when the entire national grid is at a high percentage (i.e. one state or region being over 95% does not allow for a passive claim) and does not apply to electricity consumption in that country from sources other than the grid.

At present RE100 has found that only Paraguay, Uruguay, and Ethiopia meet these criteria. Other countries with a high percentage of renewables on the grid such as Norway and Iceland are not eligible for passive claims as the renewable attributes from the electricity have been transacted to specific customers. This also does not apply to countries such as Nepal which have a high percentage of domestic renewable electricity but import significant amounts of electricity.

This list of countries is subject to change as the market and the grids evolve and members are welcome to present data from other countries that they think should be included.

Note: If you find evidence that a certain country is meeting those conditions please send the information to **re100@cdp.net** for us to evaluate it.

7. MATERIALITY THRESHOLD

RE100 companies make a public commitment to use 100% renewable electricity across their global operations. Some countries may not have credible corporate renewable electricity sourcing options, and this will impact the ability of a company to meet its 100% commitment. In this situation, the company shall report transparently about countries where credible renewable electricity sourcing is not available. This transparency from companies is crucial for presenting the case to policy makers that there is an unmet demand from the member companies and using this demand as a driver of change. Additionally, this transparency of challenges faced can allow companies to work together on innovative business models to source renewable electricity.

Some companies have small operations such as a single store or bank branch in a country, which have negligible impact on local demand. In countries where it is not technically feasible for the company to source renewable electricity due to reasons like small size, small load, landlord-tenant issues, etc., these small loads can have a disproportionate impact on the company's ability to make renewable electricity use claims, tying up team resources whilst having no material impact on market transformation due to their small size. In recognition of this, RE100 has elected to set a maximum allowable threshold of electricity consumption that may be excluded from the RE100 target coverage.

RE100 member companies:

- Can exclude singular small loads (small offices, retail outlets, etc.) having electricity consumption up to 100 MWh/year†, per market, from the RE100 target boundary.
- Can claim exclusions‡ up to a total of 500 MWh/year (with a limit of 100 MWh/year per market)
- Cannot make any exclusions according to the above criteria in markets where it is technically feasible to source renewable electricity via any credible sourcing options such as EACs.

† The size of the excludable load was determined using modelling of energy consumption for a small office, commercial building, or retail space as well as loads reported by companies to RE100.
‡ All claimed exclusions must still be reported to RE100 via the annual reporting process.

Please check more information at *RE100 Materiality Threshold paper*[10].

8. MAXIMIZING IMPACT

As companies transition to renewable electricity, they should strive to make the most impactful procurements possible. RE100 generally defines impactful procurements as those which ensure the construction of new renewable electricity generation that can displace fossil fuel generation from the grid. However, sourcing renewable electricity has variety of environmental and social impacts. Thus, it is recommended to pursue the highest impact strategies for purchasing renewable electricity. For example, the company can choose to procure renewable electricity from a specific technology and region, engage with new projects, procure via long-term agreements, explore collaborative opportunities with other companies in the same market to jointly meet renewable electricity needs. procure only from renewable electricity facilities that have been subject to environmental and social impact assessments, look for 3rd party verification that ensure the sustainability of renewable electricity purchases, etc. To find out more about impactful procurement, please refer to the *RE100 Leadership paper*[5].

[5] https://www.there100.org/sites/re100/files/2020-09/RE100%20Leadership%20report.pdf

9. THE RE100 TECHNICAL ADVISORY GROUP

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10. ANNEXURE

Renewable Electricity Sourcing Options –

Sr. no.	Renewable electricity sourcing options	Description
Renewable electricity self-generation used for self-consumption:		
1.	Self-generation from facilities owned by the company (on or offsite)	This option includes renewable electricity produced from installations that are owned by the company, onsite or offsite, connected to the local grid or entirely off-grid. For consumption, companies must retain the certificates from their self-generation. In markets without certificate systems, the company shall retain the attributes of generation and ensure no other entity may claim use or delivery of renewable electricity from the facility.
Renewable electricity purchase:		
2.	Procurement from on-site installations owned by a supplier	In this option, electricity generated from on-site behind the meter facilities owned and operated by a third-party supplier is procured and consumed by the company. The renewable electricity consumption claimed by a company using this option shall be substantiated by an electricity supply contract with the supplier that conveys the project's energy attributes or the project's associated Energy Attribute Certificates.
3.	Direct line to an off-site generator with no grid transfers	This option includes renewable electricity produced from off-site installations owned and operated by a third party and delivered to the company via a direct line, with no grid transfers. The renewable electricity consumption claimed by a company using this option shall be backed by an electricity supply contract with the project owners and operators including renewable energy attributes
4.	Direct procurement from offsite grid-connected generators e.g. Power Purchase Agreement (PPA)	In a direct procurement contract, an agreement is signed between a buyer (the company procuring the electricity) and a renewable electricity generator. The contract ensures the procurement of electricity generated by a specific renewable project with renewable attributes. In general, there are two types of PPAs (though there is variety within these). A virtual PPA is a contract under which the renewable electricity generator sells the electricity into the local wholesale power market. The generator and the corporate buyer then settle the difference between the variable wholesale market price and the contract strike price, and the corporate buyer receives the certificates that are generated from the project. A Physical PPA allows the buyer to schedule for and take delivery of the physical electricity and energy attributes, as well as other possible terms. For all types of PPAs, energy attribute certificates may be arbitraged[6] within the same market boundary, as defined in RE100 market

[6] REC arbitrage (also referred to as a REC swap) is a procurement strategy used by electricity consumers to simultaneously meet two objectives: 1) decrease the cost of their renewable electricity use and 2) substantiate renewable electricity use and carbon footprint reduction claims. The strategy is used by consumers installing self-financed renewable electricity projects or consumers who purchase renewable electricity directly from a renewable electricity project, such as through a power purchase agreement (PPA). More information is available here: https://www.epa.gov/sites/production/files/2017-09/documents/gpp-rec-arbitrage.pdf

Sr. no.	Renewable electricity sourcing options	Description
		boundary note[7]. Community or shared renewables (often solar) can also be considered as "Direct procurement from offsite grid-connected generators" if the facility is owned by a third party, and associated attributes are conveyed to the corporate buyer.
5.	Green electricity products from an energy supplier (e.g. Utility green power programs and products, Green Tariffs)	A green electricity product is offered by an energy supplier distinct from the "standard" offering. Participating customers usually pay a per-kilowatt-hour premium through an additional line item on their monthly electricity bill to shift from the standard offering to renewable electricity. The utility/supplier matches the electricity consumed by the company and it is delivered through the grid with renewable electricity procured from a variety of sources including specified project. In markets where certificate systems exist, the utility/supplier retires certificates on behalf of the company consuming the electricity. The utility/supplier can also back up the green electricity supply with the purchase of unbundled certificates. These products can be structured in different ways with respect to the quantity and quality of renewable electricity offered to the consumer. Certain contracts of this kind are known as green electricity products or tariffs.
6.	Unbundled Energy Attribute Certificate ("EAC" or "certificates") purchase	Companies can claim the environmental benefits of renewable energy production by acquiring Energy Attribute Certificates (EACs) issued to renewable electricity generators operating within the same market boundary as the claimant. Unbundled EACs can be procured separately from the generated electricity. Companies may purchase unbundled EACs like RECs (North America), Guarantees of Origin (Europe) and I-RECs (some other regions) separately from electricity to match with their procured electricity consumption. **Unbundled EACs should not be matched with the electricity consumption which is self-generated by the company from fossil fuel-based electricity generation facilities (such as Combined Heat and Power Plants).**
7.	Default delivered renewable electricity from the grid, supported by certificates	This is the renewable electricity in the electricity utility/supplier mix that has not been voluntarily procured by the consumer but is delivered by the utility/supplier as a default supply to the customer. Companies can claim default delivered renewable electricity from their utility/supplier mix if and only if an equivalent amount of EACs that meet the RE100 Eligible Supply and Credible Claims criteria are retired by the utility/supplier on behalf of their customers. If an RE100 company wishes to claim renewable electricity they must obtain the relevant information from their utility/supplier to verify that the renewable electricity meets the other RE100 requirements included the Credible Claims criteria and that the electricity comes from an eligible renewable source. This sourcing options can include renewable electricity that is supplied by utilities/suppliers under a compliance mandate. However, the existence alone of the mandate is not sufficient for an RE100 member to claim it, they need to verify how their utility/supplier is

[7] https://www.there100.org/sites/re100/files/2020-10/Note%20on%20Market%20Boundaries.pdf

Sr. no.	Renewable electricity sourcing options	Description
		complying with the mandate. In the US, Renewable Energy Portfolio Standards (RPS) require that a specified percentage of the electricity that utilities supply comes from renewable resources and that utilities/suppliers retire Renewable Energy Certificates on behalf of their customers for that percentage of electricity. In some cases, these programs allow for alternative compliance, multipliers, and other mechanisms that do not deliver renewable energy to consumers in line with the RE100 criteria. Another example is renewable electricity delivered via default supply in Australia by the utility/supplier where utility/supplier has retired Large-scale Generation Certificates (LGCs) under the Renewable Energy Target (RET). Again, consumers should verify that their supplier is retiring LGCs rather than using an alternative compliance mechanism such as paying a shortfall charge. This sourcing method is not applicable in most markets and companies wishing to use it should be prepared to provide supporting documentation.
8.	Default delivered renewable electricity from a grid that is 95% or more renewable and does not have an attribute tracking system	RE100 members can count all their electricity consumption from the grid as renewable in a country when the default grid mix of renewables is over 95% and when there is no mechanism for actively sourcing renewable electricity from the grid. This only applies when the **entire national grid** is at a high percentage. This does not apply to (one state or region being over 95% does not allow for a passive claim) and does not apply to electricity consumption in that country from sources other than the grid. At present RE100 has found that only Paraguay, Uruguay, and Ethiopia meet these criteria. Other countries with a high percentage of renewables on the gird such as Norway and Iceland are not eligible for passive claims as the renewable attributes from the electricity have been transacted to specific customers. This also does not apply to countries such as Nepal which have a high percentage of renewable electricity but import significant amounts of electricity. This list of countries is subject to change as the market and the grids evolve and members are welcome to present data from other countries that they think should be included.