



**INNOVATION AND SUSTAINABLE
GROWTH AND GREEN INDUSTRIES,
INCLUDING THE TRANSITION TO A
LOW-CARBON ECONOMY**

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INTRODUCTION

- **Sustainability assumes greater relevance in the context of innovation as an important driver in value creation, differentiation of products and services. Sustainability can drive innovation by introducing new design constraints that shape how key resources - energy, carbon, water, materials and waste - are used in products and processes.**
- **Innovation is crucial to long-term economic growth. Making innovation-driven growth happen requires action on a wide range of policy areas, education and science and technology to product and labour markets and trade.**
- **Growth can come from two sources: increased volume and inflation. The inflationary increase in assets must be financed as though it were real growth. Inflation increases the amount of external financing required and increases the debt-to-equity ratio when this ratio is measured on a historical cost basis.**
- **Green Industry is a pathway for protecting communities, vital ecosystems and the global climate from escalating environmental risks and emerging scarcities of natural resources. Green Industry is the sector-strategy for the realization of Green Economy and Green Growth in the industry sector.**
- **Climate change is primarily a problem of too much carbon dioxide (CO₂) in the atmosphere. This carbon overload is caused mainly when we burn fossil fuels.**

INNOVATION & SUSTAINABLE

- In order to better focus efforts to address the innovation in business there is a need to understand that innovation is really about responding to change in a creative way.
- It's about generating new ideas, conducting research and development (R&D), improving processes or revamping products and services in a modern world.
- Creation of sustainable growth is a prime concern of small business owners and big corporate executives alike. Achieving this goal is no easy task, given rapidly changing political, economic, competitive, and consumer trends.
- Economists and business researchers contend that achieving sustainable growth is not possible without paying heed to twin cornerstones: growth strategy and growth capability. Sustainable growth can be helpful for planning healthy corporate growth.

UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS (SDGS)

- In many cases, sustainability can be a game changer. Sustainability can drive innovation by introducing new design constraints that shape how key resources—energy, carbon, water, materials and waste—are used in products and processes.
- The Sustainable Development Goals (SDGs) are a collection of 17 global goals set by the United Nations General Assembly in 2015 for the year 2030. The SDGs are part of Resolution 70/1 of the United Nations General Assembly, the 2030 Agenda. Key to making the SDGs successful is to make the data on the 17 goals available and understandable.
- Goal 9: Building resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation acknowledges that industrialization is one of the main drives of sustained economic growth and sustainable development.

GREEN INDUSTRY

- The automotive sector is a major source of CO₂ emissions primarily from the burning of fossil fuels, including gasoline and diesel.
- CO₂ emissions currently emit approximately 500-million tons of carbon dioxide equivalents from only 118 million tons in 2007.
- The automobile sector contributes approximately 9% to South Africa's total GHG emissions and the road transport is responsible for almost 88%.
- Green industry for sustainable growth aims to help governments; industry leaders and related stakeholders design solutions to advance sustainable development through the greening of industry.
- Green industry including the transition to a low-carbon economy offers a development pathway consisting of two mutually supportive components:
 - (i) Improving the environmental, social and economic performance of existing industries,
 - (ii) Creating new competitive industries delivering environmental goods and services.

UNIDO CONCEPT ON GREEN INDUSTRY

- The United Nations Industrial Development Organization (UNIDO) coined the concept “Green Industry” to place “Sustainable Industrial Development” in the context of new global sustainable development challenges.
- The realization of Green Industry is central to resolving today’s most pressing environmental challenges, including mitigation of greenhouse gas (GHG) emissions and adaptation to climate change, the environmentally sound management of chemicals and wastes, and the security of supply of water, energy and other natural resources.

UNIDO Green Industry Initiative

- Resource Efficient and Cleaner Production (RECP)
- Cleaner Production (CP)
- The Stockholm Convention and Persistent Organic Pollutants (POPs)
- The Montreal Protocol (MP)

LOW-CARBON ECONOMY INTERNATIONAL PROTOCOLS

- A low-carbon economy (LCE), low-fossil-fuel economy (LFFE) or decarbonised economy is an economy based on low carbon power sources that has a minimal output of Green House Gas (GHG) emissions into the biosphere specifically refers to the greenhouse gas carbon dioxide.
- The United Nations Framework Convention on Climate Change is an international environmental treaty adopted on 9 May 1992 and opened for signature at the Earth Summit in Rio de Janeiro from 3 to 14 June 1992.
- The Kyoto Protocol was adopted in Kyoto, Japan on 11 December 1997 and entered into force on 16 February 2005.
- The Paris Agreement is an agreement dealing with green house-gas-emission mitigation, adaptation, and finance signed in 2016.
- Kyoto Protocol, which sets commitment targets that have legal force, the Paris Agreement, with its emphasis on consensus-building, allows for voluntary and nationally determined targets.
- Another key difference between the Paris Agreement and the Kyoto Protocol is their scopes.

LOW-CARBON ECONOMY

- The aim of an LCE is to integrate all aspects of itself from its manufacturing, agriculture, transportation, and power generation, etc. around technologies that produce energy and materials with little GHG emission.
- Low-carbon economies present multiple benefits to ecosystem resilience, trade, employment, health, energy security, and industrial competitiveness.
- Estimates from the ILO's Global Economic Linkages model suggest that unmitigated climate change, with associated negative impacts on enterprises and workers, will have negative effects on output in many industries, with drops in output of 2.4% by 2030 and 7.2% by 2050.
- Transitioning to a low-carbon economy will cause shifts in the volume, composition, and quality of employment across sectors and will affect the level and distribution of income.
- Research indicates that eight sectors employing around 1.5 billion workers, approximately half the global workforce, will undergo major changes: agriculture, forestry, fishing, energy, resource intensive manufacturing, recycling, buildings, and transport.

STRATEGIES FOR SUPPORTING GREEN INDUSTRY

- **Governments must ensure it is providing-An Integrated Framework for Supporting the Greening of Industries.**
- **Governments must work on - Creating an Enabling Environment.**
- **Governments must develop on - Instrument Mixes to Promote the Greening of Industries.**
- **Government and industry must cooperate on -Harnessing Environmental Technologies, and must be - Industry-Led Initiatives for the push to Green Industry to be successful.**

WHAT CAN WE DO AS AFRICAN INTELLECTUALS

- **The development of locally-rooted solutions to economic, social, and environmental problems helps avoid fostering a culture of dependency in areas where development is needed. The result is more dynamic local and regional economies in which participants are more empowered and engaged in the creation and development of their economies and societies.**
- **No one knows how long this strange period of turmoil will continue. We are now witnessing and what we will continue to witness in the coming years is that capitalism has entered the last stage of its own development.**
- **We do not control our resources in Africa as capitalism is not finished. It has in a sense moved on to a higher stage where it controls labour power, capital, politicians, intellectuals, war and trade. What can we do?**

CONCLUSIONS

- **Science, technology and innovation policy in the region should recognize the role of the science, technology and innovation (STI) system in realizing sustainable development goals.**
- **Addressing environmental problems requires commitment, focus, and major political will on the part of governments and other stakeholders to deal with the challenge on low - carbon economy.**
- **Green Industry is in the long term best interests of the industrial sector as a whole, there will inevitably be winners and losers.**
- **Lobbying efforts on the part of industries that perceive themselves to be threatened will be intense, and this is why it is important that industry is brought on board as a partner in Green Industry initiatives.**
- **Not only is the engagement of industry important because of the valuable insight and leadership industry can provide, but it is also essential that it is not made an opponent because of its ability to slow or block the efficacy of important Green Industry initiatives.**
- **The same goes for unions, which may perceive jobs to be threatened by the new policy landscape and initiatives.**