



Para las demás fuentes para las que se seleccionó «No estimada», se recomienda añadir un comentario a caso. Si se selecciona «No estimada» o «No ocurre», se recomienda añadir un comentario a modo de explicación en el espacio disponible en la última pestaña.

Clave de notación	Descripción/cuándo usarla
Estimada	Se han estimado las emisiones de esta categoría.
No estimada / Datos no disponibles	Se generan emisiones, pero no se pudieron estimar debido a la falta de datos.
No estimada / Complejo	Se generan emisiones, pero no se pudieron estimar debido a la gran complejidad de la gestión de los datos.
No ocurre	La actividad o el proceso no existen en el contexto de la institución.



Health systems decarbonization

Lessons learned in building capacities in the sector

JUNE 2024



GHG national baseline and action planning initiatives

The successful development of national health sector GHG baselines depends on collaboration between multiple institutions. National health authorities are natural allies, but ministries of environment and statistics institutes are usually in charge of developing GHG inventories across all sectors to be presented to the United Nations Framework Convention on Climate Change. It is therefore strategic for health authorities to work with these institutions through existing or new mechanisms.

The methods to estimate national GHG baselines can be classified into three categories:

Top-down methods estimate emissions directly from an aggregate level or scale (region, country, economic sector). They typically use environmentally extended multiregional input-output (EE-MRIO) databases combined with spend data. The top-down method is zero-leakage, capturing all emissions sources within the study boundaries. However, it provides low-granularity outputs, with emissions quantified by economic sector, not by specific activity or product.

Bottom-up methods estimate emissions at an individual source or facility and aggregate them to a regional, national, or economic sector level, using the total number of facilities or a representative sample. They typically combine resource consumption data and emissions factors. A key advantage of the bottom-up method is highly granular information regarding an activity's footprint. A key disadvantage is the need for more data to complete the assessment and the increased risk of leakage.

Executive summary

This document compiles, analyzes, and presents the most relevant aspects of Health Care Without Harm's experience in developing greenhouse gas (GHG) national baselines, action plans or roadmaps, and capacity-building strategies. The knowledge gained from these exercises informs decisions and recommendations for future initiatives and technical assistance to health systems around the world.

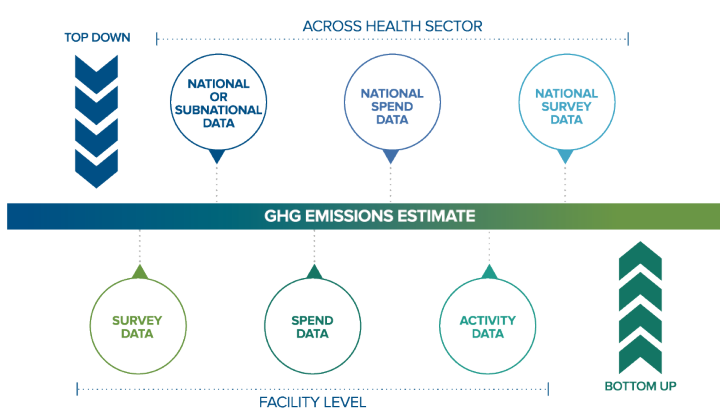


Figure 1. Baseline estimation methods. Source: Health Care Without Harm

Hybrid methods combine elements of top-down and bottom-up approaches to build on their respective advantages and calculate an emissions inventory that is zero-leakage and comprehensive, yet also uses activity-specific, facility-level data where available. A key advantage of a hybrid method is maximum coverage with the highest resolution possible, but it requires special care to avoid double counting when both methods are combined.

The following table summarizes the most relevant aspects of three GHG national baseline and action planning initiatives.

Table 1. Summary of GHG national baseline and roadmapping initiatives

Project	Description	Time involved	Stakeholder involvement	Outcomes	Replicability and scalability	Accuracy, consistency and comparability
Operation Zero in Europe	The goal was to develop and pilot a methodology to be applied by national or regional authorities to produce a health care carbon footprint and decarbonization roadmap, mainly using a top-down method. Some bottom-up estimates have also been used by pilot countries.	- First cohort: Two years. - Second cohort: 1.5 years estimated (the project continues at the moment of writing)	- ARUP (technical support) - Health authorities of each country - Finance, statistics, and environmental authorities (recommended)	- Methodology: Designing a net zero roadmap for health care - Carbon footprint of the Portuguese health sector and ways for mitigation - Inclusion of the GHG emissions analysis on the environmental impact assessment of the Dutch health care sector	High Considerations: Technical support will need to differ by region and/or country based on database availability and language barriers.	Medium Considerations: - Representativeness of the country in the EE-MRIO database - Year of the EE-MRIO database
Colombia	The project aimed to estimate the Colombian health sector's carbon footprint by training a representative sample of facilities to use the Climate Impact Checkup (CIC) tool . Unfortunately, after an open call to populate the sample, the geographic requirement could not be fulfilled, so representativeness was not reached.	- One year for preliminary conversations and agreement on a memorandum of understanding - Two years for implementation	- Ministry of Health - Ministry of Environment and Sustainable Development - Hospitals	- Over 300 facilities completed the training program - 270 carbon footprint reports were submitted, and 265 were finally validated after Health Care Without Harm's review	Low Considerations: Pursuing the representativeness of the sample demands considerable effort, yet success is not guaranteed.	Medium Considerations: - Representativeness of the sample and the data coming from the facilities - Conducting an uncertainty analysis is difficult due to the breadth of different data required
Nepal	Under the Alliance for Transformative Action on Climate and Health, the World Health Organization (WHO) Nepal country office supported the Nepal Department of Health in developing a national plan to decarbonize its health care sector, requesting Health Care Without Harm to conduct an in-person training on the use of the Climate Checkup tool and provide remote advising to WHO consultants.	Nine months.	- WHO Nepal - Department of Health - Two national consultants - Hospitals	Twelve facilities completed their GHG baseline.	High Considerations: Limited reach	- Comparability among facilities is possible

By the numbers

- GHG baseline exercises were performed in six countries (Colombia, Nepal, Portugal, Netherlands, Belgium, and Ireland)
- Representatives of more than 490 facilities (LAC, Europe, SEA) were trained, resulting in at least 324 GHG baseline report submissions
- By June 2024, 546 people from 64 countries had enrolled in the online course

Capacity-building strategies

Building capacities is crucial when elaborating a GHG baseline, as lack of training and knowledge in GHG estimation is a common barrier to lowering emissions and the sector lacks experience in this activity. Estimating emissions requires data from different departments (and in most cases data that has yet to be tracked before this exercise). In this context, communities of practice, spaces for collegial discussions, and sharing experiences with others who have conducted these exercises are fundamental.

Different capacity-building strategies emerged across Health Care Without Harm to respond to the same need. This resulted in a menu of options that complement each other and allow for flexibility and the ability to tailor solutions to specific needs. The following table summarizes the most relevant aspects of four capacity-building strategies developed by Health Care Without Harm.

Table 2. Summary of capacity-building strategies

Project	Description	Time involved	Outcomes
Footprint cafe	Facilitated meetings where attendees participate in a training on the use of the CIC tool. Participants submit GHG reports at the end of these practical sessions.	- Preparation: Depends on the time required to invite participants, find a place, etc. - Implementation: 1 day	- Facilities' representatives trained on the use of the CIC tool - Submission of baseline reports
Training of trainers (ToT)	Piloted in Southeast Asia, the project goal was to cultivate trainers from hospitals in each country who speak the native languages and can contextualize the delivery of the training.	- Preparation: 4 months (intermittent) - Implementation: 2-day in-person session with follow-up virtual sessions	- Different levels of trainers: <ul style="list-style-type: none"> • Trainers that deliver training in their institutions • Trainers that support Health Care Without Harm when carrying out footprint cafes • Trainers that conduct training/baselining independently (beyond their institutions) - Seven of the 12 trainees in the first session supported at least one country-based training/footprint cafe after the ToT - Discussions with the Department of Health of the Philippines on adapting and integrating the CIC tool into its existing tool for hospitals
Mentoring program	The project goal was to use a mentor institution, Valencia Hospital Lluís Alcanyís, to support staff at 11 hospitals in the Valencia region of Spain to calculate their emissions and develop carbon management plans.	One year for each edition, with two editions so far.	- Hospitals trained on carbon footprinting and carbon management plans - Carbon footprint baselines calculated - Sustainability teams created in the hospitals - Communities of practice integrated by the participating hospitals in Valencia - Discussions about sustainability with stakeholders beyond the hospitals, such as universities, research centers, and public administration through open workshops
Online course	The online course was conceived to scale up training in the use of the CIC tool. It is available in English and Spanish and consists of 13 classes distributed in three modules (~4 hours in total) and three inspirational micro videos in each language. The online course is a key element of the CIC toolkit, which includes: <ul style="list-style-type: none"> • Tools (for facilities and systems) • Guidelines • Online course • Frequently Asked Questions 	- Preparation: ~26 months - Implementation: ongoing and automated	- By June 2024, 546 people had enrolled in the course and 138 had completed it - The online course was included in the Alliance for Transformative Action on Climate and Health Community of Practice

Recommendations

GHG national baseline and action planning initiatives

- Conduct a diagnostic screening to understand the starting point, considering partners' capacity, involvement, and data availability
- Identify data needs, gaps, and jurisdictional considerations
- Seek government involvement with strong leadership, mandates, and robust institutional arrangements that foster collaboration and document agreements, preferably through a memorandum of understanding
- Clarify expectations, roles, and responsibilities and outline exercise boundaries among stakeholders to prevent misunderstandings and ensure alignment on objectives
- Minimize risks of government or staff changes by keeping the project as short as possible while creating a detailed work plan for effective management
- Acknowledge uncertainties as inherent in the process, understanding that this initial step allows for refinement in future iterations
- To ensure continuity, remain flexible, and foster ownership of the project across various government sectors, adapting to the priorities of any (new) administration
- In a bottom-up exercise, striving for representativeness within the sample demands considerable effort, yet success is not guaranteed

Capacity-building strategies

- Build on existing resources. The main example of this is combining asynchronous and synchronous methods, which proved successful
- Structural conditions (such as internet access) and lack of resources (such as people able to dedicate time to this project or financial constraints to travel) impede full participation. Simple steps like verifying infrastructure and connection pre-training can alleviate the former while advocating for more resources is essential to tackle the latter
- Implementing monitoring and evaluation activities is crucial for tracking progress and assessing the impact of initiatives, allowing for adjustments if needed
- It's essential to allocate budget to interpretation services and translation of resources consistently
- Dedicate efforts and resources to make the training enjoyable, and make progress in manageable steps. Balance technical knowledge with practical exercises and hospital site visits

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