

Towards carbon neutrality

Internet Engineering Task Force
(IETF)

Final report

16 February 2023

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Internet Engineering Task Force
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16 February 2023

Carbon neutrality and offsetting strategy development

Dear Jay

We have completed our engagement to undertake to support the Internet Engineering Task Force Administration LLC ("IETF LLC") in its carbon neutrality and offsetting development process. Our engagement was performed in accordance with our contract for carbon neutrality and offsetting strategy development dated 29 April 2022. Our procedures were limited to those items described in the contract.

Results of our work

During the period 29 April 2022 to 16 February 2023, EY completed the carbon neutrality and offsetting development for the IETF LLC. Deliverables for this engagement include:

- ▶ Fit-for-purpose emissions calculator to support the IETF LLC in future emissions calculations
- ▶ Final report summarising the findings from Phase 1 ("Emissions calculations") and Phase 2 ("Offsetting strategy") of this engagement, and EY's recommendations for the IETF LLC's offsetting strategy

Scope of our work

Our work has been limited in scope and time, and we stress that more detailed procedures may reveal issues that this engagement has not. Our work has been designed and performed to assist the IETF LLC in its carbon neutrality and offsetting development process. The procedures we conducted in this engagement do not constitute an audit, a review, or other form of assurance in accordance with any generally accepted auditing, review or other assurance standards, and accordingly we do not express any form of assurance. Responsibility for the accuracy of information provided by the IETF LLC does not rest with EY.

Restrictions on the use of our work product

Ernst & Young ("EY") was engaged on the instructions of the Internet Engineering Task Force (IETF) to prepare a report ("Report") on carbon neutrality and offsetting strategy development, in accordance with the engagement agreement dated 29 April 2022. This report has been prepared for the sole use of IETF LLC and not for any other party. EY disclaims all responsibility to any other party for any loss or liability that the other party may suffer or incur arising from or relating to or in any way connected with the Report, the provision of the Report to the other party or the reliance upon the Report by the other party.

Thank you for the opportunity to work with you in preparing this report. We have enjoyed working with you, and look forward to continuing to work together on any future engagements. If you have any questions, please contact a member of our team or myself on +64 27 263 9045 to discuss any aspect of this report.

Yours sincerely



Pip Best
EY Climate Change and Sustainability Services Partner
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1. Introduction

The Internet Engineering Task Force (“IETF”) is an international community of network designers, operators, vendors, and researchers concerned with the evolution of the Internet architecture and the smooth operation of the Internet. The mission of the IETF is to make the Internet work better by producing high quality, relevant technical documents that influence the way people design, use, and manage the Internet. IETF’s work is done through its many Working Groups with community of volunteers collaborating remotely throughout the year and with progress made at IETF meetings. The IETF holds three week-long meetings a year to support its work, with in-person attendance and virtual attendance at these events.

The IETF’s supporting organisation is IETF Administration LLC. (“IETF LLC”), which in consultation with its community, is investigating how to calculate and offset its greenhouse gas (“GHG”) emissions and whether it should aim for carbon neutrality. The IETF LLC has engaged EY to provide advice relating to calculating, managing, and offsetting its organisational operational emissions and to advise on a potential carbon offsetting strategy that has integrity and that is supported by IETF participants.

EY has taken a two-step approach to help the IETF LLC understand its greenhouse gas (GHG) emissions.

- ▶ Phase 1: Calculation of the IETF LLC’s organisational emissions and development of the emissions calculation methodology in accordance with recognised international standards
- ▶ Phase 2: Strategy to mitigate or offset emissions with carbon units that is co-created with the IETF participant group to align with the IETF’s core purpose and values.

1.1 Scope

During the initial scoping meeting for this project, the IETF LLC expressed a desire for the preferences of the IETF participant group to co-create the most appropriate carbon management and offsetting strategy to align with the IETF’s core purpose and values.

To have accuracy and credibility, any emissions management process needs to go through the fundamental steps: measure, reduce, offset. This report covers the first and last stage of this process, as shown in Figure 1, due to limitations described below.

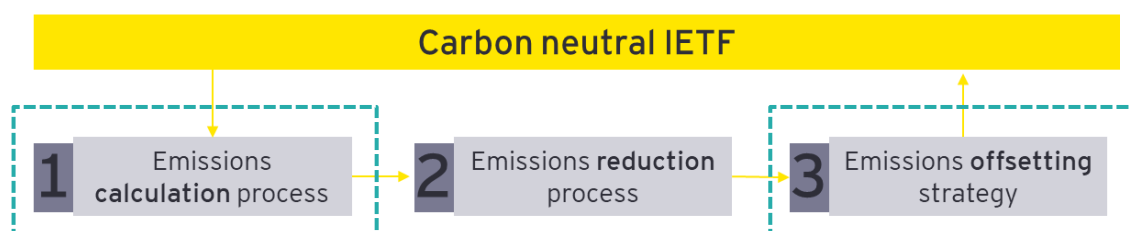


Figure 1: Fundamental steps of carbon management

Limitation on scope

The usual pathway shown in Figure 1 for a credible offsetting strategy is to calculate, reduce and then offset, however this report only covers stage 1 of this process and provides recommendations for IETF to develop its offsetting strategy (stage 3).

Due to the nature of IETF’s business and its size, the majority of its emissions arise from participant’s travel to attend IETF meetings. IETF Meetings are held three times per year around the world to promote in-person attendance by about 1200 IETF participants. Interim meetings are organized between IETF meetings to focus on specific issues. Due to these indirect (Scope 3) event emissions, immediate reduction opportunities for the IETF LLC are limited (further information on emissions sources can be found on section 2.1). Additionally, IETF LLC does not provide comment on any change to its participant’s activities, and therefore reduction strategy focused on reduction of emissions from participant travels is out of scope for this engagement.

2. Phase 1 - Emissions calculation

This section focuses on Phase 1 of this engagement: Calculation of the IETF LLC's organisational emissions and development of the emissions calculation methodology in accordance with recognised international standards. Below, we provide the calculation methodology used in the development of the calculator, and the results of the IETF LLC's total emissions for 2022.

2.1 Calculation methodology

To support in the development of a fit for purpose calculator, EY facilitated a workshop with IETF participants describing their main emissions sources, the standards that need to be met and considered, and a walkthrough of the emissions calculator.

Considering international best practice, EY guidance, and the feedback of the IETF participant workshop, the following calculation methodology has been adopted in the building of the emissions calculator.

Calculation guidance and standards

When creating the calculator, EY has considered the guidance on GHG emissions measurement from the following recognised international standards and technical documents:

- ▶ GHG Protocol Corporate Accounting and Reporting Standard¹,
- ▶ GHG Protocol: Corporate Value Chain (Scope 3) Standard²
- ▶ GHG Protocol: Technical Guidance for Calculating Scope 3 Emissions³
- ▶ Australian Climate Active Carbon Neutral Standard for Events⁴, and
- ▶ United States Environmental Protection Agency (EPA) Greenhouse Gas Inventory Guidance: Indirect Emissions from Events and Conferences.⁵

Emission sources

The GHG Protocol defines emissions into three different 'Scopes' depending on the level of control over the emissions:

- ▶ Scope 1 emissions are greenhouse gasses released directly from a business.
- ▶ Scope 2 emissions are a reporting organisation's emissions associated with the generation of electricity, heating/ cooling, or steam purchased for own consumption. Scope 3 emissions are a reporting organisation's indirect emissions other than those covered in scope 2

Scope 3 emissions are the only emissions for the IETF LLC as the organisation does not own or lease any property, vehicles, or plant which would result in Scope 1 and 2 emissions. It was identified that the biggest emissions activities for the IETF LLC are related to the global events typically held three times a year for its participants⁶. Emissions from **participant travel, venue use, and online attendance** are estimated from these events.

The organisation's operational emissions, primarily from its **staff working from home** and pre-event reconnaissance **business travel**, are also measured but reported separately from the event emissions.

¹ [GHG Protocol: Corporate Accounting and Reporting Standard](#)

² [GHG Protocol: Corporate Value Chain \(Scope 3\) Standard](#)

³ [GHG Protocol: Technical Guidance for Calculating Scope 3 Emissions](#)

⁴ [Australian Climate Active Carbon Neutral Standard for Events](#)

⁵ [United States Environmental Protection Agency \(EPA\) Greenhouse Gas Inventory Guidance: Indirect Emissions from Events and Conferences.](#)

⁶ IETF LLC's 2022 total emissions, as provided in 2.2, are estimated at 3,261 tCO₂-e, with 99% of emissions related to the 3 events held in 2022. To provide a comparison, a large ICT company has reported its 2021 emissions at just over 200,000 tCO₂-e.

Emissions calculation approach

Emissions are calculated by taking activity data (e.g. distance flown in kilometres) and multiplying this by an emissions factor. The emissions factor is a coefficient that describes the rate at which a given activity releases greenhouse gases into the atmosphere⁷. Emissions factors vary between sectors and regions as the processes involved in production of goods and services differ in emissions intensity. As such, governments and scientific research often provide the relevant emissions factors that can be applied by entities to calculate their emissions profile. The below calculation can be used to calculate emissions from a range of activity data.

$$\text{Activity Data} \times \text{Emissions Factor} = \text{Emissions}$$

Example: Car travel distance (kilometres) x Emissions Factor (tonnes of carbon dioxide equivalent (tCO₂-e) produced by the vehicle per kilometre) = Car travel emissions (tCO₂-e)

For the IETF LLC, this is the only appropriate way to measure emissions, as any form of direct emissions measurement is not possible.

EY has sourced emission factors from the latest dataset releases by the Department for Business, Energy and Industrial Strategy (UK), Ministry for the Environment (New Zealand), and international peer-reviewed studies. These datasets are commonly used in corporate emissions reporting and gives the IETF LLC the confidence that high quality, commonly used and referenced emission factors are being used in their emissions measurement. Emissions factors per emissions sources are clearly documented in the emissions calculator developed for the IETF LLC.

Emissions are expressed in tonnes of carbon dioxide equivalent (tCO₂-e), a metric measure that is used to compare emissions from various GHGs on the basis of their global warming potential by converting amounts of other gases to the equivalent amount of CO₂.

Data collection and data quality

Through discussions with the IETF and its participants, EY identified that access to activity data was currently limited, and the quality of this data may require proxies and assumptions to be used. Approaches have been developed to use the best data available to estimate historical emissions, while more accurate approaches have been included for future calculations which assume collection of more suitable activity data.

Table 1 below sets out the minimum data required to calculate emissions for each emissions source and future data collection requirements.

Table 1: Data requirements for Approaches A and B in the emissions calculator

Scope 3 Emission Source	Approach A: Data required for more accurate calculations	Approach B: Minimum data required for emission calculations
Business travel (air)	<ul style="list-style-type: none"> ▶ starting city (city, country) ▶ end city (city, country) ▶ class of service ▶ return or one-way trip 	<ul style="list-style-type: none"> ▶ origin country ▶ city where meeting is being held
Business travel (train)	<ul style="list-style-type: none"> ▶ distance travelled (one way) (km) ▶ type of rail (national rail; international rail; light rail; tube; unknown) ▶ return or one-way trip 	<ul style="list-style-type: none"> ▶ type of distance travelled (within the city; within the country; between countries) ▶ return or one way trip
Business travel (car)	<ul style="list-style-type: none"> ▶ size of car (small; medium; large; unknown) ▶ fuel type (petrol; diesel; hybrid; LPG; unknown) ▶ distance travelled (total distance travelled across the meeting days) (vehicle KMs) 	<ul style="list-style-type: none"> ▶ distance travelled (total distance travelled across the meeting days) (vehicle KMs)

⁷ EPA (2022) [Basic Information of Air Emissions Factors and Quantification](#)

Business travel (taxi/rideshare)	▶ n/a	▶ taxi travel distance (total distance travelled across the meeting days) (passenger KMs)
Business travel (bus/coach)	▶ n/a	▶ distance travelled one way (km) ▶ return or one-way trip
Hotel stay	▶ number of hotel stay nights (per person) ▶ country of hotel stay	▶ number of hotel stay nights (per person)
Event venue (electricity, gas, water)	▶ n/a	▶ country of event ▶ number of hours event space was used ▶ approximate size of event space used for the meeting (m ²)
Online attendance	▶ n/a	▶ number of participants joining meetings online
Food & Catering (consumption)	▶ n/a	▶ number of meals consumed
Food & Catering (waste)	▶ n/a	▶ percentage of food expected to be wasted (0%; 5%; 10%; 20%; 30%) ▶ method to dispose of food waste (combustion; composting; landfill; anaerobic digestion)
Work from Home	▶ n/a	▶ number of full-time equivalent (FTE) working hours (throughout the year)

2.2 The IETF LLC's total emissions for 2022

Table 2 provides total estimated emissions for the IETF LLC's 2022 organisation and three events (IETF Event 113 in Vienna, Event 114 in Philadelphia, and Event 115 in London) using evidence data provided by the IETF LLC. The IETF LLC's 2022 emissions were calculated using the emissions calculator developed by EY, which is provided in a separate Excel document.

Table 2: IETF's total emissions for 2022

Emissions Activity	Total emissions (in tCO ₂ e)	Percent of total emissions ⁸
Air travel	2,667	Aggregated by category below
Train travel	No data available	
Car travel	No data available	
Taxi travel	No data available	
Bus/Coach travel	No data available	
Total Event Travel Emissions	2,667	82%
Accommodation	137	Aggregated by category below
Total Accommodation Emissions	137	4%
Venue Electricity	299	Aggregated by category below
Venue Gas	22	
Venue Water	0.12	
Total Venue Emissions	321	10%
Online Attendance	77	Aggregated by category below
Total Online Attendance Emissions	77	2%
Staff working from home	18	Aggregated by category below
General business travel	30	
Total General Operations Emissions	48	1%
Total Emissions	3,261	100%

⁸ May not equate to 100% due to rounding

Assumptions and limitations

EY took a conservative approach to calculating the IETF LLC's emissions profile by choosing proxies and estimations that result on the largest likely quantity of emissions when limited data was availability. The specific assumptions made in the 2022 GHG calculation process include:

- ▶ Onsite attendees who did not pick up their badge are assumed to not have attended the event
- ▶ All onsite attendees not from the host country are assumed to have travelled return via airplane. Class of travel was unknown and average emission factor was used
- ▶ All onsite attendees (including those from the host country) are assumed to have stayed in a hotel room for the duration of the event
- ▶ The event activities ran for 12 hours each day
- ▶ The event space is based upon the IETF LLC's general specifications for an IETF event venue
- ▶ All online attendees logged on for 12 hours of activities each event day.

EY relied on information and data provided by IETF LLC to estimate its emissions. EY recommends that the IETF LLC reviews the data entered in the tool prior to carbon offsetting, to ensure accuracy and completeness.

To allow for more accurate calculation of emissions, EY recommends that the IETF LLC work to shift their data collection to the more accurate reporting method as soon as possible to improve the accuracy of their emissions. Suggestions to do this include:

- ▶ Embedding the data collection into the registration process for the events
- ▶ Working with venue providers,
- ▶ Embedding requirement for activity data into any future contractual arrangements,
- ▶ Develop a stand-alone participant emissions calculator for all travel-related emissions. This calculator would be used by individual participants to understand their personal carbon footprint related to travelling to attend IETF meetings. The insights gained from the calculator would support IETF participants to understand actions they could take to reduce their own travel emissions, and consequently IETF LLC's Scope 3 emissions, and
- ▶ Including catering emissions into IETF LLC's emissions calculations: Catering was not included in the IETF LLC's emissions estimates for this report as IETF LLC are awaiting further details from the event planners to complete this section of the estimates.

3. Phase 2 - Emissions offsetting strategy

This section focuses on Phase 2: Strategy to mitigate or offset the avoidable emissions with carbon units. Below, we provide an introduction to voluntary carbon markets, the approach used in the development of our recommendations for the IETF LLC’s carbon offsetting strategy, and the results of the IETF participants’ preference for criteria when choosing carbon units.

3.1 Introduction to the Voluntary Carbon Market

Carbon units are awarded to defined projects that store, avoid, or reduce GHG emissions in the atmosphere. Cancelling one carbon credit, using a reputable offset standard and registry, is used to support balancing the atmospheric impact of emitting one tonne of greenhouse gases (in CO₂-e).

Key types of units are avoidance (credits) and removals (offsets). These are nature-based or technology-based. Figure 2 below provides an overview of these types of carbon units.

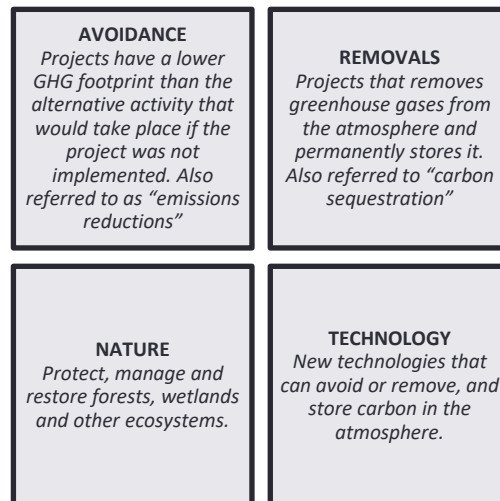


Figure 2: Overview of carbon credit types

There are two main advisory bodies in the international carbon market: the International Carbon Reduction and Offset Alliance (“ICROA”) and, the Integrity Council for the Voluntary Carbon Market (“ICVCM”). To ensure credible offsets are used, these governing bodies have a set of minimum criteria that offset projects must comply with. These are outlined below:

Common minimum criteria ICROA and ICVCM recommend^{9,10} are:

- ▶ **Additional:** Project-based emission reductions and removals beyond what would have occurred if the project had not been carried out.
- ▶ **Permanent:** Carbon units are issued for reductions or removals that are permanent or, if they have a reversal risk, must have requirements for a multi-decadal term and a comprehensive risk mitigation to ensure the risk is minimised and compensation mechanism in place to ensure the risk is minimised, with a means to replace any units lost.
- ▶ **Unique:** The carbon units are only counted once and are not double issued or sold.
- ▶ **Independently verified:** All emission reductions and removals shall be verified to a reasonable level of assurance by an independent and accredited third-party verifier.

⁹ ICROA. [Voluntary Carbon Market Standards: Review Criteria](#).

¹⁰ ICVCM. [Core Carbon Principles](#).

- ▶ **Measurable:** units are quantifiable and use recognised measurement tools, including adjustments for uncertainty and leakage, against a realistic and credible emissions baseline.
- ▶ **Programme governance:** Public stakeholder consultation on the development of program rules and procedures; accounting methodologies; projects and governmental programs (in the case of jurisdictional crediting); ensuring stakeholder comments are transparently addressed.
- ▶ **No negative community impacts:** High-quality offset units should only not significantly contribute to social and environmental harm. On the other hand, projects that lead to co-benefits such as increased biodiversity or increased socio-economic balance, present an opportunity for IETF to ensure these are aligned with its values.

Additional to advisory bodies, multiple credit standards exist. Out of these credit standards, two have been assessed as leaders in the market¹¹; These are the Gold Standard (“GS”) and the Verified Carbon Standard (“VCS”). These standards, endorsed by ICROA, have been around for approximately 15 years and significant work has been completed to ensure their units are of high integrity and have thorough methodology available online.

3.2 Approach

The aim of Phase 2 was to work together with the IETF participant group to co-create the most appropriate carbon reduction and offsetting strategy while considering best standards. EY provided the IETF and its participants with a workshop to learn about voluntary carbon markets and develop an understanding of the minimum criteria for voluntary carbon units that the IETF LLC may use as part of its offsetting strategy.

EY engaged with interested IETF participants to canvas their views and feedback on the proposed criteria and their priorities and preferences for offset procurement.

3.3 IETF participant’s feedback and offsetting preferences

In addition to the minimum criteria based on ICROA and ICVCM, EY sought input from IETF participants to understand IETF’s preferences in the co-benefits of voluntary carbon units. EY conducted a survey to ask IETF participants to rank the importance of a number of other criteria and preferences for offset procurement. The survey was completed by 12 participants; the results are shown in Figure 3.

IETF participants valued social co-benefits the highest, followed by the geographic area the units are from, nature-based credits, technology-based credits, and alignment with the IETF’s ESG future strategy. These characteristics of units should be taken into consideration when seeking procurement.

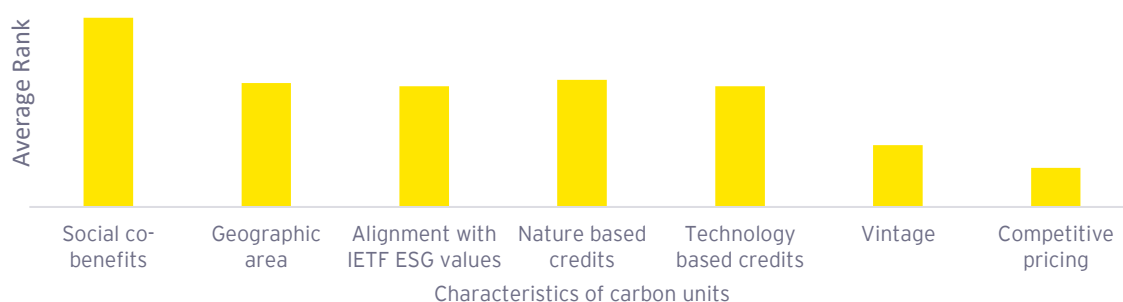


Figure 3: IETF participants’ ranked preferences on characteristics of voluntary carbon units. Participants ranked the characteristics from 1-7 and these were assigned a Borda count to rank them in order of preference. The highest average rank is the most preferred carbon credit characteristic.

¹¹ [Climate Change Authority. 2022. Stocktake and analysis of international carbon offset programs.](#)

4. Recommendations

High quality carbon units are fundamental in the transition to a global net zero economy. The number of organisations committing to net zero targets tripled from 2020 to 2021 and more than 130 countries have set decarbonisation and net zero targets.

EY has provided a process for calculating emissions that is fit-for-purpose for the IETF LLC and a carbon offsetting strategy that is supported by members. Voting in the workshop has allowed participants to have a voice in the offsetting strategy. Additionally, EY researched four peer organisations to understand what is currently being done in the market, however none of these publicly disclose whether they have a carbon offsetting strategy.

Integrity in voluntary carbon markets requires establishing comprehensive principles, governance frameworks and an evolving approach to identify, assess and address emerging matters such as guidelines, regulations and best practices. Below, we provide EY's recommendations for the IETF LLC's offsetting strategy, and key next steps when procuring offsets.

Recommendations

- ▶ **Procurement amount:** Table 3 provides an overview of the potential carbon neutrality claims that are available to the IETF LLC. Due to the IETF LLC's unique emissions profile which largely consists of emissions associated with its events, it is recommended that the IETF LLC take a fit-for-purpose approach to carbon offsetting (Option 3 below), accounting for its most significant emissions sources.

Additionally, carbon neutrality claims should be transparent and provide stakeholders with relevant information to allow them to understand the neutrality claim and avoid any accusations of greenwashing. It is recommended that the IETF LLC be transparent when disclosing its emission measurement and carbon offset purchases in the market by noting:

- ▶ the scope of the emission sources measured,
- ▶ the timescale of these emissions,
- ▶ the emission factors used in emissions calculations,
- ▶ the emission reduction strategies implemented to first try and reduce emissions, and
- ▶ the nature of the emission offsets and an ability for checking the appropriate cancellation has occurred (e.g. by linking to the external registry).

To ensure increasing integrity of carbon neutrality claims, it is also recommended that the IETF LLC investigate getting their emissions estimates verified by an independent third-party against an international standard.

Table 3: Overview of potential carbon neutrality claims for the IETF LLC, and related emissions boundary, procurement amount, and key considerations

Potential claim	Emissions boundary	Amount of offsets	Considerations
Option 1: Carbon neutral events	<ul style="list-style-type: none"> ▶ Event travel emissions ▶ Accommodation ▶ Venue emissions ▶ Online attendance emissions 	3,213	<ul style="list-style-type: none"> ▶ Measurement of emissions and offset procurement and retirement would need to occur after events are held, therefore the IETF LLC would need to be cautious of any offsetting claims prior to these occurring.
Option 2: Carbon neutral organisation	<ul style="list-style-type: none"> ▶ General operations emissions¹² 	48	<ul style="list-style-type: none"> ▶ Due to IETF events being associated with the large majority of its emissions, this option would not represent the real-life impact of related emissions and would not represent a credible option for offsetting.
Option 3: Carbon neutral organisation and events	<ul style="list-style-type: none"> ▶ Event travel emissions ▶ Accommodation ▶ Venue emissions ▶ Online attendance emissions ▶ General operations emissions 	3,261	<ul style="list-style-type: none"> ▶ Fit-for-purpose approach taking into consideration the IETF LLC's main emission sources. ▶ Easier claim due to no significant exclusions, or limitations associated with Options 1 and 2.

- ▶ **Emissions estimates and assumptions:** Estimating GHG emissions comes with inherent uncertainties due to many factors including data quality, methodology assumptions, and accuracy of emission factors. Due to the IETF LLC's current limited access to activity data from participants, the calculator uses proxies and assumptions to give the IETF LLC an estimated emissions figure. In the future, the IETF LLC should work to reduce assumptions and proxies by strengthening their data collection process to get a more accurate understanding of their emissions.

The emission factors in the IETF LLC's emissions Excel-based calculator are often updated, therefore it is recommended that the values in the calculator are also updated so that the IETF LLC's emission calculations are using up-to-date emission factors.

- ▶ **International standards, and project criteria:** It is recommended that the IETF LLC procures carbon units that are registered under an internationally recognised standard, such as GS and VCS. These standards consistently demonstrate strong performance results in almost all key criteria¹³. Based on IETF participant feedback on offset preferences, it is further recommended that the IETF LLC purchases units that, where possible, have:
 - ▶ significant social co-benefits,
 - ▶ are from the geographic area that events are held, and
 - ▶ are aligned with ESG values or future strategy.
- ▶ **Procurement via offset broker, and due diligence:** As with other commodities, some firms act as brokers for carbon offsets. Brokers procure offsets and retire units on the client's behalf. It is recommended that the IETF LLC use a broker to make it easier to identify a mix of offset units from different project types (which would meet IETF participant's preferences) and different methodologies, alongside facilitating small or large transactions as required. Brokers may also conduct enhanced due diligence and ensure the quality of carbon units.
- ▶ **Scrutiny over voluntary carbon markets:** Considering the recent commitments by organisations and countries related to net zero targets, it is expected that the scrutiny over voluntary carbon markets and international standards will grow. It is recommended that the IETF LLC introduces a robust set of principles and governance frameworks to manage reputational risks and ensure high quality carbon offsets.

Appendix A includes a summary of the proposed approach and relevant criteria that can be provided to brokers as part of IETF LLC's procurement of carbon units

¹² Emissions boundary currently does not account for IETF purchased goods and services, however these are unlikely to be of significance compared to emissions from events.

¹³ [Climate Change Authority, 2022. Stocktake and analysis of international carbon offset programs.](#)

5. Next steps

To support the IETF LLC on its carbon neutrality journey, Figure 4 provides an overview of key next steps that the IETF LLC would need to take in order to make carbon neutrality claims.

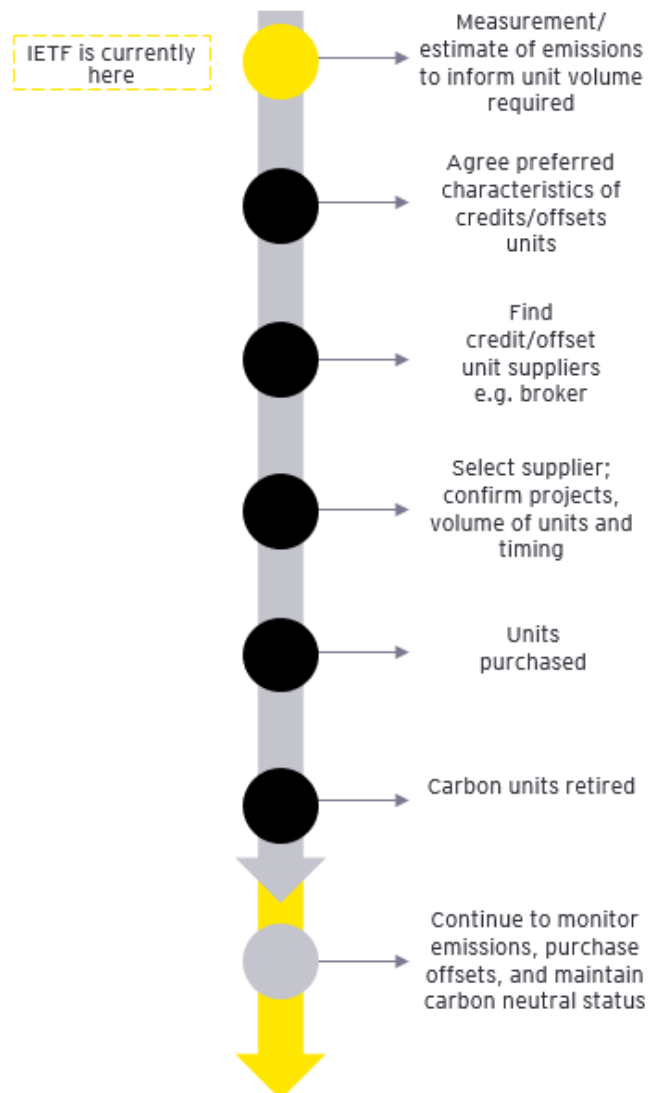


Figure 4: Overview of key next steps in the IETF LLC's carbon neutrality journey

Appendix A Brief for Brokers

Background

Integrity in voluntary carbon markets requires establishing comprehensive principles, governance frameworks and an evolving approach to identify, assess and address emerging matters such as guidelines, regulations and best practices. Assuming EY's recommendations are adopted, the below carbon offsetting strategy could be adopted by the IETF. Carbon offset providers can be found on ICROA's website.¹⁴

Carbon offset summary

Potential claim	Emissions boundary	Amount of offsets ¹⁵	Considerations
Carbon neutral organisation and events	<ul style="list-style-type: none"> ▶ Event travel emissions ▶ Accommodation ▶ Venue emissions ▶ Online attendance emissions ▶ General operations emissions 	3,261	<ul style="list-style-type: none"> ▶ Fit-for-purpose approach taking into consideration the IETF LLC's main emissions sources.

The IETF LLC can procure the above amount of offsets annually by engaging offset providers, who conduct offsetting projects to achieve a reduction or sequestration of emissions. The minimum criteria for carbon offsetting projects, based on common minimum criteria ICROA and ICVCM recommend, are:^{16 17}

- ▶ **Additional:** Project-based emission reductions and removals beyond what would have occurred if the project had not been carried out.
- ▶ **Permanent:** Carbon units are issued for reductions or removals that are permanent or, if they have a reversal risk, must have requirements for a multi-decadal term and a comprehensive risk mitigation to ensure the risk is minimised and compensation mechanism in place to ensure the risk is minimised, with a means to replace any units lost.
- ▶ **Unique:** The carbon units are only counted once and are not double issued or sold.
- ▶ **Independently verified:** All emission reductions and removals shall be verified to a reasonable level of assurance by an independent and accredited third-party verifier.
- ▶ **Measurable:** Units are quantifiable and use recognised measurement tools, including adjustments for uncertainty and leakage, against a realistic and credible emissions baseline
- ▶ **Programme governance:** Public stakeholder consultation on the development of program rules and procedures; accounting methodologies; projects and governmental programs (in the case of jurisdictional crediting); ensuring stakeholder comments are transparently addressed
- ▶ **No negative community impacts:** High-quality offset units should only not significantly contribute to social and environmental harm. On the other hand, projects that lead to co-benefits such as increased biodiversity or increased socio-economic balance, present an opportunity for IETF to ensure these are aligned with its values.

In addition to the above minimum criteria, the following IETF-specific criteria should be followed wherever possible:

- ▶ Projects should create significant social co-benefits,
- ▶ Projects should be based in the same geographic area that events are held
- ▶ Projects should be aligned with ESG values or future strategy.

Timing

In order to be able to claim carbon neutrality, offsetting would need to occur after the close of reporting period, to ensure that offset claims are not made when the offsetting has not actually occurred. This process would include measuring the year's worth of event-related emissions at the close of reporting period, procuring and retiring the relevant number of offsets

¹⁴ [ICROA accredited organisations](#)

¹⁵ One carbon offset (credit) is equal to one tonne of carbon dioxide equivalent (tCO₂-e)

¹⁶ [ICROA. Voluntary Carbon Market Standards: Review Criteria.](#)

¹⁷ [ICVCM. Core Carbon Principles.](#)

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