



The Asia Foundation

HOW TO BECOME A CARBON NEUTRAL OFFICE IN LAO PDR

Installation of solar panels at United Nations House in Vientiane Capital, Lao PDR. Photo credit: UNDP Lao PDR

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Our vision at The Asia Foundation is for a peaceful, just, and thriving Asia. But we're facing an unprecedented climate crisis, and without action, it will destroy the vision that we've been striving to achieve for over 70 years. It's not enough to work on climate issues at arm's length; we must be willing to change our behavior and confront the problems as they appear. We're going carbon neutral, not because it's easy, but because it's the right thing to do. I hope our journey inspires you to follow us down this path and help make our vision a reality."

**Todd Wassel
Country Representative
The Asia Foundation – Lao PDR**



The Asia Foundation program staff Sopavanh Rassapong & Salark Vongsigomlut make good use of their reusable lunch containers.

WHY?

Human emissions of carbon dioxide (CO₂) and other greenhouse gases (GHG) are among the most pressing challenges of our day and are a primary driver of climate change already damaging lives and economies globally. Asia is at the epicenter of climate change impacts and is considered the most disaster-prone region globally because of its dependence on natural resources and agriculture.

Accounting for almost half of global energy demand and the world's highest emitting region, Asia's transition to low-carbon energy sources is critical to ensure equitable access to energy for all and to protect local economies from the worst impacts of climate change.

Climate-focused regulations are changing and will bring benefits for companies that incorporate sustainability into their business practices.

Many countries are now imposing a tax on carbon emissions, aimed at incentivizing GHG reduction. The private sector, civil society organizations, and governments are looking toward new climate-friendly innovations as the complex environmental impacts of climate change affect businesses, society, and the natural resources that many livelihoods depend on.

Climate change urgency is also leading governments globally to implement plans to reduce carbon emissions.



In 2015, 195 world leaders signed the Paris Agreement to reduce GHGs and committing countries to limit global average temperature rise to less than 2°C above pre-industrial levels, while aiming for 1.5°C. An important outcome of the 26th Conference of the Parties (COP26) was increased cuts to GHG emissions and more stringent regulations to keep temperature rises within 1.5°C, which scientists say is required to prevent a “climate catastrophe”.

If met, current pledges will only limit global warming to about 2.4°C, translating into more droughts, heat waves, floods, deadly storms, increased sea level rise and warming oceans, and disastrous impacts on human and ecological systems. Lao PDR was the first country in Southeast Asia to ratify the Paris Agreement, and pledged to reduce the country's GHG emissions to net zero by 2050.

WHAT?

Carbon neutral means that any GHG emissions released into the atmosphere from an organization's activities are balanced by an equivalent amount being removed, typically over one year. Removing carbon dioxide from the atmosphere and storing it is known as carbon sequestration, and to achieve global net zero emissions, all worldwide GHG emissions have to be counterbalanced by carbon sequestration.

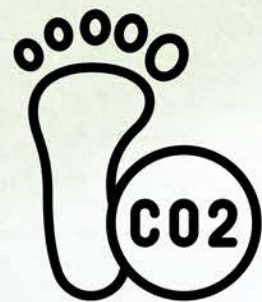
In practical terms, when going carbon neutral, it's often useful to follow a carbon management hierarchy, to 'reduce what you can, offset what you can't'. Typically this means avoiding or reducing emissions through energy efficiency and conservation; eliminating emissions by switching to renewable (zero carbon) sources of energy; and sequestering or offsetting any remaining emissions. Compensating via carbon offsets should always be a lower priority, focusing primarily on reducing GHG emissions in-house which will have the greatest impact on reducing global emissions.

This guide will walk you through the necessary steps to go carbon neutral, based on key lessons learned from The Asia Foundation's experience in Lao PDR. We were one of the first organizations in the country to commit to a strategy to go carbon neutral, but there's no simple or defined path to follow. We'll share lessons learned along the way and what we wish we knew before starting. We want to make it easier for businesses to truly make corporate social responsibility work for them by pursuing carbon neutrality, so we'll show you how to audit your business, set a carbon reduction target, and highlight your help in the fight against global climate change.



HOW?

What does it really take for your office to go carbon neutral and how do you get there? You must first calculate your company's carbon footprint, meaning the quantity of GHG emissions produced as a result of operations. Once a total carbon footprint is calculated, you'll have a better sense of how much your company needs to counteract. Then you reduce your carbon emissions by analyzing carbon intensity indicators (the main sources of your GHG emissions) and acting upon those, while finally offsetting what's left. The process can be broken down to six steps that will help the global fight against climate change and make your own operations more sustainable.



STEP 1

All Aboard!

Get employee and management buy-in for CO₂ reduction initiative.

STEP 2

Planning a GHG Inventory

Learn what a GHG inventory is and how to do one.

STEP 3

Collect Data, Create Baseline, Do GHG Accounting

Learn where to find the data you need to calculate your office emissions.

STEP 4

Set Carbon Neutral Strategy & Agree on Emissions Reduction Target

Develop your strategy based on your goal and ambition, resources available, and your organizational culture.

STEP 5

Develop Action Plan & Start Reducing GHG Emissions

Take action! Identify and implement ways to reduce office emissions or pursue offset options.

STEP 6

Continue Monitoring & Reporting Emissions

Reap benefits and be a carbon reduction leader!

All Aboard!

It's important to start engaging employees once you launch a carbon neutrality pledge since there will be changes that everyone has to agree upon.

Energy efficiency measures require expenditures of up-front capital, with little or no major changes in people's behavior. However, energy conservation actions require significant behavior change by all staff, and so there will be investment of staff time in education and outreach.

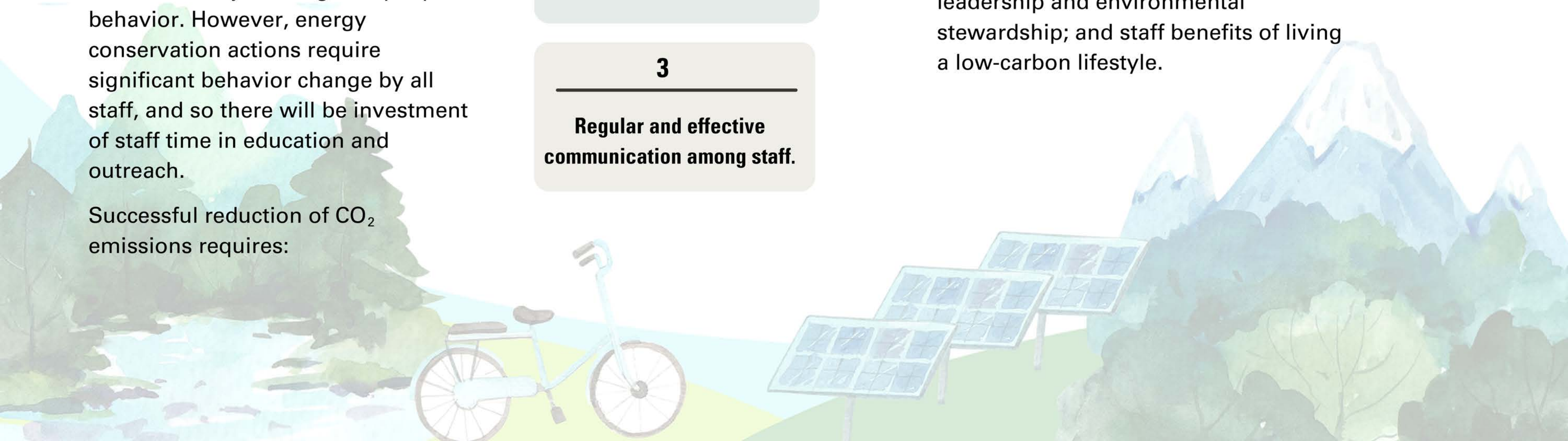
Successful reduction of CO₂ emissions requires:

1
Changes in an office's administrative procedures.

2
Participation by as many people as possible.

3
Regular and effective communication among staff.

That's why your first step will be to build support for your GHG emissions reduction initiative throughout the entire organization, including senior management. You'll need to discuss the financial implications (return on investment vs. financial impact); reputational benefits of demonstrating leadership and environmental stewardship; and staff benefits of living a low-carbon lifestyle.



Planning a GHG Inventory

Once you've decided to go carbon neutral, first define how ambitious you want to be. The three main factors in your decision will be the extent of emissions you're including, timeline, and resources you can devote to this effort. Different kinds of businesses have varying levels of GHGs depending on activities, products, and services. According to the Greenhouse Gas Protocol, the world's most widely used GHG accounting standard, emissions are classified as Scope 1 (direct); Scope 2 (energy indirect); or Scope 3 (other indirect) emissions, depending on the level of control your company has over these emissions. Direct GHG emissions are emitted by sources directly owned or controlled by the organization while indirect GHG emissions result from organizational activities but occur at sources owned or controlled by another organization.

Per the GHG Protocol, Scope 1 and 2 are mandatory to report, whereas Scope 3 is voluntary and the most difficult to monitor. Scope 3 emissions may be included in the inventory if relatively large compared to your Scope 1 and Scope 2 emissions; they contribute to the company's GHG risk exposure; and are deemed critical by key stakeholders (e.g., feedback from customers, suppliers, investors, or civil society).

SCOPE 1

All direct GHG emissions from sources operated or owned by the organization or under its control. Examples include work-related transportation or air conditioning gas leaks. If the organization uses gases with emissions that are not covered by the Kyoto Protocol, such as CFCs, NO_x, etc., related emissions shouldn't be included in Scope 1 but reported separately.

SCOPE 2

Created during energy production for heating, lighting, and computers, these are indirect emissions from electricity purchased and used by your organization. Although Scope 2 emissions physically occur where they're generated, they're accounted for in a GHG inventory because your organization needs this energy to run operations.

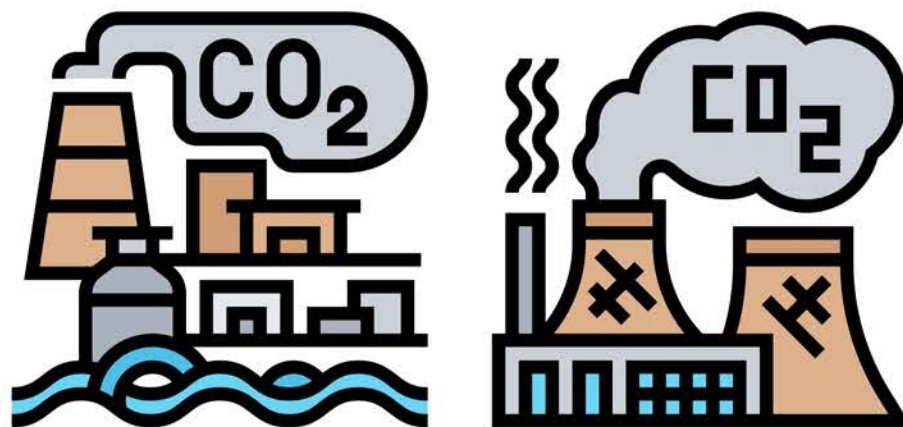
SCOPE 3

All other indirect emissions from activities of the organization occurring from sources they don't own or control. These are usually the greatest share of the carbon footprint, covering emissions from business travel, procurement, waste, and water.

Planning a GHG Inventory

Before collecting data on GHG emissions, decide on a timeline. The advantage of a shorter timeline of 2-3 years is that you create a sense of urgency, though significant reductions in your carbon footprint can take time. If you use both reductions and offsets as part of your strategy, you can reach your goals in a shorter timeframe.

GHG accounting and reporting principles are designed to enable a realistic assessment of real emissions while enabling efficient collaboration between other organizations. To learn more about the Greenhouse Gas Protocol and recommended calculation tools, visit the web site at <https://ghgprotocol.org/>



THE ASIA FOUNDATION APPROACH

1. We knew we wanted to do our part to fight climate change and reduce our emissions so we jumped right in. We installed solar panels, created a composting area, and banned single use plastics. We felt like we were making a difference, but we had no idea what our actual impact was or how it related to shifting to a carbon neutral world by 2050. We needed to establish a baseline and a plan.
2. We hired experts to help with our GHG inventory, strategy, and calculation. It was important that all staff felt a part of the process and took pride in going carbon neutral, ensuring they maintained interest beyond the initial phase.
3. Our goal is a 1.5°C reduction by 2030, well before the 2050 deadline set by many countries. While ambitious, we're realistic that some areas are difficult to change, in that we can limit flights in-country, but can't fully eliminate international flights. With difficult management decisions like this, we worked on what we could while waiting for technical solutions to catch up with us.
4. Senior leadership was key to kick-start this initiative with the The Asia Foundation Lao PDR's Country Representative pushing the office toward carbon neutrality. Without senior leadership buy-in, it will be difficult to get others onboard.

Collect Data, Create Baseline, Do GHG Accounting

Now that you've planned a GHG emissions inventory, you have to identify what data you need and then gather the activity data. Before reducing any emissions, you need to know your baseline volume and emission sources, which can be a complex and time-consuming process. Your GHG accounting is important as it's the foundation for all other parts of your carbon neutral plan, so unless you have on-staff expertise in GHG accounting, we recommend hiring an external consultant. Even if you do have the skillset in your organization, you'll need third-party validation of carbon neutral claims your organization makes, and with a rigorous data collection process, you'll be able to back up your calculations and make verification smooth and straightforward.

Your external consultant will guide you through the process of calculating your organization's GHG emissions, using relevant activity data and corresponding emissions factors. Examples of activity data include liters of gasoline consumed; kilograms of waste sent to recycling; or megawatt hours of electricity used, and emissions are estimates for one unit of the activity. You're likely already collecting some data on which you can build, through utility or fuel bills. We used this technique for our calculations and instead of measuring CO₂ emitted by The Asia Foundation staff traveling by car, we measured the quantity of fuel used and applied an emission factor giving the amount of CO₂ per liter of fuel by this car.

Quantifying your emissions by source allows you to identify with precision which GHG emission sources should be prioritized for reduction initiatives. The quality of a GHG inventory is important to obtain genuine reduction benefits. Following the GHG Protocol Corporate Standard's five accounting principles (relevance, completeness, consistency, transparency, and accuracy) will ensure an accurate representation of an organization's GHG emissions. While the biggest emission sources will generally allow the biggest reductions potential, it's important to remember that the quality of a GHG inventory is key to defining a realistic and efficient GHG emissions reductions strategy.

Collect Data, Create Baseline, Do GHG Accounting

THE ASIA FOUNDATION APPROACH

The Asia Foundation Lao PDR's GHG emissions appear to have changed significantly over the past several years for both external and structural reasons. Because our GHG inventory occurred during the COVID-19 pandemic, the Vientiane lockdown caused a decrease in the use of The Asia Foundation's car (Scope 1) and the use of electricity (Scope 2), while travel restrictions resulted in a drop in air travel emissions (Scope 3), with international flights dropping to near zero.

In contrast, the number of employees almost doubled in this time period. Putting aside the impact of COVID-19 restrictions, an analysis showed a distinct rise in GHG emissions from all main sources due to the increase in staff.

Despite these changes, The Asia Foundation's GHG emissions appear balanced between Scopes 1, 2, and 3, showing a need for reductions at all levels. The ratio of GHG emissions per employee (GHG intensity) was 3.09 CO₂e (carbon dioxide equivalent) tons per employee in 2019; 1.19 in 2020; and 1.5 in 2021.

Considering office size and number of employees, the total amount of emissions is consistent with average GHG emissions figures in Lao PDR, which is 2.6 CO₂e tons per person per year. This national figure includes GHG emissions occurring in the course of professional activities as well as all public and private activities. The Asia Foundation needs to target an intensity ratio lower than 2.6 CO₂e tons per person per year to contribute positively to the country's emissions reductions.



Set Carbon Neutral Strategy & Start Reducing GHG Emissions

Now that you know your organization's carbon footprint, you can define a strategy to reduce it. As with any strategy, your approach depends on your goals, ambition, resources available, and organizational culture. Your GHG accounting process is a helpful starting point for defining the strategy, and once you know where your emissions come from, you'll have an indication of where it makes most sense to start reduction efforts. Your strategy should identify targets in line with the Paris Agreement objectives to limit global warming to well below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C. Two core scientific conclusions are the basis for the targets defined in this strategy:

- 1** **The world climate will only stabilize by achieving a balance between the amount of GHG released into and removed from the atmosphere, a state called net-zero.**
- 2** **The small number of carbon sinks on the planet allow only a limited amount of acceptable GHG emissions. Therefore, we all need to reduce our emissions fast and radically.**

THE ASIA FOUNDATION APPROACH

The Asia Foundation Lao PDR set emissions reduction targets in line with limiting warming to 1.5°C for Scope 1 and 2 emissions, and in line with limiting warming to well below 2°C above pre-industrial levels for Scope 3 emissions. Our target year is 2030, which requires a 42% reduction in Scope 1 and 2 emissions and a 25% reduction in Scope 3 emissions (indirect emissions such as business travel).

Air travel was our biggest problem, as Lao PDR has few reliable transportation routes, although this is changing with development of improved highways and a new railway from Vientiane to China's border. We're reducing our emissions in other areas to make up for the fact that we don't have a full solution yet.

The Asia Foundation is committed to compensating and/or curbing or neutralizing all of its GHG emissions on the way to net-zero. The Foundation is willing to support positive climate goals by compensating and offsetting local emissions as much as possible and to do so, we will purchase carbon credits resulting from projects based in Lao PDR or get directly involved in developing these projects as part of the voluntary carbon market.

Develop Action Plan & Start Reducing GHG Emissions

The earlier steps were to prepare for reducing emissions: you've set a goal, signed up partners, established a baseline, defined your strategy, and gotten buy-in from across the organization. Now you're ready for implementation, and there are many ways to reduce emissions internally. While one organization might want to focus on energy efficiency, another may focus on waste disposal or employee travel. Internal reductions usually follow similar steps: assign resources; assess situation; identify opportunity areas; get commitment and resources; execute plan; track progress; and adjust when needed.

If you're developing an action plan based on carbon management hierarchy, you'd first look at making your operations more energy efficient and see where you can conserve energy. This would include replacing old appliances such as air conditioners and refrigerators with modern, energy efficient models, or lowering electricity consumption by making the most of natural lighting and fans.

Shifting to low-carbon sources of energy like electric vehicles, solar panels, or wind energy requires significant advance planning as these are long-term investments that take time for a decent return. Renewable energy solutions are becoming more affordable, and in the next few years will be comparable in price to energy generated from fossil fuels. No matter what approach you take, the science is clear: we cannot continue burning coal, oil, and gas if we're going to avoid the worst impacts of the climate crisis.



STEP 5

Develop Action Plan & Start Reducing GHG Emissions

Priority measures for GHG emissions reductions

HIGH

- Highest efficiency/cost rate and ease to implement
- Measure should be performed as soon as possible

MEDIUM

- Challenging to implement from a management perspective
- Measure should be gradually performed in the coming years

LOW

- Lower efficiency/cost rate
- Measure can be performed anytime before 2030

THE ASIA FOUNDATION APPROACH

Using The Asia Foundation Lao PDR's GHG inventory results, our consultant and Foundation management set GHG reductions targets for the 2030 target year. We focused on each source of GHG emissions under our control, in order of priority to achieve the most efficient and effective results.

High Priority


1. Install solar panels.
2. Prevent air conditioning gas leaks and increase efficiency through regular preventive maintenance; reduce set temperature; increase use of fans; and change old air conditioners for new highly efficient units.
3. Replace fluorescent lights with LEDs; remove lights where not needed; and use solar-powered security lights (e.g., photocell lights).
4. Reduce amount of garbage sent to landfill by using cotton bags instead of plastic and use less plastic overall.
5. Carpool and travel less by holding virtual meetings when possible and using low emissions transportation when traveling (e.g., public transit and trains or buses instead of airplanes).
6. Adopt eco-driving practices.

Medium Priority

1. Promote use of electric vehicles (EV) through loan or incentive schemes for staff to buy EVs.
2. Insulate office building.
3. Eat less meat.

Continue Monitoring & Reporting Emissions

Regular monitoring and evaluation of the process and actions taken will help future efforts where emissions can be reduced and also help you take stock of successful approaches and possible pitfalls to ensure the next cycle is more effective than the last. To manage your emissions, it may help to:

- 1** Monitor performance throughout the year. 
- 2** Report internally on your emissions on a monthly or quarterly basis.
- 3** Break down overall targets by division or location to help staff 'own' their targets at a localized level.

Once you've calculated your GHG emissions, you may want to report this information, by publicly disclosing it on your web site, in your advertising material, or in your corporate responsibility report. When developing your report, use the Greenhouse Gas Protocol's guiding principles of GHG emissions accounting to make sure your reporting is "relevant, complete, consistent, transparent, and accurate" and is based on the best data available at the time of publication.



Continue Monitoring & Reporting Emissions

Reducing your organization’s CO₂ emissions is challenging, and even after your best reduction efforts, you may find you still haven’t reached your goal. If this is the case, you may want to consider purchasing carbon credits through carbon offset projects, which compensate for carbon emissions through initiatives such as afforestation and expansion of renewable energies. Offsets are often necessary if your goal is net zero and your inventory includes employee commuting and business travel.

Carbon credits can be purchased through a voluntary carbon market and The Asia Foundation believes the market in Lao PDR has high potential to direct necessary funds to local carbon mitigation projects. We want to see more money flowing to protect the natural beauty of this country, so we’re working to support the carbon mitigation industry in Lao PDR. If you want to buy locally produced credits or support conservation in Lao PDR, please contact us.



TIP!



A well-designed data collection system will reduce data errors and input mistakes. There are many good data collection practices including:

- Requesting data in familiar units.
- Requesting data from measured sources when possible.
- Establishing internal control systems to spot errors.
- Undertaking regular checks for technical errors including incomplete identification of emissions sources; use of incorrect methods or assumptions; use of incorrect data; and mistakes in data entry.
- For more tips on managing the quality of your inventory, visit the Greenhouse Gas Protocol website (<https://ghgprotocol.org/>).

"Climate change is not trivial for people living in Lao PDR as we're vulnerable to extreme weather events that can exacerbate food insecurity, increase the risk of disease, threaten water supplies, and damage healthcare infrastructure. The Asia Foundation Lao PDR is acting on climate change by developing a carbon neutral strategy and action plans; operating a waste management program; installing solar energy panels; and restoring and protecting wetlands. We urge others to recognize the climate emergency and act together to protect the beautiful place where we live."

**Sopavanh Rassapong
Program Officer
The Asia Foundation – Lao PDR**



The Asia Foundation

The Asia Foundation – Lao PDR

The Asia Foundation works with local partners and Lao government agencies to increase environmental resilience, strengthen governance, expand economic opportunities, empower women, and promote international cooperation. Climate change is an overarching issue that cuts across all economic sectors and affects everyone in Lao PDR. To support climate resilience, we're working with the government and communities on disaster risk management, improved water resource management, and climate resilient agriculture practices that enable Lao citizens to both benefit from and protect the natural resources that are critical to their livelihoods.



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