WWF and Epson are working together for marine conservation and climate action in Southeast Asia.

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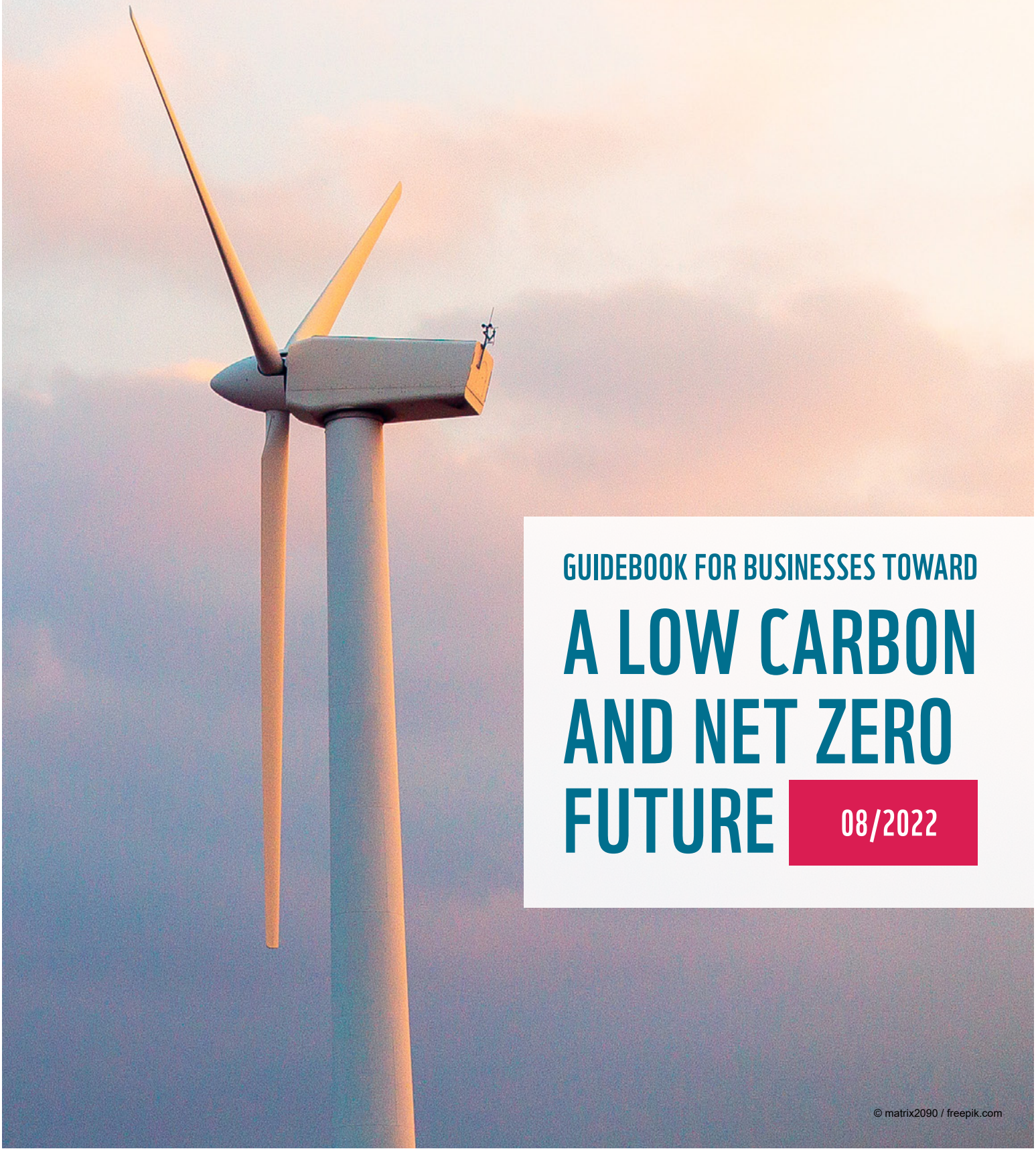

GUIDEBOOK FOR BUSINESSES TOWARD

A LOW CARBON AND NET ZERO FUTURE

08/2022

ESPON VIET NAM
Mr. Daisuke Hori, General Director

Climate change is a matter of public record and it is clear that this threat is urgent and growing every single day. Given the challenging times our world is facing within the last decades, it is imperative for all businesses to step forward and do their bit to fight against climate change.

As a global technology leader, Epson is fully aware about the environmental impact produced by its daily operations. It is precisely for this reason that Epson has made clear commitments and has taken numerous climate actions on our journey towards sustainable development.

In cooperation with our conservation partner WWF-Viet Nam and Viet Nam Chamber of Commerce and Industry (VCCI) – Ho Chi Minh Chi Minh City Brand, Epson Viet Nam is delighted to present to you this **"Guidebook for businesses toward a low carbon & net zero future".** This Guidebook provides a practical overview about the role of the private sector in tackling climate issues, the different principles that should be followed by companies to achieve a green economy and reduce their impact on the environment.

If we want to overcome these environmental challenges, we must all step up our efforts and work together. On Epson's behalf, I hope this Guidebook will provide you with some useful information on how you can contribute to achieve this common target.

Enjoy your reading and get inspired!

WWF-VIET NAM
Mr. Van Ngoc Thinh, CEO

Businesses now are increasingly inter-connected at all levels, global, regional and within a country. We believe Nature is everyone's business and at the same time we are working to change the Nature of Business. Solutions to the climate crisis are available and economically viable, and businesses of all sizes are taking steps to meet the Paris Agreement target of limiting global warming to 1.5°C.

Business drives much of the global economy, so we consider that companies also have a specific responsibility to ensure that the natural resources and ecosystems that underpin their business are used sustainably. Business is also primed to lead on rapid adaptation and on the innovative solutions needed to drive change.

More than ever, there is a need for collaboration across countries and sectors to solve major challenges humanity faces at present and in the future. I hope that this Guidebook, which was developed under the partnership between WWF, Epson and VCCI will provide businesses with up-to-date climate information and practical recommendations to help them accelerate their sustainable roadmaps.

And with our joint efforts and vision on climate and sustainability, anything is possible!

VCCI HCM – Mr. Tran Ngoc Liem, Director of VCCI – Ho Chi Minh City Branch

Businesses are the backbone of Viet Nam's economic and social development and are also the main force in protecting the environment and minimizing negative impacts on the environment through awareness and action. With the contribution of more than 70% of carbon emissions globally, the businesses need to have strong commitments and actions to move towards a green economy through the transformation of production technology, using energy efficiently, reduce the use of fossil energy, reduce waste generation; apply symbiotic economic models, circular economy; and change the behavior of consumption and use.

The **"Guidebook for businesses towards a low carbon and net zero future"** developed by the VCCI – Ho Chi Minh City Branch and the WWF-Viet Nam, with the support and sponsorship of Epson Vietnam Co., Ltd., is expected to encourage the business community to join hands to protect the environment, respond to climate change, towards a low-carbon future, and fulfill Viet Nam's commitments to Net Zero emissions by 2050.

On behalf of the VCCI – Ho Chi Minh City Branch, I would like to sincerely thank to WWF-Viet Nam, Epson Vietnam Co., Ltd., and especially Dr. Nguyen Thi Phuong Mai, Master Tran Thi Thu Anh for their cooperation to develop and compile this important Guidebook.

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Glossary

Business Water Footprint	The total amount of water used in the production and/or supply process of goods and services by businesses
BAU Scenario	Business as usual scenario
Carbon footprint	The total amount of greenhouse gas (GHG) emitted by an entity, which is converted to CO_2e
Climate change	Changes in average temperatures and weather patterns in a certain period of at least around 30 years
Disaster risk	The potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period of time[1]
Conference of the Parties (COP)	The decision-making body responsible for monitoring and reviewing the implementation of the United Nations Framework Convention on Climate Change[2]
Greenhouse Gas (GHG)	Gases that trap heat in the atmosphere, including Carbon Dioxide (CO_2), Methane (CH_4), Nitrous oxide (N_2O), etc.
IPCC	Intergovernmental Panel on Climate Change
NDC	Nationally Determined Contributions
Net zero	A balanced state between the released greenhouse gases into and the amount of emission removed from the atmosphere
Paris Agreement	A legally binding international treaty on climate change, which was ratified by 193 countries to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels (UNFCCC)

[1] *https://www.undrr.org/terminology/disaster-risk*
[2] *https://youth.wmo.int/en/content/what-conference-parties-united-nations-framework-convention-climate-change*

Climate change and Vietnamese goverment's efforts in mitigating climate change

Human-induced greenhouse gas emissions are considered the key driver leading to climate change, the biggest challenge of our time. Rising sea levels, melting glaciers, more frequent and increased intensity of natural disasters and the most visible phenomenon – global warming are all evidence of a changing climate.

Viet Nam is among the most susceptible countries to climate change, ranking the thirteenth according to the Global Climate Risk Index 2021 (Eckstein et al., 2021), but at the same time a rising emitter. Viet Nam has experienced rapid development in recent decades. The fact that development has not occurred sustainably and the country continues to rely heavily on fossil fuels makes Viet Nam the fastest greenhouse gas emitter in the Greater Mekong Region.

Being aware of its catatrophic impacts, Vietnamese's Government is greatly active in making efforts to mitigate climate change. Under the revised Nationally Determined Contributions (NDCs), Viet Nam commits to a 9% cut in GHG emission compared with BAU scenario and 27% with international support by 2030. The country committed to reach net-zero carbon emission target by 2050 at the most recent UN Climate Change Conference (COP26). Besides, the Vietnamese Prime Minister also pledged to end deforestation by 2030, build no new coal after 2030 and phase out coal-fueled power by 2040, demonstrating the country's determination to reduce carbon footprint. In order for Viet Nam to realize its NDCs and GHG reduction commiments, the participation and contributions of the whole society is critical, especially the business sector.

II Role of businesses in tackling climate change

Businesses are drivers of global economy and jobs

Businesses drive economic stability and growth by providing valuable services, products and tax that contribute directly to the national prosperity. At the same time, businesses have provided jobs, strengthening the economic health and political stability.

Major contributors to carbon footprint

A recent report by IPCC shows the impacts of 1.5°C and higher levels of global warming as well as related global greenhouse gas emission pathways. It is reported that the global average temperature will rise by 4 Degree Celsius[3] if we are failed to meet climate pledges and commitments to reduce GHG emissions. According to the CDP Carbon Majors Report[4], more than two-thirds of global GHG emissions come from 100 fossil fuel producing companies.

Significant influence in decision-making

Climate change-related decisions are defined as decisions that lead to actions to mitigate and adapt to climate change. Climate change-related actions of businesses are often considered in terms of integrating profit and social responsibility. Accordingly, businesses have great influence on the decision-making of governments to choose mitigation and adaptation actions to climate change without affecting economic development.

Access to innovation and sustainable technology

Since the Industrial Revolution, disruptive innovation has generated growth, created jobs, and opened new avenues for investment. And in the case of climate change, it could save humanity, by accelerating global efforts to reduce greenhouse-gas (GHG) emissions. Therefore, businesses will play an important role to tackle climate change by accessing to innovative and sustainable technology and investing in researching and implementing new energy technologies and energy efficiency measures.

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[3] World Bank. 2012. Turn Down the Heat: Why a 4°C Warmer World Must Be Avoided. Washington, DC. © World Bank. https://openknowledge.worldbank.org/handle/10986/11860 License: CC BY-NC-ND 3.0 IGO

[4] CDP, 2017. Carbon Majors Report.

II.2. Relevant policies and regulations on climate change response for the business sector

Decree 06/2022/ND-CP on reduction of greenhouse gas emissions and protection of the ozone layer

Regulating that GHG-emitting facilities which are included in the list under Decision No. 01/2022/QD-Ttg of the Prime Minister, must carry out the GHG emission mitigation according to their own GHG emissions mitigation plans by:

a) Providing relevant data and information for GHG inventory in alignment with the line ministry's guidance and implementing GHG emissions reduction measures from 2023;

b) Conducting GHG emissions inventory, developing and conducting the GHG emissions reduction plans from 2025;

Viet Nam Nationally Determined Contributions (2020)

Viet Nam commits to cut 9% of GHG emissions compared to BAU scenario by 2030, which can be increased to 27% with international support. It also states clearly that enterprises are among the key groups of actor to be responsible for the implementation of the updated NDC.

National Green Growth Strategy for the 2021-2030 period, vision towards 2050

Reducing GHG emissions intensity per unit of GPD and greening economic sectors are set out as two of the key targets.

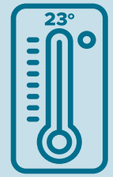
National Environmental Protection Strategy to 2030, vision to 2050

- Promote the development of renewable energy, use clean fuels, use unburnt, environmentally friendly building materials; control ozone-depleting substances from production and consumption activities.
- Establish and scale up low-carbon economic development models.
- Applying circular economy models, implementing integrated solid waste management; control and reduce methane emissions from solid waste landfills.

Do you know?

Storms, floods, heat waves, cold waves, droughts, and forest fires caused 329 billion US dollars in economic losses worldwide in 2021[5]. Climate-related hazards pose risks to human health and can lead to substantial economic losses.

(In billion U.S. dollars)



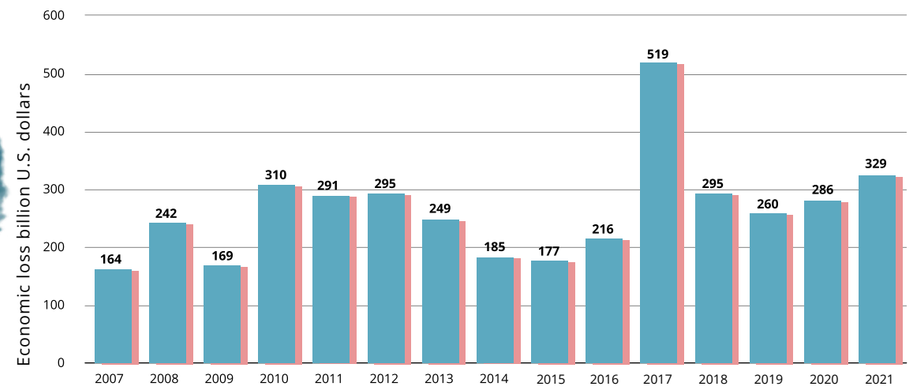


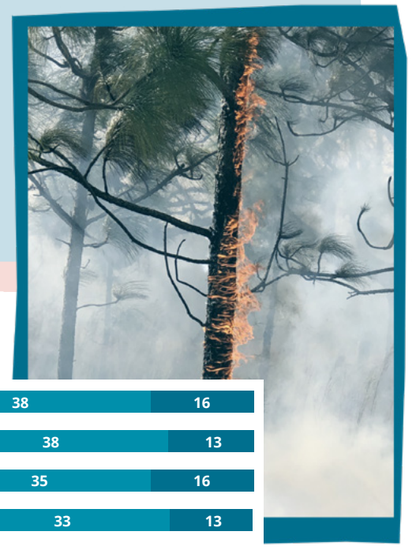
Figure 1 Weather catastrophe economic losses globally from 2007 to 2021[6]

Forecasts on the impact of climate change on Viet Nam's socio-economic development indicate that urgent action is needed. The World Bank predicts that climate change may affect 1.5% of Viet Nam's gross domestic product (GDP) between now and 2050, and will negatively impact macroeconomic achievements, institutional reforms and environmental sustainability goals.

[5] *https://www.statista.com/statistics/818411/weather-catastrophes-causing-economic-losses-globally/*

[6] *https://www.statista.com/statistics/818411/weather-catastrophes-causing-economic-losses-globally/*

The impacts of disaster risks and climate change on Vietnamese enterprises are quite diverse, often affecting their production and business activities. The main impacts are: interruption of production and business, reduced labor productivity, decline in revenue, disruption of transportation channels, increase in production and business costs of enterprises and suspension of distribution networks. All these consequences lead to a general stagnation, in which businesses must cope with reduced quality of products and services, damage to facilities, shortage of human resources and lack of supply of production materials[7].



Unit: Percentage of Enterprises reported (%)

Figure 2 Specific Impacts of Disaster Risk and Climate Change on Enterprises

[7] *Adapting to succeed: Assessing the Impact of Climate Change on Vietnamese Businesses*

The value of losses of Vietnamese enterprises in 2019 due to the impact of climate change and natural disaster risks is presented in Figure 3 which shows that the mining and agriculture, forestry and fishery sectors are the ones where businesses report the highest loss values across all regions.

Unit: Million VND

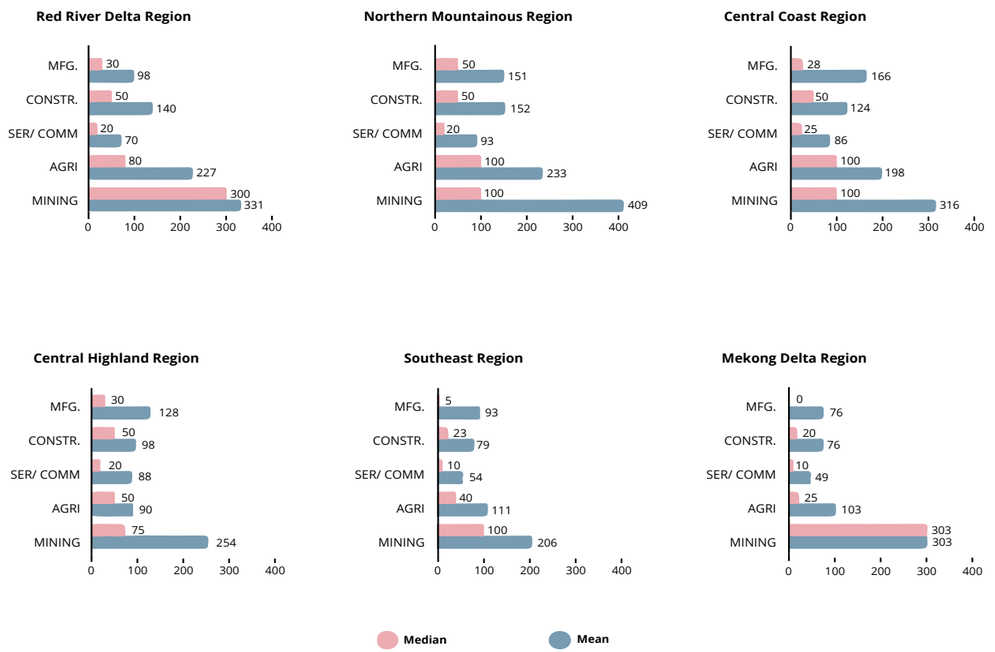


Figure 3 Value of Losses in the Past Year by Region and Sectors[8]

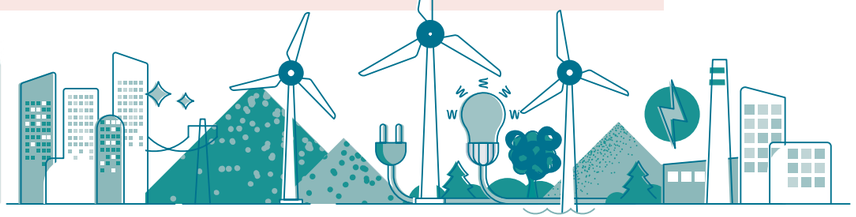
[8] *Adapting to succeed: Assessing the Impact of Climate Change on Vietnamese Businesses*

II.3. What does Net Zero mean for businesses?

a. What is Net Zero

"Net zero" is widely defined as a balanced state between the released greenhouse gases into and the amount of emission removed from the atmosphere.

It is international scientific consensus that global net anthropogenic carbon dioxide (CO_2) emissions must reduce by about 45% from 2010 levels by 2030, with net zero emissions expected around 2050.



b. Benefits of aligning "Net Zero" in business activity

Why do businesses go Net Zero?

The Paris Agreement, a legally binding international pact on climate change reached at COP21 in 2015, has been ratified by over 190 countries. Faced with this urgency, governments have taken appropriate actions to fulfill their commitments.

At the same time, investors and consumers have stricter requirements, requiring the commitment of businesses in implementing environmental protection actions.

In the meanwhile, the climate is changing. Businesses will face several challenges if no action is taken, such as: the risk of non-compliance with government regulations, losing investment, left behind in the market, threatened by supply chain instability and exposed to extreme weather events. Climate change risk management is quickly becoming a need if we want to preserve the long-term viability of our commercial interests and investments. Adopting a net zero approach is one way to future-proof your company.

Benefits of aligning "Net Zero" in business activity

For businesses, the race to net zero is both a responsibility and an opportunity. Mitigating the effects of climate change on a long-term basis will entail relevant benefits for all businesses, including:

A comprehensive 'green' transformation

Decarbonization, revenue growth and profitability are not mutually exclusive concepts. Incorporating net zero into a business strategy can help a business in implementing tactics of repositioning, redefining and repurposing existing products and services into highly productive offerings and/or more advanced. The ability to respond quickly and comprehensively will give businesses first-mover advantages such as long-term financial benefits, sustainable competitive advantages, customer satisfaction and operational efficiency.

Leveraging emerging sources of capital

Businesses must speed up immediately in order to engage in strategic repositioning, enter new markets, exit legacy markets, pursue large-scale innovation, and develop capacity. Currently, in order to promote the transition, many sources of capital prioritize investment for businesses that are committed to action for climate change. This presents a unique opportunity for businesses to fund their transformations by expanding the breadth of their traditional capital sources. The new sources include instruments such as green bonds, and ESG-focused investment funds.

Building trust

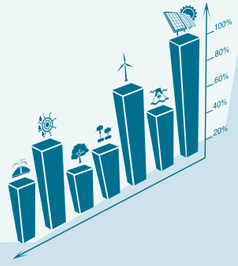
To implement a net zero strategy, businesses must first develop a clear climate report. For a business, clear reporting on greenhouse gas emissions can build trust with all stakeholders – sending a clear message to the market, supply chain, employees and governments that the business is transparent and accountable in its transformation.

III Principles for companies towards a green economy

Principles for companies towards a green economy:

A green economy is defined by United Nations Environment Programme (UNEP), is one that improves human well-being and social justice while significantly reducing environmental risks and resource depletion.

In a green economy, economic investments will not only create new jobs and improve earnings but also contribute to reducing emissions and environmental issues, sustainable and efficient use of resources and ecosystems and species conservation[9].



Against the global context of climate change and urgent need to peak emissions, it is critical for companies to shift to. This process will require a new approach in doing business. New business models need to be developed, focusing on the establishment of green supply chains, finding alternative materials, as well as redesigning value cycles in more sustainable ways.

[9] *https://www.unep.org/regions/asia-and-pacific/regional-initiatives/supporting-resource-efficiency/green-economy*

III.1. Low carbon

Pursuing a low-carbon strategy, businesses can focus on the following issues:

Transition towards renewable energy

The transition from fossil fuels to renewable energy is the foundation of a green economy. Due to the great benefits in making the most of inexhaustible natural resources such as wind, sun, water, waves etc. as well as contributing to reducing the impact of greenhouse effect and climate change, developing renewable energy sources is gradually occupying an important position in sustainable economic development in many countries.

Energy Efficiency

Energy efficiency is the use of less energy to deliver the same output, thereby eliminating energy waste. Efficient use of energy creates a number of advantages including both economic and environmental benefits such as greenhouse gas emissions reduction, decreasing need for energy imports, and lowering costs of doing business. Increasing energy efficiency is usually a cheaper option than switching to renewables and is often the most immediate way to reduce fossil fuel use.

Energy management

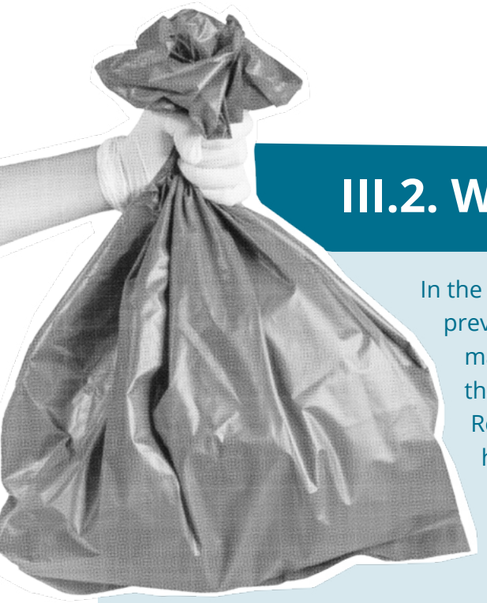
Energy management is the process of monitoring and controlling energy to save energy. This process is very important to save energy. Efficient energy management will help governments, businesses and homes save costs, while reducing energy-related risks.

DO YOU KNOW?

The current fossil fuel-based energy system is the key driver of climate change. The energy sector is responsible for two-thirds of GHG emissions. The costs of climate change in terms of adaptation are estimated to reach US$ 140-300 billion by 2030.

Source: *United Nations Environment Programme (2021). Adaptation Gap Report 2021: The gathering storm – Adapting to climate change in a post-pandemic world. Nairobi[10].*

[10] *https://www.unep.org/resources/adaptation-gap-report-2021*



III.2. Waste prevention

In the hierarchy of sustainable waste management, waste prevention is more important than any other waste management practice. Waste prevention is a business strategy that can benefit any company, regardless of size or type. Reducing waste in the production and business process will help businesses save costs on waste treatment as well as input costs related to materials. Besides, it can also help your company improve worker safety, reduce liability and improve your image.

Principles for sustainable waste management towards a green economy include:

Increase waste recycling portion

Recycling is the process whereby used materials are converted into new materials and products. Many businesses have realized that recycling a material makes both economic and environmental sense.

Reduction of waste

Waste minimization can generate significant benefits to the economy and human health including reducing greenhouse gas emissions and other environmental problems caused by waste disposal. For businesses, the reduction of waste will help directly benefit from cutting costs for purchasing raw materials and treating waste.

DO YOU KNOW?

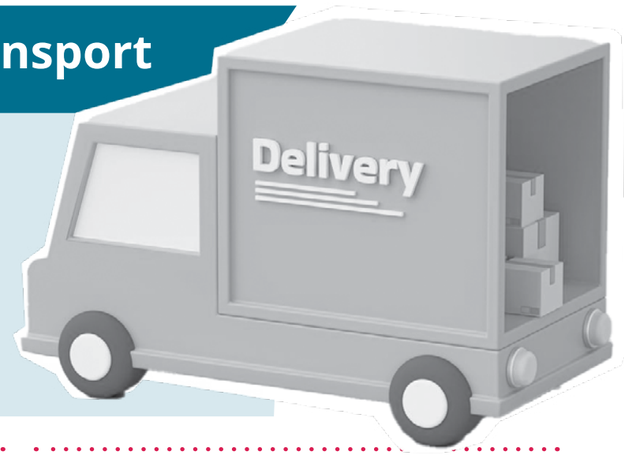
It is estimated that ***the world is wasting one-third of all the food produced,*** equal to about 1.3 billion tons of fruits, vegetables, meat, dairy, seafood, and grains that either never leave the farm, get lost or spoiled during distribution, or are thrown away in hotels, grocery stores, restaurants, schools, or home kitchens. It could be enough calories to feed every undernourished person on the planet.

Approximately, we can reduce 6%-8% of all human-caused greenhouse gas emissions by stopping food waste.

Source: *WWF*[11]

[11] *https://www.worldwildlife.org/stories/fight-climate-change-by-preventing-food-waste*

III.3. Sustainable Transport



Logistics and freight transportation are important parts of the supply chain, which are related to the movement and storage of materials and products in the supply chain. The transport sector is also considered a major contributor to climate change.

Sustainable transport defined as "the provision of services and infrastructure for the mobility of people and goods in a manner that is safe, affordable, accessible, efficient, and resilient, while minimizing carbon and other emissions and environmental impacts"[12].

DO YOU KNOW?

The transport sector as a major contributor to climate change:
In 2020, it is calculated that **24%** of direct CO_2 emissions were attributed to the transport sector[13]. It also accounted for **57%** of global oil demand and **28%** of total energy consumption. For the 2000–2019 period, aviation emissions rose by an annual average rate of **2%**[14].

Green logistics refer to the supply chain's efforts to reduce its carbon footprint by limiting emissions from various activities including waste treatment, packaging, recycling, energy consumption, etc. For businesses, the "greening" of the supply chain is seen as a part of a green investment strategy, helping businesses to effectively use natural and environmental-friendly resources, thereby improving the competitiveness and business performance. Building green supply chains is a global trend, which helps businesses access to new sales methods, reach new customers, who are even willing to pay more for products and services that are being produced in a more sustainable way.

[12] *United Nations. Sustainable transport, sustainable development*

[13] *https://www.iea.org/reports/tracking-transport-2020*

[14] *https://www.un.org/sites/un2.un.org/files/media_gstc/FACT_SHEET_Climate_Change.pdf*

III.4. Sustainable use of Materials

Sustainable use of materials is the way in which materials are used in the economy, are extracted in necessary quantities, without depleting non-renewable resources and disrupting the stable equilibrium of the established environment and important natural resource systems. Sustainable materials management is an aspect of green economy in that it concerns the life cycle of materials in economic activities in order to maximize efficiency of use while minimizing impact on the environment.

Sustainable use of materials will focus on:

Reducing the need for raw materials

Reducing the need for raw materials is the first choice of sustainable use of raw materials. This can be done through designing products that are lighter, smaller or use less energy.

Recycling

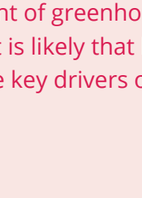
Reducing the need to use primary materials has been known as one of the potential solutions to reduce energy use, while reducing greenhouse gas emissions. Recycling will prolong time of service of secondary materials, bringing benefits to the environment.

Life production extension

Through services, repair and maintenance to expand the life of products is one of the strategies of sustainable use of materials, especially for products that use a lot of raw materials such as buildings and heavy equipment.

Use local materials

Using local materials has many benefits. It can reduce the use of fossil fuels and related pollutants, including greenhouse gases, generated during transportation. At the same time, this creates economic development opportunities for local businesses.



DO YOU KNOW?

In the tropics, approximately **one acre of forest** is cleared every second.

Around **50% of tropical and temperate forests** have vanished.

Three-forth of marine fisheries are currently overfished or fully exploited.

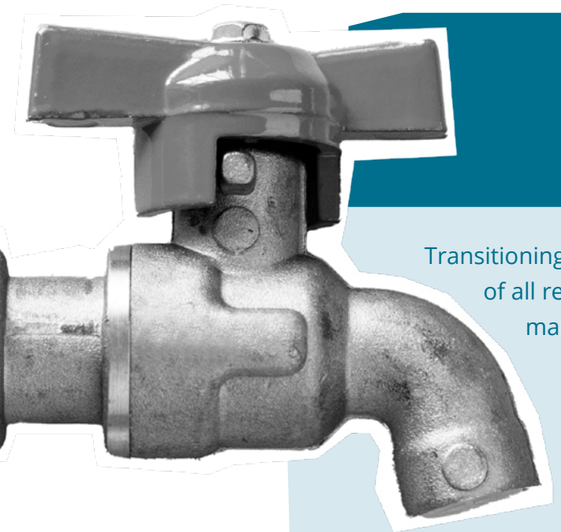
From 1960 to 2000, the amount of **freshwater abstracted has increased twofold**.

Habitat destruction is among the key reasons leading to the **accelerated rate of species loss**

From 1970 to 2004, the amount of greenhouse gas (GHG) emitted globally has **increased 70%**. It is likely that human-induced GHG emissions are among the key drivers of rising average temperature.

Source: *EPA, 2009*[15]

[15] *EPA, USA: Sustainable Materials Management: The road ahead*



III.5. Sustainable Water Management

Transitioning to a green economy requires careful management of all resources, especially water. Sustainable water management means using water in a way that meets current, ecological, social, and economic needs without compromising the ability to meet those needs in the future.

The basic principles for sustainable water management:

Preservation of water resources

One of the goals of water resource management is water security. To conserve water resources, businesses should focus on reducing their water footprint. A business's water footprint is a measurement of the total water consumed to produce the goods and services it provides.

Minimizing water extraction

Reducing water exploitation can be done through reducing the volume of water use and reusing water in business activities.

"Reusing water" is another way that businesses can improve their environmental performance and reduce their costs. To improve water use efficiency, a smart way that businesses can apply is to reuse water many times with appropriate treatment. Water can be reused for heating and cooling, irrigation, cleaning, fire protection and other purposes.

"Reducing water use" in the business helps save costs for exploitation and use of water, reduces wastewater, reduces energy, and at the same time contributes to the protection of our precious water resources. Application of and investment in water-saving technologies can help your business significantly reduce water consumption.

DO YOU KNOW?

70.9%
of the planet's surface is water

of which saltwater accounts for

97%

1/3

of the world

lack access to clean water[16]

It requires 16,000 liters of water

to make 01 Smartphone microchip[17]

The water needed to produce a single cotton t-shirt is 27,000 liters of water

That's enough to sustain on person for 900 days[18]

[16] *Progress on household drinking water, sanitation and hygiene 2000-2017. Special focus on inequalities. New York: United Nations Children's Fund (UNICEF) and World Health Organization, 2019*

[17] *https://wwf.ca/stories/water-the-stuff-of-well-everything/*

[18] *https://www.worldwildlife.org/magazine/issues/spring-2014/articles/handle-with-care*

III.6. Sustainable Food

It is undeniable that the environmental 'food print' (i.e. the environmental impact) of food production and distribution, as well as the socioeconomic imprints of supply chains require more current and future attention.

To achieve the goal of sustainable food, focus should be on:

Support low impact production

To effectively implement sustainable food, it is necessary to promote the transition from "industrial" agriculture to a production system with less environmental impact. Nature-positive Food Production System is arousing great interest in many countries. This system is characterized by a regenerative, non-depleting, and non-destructive use of natural resources.

Support local production

There are numerous advantages to purchasing locally grown food. Using local food greatly reduces the time and resources it takes to transport food from farm-to-fork which allows consumers to access to fresh products, reduces the use of preservatives and brings health benefits.

DO YOU KNOW?

The global food system:

Source: *United Nations Environment Programme (2021)*[19]

- Takes up **half** of habitable area
- Depletes **70%** of total fresh water
- Leads to **70%** of global biodiversity loss
- Emits **21-37%** of greenhouse gas emissions globally
- Among **key drivers** of deforestation

[19] *United Nations Environment Programme (2021). The Role of Business Transforming Food Systems. UNEP, Nairobi*

Do you know?

What do businesses receive when implementing goals towards a net zero and green economy

a Key benefits from greening inputs

Reduce the use of materials	→	Reduces expenditure on materials
Minimise harmful substances	→	Reduces costs related to handling, storage and treating
Substitute harmful materials with less damaging alternatives	→	Carries a lower regulatory compliance burden
Increase use of renewable and recyclable materials	→	Reduces waste disposal requirements

b Key benefits from greening operations

Reduce energy consumption	→	Reduces energy costs
Reduce waste generation and emissions	→	▪ Reduces cost of monitoring, treatment and disposal ▪ Reduces loss of economic value of materials
Reprocess/remanufacture end-of-life materials	→	Increases value of your material inputs
Replace or upgrade equipment and/or production line	→	Improves efficiency of operations
Improve on-site biodiversity and native habitat	→	Reduces the need for watering, air conditioning and other maintenance

c Key benefits from greening products

Substitute recycled/renewable materials for non-renewables	→	▪ Saves material cost ▪ Creates a more attractive product for some buyers
Reduce hazardous substances in products	→	▪ Lowers cost of monitoring, treatment and disposal ▪ Products seen as safer and more desirable
Improve recyclability or biodegradability of products	→	▪ Enhances value of material inputs ▪ Reduces cost associated with disposal
Lower product energy requirements	→	▪ Reduces cost of use ▪ Can improve product desirability ▪ Anticipates regulatory requirements and future standards
Improve product durability	→	▪ Lessens the need for non-renewable materials ▪ Increases product value

Source: OECD (2011)[20]

[20] *OECD: Sustainable Manufacturing Toolkit*

IV What you can do as a business?

Enterprises are important partners in realizing green economy goals. Enterprises can contribute to this process through activities that reduce their emissions to the environment.

Businesses need to develop a clear implementation plan to implement a strategy to reduce emissions. It can be incorporated into a business plan or built on its own, but generally, it includes:

Collect information (as detailed as possible) about the number of emissions generated by the business.

Identify areas and priority order to implement emission reduction.

Identify long-term and short-term goals in line with business commitments and national strategies to reduce emissions. The goals set should focus on answering the following question

- ? What kind of emissions need to be reduced?
- ? There is a system to track and monitor the reducing progress
- ? Roadmap to long-term goals.

The following are specific actions to reduce environmental impacts →

IV.1. At work

a. Establish a policy system of enterprises to implement the emission reduction strategy

Publicize the company's environmental policy and annual reports on the results of reducing emissions to the environment on the enterprise's website. Share and update information regularly with supply chain stakeholders, including customers and employees.

Develop a clear message about minimizing the impact on the environment. Avoid conveying or providing false information for greenwashing[21]. Be honest about what the business has achieved and clearly identify some of the complex changes that will take time to achieve and realize.

Establish a reward system for proposals to reduce the impact on the environment.

Reinvest the cost savings to further improve sustainability through the establishment of the "Green Fund" of the enterprise: Track the business invoices to quantify the savings to put into the green fund. Then use this fund to invest in activities to reduce emissions.

Reducing emissions in the enterprise's supply chain: using its purchasing power to encourage other enterprises to reduce emissions into the environment. This is one of the practical actions to accelerate the process of reducing emissions into the environment.

[21] Greenwashing is the practice of marketing a company or organization so they appear more environmentally friendly or more ecological (more natural, healthier, free of chemicals, recyclable, less wasteful of natural resources...) when in practice, its activities pollute the environment. Greenwashing is therefore considered abusive or misleading because the company improperly positions itself as more green than it actually is.

b. Set up the flexible and suitable working mode

Build flexible working mode: If possible, allow rotating work from home, working remotely to reduce employee travel.

Invest in a reliable, suitable remote working tool like Microsoft Teams, Zoom, Skype, etc.

Organize online meetings (if possible) in place of physical conferences, workshops and seminars.

DO YOU KNOW ?

Remote work is not only reported to bring more productive and loyal employees but can also reduce businesses' carbon footprint and overall costs. Employees tend to prefer a flexible work environment that can reduce their carbon footprint and overall costs[22].

c. Reduce consumption, waste energy

In tropical countries like Viet Nam, air conditioning will be the main cost in the energy bill. Firms should therefore use the air conditioner effectively:

- Choose an inverter-type air conditioner with a capacity suitable for the area of the room;
- Make sure the air conditioner opening area is blocked;
- Regular cleaning and maintenance of air conditioners: helps your air conditioner cool/heat quickly, operate stably, sustainably, and save electricity;
- Turn off the air conditioner 30 minutes before going out;
- Set the appropriate air conditioner temperature: 24 to 28 degrees Celsius is the suitable temperature range for the air conditioner to work stably;
- Close the doors, hang sunshades on the windows, do not let direct sunlight into the room;
- In addition, using an electric fan in combination also saves more electricity. Employees can use a fan in the morning hours when temperatures are lower, and then fans can ensure temperatures on the AC are not set too low.
- Turn off the air conditioner when not in the room.

[22] *https://www.flexjobs.com/blog/post/benefits-of-remote-work/*

Turn off the equipment completely when not in use, unplug the device completely, and do not put it in standby mode (e.g., printers, copiers, faxes, etc.).

Encourage people to wear lighter clothes, rather than thick suits.

Install motion-sensor light bulbs: The light will automatically turn on/off when there is/no one in the room (for example: warehouse, hallway, and toilet).

You can save up to 5-10% of your monthly electricity bill by simply unplugging your appliances when not in use[23].

DO YOU KNOW ?

Use energy-saving light bulbs (particularly light-emitting diodes – LEDs) to replace traditional incandescent bulbs to reduce electricity consumption and replacement cost due to end of service life.

DO YOU KNOW?

Compact fluorescent (CFL), and light-emitting diode (LED) bulbs consume 25-80 percent less electricity than standard bulbs, while their performance and lifespan can be 3 to 25 times higher[24].

Using smart power sockets (Smart Power Trip) to eliminate phantom power loads to save power and optimize costs via an integrated on/off timer or remote control.

Using solar energy: Solar lights for indoor and outdoor use, solar hot water system, and where, possible, rooftop solar will all reduce a company's carbon emissions

[23] *https://money.howstuffworks.com/personal-finance/budgeting/how-much-save-unplugging-appliances.htm*

[24] *Direct Energy Business, 2022. Fifty energy-saving tips for small businesses*

d. Reducing waste in the enterprise

Use the waste classification system according to "3R: Reduce – Reuse – Recycle" to identify effective waste treatment methods in the business.

Reduce paper consumption: By two-sided printing paper, reusing one-sided paper, use email instead of printed documents to distribute in meetings.

Use reusable products instead of single-use products, for example, stainless steel or glass straws instead of plastic straws, etc.

If you need to buy new office equipment, think about buying second-hand (if possible) to save costs and eliminate waste.

e. Save water

DO YOU KNOW?

For one wipe, a typical toilet can use up to 15 liters of water. Installing a male urinal in office bathrooms can help businesses save up to 10 liters of water per person for one wipe[25].

Install a male urinal in the toilet

Periodically check for water leaks in water-using equipment: With water-using equipment such as sprinklers, toilets, and hand-washing faucets at the toilet in the office after a period of use, leakage will occur. Enterprises should have regular checks to avoid this issue.

At each faucet position, a paper should be attached to remind and raise the awareness of staff in saving water, such as locking the water valve after use, using only the required amount of water, etc.

[25] *http://tietkiem.com.vn/10-giai-phap-tiet-kiem-nuoc-va-nang-luong-hieu-qua-trong-van-phong-cong-so.html*

IV.2. Commuting

Develop company policy on domestic and international business travel, avoid traveling by plane whenever possible.

DO YOU KNOW?

The amount of CO_2 emmitted from one round trip from New York City to London is larger than yearly amount CO_2 of an average person in Nicaragua[26].

*** It takes around 15 hours to fly from New York City to London.**

Walk, bike, carpool, or use public transport whenever possible.

Car care: Properly inflated tires can help to save up to 3% fuel use and another 4% of fuel efficiency can be achieved with frequent maintence of the vehicle[27].

Remove any excess weight from the vehicle.

Use traffic apps to help avoid traffic jams;

If you drive, avoid unnecessary braking and acceleration;

Use less air conditioning while driving, take advantage of the wind when possible;

[26] *https://www.worldwildlife.org/magazine/issues/summer-2021/articles/advocating-for-climate-conscious-air-travel*

[27] *https://news.climate.columbia.edu/2018/12/27/35-ways-reduce-carbon-footprint/*

IV.3. At home

a. Home appliances

Pile up your bowls and plates in the dishwasher for each use to save water and electricity. You can also turn off the dish drying mode;

Change your behaviors: When possible, do housework manually instead of using electricity appliances, for example, sweep your house with the broom rather than vacuum cleaner, wash the dishes yourself in place of putting them in the dishwasher, etc.;

Increase the temperature of the refrigerator: Make sure the power-saving mode switch is always on. Check the gaskets around the cabinet doors to make sure they are always clean and tight;

Set the washing machine to warm or cold water, instead of hot water;

Set the air conditioner temperature to greater than or equal to 26 degrees in summer;

Do not overuse heaters and air conditioners;

Replace and maintain air filters for heating, ventilation, and air-conditioning equipment regularly. It will not only help you avoid costly air conditioning repairs, but can also save money;

In the right weather, think about reducing your use of air conditioning in the summer; use cooling fans instead, which require less electricity;

★ ★ ★ ★ ☆

Form the habit of being interested in buying energy-saving equipment through the number of energy-saving stars.

DO YOU KNOW?

Electrical appliances consume approximately 13% of a household's total energy consumption. When selecting electrical equipment, consider both the purchase price and the annual operating costs. Although energy-efficient appliances are more expensive, their operating costs are typically 9-25 percent lower than standard models. When shopping for energy-efficient appliances, look for those labeled ENERGY STAR, which is a federal guarantee that it will use less energy in use and standby when compared to standard samples[28].

Reduce water heating costs: If you are considering replacing your water heater with an efficient model, two factors should be kept in mind:

i) the type of water heater that meets your needs;

ii) the type of fuel it uses;

Do not cook rice too early. Only cook rice about 30-45 minutes before eating to reduce the reheating time. It would be best if you also cleaned the bottom of the rice cooker and the heating plate of the rice cooker to make better contact with electricity and avoid wasting electricity.

Increase natural light: Paint the interior and exterior walls of the house in light colors so that more light is reflected. Paint the edges of the windows white to let more light reflect in. During the day, open the blinds to let in natural light instead of turning on the lights;

[28] *https://goldcup.com.vn/nhung-thiet-bi-gay-ton-dien-ngay-ca-khi-da-tat-d243*

b. Usage and shopping habits

Washing clothes: Wash clothes in cold water. In fact, most washing machine washes tend to use warm water. On the other hand, it is advisable to dry clothes instead of using a dryer;

Buy only what you need: By buying only what you need, you will reduce waste disposal by not creating a lot of waste;

Bring reusable shopping bags and avoid products with too much plastic packaging.

Form the habit of considering environmental indicators on products, for example, information on recycling;

Reduce household waste by minimizing the use of prepackaged products or using products that can be reused and recycled.

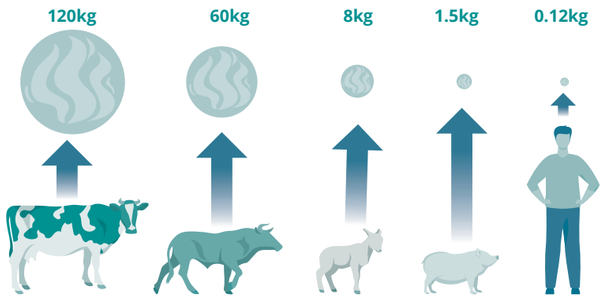
c. Use food

Prioritizing the use of local products, in addition to boosting the economy, is also very important in reducing the use of resources and costs in the process of transporting from other places.

Eat fewer animal products, especially red meat.

Amount of methane emitted by animals and humans into the environment each year

Source: Nasa's Goddard Institute for Space Science



DO YOU KNOW ?

In addition to greenhouse gas emissions, to produce 1kg of beef requires 15,400 liters of water. 1kg of lamb requires about 8,763 liters of water. The amount of water used for pigs and chickens is about 6,000 and 4,300 liters. Green vegetables require only 300 liters to irrigate, and cereal crops about 1,600 liters[29].

[29] *Institute of Water Resources Education, https://voh.com.vn/khoa-hoc/an-thit-huy-hoai-moi-truong-nhu-the-nao-336488.html*

V How businesses can undertake sustainability actions in terms of energy and carbon reduction

SCIENCE BASED TARGETS INITIATIVE (SBTis)

Definition and benefits for businesses

Definition[30]

The SBTi is a partnership between CDP, the United Nations Global Compact, World Resources Institute (WRI) and the World Wide Fund for Nature (WWF).

Science-based targets show companies how much and how quickly they need to reduce their greenhouse gas (GHG) emissions to prevent the worst effects of climate change.

More than 2,000 businesses and financial institutions are working with the Science Based Targets initiative (SBTi) to reduce their emissions in line with climate science.

The SBTi has also launched the world's first Corporate Net-Zero Standard, to ensure that companies' net-zero targets translate into action that is consistent with achieving a net-zero world by no later than 2050. It gives business leaders clarity and confidence that their near- and long-term targets are aligned with climate science - helping to ensure a habitable planet for all.

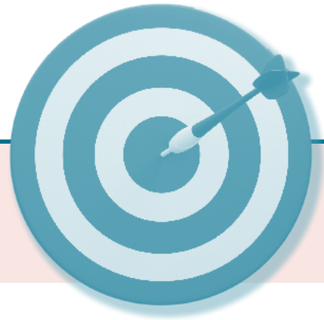
HOW

Providing a clearly-defined pathway by which companies need to set science-based net-zero targets. Through the SBTi, companies will be able to set targets consistent with limiting temperature rise to 1.5°C.

[30] *https://sciencebasedtargets.org/how-it-works*

Benefits for businesses[31]

Science-based targets are not only good for the planet, but also for businesses. What kind of benefits do these targets provide to companies?



1 Brand reputation

Given that consumer's environmental awareness has been raising in the last years and thus, ethical consumption continues to grow, a brand's reputation for sustainability is of great importance.

"79% of corporate executives found a strengthened brand reputation to be one of the most significant business benefits for their company from committing to the Science Based Targets initiative".

2 Investor confidence

Investors are increasingly taking interest in businesses' environmental policies, as they look to shore up their investments for the future.

"52% of executives say their science-based target commitment has boosted investor confidence in their business".

3 Resilience against regulation

As national governments continue to work to implement the Paris agreement, companies can expect to see more regulation to curb emissions intensive activities.

"35% of executives report that setting science-based targets offered them increased resilience against upcoming regulation".

[31] *https://sciencebasedtargets.org/blog/six-business-benefits-of-setting-science-based-targets*

4 Increased innovation

Companies that are aligning their strategies with low carbon economy are opening themselves up to a world of opportunity.

"63% of executives outline setting a science-based target is already driving innovation within their company".

5 Bottom line savings

By setting such targets companies are ensuring their operations remain lean and efficient, and are building resilience against a future where resources will become increasingly scarce and expensive.

"29% of the companies are already seeing bottom-line savings thanks to their ambitious commitments".

6 Competitive edge

Thanks to strengthened investor confidence, reduced uncertainty, increased innovation and improved profitability, those companies are the ones who will succeed in the low carbon economy.

"55% of the companies said committing to the Science Based Targets initiative gave them a competitive advantage".

How can companies set a science-based target?

5 STEP-PROCESS[32]

1 Commit
Register online and submit a letter to commit to setting a science-based target. Standard commitment letter: *https://sciencebasedtargets.org/resources/files/SBT-Commitment-Letter.pdf*

2 Develop a target(s)
Work on an emissions reduction target in line with the SBTi's criteria. A comprehensive guidance and tool is available on the following website to assist companies in this process: *https://sciencebasedtargets.org/step-by-step-process#develop-a-target*

3 Submit
Present your target to the SBTi for official validation. Submission forms and further resources for this specific step are available under: *https://sciencebasedtargets.org/resources/?tab=submit#resource*

4 Communicate
Announce your target and inform your stakeholders. After official communication, targets will be published on the SBTI's website.

5 Disclosure
Report company-wide emissions and track target progress annually.

[32] *https://sciencebasedtargets.org/step-by-step-process#develop-a-target*

GHG PROTOCOL

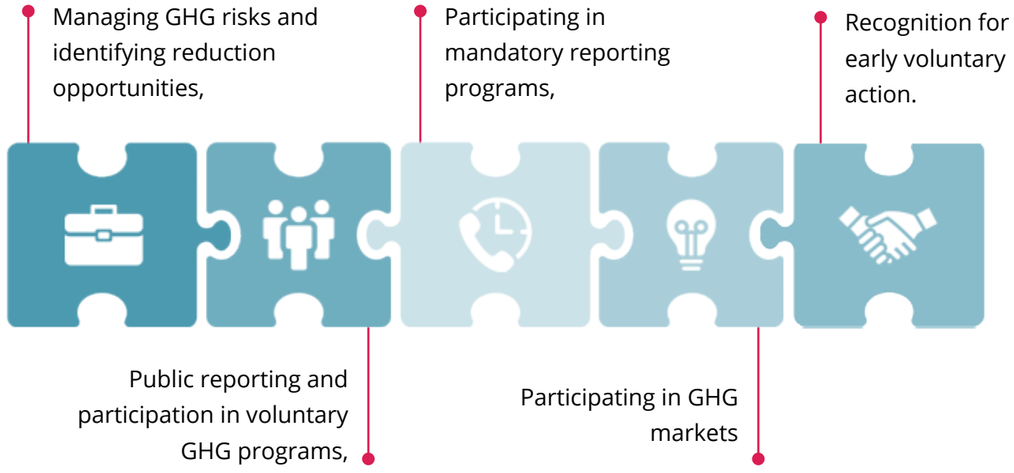
Definition[33]

GHG Protocol establishes global standardized frameworks to measure and manage greenhouse gas (GHG) emissions from private and public sector operations, value chains and mitigation actions.

Stakeholders: governments, industry associations, NGOs, businesses and other organizations.

Focus on businesses
➔ The GHG Protocol Corporate Accounting and Reporting Standard provides requirements and guidance for companies and other organizations preparing a GHG emissions inventory.

5 business goals as reasons for compiling a GHG inventory:



Updated version available under: https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf

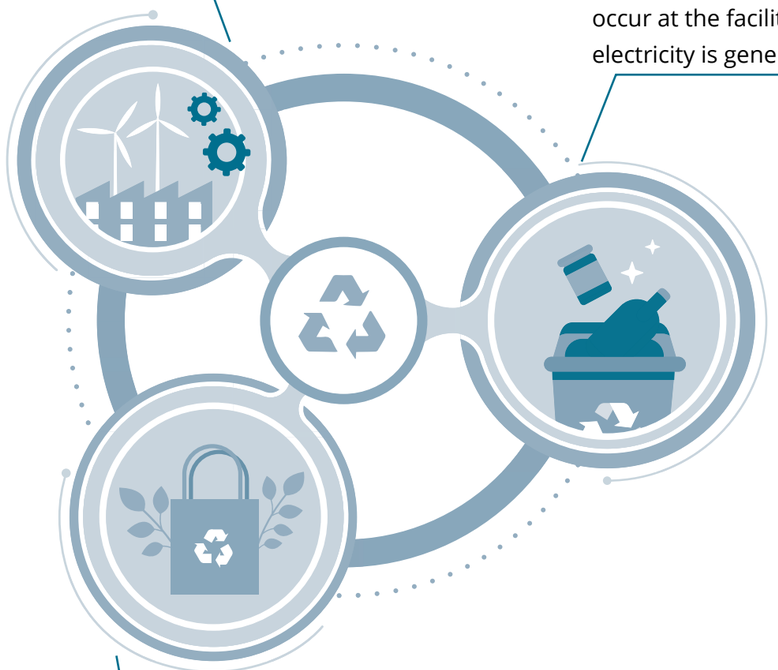
[33] *https://ghgprotocol.org/about-us*

Scopes

Three “scopes” are defined for GHG accounting and reporting purposes to help delineate direct and indirect emission sources, improve transparency, and provide utility for different business goals:

1 Direct GHG emissions from sources owned or controlled by a company

2 Indirect GHG emissions from consumption of purchased energy: Scope 2 emissions physically occur at the facility where electricity is generated,



3 GHG Emissions from an organization’s value chain: Scope 3 emissions are a consequence of the activities of the company, but occur from sources not owned or controlled by the company.

VI Case studies - Lessons learned from global & national businesses

VI.1. IKEA (Sweden)

IKEA (Sweden)

For nearly 20 years WWF and Inter IKEA Group have partnered to drive positive environmental impact within different industries and a new partnership has been recently announced till 2025.

The partnership reaffirms the commitment to protect, manage and restore key landscapes, and enable a nature and climate positive value chain to also uphold the rights and needs of people[34].

What kind of sustainable actions are being taken by IKEA that may serve as an example for other companies?

Transforming into a circular business[35]

From a linear (take, make, waste) to a circular business (reuse, refurbish, remanufacture, recycle).

1

- Reuse ➔ Buyback furniture service
- Refurbishment ➔ Enhancing the prolongation of product life
- Remanufacturing ➔ Utilizing existing materials and parts in production of new products and redesigning existing products so that both reassembly and disassembly become easier
- Recycling ➔ Continuing the journey towards only sourcing renewable or recycled materials by 2030

Becoming climate positive[36]

2

- Accelerating IKEA suppliers' transition to 100% renewable electricity
- Achieving 100% renewable electricity for all IKEA factories and packaging and distribution units globally

[34] *https://wwf.panda.org/wwf_news/?2433891/Renewed-IKEA-and-WWF-partnership-to-accelerate-action-to-enhance-biodiversity*

[35] *https://about.ikea.com/en/sustainability/a-world-without-waste/designing-for-a-circular-future*

[36] *https://about.ikea.com/en/sustainability/becoming-climate-positive*

VI.2. Vinamilk (Vietnamese company)

Vietnam Dairy Products JSC (Vinamilk)

In 2020, Vinamilk firmly affirms its leading position in the Top 10 Sustainable Development Enterprises in Vietnam for manufacturing sector under the framework of the CSI 100 Program of the VBCSD Council.

What kind of sustainable actions are being taken by Vinamilk that may serve as an example for other companies?

Water consumption efficiency

Vinamilk is implementing many initiatives on water saving and reuse to optimize and use water sources in a sustainable manner

Sustainable Energy

Vinamilk has deployed the solar system to its overseas subsidiaries

Circular economy

Vinamilk continues to maintain and seek solutions to reduce the amount of plastic materials such as reducing cap labels, straws, plastic scoops... and enhancing recycling and reusing materials.

VI.3. Seiko Epson Corporation

What has Seiko Epson Corporation has been doing?

PRODUCTION

Energy-saving initiatives[37]

- Reducing paper use in retail boxes,
- Making printers using recycled plastic material,
- Developing energy saving designs and including paper-saving function in its products.

Switching to more efficient systems in facilities

RENEWABLE ENERGY[38]

In 2021, Epson joined the international initiative RE100, which aims to drive a transition on the part of corporations to the use of 100% renewable electricity for their business activities.

VALUE CHAIN

Epson is reducing GHG emissions by [39]***:***

Scaling up the efficiency of product and transportation:

- making products smaller, which increases shipping efficiency,
- rethinking its logistics centers,
- innovating the loading and packing processes,
- reconsidering shipment departure and arrival frequencies and number of trips

Increasing waste reduction[40]***:***

- sorting wastes and selecting the best available recycling methods and contractors for each type,
- banning specific products such as disposable cups and other single-use plastics in their office buildings,
- reducing waste ink by implementing a combined waste ink concentration system and microbial processor.

[37] *Environmentally Conscious Products - Products - Environment - Sustainability - Epson*

[38] *Renewable Energy - Environment - Sustainability- Epson*

[39] *Value Chain (Climate Change) - Environment - Sustainability- Epson*

[40] *Reduction of Waste (Resources) - Environment - Sustainability - Epson*

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