

GREEN BUSINESS GUIDELINE FOR SMALL, MEDIUM AND MICRO ENTERPRISES, START-UPS AND ENTREPRENEURS



forestry, fisheries
& the environment

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Glossary

Business-to-business (B2B)

Business-to-business is a situation where one business makes a commercial transaction with another. A B2B transaction is conducted between two companies.

Business-to-consumer (B2C)

Business-to-consumer refers to the process of a business selling products and services directly to consumers, with no middle person. A B2B transaction is a transaction that takes place between a business and an individual as the end customer.

Carbon dioxide

CO₂ is released through natural processes, such as volcanic eruptions, plant respiration and animals and humans breathing. But the atmospheric CO₂ concentration has increased by 47% since the 1800s, due to human activities like the burning of fossil fuels and large-scale deforestation. Due to its abundance, CO₂ is the main contributor to climate change.

Carbon footprint

The carbon footprint of a business is a measurement of the greenhouse gases the business generates through its business activities.

Category indicator

An indicator to quantify the impact on a certain impact category in Life Cycle Analysis. For example for the impact category “global warming” the indicator is kg CO₂-eq. For the impact category “depletion of freshwater resources” the indicator is the m³-eq.

Circular economy

A purely circular economy is an economy in which waste does not exist and products and raw materials are reused as long as possible over and over again.

Circularity

Circularity is about ways to put products, components, and materials back into use and to avoid them being discarded or ending up in landfills. Green businesses, depending on the sector they are in, apply different approaches to contribute to the circular economy, mostly based on the principles of “reduce, reuse, repair, remanufacture, recycle, recover”.

Cleaner production

Cleaner production is the continuous application of an integrated preventive environmental strategy to processes, products, and services to increase overall efficiency and reduce risks to humans and the environment.



Crowdfunding

The practice of funding a project or venture by raising money from a large number of people who each contribute a relatively small amount, typically via the internet.

Eco-innovation

Eco-innovation is any form of innovation that aims to reduce the environmental impact of the company's products or services. Mostly, eco-innovation is about the efficient and responsible use of natural resources, including energy and water.

Eco-label

An eco-label is an official symbol that shows that a product has been designed to do less harm to the environment than similar products. Eco-labels are voluntary methods of environmental sustainability certification.

Environmental certification

Environmental certification is a process whereby a certifying agency provides a business with an official document attesting that the business complies with predefined processes or objectives set forth by the certification service (for example: Eco-labels, are voluntary methods of certifying the environmental sustainability of a product or service, and ISO 14000 certification, which certifies that the business complies with a certain quality in the environmental management systems of the organization.).

Environmental Management System

An Environmental Management System (EMS) is an approach used by enterprises to integrate environmental concerns in their business processes in a planned and systematic way.

Equity

Business equity is the value of the business owners' assets after deducting the business's liabilities. At the start-up phase, equity is the initial funding the owner(s) invests in the company.

Extended producer responsibility

Extended Producer Responsibility (EPR) is a policy approach under which producers of certain products are given a significant responsibility – financial and/or physical – for the take back, recycling and final disposal of the product.

Green business

Green businesses, also called sustainable businesses, are inclusive in terms of responsible business conduct and the impact that their business has on the environment. Green businesses incorporate principles of sustainability into their business decisions in order to reduce their negative impacts on the global or local environment. They sell environmentally friendly products or they green their practices to make them more environmentally friendly. In light of the imminent threat of climate change to our planet, green businesses endeavour to reduce their carbon emissions.



Green business value proposition

A value proposition is a statement that says how your business will deliver value to its customers, taking into account the customers' problems, wants and needs. A green value proposition is a statement that says specifically how your business will deliver value to its customers, taking into account the customers' environmental problems, wants and needs.

Green economy

A green economy is a means of implementation which is inclusive in approach which may result in improved human well-being and social wellbeing, while significantly reducing environmental risks and ecological scarcities through resource efficiency. According to the United Nations Environmental Programme, a green economy is low carbon, resource efficient, and socially inclusive.

Greenhouse gases

Greenhouse gases are gases in the earths' atmosphere that that trap heat. They cause global warming and climate change trough the so-called greenhouse effect. The best-known greenhouse gases are carbon dioxide (CO₂), methane and nitrous oxide, which all can be found naturally in low concentrations in the atmosphere. However, their proportion has increased significantly since the beginning of the last century due to various man-made activities.

Green loan

A green loan is a form of financing that enables enterprises to finance projects that have a positive environmental impact.

Green product

Green products are products that are designed and manufactured in such a manner as to minimize the adverse environmental impact involved in their production, distribution, and consumption.

Green service

Green services are services that are designed and offered in such a manner as to minimize the adverse environmental effects.

Impact categories

Impact categories represent environmental issues of concern to which the inputs and outputs identified in your Life Cycle Inventory can be assigned, such as global warming, acidification or eco-toxicity. For instance, the use of energy contributes to global warming, the use of water contributes to the depletion of freshwater resources, while water effluents contribute to eco-toxicity.

Industrial symbiosis

Industrial symbiosis is the process by which waste or by-products of an industry or industrial process become the raw materials for another. Application of this concept allows materials to be used in a more sustainable way and contributes to the creation of a circular economy.



ISO 14000 series

ISO 14000 is a family of standards related to environmental management that exists to help organizations (a) minimize how their operations (processes, etc.) negatively affect the environment (i.e. cause adverse changes to air, water, or land); (b) comply with applicable laws, regulations, and other environmentally oriented requirements; and (c) continually improve in the above.

ISO 14001

ISO 14001: 2015 is the international standard that specifies requirements for an effective Environmental Management System.

Life Cycle Assessment

A Life Cycle Assessment (LCA) is the standardized method of calculating the impact of, for example, a product on the environment. It is a systematic set of procedures for compiling and examining the inputs and outputs of materials and energy and the associated environmental impacts directly attributable to the functioning of a product throughout its life cycle.

Life Cycle Management

Life Cycle Management is about managing the environmental impacts linked to the whole life cycle of a product or service, from inputs, manufacturing, packaging, transport and distribution to consumption and final disposal. Life Cycle Management is sometimes called the “cradle to grave” approach, as it looks at the environmental impact of products all the way from the cradle (where do the raw materials come from) to the grave (how is the product disposed of).

Resource efficiency

Resource efficiency means using the earth's limited resources in a sustainable manner while minimising impacts on the environment.

Sustainability

Sustainability means meeting our own needs without compromising the ability of future generations to meet their own needs. In business, sustainability refers to doing business without negatively impacting the environment, community, or society as a whole.

Value chain

The value chain describes the full range of actors and economic activities that are necessary to bring a product from its conception to its end use and beyond.



Abbreviations

B2B - Business-to-Business

B2C - Business-to-Consumer

CEOs - Chief Executive Officers

CH₄ - Methane

CO₂ - Carbon Dioxide

CO₂-Eq - Carbon Dioxide Equivalent

EIA – Environmental Impact Assessment

EMS - Environmental Management System

EPR - Extended Producer Responsibility

GDP - Gross Domestic Product

GEISA - Green Economy Inventory for South Africa

GHG - Greenhouse Gas Emissions

Kg - Kilogram

Kwh - Kilowatt-Hour

LCA - Life Cycle Assessment

m³ - Cubic Meter

N₂O - Nitrous Oxide

RECP - Resource Efficiency and Clean Production

SDGs - Sustainable Development Goals

SIYB - Start and Improve Your Business

SME - Small and Medium-sized Enterprises

SMMEs - Small, Medium and Micro Enterprises

SWOT - Strengths, Weaknesses, Opportunities and Threats



Acronyms

BMUV- Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection

CSIR - Council for Scientific and Industrial Research

DFFE - Department of Forestry, Fisheries and the Environment

FSC - Forest Stewardship Council

GIZ - Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH

IFC - International Finance Corporation

ILO - International Labour Organization

ITC-ILO - International Training Centre of the International Labour Organization

NCPC-SA - National Cleaner Productions Centre – South Africa

OECD - Organisation for Economic Co-operation and Development

SABS - South African Bureau of Standards

SEDA - Small Enterprise Development Agency

UNEP - United Nations Environment Programme

UNIDO - United Nations Industrial Development Organization



1. Getting started - Green business is good business

Green businesses, also called sustainable businesses, seek to balance profit with the health of the planet. Green businesses incorporate principles of sustainability into their business decisions in order to reduce their negative impacts on the global or local environment. They do this by selling environmentally friendly products or by greening their processes to make them more environmentally sustainable. In light of the imminent threat of climate change to our planet, green businesses endeavour to reduce their greenhouse gas emissions.

More than 90% of CEOs say that sustainability is fundamental to success¹. CEOs around the world are paying massive attention to environmental sustainability.



- But why should you as a small business owner care?
- Why should you integrate environmental concerns in your business?
- Is green business also good business?

This first chapter reflects on the advantages of green business conduct. It further discusses what prevents entrepreneurs from going green.

1.1 Access new markets

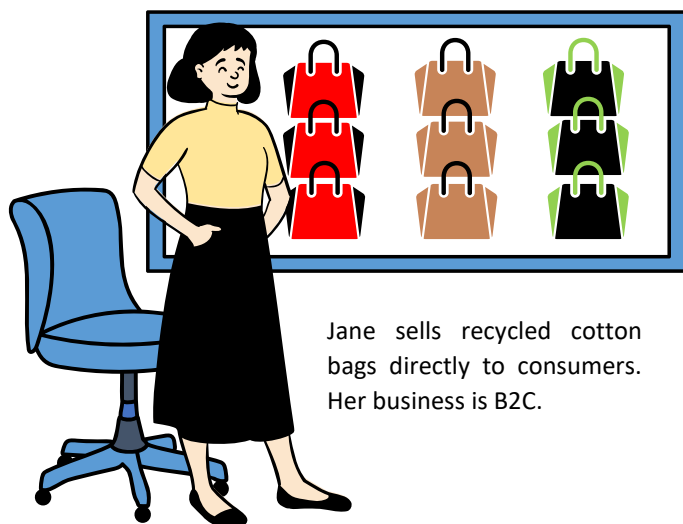
There is an increasing demand for green products and services worldwide. Global research shows a 71% rise in popularity of searches for sustainable goods over the 2016-2021 period, a trend that is accelerating in low and middle-income countries². Green products and services represent

¹ The Next Phase of Business Sustainability, Stanford Social Innovation Review

² An Eco-wakening Measuring global awareness, engagement and action for nature. Economic Intelligence Unit and WWF, 2021



previously untapped business opportunities. Whether you are offering your products and services directly to consumers (B2C) or to other companies (B2B), environmental concerns are becoming more and more important.



Paul and Nondumiso sell their organic compost mostly to farmers and nurseries. Their business is B2B.



1.1.1 Are you selling directly to consumers?

It is no longer just a few wealthy consumers in industrialized countries who are looking for green products and services. In developing countries, there is also increased demand for environmentally responsible products and services. As a green entrepreneur, you can develop solutions that meet this growing market demand ahead of your competitors. Offering green products and services can enhance your business' reputation with customers and communities who are concerned about environmental sustainability.

1.1.2 Are you selling to large companies?

An increasing number of large companies are incorporating sustainability requirements into their procurement processes. This means that they will select their supplies based on sustainability criteria, challenge their suppliers to become more sustainable and/or engage with their suppliers to improve the sustainability of their product and services. Enterprises that want to become suppliers to large companies will often be required to certify that their products, services, and processes meet certain sustainability criteria.



1.1.3 Are you selling to the Government?

Public procurement — the process by which governments purchase goods and services from the private sector — amounts to more than 20% of South Africa’s GDP³. Some national, provincial, and municipal offices apply sustainable procurement practices, meaning that they favour sustainable products and services over products and services that score low on sustainability aspects.



Case Study: Green procurement

The City of Cape Town is demonstrating leadership on Green Procurement, with an action plan stating that all procurement decisions made by the City, should aim to minimize the environmental impact from procured products and services. Companies that want to sell their products to the City of Cape Town need to demonstrate environmental sustainability for the duration of the life-cycle of the product or service, taking into account the principles of resource efficiency and circularity.

We use environmentally friendly methods, equipment, and products. We are selling our services to governmental offices looking for eco-friendlier cleaning solutions.



As an eco-certified eco-lodge, we can charge a bit more to our foreign guests as compared to other hotels and lodges in the region.

In some instances, green enterprises are able to sell their products and services at higher prices than normal enterprises. For example, sustainable tourism lodges can charge higher prices to environmentally sensitive clients. In addition, the eco agro industry is another example where products from organic agriculture is sold with a price premium. A 2015 global survey revealed that

³ <https://blogs.worldbank.org/developmenttalk/how-large-public-procurement>



66% of global respondents were willing to pay more for sustainable goods. In Africa, 23-29% of respondents were likely to pay a premium⁴.

1.2 Stay ahead of environmental regulation

Environmental regulation is becoming more and more stringent. Green businesses can reap the benefits of staying ahead of environmental regulation. Green businesses that have already innovated and tested sustainable materials, technologies, and processes, will find it easier to meet environmental standards. Therefore, they adapt their products and business processes before environmental regulation comes into place. As such they can avoid fines and the risk of business interruptions when new regulations enter into force. Staying ahead of regulation also means that businesses can improve their reputation with clients and communities.

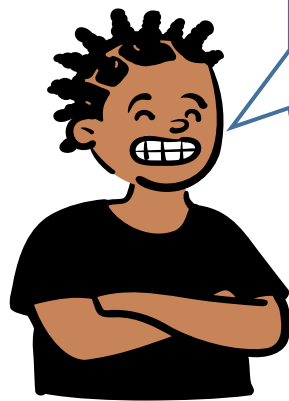


What kind of more stringent environmental regulation can we expect over the coming years?

- 🔗 **Greenhouse gas emissions:** Many governments are implementing policies to bring down their greenhouse gas emissions in line with their Nationally Determined Contributions to the Paris Agreement. Some of these policies affect businesses directly, for instance when governments decide to phase out fossil fuel subsidies or when taxes on electricity, gas or fuel prices increase. South Africa's Carbon Tax Act is an example of a law aimed to increase the tax burden of businesses that cause high levels of greenhouse gas emissions. The Carbon Tax Act gives effect to the polluter-pays-principle, incentivizing enterprises to adopt cleaner technologies and reduce their emissions.
- 🔗 **Waste:** In order to manage growing amounts of waste and ensure proper recycling and reuse of materials, many countries place the responsibility for managing waste on the businesses that manufactured the products in the first place. Under so-called Extended Producer Responsibility (EPR) schemes, producers become responsible to re-collect the products or packaging materials that they have brought on the market and/or to cover the cost of disposal.
- 🔗 **Chemicals:** There is increased regulation in the area of chemicals control, meaning that producers can either not make use of certain chemicals or must be able to prove a limited use of certain chemicals. These regulations mostly affect businesses in agriculture, textile, manufacturing and electronics. Producers in developing or middle-income countries can also be affected by regulations in countries to which they export.
- 🔗 **Water conservation:** In countries with water shortages, water use registration, licensing and auditing may become firmer for business, while water usage restrictions when temporary shortages occur may affect business operations.

⁴ Nielsen (2015), The Sustainability Imperative: New Insights On Consumer Expectations.





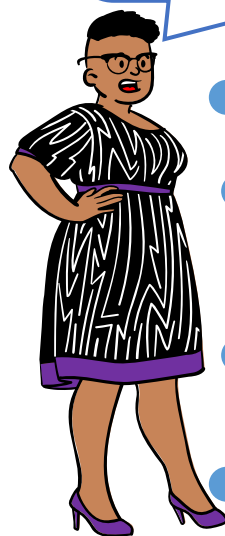
Is it possible to stay ahead of environmental regulation? Let's look at some examples of businesses that are clearly ahead.

1.3 Access to finance

Green businesses may be able to attract certain types of financing options for their green business ideas that are not available for conventional business ideas. Banks and investors are increasingly focussing on businesses that are environmentally sustainable. The International Finance



With more stringent regulations on the use of chemicals in agriculture, our business is benefitting from a competitive advantage.



Water usage restrictions are a recurrent issue in our province. Our water collection and water saving strategies means that we are ahead of the game. There have been instances where we could continue offering our services while our competitors had to close.

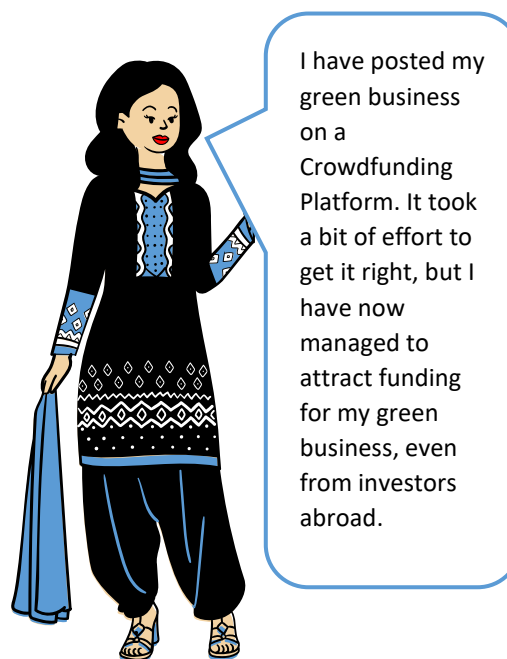


Corporation (IFC) estimates that the global volume of green loans in 2021 is around \$33 billion and reports a rapid rise in the volume of green loans in developing countries⁵.

Some banks, in South Africa, have established specific loan products for green businesses and/or for eco-investments in businesses such as the installation of solar power panels or the purchase of eco-technology. There are also some government-sponsored initiatives providing finance to businesses developing green products or services or investing in cleaner production.



The Green Outcomes Fund provides incentives to fund managers in South Africa to promote increased investments in green SMMEs.



I have posted my green business on a Crowdfunding Platform. It took a bit of effort to get it right, but I have now managed to attract funding for my green business, even from investors abroad.

Another option to attract financing for green business ideas, or eco-innovation, is through crowdfunding. Crowdfunding is the use of small amounts of capital from a large number of individuals to finance a new business venture. Globally there are numerous crowdfunding platforms on which green businesses present their projects to look for investment. However one would need to identify the best suited platform for their specific business.

In [Chapter 8](#), you will find some information on initiatives in South Africa offering access to finance for green businesses.

⁵ <https://www.worldbank.org/en/news/feature/2021/10/04/what-you-need-to-know-about-green-loans>



1.4 Reduce costs

Green businesses can considerably reduce costs through greener practices. These cost reductions generally arise from efficiency gains when less inputs are required to produce the same output. Many green enterprises use cleaner production strategies to reduce environmental pollution and simultaneously reduce the consumption of resources. For instance, when companies find ways to save on water, gas and electricity, they can also save on expenditures. Companies that manage to reduce the usage of raw materials or packaging materials through eco-innovation often report substantial costs savings.

Most studies using firm-level data show a positive relationship between clean investments and firms' productivity, especially in the energy-intensive manufacturing sector.

Costs savings can be attained in different ways⁶:

- 🔗 **Process efficiency:** By optimizing production processes or introducing more efficient processes, enterprises minimize the required inputs and reduce their waste production.
- 🔗 **Product design:** Enterprises can re-design their products to reduce the required inputs without sacrificing the product's utility.
- 🔗 **Waste disposal:** In addition to reducing waste by improving process efficiency, enterprises can reuse already generated waste or pass it along to other companies in a process of industrial symbiosis. This reduces the cost of waste disposal.
- 🔗 **Source of raw material:** Enterprises can reduce cost of raw materials by switching to recycled and recyclable materials, applying circularity principles.
- 🔗 **Energy efficiency:** Enterprises can generate savings associated with energy-efficiency lighting, building insulation, cooling and heating systems efficiency.
- 🔗 **Packaging and transportation:** Enterprises can reduce costs by reducing the volume of packaging material and by switching to local suppliers, thereby decreasing shipping distances.

Let's look at some examples of entrepreneurs that are saving costs.

A few years ago, we installed solar panels on the roof of the eco-lodge. We have now recovered on the initial investment and are making great savings on our energy bills.



We are producing sustainable carpets using recycled materials. We are saving on the cost of materials as well as the cost of chemicals that we used to apply before.



⁶ Adapted from: SMEs: Key drivers of green and inclusive growth, OECD Green Growth Papers, 2019

1.5 Improve quality

Implementing green measures can lead to quality improvements. Green products and services can therefore improve the value proposition of the enterprise and improve their bottom line.

In manufacturing, there can be important synergies between designing and manufacturing an environmentally sustainable product and designing and manufacturing a better-quality product. When businesses design and manufacture products with a lower environmental footprint, these same products may have higher performance characteristics, i.e. a longer life, or a longer mean time between failures.

The same synergies can be pursued by enterprises in the services industry. Hairdressers that use less chemicals and more natural products are offering a better service to their clients' hair. Restaurants that use organic vegetables may also be offering more tasty dishes. Construction companies that use green building design and smart thermal technologies, may at the same time offer housing solutions that bring greater comfort.

1.6 What holds entrepreneurs back from going green?

There can be several reasons why businesses are hesitant to improve their environmental sustainability.

Greening your business may entail investments in technology, innovation, market research, staff training and certification, amongst others. Many entrepreneurs do not see a direct demand from their clients to make their products more environmentally sustainable. Therefore, they have doubts as to whether these investments will pay off. Green entrepreneurs often face various types of uncertainty:

- ✎ **Technical uncertainty:** Entrepreneurs may not be certain about the innovation's technical feasibility, usefulness, functionality, or quality.
- ✎ **Market uncertainty:** Many green entrepreneurs are building market demand for a product or service that doesn't exist yet and they are not sure whether the market will be as good as expected.
- ✎ **Policy uncertainty:** Green entrepreneurs find it hard to foresee the types of environmental regulations that will come in place and the kind of policy support that will exist for green business in the medium term.
- ✎ **Staff capacity and competencies:** Small companies do not have dedicated staff to work on the environmental aspects of the company. Whereas large companies can have full-time sustainability experts, in small companies the responsibility falls on people who can only spend a small amount of their time on it.
- ✎ **Eco-certification:** Many small businesses around the world struggle with eco-certification. Once they have developed their environmentally safe products or services and put in place environmentally safe business practices, they want to obtain certification. Certification is important to communicate to the outside world that the product or service – or the company



itself – is environmentally, socially, and economically responsible. In many countries, certification processes are time-consuming and expensive. Most eco-certification schemes also imply a recurrent cost for the renewal of the certificate.



2. Green Business: How to go about it?

You have just learnt why green business is important and why green business can be good business. So, how does one undertake to establish such a business? What does it actually mean for a business to go green or be sustainable?

Green businesses can create value and market opportunities by reducing the use of energy, water and materials, by minimizing pollution and waste, by limiting greenhouse gas emissions and providing goods and services that enable more responsible production and consumption patterns. But how do green businesses practically do that? Do they need to do all that at the same time?

The answer is that there is no single way for enterprises to go green. Entrepreneurs, depending on their objectives and possibilities, chose different pathways. Some entrepreneurs create their enterprise having clearly in mind from the start-up phase that they want to become green entrepreneurs. Others may be in business for many years prior to commencing the process of greening their business. The sooner green business practices are adopted the better, the medium to long term sustainability of the business.

There are different approaches to greening a business, and some entrepreneurs may go step by step.

2.1 Four main elements of green business

Let us see what the main and common practices of a green business are.

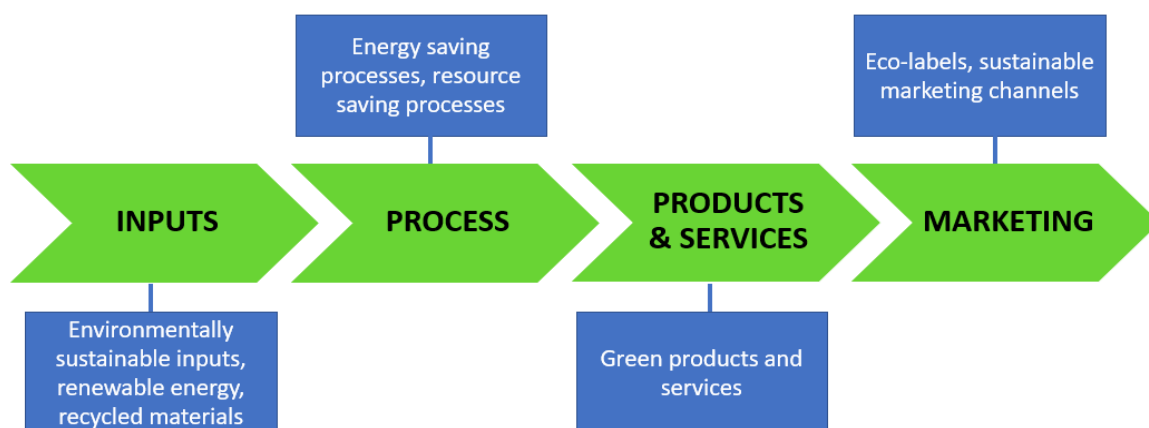


Figure 1: Four main elements of a green business.



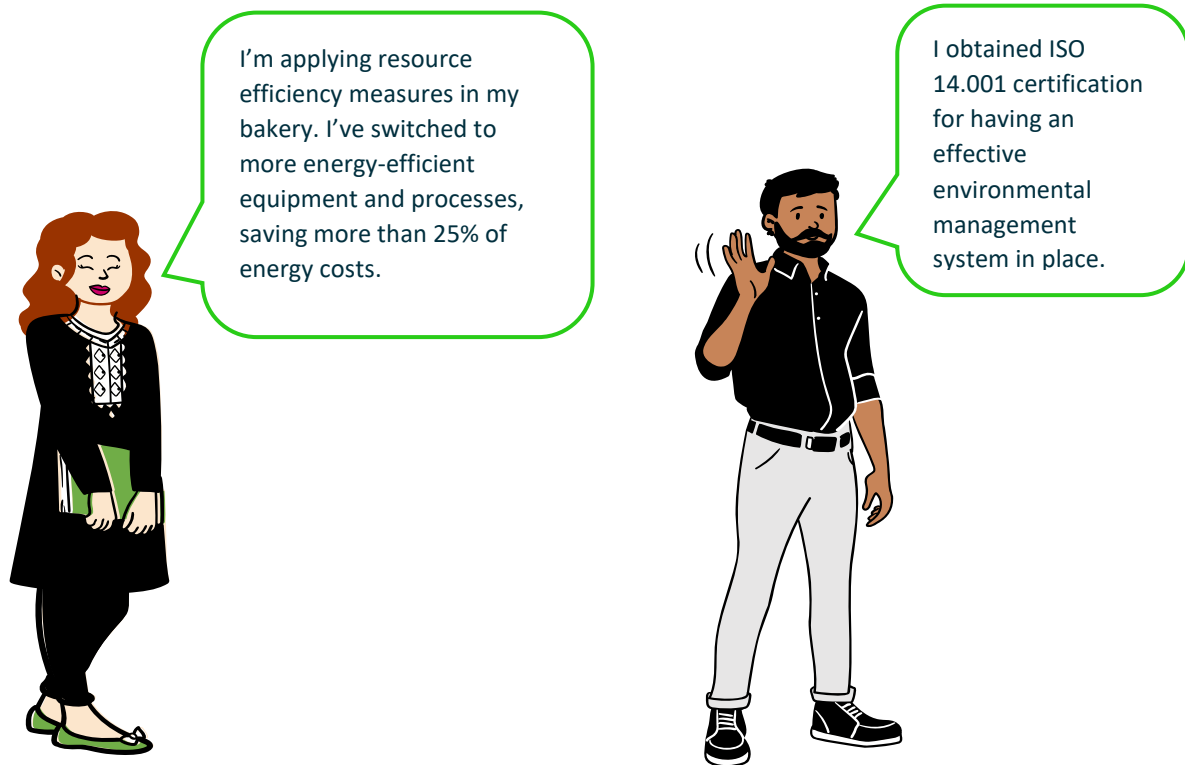
Green businesses use – as much as possible – environmentally sustainable **inputs**. They use, for instance, renewable energy sources such as solar, wind and biogas, rather than energy coming from the burning of fossil fuels. They use organically produced inputs or materials, rather than inputs produced using chemicals. They use recycled materials, rather than materials taken directly from nature. Green businesses carefully look at their supply chain and try to source sustainable inputs, preferring environmentally certified supplies over others.

Green businesses make their production **processes** as environmentally sustainable as possible. They save energy, water and other resources as much as they can. They apply the waste management hierarchy practices in their processes starting with waste avoidance, reduction, re-use or recycling of materials as much as possible and only resort to waste disposal as the last option. They may apply these practices within the company or in collaboration with other businesses or the municipality. They reduce the use of chemicals and, when required, only use sustainable chemicals. Through resource efficiency approaches and eco-innovation, they reach the same outputs with lower inputs, reducing their environmental impact, saving costs and improving quality.

Green businesses produce **products and services** that enable sustainable consumption. For instance, they improve the environmental impact of packaging materials or eliminate packaging altogether. They produce products that can be recycled, repaired, reused, or that simply have a longer lifespan. They allow consumers to reduce their energy consumption, often also contributing to a healthier lifestyle.

Green businesses undertake **marketing** efforts that inform their clients about the environmental sustainability of their products or services. This may imply changing their promotional strategies to raise attention to the environmental aspects of their products or services. Some may use eco-labels and eco-certifications to communicate to their clients – either other companies in the value chain or final consumers – that their products are more environmentally sustainable than other products or services in the market.





2.2 Approaches to green business

Enterprises use different approaches to produce green products and services and to green their business processes. The most important approaches are:

- 🔗 Eco-innovation,
- 🔗 Life cycle management,
- 🔗 Resource efficiency and cleaner production, and
- 🔗 Circularity.

2.2.1 Eco-innovation

Innovation is about introducing something new to your business, whether it is a new product, a new market strategy, a new process or simply a new way of doing things. Eco-innovation is any form of innovation that aims to reduce the environmental impact of your products or services. Mostly, eco-innovation is about the efficient and responsible use of natural resources, including energy and water. An example of eco-innovation is when you develop a new product or service that provides value to customers with a reduced environmental impact compared to traditional



products. For instance, a carpet producing company that starts to use recycled plastic to produce carpet pads.

Eco-innovation can help businesses access new or growing markets. It can increase productivity, competitiveness, and profitability. Eco-innovation can also help businesses stay ahead of environmental regulations and standards. Eco-innovation does not necessarily have to be expensive and in many countries subsidies and technical support exists for businesses that want to eco-innovate.

2.2.2 Life cycle management

Life cycle management is about managing the environmental impacts linked to the whole life cycle of a product or service, from inputs, manufacturing, packaging, transport and distribution to consumption and final disposal. Life cycle management is sometimes called the “cradle to grave” approach, as it looks at the environmental impact of products all the way from the cradle (where do the raw materials come from) to the grave (how is the product disposed of). Life cycle management are further discussed in [Chapter 4](#).

2.2.3 Resource efficiency and cleaner production

Green enterprises apply resource efficiency and cleaner production approaches to reduce the use of resources in their production processes. As such, they reduce environmental pollution and save costs. This helps enterprises to increase productivity by applying preventive environmental practices on a continuous basis. Resource efficiency and cleaner production approaches are further discussed in [Chapter 5](#).

2.2.4 Circularity

Circularity is about ways to put products, components, and materials back into use and to avoid them being discarded or ending up in landfills. Green businesses, depending on the sector they are in, apply different approaches to contribute to the circular economy. In the instance of waste management, green businesses are based on the principles of “reduce, reuse, repair, refurbish, remanufacture, repurpose and recycle”.

Small businesses can apply circularity principles within the business, for instance by designing their products to use less resources as inputs or to be more easily repairable. They can also apply circularity principles by working with others, for instance by making sure that the waste of one company is used as an input in another company or by ensuring that their waste is being recycled by other companies. [Chapter 7](#) will explore the possibilities for green enterprises to work with others on circularity.





Eco-innovation: Introducing an innovation in your business that aims to reduce the environmental impact of your products or services. Most eco-innovations are about the efficient and responsible use of natural resources, including energy and water.

Life cycle management: Managing the environmental impacts linked to the whole life cycle of your product or service, from “cradle to grave”. At the basis of life cycle management is the “life cycle assessment”.

Resource efficiency and cleaner production: A strategy for businesses to reduce environmental pollution and simultaneously reduce the consumption of resources through 8 different RECP approaches.

Circularity: Strategies that businesses use to put products, components, and materials back into use and to avoid them being thrown away or ending up in landfills, mostly based on the principles of “reduce, reuse, repair, refurbish, remanufacture, repurpose and recycle”.

2.3 Steps in creating a green business

2.3.1 What are the steps in developing a green business?

There are different pathways to green business and every enterprise is unique. Some entrepreneurs may start a business that is green from the beginning, offering environmentally sustainable products or services straight from the start. Others may have started a conventional business and then endeavour to green their processes, products or services as they go along.

Let us look at the steps to develop a green business start-up and 2) the steps for an existing business to green its products, services or processes.



When you look at the next pages, keep in mind that the distinction between “developing a green business start-up” and “greening business processes” is of course a bit artificial. Green business start-ups, once they are operational, may have to make additional efforts over time to make their processes more environmentally friendly, for instance when new materials or production technologies become available. Businesses that have engaged in greening their processes, at the other hand, could decide to develop new green products and services, as part of or in connection to their greening processes.



2.3.2 What are the steps for green business start-up?

Do you want to start a business offering a green product or service? These are the proposed steps.

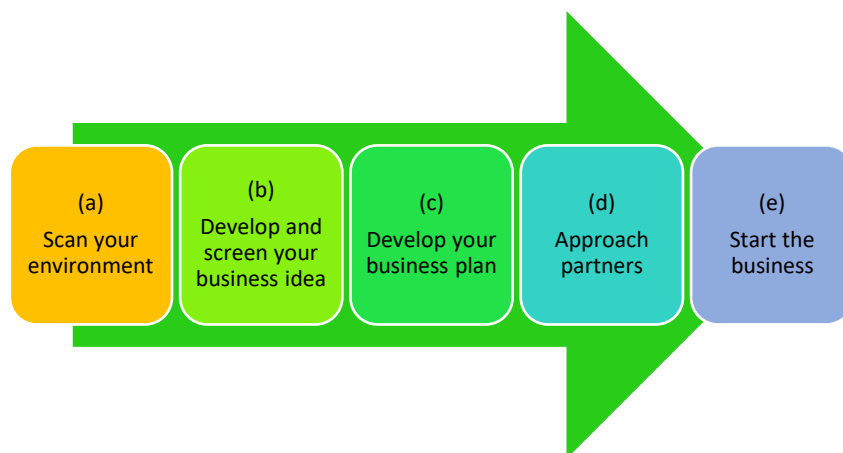


Figure 2: Proposed steps to start a green business.

2.3.2.a. Scan your environment

The first step is to explore your business environment. Which green products and services are already being produced by enterprises in your area? For which green products and services could there be a market? What kind of green products and services are consumers looking for? What kind of green products and services are companies looking for?

2.3.2.b. Develop and screen your business idea

Once you have scanned your environment, the next step is to develop your business idea. The International Labour Organization “Generate Your Business” manual⁷ provides guidance on different ways of coming up with business ideas. In order to put forward an idea for a green product(s) or service(s), you may think about the environmental problems that need to be solved in your community and the resources in your community you could tap into.

Once you have produced a list of possible green products or services, you may undertake an initial screening of these ideas, by trying to answer questions such as:

- i. Which need will the product(s) fulfill?
- ii. Who will the business sell the product(s) or service(s) to?

⁷ <https://www.ilo.org/empent/areas/start-and-improve-your-business/lang--en/index.htm>

- iii. How will the business sell its product(s) or service(s)?
- iv. What are the market requirements by the clients that could buy your product(s) or service(s)?
- v. Who could provide you with technical support in developing your product(s) or service?
- vi. Who could provide you with the necessary financing?
- vii. What technology exists and what are the costs?
- viii. What are the environmental certification or eco-labels for the product(s) or service(s) you would like to develop?

2.3.2.c. Develop your business plan

Once you have selected the most promising green product or service, you will need to develop a business plan, which should comprise of key components as indicated in Table 1.

Table 1: Business plan components.

BUSINESS PLAN COMPONENT	PURPOSE & GREEN DIMENSION
Executive summary	The executive summary of your business plan gives the reader a preview of your company profile, vision, mission, strategic objectives, main products, marketing channels and how the business is organized. In addition to the generic issues covered in a business plan, the summary should highlight its green dimensions.
Legal format and ownership	Like any entrepreneur, you will need to decide on the legal format of the business. A green business can take any of the legal forms available in South Africa, including a sole proprietorship, a partnership, or a cooperative or a limited liability company, for example. You should weigh the pros and cons of each format before choosing the best option.
Green business value proposition	Here you describe the green business value proposition that you have and that makes your business different from what is offered by competitors.
Market analysis	Your marketing plan needs to be based on a solid understanding of the market. In your business plan, highlight the outcomes of the market research you have undertaken for each product or service you are planning to bring on the market.
Marketing strategy and plan	Once you know your market, you then need to develop a marketing plan based on the 7 “P”s: Product, Price, Place, Promotion, People, Process, and Physical Evidence. Consider the environmental dimension of these 7 “P”s when developing the plan (for example, for “Price”, whether you can charge a premium price).
Production and sales plan	In this section, you explain your production process and you estimate your production and sales volumes, based on your market research. Explain how green your production processes are, for example in terms of the environmental sustainability of your raw materials or your resource efficiency and cleaner production strategies.



BUSINESS PLAN COMPONENT	PURPOSE & GREEN DIMENSION
Organization and staff	You will need to decide what your business' staffing needs are based on what tasks need to be performed. When assessing what staff you need, consider whether any additional technical skills are needed for your green product(s) or service(s). Add an organogram showing how management and employees are structured.
Regulatory compliance	In this section you describe the required taxes and permits and selected insurance policies. Make sure to include environmental taxes and environmental permits when doing so.
Life cycle assessment	Your business will need to carry out a life cycle assessment to analyse the environmental impact of your products and services from cradle to grave. Life cycle assessments can be relatively simple or very complex, depending on their exact purpose. A life cycle assessment helps to communicate to clients and partners to what extent your product(s) or service(s) are environmentally responsible.
Environmental certification or eco-labelling	You will need to inform your clients about the environmental characteristics of your product(s) or service(s). Can you get your product(s), service(s) or your business certified? What certification or eco-labelling schemes would be adequate? What are the costs and the process of obtaining certification?
Costing and pricing	<p>In this section you outline the costing for your goods and services. Use information from the other sections of the business plan to identify costs that you will incur in producing and marketing your products and services.</p> <p>Keep in mind that you may incur some additional costs at the outset for green investments relating to equipment, premises or skills, but also that you will most likely make savings thanks to green practices such a reduced consumption of electricity or water, resulting in reduced utility bills.</p>
Financial planning	You need to be able to plan and monitor the financial situation of your business using tools such as the profit plan and a cash flow plan. Like any other business, your green business needs to perform well financially, otherwise you will not be able to keep it going!
Required start-up capital	When estimating the required start-up capital, you will need to assess your needs in terms of capital investment and working capital. Consider the elements required for your business to be green while estimating this cost and be realistic when doing so.
Sources of start-up capital	The most important types of start-up capital are owners' equity and loans. Keep in mind that there are also a number of institutions with special funding opportunities for green businesses.

Source: Adapted from ILO Green Business Booklet, 2017.



In the development of your business plan, you may consult the ILO “Start Your Business” training manual⁸. In addition, a template for a green business plan is provided at the end of this guide. Once you have developed your business plan, share it with trusted and experienced entrepreneurs or investors and ask them to provide you with critical feedback. You may, at this stage, also ask for the support of a business development service provider or a professional business consultant. The analysis that you have to do in order to write your business plan, should provide you with the necessary information to decide whether to go ahead or not with your business idea. Keep in mind that a business plan is not a one-off document. Entrepreneurs need to continually update and improve on their business plan.

2.3.2.d. Approach partners (Stakeholders)

Once you have developed your business plan and you are convinced about the feasibility and the profitability of your green product(s) or service(s), you will need to establish the necessary partnerships in order to start the business. This means you may need to present your business plan to a bank or investor. You may need to get in touch with potential clients or retailers, as well as with input suppliers. At this stage, you may also need to collect information on how to register the business with the municipality, tax office and social security institute and to check how to obtain any licenses you need to start operations.

2.3.2.e. Start the business

Once all previous steps have been completed with success and the necessary start-up finance is in place, it is time to launch the business in accordance with the business plan. The ILO Improve Your Business training manuals⁹ can provide you with further guidance on marketing, staffing, costing and pricing, stock keeping, human resources and accounting for your business.

2.3.2.f. Steps for an existing business to green its processes

Do you have an existing business and you want to make your processes greener? Figure 3 details the proposed steps.

⁸ <https://www.ilo.org/empent/areas/start-and-improve-your-business/lang--en/index.htm>

⁹ <https://www.ilo.org/empent/areas/start-and-improve-your-business/lang--en/index.htm>



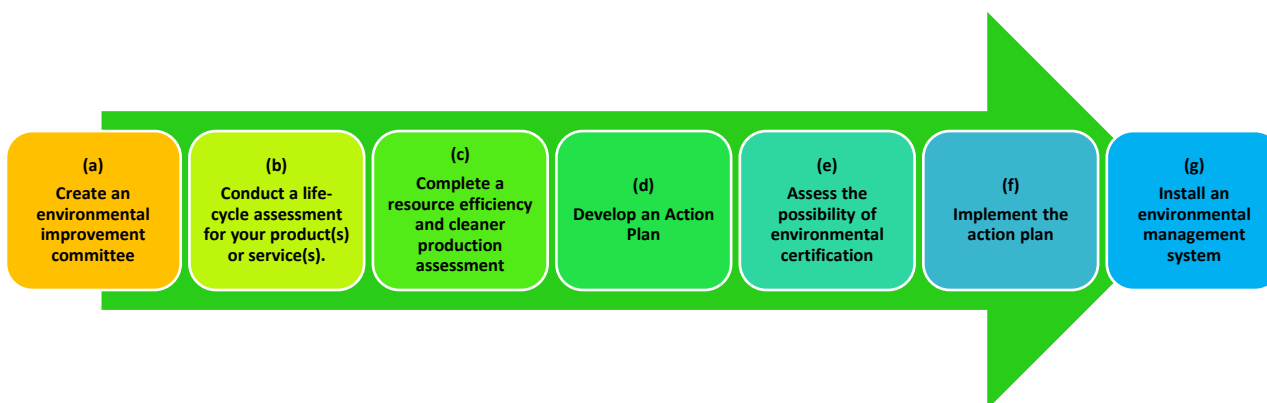


Figure 3: Steps to green an existing business.

2.3.3.a. Create an environmental improvement committee

Set up an environmental improvement committee or team within your business and inform staff of the enterprise’s intention to improve its environmental sustainability. The environmental improvement committee can be big or small, more or less formal, but it needs to have the right level of authority as well as the necessary financial and human resources to carry out the tasks and propose the necessary changes to management.


2.3.3.b. Conduct a life-cycle assessment for your product(s) or service(s)

A life cycle assessment will provide you with a good overview of the environmental impacts of your business from cradle (inputs) to grave (final disposal of your products and services) and hence with a good overview of the changes you need to create to make your business processes more environmentally sustainable. Life cycle assessment can be relatively simple or very complex, depending on your ultimate objective. Most businesses would hire an expert to carry out the life cycle assessment for their company, however it should be noted that this support comes at a cost.

2.3.3.c. Complete a resource efficiency and cleaner production assessment

A resource efficiency and clean production (RECP) assessment will provide you with the necessary information as to how the business can improve its resource efficiency and move towards cleaner production. Chapter 4 of this guide explains the approaches that businesses can use in this regard, and it explains the steps to be undertaken. In practice, the business would have to carry out steps 1 (initial assessment) to 7 (feasibility analysis) of the RECP methodology as explained in this guide.





Small businesses may not need to do both the life cycle assessment and the resource efficiency and cleaner production assessment. They would rather choose the type of assessment most relevant for their business. Start-ups with limited start-up resources may undertake just a very simple life cycle assessment and do a more sophisticated assessment when the business grows.



We opted to conduct a resource efficiency and clean production assessment, because we felt that there would be scope to improve on resource efficiency and clean production within our daily operations.

I opted for a life cycle assessment because I needed to know where all my inputs come from, and where my products end up after they leave my shop. The cradle-to-grave approach really improved my understanding.



2.3.3.d. Develop an Action Plan

Once the business has undertaken the life cycle assessment and/or the resource efficiency and cleaner production assessment, it should have the necessary information to develop an Action Plan. The Action Plan should look at 1) actions for the business to buy more environmentally sustainable inputs, 2) actions to make the business' production process as environmentally sustainable as possible, and 3) actions to ensure that the business sells products and services that enable sustainable consumption. The action plan should have clear objectives, indicators, measurement tools and it should define the responsibilities and resources available for the different actions.



2.3.3.e. Assess the possibility of environmental certification

Before implementing the action plan, the business should assess the possibility, advantages and costs of environmental certification. Chapter 5 of this guide provides you with more information on the environmental certification of products and services as well as eco-labels.

2.3.3.f. Implement the action plan

The next step is to implement the environmental action plan. During implementation, close monitoring is needed to ensure the business will meet the stated objectives. Over time, adaptation of the action plan will be needed to ensure the business goes through a process of continuous improvement.

2.3.3.g. Install an environmental management system (EMS)

Once the business has obtained good experience with life cycle management, resource efficiency and cleaner production, it may consider setting up an EMS. This will ensure that the business incorporates environmental sustainability in a consistent, rigorous and long-term manner.

[Chapter 6](#) of this guideline provides more information on EMS.

2.4 Focus on greenhouse gas emission reduction

One of the key objectives of most green businesses is to reduce their greenhouse gas emissions (GHG) as compared to the emissions produced by conventional businesses. No matter what approach you choose for your green business (life cycle management, resource efficiency and cleaner production, eco-innovation, circular economy), the reduction of GHG emissions is almost always an important element of all those approaches!

2.4.1 What are greenhouse gas emissions?

Greenhouse gases, such as **carbon dioxide, methane, nitrous oxide, and certain synthetic chemicals**, trap some of the earth's outgoing energy, thus retaining heat in the atmosphere. Greenhouse gas emissions from human activities strengthen this greenhouse effect, causing climate change. If we want to avoid extreme climate change, we need to urgently decrease our greenhouse gas emissions and carbon footprint.



2.4.2 What is a carbon footprint?

The carbon footprint of your business is a measurement of the greenhouse gases you generate through your business activities. Carbon dioxide is the most common greenhouse gas generated by burning fossil fuels such as coal, gas, petrol and diesel. Businesses produce greenhouse gases when they use electricity or burn natural gas, when they use water, when they buy inputs, transport products, and when they generate waste, amongst others.

2.4.3 How to measure your business' carbon footprint?

Reducing the carbon footprint of your business is an essential element of greening your business. By measuring your carbon footprint, you can understand the different ways your business is contributing to climate change and identify ways to reduce it. A good way to start is by understanding where your greenhouse gas emissions come from. You can calculate your enterprise's carbon footprint using, for instance, the [Carbon Trust SME carbon footprint calculator](#) or the [carbon calculator of the SME Climate Hub](#).


When you calculate your enterprise's carbon footprint, you may immediately realize the difference between Scope 1, Scope 2 and Scope 3 emissions as follows:

- ☞ Your **Scope 1 emissions**: Your direct emissions caused by the use of your vehicles, burning oil or gas and/or chemical leakage.
- ☞ Your **Scope 2 emissions**: Your indirect emissions, caused by buying electricity, cooling, heat and or steam.
- ☞ Your **Scope 3 emissions**: Indirect emissions that incur in the value chain of your business, such as emissions resulting from the raw materials you are buying or the transport you are using to bring these raw materials to your workplace.

2.4.4 How to reduce your business' carbon footprint?

All of the green business approaches mentioned in this guide (life cycle management, resource efficiency and cleaner production, eco-innovation, circular economy) help you to reduce your carbon footprint, but they also help you to reduce other environmental impacts such as air pollution, eco-toxicity, acidification or depletion of freshwater resources.



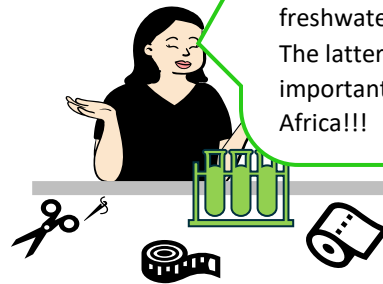


While carbon dioxide is the most important greenhouse gas, there are other greenhouse gases such as carbon dioxide, methane, nitrous oxide, and certain synthetic chemicals that cause climate change. If your business is in the agricultural sector, just looking at carbon dioxide emissions may not be enough! You may need to look at methane emissions from livestock and nitrous oxide from mineral fertilizers. In the same way, businesses in the waste sector need to consider that emissions in this sector include carbon dioxide, methane and nitrous oxide.

Our resource efficiency and clean production strategies mostly focus on the reduction of GHG emissions. We feel that this is the area where we can contribute most. We identify many ways of reducing electricity and fuel usage.



In our life cycle approach, we look at GHG emissions, but we also study ways to decrease our impact on eco-toxicity and promote the conservation of freshwater resources. The latter is very important in South Africa!!!



Depending on the objectives of your green business, you may focus on the reduction of your carbon footprint as your prime objective, or you may take a broader approach looking at all your environmental impact categories. When you make this choice, you may study the options for product certification available to your business. Some product certification standards focus just on the low-carbon intensity of your products and processes, while others also include your impacts on other environmental impact categories.



3. Life cycle management

3.1 What is life cycle management?

Life cycle management involves managing the environmental impacts linked to the whole life cycle of a product or service from inputs, production/manufacturing, packaging, transport and distribution to consumption and final disposal. The underlying idea is that a product should not be considered green just because its manufacturing process is environmentally sustainable. A real green business also needs to assess the environmental impacts of the materials it buys, the transportation needed to bring raw materials into the production process and to bring products to their final consumers. It will even have to explore the way consumers will dispose of the product at the end of its life cycle.

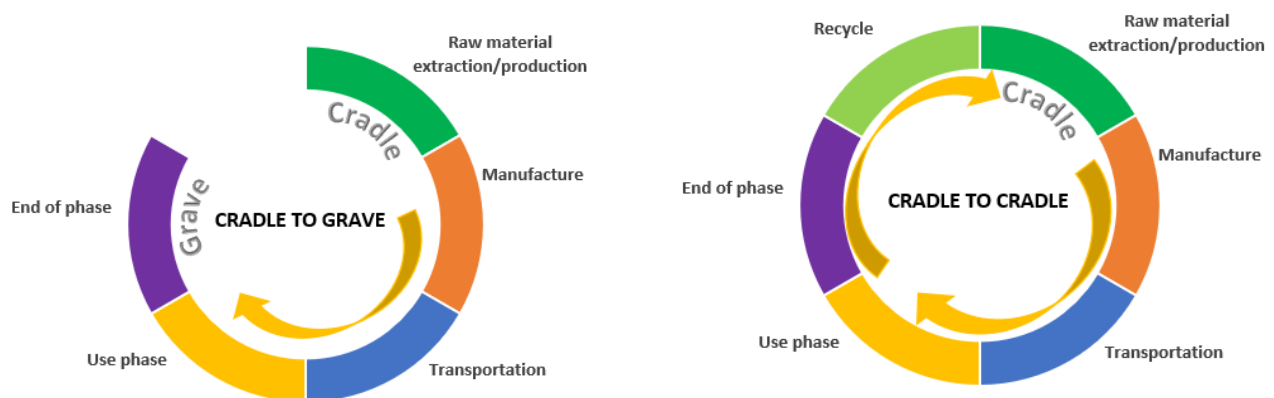


Figure 4: Cradle to grave and cradle to cradle approaches.

3.2 Life cycle assessment

Businesses that want to practice life cycle management need to conduct a life cycle assessment for their product(s) or service(s). A Life Cycle Assessment (LCA) evaluates the environmental impacts throughout a product's life cycle from raw material acquisition, through production, use, end-of-life treatment, recycling and final disposal¹⁰.

A Life Cycle Assessment helps businesses to determine areas of improvement in production processes as the assessment reveals where in those processes the most negative environmental

¹⁰ ISO 14044: Environmental management – Life cycle assessment – Requirements and guidelines

impacts will occur. It can help businesses improve product development, by showing how certain design or material choices affect the sustainability of the product. It can also help in marketing, as it allows the business to communicate to consumers about how sustainable a product is. Finally, the assessment provides businesses with information on the sustainability of the products and services provided by its suppliers.

There are four stages in a life cycle assessment:

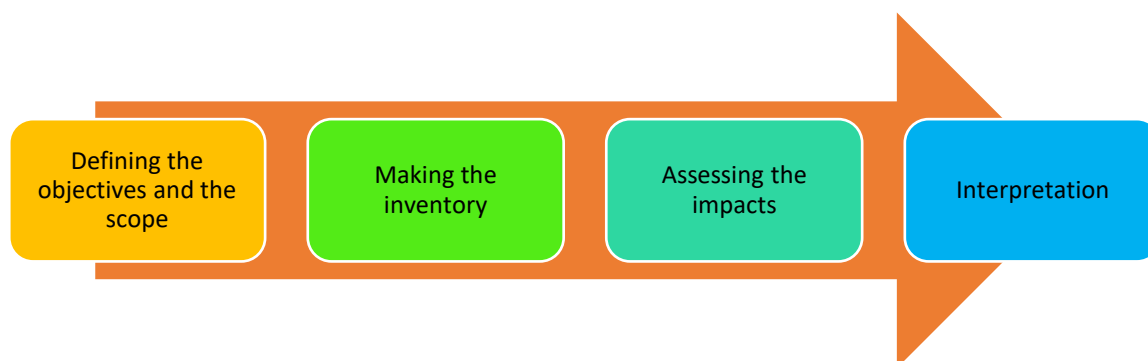


Figure 5: Stages in a Life Cycle Assessment.

Phase I **defines the objectives** of the life cycle assessment. Is the business conducting the assessment just for its internal use or will the results be communicated to external partners (for instance to obtain an environmental certificate or to comply with the environmental requirements of a buyer)? Is the study just intended to improve the environmental impact of a product or will the business also use it to make certain claims such as “my chicken soup is more environmentally sustainable than my neighbour’s chicken soup!”

If you are performing the life cycle assessment for internal purposes only, you can keep it relatively simple or more complex depending on the internal needs of the business. If you are doing the assessment to make certain claims or to obtain eco-certification, there are certain standards to follow!

Depending on the objectives of the life cycle assessment, the business will then need to **define the scope** of the life cycle assessment. For which product(s) will the life cycle assessment be conducted? Here the business needs to be specific. For instance:



The product for which I did the life cycle assessment was an organic cotton color-printed shopping bag of 30x50 centimeters.



The product for which we will do the life cycle assessment is a bag of 5kg of organic compost.



Depending again on the objectives of the life cycle assessment, the business also needs to define the **boundaries** of the assessment. Let's take the example of the organic shopping bag. The value chain looks as follows:



Figure 6: Value chain of the organic shopping bag production.

In this case, the business has decided to set certain boundaries. It is not going to analyse the environmental impacts of the cotton farm that produces the cotton. The business needs to be careful though in ensuring that the deletion of stages, inputs or outputs does not significantly change the overall conclusions of the assessment. In the example of the organic shopping bags, this means that the shopping bag producer needs to obtain good **reference data** on the



environmental impacts of the cotton it buys, so that it doesn't have to dig deeper into environmental impacts of the cotton farm.

Once the objectives and the scope of the life cycle assessment are defined, it is time to make **the life cycle inventory**. The first step is to describe the product system, which is usually done by means of a process flow diagram as illustrated in Figure 7.



Figure 7: Example of a product system.

Once the product system has been modelled, the moment has come to do a life cycle inventory analysis. This means identifying all inputs to and outputs from the processes with the system boundaries. Inputs would usually include materials, energy and water. Outputs would usually include atmospheric emissions, water effluents and solid waste. The process flow diagram could then follow through as illustrated in Figure 8.

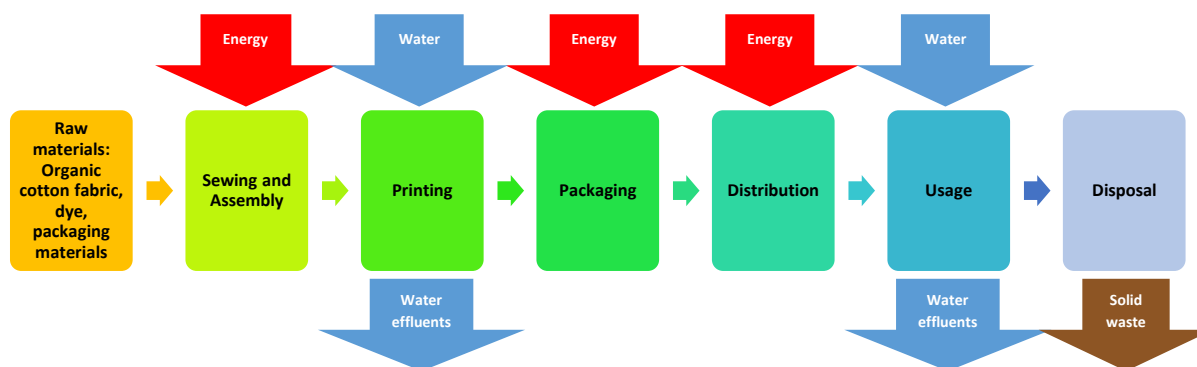


Figure 8: Example of a process flow diagram.

Now that the inputs and outputs have been identified, the next step would be to quantify them. Most businesses would use a data sheet such as the one depicted in Table 2.



Table 2: Example of a data sheet template which can be used to quantify inputs and outputs.

UNIT PROCESS		PRODUCTION OF 100 ORGANIC COTTON BAGS		
Material inputs	Units	Quantity	Sampling procedures	Origin
Water consumption	Units	Quantity	Sampling procedures	Origin
Energy inputs	Units	Quantity	Sampling procedures	Origin
Material outputs	Units	Quantity	Sampling procedures	Origin

However, in a life cycle inventory, we cannot only look at inputs. We also have to look at **outputs**. A different data sheet would be used for the emissions and releases. It could look as follows:

Table 3: Data sheet template to capture emission and release data.

UNIT PROCESS		PRODUCTION OF 100 ORGANIC COTTON BAGS	
Emissions to air	Units	Quantity	Description of sampling procedures
Emissions to water	Units	Quantity	Description of sampling procedures



UNIT PROCESS		PRODUCTION OF 100 ORGANIC COTTON BAGS	
Emissions to land	Units	Quantity	Description of sampling procedures
Other releases	Units	Quantity	Description of sampling procedures

To complete the life cycle assessment, a business may use separate sheets to calculate the environmental impacts of transport. This includes the transport of raw materials, internal transportation and transportation of the products to where they are consumed. An example of the datasheet is illustrated in Table 4.

Table 4: Example of a data sheet template used to capture transportation data

Name of intermediate product	Distance (km)	Truck capacity (tonnes)	Actual load (tonnes)	Empty return (Yes/No)

While these datasheets may look relatively simple, there are unfortunately certain complexities. What do you do, for instance, if your business makes more than one product? What does the organic shopping bag producer do if, for instance, besides organic cotton shopping bags the business also produces organic cotton gardening bags? In such an example it is likely that you use water and electricity for both products. You need to define a procedure for allocating water and electricity to the two different products.



Gardening bags are double the size of shopping bags. I will therefore estimate that I will have to use twice as much material, water and energy to manufacture 1 garden bag when compared to the input required for manufacturing a shopping bag.



The next step is **life cycle impact assessment**. During this step, the business evaluates the (potential) environmental impacts of your products on certain “**impact categories**”. For example, you might want to measure the impact of your product (operational processes and output) on climate change. You would then need to measure the impacts stemming from the elementary flows (inputs, emissions and other releases) obtained in the life cycle inventory on climate change.

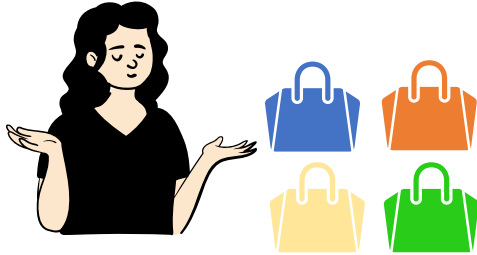
These are the steps:

- i. **Select** the relevant impact categories, such as global warming, acidification, air pollution, ecotoxicity or depletion of freshwater resources.
- ii. **Classify**: Assign the elementary flows (your inputs, emissions and other releases) to the impact categories. For instance, the use of energy contributes to global warming, the use of water contributes to the depletion of freshwater resources, while water effluents contribute to ecotoxicity.

For each impact category, there is a **category indicator**. For example, for the impact category “global warming” the indicator is kg CO₂-eq. For the impact category “depletion of freshwater resources” the indicator is the m³-eq. The last step is to calculate the environmental impact of your product for each impact category.



We use 2 kWh to produce 100 organic cotton bags. How do I know the CO₂ emissions for these 100 cotton bags?



We use 100 meters of organic cotton fabric to produce 100 organic cotton bags. How do I know the contribution of this input to the different impact categories?



To do these calculations, you need to use reliable **reference data**. You can use databases that will tell you exactly how much CO₂ emissions result from the use of 1 kilowatt-hour (kWh), in a particular location¹¹. There are other references that will give you the exact contribution of 1 metre of organic cotton to global warming, air pollution and other impact categories.

The final life cycle assessment for the impact category “global warming” could then look similar to the information in Table 5.

Table 5: Example of template for a Life Cycle Assessment for "global warming" impact category

1 Organic cotton bag of 30x 50 centimetres	
Impact category: global warming	
1.2 metres cotton fabric	4 kg CO ₂ -eq
0.7 kwh electricity	0.3 kg CO ₂ -eq
50 litres of water	0.02 kg CO ₂ -eq
0.1 m ³ natural gas	0.1 kg CO ₂ -eq
Total	4,42 kg CO₂-eq

¹¹ This information is available annually from Eskom



3.3 Getting support on life cycle assessment

Do I have to do all of this myself? Fortunately, you do not! There are experts around the world who can help you with your Life Cycle Assessment! LCA experts use specialized LCA software, and they have access to **reference data** that make these assessments easier and more comparable. You may check the website of the National Cleaner Production Centre South Africa¹² that supports businesses with Life Cycle Management at limited cost.

If you are thinking of hiring a Life Cycle Assessment expert, make sure you think thoroughly about the objectives of your business for conducting the assessment. If it is just for internal purposes, the Life Cycle Assessment can be relatively simple and cheap. If you need the Life Cycle Assessment to provide information on the impact of your products and services to buyers or consumers, then you need something more advanced. Some businesses do a Life Cycle Assessment just for the impact category “climate change” and not for other impact categories such as “air pollution” or “depletion of freshwater resources”. This may also simplify things, considerably.

¹² <https://www.ncpc.co.za>



4. *Resource Efficiency and Cleaner Production*

Resource Efficiency and Cleaner Production (RECP) is a strategy for businesses to reduce environmental pollution and simultaneously reduce resource consumption. It helps the business to increase productivity by applying preventive environmental practices on a continuous basis.

Businesses that apply the RECP strategies can reap the following benefits:

- ⌘ **Increased** productivity and optimized investments,
- ⌘ **Minimized** environmental impacts, reduced business risks and compliance costs,
- ⌘ **Compliance** with international environmental standards for accessing new markets,
- ⌘ Secured **long-term** supply of production inputs, and
- ⌘ Improved **relationship** with stakeholders (such as banks, consumers and local communities).

Resource Efficiency and Cleaner Production aims to contribute to:

- ⌘ **Resource efficiency** through the optimization of the productive use of materials, water and energy,
- ⌘ **Waste minimization** by reducing both waste and emissions, and
- ⌘ **People's well-being** by reducing the environmental risks for workers, communities and consumers.

4.1 The eight RECP solutions

A business that applies Resource Efficiency and Cleaner Production, may apply one or more of the solutions detailed in Table 6.



Table 6: Eight RECP solutions.

No.	Type of options	Typical solutions
1	Good housekeeping: changes in operational procedures and workplace management to reduce unnecessary 'wastage'.	<ul style="list-style-type: none"> - Switch off what is not in use - Conduct maintenance and repairs - Keep workplace organized and clean - Minimize and manage inventory - Keep staff motivated
2	Input materials change: use of alternative input materials results in lower or less problematic waste and less harmful materials are used.	<ul style="list-style-type: none"> - Use renewable energy - Use sustainably-sourced renewable materials - Use of secondary materials, water and energy - Reduce use of harmful chemical and biological substances - Source supplies from local sources
3	Better process control: Improve control over processes and equipment as to operate these continuously at highest efficiency and lowest wastage.	<ul style="list-style-type: none"> - Monitoring of standard operating practices and processes - Undertake sub-metering for water, energy and materials - Implement automated or otherwise improved controls, including shut off etc. - Undertake preventive maintenance
4	Equipment modification: Equipment modification or new technology to avoid wastage and improve efficiency.	<ul style="list-style-type: none"> - Insulation (pipes, equipment, walls, windows) - Proper alignment of production line - Improve process temperature, pressure, speed, mixing - Rationalize utilities and distribution systems - Combine process steps where applicable
5	Technology change: Replacement of (process) technology with more efficient and/or less wasteful technology.	<ul style="list-style-type: none"> - Efficient boilers, motors, fans, compressors etc. - Change of process, e.g. chemical to mechanical, multi-stage Change of process chemistry, e.g. to catalytic or solvent free - Equipment with integrated recovery loops - Advanced separation processes - Solar process cooling/heating
6	On-site reuse: Application of useful waste (material, energy, water) within the same company for similar or alternative purpose.	<ul style="list-style-type: none"> - Countercurrent energy or cascaded use of water and energy
7	Production of useful by-products: Convert waste products into input materials for another company.	<ul style="list-style-type: none"> - Provision of used cooling water for external heating or cooling purposes (buildings, fish farms etc.) - Segregate recyclables for external recycling and resource recovery - Industrial symbiosis, e.g. use of inorganics in cement making, slags in construction, etc.



No.	Type of options	Typical solutions
8	Production modification: Redesign products to reduce their environmental impact during production, use and/or disposal	<ul style="list-style-type: none"> - Design for optimal product lifetime - Design for minimum use of water, energy, cleaning etc. - Design for low-waste manufacturing - Design for refurbishment, recycling etc.

4.2 RECP: A step-by-step approach

There are twelve steps which should be followed when undertaking a RECP approach. These steps are shown in Figure 9 with each step being unpacked in detail below.

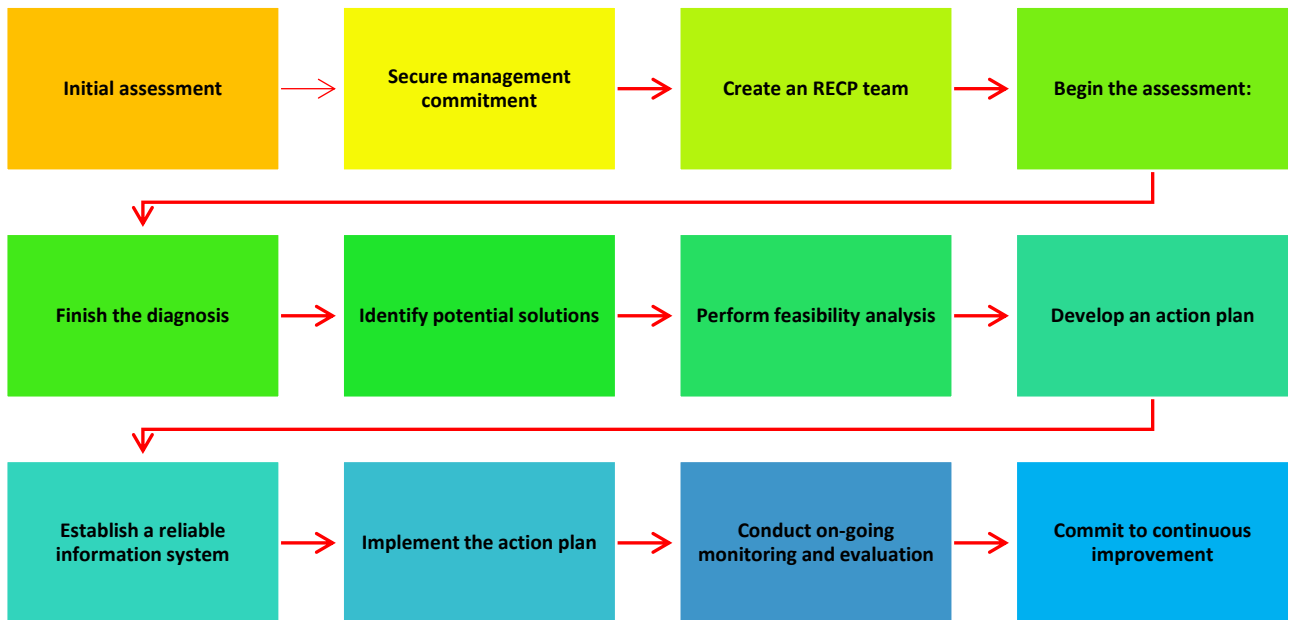


Figure 9: Twelve RECP steps.

Most businesses will apply a step-by-step approach as follows:

Step 1 - Initial assessment: The business familiarized itself with the RECP approach and assesses whether the approach is of interest.



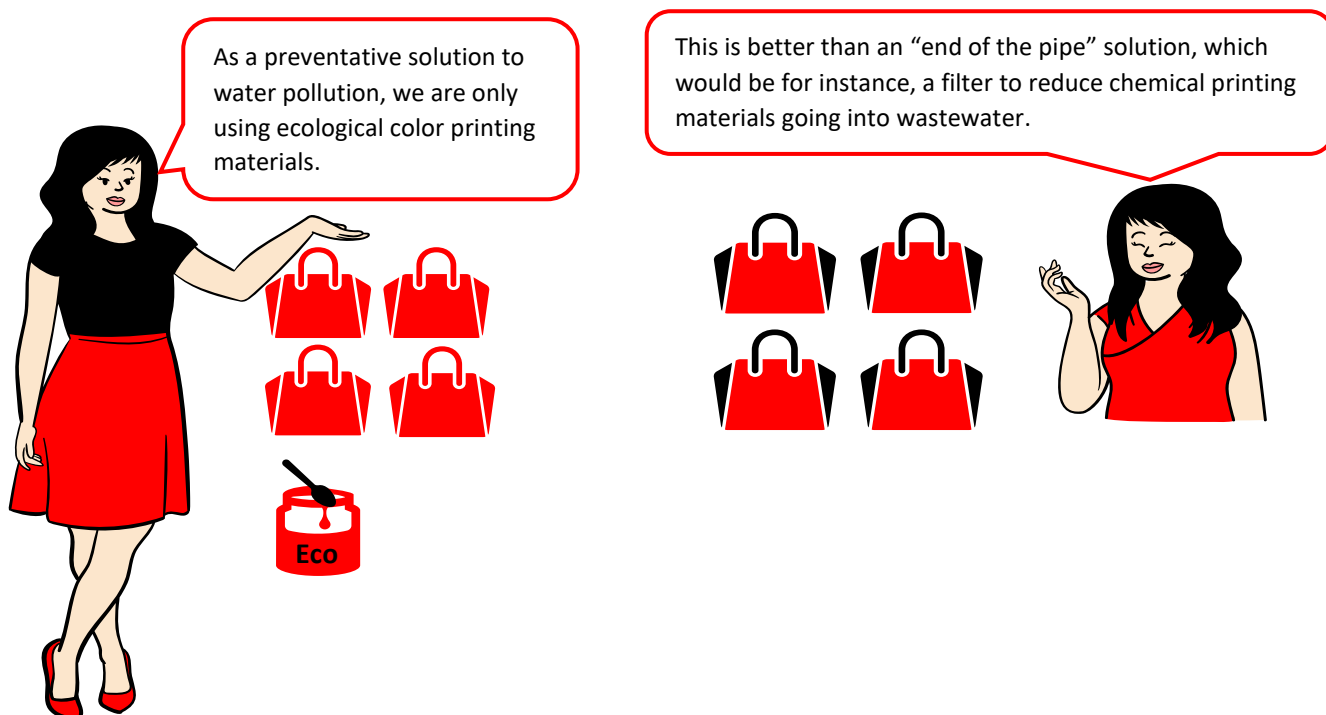
Step 2 – Secure management commitment: Senior management commits to the RECP approach and to making the necessary human and financial resources available. Senior management communicates to its workers its intention to apply an RECP process.

Step 3 – Create an RECP team: The business appoints workers from different functional units of the company (production, finance, purchasing, sale, etc.) to join the RECP team. The team should be led by a motivated leader who can mobilize the necessary support and make decisions during the process. The team needs to be trained and it needs to have a work plan.

Step 4 – Begin the assessment: During this phase, the business looks at its production process and collects data on inputs and outputs. It usually collects data on annual volumes and costs at an annual basis, using the information available from the last 12 months or the last fiscal year. Based on this information, the business identifies the priority areas with the highest potential for improvement. These can either be inputs (energy, water, materials) with significant costs or outputs (emissions, waste, water effluents) with significant environmental impacts. The business will – at least in first instance – focus its efforts on these low hanging fruits.

Step 5 – Finish the diagnosis: The business quantifies input flows (materials, energy and water) as well as outputs (emissions, waste, water effluents). The data collected will serve as baseline data for the process. During this phase it will also identify inefficiencies and causes of pollution.

Step 6 – Identify potential solutions: The RECP team will prepare a list of viable solutions. These solutions can be based on the abovementioned 8 RECP solutions (good housekeeping, input material change, better process control, etc). The business will prioritize preventive solutions (good housekeeping, process control etc) over pollution treatment options (end-of-the-pipe solutions).



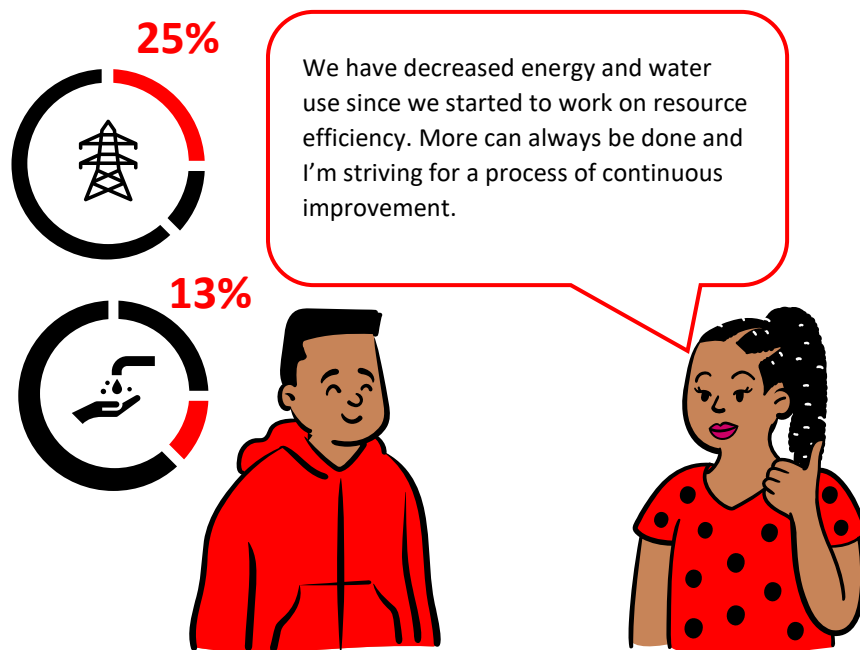
Step 7 – Perform feasibility analysis: The RECP team assesses the technical and economic feasibility of the different solutions. The team will make a cost-benefit analysis, estimating the investments to be made and the savings that can be expected. They may compare different technical solutions to certain problems. At this phase, the RECP team may need expert advice to prepare the right recommendations to management.

Step 8 – Develop an action plan: Based on the work done by the RECP Team, management decides on an action plan. The action plan identifies the technical solutions, the investment costs, responsibilities for implementation as well as the timeframe for implementation. The action plan also defines indicators that the business will use to measure success. Management may decide for one action at the time or for a full set of actions. It makes the necessary recourses available to implement the action plan.

Step 9 – Establish a reliable information system: The business will make sure that a monitoring system is in place to measure the results of the RECP strategies implemented. The business will measure impacts based on a set of indicators that look both at environmental and financial performance.

Step 10 - Implement the action plan: For the implementation of the action plan, it is necessary to include and train all workers that will be involved in the implementation of the solution.

Step 11 – Conduct on-going monitoring and evaluation: Once the implementation is on-going, the business will make sure that it measures performance by looking at the different input (materials, energy, water) and output (emissions, waste, water effluents) flows, in line with the indicators identified in the action plan.



Step 12 – Commit to continuous improvement: The business will reflect on the experience, making sure that the good results are sustained over time. As RECP is, in essence, a process of continuous improvement, Management may decide to start looking at the longer list of proposed improvements, going beyond the low-hanging fruit and continuing with more complex solutions.

Table 7 provides an example of a bakery in Bloemfontein that participated in a cleaner production programme. As a result of the programme, the bakery made certain changes to its business model.

Table 7: Example of changes made to the business model of a bakery.

No	Key interventions
1	Good housekeeping: The bakery brought the storage in order, resulting in less wasted inputs as perishable products are used in order of arrival.
2	Input materials change: The bakery substituted imported flour with locally produced flour.
3	Better process control: The bakery now makes sure that the bread enters the hot oven immediately after taking out the cakes, therefore minimizing energy used for heating.
4	Equipment modification: The bakery switches off the oven 30 minutes before the end of the day, baking pastries that need less heat towards the end of the day.
5	Technology change: The bakery replaced the dough-making machine with a more energy efficient one.
6	On-site reuse: The bakery now uses the flour bags for the delivery of large orders to restaurants.
7	Production of useful by-products: The bakery started to make biscuits using bread that was not sold.
8	Production modification: The bakery now produces and sells a type of cakes that does not need imported dried fruit.

4.3 RECP monitoring

Businesses that apply Resource Efficiency and Cleaner Production strategies need to monitor to what extent the desired changes are achieved. These businesses, therefore, need to use indicators that help them mark whether the results are met.



The United Nations Industrial Development Organization (UNIDO) and the United Nations Environment Programme (UNEP) propose a relatively simple set of six indicators, based on the below image, that can be used to measure and monitor the business' performance towards reducing resource use and pollution¹³.

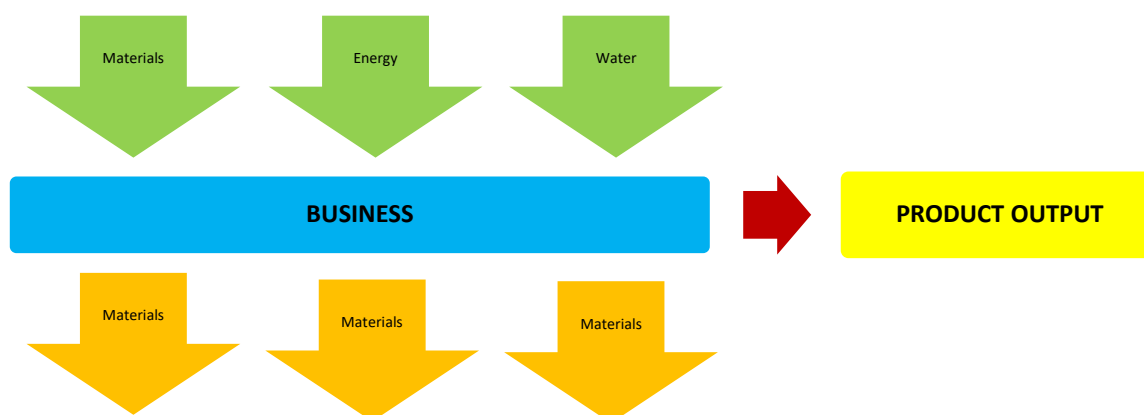


Figure 10: Proposed indicators to measure and monitor the business' performance towards reducing resource use and pollution.

(Source: Enterprise-level indicators for resource productivity and pollution intensity. A primer for small and medium-sized enterprises).

The indicators referring to *resource use* are:

- ⌘ **Energy use:** Energy use of your business, measured in kilowatt hours, including energy content of fuels used (gas, oil, petrol, biomass, etc.) and electricity consumption,
- ⌘ **Materials use:** total mass of materials used by your business, measured in tons, including raw materials; packaging and distribution materials, auxiliary materials, etc., but excluding the weight of fuels, and
- ⌘ **Water use:** total water consumption of your business, measured in kilolitres or cubic meters, including all sources (ground water, tap/drinking water, surface water) and all applications (process water, cooling water, sanitary water, etc.).

¹³ <https://www.recpcnet.org/wp-content/uploads/2016/07/Enterprise-Level-Indicators.pdf>

The indicators covering *pollution* are:

- 🔗 **Air emissions:** Greenhouse gas (GHG) emissions, measured in tons of equivalent emissions of carbon dioxide (CO₂). This includes on-site energy-related GHG emissions (use of fuels, gas etc.), off-site energy-related GHG emissions (in particular for electricity generation and distribution) and process-related GHG emissions (both CO₂ and non-CO₂, particularly methane (CH₄) and nitrous oxide (N₂O)),
- 🔗 **Wastewater:** The total volume of contaminated water leaving the enterprise, measured in kilolitres or cubic meters, regardless of the final disposal method (sewer, surface water), excluding water streams discharged without chemical or biological load (thereby excluding cooling water),
- 🔗 **Waste Material:** The total value of waste (solid or liquid) stored on the site or transported from the site and disposed, measured in tons, regardless of the respective disposal methods (e.g., incineration, landfill, recycling, etc.).

In your business, you can either use absolute indicators (such as the kWh or energy used per month or per year) (Table 8).

Table 8: Absolute indicators to measure business performance.

Resource indicators	Pollution indicators
<ul style="list-style-type: none"> - tons material use/year - m³ fresh water /year - kWh energy/year 	<ul style="list-style-type: none"> - tons of solid waste/year - m³ wastewater/year - tons of greenhouse gas emissions/year

Alternatively you can use relative indicators (such as your product output per kWh of energy used) (Table 9).

Table 9: Relative indicators to measure business performance.

Resource efficiency	Pollution intensity
<ul style="list-style-type: none"> - Product output per ton of material used - Product output per m³ fresh water used - Product output per kWh energy used 	<ul style="list-style-type: none"> - Waste generation per unit of product output - Waste-water generation per unit of product output - Greenhouse gas emissions per unit of product output

If your product output varies significantly over time, it may be better to used relative indicators.



5. Taking sustainability to the next level: EMS

5.1 What are environmental management systems?

In [Chapters 3](#) and [4](#), we introduced strategies to make production processes more environmentally sustainable, through a life cycle approach and through resource efficiency and cleaner production. In this chapter, environmental management is considered more broadly, and Environmental Management System (EMS) will be introduced.

An EMS is an approach used by enterprises to integrate environmental concerns in their business processes in a planned and systematic way. Enterprises that implement an EMS improve their environmental performance by making sure that environmental concerns are systematically included in their organizational structure, roles and responsibilities, planning, operations, and performance evaluation.

Whereas the resource efficiency, cleaner production and life cycle approaches look primarily at production processes, an EMS looks mostly at management processes. An EMS can be complementary to a life cycle approach or to a resource efficiency and cleaner production approach within the same business. In fact, an EMS is a way of systematizing the use of a life cycle approach or a resource efficiency and cleaner production approach, or any other tool for increasing sustainability.

An EMS helps a business to determine and then achieve its environmental goals. It "forces" the company to systematically assess and then improve its own conformity with environmental management requirements. This pertains to all management areas, including leadership, interactions with stakeholders, the company's environmental policy, action planning, the availability of resources, to monitoring and evaluation.

The basic elements of an EMS are:

- ✎ Reviewing the enterprise's **environmental goals**,
- ✎ Analysing the enterprise's **environmental impacts**,
- ✎ Analysing the enterprise's **compliance obligations** (or legal and other requirements),
- ✎ Setting **environmental objectives** and targets to reduce environmental impacts and conform with compliance obligations,
- ✎ **Establishing programs** to meet these objectives and targets,
- ✎ **Monitoring and measuring** progress in achieving the objectives and targets,
- ✎ Ensuring employees' **environmental awareness** and competence, and
- ✎ **Reviewing progress** of the EMS and achieving improvements.



The most critical success factors for an EMS are:

- 🔗 **Leadership** and commitment by top management,
- 🔗 **Selection of environmental initiatives** that address significant environmental impacts and are aligned with other business priorities, and
- 🔗 Developing a **proactive environmental culture** throughout all levels and functions of the enterprise.

Section 5.2 provides details on what it means for a business to install an EMS.

5.2 Main elements of an EMS

Let's have a look at the most important elements of an EMS:

External considerations

One of the first steps is to study the relationships between the business and its environment.

- 🔗 Which **environmental conditions** affect the business?
- 🔗 How does the business **affect the environment**?
- 🔗 Are governments, clients or other stakeholders expecting or imposing **environmental requirements** on the business?



Stakeholder analysis

A second step would be to identify both internal and external stakeholders in the company's environmental performance.

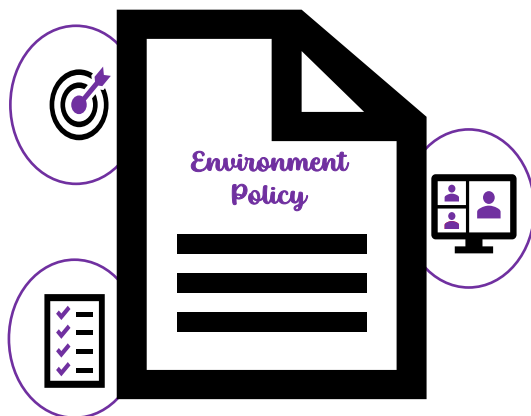
- 🔗 What do **environmental regulators** and clients expect from the enterprise today and in the near future?
- 🔗 What do **workers expect** - and possibly fear - from the enterprise's environmental policies and behaviour?



Leadership

An EMS establishes, and then verifies, the leadership role of the business owner or manager. Commitment and support are key factors to the successful implementation of an Environmental Management System.

- ❏ Is management **accountable**?
- ❏ Does it **communicate the importance** of the EMS and make sure it is aligned with - and not competing with - other business strategies?



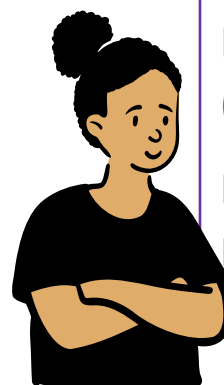
Environmental policy

A key element of an enterprise's EMS is its environmental policy. This document sets the direction, establishes the objectives, outlines strategies, and describes the expected results. It is communicated internally and externally, and it is updated over time.

Roles and responsibilities

In relation to the company's environmental policy, and EMS requires the establishment of clear roles and responsibilities.

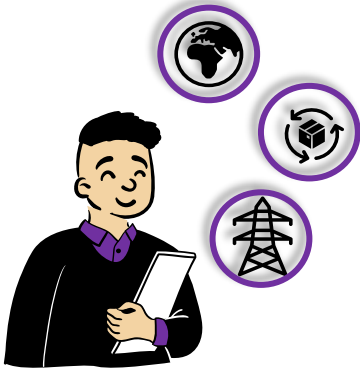
- ❏ Who is **responsible and, accountable** for the correct implementation of the environmental policy?
- ❏ Who needs to be **consulted**?
- ❏ How needs to be **informed**?



**Environmental
Impact Assessment
(EIA)**
**Departmental
Manager**



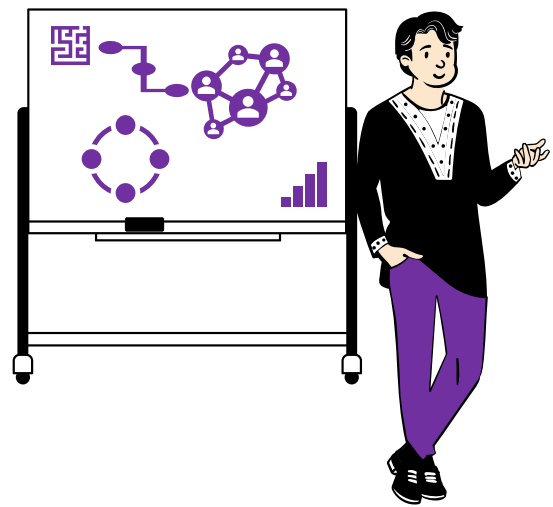
Assessment of environmental impacts and risks



An essential part of an EMS is the assessment of environmental impacts and risks. Impact and risk assessment applies to all activities, facilities, and infrastructure. It covers all environmental aspects associated with the product life cycle. All environmental impacts and risks need to be documented and the severity and probability of each risk needs to be assessed.

Action planning

In response to the evaluation of risks, an EMS comprises detailed planning to manage environmental risks. Action planning defines who needs to do what and by when. An action plan outlines the relevant technological solutions, operational requirements and financial and human resources needed.



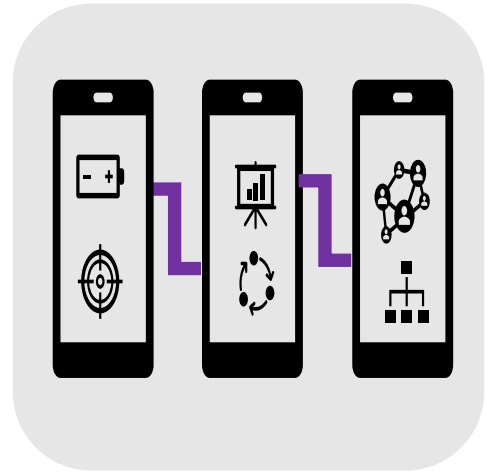
Resource and support structures

The necessary resources need to be dedicated to establish and implement the EMS. This includes internal staff, expertise the enterprise needs to source externally, information systems and financial resources for the necessary investments in technology and training. It also includes the necessary resources for internal and external communication.



Operational controls and emergency preparedness

Enterprises need to have the right systems in place to ensure that the activities are performed in line with established guidelines. In its simplest form, this may be about checking whether the electricity bill is being reduced as expected. Some operations, however, may require sophisticated procedures and engineered control systems. An EMS also requires procedures that ensure preparedness and adequate response to environmental emergencies caused by its activities.



Monitoring and evaluation

Monitoring and evaluation is about collecting, processing and analyzing reliable data to assess whether the objectives are being met. To this end, clear criteria need to be agreed upon and methods for regular monitoring and evaluation needs to be established. Post monitoring and evaluation of data there needs to be a continuous feedback mechanism into policy setting and action planning to ensure alignment between planning processes and the anticipated output.

As you may have realised, an EMS provides a holistic way to ensure sustainability is embedded throughout your business. While setting up an EMS involves costs and efforts, there are also economic benefits to be gained.

Studies have shown that enterprises that have an EMS in place, enjoy savings on energy, material use and water usage expenditures. Small businesses may want to start with a simple EMS that brings accessible improvements in management practices, rather than the introduction of a formal, administratively complex EMS.

An EMS enables the enterprise to continuously monitor and improve its environmental performance. The system follows a repeating cycle (Figure 11). The enterprise continuously monitors its performance and uses the data to revisit the environmental policy and sets new targets in a revised plan. The enterprise then implements the revised plan. The cycle repeats, and continuous improvement occurs.



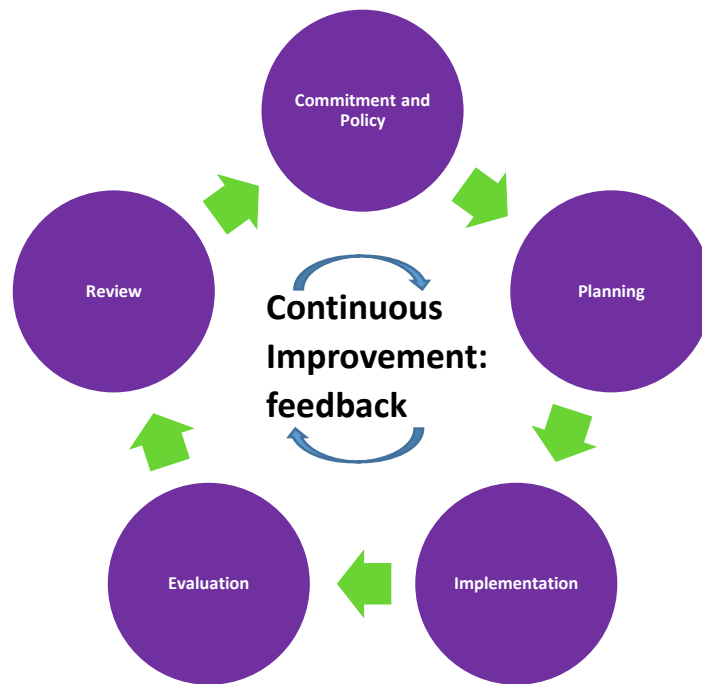


Figure 11: Process of continual improvement on EMS.

ISO 14001: 2015 is the international standard that specifies requirements for an effective EMS¹⁴. It provides companies with a framework that they can follow. Companies that implement the standard correctly can be “ISO 14001 certified”. This may give them a comparative advantage in certain markets.

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<https://www.iso.org/standard/60857.html#:~:text=ISO%2014001%3A2015%20specifies%20the,to%20enhance%20its%20environmental%20performance.>

6. Communicating with markets: Environmental certification

6.1 Types of environmental certification

All well and good if you have created a green business, but how will others know about it? Bringing an environmentally sustainable product or service on the market is an achievement. However, your clients need to know about your products and services which are environmentally responsible. Making your production processes greener and installing an EMS is a great achievement, but how do you communicate this success to your clients and partners?

Sustainability certifications can improve your enterprise's business reputation and/or elevate your brand by providing information to customers. We can make a distinction between "system certification" and "product certification".

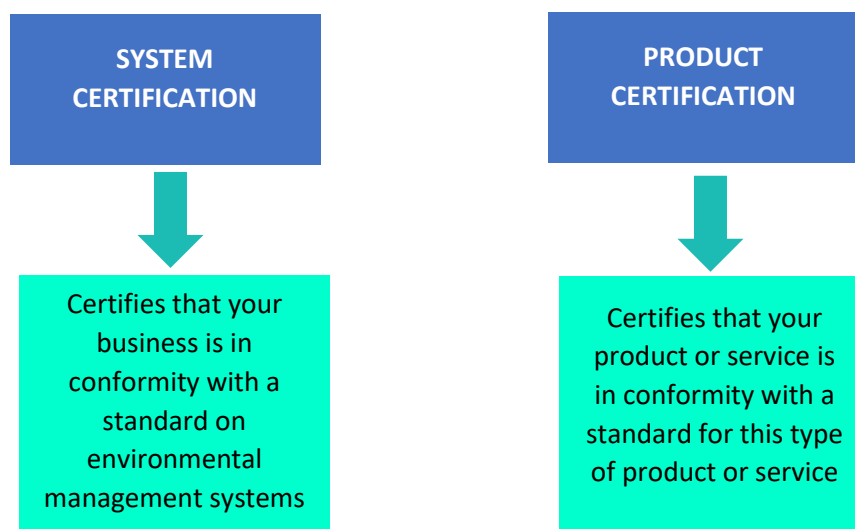


Figure 12: System and Product Certification.

System certification is a conformity assessment process, whereby an outside neutral body confirms that your business has an effective EMS in place. An example of this is conformity with ISO 14001, which is the most recognized international standard for EMSs. ISO 14001 exists to help organizations minimize how their operations negatively affect the environment; comply with applicable laws, regulations and other environmentally oriented requirements and continually improve in the above.



Product certification is a conformity assessment process, whereby an outside neutral body confirms that your product complies with certain environmental sustainability standards. To obtain product certification your product needs to be in conformity with the standard set for this particular type of product. For instance, if you want to certify that the construction materials you produce and sell are environmentally responsible, you can try to obtain the Eco-Standard, which is a South African eco-label for building and construction materials.

Ecolabels are voluntary methods of environmental sustainability certification. They are a means of communicating to your clients that your product is environmentally responsible. Consumers and institutional purchasers quickly and easily identify those products that meet specific environmental performance criteria and are therefore deemed environmentally preferable.

Some ecolabels quantify pollution or energy consumption by way of index scores or units of measurement, while others assert compliance with a set of practices or minimum sustainability requirements. Through a verification process, usually referred to as "certification", a business can show that it complies with a standard and earn the right to sell its products with the corresponding ecolabel.

Ecolabels are not to be confused with **Green Stickers**, which are labelling systems for food and consumer products that are mandated by law. In many countries, certain consumer appliances, for



ISO 14000

ISO 14000 is a set of standards created to help organizations minimize the environmental impact of their operations.

Adoption of ISO 14000 practices is voluntary. Enterprises that adopt ISO 14000 may obtain certification that proves their compliance with environmentally friendly practices.

The core of the ISO 14000 standards is contained in ISO 14001, which lays out the guidelines for putting an environmental management system (EMS) in place. ISO 14004 offers additional insight and specialized standards for implementing an EMS.

Here are the key standards included in ISO 14000:

ISO 14001: Specification of Environmental Management Systems

ISO 14004: Guideline Standard

ISO 14010 – ISO 14015: Environmental Auditing and Related Activities

ISO 14020 – ISO 14024: Environmental Labelling

ISO 14031 and ISO 14032: Environmental Performance Evaluation

ISO 14040 – ISO 14043: Life Cycle Assessment

ISO 14050: Terms and Definitions

More than 300,000 organizations around the world have obtained ISO 14000 certification.



instance, need to have a green sticker that informs the customer about the energy consumption of the fridge or the washing machine.

6.2 Environmental certification: how does it work?

Eco-labels can be international, national or even local. An example of an international eco-label is the Forest Stewardship Council (FSC) label, which certifies that products “come from responsibly managed forests that provide environmental, social and economic benefits”. The advantage of obtaining an international eco-label for your product or service is that this ecolabel can be recognized by buyers in global supply chains.

In South Africa, the main entity responsible for environmental certification is the South African Bureau of Standards (SABS). This Bureau coordinates the development of environmental standards in South Africa. SABS publishes South African National Standards, amongst which many are relevant for green businesses. An example of this is SANS 1728 “guidance on labelling of degradable plastic”, which offers guidance in term of the design and performance requirements for specific packaging materials. SABS also helps businesses to obtain environmental certification through training and capacity building.

Many private sustainability consultancies and certification companies offer support to businesses that want to obtain environmental certification (both for system certification and product certification). In most cases, a consultant would help the business to complete an initial assessment and gap analysis, create a sustainability plan and implement the plan. This comprises the first stage assessment (Figure xxx). At the completion of the project, an accredited auditor then assesses compliance with the standards, upon which sustainability certification is awarded. In most cases, these certification trajectories are long and costly. Certification is not a one-off process. In most instances, enterprises would need to go through a re-assessment every couple of years, depending on the type of certification.

What are the steps for obtaining certification?

- 🔗 **Step 1:** is to figure out what kind of certification you want. Do you want to certify your EMS? Or do you want to obtain an eco-label for your product and service? Do you need a national or an international ecolabel? During the step, have a look at the website of the South African Bureau of Standards (SABS) Training Academy and see whether there is any relevant training opportunity for you and your business.
- 🔗 **Step 2:** is to identify the certification that would bring the highest value to your enterprise. At this step it is necessary to collect information on costs, requirements, and the different steps in the process. Study the website of the ecolabel index¹⁵ to know which ecolabels can be obtained in South Africa. You may want to talk to enterprises who have completed the process and ask them how they view the costs and benefits of certification.

¹⁵ Ecolabel index: <https://www.ecolabelindex.com/>



- 🔗 **Step 3:** Once you have made the choice for a certain certification, it is time to identify the organization that can help you with the process. Choosing the right certification body can mean the difference between having auditors who are knowledgeable in your industry, and those who are not. Make sure to work with an accredited certification body. Compare options, processes, prices and quality of services provided.
- 🔗 **Step 4:** Once you have clarity about the costs and the process, prepare the enterprise as good as possible for the initial assessment and gap analysis. The closer the enterprises practices and products are to the actual requirements for certification, the smoother the process will be. Keep in mind that during the first stage assessment, the enterprises will need to provide all relevant documentation.
- 🔗 **Step 6:** Ensure that you have identified the human and financial resources necessary to complete the certification process. This will require a budgeting exercise, staff training and data collection. Who will be responsible within the enterprise for coordinating the certification process? Is everybody in the company aware of the process?

Once the enterprise is ready to undergo the assessment process, this is an example of the process you can expect.

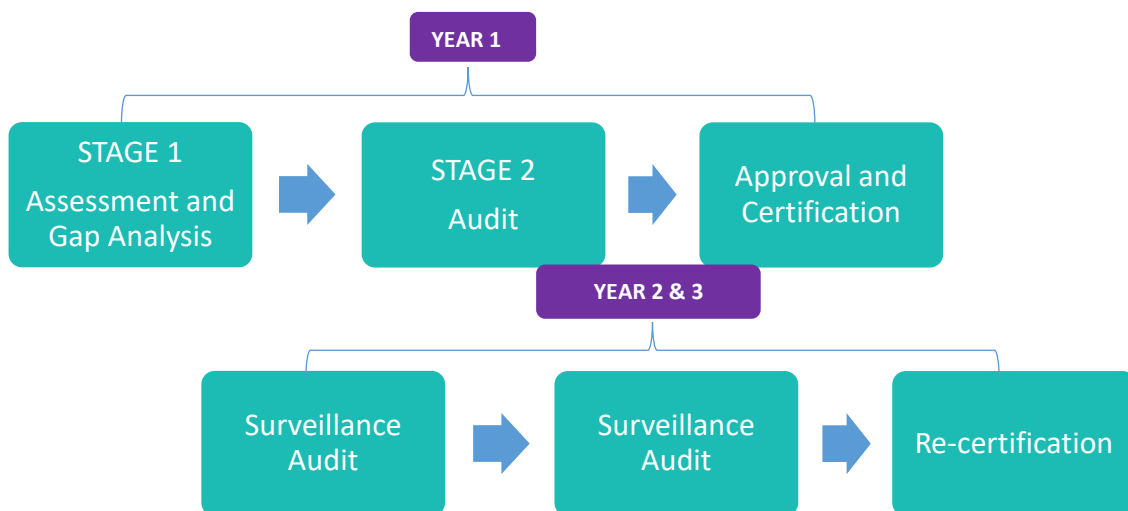


Figure 13: Example of an assessment process template.

Small enterprises need to evaluate whether the cost of environmental certification is justified by its benefits. The capacity building programmes offered by SABS may help businesses to assess the costs and benefits for their own business.



7. Working with others: Green value chains and circularity

Green businesses, products and services will not thrive in isolation. For green entrepreneurs to be successful, they need to scan their horizon for opportunities to work together with others and enhance their common strengths. Creating partnerships with other organizations that share your environment-based values is an important step towards becoming effective in green business.

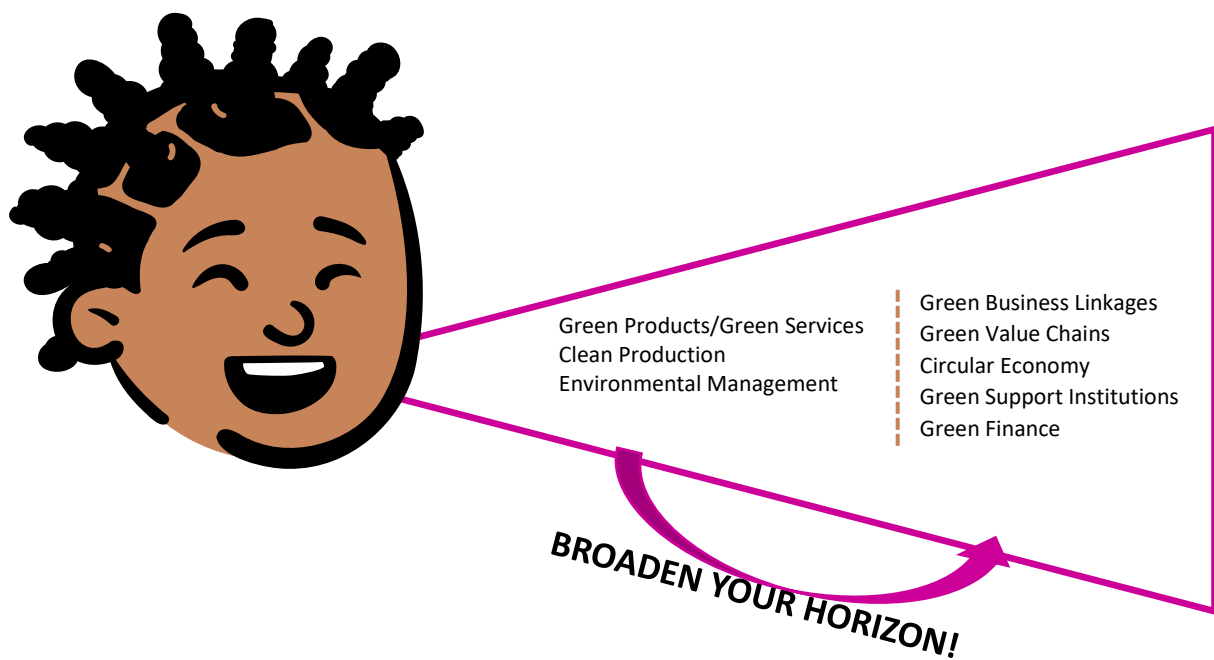


Figure 14: Creating partnerships.

Green entrepreneurs should be constantly on the look-out for effective partnerships and collaborations with suppliers, buyers, other companies, financial and business development support institutions that can help them in their efforts to eco-innovate and bring green products and services to end markets.

In this chapter we will look at the concept of green value chains, circular economy, green finance, and green business support.



7.1 Green value chains

Companies striving to become more sustainable are increasingly looking beyond their own operations to the environmental impacts of their supply chains. At the global level, this means that more and more companies are looking for sustainable suppliers. In South Africa, also, companies are trying to find suppliers who can guarantee that the products and services they offer are environmentally responsible. This is a great opportunity for green entrepreneurs involved in B2B.

Opportunities to become a green supplier exist in many value chains, ranging from agriculture to construction, tourism, textiles, renewable energy and personal services, amongst others.

Inserting your green business in a green value chain can be an excellent strategy. But how do you find the right opportunity for your business?

Herewith are four avenues for finding new opportunities:

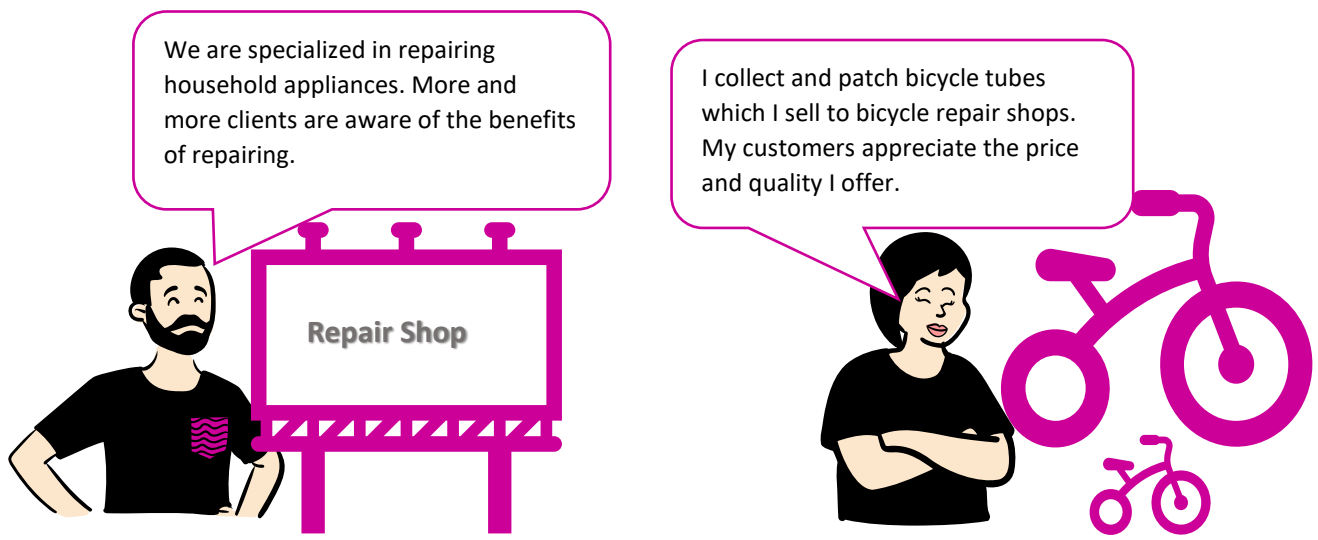
- 🔗 **Directories:** You can use online directories to identify companies that are looking for green suppliers. Have a look at the South Africa Green Directory¹⁶. Here you can find examples of green businesses in many sectors.
- 🔗 **Match-making services:** Some organizations in South Africa are offering match-making services for small enterprises that want to become suppliers to green value chains. You may, for instance, have a look at green matchmaking services offered by GreenCape.
- 🔗 **Trade associations and business groups:** Many trade associations provide lists of businesses with sustainable practices that may be looking for green suppliers. You can look, for instance, at the work done by the Green Building Council South Africa.
- 🔗 **Trade shows and trade fairs:** You can meet potential buyers in person by attending trade fairs. Many exhibitions and events focus specifically on sustainable, ethical, and green businesses, either for a certain sector or in general.

If you become a supplier in a green value chain, the buyers of your products and services will to a large extent dictate the sustainability requirements they are looking for. It is therefore important to find out what exactly these sustainability requirements are and whether you can comply with them. Buyers in green value chains may ask for product or process certification. They may also request that their suppliers carry out a Life Cycle Assessment.

In some cases, buyers may use supplier scorecards to evaluate the environmental performance of their (potential) suppliers. These scorecards are traditionally used to measure things such as product quality or delivery time, but they can also be used to rate a supplier's sustainability. Supplier scorecards that focus on sustainability push B2B enterprises to demonstrate the environmental sustainability of their products or services. It is in your enterprise's best interest to highlight and clearly communicate the greener features of your products.

¹⁶ Green Business Support Services Directory: <https://greendirectory.co.za/>





In some green value chains, buyers offer support to their suppliers in meeting their sustainability requirements. These programmes are called “supplier sustainability programmes”. Sometimes buyers also provide their suppliers with “supplier sustainability tools”. Participating in a supplier’s sustainability programme can be quite a commitment and time investment, but also a great opportunity to establish your business in a green value chain and increase sales.

7.2 Circular economy

As explained in Annexure 1 “Green business: Key concepts”, a purely circular economy is an economy in which waste does not exist and products and raw materials are reused if possible over and over again. Waste is the new raw material. If a product is broken, it will be repaired. And if that is no longer possible, new products are made from it.

For enterprises there are many opportunities (and challenges) in the circular economy. A circular economy needs to have effective systems and business linkages in place for re-use, repair and recycling. Can you find a place for your business in the circular economy?



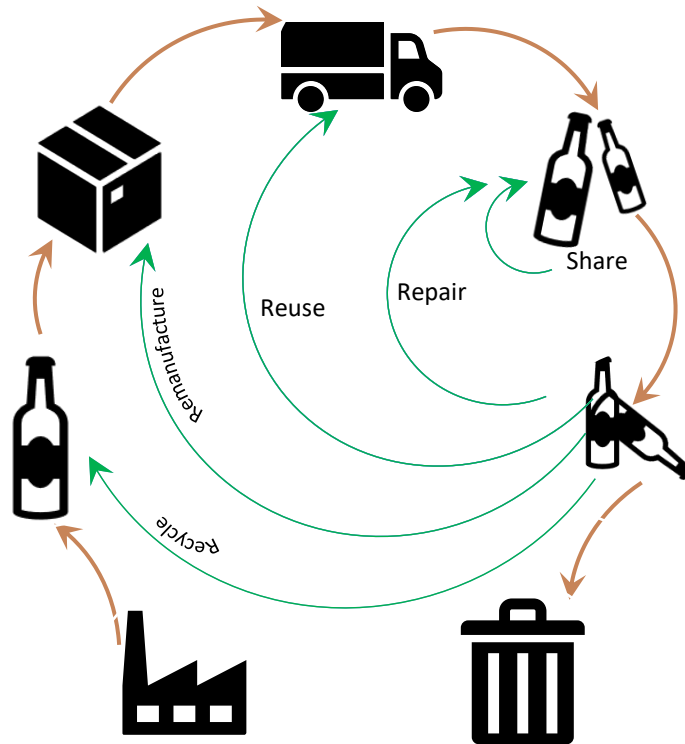
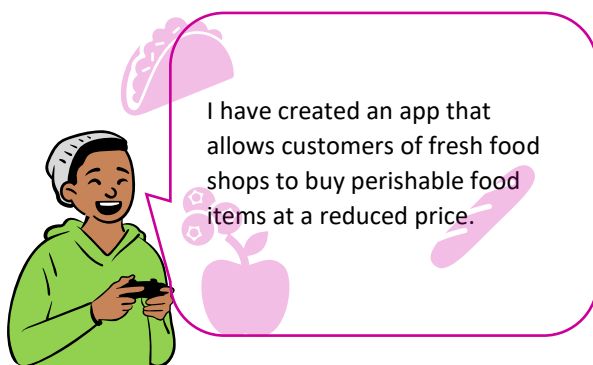


Figure 15: Key concepts of Circular Economy.

In every sector of the economy, enterprises can find opportunities related to the principles of the circular economy (reduce, reuse, repair, remanufacture, recycle, recover). Many small enterprises in South Africa, for instance, are engaged in recycling. Others are finding ways to reuse certain products or they repair products. You can also think of businesses that collect the waste of one type of business and turn this waste into the raw materials for another type of business.

There are business opportunities in the circular economy that you may not think of immediately.



While the business opportunities in the circular economy are plentiful, becoming a “circular economy enterprise” requires good preparation. For many business opportunities in the circular economy there are certain regulations to follow. Markets, technologies, and prices tend to change rapidly. Above all, enterprises in the circular economy need to carefully select their suppliers, buyers and partners.



Before you start your circular economy business, make sure you check the following:

- 🔗 In which circular system are you planning to work? Try to visualize your circular economy project and map out who are the essential suppliers, buyers, and partners.
- 🔗 How are you going to add value? What are your costs and what are your projected incomes?
- 🔗 Who are your competitors? Are there other enterprises that are doing something similar in different provinces? How are they faring?
- 🔗 What are the relevant governmental regulations? There may be certain environmental regulations but also occupational safety and health regulations to consider.
- 🔗 Are there reasons to believe that the market characteristics for your circular economy product or service may change?



8. Further support for your green business

Green entrepreneurs need support during the different phases of designing their green products and services and greening the processes. They often also need help in doing life cycle assessments, engage in cleaner production and get their products or processes certified. In South Africa, fortunately, green business support services are available. We can distinguish between the following types of support services.

- 🔗 **Green business development services:** Training and advisory services for entrepreneurs that want to create green businesses or green their processes.
- 🔗 **Green business finance:** Loans or equity investment services that target green entrepreneurs and/or that help businesses.
- 🔗 **Green incubation:** Green incubators help green entrepreneurs with eco-innovation and often support them in the process of bringing their green products or services on the market.

Have a look at the South Africa Green Business Support Services Directory:

<https://greendirectory.co.za/>

The [National Cleaner Production Centre South Africa](#), hosted by the Council for Scientific and Industrial Research (CSIR) provides capacity building programmes on Resource Efficiency and Cleaner Production, Life Cycle Management, Energy Efficiency and Sustainable Finance. They also publish some interesting case studies on their website:

<https://www.industrialefficiency.co.za/case-studies/industrial-water-efficiency/>

GreenCape South Africa maintains an inventory of funding sources and incentives that can be relevant to enterprises operating in the green space Have a look at it here:

<https://www.greencape.co.za/content/focusarea/green-finance-databases>

Green Matter supports, amongst others, the business development of young water and biodiversity innovators and their ideas. The IMVELISI Enviropreneurs programme is funded by the Department of Science and Innovation: <http://www.greenmatterza.com/imvelisi-enviropreneurs.html>

Keep in mind that there are also many business development services providers in South Africa that offer training, advisory services and information services targeting businesses in general, without specific focus on green business development. These business development services providers can help you with the development of your business plan, your marketing plan and the financial aspects of running a business. Many business development service providers offer



business management training using the methodologies of the ILO [Start and Improve Your Business Programme](#).

South Africa's Small Enterprise Development Agency (SEDA) offers enterprise development programmes and training, as well as useful information on how to register your business: <http://www.seda.org.za/>

The Department of Small Business Development offers various programmes to micro, small and medium-sized enterprises: <http://www.dsbd.gov.za/>

The I-GO initiative was developed by the Green Industry Platform which forms part of the Green Growth Knowledge Partnership (GGKP). The initiative hosts a number of SME support tools one of which is the I-GO Assistant, which is a free resource efficiency self-assessment. In addition to the self-assessment users are provided with an option to benchmark their assessment results with similar businesses whilst also receiving targeted suggestions on how to improve the footprint of their businesses: <https://igosolution.org/form/i-go-questionnaire>

The South African Bureau of Standards (SABS) is the main entity responsible for environmental certification in South Africa. SABS coordinates standard setting in the country and publishes South African National Standards. The SABS Training Academy provides training on environmental standards and certification processes. <https://www.sabs.co.za/>

Some support services for green business development are costly, while others may be (partially) subsidized by the Government and/or by development partners. To get an idea of the services available, talk to business development service providers and financial institutions. Try, also, to collect information from their clients before you take out a green loan or contract the services of a green business development services provider.



Annexure 1: Green business: Key concepts

In this Annexure you will learn more about the key concepts related to green economy and green business. Knowledge about these concepts will help you to understand the increasing importance of environmental issues in business and society.

What are the sustainable development goals?

In 2015, all 193 Member States of the United Nations adopted a plan for achieving a better future for all — laying out a path over the next 15 years to end extreme poverty, fight inequality and injustice, and protect our planet. At the heart of “Agenda 2030” are the 17 Sustainable Development Goals (SDGs) which clearly define the world we want — applying to all countries and leaving no one behind.

How are the SDGs relevant for business?

Businesses play a very important role in the process to reach the SDGs. The United Nations calls on businesses everywhere to advance sustainable development through the investments they make, the solutions they develop, and the business practices they adopt. The SDGs encourage businesses to reduce their negative impacts while enhancing their positive contribution to the sustainable development agenda. The degree and speed with which businesses around the world develop more sustainable and inclusive business models will play a large role in the success of achieving the SDGs. In turn, all businesses are impacted by the challenges that the SDGs address.



Figure 16: Sustainable Development Goals (<https://sdgs.un.org/goals>).

What is the green economy?

A green economy is an economy that brings improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. According to the United Nations Environmental Programme, a green economy is low carbon, resource efficient, and socially inclusive. Green economic growth is driven by economic activities that allow reduced carbon emissions and pollution, enhanced energy and resource efficiency, and prevention of the loss of biodiversity and ecosystem services.

How is the green economy relevant for business?

Green businesses drive the green economy. Businesses around the world are already providing innovative solutions in response to local social, environmental and economic challenges. Businesses also bring the necessary innovations that are necessary to maintain human well-being and equality and at the same time reduce the environmental impact of production and consumption. Green businesses thrive better in countries that make serious efforts to green up the economy. They benefit from the policies and support programmes that help businesses to go green.

What is a circular economy?

In a circular economy, waste does not exist, and products and raw materials are reused as long as possible over and over again. Waste is the new raw material. If a product is broken, it will be repaired. And if that is no longer possible, new products are made from it. There is no longer the line: produce, consume and then throw it away. This saves raw materials, the environment and reduces CO₂ emissions. It stimulates innovation, new business activity and employment.

How is the circular economy relevant for business?

In a circular economy, businesses design products to be reusable. For example, electrical devices are designed in such a way that they are easier to repair. Products and raw materials are also reused as much as possible. For example, by recycling plastic into pellets for making new plastic products. For businesses there are both opportunities and challenges in the circular economy. One of the main opportunities is the costs saving that can be made when materials are re-used. Challenges arrive when environmental regulations oblige businesses to follow a circular economy model while enterprises are not ready for it.



What is carbon footprint?

The carbon footprint of your business is a measurement of the greenhouse gases you generate through your business activities. Carbon dioxide is the most common greenhouse gas generated by burning fossil fuels such as coal, gas, petrol and diesel. Businesses produce greenhouse gases when they use electricity or burn natural gas, when they use water, when they transport products and when they generate waste, amongst others.

Why is your carbon footprint relevant for business?

Reducing the carbon footprint of your business is an essential element of greening your business. By measuring your carbon footprint, you can understand the different ways your business is contributing to climate change and identify ways to reduce it. A good way to start, therefore is by calculating your carbon footprint. You can, for instance, use the Carbon Trust SME carbon footprint calculator.

Just transition

When countries move to a greener economy, we have to make sure that everybody benefits and nobody is left behind. A just transition is about environmental sustainability, but it is also about decent work, social inclusion and poverty eradication. For instance, when coal mines are closed and small companies supporting coal mining activities lose their clients, we need to make sure that there are other economic opportunities or social protection mechanisms for coal mining communities.

Why is the just transition relevant for business?

Business play an important role in the green economy. But they also need to make sure that their green economy and green business strategies are good for workers. If a business decides to stop making environmentally polluting products and replaces them with environmentally safe products, the business needs to make sure that workers are properly trained. Workers need to be consulted in change-processes to make sure that the environment gains and that the workers gain as well.



Annexure 2: Further reading

Below you will find a selection of interesting sources of further reading.

- ✎ The [Ellen MacArthur Foundation](#) works to accelerate the transition to a circular economy. The Foundation work with business, academia, policymakers, and institutions to mobilise systems solutions. It has interesting publications and training materials on its website.
- ✎ The [UNEP Sustainable Consumption and Production Hotspot Analysis Tool](#) (SCP-HAT) is an online application that analyses the environmental and socio-economic performance of 171 countries over the past 25 years to provide scientific evidence of areas where improvement can be made.
- ✎ The [GIZ Resource Efficiency and Cleaner Production Navigator](#) informs development professionals about the relevance of resource efficiency and cleaner production (RECP) and about existing instruments to support it, with focus on SMEs.
- ✎ The [ILO Start and Improve Your Business](#) (SIYB) programme is a management training programme with a focus on starting and improving small businesses as a strategy for creating more and better employment for women and men, particularly in developing economies.
- ✎ [ISO 14001](#) is a family of standards related to environmental management that exists to help organizations minimize how their operations negatively affect the environment; comply with applicable laws, regulations, and other environmentally oriented requirements; and continually improve in the above.
- ✎ The [National Cleaner Production Centre in South Africa](#) has published many tools for use by any company, association or individual wishing to improve their resource efficiency.
- ✎ The [Green Economy Inventory for South Africa](#) (GEISA) takes stock of some key initiatives that are being implemented by a wide range of public and private sector partners to support the country's green economy transition.



Annexure 3: Green business plan template

COMPANY INFORMATION AND CONTACT DETAILS

(Company Logo)

Name of business			
Year established		Company Registration Number	
Prepared by			
Address			
Email			
Mobile number			
Website			



1. EXECUTIVE SUMMARY

Complete this section when you've filled in the other parts of the business plan.

An executive summary gives the reader a preview of your **company profile, vision, mission and strategic goals**, how your business is organised, the products it offers, how they are marketed, and your overall financial plan. In addition to these generic issues, the summary should highlight the green dimensions of your business.

In short, it sums up the whole business plan. Make sure to write a good summary, as it will serve as your company's presentation, and make sure to clearly state in bold the parts listed in the preceding paragraph.

2. LEGAL FORMAT AND OWNERSHIP

Here you can describe how your business is organised and registered.

A green business can take any of the legal forms available in South Africa, such as a sole proprietorship, a partnership, a cooperative or a limited liability company. Explain who owns the company.

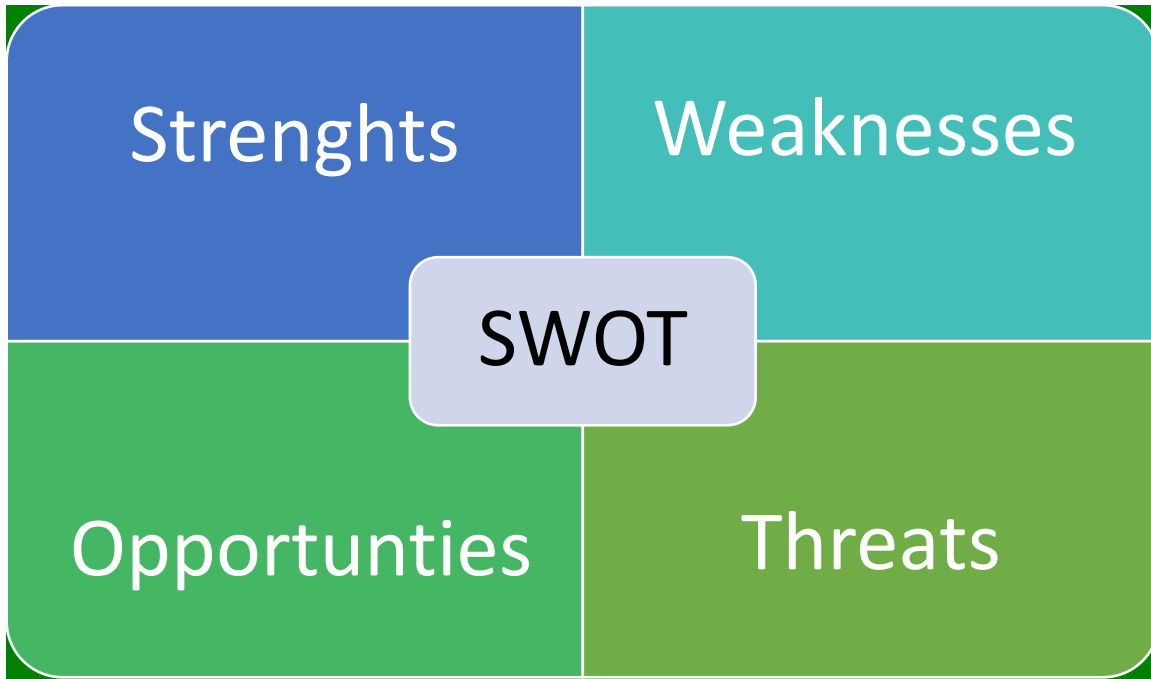
3. GREEN BUSINESS VALUE PROPOSITION

In this section briefly describe the **green business value proposition** that you have and that makes it different from what offered by competitors by completing Table 3.1.

You may include a SWOT analysis. Write down your strengths (aspects that give you a competitive advantage, your weaknesses (aspects you don't do very well), your opportunities (potential developments for your business), and your threats (external events that may negatively affect your business).

This will help you reflect and create a better green business value proposition.





Business idea description

Name of Business						Year Established
Type of Business	Manufacturer	Service Operator	Retailer	Wholesaler	Other	
The business produces/provides the following products/service						
Products and services respond to the needs for (include both consumer-related and environmental aspect):						
The business ensures its production and selling processes are green by:						
The customers are:						
The business sells to customers in the following ways (distribution avenues):						
The business satisfies the following needs for the customers and the environment:						
I plan to grow my business in the following ways:						
How many jobs will your business create?						

4. MARKET ANALYSIS

Your marketing plan needs to be based on a solid understanding of the market. By doing market research you will be able to identify the needs of potential customers and find out how your future competitors have been satisfying those needs.

While carrying out the research, be sure to assess whether your future customers want to buy a product/service with a green added value; and whether they are willing to pay a premium for this.

Market research table

Our Products	Our customers/potential customers	When and how often does the customer segment buy the products and services	Our price	What customers like about our products and services (our added value)	Who are our competitors and facts about them (strengths and weaknesses)
Product 1:					
Product 2:					
Product 3:					

5. MARKETING STRATEGY AND PLAN

While creating your business plan, you will also have to create a marketing plan.

Make sure that you add green components to green your marketing plan. It needs to focus on the ideal marketing mix that can help your green business to achieve maximum profits, while benefiting environment and society.

Remember that one of the greatest advantages of having green products is the opportunity to use marketing tools as ways to talk about your product/service's environmental and social benefits. If you do this creatively, it will be enough to attract more customers, to increase sales, and to have your green business flourish.

Define your overall marketing strategy by answering the following questions:

- Market analysis for each product/service (main customers and competitors, pricing strategy, estimated market share and size, trends),
- Describe your sales and marketing strategy,
- Describe your existing market access channels, and
- Describe your selling capacity (qualification and skills available).

Complete the table below, which will help you identify marketing strategies for your marketing mix by looking at each of the 7 Ps of marketing: Product, Price, Place, Promotion, People, Physical Evidence, and Process.



Product	Price	Place	Promotion	People	Physical evidence	Process
<p>What green goods or services you are going to sell?</p> <p>How will you create an advocacy plan for your green products?</p>	<p>What price are you going to charge?</p>	<p>How and where are you going to reach your customers?</p> <p>Will you decorate the place so that it will reflect green business principles?</p>	<p>How will you inform your customers about your green products, and how will you convince them to buy them?</p>	<p>How will you ensure your staff understand green business principles and protect the environment as they work?</p>	<p>How will you brand your business to ensure that green elements are visible? Will they advocate for a more responsible process of running a business and producing green products?</p>	<p>How will you source raw materials in ways that minimise use of resources? How will you process them efficiently?</p> <p>How will you dispose of you waste in a responsible way? Will you recycle, reuse, and reduce consumption of resources?</p>
<p>Meet customers' environmental needs.</p> <p>Develop products to address these needs; or develop environmentally responsible products to have lesser negative impact than competitors.</p>	<p>You should follow your product life cycle approach to better price your green products.</p>	<p>Always introduce your green products in the marketplace where customers can easily access them. The place must be consistent with the image that your green business wants to project for e.g. by using recycled materials to emphasize environmental and other benefits.</p>	<p>Replace traditional marketing methods with e-marketing.</p> <p>Any printed materials must be produced using recycled materials and efficient processes such as waterless printing</p> <p>Use paperless promotional tools wherever possible.</p>	<p>Staff environmental needs, health, decent work, skills, and competencies</p>	<p>Brand your products and label them to ensure customers have adequate information on the value of your product.</p>	<p>Prepare a resource efficient business process map that increases your value proposition to your customers.</p>



Product	Price	Place	Promotion	People	Physical evidence	Process
<p>You can also adopt green marketing channels and tools that involve using less paper and reducing carbon footprint during marketing. Choose green promotional tools to reduce the impact on environment, such as:</p> <ul style="list-style-type: none"> ▪ Paperless communication, flyers on recyclable paper ▪ Online and social media marketing <ul style="list-style-type: none"> ○ Website and online shopping with marketing and promotional plans ○ Social media campaigns (like Facebook and Twitter) and blogs ▪ Radio advertisement 						

Green components for your Marketing Plan							
Green Marketing Elements	Product	Price	Place	Promotion	People	Physical evidence	Process
Description							
What your green business must do?							
Green marketing tools							



6. PRODUCTION AND SALES PLAN

In this section, explain your production process, estimate your production capacity and estimate your sales volumes based on your market research. Explain how green your production process is, for example in terms of the environmentally friendly raw materials you are using or in terms of your resource efficiency and cleaner production strategies.

Organise your response as follows:

- Describe the production/service process,
- Describe the production/service facilities,
- List available machines, tools, and equipment,
- State current production/service capacity,
- Define quality/standards control,
- List relevant industry accreditation,
- Describe environmental considerations:
 - **Procurement:** using environmentally friendly and locally available materials.
 - **Energy and water consumption:** using energy and water from renewable sources and saving energy and water where possible.
 - **Pollution prevention in production/service provision:** using low-emission equipment and techniques.
 - **Distribution:** using environmentally friendly transport methods and avoiding long distances.
 - **Waste management:** reducing, reusing, and recycling where possible and disposing what needs to be disposed of in a responsible way.

Fill in the tables below with your current sales capacity and your sales plan for next year.



Production plan

Product	Distribution channel	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1.														
	Total													
2.														
	Total													
Total Sales Volume														
Total Sales in the Market														
Market Share														



Sales plan

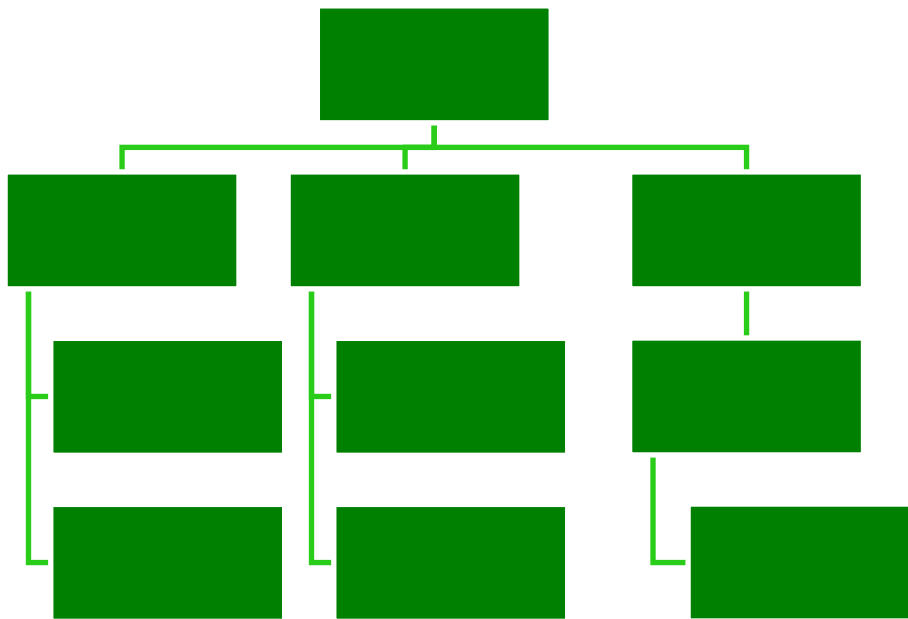
Product	Distribution channel	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1.														
	Total													
2.														
	Total													
													Total Sales Volume	
													Total Sales in the Market	
													Market Share	



7. ORGANIZATION AND STAFF

Add an organogram showing how management and your employees are structured. Define the skills that your business needs, including technical skills, selling skills and management skills.

Organizational structure and list of employees



Tasks and responsibilities	Responsible person and position	Relevant skills and experience



8. REGULATORY COMPLIANCE

In your business plan, you will need to consider the taxes that your business must pay, licenses and permits it needs to obtain, and insurance that it needs to take out.

Keep in mind that in addition to other generic **taxes**, businesses may need to pay additional taxes that are related to the environment in some countries, such as pollution tax. Depending on the green choices you make, you may be able to lower the taxes you pay, or even be completely exempt.

You may need to obtain environmental **licences** in accordance with the regulations (e.g. water use licence, environmental authorizations for certain activities, waste management licence, atmospheric emission licence).

To do this, you may need to submit an environmental impact assessment report or other documentation to show how you intend to address environmental issues in your business.

Legal responsibilities and insurance

The following taxes apply to the business:

1. _____
2. _____

The following regulations apply to the employees:

1. _____
2. _____

The following licenses and permits apply:

1. _____
2. _____

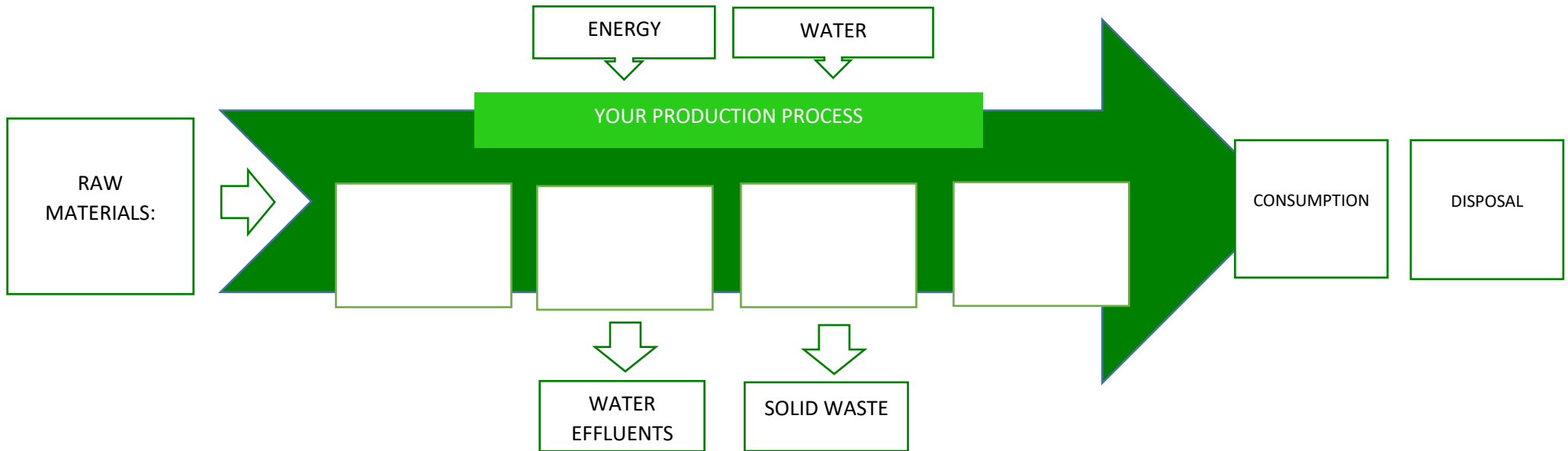
The following insurance products are needed:

1. _____
2. _____



9. LIFE CYCLE MANAGEMENT

If possible, include in your business plan a summary of the life cycle analysis you have undertaken. Describe your production process in the shape of a flow diagram and describe the raw materials, energy and water usage, water effluents and solid waste. Describe also the environmental impact of your product during the phase of consumption and disposal. As much as possible, try to quantify the inputs, outputs and environmental impacts.



10. ENVIRONMENTAL CERTIFICATION OR ECO-LABELLING

Describe the actions that you have undertaken to obtain environmental certification for your business or for your product or service.

Do you have an environmental management system in place? What kind of process or product certification could your business be eligible for and what are the steps to be undertaken in order to obtain certification? How would certification further enhance your business' marketing strategy?

11. COSTING AND PRICING

This is the point where you outline the costing for your goods and services. Use information from the other sections of the business plan to identify costs that you will incur in producing and marketing your products and services.

Costs is all the money your business spends to make and sell your goods or services, and it can be broadly classified into direct and indirect costs. Review your records to identify the different costs you are incurring in your business to guide your costing process.

Retailers and wholesalers buy and sell finished goods, while manufacturers and service providers buy raw materials to produce goods or provide a service. If you are a manufacturer complete the “product costing form for manufacturers and service operators” and if you are a retailer complete the “product costing form for retailers and wholesalers”.

For more detailed instructions on costing and pricing, consult the International Labour Organization “Start and Improve Your Business” training programme.



Manufacturer or service provider costing form

PRODUCT COSTING FORM FOR MANUFACTURERS AND SERVICE OPERATORS		
PRODUCT:		
1. DIRECT MATERIAL COST PER ITEM		
Step 1	Total Direct Material Cost per month (1)	
	Number of items produced per month (2)	
	Direct Material Cost per item (3) = (1)/(2)	
2. DIRECT LABOUR COST PER ITEM		
Step 2	Total Direct Labour Cost per month (4)	
	Direct Labour Cost per item (5) = (4)/(2)	
3. INDIRECT COST PER ITEM		
Step 3	Monthly Indirect costs (6)	
	Total material cost of the business per month (7)	
	Total overhead costs per variable cost (8) = (6)/(7)	
	Indirect cost per item (9) = (8) x (3)	
4. TOTAL COST PER ITEM (10) = (3) + (5) + (9)		
Step 4		

Source: ILO Start and Improve Your Business programme.



Step 1: Direct Material Cost per item

- a) Calculate the total direct cost per month. List all the raw materials and quantity your business uses every month. Multiply by the buying cost to get the total cost of each item per month. Add up the monthly cost of each item to get the total Direct Material Cost per month.
- b) Divide the total direct material cost per month by the number of items produced for the month to get the direct material cost per item.

Step 2: Direct Labour costs per item

- a) Divide the total cost of labour that works in production by the number of items produced per month to get the direct labour cost per item.

Step 3: Indirect cost per item

- a) Calculate indirect cost of your business for the month.
- b) Divide the indirect cost by the total indirect costs for the business per month to get the total overhead costs per variable cost.
- c) Multiply the total overhead costs per variable cost by the Direct Material Cost per item to get the indirect cost per item.

Step 4: Total cost per item

- a) Add up all the costs (direct material cost per item + direct labour cost per item + Indirect cost per item).



Retailer or wholesaler costing form

PRODUCT COSTING FORM FOR RETAILERS AND WHOLESALERS

INDIRECT COST CHARGE (%)

COST CHARGE

TOTAL INDIRECT COSTS PER MONTH INDIRECT

TOTAL DIRECT MATERIAL COSTS PER MONTH =

	1	2	3
Product	Direct Material Costs Per Item	Indirect costs per item (column 1 x Indirect cost charge)	Costs Per Item

Review your pricing strategy to make sure you cover your costs of production or retailing the products.



12. FINANCIAL PLANNING

You need to be able to plan and monitor the financial situation of your business. You can do so by making a profit plan and a cash flow plan, and by checking the actual performance of the business against these plans.

Like any other business, your green business needs to perform well financially, otherwise you will not be able to keep it going, no matter how noble its objective. Therefore, make sure to be thorough in your financial planning.

Profit plan

A profit plan shows the profit your business is likely to have each month. Your sales plan and the costs you expect to incur help you to prepare your profit plan.

PROFIT PLAN													(Unit: Rand)
DETAILS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Sales													
Material Costs													
Direct Labour Costs													
Gross Profit													
Indirect Expenses													
Net Profit													

Cash flow plan

A Cash flow Plan is a forecast of how much cash you expect to come into and go out of your business each month. It helps you to make sure your business does not run out of cash. This is important because your business sometimes does not receive cash for sales. Some clients might have delayed payment terms. In some instances, your business might need to make advance payments, such as for licenses. Also, when you invest in equipment your business might need to pay large sums of money.

CASH FLOW PLAN (Unit: Rand)		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
CASH IN	1. Cash at the start of the month												
	2. Cash in from sales												
	3. Cash in from credit sales												
	4. Any other cash in												
	5. TOTAL CASH IN												
CASH OUT	6. Cash out for Material Costs												
	7. Cash out for Labour Costs												
	8. Cash out for Indirect Expenses												
	9. Cash out for planned investment in equipment												
	10. Any other cash out												
	11. TOTAL CASH OUT												
12. CASH AT THE END OF THE MONTH													



13. REQUIRED CAPITAL AND SOURCES OF CAPITAL

In this section you can indicate how much money you need to implement the business plan. Part of this money could be available from your earnings. When estimating the required start-up capital, you will need to assess your needs in terms of:

- **Capital investment:** business premises, equipment and furniture.
- **Working capital:** the stock of raw materials and finished products, marketing costs, salaries, rent, insurance, and other costs. It is important to calculate working capital for at least three months in advance to ensure that your business does not run out of cash to run its business.

Consider the elements required for your business to be green while estimating this cost. Keep in mind that:

- Some green investments will entail additional costs at the beginning, as mentioned above.
- These investments, however, will pay off in the long term thanks to lower operating costs.
- Other green choices that you may make, such as buying second-hand furniture for your business, may also help you to lower the start-up capital you require.
- In terms of other costs, consider also whether you must budget for an environmental impact assessment, an environmental certification if you choose to get one, and other costs that may arise, such as contracting an energy expert. These will be beneficial for your business, but their cost needs to be kept in mind while budgeting.

14. ESTIMATING REQUIRED SUPPORT

Once you have estimated the start-up capital you require, indicate how much capital is available to finance your plan and how much needs to be financed from external sources.

Also indicate requirements for non-financial needs such as training, access to information and access to skilled labour among others including a proposed plan to access the resources.



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