Climate Action Accelerator

ROADMAP FOR HALVING EMISSIONS IN THE HUMANITARIAN SECTOR BY 2030

A PATH TO CLIMATE-SMART HUMANITARIAN ACTION

JUNE 2024

Analysing greenhouse gas emissions, decarbonisation levers and solutions journey in the international humanitarian sector

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TABLE OF CONTENTS

ABOUT THE CLIMATE ACTION ACCELERATOR

The Climate Action Accelerator is a Geneva-based not-for-profit initiative created in 2020 with the aim of leveraging a critical mass of high human impact organisations in order to scale up climate solutions, contribute to greater resilience, and ultimately limit global warming to well below 2°C in order to avoid adverse impacts on communities around the world. Its overall goal is to help shift the aid, health and higher education sectors towards a radical transformation of their practices, halving greenhouse gas (GHG) emissions by 2030 on a 'net zero' trajectory in line with the Paris Agreement, and transitioning to low-carbon, resilient, sustainable models.

ACRONYMS

ALIMA	Alliance for International Medical Action
BasU	Business-as-Usual
BHA	Bureau for Humanitarian Assistance
CDCS	Crisis Centre of the French Ministry of Europe and Foreign Affairs
CO2	Carbon Dioxide
CVA	Cash and voucher assistance
DAC	Development Assistance Committee
DG ECHO	Directorate-General for European Civil Protection and Civil Aid Operations
DRR	Disaster Risk Reduction
EE MRIO	Environmentally extended multi-regional input-output
EU	European Union
FSA	Food Security and Agriculture
FTS	Financial Tracking Service
GFFO	German Federal Foreign Office
GHA	Global Humanitarian Assistance
GHG	Green House Gas
HR	Human Resources
IASC	Inter Agency Standing Committee
ICRC	International Committee of the Red Cross
IFRC	International Federation of the Red Cross and Red Crescent Societies
INGO	International non-government organisation
IPCC	Intergovernmental Panel on Climate Change
ICVA	International Council of Voluntary Agencies
MSF	Médecins Sans Frontières
NFI	Non-food items
NGOs	Non-governmental organizations
NHS	National Health Service UK
NP	Nonviolent Peaceforce
NRC	Norwegian Refugee Council
MSF OCB	MSF Operational Centre Brussels
MSF OCG	MSF Operational Centre Geneva
MSF OCP	MSF Operational Centre Paris
OCHA	UN Office for the Coordination of Humanitarian Affairs
OECD	The Organization for Economic Cooperation and Development
SDC	Swiss Agency for Development and Cooperation
SE	Structural effects
PV	Photovoltaic
UN	United Nations
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
USD	United States Dollar
WASH	Water, Hygiene and Sanitation
WFP	World Food Programme
WHO	World Health Organization

INTRODUCTION

A PRESSING NEED TO TAKE IMMEDIATE ACTION

The climate emergency is one of the greatest challenges of our time and recognised as an 'existential threat'[1] to human society.[2] More frequent extreme weather events, such as droughts, flooding, tropical storms, and heatwaves are a threat multiplier that can lead to displacements, migration, damage to essential infrastructure, disruption of food and water supplies, public health emergencies and favour the development of new conflicts.[3] Unfortunately, recent research shows that the situation is deteriorating much faster than initially thought, with cascading consequences at the global level.[4]

As stated by the Intergovernmental Panel on Climate Change (IPCC) earlier this year:

> Climate change is a threat to human well-being and planetary health. There is a rapidly closing window of opportunity to secure a liveable and sustainable future for all. The choices and actions implemented in this decade will have impacts now and for thousands of years.[5]

The situation is extreme, but there is still a window of opportunity for all stakeholders in society to act within their sphere of responsibility on the triggers of this accelerating global warming.

Every day, in their work, humanitarian actors witness the mass suffering and intensifying inequalities caused by the combination of conflict, climate change and environmental degradation. Increasingly faced with the unprecedented challenges posed by climate-related disasters, humanitarian organisations have committed to doing their part. Indeed, alleviating and preventing human suffering is at the core of humanitarian action.

In recent years, major commitments have been made towards improving the way climate and environment are integrated into humanitarian action. Over 400 organisations have already signed the Climate and Environmental Charter for Humanitarian Organizations,[6] a foundational document that is also supported by 13 governments and funding agencies. For its part, the donor community has come together with a Humanitarian Aid Donor Declaration on Climate and Environment.[7] And, most recently, the Inter Agency Standing Committee (IASC) produced a guidance document on Environmental Responsibility in Humanitarian Operations,[8] one of the first sector-wide policy frameworks for climate and environmental commitments. Taken together this sends a strong signal that the humanitarian community is looking at climate as an emerging priority.

However, the sector as a whole is still unclear about the steps it needs to take to halve greenhouse gas (GHG) emissions by 2030, in line with the goals of the Paris Agreement, and the IPCC's recommendations[9].

In other words: how do we get from where we are to where we need to be?

To intensify efforts, Climate Action Accelerator has developed this Roadmap for Halving GHG Emissions in the Humanitarian Sector as a tool to guide humanitarian actors towards meeting their own climate commitments while addressing both populations needs and organisational risk in a world increasingly under pressure.

This Roadmap identifies decarbonisation pillars that have an impact on emissions from both humanitarian operations and programmes. By no means is it suggested that life-saving assistance to the most vulnerable populations across the world should be reduced for decarbonisation purposes. Effective emissions reduction should not result in any reduction in the quality, quantity or timeliness of assistance, but rather should explore ways to reinforce or maintain aid, while identifying low-carbon, sustainable, and resilient alternative options. By transforming themselves to operate within planetary boundaries, humanitarian actors will effectively strengthen their ability to meet greater assistance needs in an anticipated scenario of fast rising energy and commodity costs.

WHY A ROADMAP? WHAT FOR?

In the past decade, many sectors of society have equipped themselves with emissions reduction roadmaps, e.g. guiding documents outlining the path, key priorities and solutions for reducing GHG emissions. Many sectors of society have now published their roadmaps, including the health sector.[10] Major public organisations, such as the NHS in the UK,[11] have adopted a roadmap as a first step towards operationalising and monitoring the commitments they have made.[12]

Sectoral roadmaps have significant potential for amplification and rapid change by enabling organisations to take a strategic, principled approach to emissions reduction. Ultimately, they aim to accelerate climate action and enable entire sectors to reach a tipping point that will make climate transformation inevitable.

Climate Action Accelerator has therefore developed a Sectoral Roadmap to inform decision-making and guide priority areas of climate action in the humanitarian sector, with the aim of halving emissions by 2030.

The Roadmap has three main sections: the "sectoral analysis", which includes an analysis of the sector's emissions profile and trajectory, the operational playbook for effective emissions reduction, and an analysis of how systemic actors, such as donors and UN, can show leadership and enable change. This section focuses on the findings of the sectoral analysis.

KEY PRINCIPLES

This Roadmap provides a set of 'Guiding principles for effective emissions reduction',[13] defined by Climate Action Accelerator and based on emerging best practice. Adopting a principles-based approach helps to spread best practice, while maximizing the volume of emissions potentially avoided and paving the way for coordinated monitoring and reporting on emissions. The following guiding principles have been established on the basis of recognised international standards and science-based targets.

1. **Take Responsibility** (on what you control and can influence).
2. **Engage in radical collaboration** with others.
3. **Reinforce or maintain humanitarian goals and principles,** e.g. restate the primacy of the humanitarian mission, maintaining the ability to provide timely and principled humanitarian assistance and to secure the quantity and quality of programmes delivered to the most vulnerable populations.
4. **Set quantified targets and milestones** for key sources of emissions, with the overall objective of reducing emissions by 50% by 2030.
5. **Exercise integrity,** e.g. GHG footprints should include all emissions (including scope 3) and not count offsets in carbon accounting the full perimeter of activities should be as broad as possible.
6. **Commit to transparency,** e.g. monitor progress and publicly report on it.
7. **Favour integrated approaches** to climate and environment.
8. **Make the best use of resources,** limiting consumption as and when relevant.
9. **Embark your community**.

CO-BENEFITS OF CLIMATE ACTION

Implementing ambitious decarbonisation roadmaps is of strategic importance with regard to humanitarian organisations' current and future capacity. While there will be (limited) financial and operational trade-offs involved in the context of growing needs and funding limitations, higher energy prices and volatility are structural. This is likely to continue up to, and beyond, 2030 due to:

- Tension between growing demand, scarcer physical availability of fossil fuels and raw materials, and drastic climate mitigation policies.[14]
- Geopolitical developments and growing impact of climate change on agricultural yields that will exert long-term pressure on food prices.
- Competing national priorities (climate mitigation and adaptation, global rearmament, in-country solidarity, debt reduction…) will limit access to both public funding and philanthropy. For legitimate reasons, donors are likely to give priority to reinforcing national actors rather than funding international assistance.

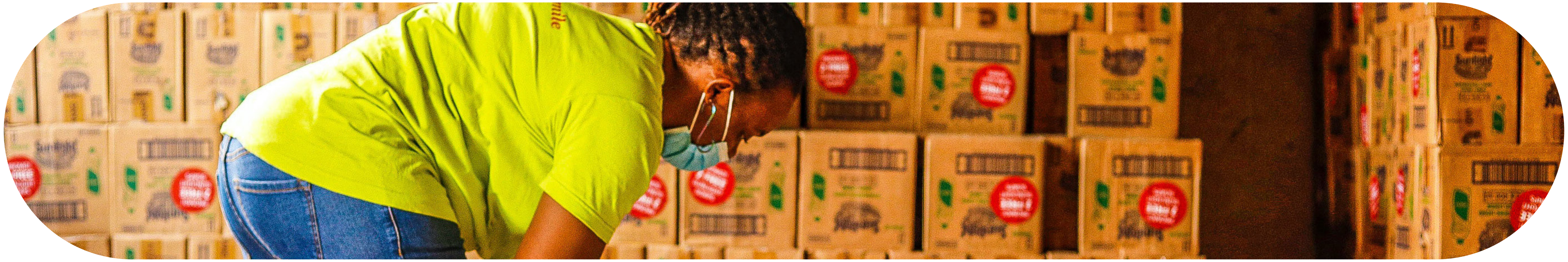
The Roadmap suggests that effective emissions reduction plans can significantly increase organisational resilience and adaptation, and should be seen as part of a comprehensive transformation effort.

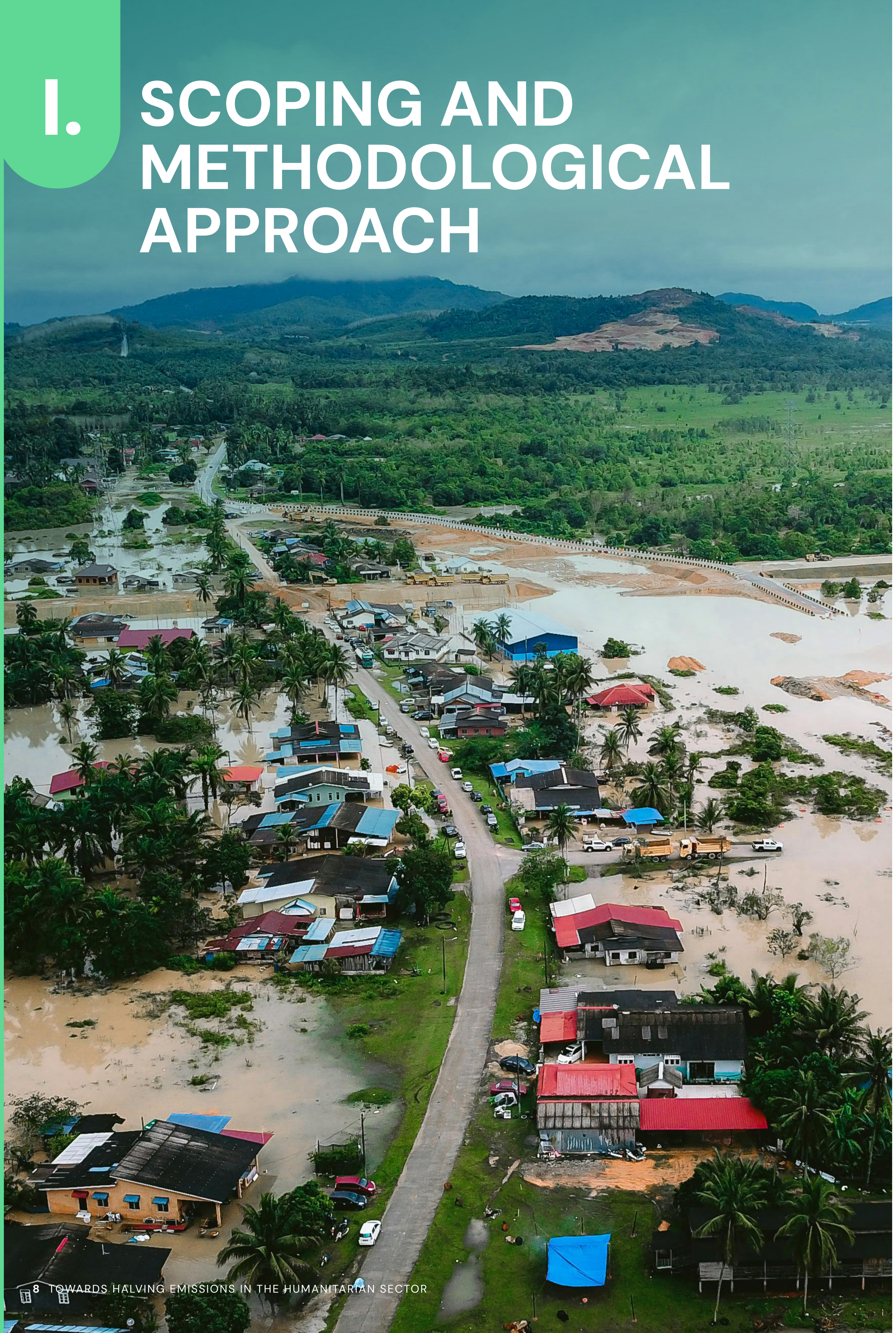
Implementing effective climate strategies is a condition to operate successfully in the future, in the interest of people, the planet and the humanitarian organisations continuing to operate successfully in the future. The footprint reduction solutions included in this Roadmap therefore have **many co-benefits, beyond the environmental gains sought,** many of which bring added value to field operations:

- In insecure contexts, reliance on **renewable energy** favours autonomy, resilience, and continuity of service when there is a risk of disrupted fuel supplies or unaffordable prices.
- **Infrastructure adaptation**, including sometimes with traditional techniques, creates better conditions for beneficiaries and staff affected by heatwaves, floods, and other extreme events.
- **Controlled travel,** reduced fuel consumption, and improved supply chain planning and sourcing of procurement deliver significant savings and returns on investment as well as in addition to emissions reduction.
- **Responsible waste management** and limited use of plastic can improve how humanitarians are perceived at the local level beyond their benefits for soils, water, and air.

In an increasingly constrained world, implementing climate solutions helps to improve the **quality of humanitarian activities,** while upholding the "do no harm" principle. It also increases organisations' ability to better prepare for and respond to current and future humanitarian needs. With this Roadmap, humanitarian actors can fundamentally shape their capacity to operate in the future and build their organisational resilience in a challenging environment.

It is also important to point out that, though **climate mitigation, adaptation and resilience** are often simplified as separate silos, in practice the solutions proposed in the Roadmap generally converge in strengthening all of them simultaneously. Several measures introduced in this Roadmap also overlap directly with the humanitarian sector's global agenda and the Grand Bargain, notably accelerating greater localisation, and reinforcing the national capacities and the nexus with development, which, along with the climate emergency, are major policy drivers in the field of international assistance.





I. SCOPING AND METHODOLOGICAL APPROACH

1. SCOPE AND DEFINITIONS

HUMANITARIAN SECTOR DEFINITION

The sectoral analysis focuses on international humanitarian assistance, defined in the Global Humanitarian Assistance (GHA) Reports as 'the financial resources for humanitarian action spent outside the donor country'.[15] Practically, the total amount of funding from the private sector, governments and EU institutions is used as a proxy for the volume of humanitarian assistance spent internationally in a given year.

A SECTOR CHARACTERISED BY SIGNIFICANT GROWTH IN RECENT YEARS

The humanitarian sector grew by a quarter between 2021 and 2022, reaching $46.9 billion in 2022, after a period of relative stability or limited growth between 2018 and 2021, when its budget was between USD 32.3 billion and USD 36.9 billion. This giant leap was mainly due to the Ukraine war, Afghanistan, and the Horn of Africa. This growth has implications for the GHG emissions estimates contained in the Roadmap. It is also factored into growth assumptions used for trajectory modelling by 2030.

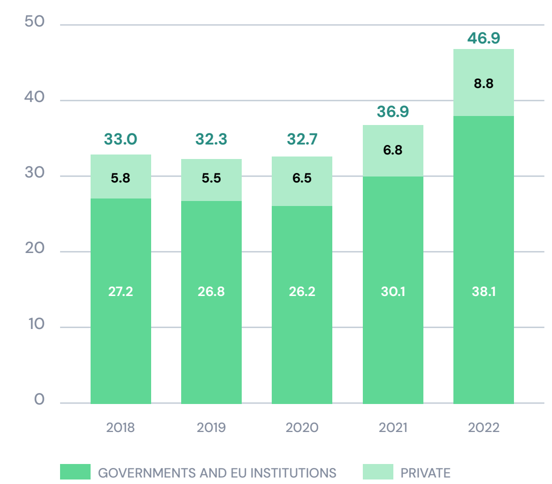


Figure 1: Total international humanitarian assistance 2018–2022, courtesy of Development Initiatives, Global Humanitarian Assistance Report 2023

Given the worsening food insecurity in countries experiencing protracted crises, food activities represent the largest share of UN-coordinated humanitarian appeal requirements (59% on average in 2022).[16] This has been accompanied by an increase in donor funding to assist people facing food insecurity, especially from the US. The rise in food insecurity has led to a significant proportion of humanitarian funding being channelled into food sector Given that some food items, including rice, meat and fish, tend to be particularly emissive, this is having a significant impact on the humanitarian sector's emissions profile.

A HIGH LEVEL OF CONCENTRATION

In 2022, the top 15 donors, including the US, Türkiye, Germany, the EU institutions, Japan, the UK, Sweden, Canada, Norway, the Netherlands, France and Switzerland, accounted for a large percentage of total international humanitarian assistance, with **the US, the EU and Germany representing more than 50% of the total effort.**

The profile and number of recipients of international humanitarian assistance funding shows a high level of concentration as well, with **UN, and Red Cross Red Crescent entities (RCRC) representing about 75% of international humanitarian assistance.** There can be no climate transformation of the sector without these actors going through a radical transformation for themselves, and steering the way.

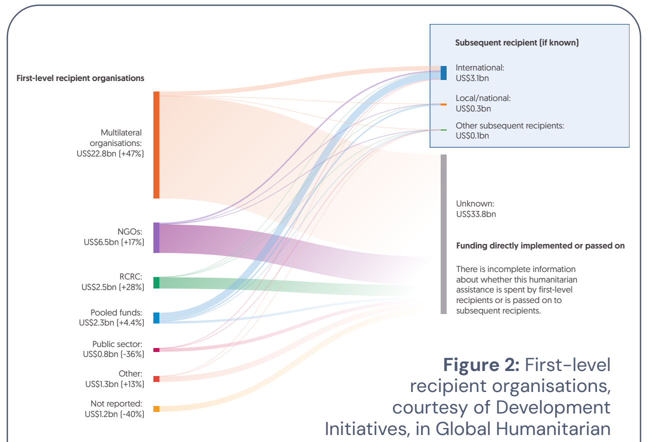


Figure 2: First-level recipient organisations, courtesy of Development Initiatives, in Global Humanitarian Assistance Report 2023

SPECIFIC BOUNDARIES OF THE ROADMAP

This Roadmap focuses on what international humanitarian actors can do to reduce GHG emissions. A specific handbook for local organisations will be produced by late 2024, with a broader perspective (looking at how local actors can transition to low carbon, resilient, sustainable modus operandi). Another boundary is the exclusion of disaster risk reduction (DRR) activities from the scope of the Roadmap. While acknowledging that development activities and DRR are relevant to how humanitarian actors address climate change, they have not been included in the analysis.

Finally, the main focus is on reducing GHG emissions and reaching the Paris Agreement goal of halving GHG emissions by 2030. Although environmental action (water, waste, plastics, etc.) is essential to reducing the impact of humanitarian organisations within a planetary boundaries' framework, Climate Action Accelerator has focused on emissions reduction for the purposes of this exercise. Climate and environmental measures are nonetheless always to be considered in an integrated way within organisational roadmaps or strategies.

2. METHODOLOGY FOR EMISSIONS 'BASELINE' ANALYSIS

The initial estimate of the sector's emissions uses extrapolations from financial expenditure data following four main steps, as detailed below.

The decision to extrapolate financial was made due to the lack of comprehensive, consistent and comparable carbon data across the humanitarian sector. A mix of cluster-related data and organisation-level data was used to carry out a more detailed analysis of emissions by cluster, country, and nature. It should be noted that, in the absence of a state-of-the-art data collection and reporting system, this initial estimate may not yet be an accurate measure of emissions and comes with significant uncertainties about absolute numbers. It is however sufficiently robust to guide decisions about emissions reduction strategies, with a high level of confidence in the proposed direction and recommendations made.

METHODOLOGY FOR EMISSIONS BASELINE ANALYSIS: FOUR KEY STEPS

1. IDENTIFICATION OF PROXY ORGANISATIONS FOR CLUSTERS
2. DATA COLLECTION
3. EXPENDITURE PROFILES AND CONCORDANCE MAPPING
4. CONVERSION OF EXPENDITURE INTO EMISSIONS ESTIMATES

STEP 1: IDENTIFICATION OF PROXY ORGANISATIONS FOR CLUSTERS

In the absence of details on how clusters spend their allocated funds, a list of proxy organisations was identified to represent the spending behaviour of each cluster. One proxy organisation was identified to represent each cluster. Although these organisations are not wholly representative of the activities undertaken within a cluster, organisations were selected based on their relevance and representativeness for the cluster.

LIST OF PROXY ORGANISATIONS

- Food aid and agriculture: World Food Programme (WFP)**
- Health: Médecins Sans Frontières Operational Centre Brussels (OCB)*
- Nutrition: United Nations International Children's Emergency Fund (UNICEF)**
- Protection: International Committee of the Red Cross (ICRC)*
- Water, Hygiene and Sanitation (WASH): International Federation of the Red Cross and Red Crescent Societies (IFRC)*
- Education: Terre des Hommes Foundation*
- Shelter: International Federation of the Red Cross and Red Crescent Societies*
- Coordination and support services: proxy method, EXIOBASE
- Logistics: proxy method, EXIOBASE 3 + WFP data**
- Camp coordination and management: proxy based on IFRC*
- Emergency Telecommunications: proxy method, EXIOBASE 3

* Organisations who shared detailed data sets with Climate Action Accelerator and ARUP
** As per openly available information (online reports)

EXCLUDED DATA

Many organisations involved in the provision of humanitarian aid support activities across multiple clusters. To account for this, certain elements within organisational expenditure datasets were excluded to ensure spending reflected the selected cluster as much as possible. It should also be noted that expenditure on activities which would not generate emissions (e.g. depreciation and amortisation) were removed from the data.

STEP 2: DATA IDENTIFICATION AND COLLECTION

The Financial Tracking Service (FTS),[17] a global database managed by the UN Office for the Coordination of Humanitarian Affairs (OCHA), has been used as a starting point for the baseline model (global expenditure and expenditure per cluster). The dataset is closely aligned with the overall data reported in GHA reports, minus OECD Development Assistance Committee (DAC) funds. The sectors defined within the dataset correspond well with the global clusters, providing a high-level overview of the distribution of funding within the international humanitarian assistance sector.

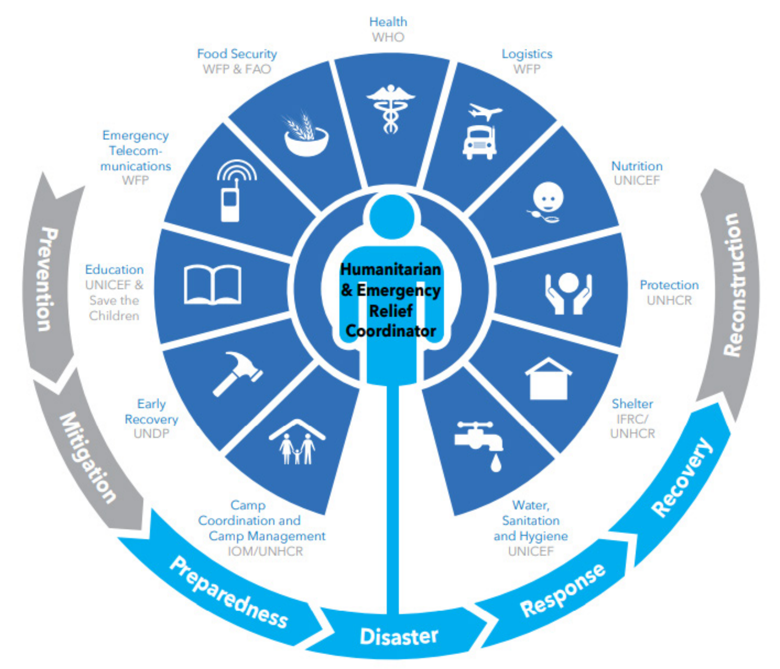


Figure 3: Humanitarian clusters overview. Source: UNHCR

STEP 3: EXPENDITURE PROFILES AND CONCORDANCE MAPPING

Annual expenditure data was collected for each organisation via:

- publicly available annual reports and accounts.
- expenditure data shared by Climate Action Accelerator partner organisations and other "willing" organisations, using a tiered request for information (RFI) which reflected the desired reporting categories.

For each cluster, five specific expenditure categories were detailed (purchased goods, purchased services, transport costs, energy, and capital goods) based on the expenditure data obtained. These activities were mapped to emission factor categories from EXIOBASE 3 in concordance tables.

STEP 4: CONVERSION OF EXPENDITURE INTO EMISSIONS ESTIMATES

Emissions factors tied to product-based expenditure for specific regions were determined by using the EXIOBASE 3 environmentally extended multi-regional input-output (EE MRIO) tables.[18]

To calculate cluster-based emissions, the relevant emission factors (based on country or region) were multiplied by the appropriate proportion of country-based expenditure directed to the various clusters. The expenditure proportion is based on the expenditure profile of the proxy organisation. This was done using an automated approach.

3. APPROACH TO TRAJECTORY MODELLING

PARAMETERS USED FOR MODELLING

BASE YEAR

Trajectories for emissions reduction usually try to model trends over a period of 10 years or more. Until recently, 2019 had been regularly used by Climate Action Accelerator's partners as a base year for trajectory modelling up to 2030, as 2020 and 2021 were significantly impacted by COVID-19.

However, as described earlier, humanitarian sector expenditure jumped significantly between 2019 and 2022, (largely due to Ukraine-related funding). While running the model for the years 2019-2022 provides a historical perspective, it was decided that 2022 would be used as the reference year as it is likely to better reflect progress that has been made in the sector.

GROWTH PROJECTIONS 2023-2030

In the absence of sector-wide projections or trends for activity growth in the period 2023-2030, three projection methods were combined, all presenting net budgets (corrected for inflation).

- Historical projection, or effective financial allocation based on historical trends.
- Climate Action Accelerator's partners' projections, with limited or null effective growth in financial allocations, after taking into account projected inflation.
- Inflation adjusted projection, bearing in mind that current high inflation rates are expected to materially impact the growth of effective budgets.

This is meant to acknowledge that each is justifiable, but none are more likely than the others.

This blended growth curve represents on average 2% effective budget growth per year, with a low of 1.5% growth in 2023 and a high of 2.2% annual growth from 2026-2030. The cumulative effect over 2022-2030 is 17.3% effective growth (or real activity related growth regardless of inflation).

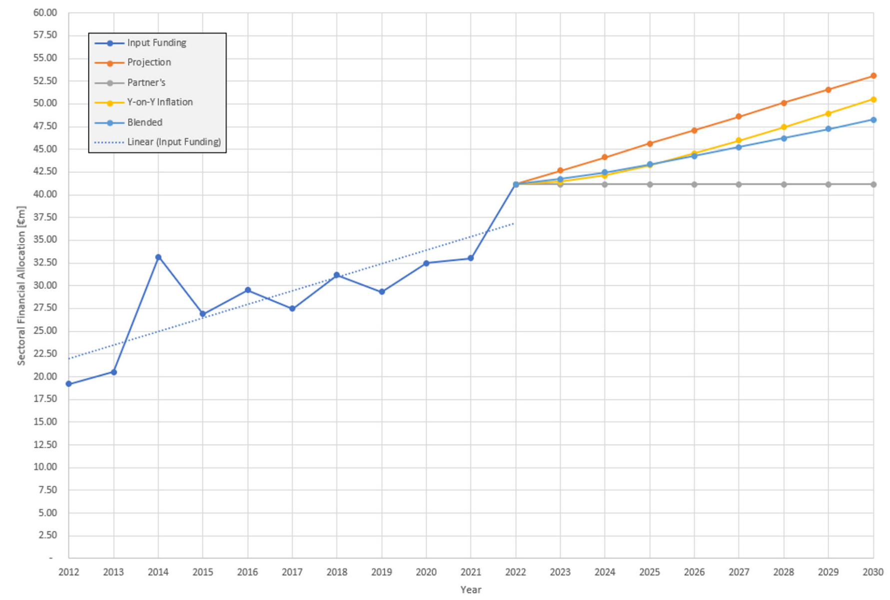


Figure 4: Sector growth projections, three pillars analysis

TARGET YEAR AND REDUCTION GOAL

The target year is set to 2030 with a reduction percentage of 43% in line with the Paris Agreement and following the general recommendations of the IPCC latest Assessment Summary Report (2023).[19]

As the 2030 deadline approaches, the decarbonisation curve has become increasingly steep. The Climate Action Accelerator acknowledges that achieving a 50% reduction in emissions by 2030 will require a determined effort and a radical transformation of the sector's programming and operations within a relatively short period of time.

Going forward, using **alternative modelling options with a dual timeline** (such as the one adopted by the NHS[20] in the UK, for instance) could be considered, while remaining within a net zero trajectory. This would mean both:

- A -50% reduction goal by 2030 for energy, travel, and freight-related emissions, e.g. emissions directly under the control of organisations.
- A -60% reduction goal by 2035 for emissions from procurement of all other goods and services, and cash-based activities.

PROJECTIONS

BUSINESS-AS-USUAL (BasU) CURVE

Anticipated changes in future funding for the humanitarian aid sector and the emission intensity of key sectors have been applied to growth assumptions and base year results to illustrate how emissions from the sector could change by 2030 without further intervention.

STRUCTURAL EFFECTS (SE)

The model integrates structural effects that reduce emission intensity over time, such as environmental improvements expected to take place because of the underlying decarbonisation of the world market and energy systems. Various factors, such as technological progress, infrastructure improvements, and legislative changes influence the composition of countries' energy mix towards less carbon-intensive sources.[21]

DECARBONISATION INTERVENTIONS OR 'LEVERS'

To bend the emissions curve and achieve a 50% reduction by 2030 compared to the baseline year, a list of decarbonisation interventions must be applied to the established emissions baseline and BasU trajectory.

	Decarbonisation lever	Applied to	Emissions Category
1	Reduce energy consumption by 40%	All emissions sources captured in the "Energy" category	ENERGY
2	Replace 20% of electricity purchased from the grid with solar photovoltaic (PV) panels	"Electricity" sub-category within the "Energy" emissions categorisation	
3	Replace 80% of non-electricity and natural gas energy purchased (e.g., generator fuel) with solar PV	"Other" sub-category within the "Energy" emissions categorisation	
4	Reduce number of passenger-km travelled by 45%	All travel modes	TRAVEL
5	60% of travel flights to be booked on less carbon intensive flights (i.e., flights with 20% lower CO2e emissions than current flights)	Air travel	
6	Reduce energy consumption used in land travel (excluding rail travel) by 40%	Land travel (including rail travel and vehicle travel)	
7	Reallocate 35% of air freight to sea freight	Air freight and sea freight	TRANSPORT
8	Transition 60% of freight services to greener providers reducing emissions intensity of all freight services by 20%	All freight sub-categories	
9	Transition to greener procurement of goods and services, reducing the emissions intensity of all goods and services by 40%	Purchased goods; purchased services and capital goods	PROCUREMENT
10	Reduce indirect emissions associated with cash-based interventions/ disbursements by 30%.	Cash-based interventions/ disbursements	
11	Reduce excess goods purchased by 80%. (Excess goods are unnecessary orders that represent 10% of total expenditure.)	Purchased Goods	

Table 1: Decarbonisation levers

LIMITATIONS

CASH AND VOUCHER ASSISTANCE (CVA)

Considering the increasing proportion of cash and voucher assistance since 2016, reaching a record of $7.9 billion in 2022, corresponding to 20% of total humanitarian assistance,[22] and given that there is significant potential for further growth according to organisations' specific targets,[23] the assumptions used to estimate emissions and emission reduction scenarios have a major impact on the sector's trajectory.

It was assumed that, when CVA interventions are implemented, the cash is used to fund the same goods and services as would be directly provided by organisations. Such an approach has obvious limitations and was adopted in the absence of a more satisfactory methodology.

Actors in the sector are strongly encouraged to develop and refine methods for measuring emissions from cash-based transactions. A 30% reduction rate for indirect emissions has been applied to emissions from CVA, serving as an aspirational goal. This underlines the urgent need for humanitarian actors to explore strategies for reducing the emission intensity of distributed cash.

ITERATIVE PROCESS

This initial analysis was developed following an iterative process. Significant data gaps, especially in key activity or carbon domains, led Climate Action Accelerator and their partner ARUP to develop proxy analysis and extrapolations to get to consistent, comprehensive sectoral estimates.

Climate Action Accelerator will continually improve and update the underlying data sources, assumptions and methods used to develop the emissions baseline, the trajectories, and the projected impact of decarbonisation measures. Prioritising improvements for the most emissive sources (e.g., food procurement, CVA, etc.) will help to maximise the value of further analysis.

The authors of this report are fully conscious of the fact that the initial findings and approaches will need to be refined over time, as data quality and availability increases.

Other methodological options for modelling the sector's trajectory may be tested in the near future. These could include a phased approach, with emissions reduction targets broken down between a -50% reduction target by 2030 for emissions under the direct control of organisations and a -60% target by 2035 for procurement and CVA related emissions, as suggested above.

II. MAIN FINDINGS

1. INITIAL GLOBAL ESTIMATE OF GHG EMISSIONS IN THE HUMANITARIAN SECTOR IN 2022

An initial analysis shows that GHG emissions in the humanitarian sector amounted to ~ 18.5 MtCO2e (Megatonnes of carbon dioxide equivalent) in 2019 and ~ 35.3 MtCO2e in 2022.

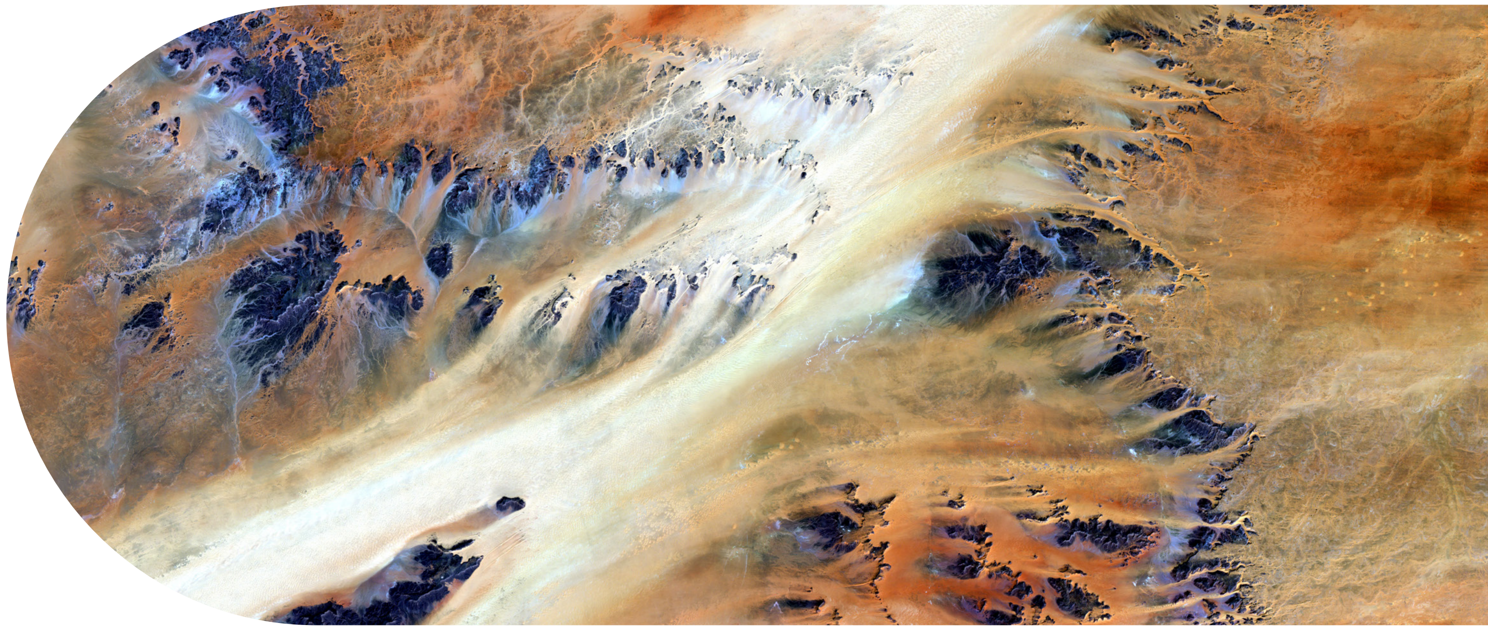
After decarbonisation levers and structural effects are applied, the estimated amount of emissions in 2030 is ~ 20.3 MtCO2e.

This represents a 43% emissions reduction effort compared to 2022, meeting the sector's reduction goal in line with the Paris Agreement.

Emissions intensity is estimated at 0.90 kg CO2e/EUR in 2022, decreasing to 0.46 kg CO2e/EUR in 2030 if the projected decarbonisation trajectory is applied.

By comparison, **the carbon footprint of the National Health Service (NHS) in England** – the largest employer in the country, responsible for all public health services including hospitals and emergency services – **was estimated at 25 MtCo2e in 2019**.[24] The humanitarian sector's level of GHG intensity per euro appears to be more than twice the level of manufacturing sector's GHG intensity per euro of gross added value in the European Union (0.374 kg in 2021). Territorial emissions for a country like Switzerland amount to 41.6 MtCO2e (2022)[25] and for Guatemala are 18.5 MtCO2e (2016).[26]

Although **the humanitarian sector** is relatively small as an economic sector, **its emissions are similar to a city of 4.6 million inhabitants in the European Union[27] when the consumption of all imported goods and services is included.** Therefore, they are relatively significant. The emissions of large humanitarian organisations are in many ways comparable to those of major nation-wide public institutions or private multinational service companies.



2. THE HUMANITARIAN SECTOR'S EMISSIONS PROFILE FOR BASE YEAR 2022

ANALYSIS BY NATURE OF EMISSIONS

In 2022, the vast majority (75%) of emissions came from procurement, including purchased goods, purchased services, and CVA (scope 3 emissions). According to initial estimates, food items (cash and in-kind) represent 46% of total sector-wide emissions.

Emissions from business travel, freight, and energy (scope 1, 2 and part of scope 3), represent a significant, although lesser, proportion, amounting respectively to 7%, 12% and 5% in 2022 i.e. a quarter of the sector's emissions.

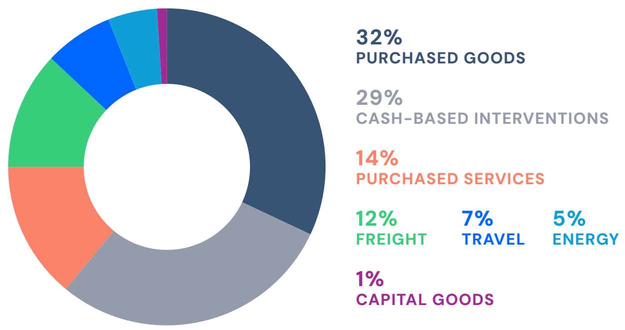


Figure 5: Sector emissions by nature, baseline 2022

ANALYSIS BY CLUSTER

The most emissive clusters are **food security and agriculture, health, nutrition, protection, WASH and emergency shelter and NFI.** Taken together, they represented **80% of emissions in 2022.**

In 2022, the Food Security and Agriculture (FSA) cluster contributed the largest proportion of emissions (50%), followed by Health (18%), Nutrition (8%), Protection (8%), WASH (4%), and Emergency Shelter and NFI (4%).

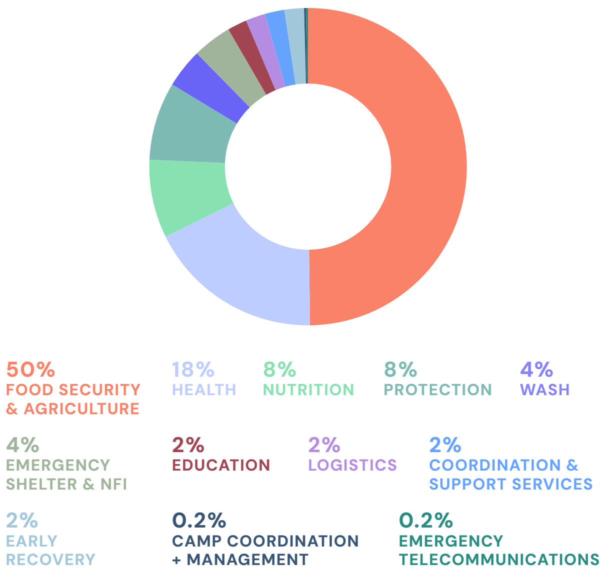
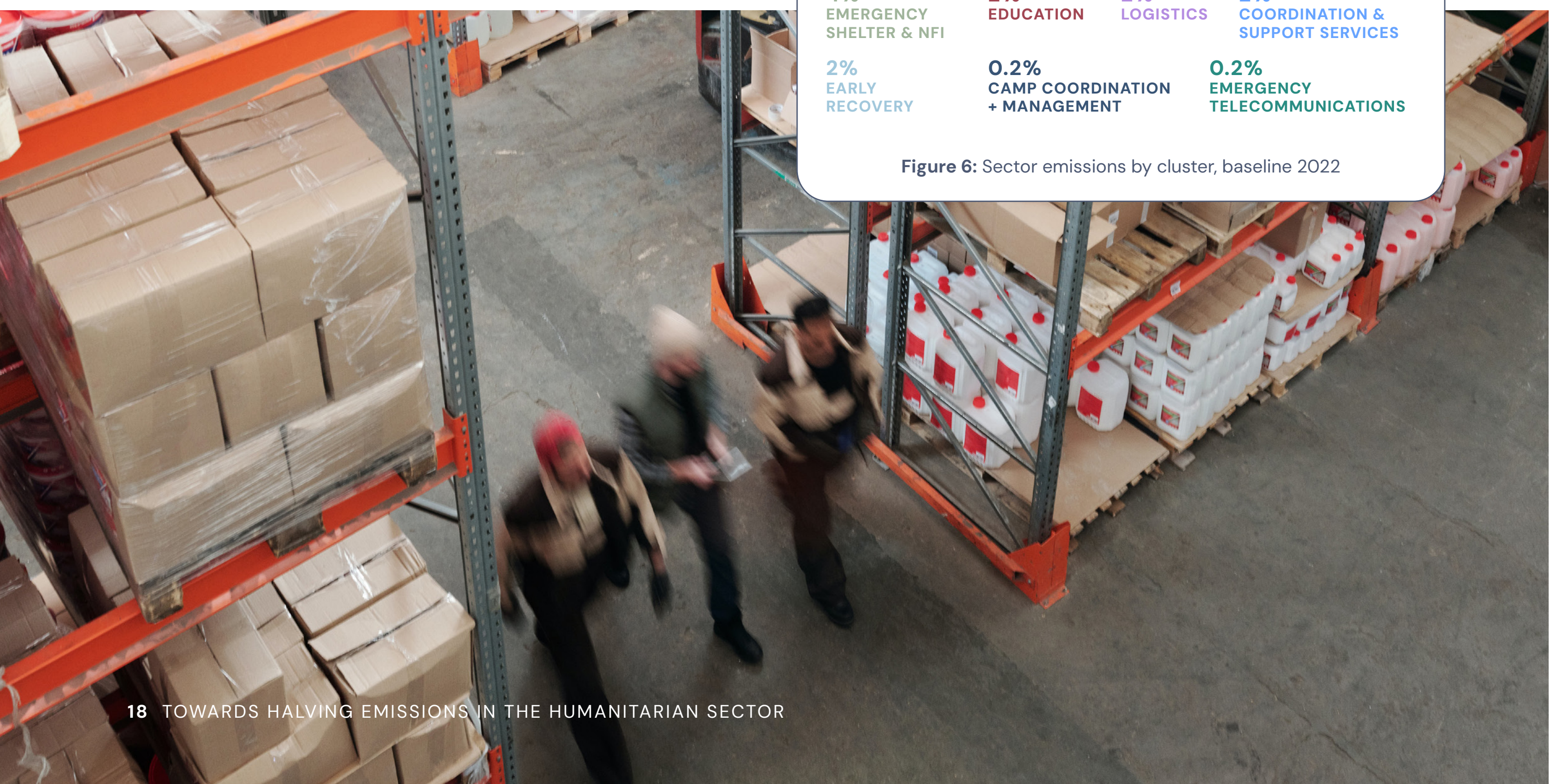


Figure 6: Sector emissions by cluster, baseline 2022



3. 2030 TRAJECTORY

OVERALL HUMANITARIAN SECTOR DECARBONISATION TRAJECTORY

Following the application of the decarbonisation levers included in this analysis and taking the effects of structural decarbonisation into account, it is estimated that the remaining emissions within the sector will be 20,013 KtCO2e.

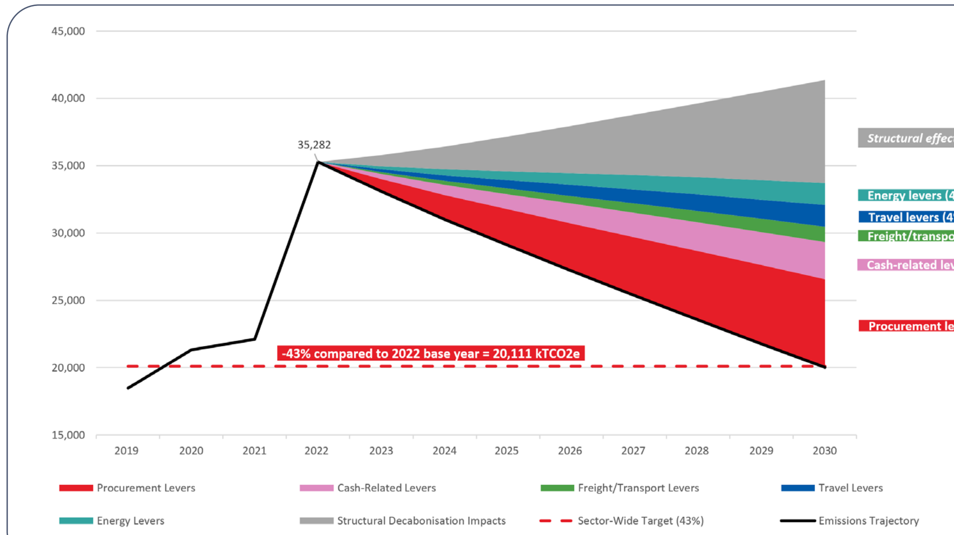


Figure 7: Sector emissions trajectory and impacts of decarbonisation levers (consolidated by lever category)[28]

As much as 84% of these emissions are produced by four clusters: Food Security and Agriculture (52%), Health (14%), Nutrition (9%) and Protection (8%).

Emissions intensity across the humanitarian sector is expected to decrease to 0.46 kg CO2e/EUR (compared to 0.90 kg CO2e/EUR in 2022), a decrease of 49%.

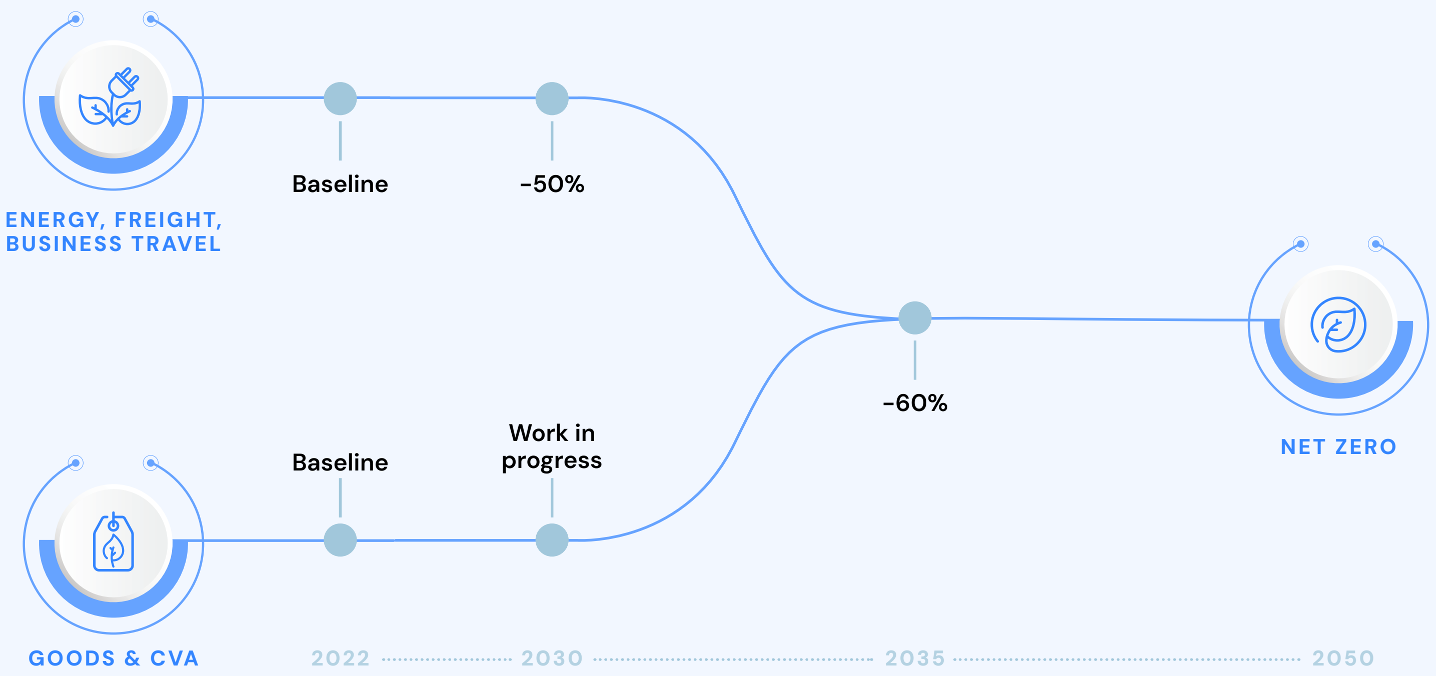
This initial analysis clearly shows that, as we get closer to 2030, the curve for halving emissions in the humanitarian sector is steep. Achieving a 50% reduction across the humanitarian sector will require a radical transformation of the international humanitarian community's operating model.

Given the over-representation of procurement in the sector's emissions profile (which is consistent with other sectors, such as the health or food industry)[29] intensive organisational and sectoral efforts will be needed to reach the target. Bearing in mind that emissions from procurement are partially under the indirect control of humanitarian organisations, this represents a significant challenge.

Therefore, the Roadmap, and the decarbonisation levers implemented, should be seen as representing the extent of the effort required to achieve a 43% reduction goal by 2030, similarly to ongoing transformations in other sectors.

Alternative modelling scenarios with dual timelines will need to be explored in the future. These should clearly distinguish between the following aspects:

- Decarbonisation levers directly under the control of organisations **(energy, travel, freight)** where increased efforts should be focused to maximise their potential for emissions reduction over the next few years, strictly adhering to the target of -50% by 2030.
- **The procurement of goods and services** plus CVA, which will require longer-term preparation and effort. In these areas, targets may have to be pushed back to 2035, but with a higher level of effort, potentially aiming for -60% by 2035 in order to stay within the required net zero trajectory.
- **Clear identification of emissions and methodology associated with CVA** to avoid possible bias in footprint reduction & operational decision-making.



DUAL TIMELINE MODELLING OPTION FOR HUMANITARIAN SECTOR EMISSIONS TRAJECTORY

OPTIMISING THE USE OF DECARBONISATION LEVERS OVER TIME

The two most impactful levers are associated with procurement: transitioning to greener procurement of goods and services (thus reducing the emissions intensity of all goods and services by 40%) and reducing indirect emissions associated with cash-based interventions/disbursements by 30%. While structural effects are also seen as playing an important role in meeting the sector's objective, the sector's own efforts will be crucial in reaching the overall -43% target, and accounts for 55% of the total effort needed.

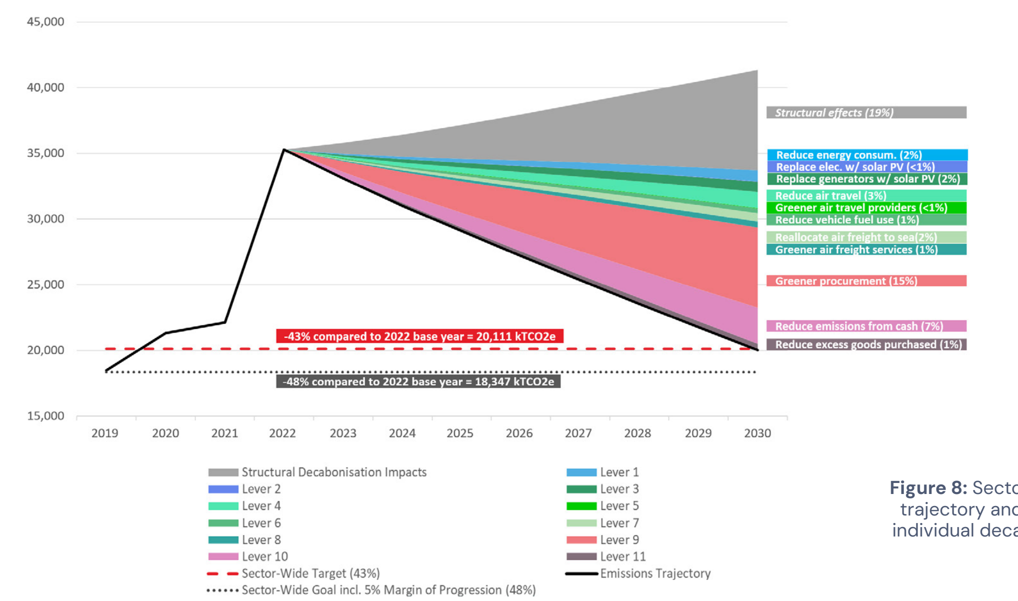


Figure 8: Sector emissions trajectory and impacts of individual decarbonisation levers[30]

1. ENERGY, FREIGHT, TRAVEL: LEVERS DIRECTLY UNDER THE CONTROL OF ORGANISATIONS FOR IMMEDIATE ACTION

A quarter of the sector's emissions comes from the energy, transportation/freight and travel categories. The Roadmap scenario estimates that together, they contribute to 11% of sector-wide reduction efforts in the scenario put forth.

11%
OF THE IMPACT ON SECTOR-WIDE EMISSIONS

- Reduce energy consumption by 40%
- Replace 20% electricity purchased from the grid with solar PV
- Replace 80% of non-electricity and natural gas energy purchased (e.g. generator fuel) with solar PV
- Reduce the number of passenger-kilometres travelled by 45%
- Book 60% of travel flights on less carbon intensive flights
- Reduce fuel consumption of land travel by 40%
- Reallocate 35% of air freight to sea freight

All organisations in the sector need to prioritise these interventions for immediate implementation, while donors and grant-making agencies should enable them by adapting their support accordingly. Various international NGOs and UN agencies have already begun to take action of this kind, but a much more systematic and ambitious approach is required.

FREIGHT

Freight-related emissions will be **reduced by 17% in 2030** compared to the 2022 baseline. These relatively limited results may be partly explained by the fact that rail was overrepresented in the 2022 data (cf. the predominance of rail freight in Ukraine which reduces the impact of a sector-wide air freight reduction lever). Air freight will likely yield the greatest additional emissions reductions. Priority levers include shifting 35% of air freight to sea freight.

TRAVEL

Travel-related emissions will be **reduced by 54% in 2030** compared to the 2022 baseline. Reducing fuel consumption for land-based travel (excluding rail) by 40% yields the biggest emissions reduction of the three levers, together with reducing the number of passenger-kilometres. By comparison, booking 60% of flights on less carbon intensive options resulted in much lower emissions savings. As air- and land-travel account for the majority of emissions, interventions targeting these two forms of travel are likely to yield the biggest emissions reductions.

ENERGY

Energy-related emissions are **reduced by 74%** compared to the 2022 baseline. This level of reduction is much higher than the other emissions categories, and far exceeds the average goal of a 50% reduction by 2030.

Replacing 80% of all non-electricity and non-natural gas fuels with solar PV generation yielded the most significant emissions reductions. Reducing energy consumption 'across the board' by 30% also yielded sizable emissions reductions.

The impact of structural decarbonisation is limited compared to other emission categories since the decarbonisation rate is only 1.2% per year (lower than other categories) and only applies to grid electricity, not natural gas and other fuels.

2. PROCUREMENT OF GOODS AND SERVICES, AND CVA: A CRITICAL ROLE IN ACHIEVING A 50% REDUCTION GOAL

23%
OF THE IMPACT ON SECTOR-WIDE EMISSIONS

- Transition to greener procurement of goods and services, reducing the intensity of all goods and services by 40%
- Reduce indirect emissions associated with CVA interventions by 30%
- Reduce excess goods purchased by 80%

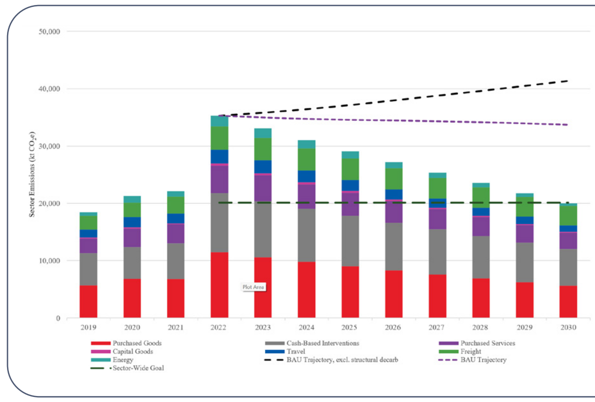


Figure 9: Sector emissions trajectory with decarbonisation levers applied, by emissions nature

In 2022, before taking into consideration the impacts of structural effects and decarbonisation interventions, 'Purchased Goods' was the biggest source of emissions. After these interventions, in 2030, Cash-Based Interventions reflects the greatest source of emissions.

Category	2022 Percentage	2022 kt CO2e	2030 Percentage	2030 kt CO2e
Purchased Goods	32%	11,460	28%	5,625
Cash-Based Interventions	29%	10,330	32%	6,429
Purchased Services	14%	4,785	14%	2,795
Capital Goods	1%	383	1%	204
Travel	7%	2,427	6%	1,118
Freight/Transport	12%	4,072	17%	3,364
Energy	5%	1,826	2%	479

Table 1: Overview of global emissions, by nature

This sectoral analysis shows that drastically reducing emissions associated with 'Purchased Goods' and CVA interventions is absolutely essential to reach the 50% emissions reduction goal and any additional targets beyond the 2030 goal.

Food items represent 44% of emissions associated with the Food Security and Agriculture cluster. Extrapolated to the whole sector, emissions associated with food would represent 59% of sector-wide emissions associated with procured goods (including CVA) in 2022.[31] Therefore, identifying less emissive food procurement options represents a substantial opportunity to reduce sector-wide emissions. This will require substantial effort from organisations and the sector, including switching from high-emitting food items (including rice and animal-based products) to low-carbon, sustainable alternative options or production sources, and being in a position to source such alternative items at scale.

By no means does this analysis suggest that life-saving food assistance to the most vulnerable populations across the world should be reduced for decarbonisation purposes. Effective emissions reduction should not result in a reduction in the quality, quantity or timeliness of the aid delivered, but rather should explore ways to reinforce or maintain assistance while switching to alternative, low-carbon items or suppliers.

This will also require moving towards structural approaches, working with the whole supply chain (e.g. producers, distributors, wholesalers, etc.), and increasing the sourcing of locally produced food using improved agricultural practices (e.g. agroecology, regenerative agriculture, etc.), bearing in mind that emissions reduction potential from improved agricultural practices are expected to progressively increase, but are currently estimated at around 20%.

Practically, some particularly emissive food items, such as rice, may represent additional emissions reduction potential of between 40% and 60%. It has been estimated that 40% of purchased rice could be replaced by alternative items (e.g. maize),[32] leading to a maximum 90% reduction per kg; and that another 40% of purchased rice could be applied a 48% reduction on emissions per kg for switching to rice produced in a less emissive way.[33]

As highlighted above, emissions from CVA represent both an opportunity and a challenge for the sector's decarbonisation objectives, since no best practice has yet emerged for estimating emissions from CVA and for identifying specific interventions for emissions reduction. Given the very significant (and growing) proportion of activities delivered through CVA, levers need to be identified for indirect emissions reduction, for instance by adjusting programme design and orienting purchasing – when relevant and possible - towards low-carbon, sustainable suppliers and items, especially for food aid.

In light of the methodological uncertainties, it may also be relevant to 'neutralise' this category and present two distinct baseline estimates and trajectories, with and without CVA. In all cases, the decision to favour cash interventions over direct distribution should be based on factors other than carbon emissions, particularly access of vulnerable populations to market supplies and prices. At the same time, it is important to bear in mind that there is not sufficient evidence to consider CVA as a decarbonisation lever for emissions associated with the procurement of goods and services.

3. FOCUSING EFFORTS ON SPECIFIC CLUSTERS FOR TARGETED IMPACT

The impact of structural decarbonisation and the application of decarbonisation levers varies significantly as the selected clusters have different expenditure and emissions profiles (e.g., purchased goods, purchased services, energy etc.).

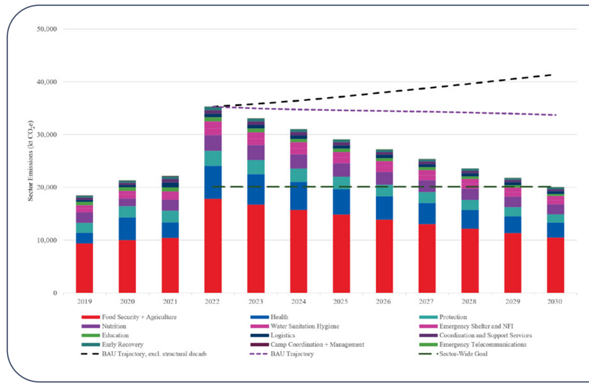


Figure 10: Sector emissions trajectory with decarbonisation levers applied, by cluster

FOOD SECURITY AND AGRICULTURE (FSA)

In 2022, the Food Security and Agriculture cluster represented 50% of the sector's emissions. Applying the decarbonisation levers to this cluster will lead to a 41% reduction in emissions between 2022 and 2030, from 17.8 MtCO2e to 10.4 MtCO2e. Emissions in this cluster are primarily driven by the procurement of goods (46% of the cluster's emissions in 2022 - of which food items represent 96%), CVA (36%), and freight (11%). Emissions from food products represent nearly half (44%) of the FSA cluster's emissions. The most emissive products (in quantity or intensity) include wheat, vegetable oil, sorghum, millet, wheat flour, split peas, rice, super cereals, chickpeas, and animal-based products.

Emission intensity in the FSA cluster is the highest, reaching 0.97 kg CO2e per euro in 2022, but decreasing to 0.51 kg CO2e by 2030. This suggests that, on average, its expenditure is allocated towards more emissive products and services. As mentioned above, identifying and implementing ways to reduce emissions from food items and CVA is essential for effective emissions reduction in the Food Security and Agriculture cluster and the wider sector.

HEALTH

In 2022, the Health cluster represented 18% of the sector's emissions, primarily driven by purchased goods (31%), purchased services (17%), energy (24%) and travel (13%). Purchased goods include highly emissive items categorised as 'chemicals' (drugs), and medical equipment.

Applying decarbonisation levers to this cluster results in an overall reduction of 55%, the majority of which is due to changes in 'energy' and 'purchased goods'. Emissions intensity in the health cluster was 0.92 kg CO2e per euro in 2022, decreasing to 0.39 kg CO2e by 2030.

NUTRITION

In 2022, the Nutrition cluster represented 8% of the sector's emissions, primarily driven by cash-based interventions (64%), and freight (21%). Further analysis is required to confirm the Nutrition cluster's preliminary results. Applying decarbonisation levers will result in a 37% reduction in emissions. The decarbonisation levers with the most impact are the indirect reduction of emissions from CVA activities, as well as the shift from air freight to sea freight.

Levers for reducing emissions from nutritional products are currently only at the exploratory stage due to data quality and consistency issues. More research is needed to identify alternatives to animal-based products. Emission intensity in the nutrition cluster was the second highest, at 0.95 kg CO2e per euro in 2022, but decreased to 0.55 kg CO2e by 2030.

PROTECTION

In 2022, the Protection cluster represented 8% of the sector's emissions, the main sources of emissions being purchased services (53%), and travel (27%). Applying decarbonisation levers will result in a 44% reduction of emissions, with the most significant impact in the area of purchased services. Further analysis will be required to confirm the protection cluster's results, as data quality and consistency need to be improved.

EMERGENCY SHELTER AND NFI

In 2022, the Emergency Shelter and NFI cluster represented 4% of the sector's emissions, mainly from cash-based interventions (67%), purchased services (13%), and purchased goods (11%).

Applying decarbonisation levers will result in a 40% reduction in emissions, with the most significant impact in the areas of cash-based interventions, purchased services, and purchased goods. Emission intensity in the Emergency Shelter and NFI cluster was 0.76 kg CO2e per euro in 2022, but decreased to 0.40 kg CO2e by 2030.

WASH

In 2022, the WASH cluster represented 4% of the sector's emissions, the main sources being cash-based interventions (64%), purchased services (15%), and purchased goods (10%). Applying decarbonisation levers will result in a 40% reduction in emissions, the greatest impact being on cash-based interventions, purchased services, and purchased goods. Emission intensity in the WASH cluster reached 0.64 kg CO2e per euro in 2022, but decreased to 0.34 kg CO2e by 2030.

III. FINANCIAL BENCHMARKS

Using consolidated data from its humanitarian partners,[34] Climate Action Accelerator provides here an estimate of the savings, running costs and investments required to implement climate roadmaps.

METHODOLOGICAL APPROACH

In the absence of sufficient activity data at the sector level to carry out a financial impact assessment, consolidated data from Climate Action Accelerator's humanitarian partners has been used to provide a picture of the financial impact of implementing climate solutions for humanitarian organisations in general. For the purpose of this analysis, financial data from nine of the Climate Action Accelerator's partners was used. These organisations, which vary in size and are involved in different activities, represented approximately 9% of the international humanitarian assistance budget (in terms of financial expenditure) in 2022.

Although not fully representative of the sector, this sample size is still relevant enough to establish trends and benchmarks. The analysis developed below shares lessons from organisations who have used similar, comparable, and systematic approaches to set quantitative targets and estimate related costs, savings and investments. To the best of our knowledge, this is the only available sample in the humanitarian sector today.

Even though they were originally established over different periods of time, the roadmaps were all extrapolated over a seven-year period to improve comparability. Three different extrapolation methods were used to model missing data from year 4 to 7 and improve the comparability of results. All three approaches calculate average savings, running costs and investments as a percentage of the organisations' yearly budget.

No extrapolation was undertaken for the impact of environmental solutions and the human resources costs, the respective available averages of 0.16% and 0.20% were therefore used for all three methods. The data used in the following analysis is the average of the three methods, as detailed in the below table.

The full methodology and sample are detailed in Appendix 5.

	Savings	Running costs	Investments	Net impact GHG reduction solutions before HR	Env. solutions	Net impact before HR	Staff costs	Net impact incl. HR
Method 1	-1.27%	0.68%	0.57%	-0.02%	0.16%	0.14%	0.20%	0.34%
Method 2	-1.64%	1.30%	0.54%	0.20%	0.16%	0.36%	0.20%	0.56%
Method 3	-1.64%	1.08%	0.64%	0.08%	0.16%	0.24%	0.20%	0.44%
Average	-1.52%	1.02%	0.58%	0.09%	0.16%	0.25%	0.20%	0.45%

Table 2: Average savings, running costs, investments and net costs, Climate Action Accelerator's consolidated partner data

CONSOLIDATED RESULTS

All data presented below detail the estimates costs of climate roadmaps, i.e. exclusive of environmental solutions and HR costs.

- **The average net financial impact** of implementing a climate roadmap represents 0.09% of organisations' yearly budget, reaching up to 1% for the most expensive roadmap. Total running costs and investments average 1.6% of the budget, while savings average 1.5%.
- **Running costs** represent 1.02% on average, varying from 0.25% to 2.1%. They are mainly driven by the greener purchasing solutions (transport, general purchases).
- **Investments** represent on an average 0.58% (ranging from 0% to 1.1%). Energy saving measures, solar energy and environmental solutions represent most of the investments.
- **Total savings** average 1.52% of the yearly budget, varying from -0.3% to -2.5%. They mainly come from transport solutions (plane travel and freight), as well as energy solutions.

ABATEMENT CURVE

The abatement curve captures the GHG impact of the main decarbonation levers, as well as the cumulated financial impact implementing them. A list of "Top 8 solutions" identified by Climate Action Accelerator (see Playbook) and representing over 91% of the total reduction effort was used as reference for this consolidated analysis.

- **Financial impact:** the abatement curve captures the average financial impact of each solution, as well as the cumulated financial impact of the solutions in the "Top 8".
  - Solutions are ranked according to their average financial impact. The solution generating the most savings (fly less) is on the far left, and the costliest (procurement) is on the right. They end with the "other solutions", i.e. solutions outside of the Top 8.
  - The green curve shows the cumulated financial impact, with green dots showing for each solution the average impact for the top three and bottom three organisations, defined as the three with the highest savings or lowest costs (top 3) and the three with lowest savings or highest costs (bottom 3).
- **GHG emissions:** for each solution the graph shows the percentage of the total internal efforts to achieve a 50% reduction of GHG by 2030.
  - The blue curve shows the average cumulated GHG reduction for each solution.
  - Blue columns show the low and high averages of GHG reduction by solution. The high represents the average GHG reduction of each solution for the three organisations most impacted by this solution. The low average represents the average of the three smallest GHG reduction, as a percentage of the internal effort.

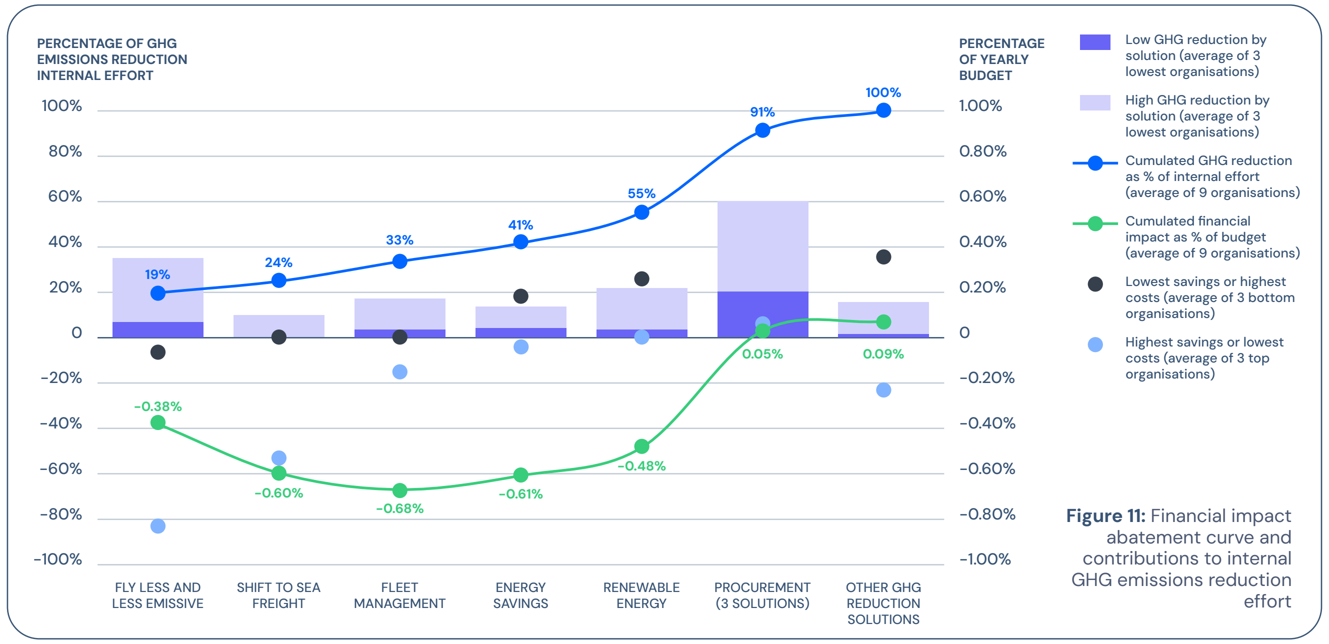


Figure 11: Financial impact abatement curve and contributions to internal GHG emissions reduction effort

KEY LESSONS FROM THE ABATEMENT CURVE

- **The first three solutions,** e.g. on travel, freight and fleet respectively generate on average 0.38%, 0.22% and 0.07% of savings, or cumulated savings of 0.68% of our sample's yearly budget. They represent on average 33% of the organisations' reduction effort.
- **The next two solutions,** e.g. energy solutions, present an average net cost of 0.06% (energy savings) and 0.13% (renewable energy) over 7 years. These solutions ultimately generate savings, sometimes as early as in year 5. Early investments will provide early savings and increased GHG emissions reduction. These combined solutions represent on average 22% of the internal GHG reduction effort.
- **The last three solutions,** combined under "procurement of goods", are the costliest at 0.53% of the yearly budget, but also have the largest GHG reduction impact, averaging 36% of the internal effort.
- **The remaining solutions** cost on average 0.04%, represent 9% of the internal reduction effort.

YEARLY EVOLUTION OF THE FINANCIAL IMPACT

The average yearly financial impact of the climate roadmaps is estimated at 0.09% of the yearly budget, excluding human resources costs. It averages -0.05% during the first 5 years, before increasing to 0.31% and 0.58% in years 6 and 7 (all excluding human resources). This is mainly driven by the procurement solutions[35].

- **Average savings** grow from 0.69% to 2.19% between year 1 and year 7, as key energy savings and travel solutions deliver their full benefits.
- **Investments** decrease from 0.61% in year 1 to 0.52% in year 7. As the energy savings equipment and renewable energies are installed, the need to invest decreases. Organisations with the financial resources and implementation capabilities can invest more earlier, unlocking GHG reduction and savings earlier in the roadmap.
- Finally, **running costs** grow from 0.26% to 2.25%, offsetting part of the savings.

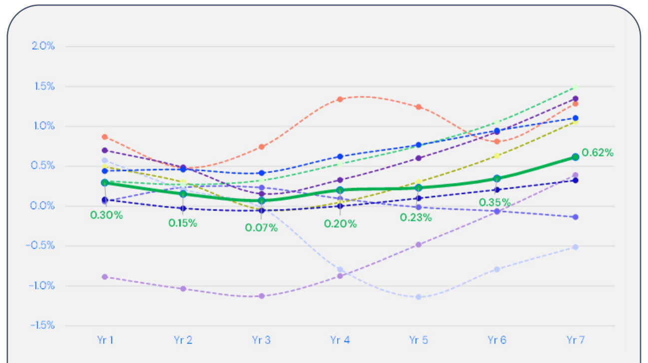


Figure 12: Yearly evolution of financial impact: average, and per organisation (Climate Action Accelerator partner) as a percentage of the yearly budget

SPREAD OF THE FINANCIAL IMPACT BY ORGANISATION

Each organisation has a different business model, different financial resources, emissions profiles, but also capacity to invest and priorities.

The graph below summarises the 7-year savings, running costs, investments and net financial impact of the roadmap for the nine organisations of the sample.

- **Savings** represent on average 1.5% over 7 years, ranging from 0.3% to 2.5%. The organisation with the highest savings is also the organisation with the lowest financial impact (-0.85%).
- **Running costs** represent on average 1% over 7 years, ranging from 0.3% to 2.1%. The organisation with the highest running costs has the costliest climate roadmap (0.82% of its budget) despite having the third largest savings (-2.4%).
- **Investments** represent on average 0.6% over 7 years, ranging from 0% to 1.1%. There is a strong correlation between investments and savings, as most investments are energy related and generate savings, and even net savings before year 7 for some organisations.
- **The overall financial impact** ranges from -0.85% to 0.82% (excluding human resources costs and environmental solutions costs), with four organisations having a climate roadmap generating net savings before human resources costs. The five remaining organisations have an average net financial impact of 0.48% before HR costs.

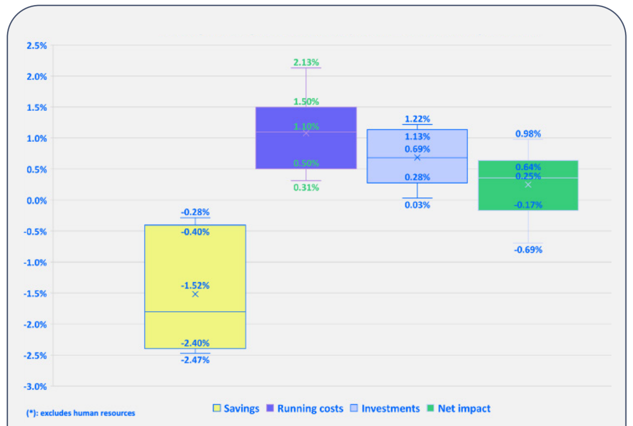


Figure 13: Repartition of financial impact over 7 years as a percentage of budget

INITIAL CONCLUSIONS

Like other sectors, the international humanitarian assistance sector faces a steep curve when it comes to halving emissions by 2030. The findings of this analysis show that meeting the -50% target will require significant, decisive, and sustained transformation efforts across the sector.

Firstly, all humanitarians, including INGOs, donors, the UN, and large international organisations, such as Red Cross and Red Crescent Movement, should maximise emissions reductions from energy, freight and travel. These sources of emissions are directly under their control, and the efforts made can lead to significant results and overall savings. These are also areas where reduction can be achieved with a fair degree of certainty, based on previous experience from across the humanitarian sector and beyond.

Then, considering that the procurement of goods and services represents the largest share of emissions (74%, base year 2022), with emissions associated with food items representing over 50% of these, urgent action is needed to reduce emissions from procurement, especially from food items. There are significant opportunities to reduce these emissions, but the fact that organisations only have indirect control over them is an additional challenge.

By no means does this analysis imply that food assistance quantity, quality or timeliness should be affected by decarbonisation efforts, especially in the context of a widening gap between populations' needs and the assistance delivered.

Instead, it is suggested that humanitarian actors should urgently start identifying low carbon, resilient, sustainable alternative options to current items and suppliers, paying specific attention to local markets, and improved agriculture practices (e.g. agroecology, regenerative agriculture, etc.). This will also require moving towards structural approaches and working with the whole supply chain (e.g. producers, distributors, wholesalers, etc.). The composition of food rations will need to evolve and products will need to be substituted (within the current WHO UNICEF WFP guidelines on quality & quantity and taking cultural habits into account).

Emissions associated with CVA consistently represent approximately a third of the sector's emissions both in 2022 and 2030, pointing at the fact that these activities should be carefully looked at to optimise the decarbonisation potential of the humanitarian sector. There is no agreed or best practice for estimating emissions from CVA nor identifying associated decarbonisation levers. Further research involving both humanitarian actors and experts from outside the humanitarian sector will be needed to clarify the impact of CVA on the sector's emissions profile and possible trajectories going forward.

Given the significant data gaps, this analysis should be seen as a first iteration that will be improved as data availability and quality increases. In the near future, alternative modelling options may also be developed, for instance looking at dual-timeline trajectories, distinguishing between a -50% reduction goal by 2030 for energy, freight and travel, and a -60% reduction goal by 2035 for emissions associated with the procurement of goods and services.

In the context of a deteriorating climate emergency, humanitarian actors still have a window of opportunity to do their part to contain global warming well below 2°C. However, this window is getting narrower, and the challenge for humanitarians is fundamentally two-fold: How do they increase support to communities without contributing further to the climate crisis due to their emissions-intensive operational model? And how do they strengthen the resilience of their organisations and their ability to operate while mitigating the risks related to rising fossil fuel and commodity costs? In all cases, effective emissions reduction will require radical collaboration between all actors, both within the sector and beyond.

APPENDIXES

APPENDIX 1: DETAILED FINDINGS PER CLUSTER

FOOD SECURITY AND AGRICULTURE

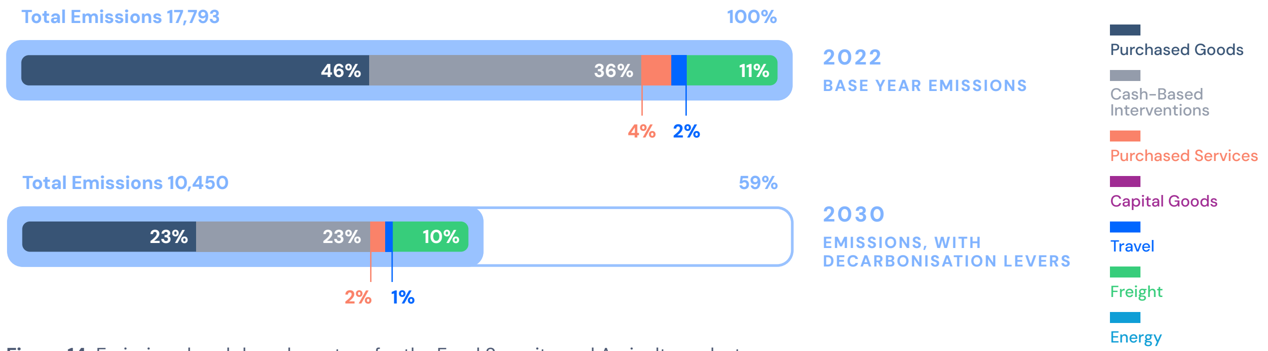


Figure 14: Emissions breakdown by nature for the Food Security and Agriculture cluster

Category	2022 Percentage	2022 kt CO2e	2030 Percentage	2030 kt CO2e
Purchased Goods	46%	8,162	38%	4,006
Cash-Based Interventions	36%	6,445	38%	4,011
Purchased Services	4%	738	4%	431
Capital Goods	0%	0	0%	0
Travel	2%	342	1%	154
Freight	11%	2,019	17%	1,794
Energy	0%	87	1%	54
TOTAL	NA	17,793	NA	10,450

Decrease in Food Security and Agriculture emissions between 2022 and 2030: 41%

Table 3: Food Security and Agriculture emissions, by nature (2022 and 2030)

HEALTH

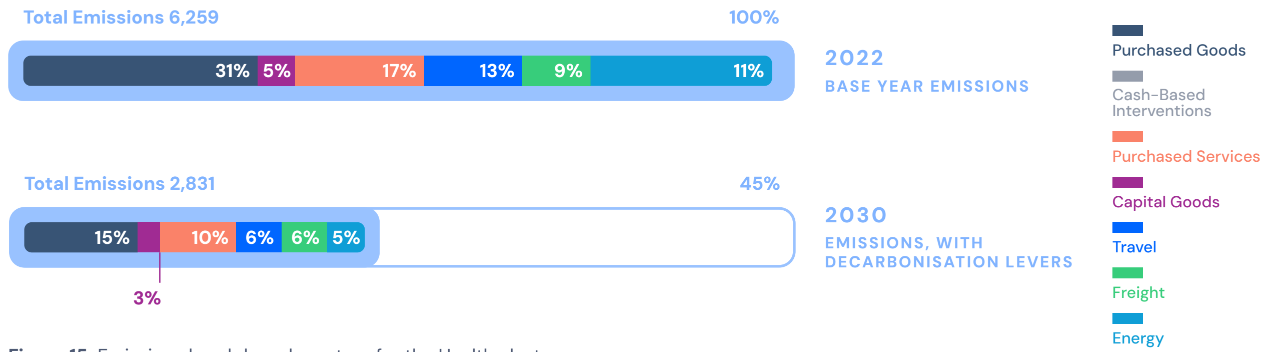


Figure 15: Emissions breakdown by nature for the Health cluster

Category	2022 Percentage	2022 kt CO2e	2030 Percentage	2030 kt CO2e
Purchased Goods	31%	1,961	34%	963
Cash-Based Interventions	0%	0	0%	0
Purchased Services	17%	1,094	23%	639
Capital Goods	5%	320	6%	171
Travel	13%	822	14%	385
Freight	9%	553	14%	389
Energy	24%	1,509	10%	285
TOTAL	NA	6,259	NA	2,831

Decrease in Health emissions between 2022 and 2030: 55%

Table 4: Health emissions, by nature (2022 and 2030)

NUTRITION

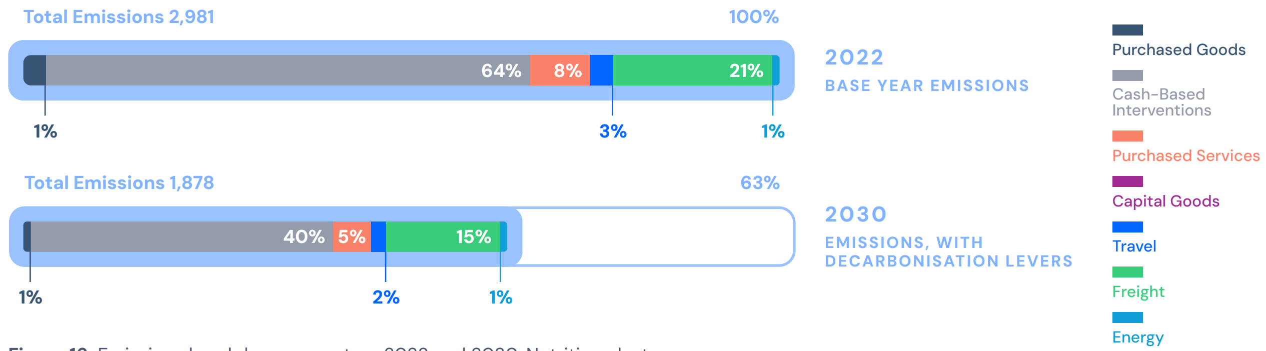


Figure 16: Emissions breakdown per nature 2022 and 2030, Nutrition cluster

Category	2022 Percentage	2022 kt CO2e	2030 Percentage	2030 kt CO2e
Purchased Goods	1%	42	1%	21
Cash-Based Interventions	64%	1,910	63%	1,189
Purchased Services	8%	248	8%	145
Capital Goods	0%	0	0%	0
Travel	3%	101	3%	49
Freight	21%	639	24%	449
Energy	1%	41	1%	26
TOTAL	NA	2,981	NA	1,878

Decrease in Nutrition emissions between 2022 and 2030: 37%

Table 5: Nutrition cluster emissions, by nature (2022 and 2030)

PROTECTION

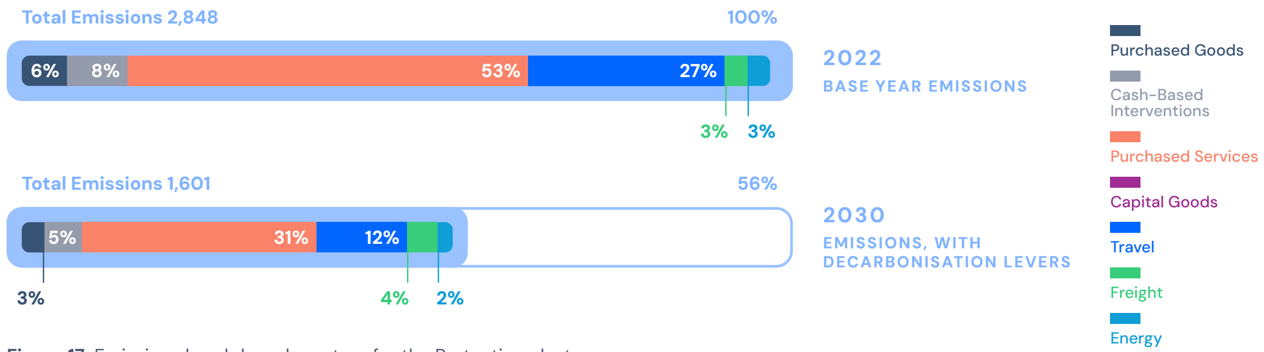


Figure 17: Emissions breakdown by nature for the Protection cluster

Category	2022 Percentage	2022 kt CO2e	2030 Percentage	2030 kt CO2e
Purchased Goods	6%	169	5%	83
Cash-Based Interventions	8%	225	9%	140
Purchased Services	53%	1,510	55%	882
Capital Goods	0%	0	0%	0
Travel	27%	768	22%	347
Freight	3%	99	6%	102
Energy	3%	77	3%	47
TOTAL	NA	2,848	NA	1,601

Decrease in Protection emissions between 2022 and 2030: 44%

Table 6: Protection emissions, by nature (2022 and 2030)

WATER, SANITATION AND HYGIENE (WASH)

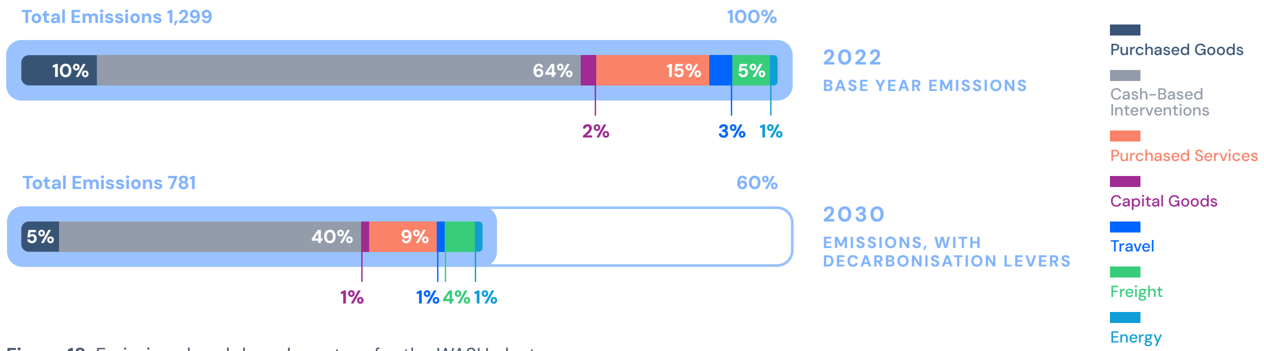


Figure 18: Emissions breakdown by nature for the WASH cluster

Category	2022 Percentage	2022 kt CO2e	2030 Percentage	2030 kt CO2e
Purchased Goods	10%	131	8%	64
Cash-Based Interventions	64%	832	66%	518
Purchased Services	15%	189	14%	110
Capital Goods	2%	28	2%	15
Travel	3%	35	2%	16
Freight	5%	67	6%	47
Energy	1%	18	1%	11
TOTAL	NA	1,299	NA	781

Decrease in WASH emissions between 2022 and 2030: 40%

Table 7: Water, Sanitation and Hygiene emissions, by nature (2022 and 2030)

EMERGENCY SHELTER AND NFI

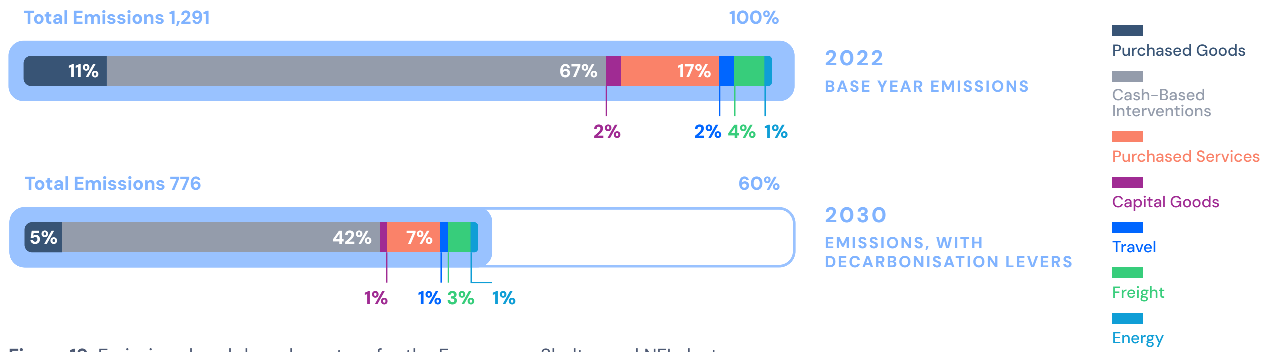


Figure 19: Emissions breakdown by nature for the Emergency Shelter and NFI cluster

Category	2022 Percentage	2022 kt CO2e	2030 Percentage	2030 kt CO2e
Purchased Goods	11%	140	9%	69
Cash-Based Interventions	67%	865	69%	538
Purchased Services	13%	163	12%	95
Capital Goods	2%	24	2%	13
Travel	2%	29	2%	13
Freight	4%	53	5%	38
Energy	1%	17	1%	10
TOTAL	NA	1,291	NA	776

Decrease in Emergency Shelter & NFI emissions between 2022 and 2030: 40%

Table 8: Emergency Shelter and NFI emissions, by nature (2022 and 2030)

APPENDIX 2: EMISSIONS ASSOCIATED WITH FOOD ITEMS IN FOOD SECURITY AND AGRICULTURE CLUSTER AND WHOLE SECTOR

Food Security and Agriculture Cluster (2022)	
Food expenditure, as a percentage of total Purchased Goods expenditure	93.2%
Food expenditure, as a percentage of cluster-wide expenditure	35.6%
FSA Expenditure (including staff salaries)	€18.31
FSA Expenditure (excluding staff salaries)	€11.96
FSA cluster total emissions (kT)	17,793
Purchased Goods (within the FSA cluster) emissions	8,162
Purchased Goods (within the FSA cluster) - emissions associated with food products	7,908
% of FSA purchased goods emissions associated with food products	96.9%
% of FSA cluster emissions associated with food products from the purchased goods category	44%
% of FSA cluster emissions associated with food products vs sector wide Purchased Goods emissions	69%
% of FSA cluster emissions associated with food products vs sector wide Purchased Goods, Purchased Services, and Capital goods emissions	48%
% of FSA cluster emissions associated with food products vs sector wide Purchased Goods, Purchased Services, Cash-based Interventions, and Capital goods emissions	29%
% of FSA cluster emissions associated with food products vs sector wide total emissions	22%

Whole sector	
All food related emissions within the sector (kT)	16,020
All food related emissions within purchased goods (kT) (other food related emissions in the sector fall under cash-based disbursements)	7,970
% of sector wide procurement emissions (incl. cash-based interventions) associated with food related emissions	59%
% of sector wide total emissions associated with food related emissions	45%

Table 9: Emissions associated with food items – extrapolation from FSA Cluster to whole sector, 2022 baseline - ARUP

APPENDIX 3: LIST OF PROXY ORGANISATIONS AND DATA SOURCES USED FOR THE CLUSTER EXPENDITURE PROFILES

Cluster	% of funding	Proxy organisation	Input data source	Discussion of data quality
Food Security and Agriculture	47	World Food Programme	Annual report	Relatively granular comprehensive overview of WFP expenditure with additional information for most expenditure categories. No information on capital goods.
Health	10	Médecins Sans Frontières Operational Centre Brussels	Accessed through CAA	Relatively granular overview of sub-cluster expenditure categories. Expenditure provided for all categories.
Nutrition	10	United Nations International Children's Emergency Fund	Annual report	Less granular data. No information on capital goods.
Protection	9	International Committee of the Red Cross	Accessed through CAA	Granular comprehensive overview of expenditure. Some analysis and adjustment required to get the data in the required format. No information on capital goods. Funding specific to protection activities was isolated from this dataset.
WASH (Water, Sanitation and Hygiene)	6	International Federation of Red Cross and Red Crescent Societies	Accessed through CAA	Comprehensive granular data including an overview of the expenditure for various clusters. Allowed appropriate mapping and use of data. Expenditure provided for all categories. Funding specific to WASH activities was isolated from this dataset. 2021 data was obtained and is being used as a proxy.
Education	5	Terre des hommes	Accessed through CAA	Relatively granular overview of sub-cluster expenditure categories. Expenditure provided for all categories.
Shelter	4	International Federation of Red Cross and Red Crescent Societies	Accessed through CAA	Comprehensive granular data including an overview of the expenditure for various clusters. Allowed appropriate mapping and use of data. Expenditure provided for all categories. Funding specific to shelter activities was isolated from this dataset. 2021 data was obtained and is being used as a proxy.
Coordination and support services	4	Proxy method	EXIOBASE 3	An EXIOBASE-derived expenditure profile for 'other business services' (not specific to the global humanitarian aid sector) was used to determine spending breakdown across activity types and emissions factors. No information on capital goods.
Logistics	3	World Food Programme + proxy method	Annual report	Relatively granular comprehensive overview of WFP expenditure with additional information for the majority of expenditure categories. No information on capital goods. This profile was adjusted using the OCHA FTS overview of spending by WFP across the food and agriculture and logistics clusters.
Early recovery	1	Proxy method	EXIOBASE 3	An EXIOBASE-derived expenditure profile for 'construction' (not specific to the global humanitarian aid sector) was used to determine the spending breakdown across activity types and emissions factors. No information on capital goods.
Camp coordination / management	1	Proxy based on International Federation of Red Cross and Red Crescent Societies (IFRC) shelter data	Accessed through CAA	The expenditure profile for shelter, obtained from IFRC data was used as a proxy for this cluster. See 'shelter' row.
Emergency telecom-munications	0	Proxy method	EXIOBASE 3	An EXIOBASE-derived expenditure profile for 'post and telecommunication services' (not specific to the global humanitarian aid sector) was used to determine spending breakdown across activity types and emissions factors. No information on capital goods.

Table 10: Sources used for the cluster expenditure profiles.

APPENDIX 4: COMPARISON OF INTENSITIES PER CLUSTER

Category	2022 base year (kg CO2e/EUR)	2030 - considering structural decarbonisation effects and applied decarbonisation levers (kg CO2e/EUR)	2030 - considering only effects of structural decarbonisation effects (kg CO2e/EUR)
Food Security and Agriculture	0.97	0.51	0.77
Nutrition	-	-	-
Health	0.92	0.39	0.80
Protection	-	-	-
Water Sanitation Hygiene	0.64	0.34	0.50
Education	0.54	0.26	0.46
Emergency Shelter and NFI	0.76	0.40	0.60
Coordination and Support Services	0.55	0.28	0.45
Logistics	0.67	0.48	0.64
Early Recovery	1.10	0.53	0.86
Camp Coordination + Management	0.75	0.39	0.59
Emergency Telecommunications	0.50	0.26	0.42

Table 11: Comparison of intensities per cluster
Note: Data quality and consistency checks are still ongoing for certain clusters (Nutrition, Protection), intensity indicators are not available yet.

APPENDIX 5: METHODOLOGY FOR FINANCIAL BENCHMARKS

SAMPLE SIZE AND COMPOSITION

Climate Action Accelerator consolidated data from 9 partner organisations who have used quantified, comparable approaches at emissions reduction and financial impact assessment. The partner organisations included in the benchmark are listed in Table 12 below.

Partner organisation
Alliance for Medical Action (ALIMA)
EPICENTRE
International Committee of the Red Cross
Médecins Sans Frontières Operational Centre Brussels
Médecins Sans Frontières Operational Centre Geneva
Médecins Sans Frontières Operational Centre Paris
Nonviolent Peaceforce
Terre des Hommes Suisse / Schweiz
Terre des Hommes Fondation

Table 12: List of organisations included in the sample

These organisations have different characteristics, as detailed below:

- **Number of organisations:** 9 organisations are included in the benchmark
- **Size of organisations[36]:** the sample includes 1 very large (USD 2.8 Billion), 3 small (between 9mUSD and 22mUSD), and 5 between 73mUSD et 412mUSD of yearly budget
- **Activities:** 4 medical NGOs, 3 multi-mandate NGOs, 1 protection NGO, 1 humanitarian medical research organisation
- **Funding:** a combination of organisations relying mainly on private donors and organisations getting most funds from institutional donors
- **Geographical profile:** 8 international NGOs, one regional NGO (Africa-based)

LIMITATIONS

- **Sample size:** the 9 selected organisations represent 8.6% of the humanitarian sector in 2022 (financial expenditure), which is non negligible but cannot be considered as representative.
- **Sample composition:** despite the relative diversity in profiles and activities, the sample does not fully represent the breadth of activities, organisational structures and geographical footprint of the sector.
- **Financial model span:** CAA supported the creation of a 3-year model for the first 5 roadmaps, and moved to a 7-year model for the 4 more recent roadmaps. The 3-year models had to be extrapolated to ensure data comparability and consistency, but there are limitations associated with these extrapolations.
- **Changes in methodology:** CAA refined its methodology since the first model was developed, leading to some methodological differences between the calculations of the financial impact.
- **Large volatility of some costs between 2020 and 2023:** some assumptions made in 2021 and 2022 reflected a large increase in costs such as sea freight or energy[37]. These prices have sharply declined in 2023. As a consequence, some savings and costs were overestimated for organisations whose roadmaps were finalised before this significant drop in prices.
- **Human resources:** it is possible to extrapolate the savings, running costs and investments of 3-year roadmaps. It is a more complex endeavour to extrapolate human resources costs, as the duration of the needs is harder to estimate without further engagement with partners.

USING TRIANGULATION AND A CONSERVATIVE APPROACH MITIGATES THE LIMITATIONS OF THE EXTRAPOLATION

Five roadmaps had a 3-year financial impact model, while four had a 7-year model. This more recent development, i.e. the extension of financial models to seven years, is more aligned with the GHG trajectory.

CAA considered there were too many limitations if estimating the sectoral level financial impact with four models only. Nine organisations, even if they represent 8.6% of the sector's 2022 expenditure, remain a small sample.

CAA decided to extrapolate the 3-year models into 7-year models, using three different approaches. CAA then used these three different methods to calculate the average savings, running costs and investments as a percentage of the organisations' yearly budget.

This extrapolation approach is more complicated to replicate for human resources costs, which were therefore kept at 0.2% of the yearly budget, in line with the data available from partners with a 7-year human resources plan.

CONSOLIDATED RESULTS

Method 1: No extrapolation of years 4 to 7

- **The yearly total financial impact** (costs, savings and investments, excluding staffing) over a 7-year period averages -0.02% of the yearly budget
- **The average yearly financial impact** with this method varies between -0.07% of the yearly budget in year 3 and 0.40% in year 7
- **The average by organisation** varies between -1,18% and +0,82% of the yearly budget

Method 2: Average evolution of savings, running costs and investments from year 4 to 7, and inclusion of uncertainty factor in modelling

- **The yearly total financial impact** (costs, savings and investments, excluding staffing) over a 7-year period averages 0.20% of the yearly budget
- **The average yearly financial impact** with this method varies between -0.20% of the yearly budget in year 3 and 0.91% in year 7
- **The average by organisation** varies between -1% and +0,82% of the yearly budget

Method 3: In depth review, solution by solution

- **The yearly total financial impact** (costs, savings and investments, excluding staffing) over a 7-year period averages 0.08% of the yearly budget
- **The average yearly financial impact** with this method varies between -0.23% of the yearly budget in year 3 and 0.43% in year 7
- **The average by organisation** varies between -0,55% and +0,82% of the yearly budget

All data presented below detail the costs of climate roadmaps, i.e. exclusive of environmental solutions and HR costs.

- **The average net financial impact** of implementing a climate roadmap represents 0.09% of organisations' yearly budget, reaching up to 1% for the most expensive roadmap. Total running costs and investments average 1.6% of the budget, while savings average 1.5%.
- **Running costs** represent 1.02% on average, varying from 0.25% to 2.1%. They are mainly driven by the greener purchasing solutions (transport, general purchases).
- **Investments** represent on an average 0.58% (ranging from 0% to 1.1%). Energy saving measures, solar energy and environmental solutions represent most of the investments.
- **Total savings** average 1.52% of the yearly budget, varying from -0.3% to -2.5%. They mainly come from transport solutions (plane travel and freight), as well as energy solutions.

DETAILED RESULTS

Method 1: No extrapolation of years 4 to 7 financial impact

CAA considered the average savings, running costs and investments of the nine financial models for years 1 to 3. CAA then considered the average of the four 7-year models for years 4 to 7. Table 13 below details the yearly total financial impact by organisation, as well as the yearly average by organisation and the sample average by year.

Total impact	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	7-Yr average by organisation
	-1.00%	-1.21%	-1.39%					**-1.18%**
	-0.05%	0.06%	-0.03%	-0.30%	-0.27%	-0.10%	-0.17%	**-0.11%**
	0.46%	0.03%	-0.29%	-0.18%	-1.39%	-0.83%	-0.55%	**-0.55%**
	0.75%	0.31%	0.48%	0.95%	0.99%	0.77%	1.25%	**0.82%**
	0.38%	0.12%	-0.31%					**0.08%**
	0.20%	0.09%	0.06%					**0.14%**
	0.59%	0.31%	-0.11%					**0.27%**
	-0.03%	-0.20%	-0.32%					**-0.16%**
	0.33%	0.28%	0.15%	0.23%	0.51%	0.91%	1.07%	**0.54%**
Yearly average	**0.18%**	**-0.02%**	**-0.20%**	**-0.07%**	**-0.04%**	**0.19%**	**0.40%**	**-0.02%**

Table 13: Detail of yearly financial impact by partner

Method 2: average evolution of savings, running costs and investments from year 4 to year 7 and inclusion of uncertainty

CAA considered the average evolution of each category of impact from year 4 to year 7 for the four organisations with a 7-year model. Method 2 includes a 20% uncertainty in the modelling, providing a more conservative result: savings are decreased by 20%, while running costs and savings are increased by 20% for the years extrapolated. Table 14 below summarises the yearly evolution of savings, running costs and investments based on this extrapolation.

Yearly evolution method 2	Yr 4	Yr 5	Yr 6	Yr 7
Savings	25.6%	8.7%	8.0%	6.9%
Running costs	69.3%	57.0%	38.9%	29.3%
Investments	4.8%	-25.6%	-24.4%	-3.0%

Table 14: Yearly evolution of savings, running costs and investments for method 2

This average yearly evolution was then applied to the relevant categories for each of the five organisations with a 3-year model. Table 15 below summarises the financial impact by year and partner using method 2.

Total impact	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	7-Yr average by organisation
	-1.00%	-1.21%	-1.39%	-1.62%	-1.24%	-0.68%	-0.19%	**-1.00%**
	-0.05%	0.06%	-0.03%	-0.30%	-0.27%	-0.10%	-0.17%	**-0.11%**
	0.46%	0.03%	-0.29%	-0.18%	-1.39%	-0.83%	-0.55%	**-0.55%**
	0.75%	0.31%	0.48%	0.95%	0.99%	0.77%	1.25%	**0.82%**
	0.38%	0.12%	-0.31%	-0.13%	-0.61%	1.58%	2.52%	**0.78%**
	0.20%	0.09%	0.06%	0.07%	0.39%	0.97%	1.64%	**0.55%**
	0.59%	0.31%	-0.11%	0.02%	0.60%	1.39%	2.13%	**0.75%**
	-0.03%	-0.20%	-0.32%	-0.38%	-0.10%	0.29%	0.48%	**-0.02%**
	0.33%	0.28%	0.15%	0.23%	0.51%	0.91%	1.07%	**0.54%**
Yearly average	**0.18%**	**-0.02%**	**-0.20%**	**-0.26%**	**0.01%**	**0.48%**	**0.91%**	**0.20%**

Table 15: Extrapolated financial impact by year and partner, method 2

Method 3: in-depth review solution by solution

CAA decided to complete these two methods with a more in-depth review of each solution for each organisation. This required an analysis of the GHG reduction targets for each solution, and of the estimated impact on savings, running costs and investments. Some examples below detail this approach:

- **Savings:** an organisation is planning to reduce air freight by 20% in 2026 and 40% in 2030. Savings of 100,000 USD in 2026 would double in 2030.
- **Running costs:** applying environmental criteria to the procurement of 15% of the food in 2026 will cost an extra 300,000 USD. Reaching 50% of the food in 2030 will cost 1,000,000 USD. Some costs were also considered flat over the extrapolated period, as the number of drivers trained to eco-driving was a set number every year.
- **Investments:** the level of investments was also estimated considering the GHG reduction targets, with all investments were spread over the 7-year period. This aligns with the modelling of savings, considered to reach their maximum level in year 7.

Total impact	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	7-Yr average by organisation
	-1.00%	-1.21%	-1.39%	-0.91%	-0.24%	0.47%	0.90%	**-0.38%**
	-0.05%	0.06%	-0.03%	-0.30%	-0.27%	-0.10%	-0.17%	**-0.11%**
	0.46%	0.03%	-0.29%	-0.18%	-1.39%	-0.83%	-0.55%	**-0.55%**
	0.75%	0.31%	0.48%	0.95%	0.99%	0.77%	1.25%	**0.82%**
	0.38%	0.12%	-0.31%	-0.55%	-0.52%	-0.39%	-0.47%	**-0.26%**
	0.20%	0.09%	0.06%	0.21%	0.61%	1.06%	1.27%	**0.56%**
	0.59%	0.31%	-0.11%	-0.14%	0.09%	0.40%	0.49%	**0.25%**
	-0.03%	-0.20%	-0.32%	-0.40%	-0.22%	0.05%	0.10%	**-0.13%**
	0.33%	0.28%	0.15%	0.23%	0.51%	0.91%	1.07%	**0.54%**
Yearly average	**0.18%**	**-0.02%**	**-0.20%**	**-0.23%**	**-0.05%**	**0.26%**	**0.43%**	**0.08%**

Table 16: Extrapolated financial impact by year and partner, method 3

ENDNOTES

1. In recent years, not only climate scientists but also world leaders including the UN Secretary General and the US Secretary of Defense, qualified climate change as "an existential threat to humanity".
2. W.J. Ripple et al., "World Scientists' Warning of a Climate Emergency," BioScience, Oxford University Press, 2020, pp. 8-12, https://www.jstor.org/stable/10.2307/26891410, (Accessed 28 May 2024).
3. Working Group II to the Sixth Assessment Report of the Inter-Governmental Panel on Climate Change, "Climate Change 2022: Impacts, Adaptation, and Vulnerability,"2022, p. 9, https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_FullReport.pdf, (Accessed 28 May 2024).
4. C. Cookson, "Antarctica's staggering exposure to climate change worsens global threat," Financial Times, 2023, https://www.ft.com/content/5e76a2ec-f610-4772-9df9-c68530c1429e, (Accessed 28 May 2024).
5. IPCC, "AR6 Synthesis Report 2023," 2023, https://www.ipcc.ch/report/ar6/syr/, (Accessed 28 May 2024).
6. "The Climate and Environment Charter for Humanitarian Organizations," 2024, https://www.climate-charter.org/, (Accessed 28 May 2024).
7. "Humanitarian Aid Donor's Declaration on Climate and Environment," 2022, https://civil-protection-humanitarian-aid.ec.europa.eu/what/humanitarian-aid/climate-change-and-environment/humanitarian-aid-donors-declaration-climate-and-environment_en, (Accessed 28 May 2024).
8. IASC, "Guidance on Environmental Responsibility in Humanitarian Operations," IASC OPAG, 2023, https://www.icvanetwork.org/uploads/2023/11/IASC-Guidance-Environmental-Responsibility-in-Humanitarian-Operations-20231005.pdf, (Accessed 28 May 2024).
9. IPCC, "AR6 2023 report", 2023, https://www.ipcc.ch/report/sixth-assessment-report-cycle/, (Accessed 29 May 2024).
10. Health Care Without Harm, "Global Roadmap for Health Care Decarbonization," 2021, https://healthcareclimateaction.org/roadmap, (Accessed 28 May 2024).
11. The National Health Service (NHS)
12. Please refer to NHS, "Delivering a Net Zero National Health Service," 2020, https://www.england.nhs.uk/greenernhs/wp-content/uploads/sites/51/2020/10/delivering-a-net-zero-national-health-service.pdf, (Accessed 28 May 2024).
13. "Guiding Principles for Effective Emissions Reduction", Climate Action Accelerator, June 2024, https://climateactionaccelerator.org/humanitarian-decarbonisation-roadmap.
14. This statement is based on a review of energy price models from the International Energy Agency, the Network for Greening the Financial System as well as European analysis. They are summarized in ICRC, "Note on Energy Prices," 2023, https://collab.ext.icrc.org/sites/TS_NAI/SDEV/Environmental%20and%20Decarbonization%20Roadmap/Roadmap%20documents/May%202023%20documents/Note%20on%20Energy%20Prices.docx?d=wd655a703ccbc459abff70b73a6a34d0b, (Accessed 28 May 2024).
15. "Humanitarian assistance is intended to save lives, alleviate suffering and maintain human dignity during and after human-made crises and disasters associated with natural hazards, as well as to prevent and strengthen preparedness for when such situations occur. Humanitarian assistance should be governed by the key humanitarian principles of humanity, impartiality, neutrality and independence. These are the fundamental principles of the international Red Cross and Red Crescent Movement, which are reaffirmed in UN General Assembly resolutions and enshrined in numerous humanitarian standards and guidelines". "When used in the context of financing data, international humanitarian assistance refers to the financial resources for humanitarian action spent outside the donor country. Our calculations of international humanitarian assistance are based on what donors and organisations report as such and do not include other types of financing to address the causes and impacts of crises, which we refer to as crisis-related financing." Development Initiatives, "Global Humanitarian Assistance (GHA) report 2023," 2023, https://devinit.org/documents/1350/GHA2023_Digital_v9.pdf, (Accessed 28 May 2024).
16. Development Initiatives, "Global Humanitarian Assistance (GHA) report 2023," p64, 2023, https://devinit.org/documents/1350/GHA2023_Digital_v9.pdf, (Accessed 28 May 2024)
17. OCHA, "Financial Tracking Service online platform," 2024, https://fts.unocha.org/home/2024/donors/view, (Accessed 28 May 2024).
18. EXIOBASE 3presents year-specific tables for 44 countries (28 EU member plus 16 major economies) and five rest-of-world regions. The 2019 product-by-product EXIOBASE 3 version 3.8.2 data was downloaded and PyMRIO EE MRIO analysis tools3 were used to translate the data into emission factors per Euro spent. These region-specific factors were then paired with subsequent activity mapping to determine cluster-level emissions per Euro spent.
19. IPCC, "Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]," 2023, Geneva, Switzerland, pp. 35-115, doi: 10.59327/IPCC/AR6-9789291691647, (Accessed 28 May 2024).
20. NHS, "Net Zero strategy," https://www.england.nhs.uk/greenernhs/a-net-zero-nhs/, (Accessed 28 May 2024).
21. The approach chosen by Climate Action Accelerator leverages International Energy Agency (IEA) data for historical, projected and required emissions reduction for different levels
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24. I. Tennison, S. Roschnik, B. Ashby, et al., "Health Care's response to Climate Change: a carbon footprint assessment of the NHS in England," The Lancet, 2021, https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(20)30271-0/fulltext, (Accessed 28 May 2024).
25. "Worldometers," Worldometers, 2023, https://www.worldometers.info/co2-emissions/, (Accessed 28 May 2024).
26. Ibid.
27. In the EU, the average intensity per capital amounts to 7.6 tCO_2eq as per 'Our World in Data' https://ourworldindata.org/grapher/co-emissions-per-capita, (Accessed 28 May 2024).
28. Percentages shown on right-hand side of chart reflect emissions reductions, as compared to the initial sector-wide emissions in 2030 before the application of any decarbonisation levers or the consideration of structural effects (41.4 MT CO_2e).
29. All indirect emissions (main from supply chain) represent 94,8% of Nestlé's total carbon footprint, Nestlé, "Net Zero Roadmap," Nestlé, 2023, https://www.nestle.com/sites/default/files/2023-12/nestle-net-zero-roadmap-en.pdf, (Accessed 28 May 2024).
30. Percentages shown on right-hand side of chart reflect emissions reductions, as compared to the initial sector-wide emissions in 2030 before the application of any decarbonisation levers or the consideration of structural effects (41.4 MT CO_2e).
31. Please refer to Appendix 2 in the present document
32. ADEME, "Emissions Factor Database," ADEME, 2023, https://base-empreinte.ademe.fr/, (Accessed 28 May 2024).
33. Unilever, "Impact results from Unilever's first set of regenerative agriculture projects," Unilever, 2023, https://www.unilever.com/news/news-search/2023/impact-results-from-unilevers-first-set-of-regenerative-agriculture-projects/, (Accessed 28 May 2024).
34. For the purpose of this analysis, Climate Action Accelerator used data from 9 humanitarian organisations which have developed Climate and Environmental roadmaps, including financial impact assessments, using Climate Action Accelerator's approach and support.
35. It is worth noting that the original CAA methodology was applying a blanket 10% premium on all purchases, generating very high costs for the procurement solutions. Recent improvements in the carbon and financial modelling of these solutions have led to a significantly decreased cost: roadmaps now target goods and services with an optimised cost per GHG reduction.
36. Expenditure budget in USD, based on 2022 data used in the roadmaps
37. As an example, sea freight prices increased by up to 300% in 2021, before decreasing by up to 80% from late 2022 (source: Freightos). Energy prices have also been very volatile, with the World Bank energy price index rising by 190% between 2020 and 2022, before decreasing by 30% in 2023 (source: World Bank).

Climate Action
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A PATH TO CLIMATE-SMART HUMANITARIAN ACTION

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