GUIDEBOOK

SCIENCE-BASED TARGETS FOR FAITH

Technical Guidance Document

WRI.ORG

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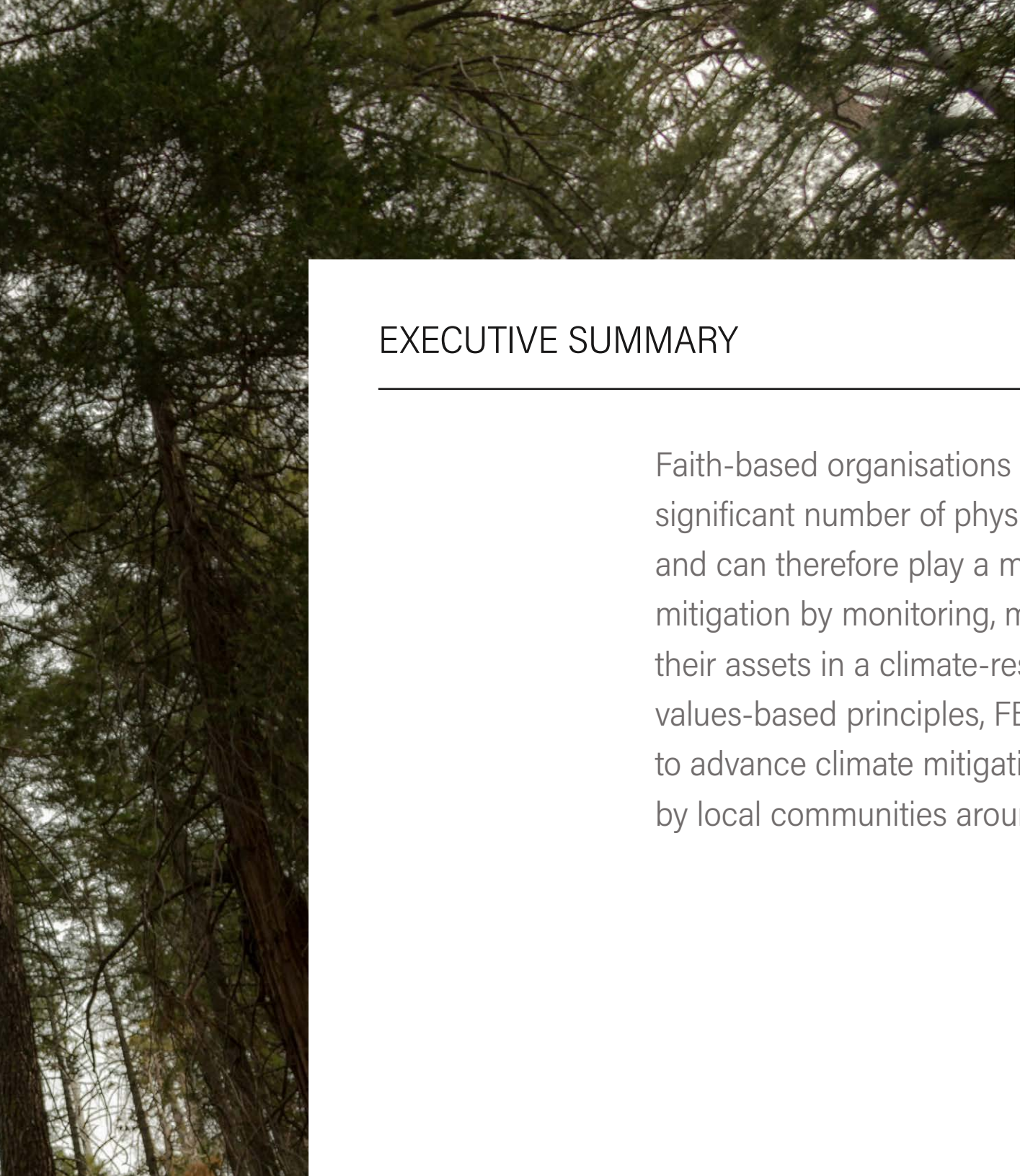
Guidebooks are designed to help users apply a clearly defined standard, practice, or process.



EXECUTIVE SUMMARY

Faith-based organisations (FBOs) own and operate a significant number of physical assets around the world and can therefore play a major role in climate change mitigation by monitoring, measuring, and managing their assets in a climate-responsible manner. Driven by values-based principles, FBOs are uniquely positioned to advance climate mitigation efforts and inspire action by local communities around the world.

HIGHLIGHTS

- The production and consumption of energy is the largest contributor to climate change. Energy consumption alone accounts for up to 60 percent of greenhouse gas emissions (GHGs) worldwide, over half of which is from energy use in buildings (17.5 percent) and transportation (16.0 percent).
- Faith-based organisations (FBOs) operate a significant number of physical assets around the world, including places of worship, health care facilities, and schools, and can therefore play a major role in climate mitigation by operating in a climate-responsible manner.
- Measuring, monitoring, and reducing operational emissions through the Science-Based Targets framework is a proven approach for organisations to manage environmental risk and drive the global transition to net zero.
- This document presents the Science-Based Targets for Faith (SBTF) step-by-step guidance for FBOs to compile an emissions inventory, set a science-based emissions reduction target, and track and communicate progress.
- It also provides a detailed survey designed to collect FBO emissions data and build a global profile of FBO operational performance and reduction targets.
- Through the proactive demonstration of environmental responsibility, SBTF aims to build the capacity of FBOs to manage and monitor emissions, inspire FBO membership and stakeholders, and differentiate FBOs in an age of increasing environmental consciousness.

The World Resources Institute (WRI) and Georgetown University (Georgetown) have partnered to develop the Science-Based Targets for Faith project (SBTF). The project is built on WRI's leadership in establishing global Greenhouse Gas Protocols (GHGPs) and science-based targets (SBT) guidance for corporations, and Georgetown's mission to advance serious and sustained discourse among people of different faiths, cultures, and beliefs. This Technical Guidance document was generously funded by Porticus.

INTRODUCTION

The Intergovernmental Panel on Climate Change's Sixth Assessment Report (IPCC 2022) gave the world a stark reminder of the extent of the impact of a changing climate. High temperatures, drought, flooding, and other extreme weather and climate events that contribute to food and water insecurity, malnutrition, and loss of livelihoods are today felt by over 3 billion people around the world, or approximately 40 percent of the global population. Whether we limit global temperature rise to 1.5˚C and prevent the most severe climate impacts depends on actions taken this decade. *It will require ambitious emissions cuts.* The magnitude of the climate crisis requires innovative partnerships, active participation, and urgent mobilisation across all societal sectors to curb emissions and meet our collective climate goals.

How (FBO) assets are managed can have a great impact, not only for their potential to reduce emissions but also for demonstrating leadership and commitment to 'walk the talk' on climate mitigation.

Faith-based organisations (FBOs) have long been recognised for their role in social service delivery, working to address health care, education, and economic security needs. More recently, FBOs have been seen by international agencies as critical partners for addressing climate change. A multiplicity of religious groups, spiritual traditions, and interfaith organisations have cooperated in this effort, both in terms of community-led action and in publicly communicating their commitment to addressing climate change. FBOs also own and operate a considerable number of physical assets around the world. How these assets are managed can have a great impact, not only for their potential to reduce emissions but also for demonstrating leadership and commitment to

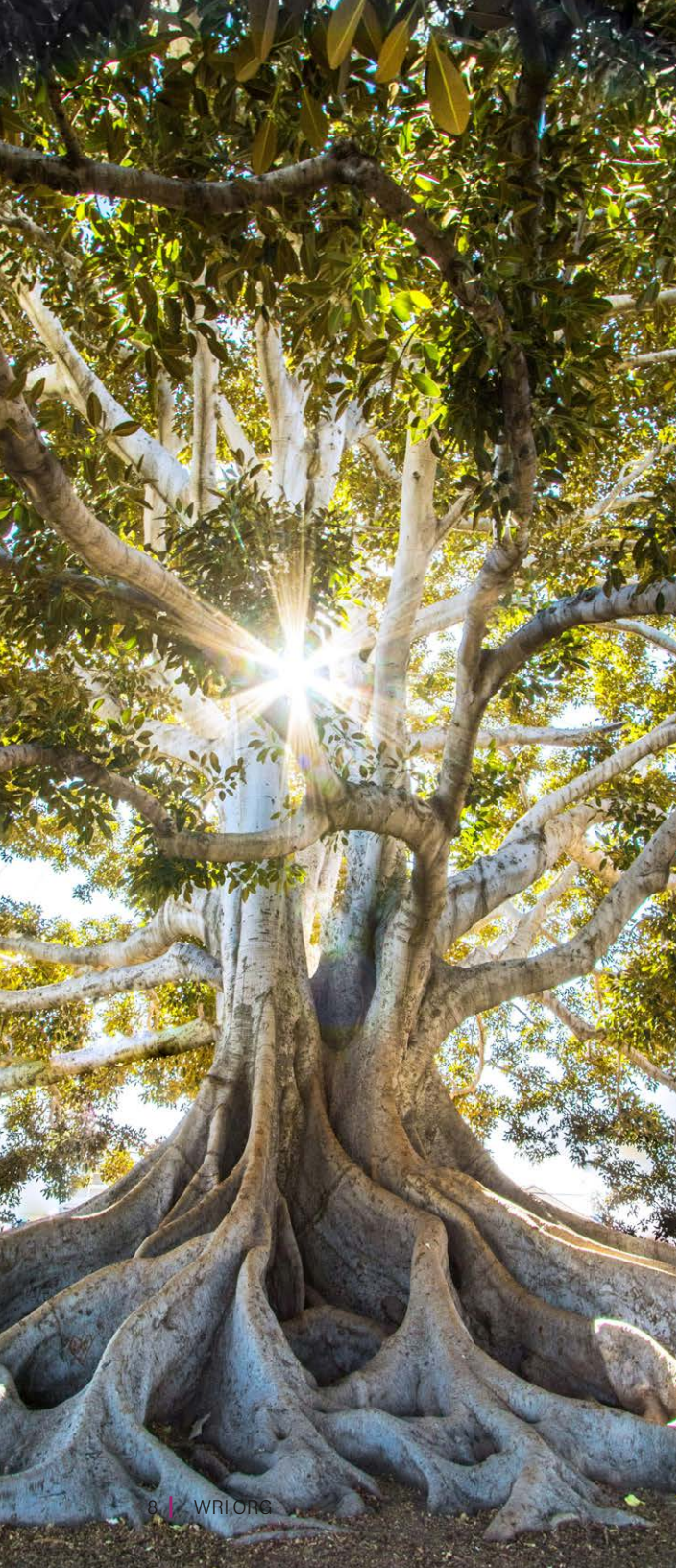
'walk the talk' on climate mitigation. Although there is interest within FBOs in implementing greenhouse gas–reduction strategies within the properties they own or manage, they often have limited capacity to manage, implement, and monitor large-scale mitigation strategies.

About this guidance document

This guidance aims to provide a unified reference for FBOs that are eager to engage in climate mitigation efforts. The document supports FBOs to account for their direct GHG emissions (Scope 1) and indirect GHG emissions of acquired and consumed electricity, steam, heat, or cooling (Scope 2); produce a GHG inventory; and set science-based targets for climate mitigation for the short and long terms. The guidance should be seen as a first step towards aligning FBO efforts with the science-based targets developed by the Science-Based Targets initiative. By following this guidance, FBOs can gain valuable insights into the pathways towards recognising and committing to net zero targets in a way that is aligned and consistent with the Paris Agreement goal of limiting global temperature rise to 1.5°C. The guidance introduces the Science-Based Target for Faith project, provides a survey and method to compile a GHG inventory, gives guidance on how to set science-based targets and indications on how to reach operational net zero, and information on how to track targets and communicate progress.

Who should read this guidance

The intended audience for this guidance are representatives of FBOs who wish to become prominent climate leaders and drive forward the global transition to sustainability. While the guidance can be more easily applied by entities that can devote staff time to carry on the data-gathering and target-setting on a yearly basis,



it can be a useful tool for any type of FBO to understand the key elements of a science-based net zero target and the Science-Based Targets for Faith recommended process. The guidance also provides clarity on key opportunities and challenges in climate mitigation for FBOs, promotes a common understanding of terms such as 'net zero', and gives faith leaders confidence that their near-term and long-term targets are meaningful and grounded in science.

NAVIGATING THIS GUIDANCE DOCUMENT

The goal of this guidance document is to support FBOs to identify, measure, monitor, and reduce the greenhouse gas emissions of their operations including energy consumption, mobility, heating, and cooling.

The checklist below provides an overview of the steps each FBO can take to get this process started, followed by a toolkit listing helpful tools and a shortlist of key terms drawn from the Glossary (Appendix A).

- Identify relevant physical assets for your FBO
- Compile a greenhouse gas inventory
- Choose a baseline year
- Set a target
- Share your emissions inventory and target with us using the SBTF survey tool
- Track and communicate your progress
- Strive for net zero by 2050

Toolkit

This guidance document refers to external tools and references to calculate and reduce FBO emissions. Below is a shortlist of these recommended tools for which the web links can be found throughout the document:

1. SBTF Emissions Survey: A detailed survey designed to collect FBO emissions data and aggregate submissions anonymously to share a global profile of FBO emissions performance and targets.
2. SBTF Technical Guidance Document (this document): A step-by-step guide for FBOs to measure operational emissions and set near- and long-term science-based emission reduction targets.
3. GHG Emissions Calculation Tools: Excel files that can be saved to an FBO operations computer system to assist in organising and calculating operational emissions.
4. Inventory Management Plan: A system to document an FBO's emissions inventory process, including data management protocols that should be considered an internal process to institutionalise completion of a high-quality emissions inventory.

Key terms
(See Appendix A for Glossary)

GHG emissions: Greenhouse gas emissions in this guidance refer to the seven gases identified by the United Nations Framework Convention on Climate Change (UNFCCC) that are released into the atmosphere as a result of both natural and human activity (see Table 1.2).

GHG inventory: A quantified list of an organisation's emissions and sources, typically including emissions in Scopes 1, 2, and 3. This document mainly addresses Scopes 1 and 2 (see Section 'Setting operational boundaries').

GHG Protocol Corporate Accounting and Reporting Standard: A standardised framework for organisations to measure and report GHG emissions upon which this SBTF Guidance Document is based.

Paris Agreement: A legally binding international climate treaty adopted by 196 Parties at the Conference of the Parties (COP) 21 in Paris in 2015 to limit global warming to well below 2 degrees, preferably to 1.5 degrees Celsius compared to pre-industrial levels.

Science-based target: Operational emissions reduction targets set by organisations in line with the latest climate science to meet the goals of the Paris Agreement.

CHAPTER 1

ABOUT THE SBTF PROJECT

Mission: Advance a global standard for faith-based organisations (FBOs) to measure, manage, and report their greenhouse gas (GHG) emissions in alignment with the Paris Climate Agreement.

Vision: A world where FBOs are prominent environmental leaders that operate their physical assets in a climate positive manner.

Project goals:

The project is organised around three areas of engagement:

1. *Collect and measure data* on FBOs' physical assets, including energy consumption, mobility, heating, and cooling, to help FBOs understand their own impact and possible climate contributions.
2. *Align mission and emissions reduction goals* by helping FBOs create and implement sustainable practices consistent with their values. This includes tracking and measuring assets owned and operated by FBOs to determine best practices and inform science-based emissions targets while thinking critically about how climate action interacts with FBOs' mission and values.
3. *Support advocacy and education* by convening leaders who can create a movement of people to pursue environmental sustainability and climate action from faith perspectives. This includes both building internal capacity and celebrating climate action through myriad FBO networks.

SBTI and SBTF

The Science-Based Targets for Faith (SBTF) project aims to empower FBOs everywhere to adopt scientifically informed emissions reduction targets and become champions of community-based climate action around the world. The project is informed by several globally significant emissions reduction protocols such as the GHG Protocol Corporate Accounting and Reporting Standard, the U.S. EPA Energy Star Portfolio Manager,® and the Science-Based Targets initiative (SBTi), which are established protocols employed by thousands of private sector organisations around the world. It should be noted that while the SBTF guidance is based on SBTi criteria, guidance, and proven methodology, resulting targets will not be validated by the formal SBTi protocol (see Section 'Next steps: After setting the target'). Future iterations of this project may serve to validate emissions targets.

Participants

FBOs manage and operate millions of physical facilities around the world, including schools, hospitals, and places of worship. We invite FBOs at all levels seeking to support the advancement of science-based targets in the global FBO community to employ and share this guidance document. This can include individual facilities such as an administrative office, an entire congregation, a network of religious networks, and more.

What data will I need to collect?

The SBTF project is focused on the emissions associated with land, buildings, and transportation fleets stewarded by an FBO. As such, you will need your organisation's utility bills, fuel types and units, travel distances, and equipment service records. You may lack comprehensive information for this activity. An absence of data should not dissuade you from participating in the process of identifying emissions reduction targets. Instead, consider this a first step in taking meaningful action on climate, and accept uncertainty as part of the process. This is a collective journey for all administrative levels of your organisation.

What happens to my data?

SBTF collects emissions data from FBOs to get a better understanding of their climate impact and intervention points. If you choose to complete the SBTF Emissions Survey, your data will be stewarded by Georgetown University in Washington, DC, and will be held in strict confidence. The data will only be shared publicly in a fully aggregated manner. Individual FBOs that contribute data will continue to have access to their data and associated analysis reports.

Theory of Change

The SBTF believes that faith-based organisations can substantially advance their climate change mission and advocacy through the achievement of scientific emissions measurement, asset performance management, and direct and indirect engagement of the stakeholders they serve.

Impact

The buildings sector contributes one-third of global energy consumption and emissions, including heating, cooling, lighting, and appliances (IEA 2023d), but in the context of some cities, this percentage can rise to over 70 percent. Globally, FBOs operate millions of

buildings that serve nearly 85 percent of the world's population through their mission-driven activities (Pew Research Center 2017). Reducing emissions from these assets represents an unprecedented leadership opportunity to achieve and demonstrate science-based emissions reduction targets in alignment with globally agreed on climate goals.

How do I begin?

Work with the staff and leadership of your FBO to determine who will lead this emissions calculation and target-setting activity. Setting a baseline year will only need to take place once, but calculating emissions as your operations move towards your target will require future calculations, ideally on an annual basis. This effort can be led by anyone who enjoys organising detailed information. The guidance document is designed to be accessible to volunteers or staff. SBTF acknowledges that environmental initiatives are often led by nontechnical volunteers and that there may be an increased risk of staff turnover for these efforts. As such, it is recommended you identify at least one 'backup' project supporter to ensure the project reaches completion and to share the responsibilities when necessary. Reach out to the SBTF Project Team with any additional questions at SBTF@georgetown.edu.

Limitations to this guidance

This guidance document is one step in the journey to empower FBOs as climate champions. This document is based on the proven methodology established by SBTi and seeks to support FBOs in setting emissions reduction targets for Scope 1 and 2 emissions. While there are limited details in Appendix C on Scope 3, the SBTF project intends to support FBOs in setting Scope 3 targets in future years. FBOs should explore alternative resources to identify actions for reducing operational emissions, and future iterations of this project will aim to augment these efforts. Rather than provide individual emissions management assistance, SBTF seeks to establish and test an accessible inventory and target-setting methodology for FBOs with aspirations to catalyse engagement in the future. This document should be considered as a reference guide for FBOs to consult as they calculate an emissions inventory, set a baseline year, establish science-based reduction targets, and manage their emissions profile over time.

How do I find and share information about SBTF?

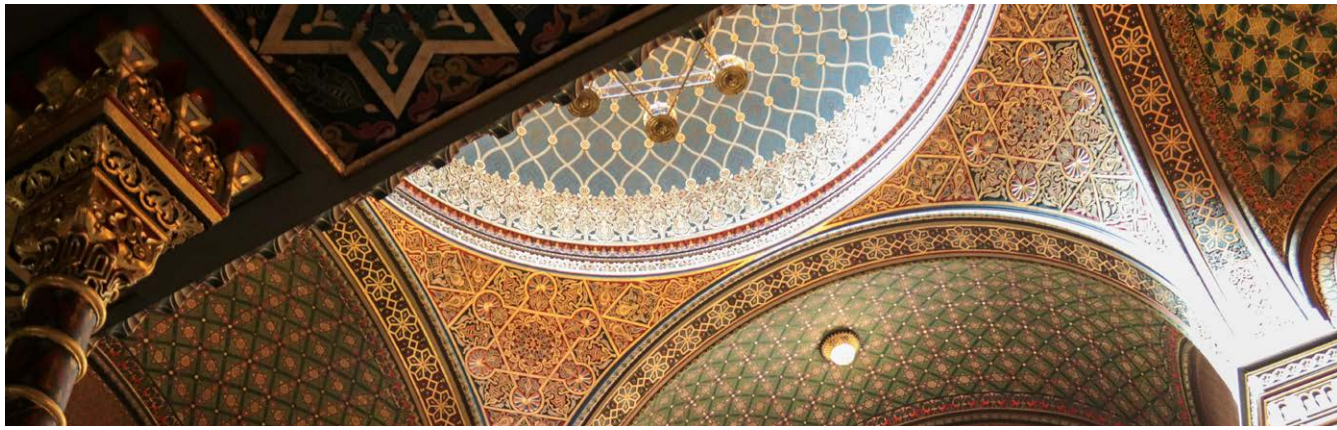
More information can be found at the following websites:

WRI's SBTF webpage: https://www.wri.org/initiatives/faith-and-sustainability/science-based-targets-faith.

Georgetown University's SBTF webpage: http://globalcities.georgetown.edu/engagement/science-based-targets-for-faith.

ABOUT THE WRI FAITH AND SUSTAINABILITY INITIATIVE

The World Resources Institute (WRI) is an international research institution that has implemented research-driven climate solutions for the last 40 years. Acknowledging the magnitude of today's challenges and the need



for urgent action, innovative partnerships are required to build solidarity across social movements. To assist in meeting these challenges, in May 2021 WRI established the Faith and Sustainability Initiative (FSI).

FSI envisions a world where faith-based organisations of different denominations and beliefs proactively work to advance the collective pursuit of three interconnected global goals for People, Nature, and Climate: improving human well-being, protecting the natural environment, and tackling climate change. FSI posits that if faith-based organisations have enhanced awareness, guidance, and capacity on how to tackle the urgent global sustainability challenges the world is facing, they will undertake timely, informed, science-based, and coordinated programmes and actions to inform their followers' behaviours and own practices, resulting in reduced environmental degradation and human fragility, as well as enhanced prosperity around the world.

ABOUT SCIENCE-BASED TARGETS FOR FAITH

Science-Based Targets for Faith (SBTF) is a global partnership between the World Resources Institute and Georgetown University. SBTF builds on many existing and ongoing efforts to mitigate climate change through proactive performance management. SBTF is directly informed by the global Science-Based Targets initiative (SBTi), which has established global standards for the measurement of greenhouse gas (GHG) emissions and the protocols to manage their reduction.

The Science-Based Targets initiative drives ambitious climate action in the private sector by enabling organisations to set science-based emissions reduction targets. The SBTi is a partnership between WRI, CDP, the United Nations Global Compact (UNGC), and the World Wide Fund for Nature (WWF). For more information on how thousands of organisations around the world employ science-based targets, visit https://sciencebasedtargets.org/about-us.

Faith-based organisations have long been recognised for their role in the provisioning of social services, including education, health care, poverty alleviation, peace-building, and more. FBOs have been recognised more recently by international agencies as critical partners for addressing climate change. With their immense physical and financial assets and their ability to influence the values and behaviour of 84 percent of the world's religiously affiliated population (Pew Research Center 2017), FBOs have a crucial role to play in tackling the climate crisis. One of the ways they can do so is by setting science-based targets (SBTs) to reduce the operational emissions of their physical assets in line with climate science. In addition, great potential lies in FBOs' ability to steer investments towards climate solutions and encourage climate-friendly behaviours in their followers.

SBTs are a set of goals developed to provide organisations with a clear route to reduce global greenhouse gas emissions. SBTs define how much and how fast an organisation's emissions need to be reduced. They have become the 'gold standard' for emissions reduction targets for more than 3,000 global corporations. Expansive adoption of SBTs will enable FBOs to come together in unity, lead by example, and become climate leaders in the race to net zero emissions by 2050.

PURPOSE OF THIS GUIDANCE

This document guides FBOs through the process of (1) establishing a greenhouse gas inventory through the use of the SBTF survey, as well as (2) setting and communicating near- and long-term science-based targets essential to reach net zero emissions in line with current best practices. The guidance focuses on Scope 1 and 2 emissions and provides high-level guidance on key categories of Scope 3 emissions in Appendix C.

This guidance draws extensively on resources from the *Greenhouse Gas Protocol* (GHGP), a body that establishes comprehensive global standardised frameworks to measure and manage GHG emissions from private and public sector entities, and the *Science-Based Targets initiative* (SBTi), a global body advancing SBTs for businesses. Given the similar operations in both activities that generate emissions (i.e., heating, cooling, driving) and in organisational structures, GHGP's and SBTi's resources are deemed suitable for FBOs. This is especially the case for SBTi's Building Sector Guidance, which is particularly applicable to FBO operations. FBOs can follow current best practices on GHG emissions measurement and reporting, as well as climate goal-setting.

Of great significance to this project is the fact that FBOs and corporate organisations differ in various aspects concerning GHG emissions and their measurement due to the multifaceted nature of FBOs' activities, which encompass diverse areas such as religious services and humanitarian efforts (health, education, etc.). Additionally, FBOs often rely heavily on volunteers and operate within limited financial resources, which can impact their availability of funding and expertise for GHG emissions measurement. Therefore, this guidance further adapts these resources to FBOs' context. Despite these differences, there are fundamental material realties to institutional operations such as heating and cooling buildings, vehicle ownership, and electricity consumption. These base realities are what FBOs must consider to steer their physical assets towards a climate-positive future.

WHAT IS A FAITH-BASED ORGANISATION?

Faith-based organisations (FBOs) are organisations, institutions, or actors whose values and mission are driven by spiritual or religious beliefs. 'FBO' is an umbrella term for a wide range of actors including religious congregations, schools, charities, or social service providers whose aim is to meet the spiritual, cultural, or social needs of its membership and community (Bielefeld and Cleveland 2013). FBOs therefore facilitate an extensive number of services beyond traditional spiritual leadership and guidance, including health care, education, migration, and poverty alleviation. To provide these services, FBOs operate a variety of physical assets including buildings and vehicles that contribute both directly and indirectly to climate change (see Section 'FBO operations and climate change' below).

FBOs are institutions trusted by communities around the world, serving as a crucial point for large gatherings for worship as well as for support in times of hardship. The shared identity, language, principles, and goals implicit in FBO membership equips these institutions with an unparalleled network of trusted authority. For example, religious leaders were found to be more widely trusted among the population of 34 African countries than any other group of public leaders including the courts, the army, police, or the ruling political party (Afrobarometer 2020). Beyond shaping perceptions, FBOs also influence behaviour such as food consumption (Evans and Sahgal 2021). The implications for shaping beliefs and behaviours of FBO membership are vast and must be leveraged to build greater solidarity for momentum on climate action.

Importantly, there are many FBOs involved in faith-related activities but are not driven by goals of evangelism. These can include food pantries, elder care facilities, or operating a hospital. Examples of faith-related organisations include World Vision, Georgetown University, Islamic Relief, and Bhumi Global. These actors are all included under the FBO umbrella term.

PHYSICAL ASSET CATEGORIES

It may come as a surprise to learn that one-third of global energy consumption and emissions is driven by the buildings sector (IEA 2023d). This includes energy used for heating and cooling, lighting, and powering appliances and equipment. What's more, 80 percent of the buildings that will exist in 2050 have already been built today, meaning that decarbonising this existing stock of physical assets is an urgent climate priority.

FBOs own and manage a diversity of physical assets that contribute to a warming climate. Every building, vehicle, and land holding has a carbon footprint, and it's important to identify and categorise these physical assets to get an understanding of their emissions profile. Table 1 below lists prototypical asset types drawn from the SBTI Building Sector

Table 1 | **Categorising physical asset types**

ASSET TYPE	ASSET DESCRIPTION
Places of worship	Buildings colloquially known as temples, churches, parishes, mosques, monasteries, shrines, and synagogues.
Office	Administrative offices used to facilitate FBO activities.
School or childcare	Any educational facility including primary and secondary school, college, or university. This also includes childcare facilities and nursery schools or daycares.
Lodges, leisure, and recreation	Hotel, motel, youth hostel, lodging, resort, sports club, gym, stadium, arena, hall, theatre, swimming pool, auditorium, amusement park.
Health care	Buildings used for primary health care including hospitals, clinics, physical therapy centres, nursing homes or hospice, laboratories, dental clinics, cancer centres, etc.
Retail	Buildings dedicated to selling religious apparel, supplies, gifts, jewellery, etc.; shopping centres; charity thrift shops, etc.
Warehouse	Distribution centre; cold and warm storage.
Residential	Housing, assisted living (multi- and single-family buildings); retirement properties.
Agricultural	Farms, barns, crop-drying equipment, livestock.
Mobility fleets	Cars, vans, trucks, buses, boats, ships, delivery fleets, motorised bikes, helicopters, planes, tractors, etc.
Mobility storage	Parking garage, boathouse, etc.
Other	Bank, museum, embassy, consulate, funeral home or mausoleum, call centres, libraries, archives, orphanage, or post office.

Note: FBO = Faith-based organisation.

Source: SBTF Project Authors, based on SBTi Building Sector Guidance building typologies (SBTi 2023d, 23–24).

Guidance (SBTi 2023d) and adapted to ensure consistency and inclusivity across religious and spiritual traditions.

Note that not every asset type listed here will apply to every FBO. However, it may be surprising to see the vast array of physical assets that FBOs around the world can own and operate. From houses of worship to university campuses to hospitals, FBOs operate a diversity of asset types that are all accommodated in the SBTF survey tool.

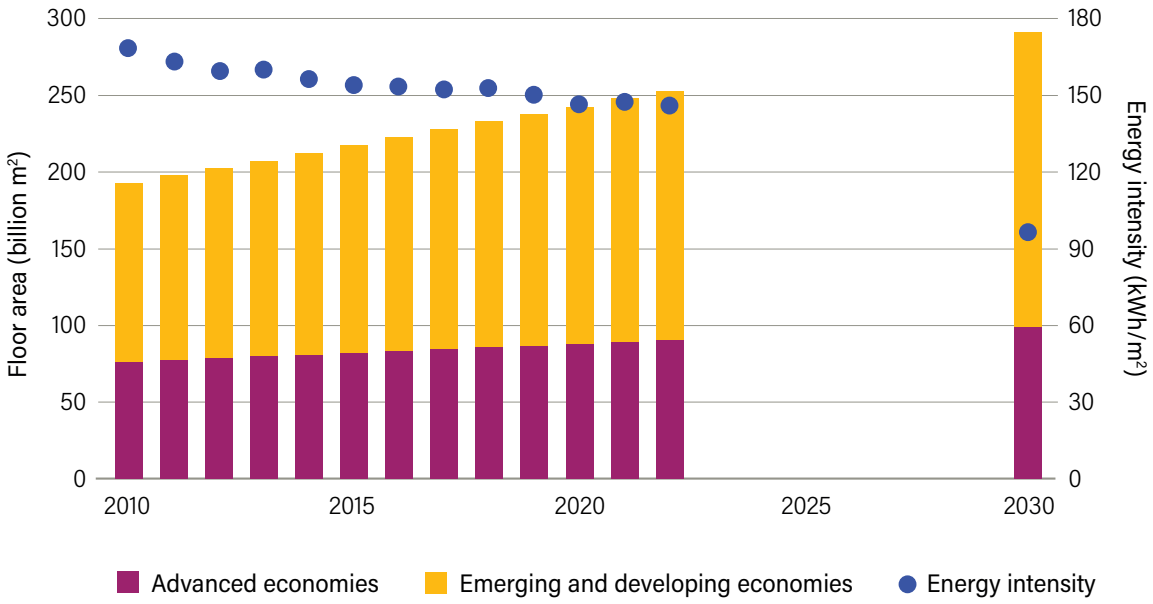
FBO OPERATIONS AND CLIMATE CHANGE

Despite the unique focus on spiritual, social, and cultural enhancement, FBO operations—like all sectors—have an environmental footprint. By understanding the contribution of FBO operations to environmental pollution, faith actors can mobilise their assets, resources, and membership to reduce these outcomes and contribute to the global journey towards a positive climate future.

The subsections below outline the global implications for addressing the heating, cooling, and electricity demands and mobility needs central to the buildings sector, where the majority of FBO operations lie. In 2022, more than 110 countries did not have mandatory energy building codes, resulting in 2.4 billion square metres (m^2) of newly built floorspace not meeting any energy-related performance requirements (IEA 2023d). This means that while individual organisational actions are needed, greater institutional accountability is also required. This is particularly relevant since the present retrofit rate of buildings currently stands at 1 percent, with a general delivery of energy intensity reductions of less than 15 percent.

The buildings sector must reduce its energy intensity five-times faster between now and 2030 than it has done in the past decade, meaning the energy consumed per square metre in 2030 should be 35 percent less than in 2022, as depicted in Figure 1 below.

Figure 1 | **Global floor area and buildings' energy intensity in the net zero scenario (2010–2030)**



Note: kWh = Kilowatt-hours; m = metres.

Source: IEA 2023d.

Reductions in energy use for buildings' operations are essential for reducing emissions related to organisational activities. The buildings sector is responsible for over one-quarter of global energy-related emissions—8 percent directly from building emissions and 18 percent indirectly from the production of electricity and heat used in buildings. To meet the Paris climate targets, emissions from the buildings sector must fall 9 percent per year until 2030, which would cut these emissions by more than half by the end of the decade (IEA 2023d).

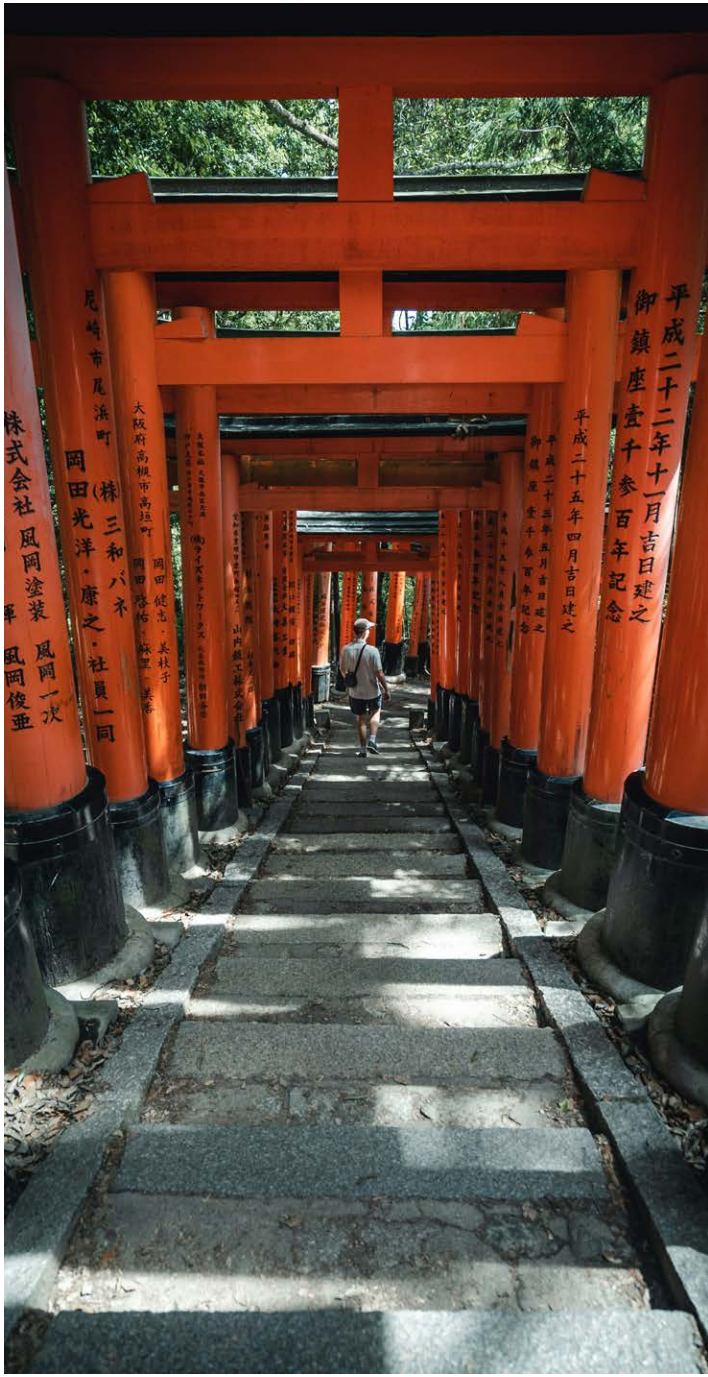
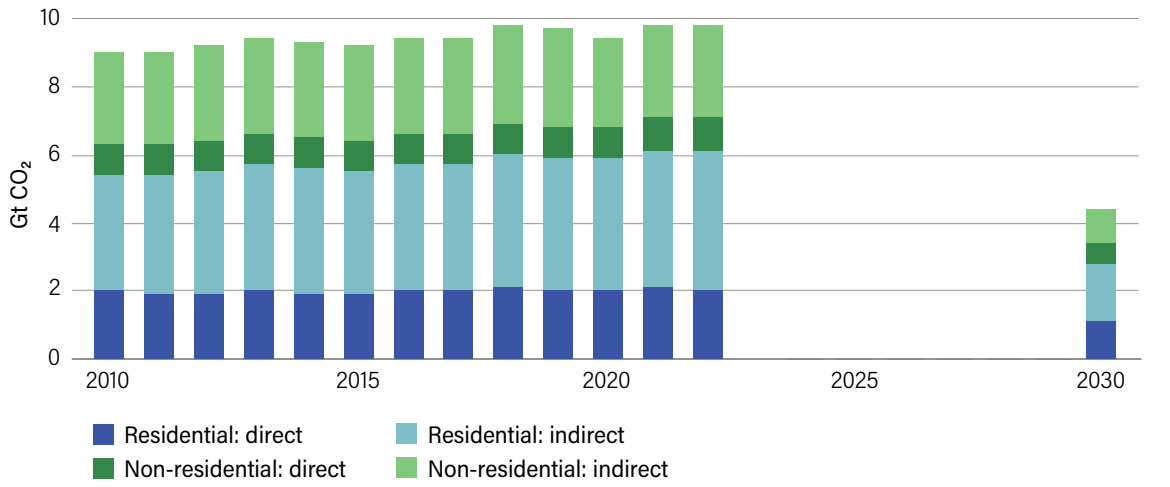


Figure 2 | **Global carbon dioxide emissions from building operations in the net zero scenario**



Note: Gt = Gigatons; CO_2 = Carbon dioxide.

Source: IEA 2023d.

The seven greenhouse gas emissions

There are seven GHGs identified by the United Nations Framework Convention on Climate Change (UNFCCC) that must be reduced to address climate change. They are depicted in Table 2 below, along with relevant applications. Carbon dioxide (CO_2) is the most abundant GHG and is often used as a benchmark for the global warming potential (GWP) of all other gases.

Heating

Space and water heating account for half of global energy use in buildings and 80 percent of direct CO_2 emissions in the sector. District heating, which is the generation of heat in a centralised location that is distributed to local businesses and residents in the area,

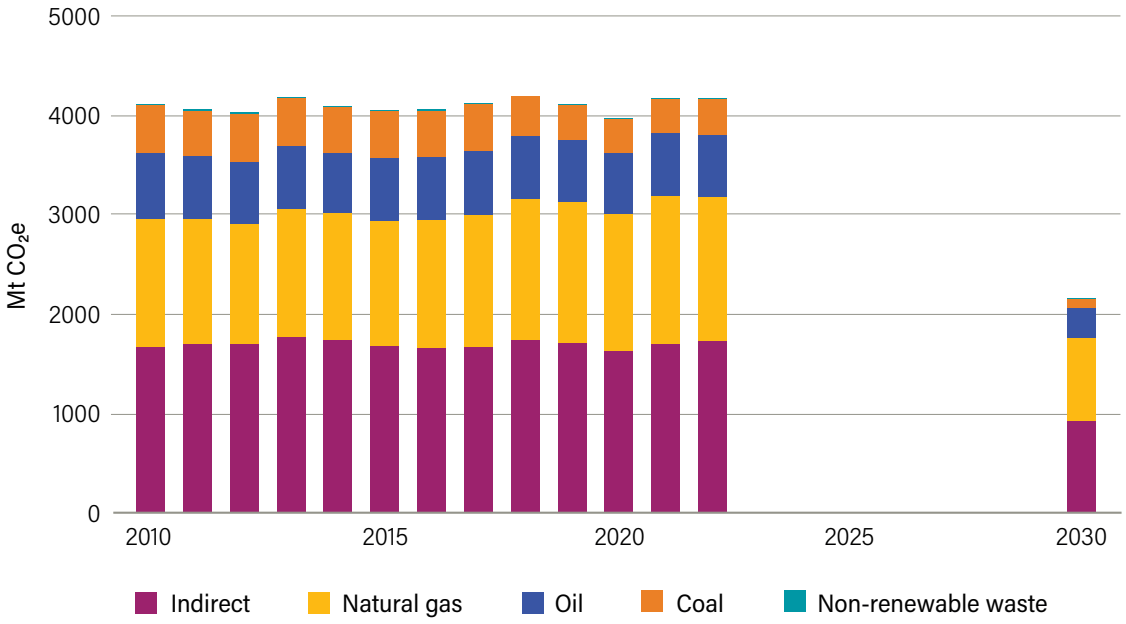
Table 2 | **Seven main greenhouse gases contributing to global warming**

GHG	APPLICATION
Carbon dioxide (CO_2) GWP = 1	The main GHG emitted by human activities, produced by burning fossil fuels such as coal or oil
Methane (CH_4) GWP = 25	Produced both geologically (natural gas) and biologically (farming). About 60% of methane produced comes from human activity, mainly farming
Nitrous oxide N_2O GWP = 273	Both natural (bacteria) and human sources (anaesthesia or rocket propellant); frequently used in products that come in an aerosol container
Hydrofluorocarbons (HFCs) GWP = 12,500	Human-made compounds found in refrigeration, air-conditioning, and fire extinguishing systems
Sulphur hexafluoride (SF_6) GWP = 22,800	Mainly used in the electric power industry to insulate equipment such as circuit brakers, and also has some medical uses
Nitrogen trifluoride (NF_3) GWP = 17,200	Mainly used in the manufacture of electronic goods such as display screens, solar panels, and LEDs
Perfluorocarbons (PFCs) GWP = between 7,390 and 17,340	Chemical compounds used for industrial purposes such as aluminium production, refrigerants, and solvents

Note: GHG = Greenhouse gas; GWP = Global warming potential; LEDs = Light-emitting diodes.

Source: IPCC 2014.

Figure 3 | **Carbon dioxide emissions from space and water heating by fuel for the buildings sector in the net zero scenario (2010–2030)**



Note: Mt = Megaton; CO_2e = Carbon dioxide equivalent.

Source: IEA 2023b.

The buildings sector is responsible for over one-quarter of global energy-related emissions. To meet the Paris climate targets, emissions from the buildings sector must fall by more than half by the end of the decade (2030).

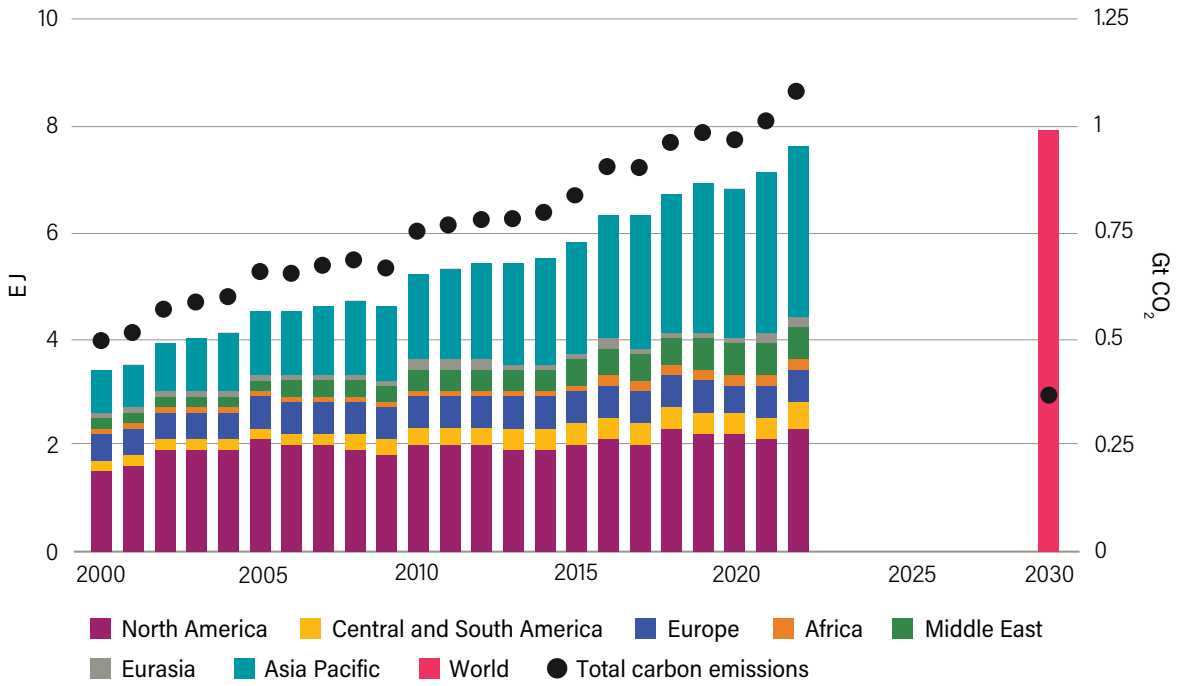
represents another 4 percent of global CO_2 emissions. While more efficient and low-carbon technologies are growing, fossil fuels continue to meet over 60 percent of heating energy demand for buildings, and natural gas accounts for 42 percent of heat in buildings globally (IEA 2023b). Nearly 90 percent of district heat globally was produced by fossil fuels, 40 percent of which goes to the buildings sector.

Rapid deployment of clean heating technologies, such as heat pumps, are necessary to meet climate goals. Heating-related emissions should be cut by half by the end of this decade, reducing the average global energy intensity of heating by 4 percent annually, which is double the rate achieved over the last 10 years.

Cooling

Energy demand for space cooling has increased at about 4 percent per year since 2000. As a result, space cooling is now one of the leading drivers of rising electricity demand in buildings with approximately 2 billion air-conditioning units in operation around the world today (IEA 2023c). While emissions intensity per unit may have decreased over time, indirect CO_2 emission reductions need to be three-times faster over the next decade to about 40 percent of today's level by 2030. Figure 4 below illustrates global demands in comparison to 2030 net zero targets.

Figure 4 | **Regional energy consumption and carbon emissions for space cooling in the net zero scenario**



Note: Gt = EJ = Exajoule; Gigatons; CO_2 = Carbon dioxide.

Source: IEA 2023c.

Importantly, the total floor surface area around the globe is expected to grow by 20 percent this decade—this is more than all the floorspace built in North America today. More than half of this growth will take place in regions with hot climates that are experiencing increased temperatures, improving living standards, but lack sufficient energy building codes. As such, air conditioner ownership is expected to grow from 37 percent of the global population to more than 45 percent by 2030. Lack of access to indoor cooling puts much of the population at risk of heat stress, especially as climate conditions worsen.

Refrigeration technology is essential to both stationary and mobile space cooling for many sectors, including housing, the food industry, health facilities, and more. Figure 5 below depicts the multitude of applications for refrigeration technology.

Figure 5 | **Applications of refrigeration technology**

	Thermal comfort		Removing heat and maintaining stable temperatures for industrial and commercial purposes		Maintaining stable temperatures for food and medicine transport and preservation	
Application	**Mobile air-conditioning:**	**Space cooling**	**Industrial refrigeration**	**Commercial refrigeration**	**Transport refrigeration**	**Domestic refrigeration**
	Cooling in passenger cars, commercial vehicles, buses, trains, planes, etc. 	Indirect district cooling and room air-conditioning or fans for human comfort and safety in buildings 	Used on farms, and in food processing (including marine) and pharmaceutical factories and product distribution centres 	Used in supermarkets, restaurants, and other retail premises; e.g., display cabinets and cold rooms 	Movement of goods over land and sea, preserving their safety and quality, and extending shelf life	Safe storage of food and extension of its shelf life 
Technology	Mobile ACs 	Heat pumps 	Unitary ACs	AC chillers	Industrial refrigeration equipment	Commercial refrigeration equipment	Transport refrigeration units (TRUs), including shipping containers	Domestic refrigerators

Note: AC = Air conditioner.

Source: UNEP and IEA 2020, 15.

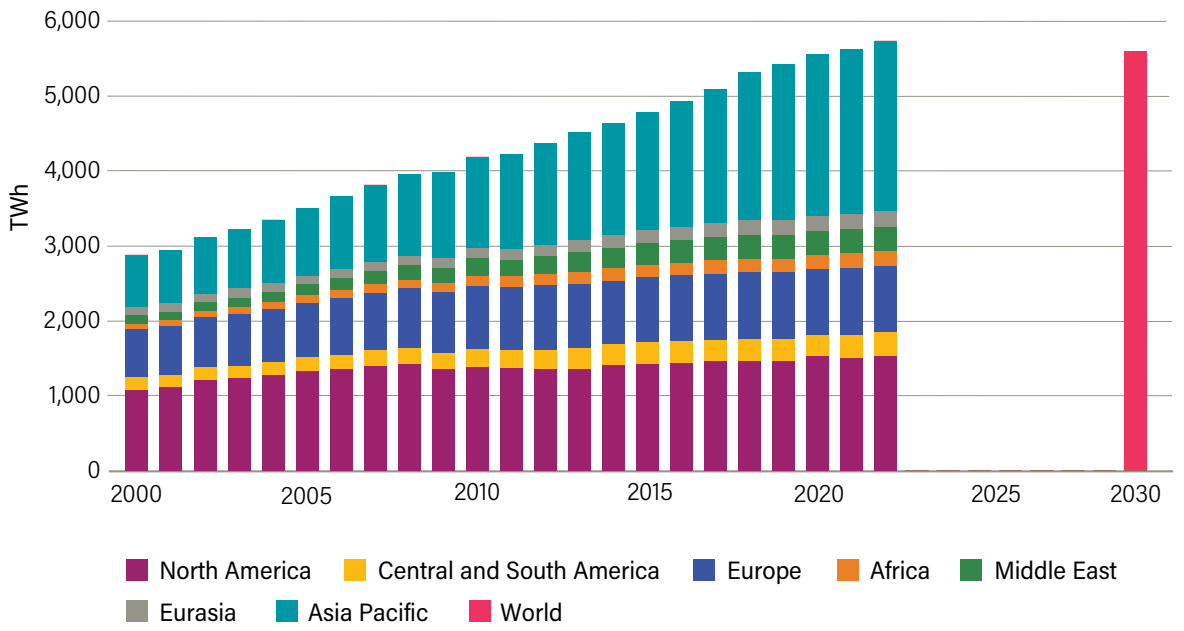
Following the Montreal Protocol, many harmful ozone-depleting substances have been eliminated from the market. However, replacements such as hydrofluorocarbons (HFCs) still have powerful greenhouse gases. The global cooling equipment stock, including air-conditioning, refrigeration, and transport, was estimated to consume about 3,900 terawatt-hours (TWh)/year of electricity in 2018, representing 17 percent of the world's demand for electricity. Air-conditioning accounted for about 2,000 TWh, and this is expected to triple by 2050.

Electricity

Within the buildings sector, a number of appliances and equipment require significant energy consumption, including lighting, refrigerators, televisions, and dishwashers. Despite efficiency improvements, electricity consumption continues to rise due to a growing number of buildings, ownership, and devices—particularly in emerging economies.

80 percent of the buildings that will exist in 2050 have already been built today, meaning that decarbonising this existing stock of physical assets is an urgent climate priority.

Figure 6 | **Energy consumption by appliances and equipment in the net zero scenario (2010–2030**



Note: TWh = Terawatt-hours.

Source: IEA 2023a.

Electricity-related emissions must be reduced by 65 percent by 2030 to stay on track with the net zero scenario. The lighting sector has seen continued progress in both efficiency and the deployment of light-emitting diodes (LEDs). While about 50 percent of global residential lighting sales use LED technology, and although LEDs are a more efficient lighting source than any alternative, the efficiency of new LEDs must continue to rise by approximately 30 percent higher than the 2022 average in order to align with the net zero scenario and decrease overall emissions by about two-thirds by 2030 (IEA 2023a).

Mobility

The transportation sector accounts for one-fifth of global CO_2 emissions. Of these emissions, the majority (45 percent) come from cars and buses. While the electrification of transportation is ongoing, the global vehicle fleet is estimated to double by 2050—90 percent of which is expected to occur in low- and middle-income countries (Ritchie 2020).

The urgency of a warming climate requires transformational changes to operational behaviours across populations, geographies, and sectors. These changes will not be easy, but the more people power is behind the movement, the better chance we have as a collective to meet the Paris climate targets. By facilitating an institutional standard for measuring and reducing FBO emissions, this guide has the potential to bring a huge section of the population into the climate conversation like never before.

PROJECT THEORY OF CHANGE

Due to the multifaceted nature of FBO activities and assets, the long-term Theory of Change for this project is manyfold:

First, the project seeks to provide guidance and help FBOs **build capacity** by measuring and reducing emissions from their physical assets to reach net zero by 2050. Given the direct ownership they have over their physical assets, FBOs are well positioned to drive real emission reductions on the ground. Additionally, notable FBOs have already made meaningful declarations highlighting the responsibility of faith communities in addressing the climate

crisis.[1] These statements emphasise the need for sustainable living, aligning with this project's objectives.

Second, the project seeks to provide guidance and tools to help FBOs **manage and monitor their physical assets** in line with the goals of the Paris Climate Agreement, as well as those that contribute to the achievement of the Sustainable Development Goals (SDGs). As FBOs are substantial nongovernmental providers of both health care and education worldwide, they have an unparalleled opportunity to mobilise their network to address greenhouse gas emissions from drivers like energy consumption, which account for 60 percent of global emissions.

Third, the project seeks to tap into the **potential of faith to influence** values, behaviours, and consumption patterns of nearly 85 percent of the world's population affiliated with a religion (Pew Research Center 2017). FBOs are uniquely positioned to shift individuals' consumption patterns and raise awareness about the urgency of the climate crisis. Given the important role faith plays as a vehicle for influencing what people value, embrace, and protect, FBOs can not only reduce their 'value chain' emissions (Scope 1, 2, and 3 emissions) but can also have a profound and meaningful impact on the values of individuals that collectively shape the future of our shared home.

FBO BENEFITS FOR SETTING EMISSIONS TARGETS

There are a number of reasons why FBOs could be motivated to set science-based emissions reduction targets. First, of course, are the cost savings that come with it. A reduction in emissions often comes with increased operational efficiency and decreased operational costs. It also drives innovation for energy and operational management and procurement

Setting science-based targets can have further positive impacts on FBO membership loyalty and trust. As news on climate change floods media channels, environmentally responsible goods and services are increasingly more valuable, and demand will only continue to grow. FBOs may consider growing their membership by demonstrating their environmentally responsible emissions management strategy.

Beyond FBO members, the proactive disclosure and demonstration of environmental responsibility can also improve stakeholder relationships such as with funders, policymakers, suppliers, regulators, or members of the public, private, or civil society sectors. It can even increase the morale of FBO staff and volunteers by demonstrating commitment to values-driven environmental stewardship. Consistent and transparent emissions reporting is a documented best practice that serves to differentiate organisations in an age of increasing environmental consciousness.

CHAPTER 2

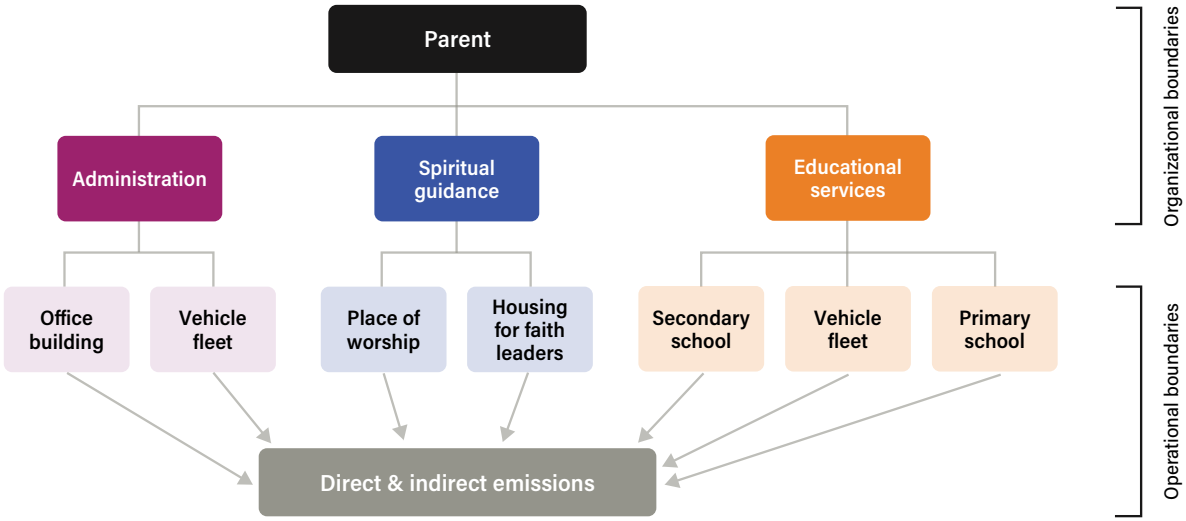
COMPILE A GREENHOUSE GAS INVENTORY

A foundational step FBOs must take to measure and manage their GHG emissions is to establish a greenhouse gas inventory for their organisation. This is a quantified list of GHG emissions and sources based on the organisation's heating, cooling, mobility, and energy needs. This section provides an overview of how to set an organisational boundary to delineate FBO operations and how to identify and calculate relevant emissions.

Following the SBTi criteria and recommendations for setting targets (SBTi 2023a), FBOs should keep their organisational boundary consistent with the boundary used in the FBOs' financial accounting and reporting procedures (**SBTi Recommendation 1**), and emissions reduction targets must cover all seven GHGs listed above (Section 'FBO operations and climate change') (**SBTi Criteria 2**).

The emissions accounting and reporting guidance offered in this document is based on the widely utilised Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (WBCSD and WRI 2004), which provides a clear framework for organisations to measure and report their greenhouse gas emissions to support their organisational missions and goals.[2] It is recommended that FBOs set targets at the parent or group level. Parent organisations must include the emissions of all subsidiaries in their target submission. In cases where both parent organisations and subsidiaries submit targets, the parent organisation's target must also include the emissions of the subsidiary if it falls within the parent FBO's emissions boundary, given the chosen inventory consolidation approach. If it is not possible for an FBO to set targets at the parent or group level, it may do so at the subsidiary level (**SBTi Criteria 1**). Figure 7 shows the relationship between organisational and operational boundaries of a scenario-based organisational chart informed by the GHG Protocol.

Figure 7 | **Organisational and operational boundaries of an example FBO scenario**



Note: FBO = Faith-based organisation.

Source: SBTF Project Authors based on WBCSD and WRI 2004, 25.

Following widely adopted best practices will not only allow an FBO to report its emissions impact consistently with other organisations, but it will also enable it to lead by example. This guidance does not intend to replicate the GHG Protocol Corporate Accounting and Reporting Standard. Rather, it highlights key contents and provides guidance tailored to FBOs to measure their GHG emissions. For further guidance on GHG accounting and reporting, please refer to the Corporate Standard (WBCSD and WRI 2004).

SETTING ORGANISATIONAL BOUNDARIES

FBOs' legal and organisational structures vary. In the United States alone, religious organisations can take various structural forms, including unincorporated association, not-for-profit corporation, religious not-for-profit corporation, or charitable or religious trust (see Bielefeld and Cleveland 2013). This means that there will be varying ways to determine an FBO's emissions based on the varying organisational structures.

In GHG accounting, setting an organisational boundary is the step through which an FBO delineates the operations under its control and from which the FBO will consolidate GHG emissions. The chosen organisational approach shall be used consistently for emissions measuring, reporting, and target-setting purposes.

The GHG Protocol Corporate Standard defines two approaches to determine the organisational boundaries of an organisation's GHG inventories: equity share and the control approach. Between the two approaches, the control approach is most relevant for FBOs. Under the control approach, an organisation accounts for all the emissions from operations under its control, rather than calculating emissions according to the percentage stake it has in different activities.

Two criteria are available for defining control: financial control and operational control. FBOs may choose a criterion that is most suitable for their organisational context and use it for consistent accounting and reporting.

Financial control: An organisation is considered to financially control an operation if it retains the majority of the risks and rewards of ownership of the operation's assets and can direct the financial and operating policies of the organisation.

Operational control: An organisation has operational control over an operation if it, or one of its subsidiaries, has the full authority to introduce and implement its operating policies at the site of the operation. This criterion is consistent with the current accounting and reporting practice of many organisations that report on emissions from facilities that they operate (i.e., for which they hold the operating licence). Under the operational control approach, an organisation accounts for 100 percent of emissions from operations over which it or one of its subsidiaries has operational control. As the Greenhouse Gas Protocol describes, having operational control does not mean that an organisation necessarily has authority to make all decisions concerning an operation. For example, big capital investments will likely require the approval of all the partners. The operational approach is used by the majority of organisations and is often suggested as it may avoid a situation where some emissions from leases could fall into the category of Scope 3, depending on the lease type, if using the financial control approach.

An FBO should include organisation-wide emissions in its inventory at the parent or group level, measuring all seven GHGs. For example, a faith-influenced development organisation should strive to include all its operations, including operations in all country offices and other subsidiaries. Similarly, a faith-influenced university should include the operations of all its global campuses and other subsidiaries in the inventory.

To enable broad participation and capacity-building, this project is open to FBOs at all stages of measurement to contribute data through the survey mechanism described in Appendix B. Through the survey, FBOs can contribute data for a single building or a portfolio of buildings. However, FBOs that wish to establish science-based targets should meet the set of quality criteria described throughout the guidance, including measuring emissions from all sources within the organisational boundary of the legal entity that they represent.

SETTING OPERATIONAL BOUNDARIES

After an FBO delineates its organisational boundary in terms of operations within its ownership or control, it proceeds to set operational boundaries. This includes categorising emissions associated with its operations as direct and indirect, as well as accounting for and reporting emissions in different scopes.

The GHG Protocol Corporate Standard outlines three scopes of emissions for an organisation, defined below. The SBTF project is currently focusing on supporting FBOs to measure, report, and reduce Scope 1 and 2 emissions, which is a valid approach through the SBTi methodology. Scope 1 and 2 emissions are a great starting point given that data are more available, and an organisation is generally well-positioned to reduce them. Scope 3 emissions are addressed in Appendix C, and future publications will assist FBOs to address them. FBOs' targets must cover organisation-wide Scope 1 and Scope 2 emissions, as defined by the GHG Protocol Corporate Standard (**SBTi Criteria 3**).

Scope 1: Direct GHG emissions

Direct GHG emissions occur from sources that are owned or controlled by the organisation. This includes, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc. Scope 1 emissions are a direct result of organisational operations.

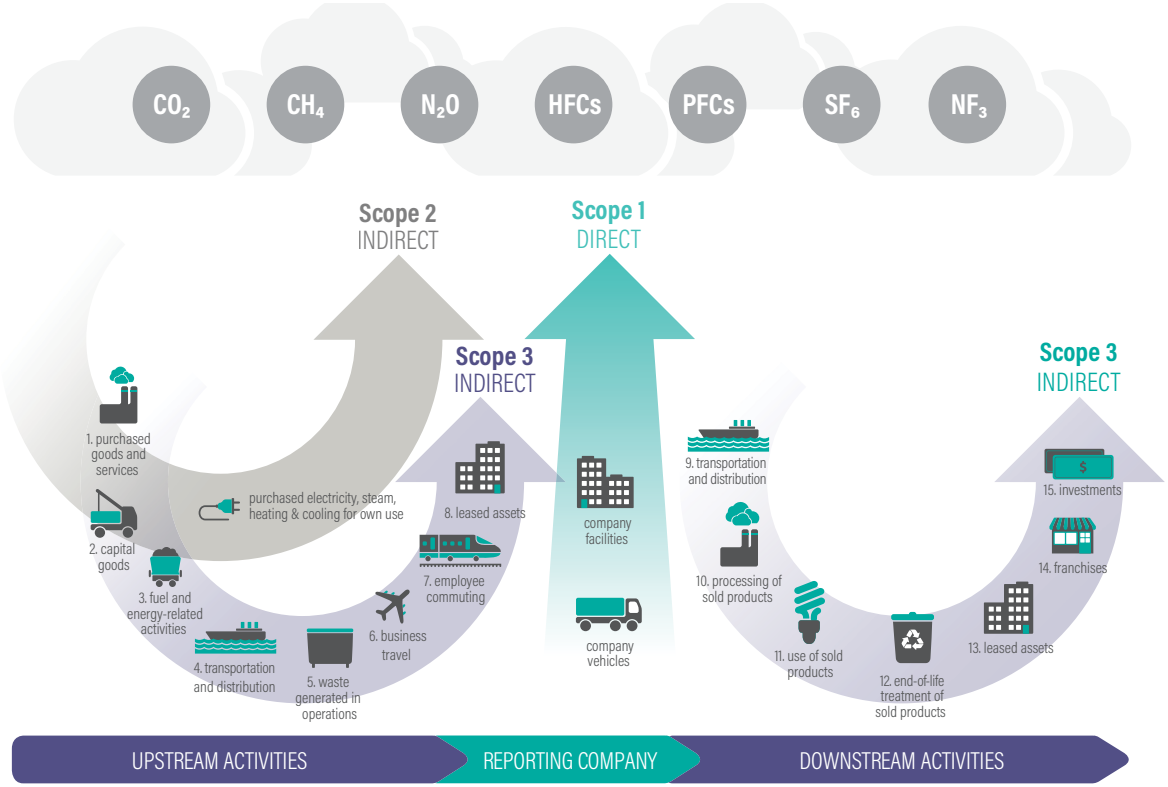
Scope 2: Electricity indirect GHG emissions

Scope 2 accounts for GHG emissions from the generation of purchased electricity consumed by the organisation. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organisational boundary of the organisation. Scope 2 emissions are indirect as they physically occur at the facility where electricity is generated but are consumed at the site of the organisation.

Scope 3: Other indirect GHG emissions (Not addressed in this guide—see Appendix C)

Scope 3 emissions are a consequence of the activities of the organisation but occur from sources not owned or controlled by the organisation. Some examples of Scope 3 activities are extraction and production of purchased materials or the transportation of purchased fuels. The GHGP Scope 3 Standard further defines 15 categories of upstream and downstream Scope 3 emissions. See Figure 8 for an overview of the three emissions scopes and specific categories.

Figure 8 | **Overview of scopes and various categories in each scope**



Note: CO_2 = Carbon dioxide; CH_4 = Methane; N_2O = Nitrous oxide; HFCs = Hydrofluorocarbons; PFCs = Perfluorocarbons; SF_6= Sulphur hexafluoride; NF_3 = Nitrogen trifluoride.

Source: WRI and WBCSD 2011, 31.

IDENTIFYING AND CALCULATING SCOPE 1 AND 2 EMISSIONS

To identify and calculate Scope 1 and 2 emissions, FBOs should do the following (WBCSD and WRI 2004):

1. Identify GHG emission sources
2. Select a GHG emissions calculation approach
3. Collect activity data and choose emission factors
4. Apply calculation tools
5. Roll up GHG emissions data from individual buildings or sites to organisation-wide level

Identify GHG emission sources:

An FBO should start by identifying its **Scope 1 direct emissions.** For FBOs, emissions from stationary combustion and mobile combustion are likely the most relevant in Scope 1, related to the heating, cooling, and mobility of organisational operations:

- **Stationary combustion:** Combustion of fuels in stationary equipment such as boilers, furnaces, burners, turbines, heaters, incinerators, engines, flares, etc., owned or controlled by the FBO.
  Source: Utility bills for fuel type, fuel usage, and units (volume/ weight).
- **Mobile combustion:** Combustion of fuels in transportation devices such as automobiles, trucks, buses, trains, airplanes, boats, ships, barges, vessels, etc., owned or controlled by the FBO.
  Source: Fuel efficiency and fuel use by each vehicle; distance travelled.
- **Fugitive (refrigerant) emissions:** Mainly HFC emissions during use of refrigeration and air-conditioning equipment owned or controlled by the FBO.
  Source: Service records, supplier website.

Note that appliance information (i.e., refrigerator; heating, venting, and air-conditioning [HVAC] systems; chillers) can be difficult to find. Try searching on the supplier's website or contact the supplier directly to obtain information on the system used at your FBO, based on the serial number. Feel free to leave the section blank if your FBO does not own any vehicles. However, if you have not been keeping track of gas usage or miles travelled, you can submit an estimate by considering the distance typically travelled by FBO vehicles on a monthly basis, by fuel consumption, and by the fuel efficiency of your vehicle.

The next step is to identify **Scope 2 indirect emission sources** from the consumption of purchased electricity, heat, or steam. Almost all organisations generate indirect emissions due to the purchase of electricity for use in their processes or services.

Source: Purchased electricity, usage, and units (Kilowatt-hours [kWh] for electricity).

It can be helpful to use the Excel spreadsheet (or an equivalent tracking system) to track the costs of services you are provided on a property. This can help to balance budgets and to cut down on expenditures.

Select a calculation approach:

It is important to include all aspects of FBO operations for successful implementation of the science-based targets methodology. Excel-based calculators are available to streamline the five-step process listed above. For example, GHGP and WRI provide an Excel-based tool to help organisations estimate their GHG emissions based on the GHG Protocol (GHG Protocol, WRI and Anthesis, n.d.). It covers Scopes 1, 2, and a few categories of Scope 3 emissions and allows emissions for up to 10 sites to be calculated. For the purposes of this guidance, only Scope 1 and 2 calculations are relevant.

FBOs that wish to set science-based targets on Scope 1 and 2 emissions should aim to measure and include at least 95 percent of organisation-wide Scope 1 and 2 GHG emissions to ensure the targets adequately represent the emissions impact of the organisation (**SBTi Criteria 5**).

Consistent and transparent emissions reporting is a documented best practice that serves to differentiate organisations in an age of increasing environmental consciousness.

For example, if an FBO claims to have SBTs with only half of its Scope 1 and 2 emissions measured and included in the target, the targets would not be credible.

It is conceivable that some FBOs will have data readily available to plug into the calculation and survey tools, while others might be identifying relevant data and resources for the first time. This project aims to remain flexible and encourages FBOs to participate to whatever extent is accessible to them. This initial phase of the SBTF project serves to establish and test a methodology for FBO emission targets with a future aim to catalyse engagement.

Scope 1 emissions are the direct emissions resulting from an FBO's operations. To calculate these emissions, simply collect the source documents identified above (e.g., utility bills) and input them into the GHG emissions calculator tool.

The GHG Protocol Scope 2 Guidance (WRI 2015) defines two approaches for calculating Scope 2 emissions from purchases of renewable energy and other forms of energy:

- The **'location-based'** approach is designed to reflect the average emissions intensity of grids on which energy consumption occurs and predominantly uses grid-average emission factors.
- In contrast, the **'market-based'** approach is intended to help organisations reflect the emission impacts of differentiated electricity products that they have purposefully chosen (e.g., supplier-specific emission rates and power purchasing agreements).

For the purpose of setting science-based targets, FBOs shall choose the results of only one approach for base year emissions reporting and tracking performance, although they are required to report emissions and label them according to both methods when applicable.[3] FBOs shall disclose whether they are using a location- or market-based accounting approach (**SBTi Criteria 8**) to ensure a consistent approach for tracking target progress. Also, if an FBO chooses to use the market-based approach, it shall assess all contractual instruments for conformance with the Scope 2 Quality Criteria, explained in Chapter 7 of *GHG Protocol Scope 2 Guidance* (WRI 2015).

The most common approach for calculating GHG emissions is with the application of a documented emissions factor. Default emission factors are built into the automated Excel calculation tool, meaning that it is only necessary to insert activity data to complete the inventory. The emissions of each GHG (CH_4, N_2O) are calculated separately and then converted to CO_2 equivalents on the basis of their global warming potential (see Table 1.2.). It is possible to insert customised emission factors more representative of an FBO's operations where appropriate. More advanced methods may produce more accurate estimates, but usually require more detailed data and a more thorough understanding of FBO operations and facility technologies and advanced staff knowledge.

The SBTF survey described in Appendix B includes eGRID emission factors in the United States (location-based) and residual mixes in a few European Union (EU) countries (for FBOs with facilities in areas where grid customers can access differentiated energy contracts—when they do not have a contract with a specified source or do not have supplier-specific information).

If an FBO submits two GHG inventories for an earlier year and a most recent year—for example, 2016 and 2019—an adjustment factor is applied in the calculation tool to ensure that target ambition from the most recent year is still consistent with achieving 90 percent reduction from the base year level.[4]

Roll up data organisation-wide

To accurately report total GHG emissions, FBOs may need to summarize data from multiple facilities—possibly across regions or

countries. It is therefore important to coordinate intentionally to minimise the workload, reduce the risk of errors, and ensure all participating facilities are collecting consistent information. It is recommended that FBOs integrate GHG reporting with their existing reporting tools and processes to take advantage of relevant data already collected and shared among facilities with regulators or other stakeholders. It is recommended that standardised reporting formats are shared and used to ensure data received from various facilities or units are comparable and the risk of errors is significantly reduced.

For consistent data collection, FBOs can pursue either centralised or decentralised approaches. With a **centralised** approach, individual facilities will report operational activities, utility information, and fuel use data to FBO management, where GHG emissions are subsequently calculated. With a **decentralised** approach, individual facilities collect the data and calculate emissions using approved methods, reporting these data to FBO management. **These approaches are not mutually exclusive and should produce the same emissions calculation result.** The main difference between these two approaches is where the GHG emission calculations occur (i.e., where activity data are multiplied by the emissions factor). Facility-level staff (at an individual place of worship) is generally responsible for initial data collection under both approaches.

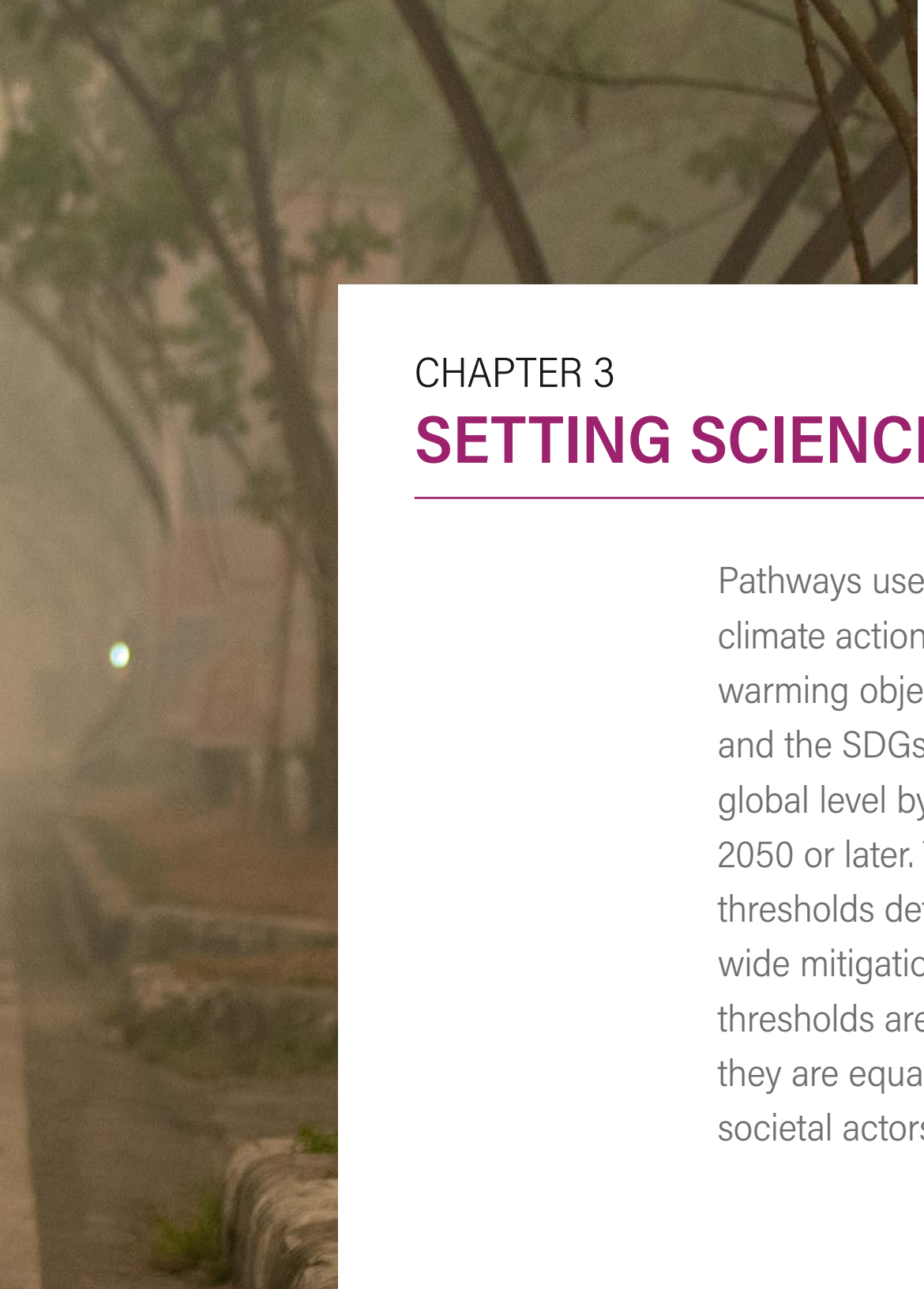
The centralised approach is generally more appropriate for office-based organisations, or particularly if emission calculations will be standard across a number of similar facilities. For a decentralised approach, facilities will be able to increase their awareness and understanding of the contribution of FBO operations to climate change, but it could lead to additional challenges, including increased training needs, increased calculation errors, or a greater need for auditing the calculation. To minimise these issues, there are a number of reporting mechanisms FBOs can put in place, including the following:

- Clear records of calculations undertaken to derive operational activity or fuel use data
- Description of GHG calculation methodologies and any changes made
- Details on data references used for calculations including emission factors
- Description of emission sources and a list and justification of specific inclusion or exclusion of sources
- Comparative information from previous years and any trends evident in the data
- Discussion of uncertainties in FBO operations, fuel use or activities, or emissions data reported
- List of events considered to impact reported data such as closures, technology upgrades, acquisitions, etc.

A Note on double counting

While there is an inherent risk of double counting emissions from multiple operations, there is presently no consensus on how to manage this issue. There are many ways

emissions may be double counted during the emissions inventory calculation. For example, one individual place of worship may submit emissions and set an independent target without knowing that the larger organisational representation (i.e., all places of worship in a region) is also conducting an emissions inventory. Another example could be if one facility purchases electricity from another, creating an opportunity for the emissions from the joint operation to be double counted. Double counting may not matter for voluntary public reporting, so long as there is adequate disclosure from the organisation about its consolidation approach. FBOs should ensure they identify and exclude emissions that are accounted for by other facilities included in the emissions inventory, such as Scope 2 emissions also reported as Scope 1 emissions by other operations.



CHAPTER 3

SETTING SCIENCE-BASED TARGETS

Pathways used by the SBTi aim to steer voluntary climate action and contribute to achieving the 1.5°C warming objective of the Paris Climate Agreement and the SDGs, reaching net zero CO_2 emissions at the global level by 2050, and net zero GHG emissions in 2050 or later. The corresponding emissions reduction thresholds determined by the SBTi assume a society-wide mitigation effort. Thus, while the reduction thresholds are developed with corporations in mind, they are equally applicable to FBOs and many other societal actors as emissions-generating entities.[5]

AN OVERVIEW OF THE PATH TO NET ZERO

To contribute to societal net zero goals, FBOs must deeply reduce emissions and neutralise the impact of any emissions that remain. This follows a mitigation hierarchy where a full decarbonisation of the economy must be the priority, accompanied by a reasonable amount of carbon removal that does not trigger large-scale land-use conversion with harmful social and environmental impacts (IPCC 2019).

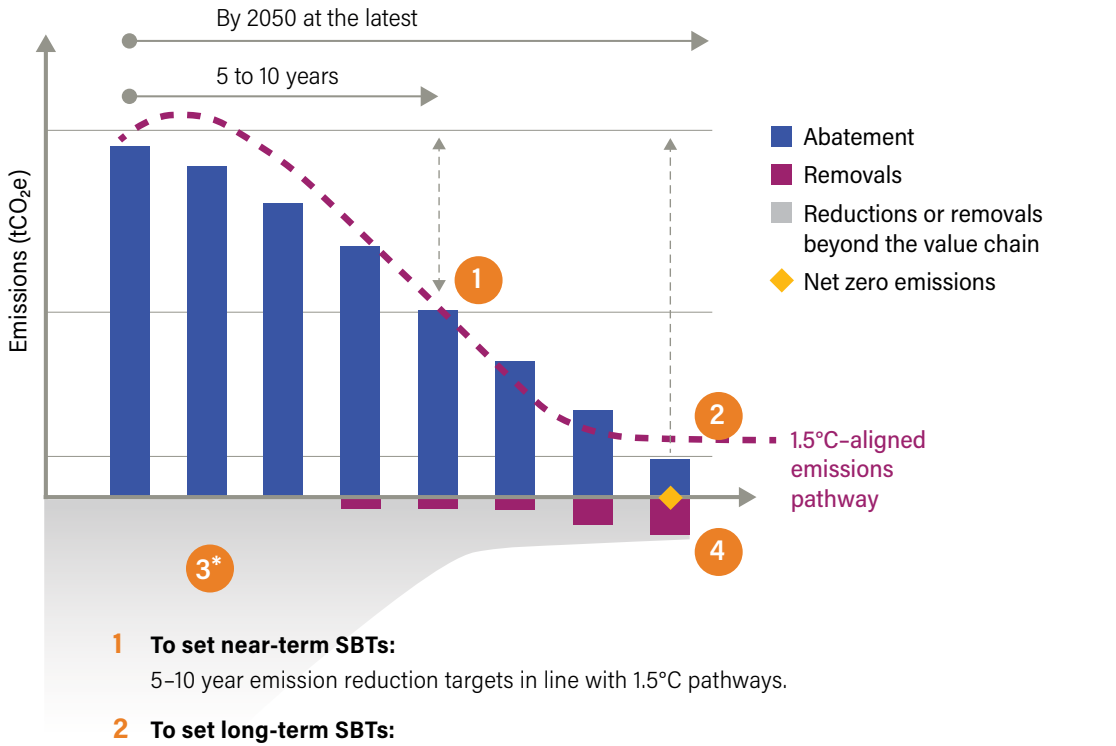
The SBTi defines net zero as the following (SBTi 2023c):

- Reducing Scope 1, 2, and 3 emissions to zero or to a residual level that is consistent with reaching net zero emissions at the global or sector level in eligible 1.5˚C–aligned pathways.
- Neutralising any residual emissions at the net zero target year and any GHG emissions released into the atmosphere thereafter through permanent removal mechanisms.

The SBTi Net Zero Standard sets out four key elements that constitute an organisation's net zero target as depicted in Figure 3.1. These four elements are as follows:

1. A near-term science-based target
2. A long-term science-based target
3. Beyond value chain mitigation (see Section 'Beyond value chain mitigation')
4. Neutralisation of any residual emissions

Figure 9 | **Four key elements of the SBTi Net Zero Standard**



1 To set near-term SBTs:
5–10 year emission reduction targets in line with 1.5°C pathways.

2 To set long-term SBTs:
Target to reduce emissions to a residual level in line with 1.5°C scenarios by no later than 2050.

3* Beyond value chain mitigation:
In the transition to net-zero, companies should take action to mitigate emissions beyond their value chains. For example, purchasing high-quality, jurisdictional REDD+ credits or investing in direct air capture (DAC) and geologic storage.

4 Neutralisation of residual emissions:
GHGs released into the atmosphere when the company has achieved their long-term SBT must be counterbalanced through the permanent removal and storage of carbon from the atmosphere.

* Recommended

Note: SBTi = Science-Based Targets initiative; tCO_2e = Tons of carbon dioxide equivalent; REDD+ = Reducing Emissions from Deforestation and Forest Degradation; GHGs = Greenhouse gases.

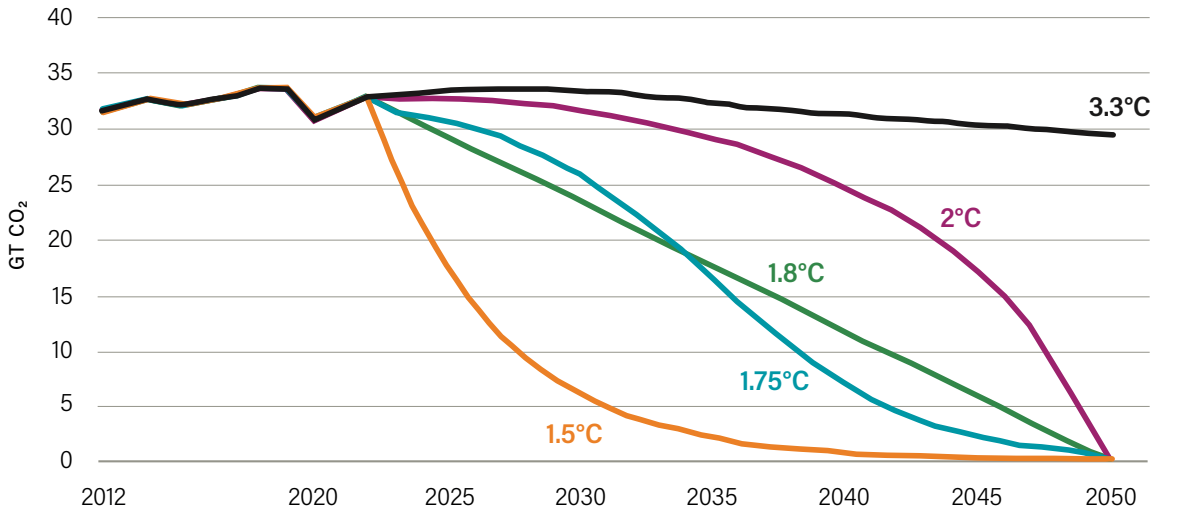
Source: SBTi 2023c, 19.

Near-term science-based targets are 5–10–year GHG mitigation targets in line with 1.5˚C pathways. When FBOs reach their near-term target date, they must calculate new near-term science-based targets to serve as milestones on the path towards reaching their long-term science-based target. Organisations are encouraged to set ambitious reduction targets as soon as possible.

Near-term science-based targets are necessary to galvanise the action required for significant emission reductions to be achieved by 2030. They are also critical to not exceeding the global emissions budget and are not interchangeable with long-term targets. Figure 10 below shows what reaching net zero by 2050 could mean if ambitious near-term reductions are not achieved.

Long-term targets show how much FBOs must reduce emissions to align with reaching net zero at the global or sector level in eligible 1.5˚C pathways by 2050 or sooner. These targets drive economy-wide alignment and long-term planning to reach the level of global emission reductions needed to meet climate goals based on science. According to this guidance, an FBO cannot claim to have reached net zero until the long-term science-based target is achieved.

Figure 10 | **Global trajectories to net zero emissions by 2050 and the risk of missing the 1.5°C warming goal**



Note: $GtCO_2$ = Gigatons of carbon dioxide.

Source: Bloomberg NEF 2021.

SET NEAR- AND LONG-TERM SCIENCE-BASED TARGETS

There is a five-step process—which must be followed sequentially—for FBOs to set near-term and long-term science-based targets on their Scope 1 and 2 emissions. This means that an FBO should first set a near-term target as its minimum. If it wishes to go further, it may proceed to develop long-term and net zero targets (discussed in Section 'Next steps: After setting the target'). Figure 11 below summarises these steps.

Select a base year

FBOs need to establish a base year to track their emissions performance consistently and meaningfully over the target period. **SBTi Criteria 15** states that organisations are required to use the same base year for their near- and long-term science-based targets, with a base year **no earlier than 2015.** FBOs that are developing a GHG inventory for the first time can use the inventory year as the base year (i.e., January to December 2021), and are advised to use the same base years for all near-term targets. At a minimum, an FBO should set a near-term target. If it also sets a long-term target, the base year of the near-term and long-term targets must be the same.

The following considerations are important for selecting a base year:

- Scope 1 and 2 emissions data should be complete and accurate (i.e., covering at least 95 percent of emissions from assets within the selected control approach).
- The base year must be no earlier than 2015 and as recent as possible.

Figure 11 | **Five-step process to set short-term and long-term science-based targets**

Note: FBO = Faith-based organisation.

Source: SBTF Project Authors, based on SBTi 2023c, 30.

If an FBO developed a complete inventory before 2021 and after 2015, it may use that inventory as the target baseline. However, FBOs are strongly encouraged to compile a more recent inventory within two years from the date that the targets are set and use the more recent inventory as the target baseline. For example, if an FBO developed a complete inventory for January to December 2016, and wishes to set a target this year (2024), it is highly encouraged to compile a more recent inventory. The 'representativeness' of a base year is an important element to consider for typical operational emissions, especially when the most recent year would be overly high or low for extraordinary reasons, such as the 2020 COVID-19 pandemic.

Compiling and examining your organisation's data availability is recommended before selecting a baseline year. Complete data are essential for calculating emissions and creating SBTs.

Calculate your emissions and set target boundary

After identifying and calculating Scope 1 and 2 emissions (page 28) and selecting a base year (page 36), an FBO must ensure that the same boundary selected to calculate its inventory is also used for target-setting. No more than 5 percent from an FBO's Scope 1 and 2 emissions can be excluded from its inventory and target boundary combined (SBTi 2023a).[6] All measured emissions for Scope 1 and 2 must be included in an FBO's target boundary. For example, if an FBO measures heating, cooling, and energy consumption

emissions in its baseline calculation, it must set targets that include heating, cooling, and energy consumption emissions.

Absolute and context-sensitive target-setting

Organisations will set targets on an absolute basis. However, it is essential to recognise that not all FBOs have equal capabilities, especially when comparing those operating in Organisation for Economic Co-operation and Development (OECD) and non-OECD markets. Consequently, some emerging initiatives are considering context-based approaches that enable the setting of distinct targets using specific methodologies tied to country-based carbon-reduction budgets or intensity-based goals (see Swamy and Agarwal 2023). Nonetheless, the context-based approach, while a valid option, deviates from the target-setting methodologies established by the Science-Based Targets initiative for corporate entities. FBOs are encouraged to adopt whichever target-setting methodologies are accessible and feasible, given existing data.

Choose a target year

Near-term targets must cover a minimum of 5 years and a maximum of 10 years from the date the target is set. Long-term targets must have a target year of 2050 or sooner (**SBTi Criteria 13**). Because the ambition of long-term science-based targets is an overall amount (i.e., 90 percent reduction), the FBO may move its target year depending on its ability to achieve its long-term target, as long as it is no later than 2050. If an FBO's near-term target already commits itself to 90 percent reduction, it does not need to set an additional long-term target, although it is encouraged to aim for an even higher ambition in the long run.

Calculate targets

Immediate and steep GHG emission reductions are necessary to meet the 1.5°C warming limit outlined in the Paris Climate Agreement. Once warming exceeds this limit, there are additional uncertainties and risks, including irreversible climate change and feedback loops that encourage urgent and robust action to mitigate these outcomes. SBTi's framework

Box 1 | **Setting near-term science-based emissions reduction targets for Catholic hospitals in Canada**

In Canada, health care activities are responsible for 33 million tonnes of GHG emissions or 4.6 percent of national annual emissions. This emissions amount is larger than for the entire country of Denmark. On average, each public hospital in Canada produces 7 million tonnes of CO_2 a year. With 64 Catholic hospitals in operation as of 2020, that equates to about 448 million tonnes of CO_2 produced in a year as a result of health care activities. For a single hospital, the emissions reduction target for 2030 would be (2030–2024) x 4.2% = 25.2% or 1.76 million tonnes of CO_2 reduced by 2030 to meet the 1.5° warming limit. For the national network of Catholic hospitals, this would be 112.9 million tonnes of CO_2 reduced by 2030 (see Eckelman et al. 2018).

Addressing emission reductions at the parent level can be strategic for some FBOs. In this example, there may be some hospitals with negligible emissions or limited staff and one or two large hospitals with significant emissions and capacity. In an individual approach, each hospital would need to set ambitious targets independently. Through a parent-level approach, the hospitals can collaborate and identify which operations disproportionately contribute to the operational emissions profile of health care and can set targets accordingly.

Source: SBTF Project Authors.

for setting science-based targets conducted a number of climate scenario analyses to evaluate the minimum emission reduction rates needed to meet climate targets. To limit warming in 2100 to 1.5°C and well below 2°C, the annual linear reduction rates identified by SBTi are 4.2 percent and 2.5 percent, respectively (SBTI 2019).[7]

At a minimum, near- and long-term Scope 1 and Scope 2 targets must be consistent with the level of decarbonisation required to keep global temperature increase to 1.5°C (**SBTi Criteria 15**). The minimum forward-looking ambition of near-term targets must be consistent with reaching net zero by 2050 at the latest, assuming a linear absolute reduction between the most recent year inventory and 2050 (not increasing absolute emissions) (**SBTi Criteria 14**).[8]

Near-term targets

FBOs are encouraged to use the *absolute contraction approach* to set combined Scope 1 and 2 emission reduction targets. The absolute contraction approach is the most straightforward for linking targets to 1.5°C pathways. **It requires a minimum of 4.2 percent reduction in annual linear terms for 1.5°C–aligned near-term targets.** For example, if an FBO would like to set a target with a base year of 2021 and target year of 2030, the minimum target ambition is calculated as (2030–2021) x 4.2% = 37.8% emissions reduction by 2030. See Box 1 for a faith-based example following this target-setting approach.

Although limiting warming to well below 2°C is the minimum climate goal laid out in the Paris Agreement, scientists have made it clear that it is no longer enough. Even with 1.5°C of warming, the world will face severe climate impacts with disproportionate impacts on the poorest and most vulnerable. The impacts will be significantly worse with 2°C of warming (Levin 2018). Therefore, aiming for a well-below 2°C pathway does not align with achieving a net zero world. However, some FBOs may find it challenging to establish targets in line with the 1.5°C pathway due to factors such as geographic location, growth path, or income level, as discussed in Section 'Calculate your emissions and set target boundary' (context-sensitive target-setting). While this guidance is not set up to weigh in on the ongoing discussion on carbon budgets, we especially encourage FBOs in the Global North to lead by example and pursue the most ambitious reduction reasonably possible.

Long-term targets

For long-term SBTs, the minimum reduction is calculated as an **overall amount of at least 90 percent by 2050**. Developed by the SBTi, this cross-sector reduction threshold builds on an expansive body of scientific literature, including International Energy Agency's (IEA) Net Zero Emissions (NZE) scenario, which reduces energy and industrial process CO_2 emissions by 95 percent between 2020 and 2050, and has undergone extensive consultations with SBTi's scientific advisory group (Chang et al. 2021).

Box 2 | **Complete the SBTF survey**

SBTF is interested in understanding present FBO emissions performance and FBO ambitions to set targets. As such, we encourage FBOs to submit emission calculations and associated reduction targets to our online survey (https://georgetown.az1.qualtrics.com/jfe/form/SV_e3OTyIEbQMBLSce). FBO data will be used to create a global picture of faith-driven climate actions and to empower FBOs with evidence-based arguments for climate justice to enhance existing momentum from declarations. For guidance on completing the survey, see below. Please note that this survey is a data collection tool and will not assist your FBO in calculating emissions or setting targets.

To complete the survey, submit the baseline emissions data using collected utility bills and your science-based target based on the above calculations. Note that partial data recording is encouraged and welcomed. If you are missing data for a certain utility or over a particular time period, do not be afraid to skip the question and move on to the next one.

Data contributed to the SBTs for Faith project will be held in strict confidence by the World Resources Institute and Georgetown University. Data analysis completed on an organisational basis will only be shared with that organisation. Data will only be publicly disclosed anonymously and on an aggregated basis.

Source: SBTF Project Authors.

Share your emissions calculations and targets to the SBTF survey to create a global picture of faith-driven climate action. See Box 2 for more details.

SPECIAL CASE: RENEWABLE ELECTRICITY (SCOPE 2 ONLY)

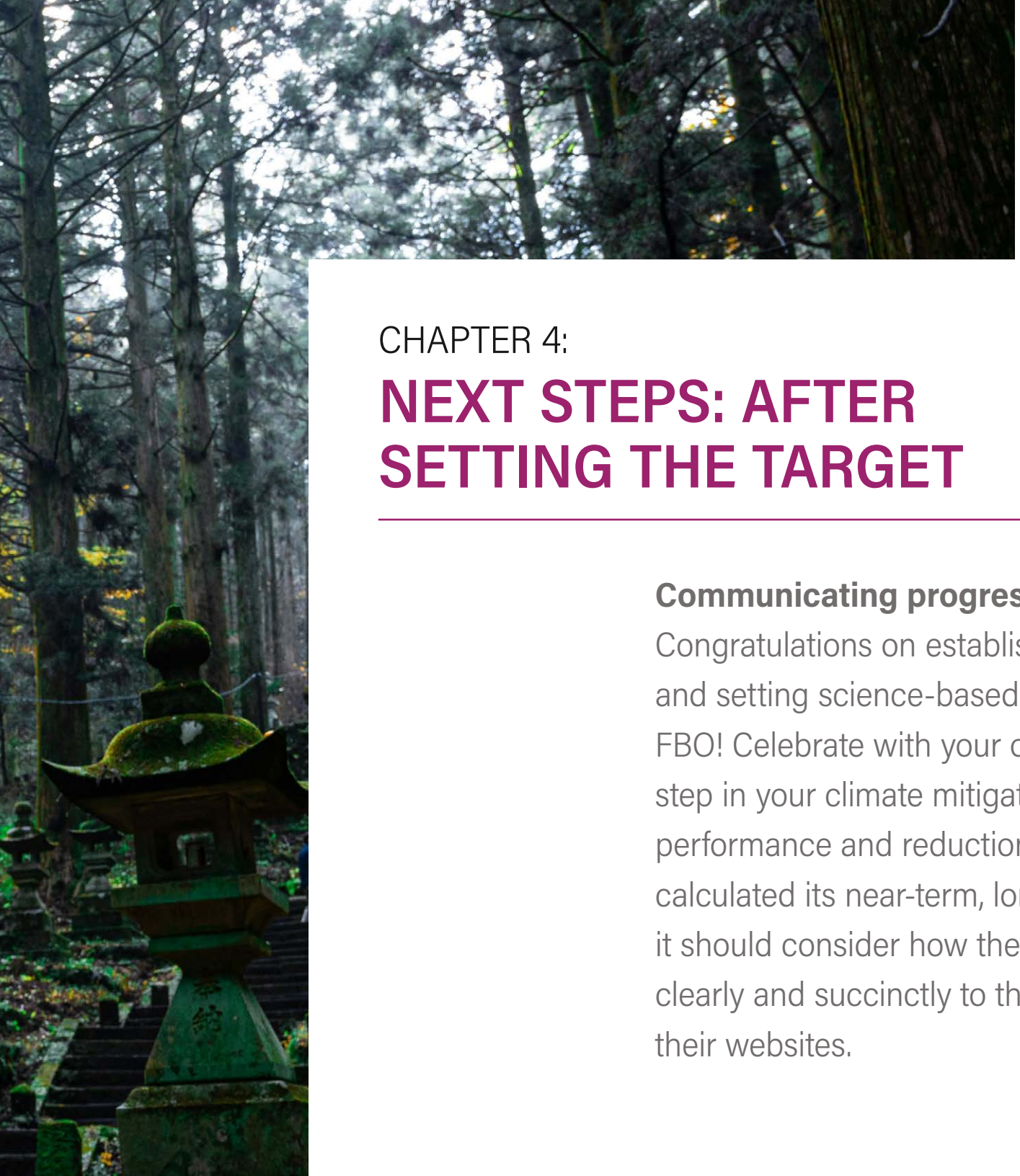
As an alternative to Scope 2 emission reduction targets, FBOs may set targets to actively source renewable electricity at a rate that is consistent with 1.5°C scenarios. This would only be possible for entities that report market-based emissions. Such targets must achieve 80 percent renewable electricity procurement by 2025 and 100 percent by 2030 as thresholds (portion of renewable electricity over total electricity use). For example, an FBO may set a target to reduce its Scope 1 emissions by 40 percent from a 2021 base year by 2030, and commit to source 100 percent renewable electricity by 2030. FBOs that already source electricity at or above these thresholds shall maintain or increase their use of renewable electricity to qualify.

SPECIAL CASE: BIOENERGY ACCOUNTING

FBOs that use bioenergy are highly encouraged to report direct CO_2 emissions from biomass combustion, processing, and distribution, as well as the land-use emissions and removals associated with bioenergy feedstock (**SBTi Criteria 10**). Furthermore, These emissions and removals are reported separately from the FBO's Scope 1 and 2 inventory, in line with the GHG Protocol Corporate Standard.

Furthermore, CO_2 emissions from the combustion of bioenergy and CO_2 removals associated with bioenergy feedstocks shall be included in the target boundary when setting a science-based target (in Scopes 1 and 2 where relevant), as well as when reporting progress against that target. FBOs are encouraged to adhere to any additional GHG Protocol guidance (when they become available) on bioenergy accounting when released to maintain compliance with this criterion.[9]

Removals that are not directly associated with bioenergy feedstock production are not accepted as progress towards SBTs nor towards net emissions in the GHG inventory.



CHAPTER 4:

NEXT STEPS: AFTER SETTING THE TARGET

Communicating progress

Congratulations on establishing an emissions baseline and setting science-based reduction targets for your FBO! Celebrate with your organisation this important step in your climate mitigation journey by sharing your performance and reduction goals. Once an FBO has calculated its near-term, long-term, or net zero target, it should consider how the targets can be expressed clearly and succinctly to their congregants and on their websites.

It should be acknowledged that while this guidance document is based on SBTi criteria, guidance, and methodology, FBO targets are not validated by formal SBTi protocol. As such, always be sure to refer to 'science-based target for faith', rather than a validated science-based target. There are however independent verification mechanisms available to ensure transparency and assess material discrepancies.[10]

The language provided below assists FBO in communicating targets in a meaningful and legitimate way. For example:

An FBO can express its near-term Scope 1 and 2 target as follows:

- We have committed to reduce Scope 1 and 2 emissions by 50 percent by 2030 from a 2019 base year.

FBOs that set an optional Scope 2 renewable electricity target can express the target as follows:

- We have committed to increase our annual sourcing of renewable electricity from 0 percent in 2019 to 100 percent by 2030.

FBOs can express their long-term Scope 1 and 2 target as follows:

- We have committed to reduce Scope 1 and 2 emissions 90 percent by 2050 from a 2019 base year.

FBOs can express their operational net zero targets as follows:

- We have committed to reach Scope 1 and 2 net zero greenhouse gas emissions by 2050.

In addition to the target language itself, FBOs are encouraged to provide other technical information about the targets, such as the following:

- Emission scopes that are and are not included in the target and any future plans to include them. This can, for instance, include key categories of Scope 3 emissions an FBO may wish to measure and reduce in the future.
- The percentage of the FBO's Scope 1 and 2 emissions, if only Scope 1 and 2 targets are set, or the total emissions covered by the targets.
- Whether a location- or market-based approach is used to calculate Scope 2 emissions in the base year and track performance against a science-based target.
- A link to the FBO's annual GHG inventory that follows the GHG Protocol Corporate Standard's reporting requirements.

In addition to the quantitative information pertaining to the targets, it is also beneficial for the FBO to explain to its membership the context for the targets. This can include the following:

- **Motivation:** Why did the FBO commit to such significant emission reductions? What moral and or value-based reasons have inspired the FBO to take action and set reduction targets? The answers to these

questions are illuminating for other FBOs, relevant stakeholders, journalists, and others who are interested in the intersection of faith, climate, and broader civil society actions on climate change. Your words of inspiration might provide an incentive for others to contribute to the target or follow suit by setting an emissions target at their own organisation.

- **How the FBO will cut emissions:** While it is understandable that many FBOs might not have a fully engineered plan for meeting their target at the outset, they may be able to provide near-term examples of steps they will take to reduce emissions. Tangible examples that are easy to visualize are helpful; for example, an FBO may state, 'We plan to put solar panels on 20 percent of our buildings next year'. See Section 'Where to go from here' for additional ideas on actions to meet the target.
- **The case for following climate science:** Why is following climate science important to the FBO's climate leadership? Science-based targets are notable because they support the global effort to prevent the most dangerous consequences of climate change. It is important for stakeholders to understand that climate science can and should guide decisions on emission reductions specifically and on FBO operations more broadly.
- **Links to other relevant environmental activities the FBO has been engaging in:** Many FBOs will have other existing programmes related to preserving the environment. Linking the targets to these programmes highlights how targets fit into a broad spectrum of activities the FBO is already engaging in.

TRACKING PROGRESS ON AN ANNUAL BASIS

To track progress and update goals, you need to be able to see where your organisation has been, where it is, and where it's going. We know this process is time-consuming at first, but we are here to help, and there are many other FBOs walking this path on the global journey towards a climate positive future.

Collecting data for an organisation's GHG inventory should not be a one-off attempt. After establishing an emissions baseline and setting reduction targets, FBOs are expected to repeat the process to track emissions and target progress on an annual basis. Start by creating an inventory management plan (see Box 3).

After targets are set, FBOs should report progress towards their target(s) and their GHG emissions inventory. The scope of disclosure for the GHG inventory depends on the scope of the targets set. Such information is important to help stakeholders better understand an FBO's progress and efforts before reaching the target year. FBOs may disclose such information on their websites or other public channels.

Box 3 | **Creating an inventory management plan**

It is important that FBOs create an **Inventory Management Plan (IMP)** when they compile a GHG inventory to enable the continuation of emissions tracking. An IMP documents an organisation's GHG emissions inventory process, including organisation information, data management protocols, and management tools. The IMP is an internal process for an organisation to institutionalise the completion of a high-quality inventory. The IMP can be updated periodically to reflect the most up-to-date information. The U.S. Environmental Protection Agency has ample guidance and resources on creating an inventory management plan (EPA 2023).

Source: SBTF Project Authors.

The following information should be included by an FBO in communications about its progress:

- A description of the target itself, following the recommendations in this section
- Emission changes from the base year to the current year (annual breakdowns are preferable); variability between years is expected, so it is important to show trends over multiple years
- When an FBO has subtargets for a specific scope or Scope 3 category, it should demonstrate progress against each subtarget

- Reasons for substantial emission variations (e.g., emission reduction activities, changes in ownership over certain assets)
- If progress is not on track or deviates from the target pathway, explain why and the strategy for addressing these deficits in the future
- Whether the target has been revised, and if so, what changes were made and why (e.g., due to a recalculation of the base year inventory or an update to the emissions scenario)
- Information on successful projects that have helped to reduce emissions, as well as any benchmarking with partner organisations in other regions or with other organisations
- Novel or innovative efforts or partnerships that have been put in place
- Investments or changes that have been made that may not yet have delivered significant results but that are expected to do so in the coming years or that enable the necessary transformation towards the long-term goal

RECALCULATING THE BASELINE AND TARGETS

Organisations can experience a number of significant internal and external changes over time. Such changes may alter the emissions profile of an organisation, making it difficult to facilitate meaningful comparisons year over year. To maintain consistency, it is important for organisations to consider recalculating historical emissions data and keeping reduction targets up to date.

There are a number of reasons why an organisation may need to **recalculate its baseline year emissions.** Structural changes whereby a transfer of ownership or operations, mergers, or acquisitions takes place can lead to significant changes in the emissions profile of an organisation. Internal drivers such as management goals and external drivers such as new regulations can also bring changes to the calculation approach. Changes in the emissions calculation, access to data, or the discovery of significant errors may also bring a significant impact to the accuracy of baseline calculations.

For example, an FBO might have used a national electric power–generation emissions factor to estimate Scope 2 emissions, but secure and more accurate utility-specific emission factors better reflect electricity use of FBO operations.

If structural changes occur in the middle of the year, it is advisable to recalculate base year emissions for the entire year rather than just the remainder of the reporting period to avoid having to recalculate base year emissions again the following year. Current emissions should also be recalculated for the entire year to maintain consistency with the base line recalculation.

Recalculation of the baseline is not necessary for operations or facilities that did not exist in the base year. Base year emissions and historic data do not need recalculation for any organic growth or decline in the organisation. If there are closures or openings, this qualifies as organic activity that results in emission changes to be counted towards an organisation's emissions profile.

To ensure consistency with updates in climate science, **emission reduction targets must be reviewed** (and if necessary recalculated) at a minimum of every five years (**SBTi Criteria 26**). Reduction targets should be recalculated to reflect any significant changes that may compromise the relevance or consistency of the existing target, including the reasons for baseline recalculation listed above.

REACHING OPERATIONAL NET ZERO

Communicating climate targets is key for gaining internal buy-in and achieving them in a timely manner. Since companies and civil society organisations started to establish long-term climate goals, terms such as *carbon neutral*, *net zero*, and *climate neutral* are commonly used interchangeably or with inconsistent meanings. To clarify these confusions, Table 3 is provided below to compare the scope and definitions of three commonly confused terms.

Presently, being carbon neutral can have many different meanings, with vastly different levels of emission reductions and removals. For this reason, efforts such as the Science-Based Targets initiative (SBTi) do not use terms like *carbon neutrality* and *climate neutrality* due to the varying definitions companies employ when using this terminology, and the implication that nondirect mitigation levers may be counted towards reporting of progress when setting these types of goals.

To reach net zero, an organisation must fully mitigate or remove all three scopes of emissions. Thus, an FBO is highly recommended to measure and reduce full or key categories of Scope 3 emissions after setting Scope 1 and 2 targets (see Appendix C). Section 'Reaching operational net zero' provides high-level guidance on how FBOs can neutralise residual emissions to reach net zero and contribute to society-wide decarbonisation in a manner that ensures the integrity of their science-based targets. It points readers to relevant resources wherever relevant.

Table 3 | **Scope and definitions of carbon neutrality, net zero emissions, and climate neutrality**

TERM	SCOPE OF EMISSIONS	DEFINITION
Net zero CO_2 emissions	CO_2 emissions	Net zero CO_2 emissions are achieved when anthropogenic CO_2 emissions are balanced globally by anthropogenic CO_2 removals over a specified period.
Net zero emissions	All GHG emissions	Net zero emissions are achieved when anthropogenic emissions of GHGs into the atmosphere are balanced by anthropogenic removals over a specified period. Where multiple GHGs are involved, the quantification of net zero emissions depends on the climate metric chosen to compare emissions of different gases (such as global warming potential, global temperature change potential, chosen time horizon, and others).
Climate neutrality	All GHG emissions, regional or local bio-geophysical effects of human activities, and, arguably, other radiative forcers	Climate neutrality refers to a state where human activities result in no net effect on the climate system. To achieve such a state, relevant bio-geophysical changes due to human activities (e.g., changes to Earth's surface reflectivity) would need to be avoided and net zero emissions would need to be achieved.

Note: CO_2 = Carbon dioxide; GHG = Greenhouse gas.

Source: IPCC 2018.

NEUTRALISATION

After an FBO has followed the five-step process described in Section 'Compile a greenhouse gas inventory' to set 1.5°C–aligned near- and long-term targets, it may commit to reach a state of operational net zero in the same year as its long-term target date (i.e., no later than 2050). To do so, an FBO should commit to neutralise its remaining Scope 1 and 2 emissions by removing carbon from the atmosphere and permanently storing it to counterbalance the impact of any unabated emissions that remain **once it has achieved its long-term science-based target and thereafter (SBTi Net Zero Criteria 28)** (see SBTi 2023c). It is worth noting that FBOs may also choose to neutralise residual emissions during the years leading up to the achievement of the target, although this is not mandatory.

Neutralisation carbon removal measures can occur **within or outside** of the Scope 1, 2, and 3 activities of an FBO (Tarrant 2021). Examples of such measures include the following:

- Direct air capture (DAC) and storage
- Bioenergy with carbon capture and storage (BECCS)
- Improved soil management
- Improved forest management
- Land restoration, for example, of peatland, terrestrial forests, or mangroves

If an FBO plans to measure and reduce Scope 3 emissions after setting a Scope 1 and 2 operational net zero target, it should revise its neutralisation strategy accordingly to take into account the residual Scope 3 emissions that need to be further removed. For FBOs that do not have CO_2 removal in the Scope 1 land they own or control, it will be more important to consider Scope 3 targets in pursuing neutralisation strategies. See Appendix C for more details on Scope 3 emissions. FBOs should disclose information such as planned milestones and near-term investments that demonstrate the integrity of commitments to neutralise unabated emissions at net zero (**SBTi Net Zero Recommendation 10**).

BEYOND VALUE CHAIN MITIGATION

FBOs, with their significant physical and financial assets, can play a critical role in accelerating society-wide net zero transition and in addressing the ecological crisis by engaging in mitigations beyond their value chain (**SBTi Net Zero Recommendation 9**). Beyond value chain mitigation refers to mitigation action or investments that fall outside of an organisation's Scope 1, 2, and 3 activities (i.e., 'value chain'). This includes activities that do the following:

1. Avoid GHG emissions; for example, investments in renewable energy
2. Reduce GHG emissions
3. Remove and store GHG from the atmosphere (e.g., carbon removals); for instance, purchasing high-quality, jurisdictional Reducing Emissions from Deforestation and Forest Degradation (REDD+) credits or investing in direct air capture (DAC) and geologic storage.

Additional actions or investments like these could help increase the likelihood that the global community stays within a 1.5˚C carbon budget. However, **they are not a substitute for the rapid and deep reduction of an FBO's own value chain emissions from energy and industrial processes.** FBOs may own or manage natural carbon sinks (e.g., forests) that can contribute to beyond value chain mitigation in the transition to net zero.

Although FBO-owned carbon sinks are technically within an FBO's value chain, they should still be treated as **beyond value chain mitigation measures** to contribute to society-wide mitigation, instead of being used as measures to achieve an FBO's emissions reduction target, which are focused on energy, industrial, or agricultural CO_2 emissions. For example, an FBO could provide annual community-based support to projects, programmes, and solutions that provide quantifiable benefits to climate, especially those that provide benefits for people and nature. FBOs should report annually on the nature and scale of those actions pending further guidance.

CARBON CREDITS AND CARBON SINKS

A cross-cutting theme between neutralisation and beyond value chain mitigation is **carbon removal**, measures that can most directly counterbalance an organisation's unmitigated emissions. Other measures to avoid or reduce emissions only prevent additional emissions

from entering the atmosphere instead of removing an organisation's emissions (Stein and Merchant 2022).

The main distinction of carbon removal's role in neutralisation versus beyond value chain mitigation is **when it is used.** Carbon removal for neutralisation must occur when the long-term target is achieved and thereafter, whereas carbon removal as beyond value chain mitigation can occur as an FBO transitions to net zero emissions to contribute towards society-wide decarbonisation and towards the set emissions reduction target. In the context of faith-based organisations, carbon removal credits and carbon sequestration potential from FBO-owned or -managed forests and other nature systems are particularly relevant.

CARBON CREDITS

Offsets are discrete GHG reductions used to compensate for (i.e., offset) GHG emissions elsewhere, such as meeting a voluntary or mandatory GHG target or cap. Offsets may be converted into credits (i.e., carbon credits), which are convertible and transferable instruments usually bestowed by an external GHG programme. They are typically generated from an activity such as an emissions reduction project and then used to meet a target in an otherwise closed system, such as a group of facilities with an absolute emissions cap placed across them (WBCSD and WRI 2004).

Purchasing carbon credits cannot be counted as reductions towards meeting organisational emission reduction targets (**SBTi Criteria 11**). FBOs should not offset their value chain emissions through the purchase of carbon credits. An FBO's GHG inventory must only reflect emissions from sources within the chosen control approach; for example, Scope 1 and 2 emissions from facilities under an FBO's operational control. However, purchasing high-quality carbon credits in addition to reducing emissions along a science-based trajectory can play a critical role in accelerating the society-wide transition to net zero emissions. Carbon credits may only be considered an option for neutralising residual emissions (**SBTi Net Zero Criteria 28**) or to finance additional climate mitigation beyond an FBO's science-based targets (**SBTi Net Zero Recommendation 9**).

Generally speaking, carbon credits can play two roles in science-based net zero strategies:

- **In the transition to net zero:** FBOs may opt to purchase carbon credits while they transition towards a state of net zero emissions (i.e., in addition to science-based mitigation of Scope 1, 2, and 3 emissions) to support society to achieve net zero emissions by 2050 as beyond value chain mitigations.
- **At net zero and beyond:** FBOs with residual emissions within their value chain are expected to neutralise those emissions with an equivalent amount of **carbon dioxide removals** at their net zero target date, and these removals can be sourced from carbon credits (SBTi 2021).

Not all carbon credits are created equal. The current landscape of carbon credits is complex and at times confusing. FBOs should be aware of common issues of carbon credits, such as nonpermanence of emission reduction or removal (e.g., restored forests being cut down), double counting of benefits if the credit is used by more than one user, etc.

Initiatives and guidance such as the Carbon Credit Quality Initiative,[11] the LEAF Coalition,[12] 'the Oxford Principles for Net Zero Aligned Carbon Offsetting',[13] and GHG Management Institute and Stockholm Environment Institute's 'Securing Climate Benefit: A Guide to Using Carbon Offsets'[14] are helpful resources for FBOs interested in using high-quality carbon credits.

Research carried out by this project shows that climate tools and initiatives developed or recommended by FBOs commonly encourage the use of offsets to counterbalance congregational or individual emissions. Among the 14 tools assessed, 7 recommended the use of offsets to directly compensate for emissions from FBOs, which is not in line with the best practice recommendation put forth by this guidance.

CARBON SINKS

FBOs are some of the world's biggest landowners, including forests and other natural areas that serve as natural carbon sinks. For example, the Ethiopian Orthodox Tewahedo Church—to which over half of all Ethiopians belong—owns about 35,000 forest oases, which range from 3 to 300 hectares, around the country (Abbott 2019). The cobenefits of this land stewardship include carbon sequestration, biodiversity, water filtration, social health, and

natural medicine. More research is needed to understand the scale of natural carbon sinks owned and managed by FBOs globally.

FBO-owned natural carbon sinks can play key roles both in the transition to net zero and at net zero and beyond:

- **At net zero and beyond:** Carbon removal benefits from FBO-owned carbon sinks can be used to **neutralise** any residual Scope 1 and 2 emissions to reach a state of operational net zero once the long-term target is achieved, and thereafter.

At this moment, quantification of carbon removal from natural sinks remains a challenge when no consensus on methodology exists. To fill this gap, the Greenhouse Gas Protocol team is developing a guidance on carbon removals and land use, due to be published in 2024 (WRI and WBCSD 2024). In the meantime, FBOs may consult resources such as the Intergovernmental Panel on Climate Change's (IPCC) *Good Practice Guidance for Land Use, Land-Use Change and Forestry*,[15] the ISO 14064 1:2018,[16] *Accounting for Natural Climate Solutions Guidance* from Quantis,[17] as well as Gold Standard's Value Change initiative.[18] At a minimum, FBOs should be stewards of their forests and other natural habitats to avoid any deforestation or conversion.[19] Given the unique composition of assets of some FBOs, calculation of carbon removal on the basis of forestry and agriculture will require the use of the dedicated SBTi Forest, Land and Agriculture (FLAG) protocol (Anderson et al. 2022).

WHERE TO GO FROM HERE

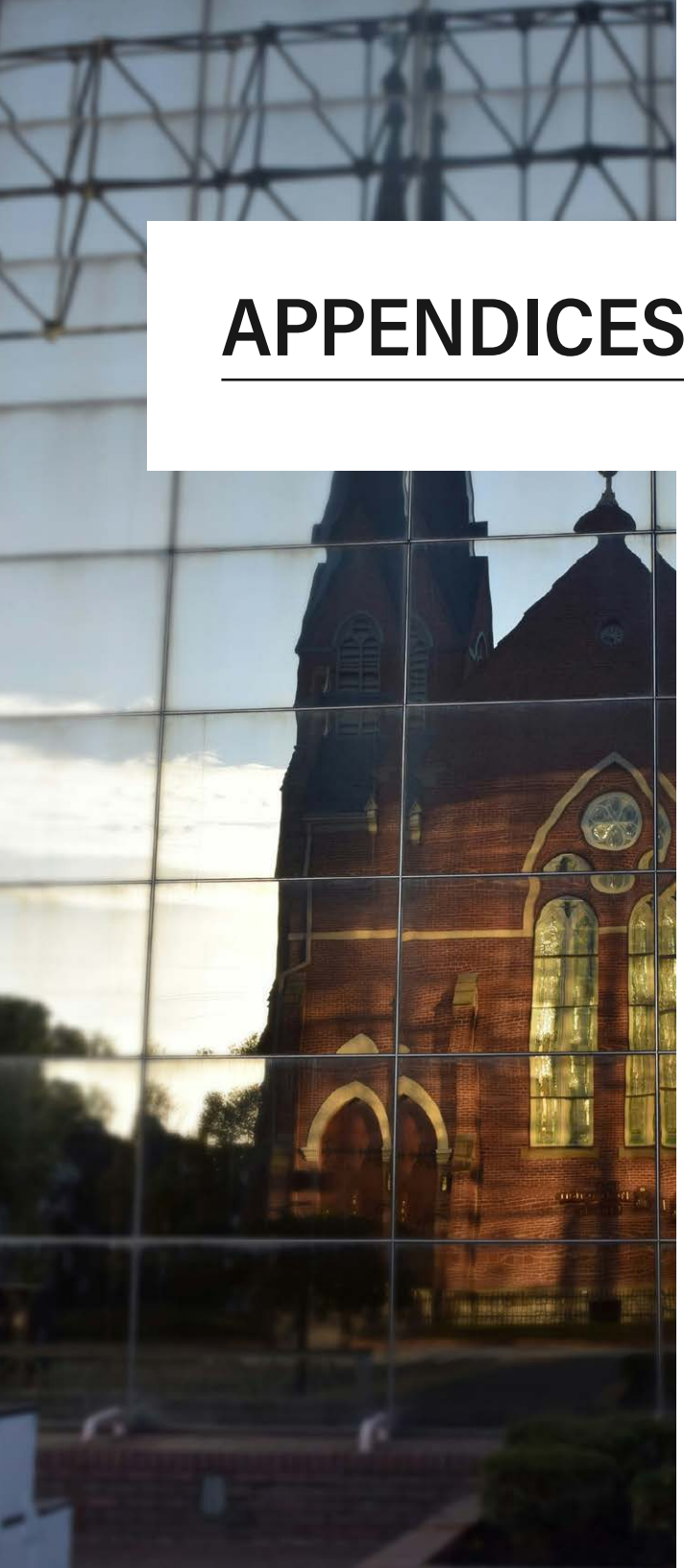
To get on track for net zero emissions by 2050, operational emissions from the buildings sector must be cut in half by the end of this decade. This guidance provides FBOs with the knowledge, tools, and protocols for calculating a GHG emissions inventory and setting a science-based emissions reduction target to minimise the climate impact of FBO operations. Gathering data is a significant step to understand and empower your FBO to combat climate change.

Reducing operational emissions for buildings can include investments in the energy efficiency of insulation, ventilation, and appliances. If possible, it is important to conduct an energy audit of your facility to better understand where the greatest emissions costs and savings can take place. For example, is it more economical to invest in new boilers for every building, or insulation and better windows? Is your roof strong enough to withstand the extra weight of solar panels? Might there be ways to manage facility activities that encourage hybrid participation and lower facility energy costs and demand? Can these conversations take place at the same time as yearly budgets are being set?

There are many existing solutions, such as low-carbon building design, low-carbon building materials, electrification, switching energy sources, and more. For example, electric heat pumps are almost four times more efficient than conventional boilers (IEA 2022). The World Economic Forum has developed the *Framework for the Future of Real Estate*,[20] providing relevant actions on building resilience, sustainability, and affordability to create a new approach to the buildings sector. The International Energy Agency's *Buildings Sector Energy Analysis* also provides a number of actionable steps for organisations, institutions, and policymakers (IEA 2023d). There are also many building-level frameworks and global certification standards (i.e., Leadership in Energy and Environmental Design [LEED]-certified buildings) that help ensure organisations are operating their physical assets at a high standard. See Section 'Physical asset categories' of the SBTi Building Sector Guidance (SBTi 2023d) for more details.

Discuss with your FBO leadership, membership, and surrounding community to strategise and act as a collective on climate. Share your targets and inquire with partners and stakeholders about the commitments they plan to make. Inquire with utility providers about the actions they are taking and the kinds of regulations and codes that are shaping those actions. Share relevant resources such as this document with sister organisations; discuss your emissions inventory with your accountant and other staff; and promote your actions publicly on your FBO website, social media channels, and at relevant speaking engagements.

Together, we can make a difference. Start today by taking responsibility for your organisational impact.



APPENDICES

APPENDIX A. GLOSSARY

TERM	DEFINITION
1.5°C pathway	A global pathway of emissions of greenhouse gases and other climate forces that provides an approximately one-in-two to two-in-three chance, given current knowledge of the climate response, of global warming either remaining below 1.5°C or returning to 1.5°C–compatible by an organisation's pathways by approximately 2100 following an overshoot.
Absolute contraction	Method used to calculate absolute emission reduction targets that requires organisations to reduce annual emissions, independent of the organisation's growth, by an amount consistent with underlying mitigation pathways.
Beyond value chain mitigation	Mitigation action or investments that fall outside an organisation's value chain. This includes activities that avoid or reduce greenhouse gas emissions, or that remove greenhouse gases from the atmosphere and permanently store them.
Bioenergy	Energy generated from the combustion of biomass for transportation, heat, and electricity production. Examples of biomass include crop waste, forest residue, and food waste.
Biogenic emissions	FBOs may optionally report direct CO_2 emissions from the combustion of biomass, in addition to Scope 1 and 2 emissions. Nitrous oxide and methane emissions associated with biofuels and biomass combustion should be reported under Scope 1 or 2 as relevant.

TERM	DEFINITION
Carbon credits	Convertible and transferable instruments that are usually bestowed by an external GHG programme that allows an organisation to produce a certain amount of carbon emissions and that can be traded if the full allowance is not used.
Carbon dioxide removal (CDR)	Anthropogenic activities removing CO_2 from the atmosphere and durably storing it in geological, terrestrial, or ocean reservoirs, or in products. The removals are either nature-based, geological, or a hybrid (Intergovernmental Panel on Climate Change [IPCC]).
Carbon offsets	Discrete GHG reductions used to compensate for (i.e., offset) GHG emissions generated elsewhere; for example, to meet another organisation's voluntary or mandatory GHG target or cap.
Climate neutrality	A state where human activities result in no net effect on the climate system. To achieve such a state, net zero emissions would need to be achieved and other relevant bio-geophysical changes due to human activities (e.g., changes to Earth's surface reflectivity) would need to be avoided.
Cradle-to-gate	The carbon impact of a product from the moment it is produced to the moment of sale.
Environmental, social, and governance (ESG)	A set of standards for an organisation's actions: Environmental criteria consider how an organisation safeguards the environment, including corporate policies addressing climate change. Social criteria examine how it manages relationships with employees, suppliers, customers, and the communities where it operates. Governance deals with an organisation's leadership, executive pay, audits, internal controls, and shareholder rights. ESG standards or indicators are used by socially conscious investors, among others, to screen potential investments.
Faith-based organisation (FBO)	An organisation whose values and mission are founded in religious or spiritual beliefs and whose aim is to meet the spiritual, cultural, or social needs of its members or community. FBO is an umbrella term for religious institutions and faith-related organisations.
Forward-looking ambition	An organisation's targeted emissions reduction from the most recent year its inventory is available until the target year.
Greenhouse gas (GHG) emission reduction targets	Goals set by an organisation to reduce direct or indirect emissions by a specified amount.
Greenhouse gas inventory	A quantified list of an organisation's GHG emissions and sources. Emission inventories typically include emissions in Scopes 1, 2, and 3.
Greenhouse gases (GHGs)	Gases that absorb and reemit infrared radiation, thereby trapping it in Earth's atmosphere. Includes carbon dioxide (CO_2), water vapour, methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3).

TERM	DEFINITION
IPCC Special Report on 1.5˚C (SR15)	A Special Report requested by the United Nations on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty. The report includes over 6,000 scientific references and was prepared by 91 authors from 40 countries.
Long-term science-based target	GHG reduction targets that are in line with what the latest climate science deems is necessary to reach net zero at the global or sector level in 1.5°C pathways before 2050.
Mitigation	A human intervention to reduce emissions or enhance the sinks of greenhouse gases (IPCC).
Mitigation hierarchy	The mitigation hierarchy recommended in this guidance prioritises eliminating sources of emissions within the value chain of the FBO over compensation or neutralisation measures. Nature-based climate strategies should prioritise interventions that help preserve and enhance existing terrestrial carbon stocks, within and beyond the value chain of the FBO.
Natural carbon sinks	The main natural carbon sinks are plants, the ocean, and soil. Plants grab carbon dioxide from the atmosphere to use in photosynthesis; some of this carbon is transferred to soil as plants die and decompose. The oceans are a major carbon storage system for carbon dioxide.
Near-term science-based target	5–10–year GHG mitigation targets in line with 1.5°C pathways.
Negative screening	Negative screening is the process of finding organisations that score poorly on environmental, social, and governance (ESG) factors relative to their peers. These organisations can then be avoided when constructing a portfolio.
Net zero	The SBTi defines having net zero targets aligned with meeting societal climate goals for an organisation as the following: (1) Achieving a scale of value chain emission (Scope 1, 2, and 3 emissions) reductions consistent with the depth of abatement at the point of reaching global net zero in 1.5˚C pathways. (2) Neutralising the impact of any residual emissions by permanently removing an equivalent volume of CO_2.
Neutralisation	Measures to remove carbon from the atmosphere and permanently store it to counterbalance the impact of emissions that remain unabated at and beyond the long-term target year.
Operation	A generic term used to denote any kind of business, irrespective of its organisational, governance, or legal structures. An operation can be a facility, subsidiary, affiliated company, or other form of joint venture.
Operational boundary	The boundaries that determine the direct and indirect emissions associated with operations owned or controlled by the reporting entity. This assessment allows an entity to establish which operations and sources cause direct and indirect emissions, and to decide which indirect emissions to include that are a consequence of its operations.

TERM	DEFINITION
Operational net zero	A term created within this project, it means achieving a state of net zero Scope 1 and 2 emissions for an organisation, and neutralising residual emissions through carbon removals.
Organisational boundary	The boundaries that determine the operations owned or controlled by the reporting entity, depending on the consolidation approach taken (equity share or control approach).
Paris Agreement	Stated by the United Nations Framework Convention on Climate Change (UNFCCC), the Paris Agreement is a 'legally binding international treaty on climate change. It was adopted by 196 Parties at the COP [Conference of the Parties] 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016. Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.'
Physical assets	Any tangible item that a faith-based organisation owns, or is connected to, which generates income through either active or passive means. Examples include buildings, land, and vehicles.
Religious institutions	Institutions that exist to support and manage the practice of a specific set of religious beliefs.
Residual emissions	Residual emissions are any GHG emissions that remain after a project or organisation has implemented all technically and economically feasible emission reductions.
Scenario	A plausible description of how the future may develop based on a coherent and internally consistent set of assumptions about key driving forces (e.g., rate of technological change, prices) and relationships. Note that scenarios are neither predictions nor forecasts, but are used to provide a view of the implications of developments and actions.
Science-based targets	Targets set by organisations that are in line with what the latest climate science says are necessary to meet the goals of the Paris Agreement—to limit global warming to well below 2°C above pre-industrial levels, and pursue efforts to limit warming to 1.5°C.
Science-Based Targets initiative	A global body advancing SBTs for businesses. SBTi is a collaboration between CDP, the United Nations Global Compact (UNGC), World Resources Institute (WRI), and the World Wide Fund for Nature (WWF) and is one of the We Mean Business Coalition commitments.
Scope 1	Direct GHG emissions occur from sources that are owned or controlled by the organisation; for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.
Scope 2	GHG emissions from the generation of purchased electricity consumed by the organisation. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organisational boundary of the organisation. Scope 2 emissions are indirect as they physically occur at the facility where electricity is generated.

TERM	DEFINITION
Scope 3	Scope 3 emissions are a consequence of the activities of the organisation, but occur from sources not owned or controlled by the organisation. Some examples of Scope 3 activities are extraction and production of purchased materials, transportation of purchased fuels, and use of sold products and services. The Greenhouse Gas Protocols (GHGPs) Scope 3 Standard further defines 15 categories of upstream and downstream Scope 3 emissions.
Sustainable Development Goals	A collection of 17 interlinked global goals designed to be a 'blueprint to achieve a better and more sustainable future for all'. The Sustainable Development Goals (SDGs) were set up in 2015 by the United Nations General Assembly and are intended to be achieved by 2030.
Target base year	The base year used for defining a GHG target; for example, to reduce CO_2 emissions 50 percent below the target base year levels for the target base year 2020 by year 2030.
Target boundary	The boundary that defines which GHGs, geographic operations, sources, and activities are covered by the target.
Value chain emissions	An organisation's Scope 1, 2, and 3 emissions as defined by the GHG Protocol Corporate Accounting and Reporting Standard
Well-below 2°C pathway	Though not clearly defined by the IPCC, it is analogous to IPCC's 'likely chance' terminology, which means a 66 percent probability of keeping temperature rise below 2˚C.

APPENDIX B. LINE-BY-LINE CLARIFICATION OF THE SBTF SURVEY

Introduction

To support FBOs to establish a GHG emissions baseline, the project team developed a survey for FBOs to collect the data necessary to calculate Scope 1 and 2 emissions of a single or multiple building(s) in a given inventory year of 12 months. The survey is developed in accordance with the Greenhouse Gas Protocol (GHGP) Corporate Standard and incorporates the data input of the EPA Portfolio Manager® to enable FBOs that have used the portfolio manager tool to input data with ease. It further enables FBOs with a complete Scope 1 and 2 inventory to model near-term, long-term, and operational (Scope 1 and 2) net zero science-based targets.

Data provided by FBOs will only be accessible to the SBTF project team for analysis provided to individual FBOs or aggregate analysis anonymising an individual FBO's information.

Question-specific instructions

#	QUESTION	GUIDANCE
		FBO information
Q1	Your organisation's name	If you are using your organisation's legal designation, please make sure that the spelling, capitalisation, and punctuation of your organisation's name is correct.
Q2	Who is your organisation's data representative?	Provide the full name of the person at your organisation who will coordinate the data collection process. Reminder to identify a secondary staff person as a 'backup' in case of turnover.
Q3	What is the email of your organisation's data representative?	Provide contact email of the data representative.
Q4	What is the religious affiliation of your organisation?	Select religious affiliation from the drop-down or select 'Other' and enter your organisation's information.
Q5	Does your organisation affiliate with a denomination or sect?	Yes or No.
Q5.1	Select all denominations or sects that apply.	Select denomination information from the drop-down or select 'Other' and enter your organisation's information.
Q6	Do you own or lease your properties?	Within your selected project scope, is your organisation the owner of your building assets; are you leasing from a landlord; or are you leasing out some or all of your property? If your organisation's properties are a combination of owning and leasing, select 'Combination' and explain.
Q7	What percentage of the properties under your control are you reporting data for?	**Method 1:** By number of buildings For example, Own 4/5 buildings, lease 1/5 of buildings = **80%** own, 20% lease. **Method 2:** By floor area For example, 2,000 square feet (ft^2) own, 3,000 sq. ft. lease = **40%** own, 60% lease.

#	QUESTION	GUIDANCE
		Data boundaries
Q8	Start and end dates of the consecutive 12-month period you are providing data for?	Record the month and year of the first and last utility bill, or first and last date for which data are provided. For example, 1/20–12/20.
Q9	Do you report your energy or emissions data through an existing data-sharing initiative?	Some examples include the following: Greenhouse Gas Protocol, EPA Portfolio Manager, the Climate Registry, Climate Stewards, Cool Congregations, EcoChurch, The Nature Conservancy, Arc Skoru Inc., GRESB, or your organisation's internal tool. Select 'Yes' if you have reported your emissions data with a different organisation. Select 'No' if you have never reported.
Q9.1	If yes, which data-sharing initiatives do you report to?	Select one or multiple data-sharing initiatives that your organisation has used from the list. Select 'Other' and enter your organisation's internal tool or an initiative not on the list.
Q10	Has your organisation previously used the GHGP Corporate Standard to measure Scope 1, Scope 2, and biogenic emissions?	Only check the boxes next to the scopes and emissions where the GHGP Corporate Standard was employed. Definitions: **Scope 1** – Stationary combustion: Fuel consumption at a facility to produce electricity, steam, heat, or power. **Scope 1** – Mobile combustion: Fuel consumption by vehicles that are owned or leased. **Scope 1** – Refrigerants: Leaks in your heating, venting, and air-conditioning (HVAC) system; chillers; refrigerators, etc., through which refrigerant gas escapes. **Scope 2** – Purchased energy from off-site sources (e.g., electricity bill). **Biogenic emissions:** CO_2 emissions from the combustion of biomass or bioenergy, in addition to Scope 1 and 2 emissions. Bioenergy is energy generated from the conversion of solid, liquid, and gaseous products derived from biomass. Biomass is any organic matter—that is, biological material—available on a renewable basis. This includes feedstock derived from animals or plants, such as wood and agricultural crops and organic waste from municipal and industrial sources. N_2O and CH_4 emissions associated with biofuels and biomass combustion should be reported under Scope 1 or Scope 2 as relevant. **No offsets are included in the GHG inventory:** Emission reductions from carbon credits or offsets cannot be subtracted from an FBO's inventory and must be reported separately. An FBO's GHG inventory must only reflect emissions from sources within the chosen control approach. If your organisation has never recorded emissions or collected data without using the GHGP Standard, select 'No, GHGP Corporate Standard not employed'. If Scope 1, Scope 2, and biogenic emissions are recorded according to the GHGP Corporate Standard, please select 'Yes, GHGP Corporate Standard fully employed'. If the GHGP Standard was used but does not meet all of the GHGP requirements (i.e., transportation emissions not recorded), please select the 'incomplete' option.
Q10.1	If your response contained 'Yes,' to Q10 above, please enter the most recent year and the emissions you recorded while employing the GHGP Corporate Standard.	Emissions types: CO_2, CH_4, NO_2, CO_2e, biogenic CO_2. Answer only if applicable. Record the most recent complete year that the GHGP Corporate Standard was employed, the type of emissions recorded, the measured amount, and the emissions factor numerator and denominator units.

#	QUESTION	GUIDANCE
Q11	Will you input data using the metric or US imperial measurement systems?	Choose between metric and imperial measurement systems.
Q12	Are you submitting data for a single property or a portfolio of properties?	Single property (i.e., single building or a single campus). Portfolio of properties (i.e., multiple buildings or campuses).
Q13	Number of buildings being reported	Number of buildings you are providing information for.
Q14	What property types are you providing data for?	Select at least one property type from the list or select 'Other' and fill in the blank.
Q15	Property or portfolio name	
Q16	Property location (country)	Country or countries where property or portfolio is located.
Q17	Property location (latitude and longitude)	Please provide the latitude and longitude, if known.
Q18	Property address	Record if your property has a single address.
Q19	Electric grid region code	Please look for your country or region code on the list. If you are uncertain of your organisation's code, refer to your utility provider or look up this information online. Select 'Other' if your organisation's electric grid code is not shown, and fill in the blank.
Q20	Total gross area	Definitions: **Gross floor area:** Add up the floor area of all buildings that data are provided for. **Total gross area of land:** Land where buildings are located that your organisation owns. **Total gross area of vegetated land:** Land owned by the organisation, such as arboretum or forest, that can serve as a natural carbon sink. Area units: Hectares, acres, square metres (m^2), square feet (ft^2)
	Facility use intensity	
Q21	Number of residents living on-site	Include those who are living on-site part time, and full time.
Q22	Number of full-time equivalent (FTE)	The calculation of full-time equivalent (FTE) is an employee's scheduled hours divided by the employer's hours for a full-time workweek. When an employer has a 40-hour workweek, employees who are scheduled to work 40 hours per week are 1.0 FTEs. Employees scheduled to work 20 hours per week are 0.5 FTEs.
Q23	Average number of annual religious service attendees	Regular weekly visitors for both weekday and weekend services.

#	QUESTION	GUIDANCE
	Energy use	
Q24	On-site sources of energy	Record the amount and units in the energy source row that corresponds with your organisation's data. Sources of nonrenewable energy burned on-site. Generally these include fossil fuel gases, oils. The list includes the following: Propane; natural gas; petroleum products (kerosene, diesel, fuel oils [# 1, 2, 4, 5, 6]); wood; coal (anthracite, bituminous); coke; waste-derived fuel.
Q25	Other on-site sources of energy	If an on-site energy source used is not found on the list above, record the type, amount, and units.
Q26	Off-site sources of energy	Record the amount and units in the energy source row that corresponds with your organisation's data. Sources of nonrenewable energy burned off-site and transported to the facility; generally electricity. The list includes the following: Purchased electricity, district steam, district hot water, district cold water, biogas.
Q27	Other off-site sources of energy	If an off-site energy source used is not found on the list above, record the type, amount, and units.
Q28	Do your facilities consume renewable energy on- or off-site?	Yes or No
Q28.1	If 'Yes' to Q28, On-site renewable energy	Record the amount and units in the energy source row that corresponds with your organisation's data. Sources of renewable energy produced on-site; connected to the grid or independent system. The list includes the following: Solar electricity, wind electricity, solar hot water, hydroelectric, biomass, biogas, geothermal.
Q28.2	If 'Yes' to Q28, Other on-site sources of renewable energy	If an on-site renewable energy source used is not found on the list above, record the type, amount, and units.
Q28.3	Off-site renewable energy	Sources of renewable energy produced off-site. E.g., off-shore wind brought to the facility via the grid.
Q28.4	If 'Yes' to Q28, Other off-site sources of renewable energy	If an off-site renewable energy source used is not found on the list above, record the type, amount, and units.
	Appliance information	
Q29	Do your facilities use refrigerators, HVAC systems, heat pumps, mobile refrigerated transport, chillers, or motor vehicle air-conditioning?	Select all that apply.

#	QUESTION	GUIDANCE
Q29.1	If at least one option was selected in Q29, Does your organisation maintain its own refrigeration machinery or equipment?	Maintenance includes the following: - Regular cleaning - Checking settings, refrigerant levels - Examination, inspection, and observation of equipment and electrical - Defrosting on a regular schedule Yes or No?
Q29.2	If 'Yes' to Q29.1, Do you have access to your refrigeration machinery maintenance information?	Yes or No?
Q29.3	If 'No' to Q29.1, Does your maintenance service provider share the refrigeration machinery maintenance information with you?	Yes or No?
Q30	Do your facilities have fire suppression units?	Example: Fire extinguishers Yes or No?
Q30.1	If 'Yes' to Q30, Record information about your fire suppression equipment.	Answer with as much detail as possible.
	Transportation	
Q31	Does your organisation own or lease transportation vehicles?	This question applies to all of your organisation's motorised vehicles, including motorcycles, cars, trucks, buses.
Q31.1	If 'Own' was selected in Q31, How many vehicles does your organisation own?	Enter the number of vehicles owned by your organisation.
Q31.2	If 'Lease' was selected in Q31, How many vehicles does your organisation lease?	Enter the number of vehicles leased by your organisation.
Q31.3	What types of vehicles does your organisation own or lease?	These types include the following: Gasoline/diesel passenger cars; gasoline/diesel light-duty trucks (vans, pickup trucks, SUVs); gasoline/diesel heavy-duty vehicles; hybrid gasoline passenger cars; electric vehicles; hydrogen fuel cell vehicles; natural gas–powered vehicles. Select 'Other' if your organisation's vehicle type is not found and fill in the blank.
Q31.4	Please select one of the following methods to record fuel consumption.	Select a method that best represents your organisation's data.
Q31.4.1	Fuel consumption: Total fuel used	Record the total amount of fuel used and the associated units within the previously selected time frame.

#	QUESTION	GUIDANCE
Q31.4.2	Fuel consumption: Amount of money spent on fuel	Record the total cost of the fuel used, the cost per amount of fuel, and the currency type within the previously selected time frame.
Q31.4.3	Fuel consumption: Distance	Record the total distance travelled, the price per unit, and the distance unit within the previously selected time frame.
	Target-setting	
Q32	Do you have an existing emissions reduction target?	Select from Yes, No, or Other. If you select 'Other', please briefly explain.
Q32.1	If 'Yes' in Q33.1, What is your current emissions reduction target year?	Record your organisation's current GHG emissions target year.
Q32.2	If 'Yes' in Q33.1,What is your existing emissions reduction target amount?	Describe your organisation's current GHG emissions target amount. Record the amount in a percentage.
Q33	What year (for which a Scope 1 and Scope 2 inventory is available) would you like to use as the base year for your SBT calculations?	You may select the year that will serve as the baseline as your science-based target, for which you have complete Scope 1 and 2 inventory (>95% of emissions measured). It's recommended that more recent inventories are used as target baselines. See Section 'Select a base year' for more guidance.
Q34	Baseline year emissions	See scope definitions above. Record Scope 1, Scope 2, and biogenic emissions from your organisation's baseline year. Also record the emissions type and emission factors unit.
Q35	What percentage of your organisation's total Scope 1 and Scope 2 emissions have you measured?	If you are unable to obtain complete data for all properties and vehicles within your operational control, or if data for certain emissions sources are unreliable, please provide a rough estimate of the percentage of total Scope 1 and 2 emissions that has been measured considering the exclusions.
Q36	What is your new near-term emissions reduction target year?	Near-targets must be 5–10 years from the date a target is established to galvanise the necessary actions needed to halve global emissions by 2030. If an FBO sets an SBT in 2022, the target year can be in the 2027–2032 range. See Section 'Calculate targets' in the project packet for more guidance.
Q37	What is the targeted coverage of your measured emissions for your near-term target year?	FBOs that wish to set SBTs must include at least 95 percent of their Scope 1 and 2 emissions in the near-term target. For example, if they are unable to measure 5 percent of their Scope 1 and 2 emissions, they must include all of the emissions measured in the SBT to reach the 95 percent threshold. For FBOs that wish to set long-term SBTs, the coverage of the long-term target must be the same as the near-term target.
Q38	What is your new long-term emissions reduction target year?	The target year of the long-term target must be no later than 2050. Because the ambition of long-term science-based targets is an overall amount (i.e., 90 percent reduction), the FBO may adjust its target year to sooner or later depending on its ability to achieve its long-term target. If an FBO's near-term target already commits itself to 90 percent reduction, it does not need to set an additional long-term target. See Section 'Calculate targets' in the project packet for more guidance.
Q39	What is the targeted coverage of your measured emissions for your long-term target year?	If an FBO's near-term target already commits itself to 90 percent reduction, it does not need to set an additional long-term target. See Section 'Calculate targets' in the project packet for more guidance.

APPENDIX C. MEASURING AND REDUCING SCOPE 3 EMISSIONS

While this guidance currently focuses on Scope 1 and 2 emissions as the starting point, FBOs should strive to reduce their Scope 3 emissions, especially the categories that are likely to be significant. This section provides an overview of the 15 categories of Scope 3 emissions and provides further guidance to address key categories for FBOs.

Given the diverse organisation types that can fall under the FBO definition in this guidance, their activities, operations, and emissions profiles could vary greatly from one another. For instance, religious institutions may typically have direct and energy-related emissions from places of worship, owned or leased vehicles, or educational or residential facilities in Scope 1 and 2. They may have material emissions from procurement, visitor-related emissions, and emissions associated with financial assets in Scope 3. While emissions from customers travelling to retail stores—an equivalent of visitor-related emissions—are deemed 'optional' in the GHGP Scope 3 Standard (WRI and WBCSD 2011), they may be a key lever to influence broader behavioural change. A faith-based development aid organisation may resemble a secular nonprofit organisation, with Scope 1 and 2 emissions from office buildings and vehicles, and potentially material emissions from procurement and business travel in Scope 3.

Key Scope 3 categories for FBOs consideration

The GHGP Scope 3 Standard categorised Scope 3 emissions into 15 mutually exclusive, upstream and downstream categories for an organisation to organise, understand, and report on a diverse set of activities within its value chain (WRI and WBCSD 2011). Table C.1 below lists all 15 categories.

- **Category 1** – Purchased goods and services: Extraction, production, and transportation of goods and services purchased or acquired by the reporting organisation in the reporting year, not otherwise included in Categories 2–8. This category should include all upstream (cradle-to-gate) emissions of purchased goods and services.[21]
- **Category 6** – Business travel: Transportation of employees for business-related activities during the reporting year (in vehicles not owned or operated by the reporting organisation). This category should include the Scope 1 and Scope 2 emissions of transportation providers (e.g., airline companies) that occur during use of vehicles (e.g., from energy use).
- **Category 7** – Employee commuting: Transportation of employees between their homes and their worksites during the reporting

Table C.1 | **List of Scope 3 categories, organised as upstream or downstream**

UPSTREAM OR DOWNSTREAM	SCOPE 3 CATEGORY	
Upstream Scope 3 emissions	1.	Purchased goods and services
	2.	Capital goods
	3.	Fuel- and energy-related activities (not included in Scope 1 or 2)
	4.	Upstream transportation and distribution
	5.	Waste generated in operations
	6.	Business travel
	7.	Employee commuting
	8.	Upstream leased assets
Downstream Scope 3 emissions	9.	Downstream transportation and distribution
	10.	Processing of sold products
	11.	Use of sold products
	12.	End-of-life treatment of sold products
	13.	Downstream leased assets
	14.	Franchises
	15.	Investments

Source: WRI and WBCSD 2011, 32.

year (in vehicles not owned or operated by the reporting organisation). This category should include the Scope 1 and Scope 2 emissions of employees and transportation providers that occur during use of vehicles (e.g., from energy use).

- **Visitors' travel-related emissions:** While considered an optional category in the Scope 3 Standard under Category 9 – Downstream transportation and distribution, emissions related to visitors' travel to religious sites and other FBO facilities can be significant. They are considered by many FBOs as a key lever to influence broader behavioural change among their members and communities. The scope of measurement for visitors' travel-related emissions should be the same as in Categories 7 and 8 described above to cover Scope 1 and 2 emissions of visitors and transportation providers during vehicle usage between their homes to FBO sites.
- **Category 15 – Investments:** Emissions associated with an organisation's investments, including equity, debt, and project finance, referred to as 'financed emissions'.

As a first step, FBOs are encouraged to screen their Scope 3 emissions and understand where emissions hotspots lie. In fact, several existing tools developed or recommended by FBOs already track a few categories of Scope 3 emissions, such as purchased goods, employees' commutes, business travel, and visitor-related emissions. The GHG Protocol provides valuable resources for calculating and reporting Scope 3 emissions. It offers guidance on Scope 3 calculations,[22] links to third-party life cycle databases,[23] GHG Protocol calculation tools,[24] and an online course dedicated to Scope 3.[25] Additionally, while the GHG Protocol does not endorse specific external tools, a web search can help you find available options to support the estimation of Scope 3 emissions (see also WRI and WBCSD 2011).

After conducting a high-level Scope 3 screening, FBOs can start establishing targets for the most significant categories (see Step 2 in SBTi 2023b), take actions to reduce these emissions, and improve Scope 3 emissions data over time to better track progress against targets.

ENDNOTES

1. Commitments and declarations made by faith communities around the world include the Encyclical Letter Laudato Si' of the Holy Father Francis on Care for our Common Home (https://www.vatican.va/content/francesco/en/encyclicals/documents/papa-francesco_20150524_enciclica-laudato-si.html); the Hindu Declaration on Climate Change (https://hinduclimatedeclaration2015.org/english); the Islamic Declaration on Global Climate Change (https://www.arrcc.org.au/islamic_declaration); the Buddhist Leaders Call to World Leaders on Paris (https://unfccc.int/news/buddhist-leaders-call-to-world-leaders); the Bahá'í International Community Statement on Redefining the Challenge of Climate Change (https://www.bic.org/statements/seizing-opportunity-redefining-challenge-climate-change); the Sikh Statement on Climate Change (https://ecosikh.org/sikh-statement-on-climate-change/); the Agreed Statement on a Hope-Filled Ecology by the Anglican Communion and the Orthodox Churches (https://www.anglicancommunion.org/media/421649/stewards-of-creation-a-hope-filled-ecology.pdf); and the Jewish Climate Initiative's Climate Change Campaign (http://www.arcworld.org/downloads/JewishClimateCampaign%20Draft%201.pdf).

2. The GHGP (WBCSD and WRI 2004) provides the accounting and reporting platform for most corporate GHG reporting programmes in the world. In 2016, 92 percent of the companies that reported to CDP, an international nonprofit organisation that helps companies and cities disclose their environmental impact, directly or indirectly used the GHGP Protocol. In addition, over 2,500 global companies have or will adhere to the GHGP Corporate Standard as a basis for setting their science-based emissions reduction targets through the Science-Based Targets initiative (SBTi 2022).

3. FBOs without contractual instruments that meet the Scope 2 Quality Criteria may use other emission factors listed in Chapter 6 of the *GHG Protocol Scope 2 Guidance* (WRI 2015).

4. The SBT calculation tool applies a forward-looking ambition adjustment factor if an organisation submits two inventories. The factor takes account of the reduction amount achieved between the most recent year and base year, while ensuring that the organisation continues to reduce emissions annually at a rate that will lead to 90 percent reductions from the base year level. The formula for the adjustment factor can be found in 3.2.1 of SBTi (2023e).

5. In aggregate, 1.5°C–aligned pathways used by the SBTi stay within a 500 GT carbon budget under the assumption of about 20–40 GT of cumulative CO_2 removal by 2050. For a detailed overview of how the SBTi determines 1.5°C–aligned pathways for calculating SBTs, in accordance with concepts described in the SBTi (2019) and principles introduced in SBTi (2023c), please see SBTi 2021 (October) 'Pathways to Net-Zero: SBTi Technical Summary.'

6. According to WBCSD and WRI 2004, p. 77, 'The target boundary defines which GHGs, geographic operations, sources, and activities are covered by the target. The target and inventory boundary can be identical, or the target may address a specified subset of the sources included in the company inventory'.

7. There are sector-specific emissions reduction pathways for the buildings sector being piloted presently by SBTi (November 2023). At this time, this SBTF Technical Guidance defers to the cross-sectoral absolute reduction method (4.2 percent annual) to ensure consistency while sector-specific guidance is under way.

8. Note that the well-below 2°C pathway is only allowable for Scope 3 emissions, which are not included in this guide. Therefore, for the purposes of this guidance document concerning Scopes 1 and 2, only the 1.5°C pathway should be considered.

9. The Greenhouse Gas Protocol is developing a *Land Sector and Removals Guidance*, which will explain how organisations should account for emissions and removals from land use, land-use change, biogenic products, technological CO_2 removals, and related activities in GHG inventories, building on the Corporate Standard and Scope 3 Standard. Find more about the development here: https://ghgprotocol.org/land-sector-and-removals-guidance.

10. While currently there is no capacity to validate SBTF targets, FBOs can consider an independent verification of results as an objective assessment of both the accuracy and completeness of an FBO emissions inventory. This is not required to complete the SBTF emissions reduction target activity, but there are guidelines in the GHG Protocol to develop your inventory in a way that is more amenable to verification. Many registries and programmes have listings of certified verifiers. See https://ghgprotocol.org/calculation-tools-faq#reporting_and_verification_questions_id.

11. For more information on the Carbon Credit Quality Initiative, founded by the Environmental Defense Fund, World Wildlife Fund (US), and Oeko-Institut, providing transparent information on carbon credit quality, see here: https://carboncreditquality.org/.

12. For information on the LEAF Coalition's public-private partnership to halt deforestation by 2030, visit https://www.leafcoalition.org/.

13. See the University of Oxford's Smith School of Enterprise and the Environment's principles for net zero–aligned carbon offsetting here: https://www.smithschool.ox.ac.uk/sites/default/files/2022-01/Oxford-Offsetting-Principles-2020.pdf.

14. See GHG Management Institute and Stockholm Environment Institute's guidance to using carbon offsets: https://www.offsetguide.org/wp-content/uploads/2020/03/Carbon-Offset-Guide_3122020.pdf.

15. See the IPCC's list of good practices developed to estimate, monitor, and report on GHGs from land-use, land-use change, and forestry here: https://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf.html.

16. Find more information on the International Organisation for Standardisation's guidance to quantify GHG emissions and reductions here: https://www.iso.org/standard/66453.html#:~:text=This%20document%20specifies%20principles%20and,of%20an%20organisation's%20GHG%20inventory.

17. See the robust methodology led by Quantis for measuring GHG emissions across supply chains here: https://quantis.com/who-we-guide/our-impact/sustainability-initiatives/natural-climate-solutions/.

18. For more information on the Value Change Initiative's multistakeholder forum to collectively account for GHG emissions across global value chains, visit: https://valuechangeinitiative.com/.

19. This is in line with Science-Based Targets Network's interim target framework, which includes zero deforestation and conversion from 2020, as seen in the list of interim targets here: https://sciencebasedtargetsnetwork.org/take-action-now/take-action-as-a-company/what-you-can-do-now/interim-targets/.

20. See World Economic Forum's action-oriented framework for the future of real estate here: https://www.weforum.org/realestate/home/.

21. 'All emissions that occur in the life cycle of purchased products, up to the point of receipt by the reporting company (excluding emissions from sources that are owned or controlled by the reporting company)' — see Corporate-Value-Chain-Accounting-Reporing-Standard_041613_2.pdf (ghgprotocol.org).

22. Learn more about SBTI's Technical Guidance for Calculating Scope 3 Emissions here: https://ghgprotocol.org/scope-3-calculation-guidance-2.

23. See GHG Protocol's list of third-party databases for building GHG inventories: https://ghgprotocol.org/life-cycle-databases.

24. For more information on GHG Protocol's cross-sector, country-specific, sector-specific, and city-specific tools, see https://ghgprotocol.org/calculation-tools-and-guidance.

25. See GHG Protocol's Corporate Value Chain Scope 3 Standard Online course: https://ghgprotocol.org/corporate-value-chain-scope-3-standard-online-course-0.

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